FIRM	NAME:		LOCATION:				
1157 Toron	KSHOP ARCHIT DAVENPORT RO to, ON M6H 2G4 6.901.8055	DAD	348 Davenport F Toronto, ON M5R 1K6 383	Road			
NAME	OF PROJECT:		Project Area:				
Dave	nport Shelter		970m2 (renovati	ion)		OBC REFERENCE	
						References are to Divisi	
ITEM		ONTARIO'S 201	12 BUILDING CODE DAT	TA MATRIX PA	RTS 3 & 9	[A] for Division A or [C	oj for Division C
1	PROJECT DES	CRIPTION:		NEW	☑ PART 11	☑ PART 3	□ PART 9
		d CH.		ADDITION ALTERATION	11.1 TO 11.4	1.1.2. [A]	1.1.2 [A] & 9.10.1.3
2	MAJOR OCCUP	PANCY(S): Grou	up C (Levels 1-4); Subsid	luary Group F3	(Basement Levels)	3.1.2.1(1)	9.10.2
3	BUILDING AREA	A (M²) E>	KISTING 279 NEV	N 0	TOTALno change	1.4.1.2.[A]	1.4.1.2.[A]
4	GROSS AREA	ROSS AREA EXISTING 1605 NEW 0 TOTAL no chang				1.4.1.2.[A]	1.4.1.2.[A]
5	NUMBER OF S	TOREYS A	BOVE GRADE 4	BEL	OW GRADE 2	1.4.1.2 [A] & 3.2.1.1.	1.4.1.2 [A]&9.10
6	NUMBER OF S	TREETS / FIRE I	FIGHTER ACCESS	1 (EXISTING	G UNCHANGED)	3.2.2.10 & 3.2.5	9.10.20
7	BUILDING CLAS	SSIFICATION	3.2.2.45			3.2.2.2083	9.10.2.
8	SPRINKLER SYSTEM (PROPOSED)  ☐ ENTIRE BUILDING ☐ SELECTED COMPARTMENT ☐ BASEMENT ☐ IN LIEU OF ROOF RATING ☐ SELECTED FLOOR AREAS					3.2.1.5 3.2.2.17	9.10.8.2. INDEX
			□ NOT REQUIRE			INDEX	
9	STANDPIPE REQUIRED □ YES ☑ NO			3.2.9	N/A		
					3.2.4	9.10.18	
11	WATER/SERVICE/SUPPLY IS ADEQUATE				3.2.5.7	N/A	
12	HIGH BUILDING		/			3.2.6	N/A
13	CONSTRUCTION RESTRICTIONS SO COMBUSTIBLE ON NON-COMBUSTIBLE ON BOTH ACTUAL CONSTRUCTION PERMITTED REQUIRED SO BOTH COMBUSTIBLE					3.2.2.2083	9.10.6
14	MEZZANINE(S)	AREA M <sup>2</sup>	NA			3.2.1.1.(3)-(8)	9.10.4.1
15	OCCUPANT LO	Ę	☐ M.SQ./PERSON OCCUPANCY	LOAD nale only)	OF BUILDING 65 PERSONS	3.1.17	9.9.1.3
		2	9 Staff (assume even dist 2 required/2 provided note: existing WCs in bas	, ,	,		
16	BARRIER-FREI	E DESIGN	✓ YES □ NO	(EXPLAIN)		3.8	9.5.2
17	HAZARDOUS S	SUBSTANCES	□ YES ⋈ NO	,		3.3.1.2. & 3.3.1.19	9.10.1.3(4)
18	REQUIRED FIRE		AL ASSEMBLIES (HOURS)		ED DESIGN NO. SCRIPTION (SG-2)	3.2.2.2083 & 3.2.1.4	` '
	RESISTANCE RATING (FRR)	ROOF N	R/2HR HOURS  IA HOURS  NA HOURS	Exiting floors 2-3 provide 45min FRR (unchanged); Basement			
19	SPATIAL SEPA			OR WALLS N	A	3.2.3	9.10.14
20	SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS NA 3.2.3 9.10.14  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						

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 ZZC 00 ZR.

NAME OF PRACTICE: WORKSHOP architecture inc 1157 Davenport Road Toronto, ON M6H 2G4

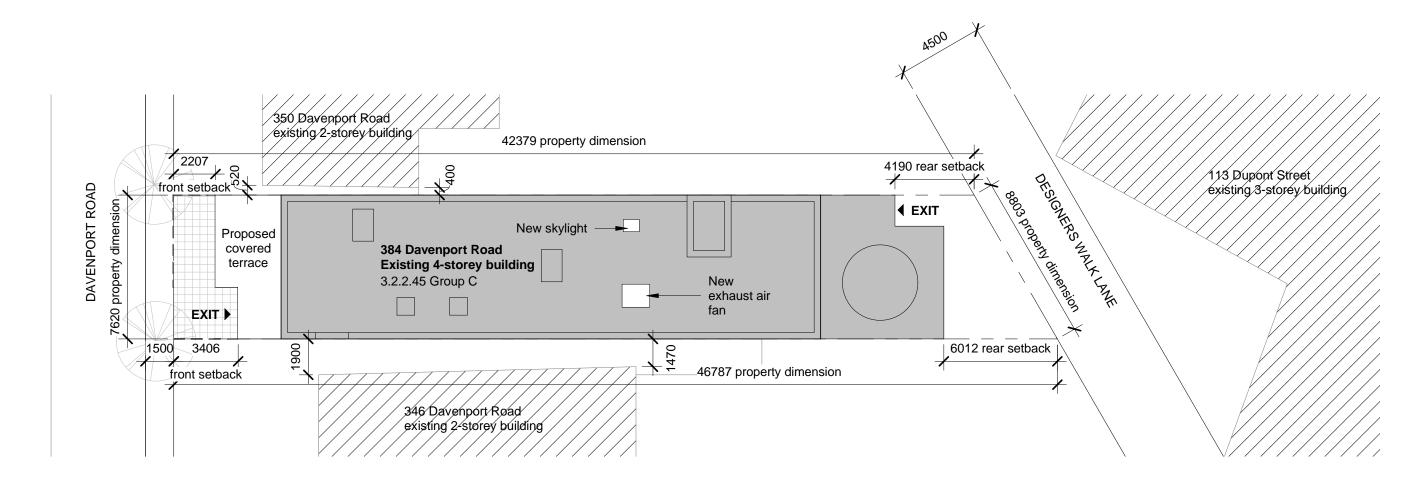
PROJECT DESCRIPTION:

Addition of new accessible WCs, Universal WCs and an phone: 416.901.805 accessible ramp. Changes to occupancy and plumbing count. The enclosure of the existing balcony as an unconditioned amenity space.

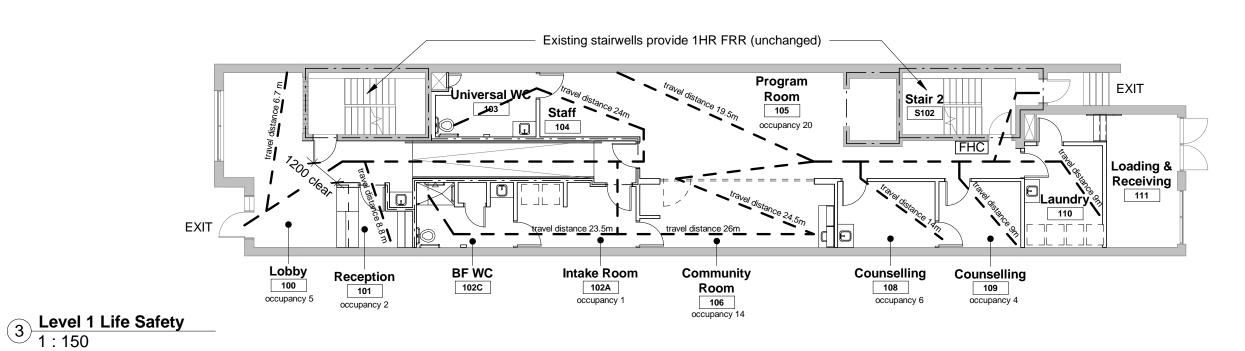
NAME OF PROJECT: Davenport Shelter

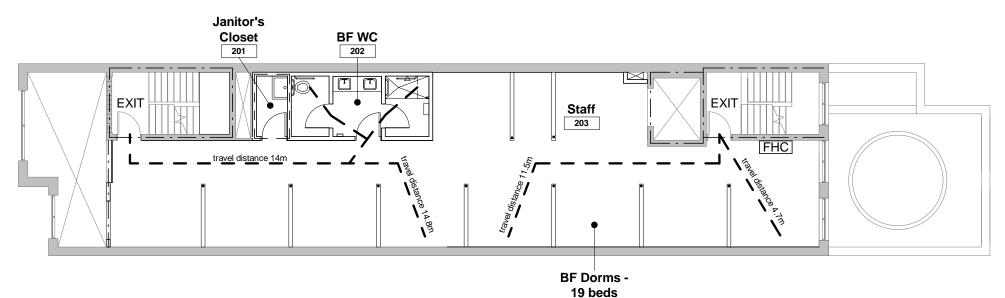
LOCATION: 348 Davenport Road, Toronto ON M5R 1K6

Ontario Bu	ıilding Code Data Matrix –	Part 11 – Renovation of Existin	g Building		OBC Reference
11.1	Existing Building classification:	Describe Existing Use:		g is comprised of occupancies: F3 at tevels 1-4.	11.2.1 T 11.2.1.
		Existing Construction Index: Existing Hazard Index: Hazard Index for Proposed use	5 5 e: 4		T 11.2.1. T 11.2.1.′ to N
11.2	Alteration to Existing Building is:	Basic Renovation Extensive Renovation	X		11.3.3.1 11.3.3.2
11.3	Reduction in Performance Level:	Structural:	X No	☐ Yes	11.4.2 11.4.2.1
		By Increase in occupant load:	X No	☐ Yes	11.4.2.2
		By change of major occupancy	r: X No	☐ Yes	11.4.2.3
		Plumbing:	x No	☐ Yes	11.4.2.4
		Sewage-system:	x No	☐ Yes	11.4.2.5
11.4	Compensating Construction:	Structural:	X No	☐ Yes	11.4.3 11.4.3.2
		Increase in occupant load:	x No	☐ Yes	11.4.3.3
		Change of major occupancy:	x No	☐ Yes	11.4.3.4
		Plumbing:	x No	☐ Yes	11.4.3.5
		Sewage system:	x No	☐ Yes	11.4.3.6
11.5	Compliance Alternatives Proposed:	<ul><li>☒ No</li><li>☐ Yes</li></ul>			11.5.1

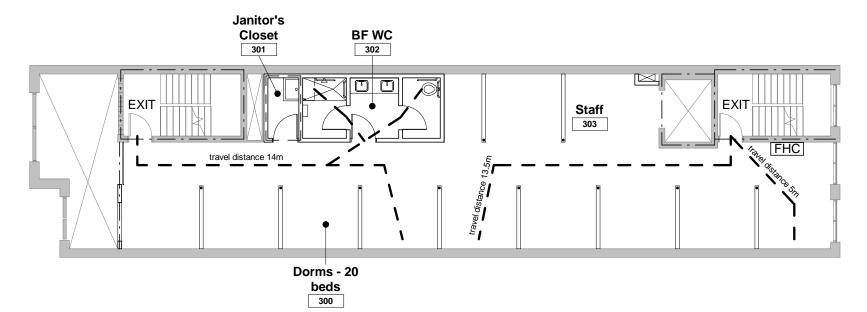


#### Site Plan Proposed 1:200

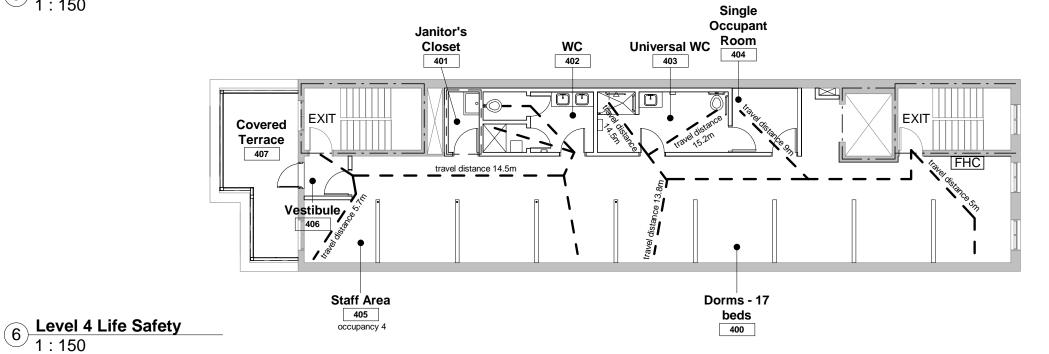


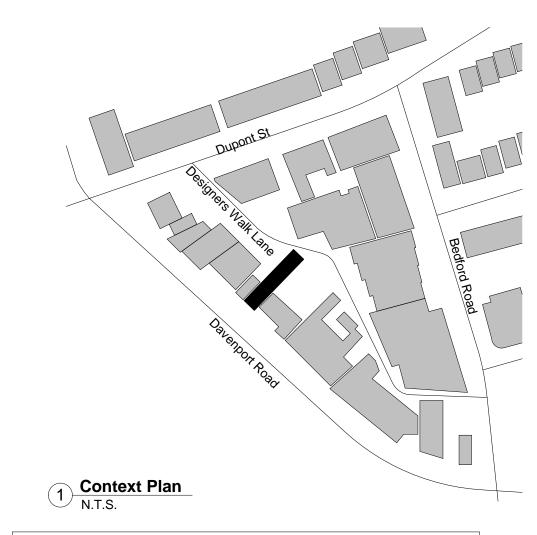


4 Level 2 Life Safety
1:150



5 Level 3 Life Safety
1:150





Sheet	
Number	Sheet Name

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

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

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

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 amd 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
Ę-12	Electrical Specification
E-13	Fire Alarm System

#### **General Notes**

1. 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 Specificaiton 01500.

2. Site visit is required by General Contractor to verify site conditions. Contact Architect for clarification if required.

6. Contractor to provide adequate blocking for all millwork, signage, grab bars, equipment, etc mounted to walls/ceilings.

3. Make good all surfaces/areas/finishes damaged during demolition.

4. All dimensions are to face of partition unless noted otherwise. Angles are 90 degrees unless noted otherwise.

5. Contractor to chalk partition layout on floor for Architect's review prior to construction.

7. Patch, repair and make good all existing partitions, bulkheads, and ceilings within area of work. Prepare existing surfaces as required to

receive new finishes.

8. 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.

9. The General Contractor shall be responsible for keeping areas clean (e. access to exit corriors, 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/fittings.

10. General Contractor is to co-ordinate and co-operate with trades retained directly by Owner as applicable (eg. furniture installers, IT sub-trades etc.)

11. The General Contractor shall be responsile for scheduling the trades identiied in item 10, where such work affects the progress of the

12. The General Contractor shall comply with all applicable Building and Fire Codes.

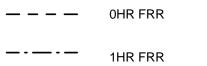
13. All temporary shoring/support is the responsibility of the Contractor.

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Rev	Description	Date
1	ZZC Submission	15 June '
2	Draft	28 June '
3	Issued for Permit/Tender	13 July '
4	Addendum 1	30 July '
5	Construction	04 Sept '

#### Life Safety Plan Legend

	Travel Distance Max Allowable = 45m
FHC	Fire Hose Cabinet





### **WORKSHOP** architecture

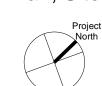
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Davenport Shelter

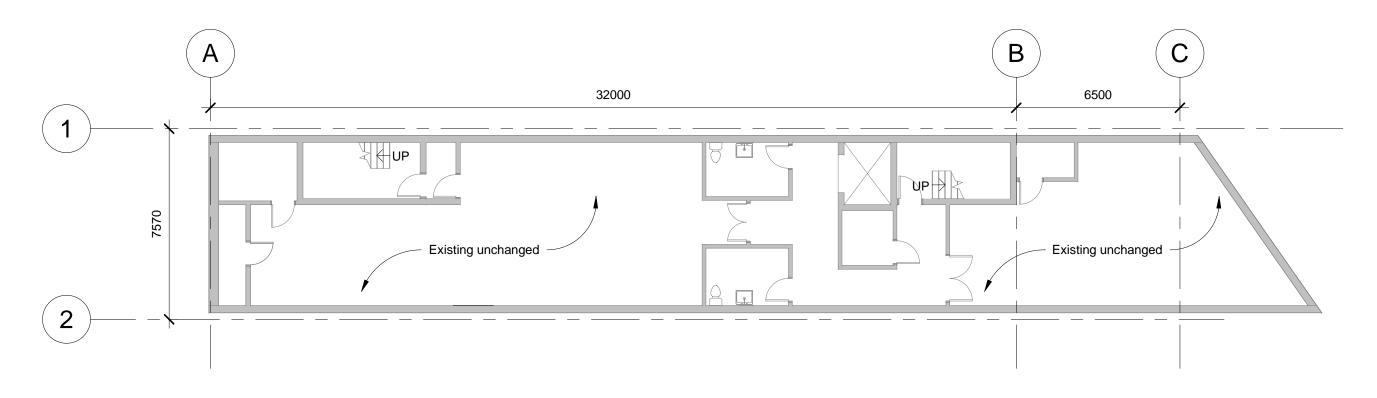
348 Davenport Road Toronto, ON M5R 1K6

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

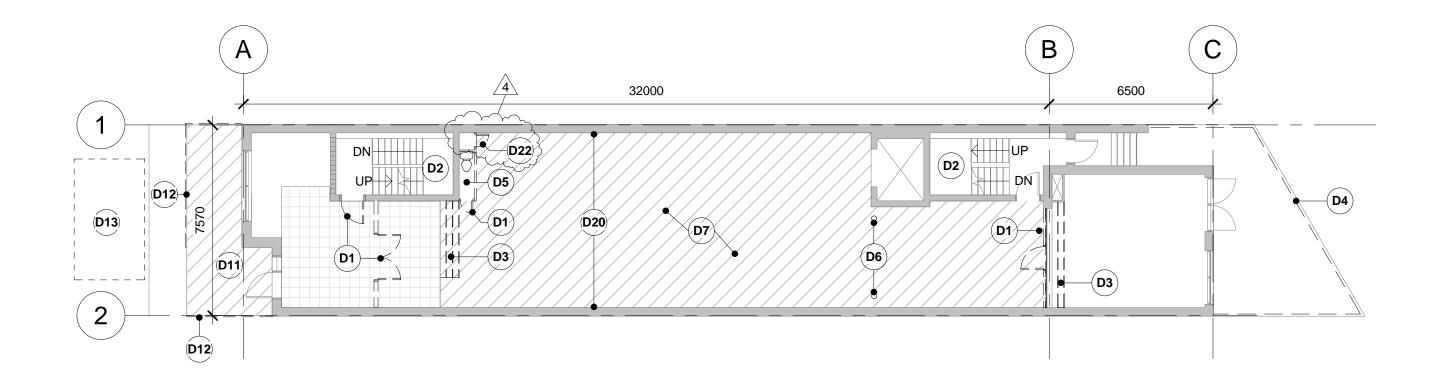
OBC Matrix, Life Safety Plan, Site Plan



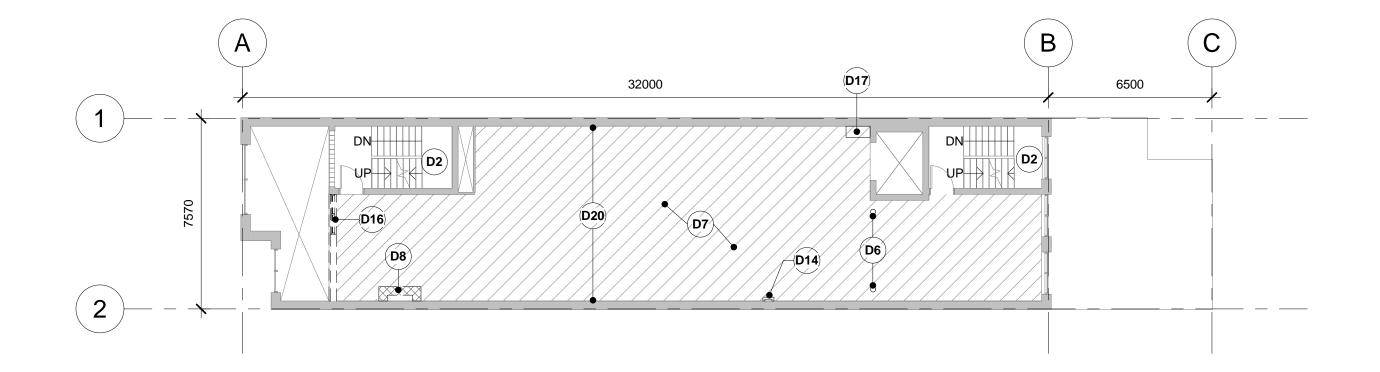




### 1 Basement 2 Existing 1:150

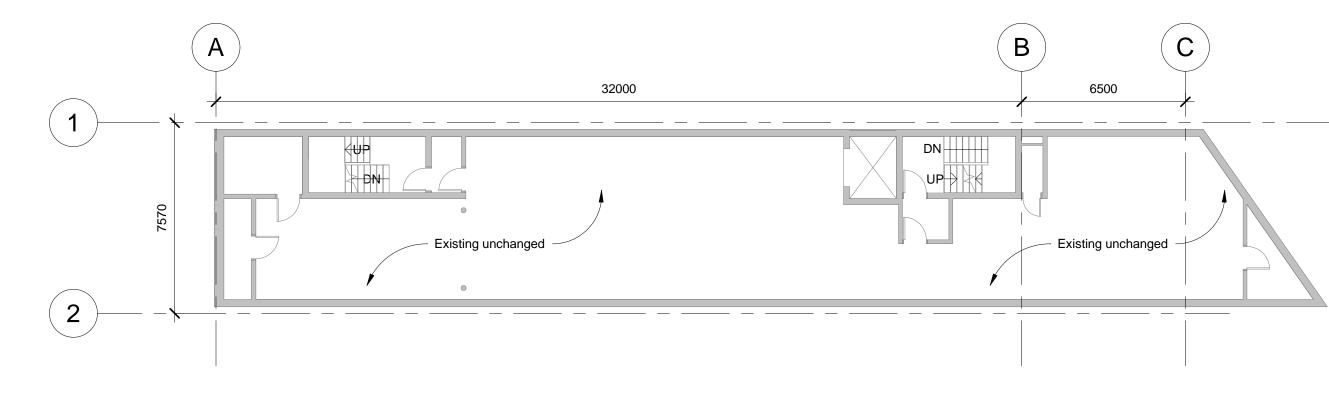


### 3 Level 1 Demolition 1: 150

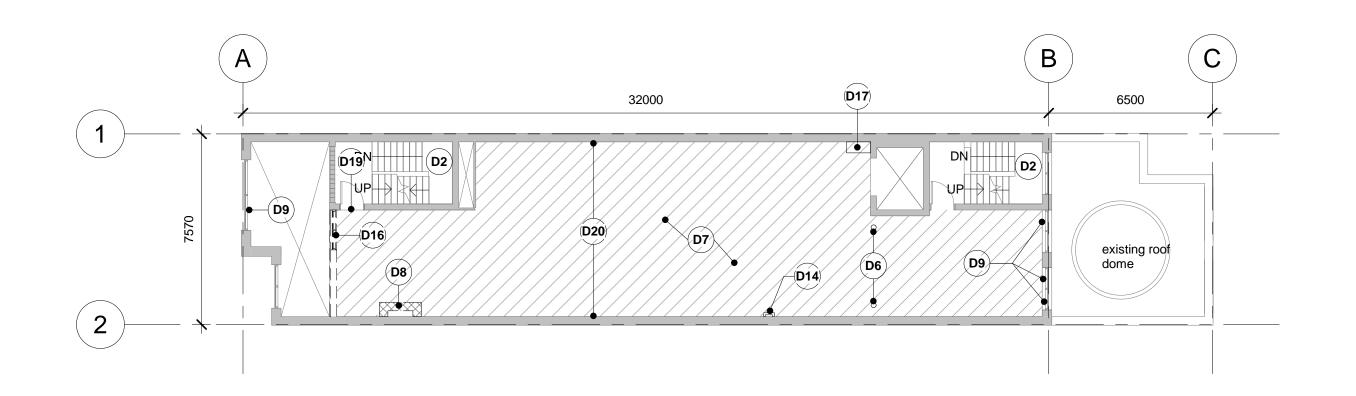


### 5 Level 3 Demolition 1: 150

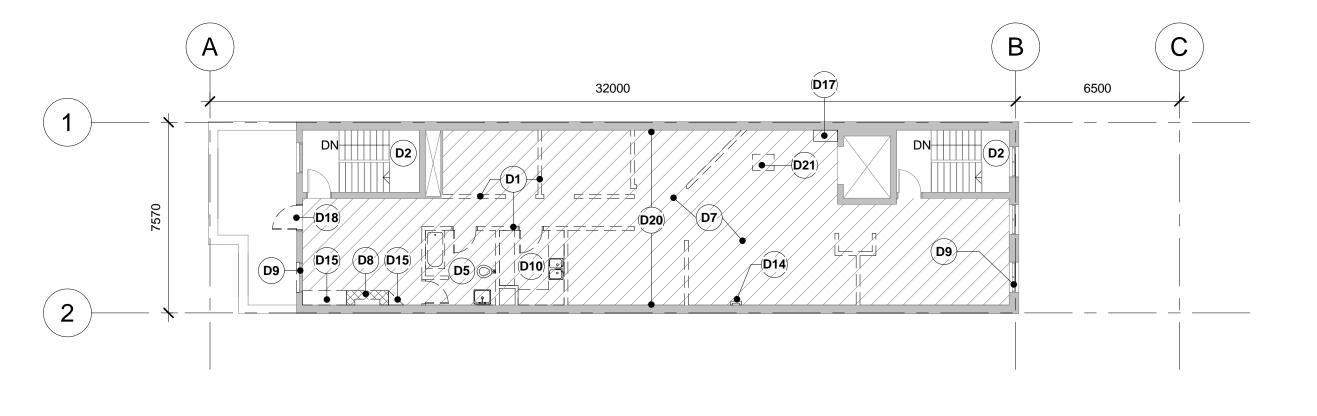
	Demolition Notes		
Note	Description		
D1	Demolish partition walls, doors and frames. Make good adjacent surfaces.		
D2	Patch and level existing concrete at stair landings and treads to receive new floor finish throughout (typ)		
D3	Demolish stairs. Make good adjacent surfaces.		
D4	No access to lane.		
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 fin		
D8	Demolish masonry fireplace. Make good adjacent surfaces.		
D9	Remove and replace damanged 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 amd 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.		



### 2 Basement 1 Existing 1:150



### 4 Level 2 Demolition 1:150



6 Level 4 Demolition 1: 150

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1 ZZC Submission 2 Draft

3 Issued for Permit/Tender 4 Addendum 1 5 Construction

15 June '18

28 June '18

13 July '18 30 July '18 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



### **WORKSHOP** architecture

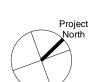
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Davenport Shelter

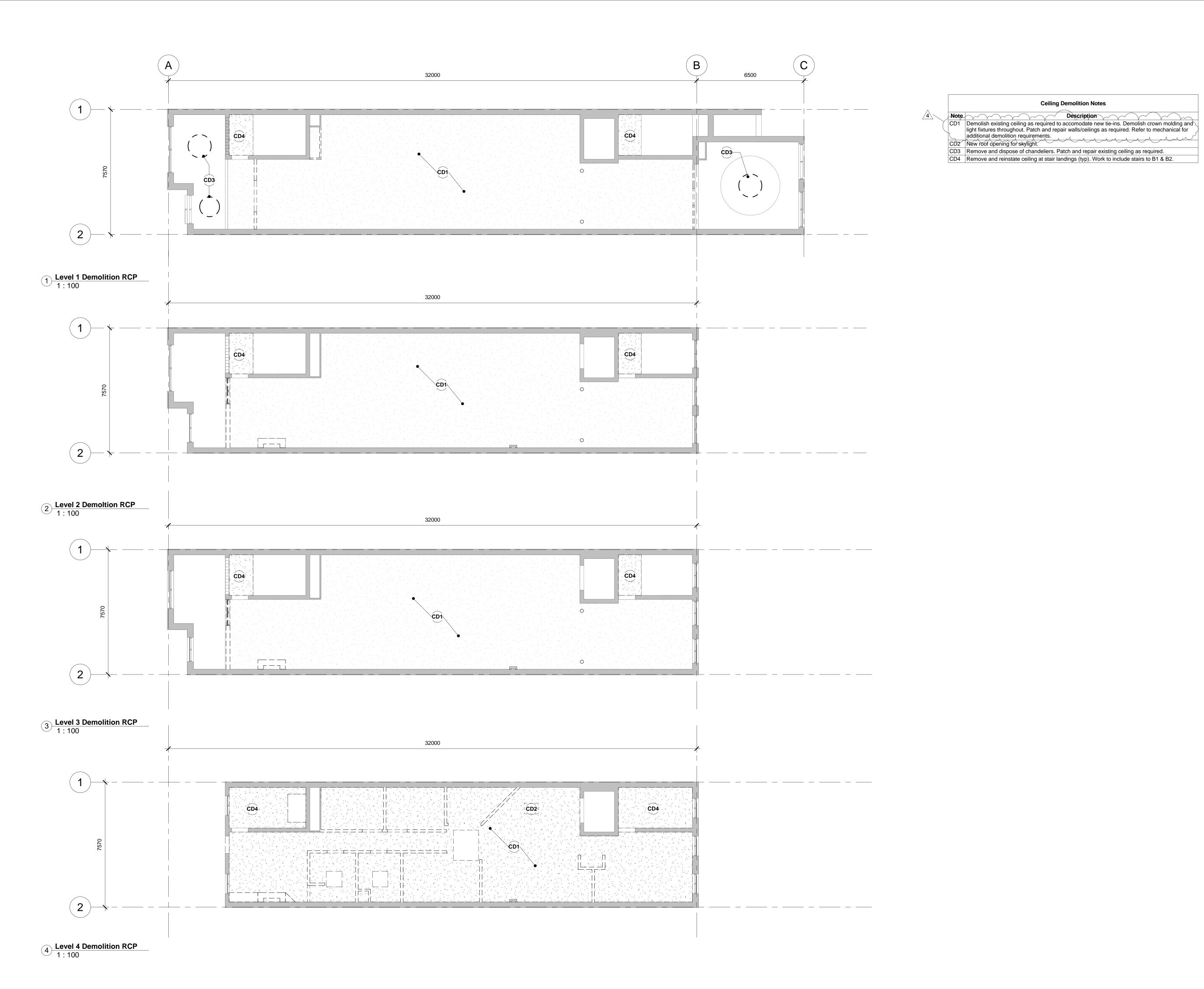
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September 2018	Construction
DATE:	STATUS:
18_22	As indicate
PROJECT CODE:	SCALE:

**Existing & Demolition Plans** 







2 Draft 3 Issued for Permit/Tender 4 Addendum 1

**Ceiling Demolition Notes** 

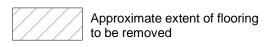
28 June '18 13 July '18 30 July '18 04 Sept '18 5 Construction

#### **Demolition Legend**

Existing CMU partition to be demolished

Existing wall partition system to be demolished

Existing element to be demolished



Approximate extent of ceiling to be removed

Existing door leaf and frame to be demolished



### **WORKSHOP** architecture

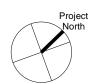
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#### Davenport Shelter

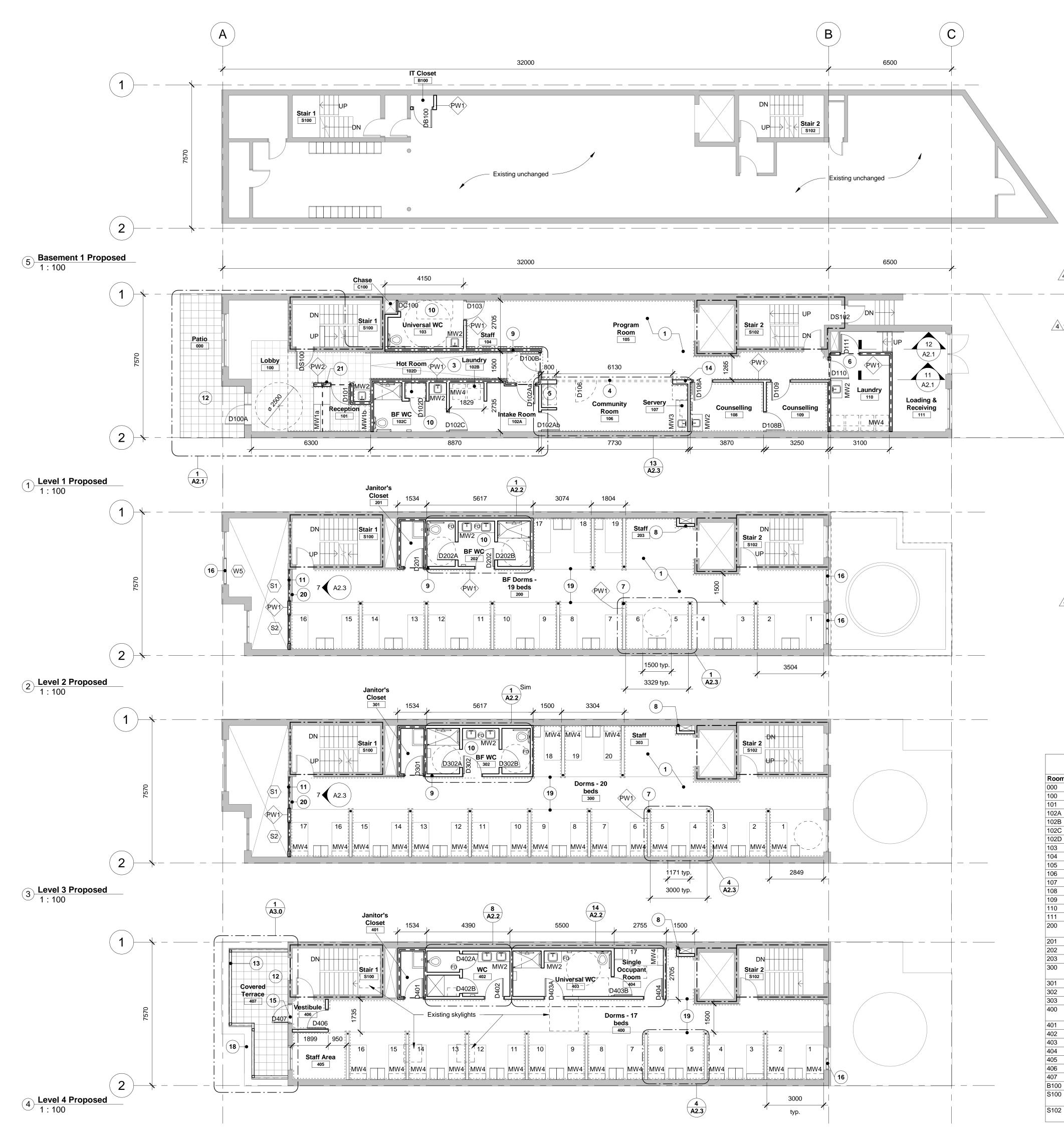
348 Davenport Road Toronto, ON M5R 1K6

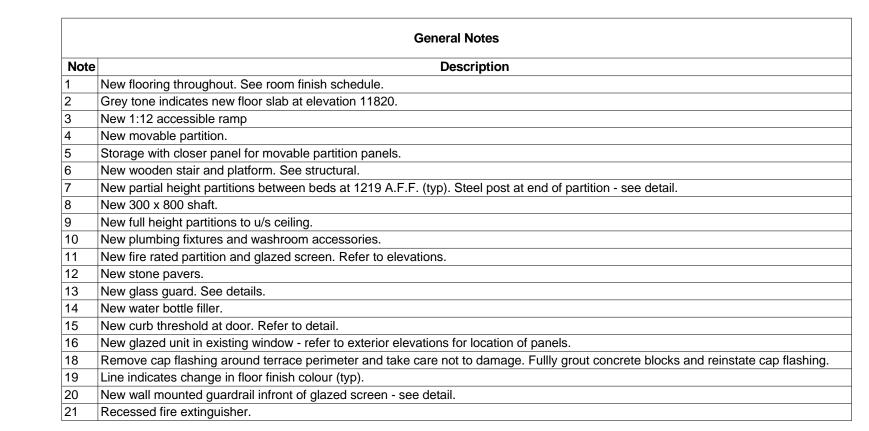
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**Demolition RCP** 

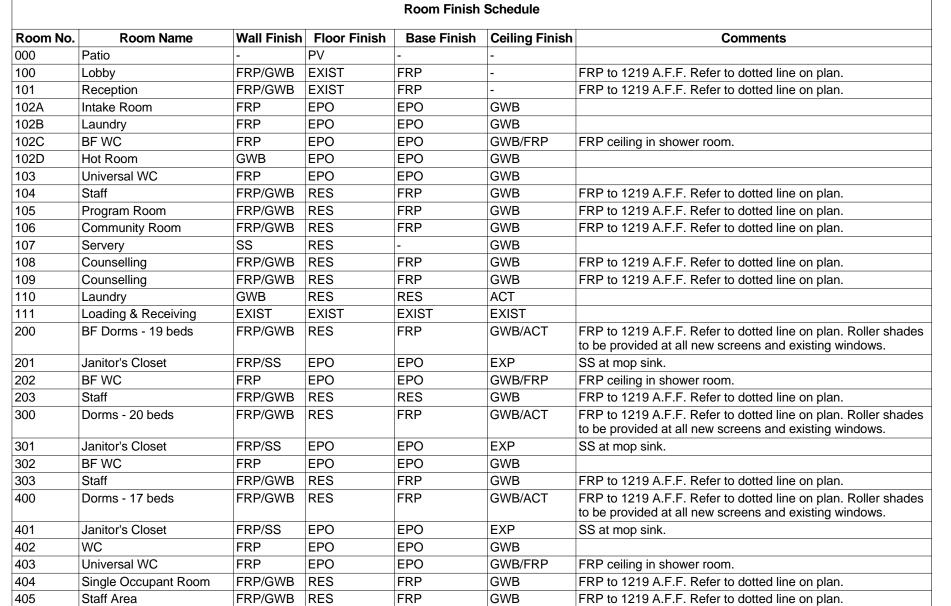








		_				1	T	_			1
Door No.	Room	Type Mark	Height	Width	Door Mt'l	Finish	e M'tl	Frame Fin.	Comments	Card Reader	F
D100A	Lobby	-	2400	1016	HM	PT	HM	PT	New hardware at existing door. Power door operator. Door release switch from reception	Yes (future)	Y
D100B	Lobby	В	2150	950	НМ	PT	HM	PT	Power door operator. Door release switch from reception	-	45
Ď101	Reception	B	2150	950	HM	PT	HM	PT	Power door operator.	Yes (future)	45
D102Aa	Intake Room	В	2150	950	HM	PT	HM	PT			$ \uparrow $
D102Ab	Intake Room	В	2150	950	НМ	PT	НМ	PT			
D102C	BF WC	Α	2150	950	НМ	PT	НМ	PT	Power door operator.		
D102D	Hot Room	Α	2150	800	НМ	PT	НМ	PT			
D103	Universal WC	Α	2150	950	НМ	PT	НМ	PT	Power door operator.		
D106	Community Room	F	2438	6130	-	SMB	-	-	Operable partition (7 panels) with pass through door.		
D108A	Counselling	В	2150	950	НМ	PT	НМ	PT			
D108B	Counselling	Α	2150	950	НМ	PT	НМ	PT			
D109	Counselling	В	2150	950	НМ	PT	НМ	PT			
D110	Laundry	В	2150	950	НМ	PT	НМ	PT			
D111	Loading and Receiving	Α	2150	950	НМ	PT	НМ	PT			
D201	Janitor's Closet	Α	2150	950	НМ	PT	НМ	PT			
D202	BF WC	Α	2150	950	НМ	PT	НМ	PT			
D202A	BF WC	С	1829	950	TP				Toilet Partition Door (Division 10)		
D202B	BF WC	С	1829	950	TP				Toilet Partition Door (Division 10)		
D301	Janitor's Closet	Α	2150	950	НМ	PT	НМ	PT			
D302	BF WC	Α	2150	950	HM	PT	НМ	PT			
D302A	BF WC	С	1829	950	TP				Toilet Partition Door (Division 10)		
D302B	BF WC	С	1829	950	TP				Toilet Partition Door (Division 10)		
D401	Janitor's Closet	Α	2150	950	НМ	PT	НМ	PT			
D402	WC	Α	2150	950	НМ	PT	НМ	PT			
D402A	WC	С	1829	813	TP				Toilet Partition Door (Division 10)		
D402B	WC	С	1829	813	TP				Toilet Partition Door (Division 10)		
D403A	Universal WC	Α	2150	950	НМ	PT	НМ	PT	Power door operator.		
D403B	Universal WC	Α	2150	950	НМ	PT	НМ	PT	Power door operator.		
D404	Isolation Room	В	2150	950	НМ	PT	НМ	PT			
D406	Vestibule	D	2150	950	НМ	PT	НМ	PT			
D407	Covered Terrace	D	2007	950	ALUM			ALUM	New door to fit existing frame dimensions.		
DB100	IT Closet	A	2150	950	HM	PT	HM	PŢ			$\sqrt{}$
DC100 Y	Chase	H	1524	500 '	HM	PT	HM	PT <sup>'</sup>	New chase door to fit existing opening.		
DS100	Stair 1	É	2150	900	НМ	PT	HM	PT	Use existing hardware on new door.		45
DS102	Stair 2	_	2150	900	НМ	PT	НМ	PT	New hardware at existing door.	Yes	



GWB

EXP

EXIST

EXIST

FRP

EXIST

FRP/GWB RES

PV

EXIST

RES/RB

RES/RB

TGL

EXIST

EXIST

EXIST

Door F

Door A

Vestibule

IT Closet

Stair 1

Covered Terrace

Door B

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

Door C

Door D

Door E

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	Construction	04 Sept '18

#### <u>end</u>

Existing partition to remain

#### New partition as scheduled

### Symbols Legend

PWX Partition Tag - refer to partition schedule

### SX Glazed Screen tag - refer to schedule

New Door tag -

### New Door tag - refer to schedule

GWB Ceiling Material Height above

N.I.C. Not in Contract

MW1 Millwork Tag

### Finished Floor (E) Existing

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 PT Mirror Paint Finish PV QTZ RB RES Paving Stones Quartz Rubber Base Resilient Flooring Solid Phenolic Toilet Partition

SS

SMB TGL

Door G

FRP to 1219 A.F.F. Refer to dotted line on plan.

flooring at stair landings.

flooring at stair landings.

New rubber treads and nosing throughout. New resilient

New rubber treads and nosing throughout. New resilient

Door H



Stainless Steel

Steel Marker Board Tempered Glass

# **WORKSHOP** architecture

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#### Davenport Shelter

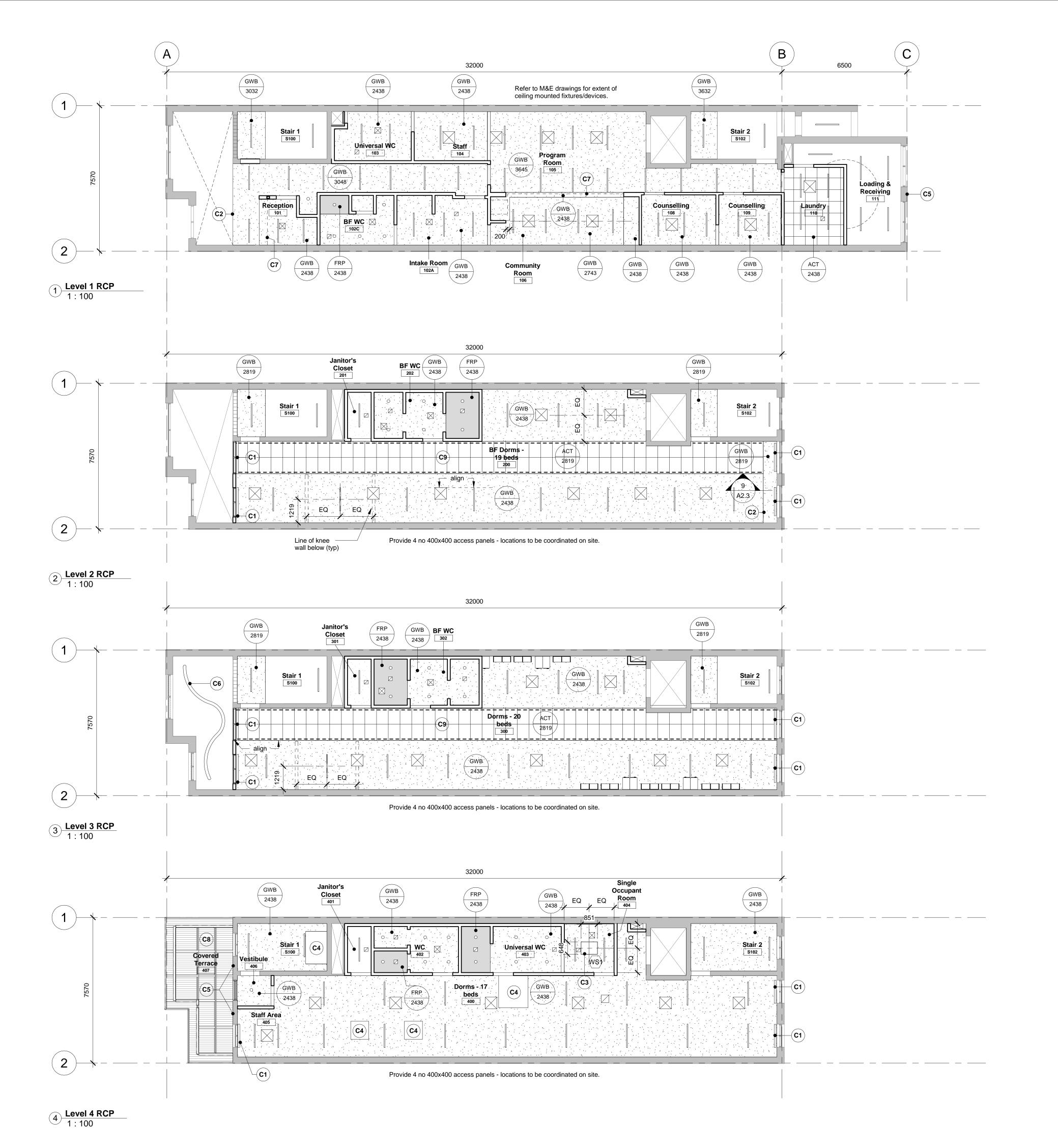
348 Davenport Road Toronto, ON M5R 1K6

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

Proposed Plans & Schedules







	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**

1. CEMENT BOARD SUBSTRATE TO BE PROVIDED THROUGHOUT ALL WASHROOM/SHOWER AREAS AND AT ALL LOCATIONS SCHEDULED TO RECIEVE FULL HEIGHT FRP FINISH - REFER TO SPECIFICATION 09250

2. PROVIDE CONTINUOUS PLYWOOD BLOCKING BEHIND ALL MILLWORK CABINETS, SUSPENDED ITEMS, TELEVISIONS ETC.

3. REFER TO DRAWINGS/DETAILS FOR TERMINATION HEIGHT OF PARTITIONS. ASSUME TERMINATION AT U/S DECK UNLESS NOTED OTHERWISE.

4. PROVIDE FIRE RESISTANCE RATINGS AS INDICATED ON DRAWINGS

#### INTERIOR PARTITIONS

PW1

1 LAYER 16mm TYPE X GYPSUM WALLBOARD 92mm STEEL STUDS 1 LAYER16mmTYPE X GYPSUM WALLBOARD FINISHES AS SCHEDULED

CAPABLE OF ACHIEVING 1HR FRR WHERE INDICATED PER ULC W453



1 LAYER 16mm TYPE X GYPSUM WALLBOARD 150mm STEEL STUDS 1 LAYER16mmTYPE X GYPSUM WALLBOARD FINISHES AS SCHEDULED

#### FLOOR ASSEMBLY

FLOOR FINISH AS SCHEDULED 2 LAYERS 19mm T&G PLYWOOD SUBFLOOR WOOD FRAMING (SEE STRUCTURAL)



UNIT PAVERS ON PEDESTALS
PROTECTION BOARD
EXISTING ROOF MEMBRANE/STRUCTURE

#### ROOF ASSEMBLY

\_\_\_\_\_

METAL DECKING ON SLOPED STRUCTURE (SEE STRUCTURAL)

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2 Draft 28 June '18 3 Issued for Permit/Tender 13 July '18

04 Sept '18

<u>Legend</u>

Existing partition to remain

New partition as scheduled

#### Symbols Legend

5 Construction

Partition Tag - refer to partition

schedule

Glazed Screen tag
- refer to schedule

New Door tag -

refer to schedule

MW1 Millwork Tag

GWB 1000 Ceiling Material Height above Finished Floor

N.I.C. Not in Contract

(E) Existing

Bed (N.I.C.)

Storage Locker

Washer & Dryer (N.I.C.)

----- FRP at 1219 A.F.F.

#### Ceiling Legend

O Potlight - see electrical

--- LED cove light - see electrical

LED lighting fixture - see electrical

Return/exhaust grille

Supply air diffuser

OF ARCHITECTS Z

II DAVID BARTON COLUSSI
LICENCE
6548

# **WORKSHOP** architecture

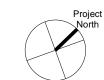
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Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

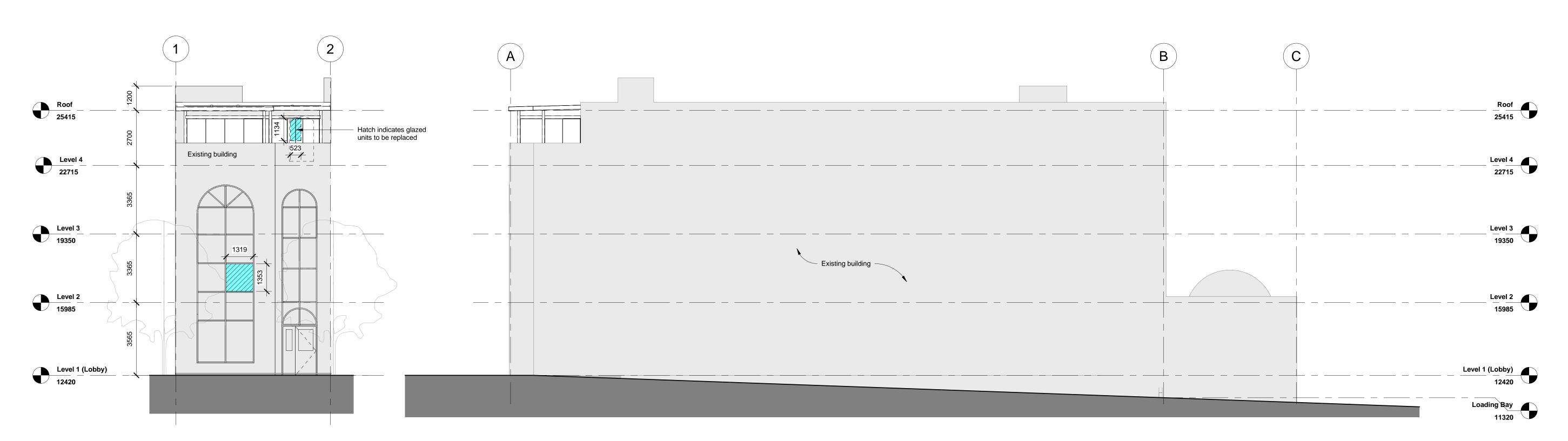
September 2018	Construction
DATE:	STATUS:
18_22	As indicated
PROJECT CODE:	SCALE:

Reflected Ceiling Plans & Schedules



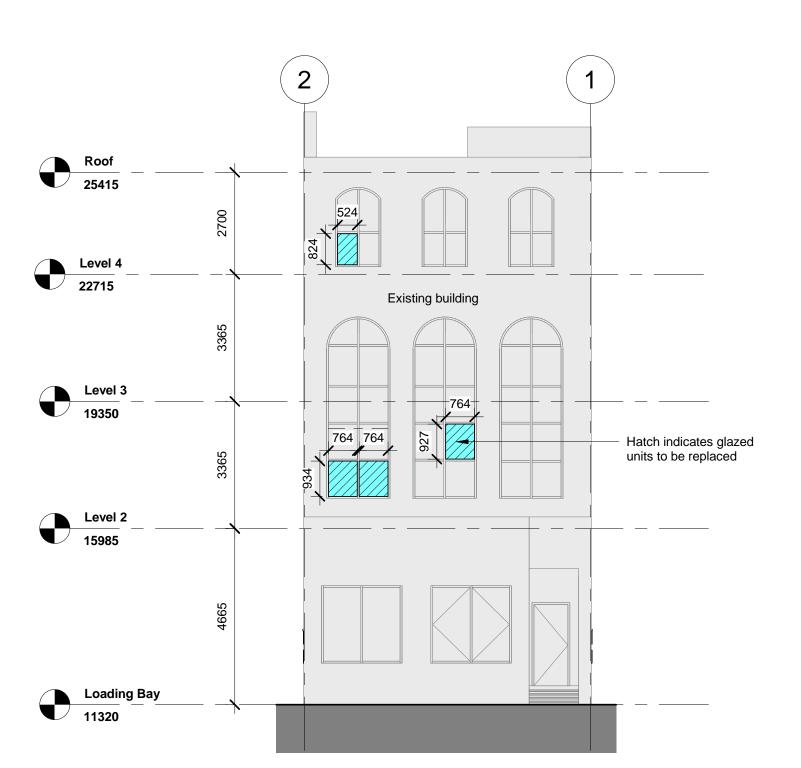


1 ZZC Submission 15 June '18
2 Draft 28 June '18
3 Issued for Permit/Tender 13 July '18
5 Construction 04 Sept '18



1 <u>West Elevation</u> 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) outboard 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 Viracon)
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				
	ALD EDD			

— - — 45MIN FRF

———— 2HR FRR



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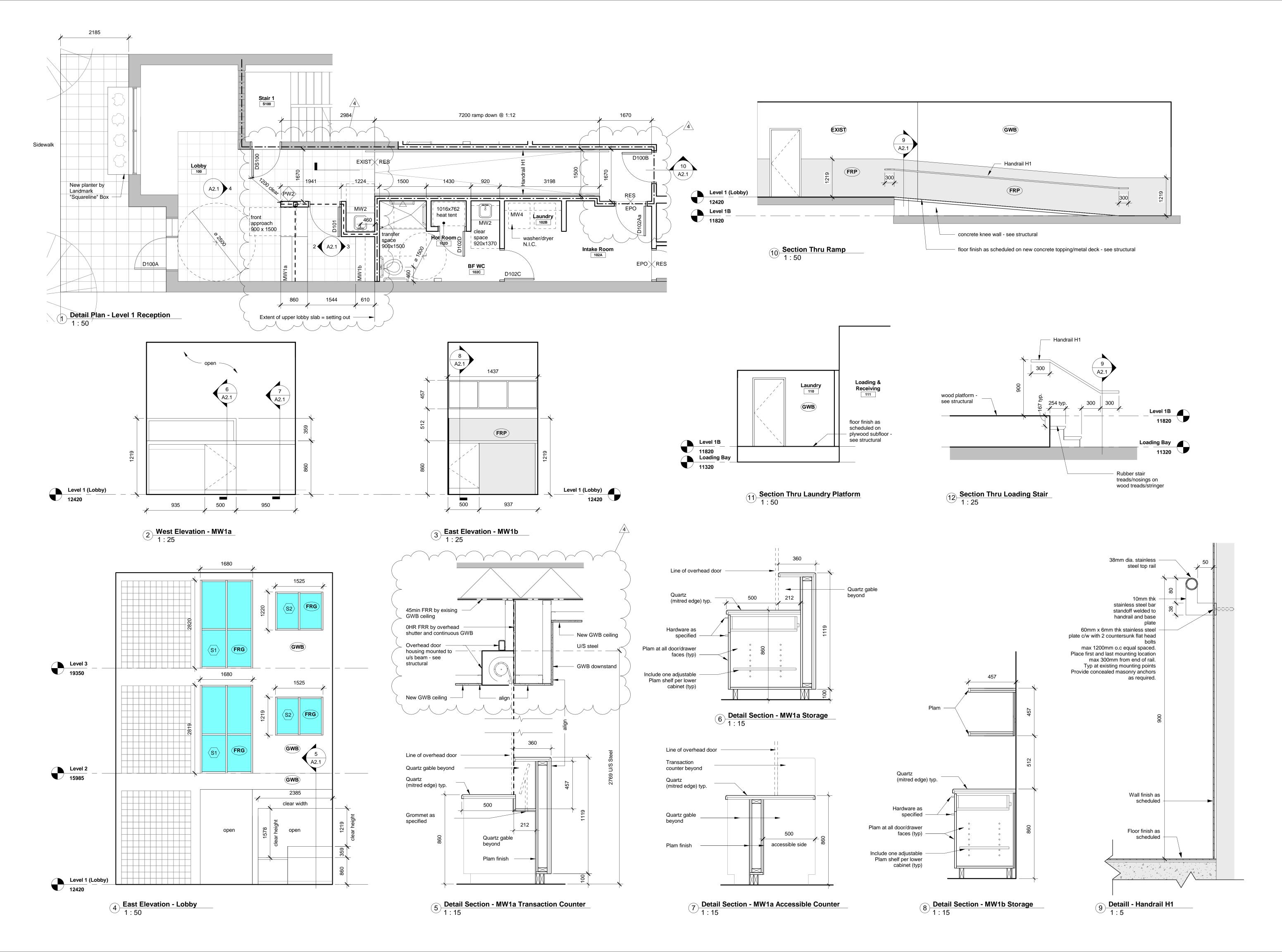
Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

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

**Exterior Elevations** 





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

#### Materials Legend

SMB TGL

ΞPO	Epoxy
EXIST	Existing
EXP	Exposed
FRG	Fire Rated Glass
FRP	Fiberglass Reinforced Panel
GWB	Gypsum Wallboard (Painted)
_GL	Laminated Glass
MIR	Mirror
PT	Paint Finish
>V	Paving Stones
QTZ	Quartz
RB	Rubber Base
RES	Resilient Flooring
SP	Solid Phenolic Toilet Partition
	A A

Stainless Steel

Steel Marker Board Tempered Glass

Aluminum

#### 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



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Davenport Shelter

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

Proposed Interior Elevations & Details





Rev	<i>D</i> escription	Date
2	Draft	28 June '1
3	Issued for Permit/Tender	13 July '1

04 Sept '18

#### Materials Legend

5 Construction

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



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#### Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

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

Proposed Interior Elevations & Details



drawing number A22

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	Ероху
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

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

approved equivalent

Drawer guides: Blum WEBKIT1058762 or

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

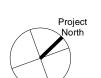
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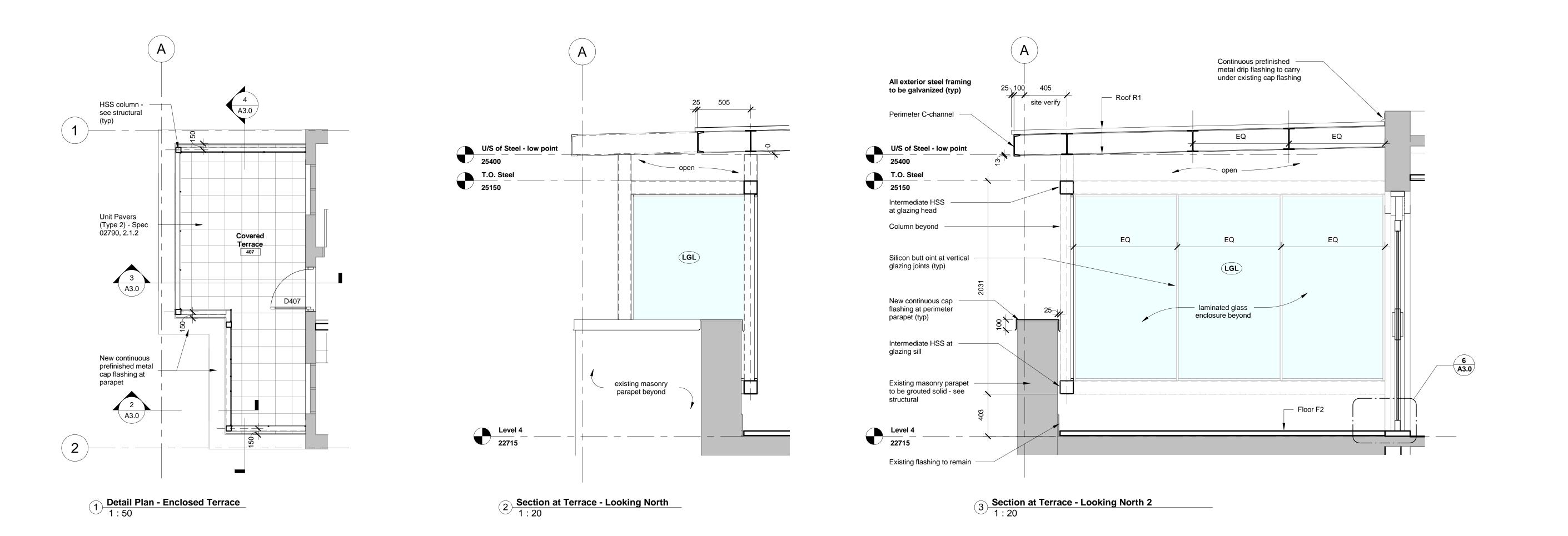
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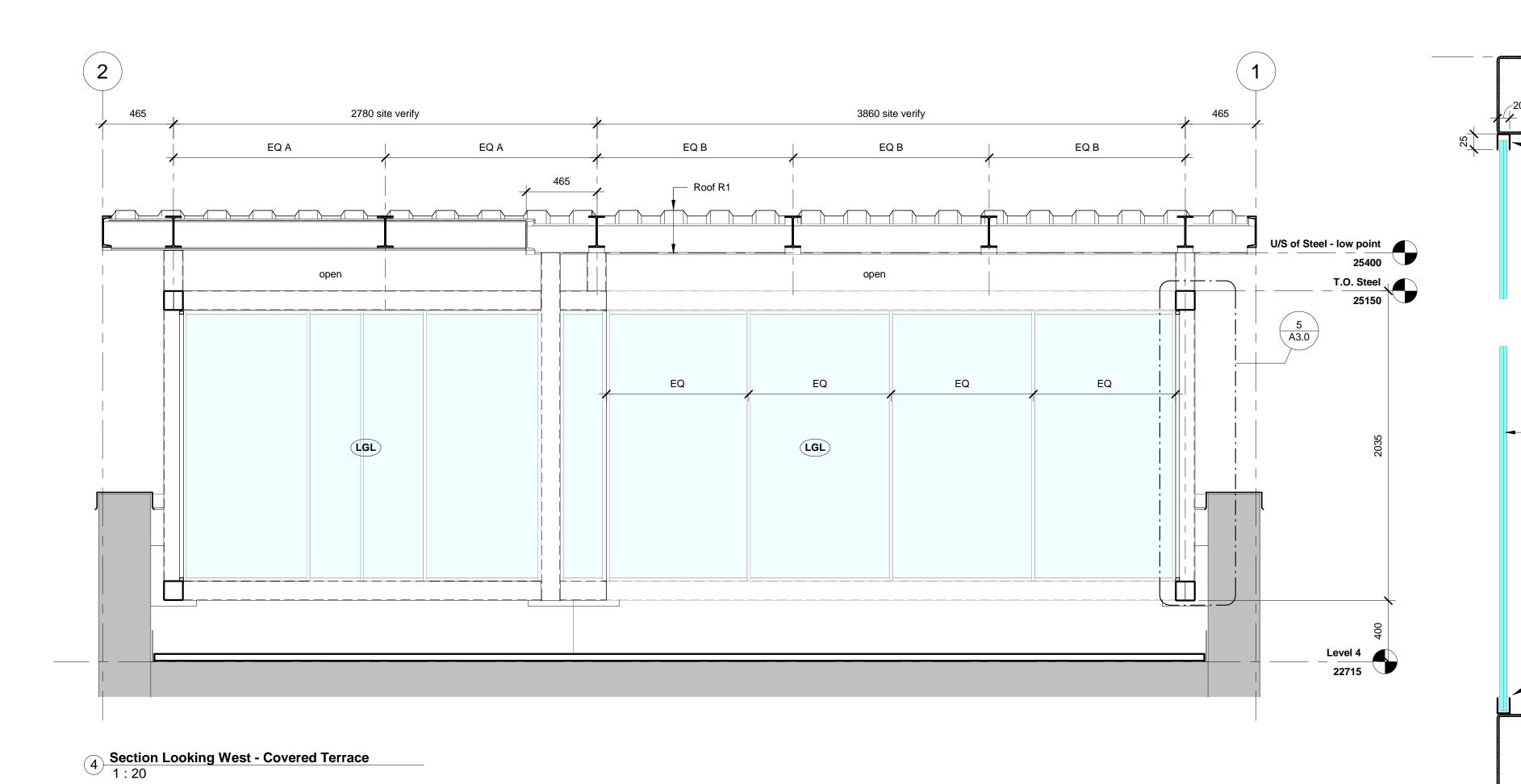
September 2018	Construction
DATE:	STATUS:
	074740
18_22	As indicated
PROJECT CODE:	SCALE:

Proposed Interior Elevations & Details



drawing number **A2.3** 







T.O. Steel 25150

HSS beam at head of glazing -

Continuous galvanized glazing U-channel channel mechanically

fastened to HSS beam (typ at top

see structural

and bottom)

- Masonry parapet

 LGL - Laminated tempered glass to CAN/CGSB-12.1, Category II;

Inner lite consisting of 6 mm thick

clear tempered glass, .9mm thick clear PVB interlayer, and 4 mm thick clear tempered glass outer lite

complete with Ceramic Frit-Silk Screened Coating: to GANA/GTA 95-1-31, located on number 4 surface;

horizontally and 4" (100mm)

Green Standard (TGS).

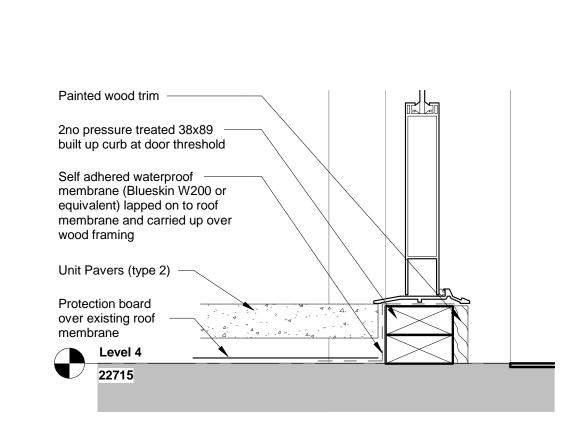
HSS beam at glazing sill -

see structural

vertically, to comply with Toronto

Pattern: circle shaped markings in a grid pattern, spaced at 2" (50mm)

Neoprene setting blocks and gaskets



6 Section Thru Curb/Threshold 1:5

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

#### Materials Legend

SS SMB TGL

ALUM	Aluminum
EPO	Ероху
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

Stainless Steel Steel Marker Board Tempered Glass



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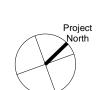
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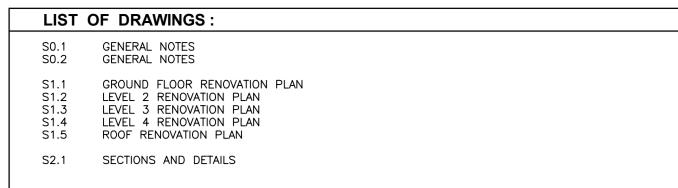
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September 2018	Construction
DATE:	STATUS:
18_22	As indicate
PROJECT CODE:	SCALE:

Details - Covered Terrace







#### GENERAL

MEANS SECTION #4 ON DRAWING S1.2. SECTION MARK SHOWN THUS 🚕

- SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SLEEVES, NAILERS, INSERTS, ETC., TO BE ENCASED IN CONCRETE.
- SEE ARCHITECTURAL DRAWINGS FOR FLOOR AND ROOF ELEVATIONS, RECESSES, DRAINAGE SLOPES, ETC.
- THE GENERAL CONTRACTOR SHALL REVIEW ALL THE DRAWINGS AND CHECK DIMENSIONS BEFORE CONSTRUCTION. REPORT DISCREPANCIES BETWEEN STRUCTURAL AND OTHER DISCIPLINES DRAWINGS FOR
- CONCRETE WORK
  SHALL CONFORM TO CAN/CSA-A23.1, CAN/CSA-A23.2, CAN/CSA-A23.3 AND REFERENCED DOCUMENTS.
- STRUCTURAL STEEL WORK
  SHALL CONFORM TO CAN/CSA-S16 AND REFERENCED DOCUMENTS.
- FIRE RESISTANCE RATINGS
  SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PRECISE LOCATION OF REQUIRED FIRE RESISTANCE
- 8. DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION OF RJC. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR LOCATIONS, CONFIGURATIONS, EXTENT, AND SIZES OF ALL CURBS, UPSTANDS, DOWNTURNS; AND FOR OPENINGS THROUGH FLOORS AND WALLS FOR DUCTS, CONDUIT AND PIPING. PROVIDE FOR SAME.

#### 10. <u>ABBREVIATIONS:</u>

١٠.	ADDITEVIA	110143.			
	75		MOMENT CONNECTION	L.L.B.B.	 LONG LEGS BACK TO BACK
	/5				
	4 D 4		PAD THROUGH FORCE [kN]	L.L.H.	 LONG LEG HORIZONTAL
	A.B.A.		ANCHOR BOLT	L.L.V.	 LONG LEG VERTICAL
	A.E.SS		ARCHITECTURALLY EXPOSED	L.S.H.	 LONG SIDE HORIZONTAL
			STRUCTURAL STEEL	L.S.V.	 LONG SIDE VERTICAL
	ATL.		ALTERNATE	L.W.	 LONG WAY
	ARCH.		ARCHITECTURAL	LP	 LOW POINT
	B.C.E.		BOTTOM CHORD EXTENSION	MAX.	 MAXIMUM
	BEW		BOTTOM EACH WAY	MECH.	 MECHANICAL
	B.L.L.		BOTTOM LOWER LAYER	Mf	 FACTORED BENDING MOMENT
	BLW		BOTTOM LONG WAY	Mfx	 STRONG AXIS BENDING
	BSW		BOTTOM SHORT WAY	Mfy	 WEAK AXIS BENDING MOMENT
	B,BOT.		BOTTOM	MIŃ.	 MINIMUM
	B.U.L.		BOTTOM UPPER LAYER	Mfl	 FACTORED TORSION
	CA		COLUMN ABOVE	N.I.C.	 NOT IN CONTRACT
	CANT.		CANTILEVER	N.S.	 NEAR SIDE
	CB		COLUMN BELOW	N.T.S.	 NOT TO SCALE
	CBM		COUPLING BEAM	0.C.	 ON CENTRE
	Cf		FACTORED COMPRESSION	0.C	 ON CENTRE
	C.I.P.		CAST IN PLACE	OPP.	 OPPOSITE
				0.WJ.	
	C.J.		CONTROL JOINT		 OPEN WEB STEEL JOIST
	CL.		CENTER LINE	P.P.	 PARTIAL PENETRATION
	CLR.A.		CLEAR	P/T	 POST-TENSIONING
	CONC.		CONCRETE	R.D.	 ROOF DRAIN
	CONT.		CONTINIOUS	RTN.	 RETURN
	C.P.		COMPLETE PENETRATION	R/W	 REINFORCED WITH
	CTRS.		CENTRES	SL.	 SUPERIMPOSED DEAD LOAD
	C/W		COMPLETE WITH	S.DF.	 STEP DOWN FOOTING
	DBM		DIVIDER BEAM	SIM.	 SIMILAR
	DET.		DETAIL	S.L.	 SNOW LOAD
	D.L.		DEAD LOAD	S.L.B.B.	 SHORT LEGS BACK TO BACK
	D.O.		DO OVER — (DITTO)	S.O.G.	 SLAB ON GRANDE
	DP.		DEEP (I.E. DEPTH OF BEAM)	SPEC.	 SPECIFICATIOND
	D.T.S.		DEPTH TO SUIT	SR	 STUD RAIL
	DWG.		DRAWING	ST.	 STAGGER
	DWLS.		DOWELS	STIR.	 STIRRUP
	E.E		EACH END	S.W.	 SHORT WAY
	E.F.		EACH FACE	SYM.	 SYMMETRICAL
			ELEVATION	TEW	 TOP EACH WAY
	ELEV.		ELEVATION	Tf	 FACTORED TENSION
	ELEC.		ELECTRICAL	THK.	 THICK
	E.S.		EACH SIDE	THRU	 THROUGH
	E.WAY		EACH WAY	T.L.L.	 TOP LOWER LAYER
	E.W.		EACH WAY	T & B	 TOP AND BOTTOM
	EXIST.		EXISTING	T & C	 TENSION AND COMPRESSION
	EXT.		EXTERIOR	T & G	 TONGUE AND GROOVE
	EXP. JT.		EXPANSION JOINT	T.J.	 TIE JOIST
	F.D.		FLOOR DRAIN	T.O.	 TOP OF
	F.S.		FAR SIDE	T.O.C.	 TOP OF CONCRETE
				T.O.S.S.	 TOP OF CONCRETE
	GALV.		GALVANIZED		
	G.L.		GRID LINE	T.O.S.	 TOP OF SLAB
	H.1.E.		HOOK ONE END	T.U.L.	 TOP UPPER LAYER
	H.2.E.		HOOK 2 ENDS	TYP	 TYPICAL
	H & V		HORIZONTAL AND VERTICAL	U.N.O.	 UNLESS NOTED OTHERWISE
	H,HOR.		HORIZONTAL	ULS	 ULTIMATE LIMIT STATE
	HSC		HORIZONTALLY SLOTTED	SLS	 SERVICEABILITY LIMIT STATE
			CONNECTION	U/S	 UNDERSIDE
	Hf		FACTORED HORIZONTAL	V.,VERT.	 VERTICAL
			SHEAR FORCE	Vf	 FACTORED SHEAR FORCE
	HORZ.		HORIZONTAL	W.O.	 WORK POINT
	HORIZ.		HORIZONTAL		
	HP		HIGH POINT		
	INT.		INTERIOR		
	JT.		JOINT		
	LG.		LONG		
	LI		LIVE LOAD		

#### L.L --- LIVE LOAD . <u>DEFINITIONS</u>:

A. RJC: READ JONES CHRISTOFFERSEN OR ITS REPRESENTATIVE.

WOOD FRAME ROOF TRUSSES. ETC.

- SPECIALTY STRUCTURAL ENGINEER: A STRUCTURAL ENGINEER REGISTERED AND LICENSED TO PRACTICE / THE PROFESSIONAL ENGINEERING ASSOCIATION HAVING JURISDICTION IN THE AREA WHERE THE STRUCTURE IS TO BE BUILT AND WHO IS RESPONSIBLE FOR THE DESIGN AND FIELD REVIEW OF: STRUCTURAL ELEMENTS DESIGNED BY THE CONTRACTOR OR SUBCONTRACTORS, SUCH AS OPEN WEB STEEL JOISTS, PRECAST DOUBLE TEES, PRECAST PLANKS, STRUCTURAL STEEL CONNECTIONS, LIGHT
- SECONDARY STRUCTURAL ELEMENTS AND NON-STRUCTURAL ELEMENTS. SEE ALSO "NON-STRUCTURAL ELEMENTS" GENERAL NOTES.
- C. CONTINUOUS: FULL TENSION SPLICE AND TENSION DEVELOPMENT LENGTH.

CAN/CSA-A23.3 AND AS SHOWN ON THESE GENERAL NOTES DRAWINGS.

- EMBEDMENT: UNLESS NOTED OTHERWISE COMPRESSION EMBEDMENT MEANS A COMPRESSION DEVELOPMENT LENGTH AND TENSION EMBEDMENT MEANS A TENSION DEVELOPMENT LENGTH AS PER
- GENERAL CONTRACTOR: FOR THE PURPOSES OF THESE DRAWINGS, THE USE OF THE TERM "CONTRACTOR" OR "GENERAL CONTRACTOR" SHALL REFER TO THE PRIME PERSON OR COMPANY RESPONSIBLE FOR CONSTRUCTION OF THE PROJECT AND THE COORDINATION OF TRADES AND SUBCONTRACTORS. THIS MAY BE THE GENERAL CONTRACTOR, OR A CONSTRUCTION MANAGER.

#### GENERAL SCOPE OF STRUCTURAL WORK:

- INSTALLATION OF A NEW BARRIER FREE RAMP AND SLOPED BONDED TOPPING.
- INSTALLATION OF A NEW STRUCTURAL STEEL FRAME FOR THE RECEPTION DESK OVERHEAD ROLL-UP DOOR.
- 3. INSTALLATION OF A NEW TEMPORARY WOOD FRAMED FLOORING SYSTEM IN THE LAUNDRY ROOM.
- 4. INSTALLATION OF NEW STRUCTURAL STEEL POSTS AT HALF-HEIGHT PARTITION WALLS.
- 5. REINFORCING OF EXISTING OPEN-WEB STEEL JOISTS AND BEAMS.
- 6. INSTALLATION OF NEW STRUCTURAL STEEL FRAMING FOR FOLDING PARTITION WALL.
- INSTALLATION OF A NEW STRUCTURAL STEEL FRAMED CANOPY AND GLAZING SUPPORTS ON THE 4TH FLOOR
- INSTALLATION OF NEW THROUGH-SLAB OPENINGS ON THE 2ND TO 4TH FLOORS FOR NEW MECHANICAL SERVICES.
- INSTALLATION OF NEW STRUCTURAL STEEL FRAMING TO ACCOMMODATE AN OPENING THROUGH THE EXISTING ROOF DECK FOR INSTALLATION OF A NEW SKYLIGHT.

#### DESIGN CODE:

THE COMPLETED BASE BUILDING STRUCTURE SHOWN ON THE STRUCTURAL DRAWINGS HAS BEEN DESIGNED IN SUBSTANTIAL ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012 WHICH IS BASED ON THE NATIONAL BUILDING CODE OF CANADA 2010.

#### DESIGN LOADS:

1.	SPECIFIED UNIFORM LOADS kPa (SEE ALSO PLANS)	LIVE LOAD	SUPERIMPOSED DEAD LOAD (S.D.L.)
	A. ROOF - BASED ON A GROUND SNOW LOAD OF PLUS A RAIN LOAD OF AND A IMPORTANCE FACTOR Is = 1.0 ULS, 0.9 SLS		} 0.8
	B. GROUND FLOOR		5.8
	C. 2ND TO 4TH FLOORS	2.4	2.4

ROOF TERRACES ----- 4.8

E. STAIRS AND CORRIDORS ----- 4.8

CONTRACTORS CONSTRUCTION LOADS MUST NOT EXCEED THE ABOVE DESIGN LOADS. DESIGN LOADS MAY ONLY BE APPLIED AFTER CONCRETE REACHES ITS DESIGN STRENGTH.

SUPERIMPOSED DEAD LOADS (S.D.L.) ARE NON-STRUCTURE DEAD LOADS DUE TO ARCHITECTURAL TOPPINGS, FINISHES, PARTITIONS, ROOFING MATERIALS, PAVERS, SOIL, ETC.

STRUCTURAL DEAD LOADS (D.L.) ARE DUE TO THE WEIGHT OF THE STRUCTURE ITSELF. THEY VARY WITH THE STRUCTURAL SYSTEM AND INCLUDE CONCRETE TOPPINGS ON STEEL DECK.

#### WIND UPLIFT LOADS ON STEEL OR WOOD ROOFS SHALL BE 1 kPa NET FACTORED UNLESS NOTED

#### RENOVATIONS:

- THE CONTRACT DOCUMENTS ARE BASED ON ASSUMED AS-BUILT DIMENSIONS FOR THE EXISTING BUILDING STRUCTURE AND ASSUMPTIONS IN ACCORDANCE WITH DETAILING AND PLACING PRACTICE. THESE ASSUMPTIONS MAY VARY FROM THE ACTUAL ON-SITE CONDITIONS. THE CONTRACTOR SHALL IMMEDIATELY INFORM THE CONSULTANT OF ANY ACTUAL VARIATIONS FROM THE ASSUMED CONDITIONS.
- ACTUAL SITE CONDITIONS. THE CONTRACTOR WILL COOPERATE WITH THE CONSULTANT AND RJC IN THIS REGARD. MINOR MODIFICATIONS WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR AND WILL NOT RESULT IN A CHANGE IN THE CONTRACT PRICE.

MINOR MODIFICATIONS WILL BE REQUIRED TO THE WORK INDICATED ON THESE DRAWINGS TO REFLECT

- ENSURE THAT ALL NECESSARY JOB DIMENSIONS ARE TAKEN AND ALL TRADES ARE COORDINATED FOR THE PROPER EXECUTION OF THE WORK. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF SUCH DIMENSIONS, AND FOR COORDINATION.
- PRIOR TO FABRICATION OF ANY STRUCTURAL MEMBERS. THE CONTRACTOR SHALL COMPLETE THIS SITE REVIEW OF CRITICAL "TIE-IN" DIMENSIONS AND CONFIRM ALL DIMENSIONS TO ENSURE PROPER FIT OF NEW WORK TO EXISTING. REPORT ANY DISCREPANCIES TO RJC PRIOR TO STARTING WORK.
- COMMENCEMENT OF CONSTRUCTION OR ANY PART THEREOF CONSTITUTES ACCEPTANCE OF EXISTING CONDITIONS AND MEANS DIMENSIONS AND ELEVATIONS HAVE BEEN CONSIDERED, VERIFIED AND ARE
- ANY OPENINGS THAT ARE NOT SHOWN OR INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REPORTED TO RJC FOR REVIEW. THESE OPENINGS MAY NOT BE ALLOWED, MAY HAVE TO BE MOVED, OR MAY REQUIRE
- ADDITIONAL STRUCTURAL WORK AND DETAILING. DO NOT PROCEED WITH THESE OPENINGS WITHOUT WRITTEN PERMISSION FROM RJC. UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, THE CORING OR CUTTING OF OPENINGS AND HOLES SHOWN ON THE STRUCTURAL DRAWINGS THROUGH THE EXISTING STRUCTURE SHALL NOT CUT ANY REINFORCING BARS. THE CONTRACTOR SHALL LOCATE THE POSITION OF EXISTING REINFORCING BARS IN

THE VICINITY OF THE HOLES AND SLEEVES TO BE CUT OR CORED, AND THE HOLES AND SLEEVES SHALL

8. NEW OPENINGS TO BE CUT THROUGH EXISTING FLOOR SLAB OR WALLS SHALL BE CLEARLY MARKED OUT BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY RJC ONCE THE MARKING OUT HAS BEEN COMPLETED SO THAT RJC CAN REVIEW THE PROPOSED LOCATIONS OF ALL NEW OPENINGS. DO NOT

BE LOCATED TO AVOID CUTTING OF REINFORCING BARS. WHERE THIS IS NOT POSSIBLE, IT SHALL BE

- PROCEED WITH CUTTING OF NEW OPENINGS WITHOUT THE APPROVAL OF RJC. . UNLESS NOTED OTHERWISE ON THE DRAWINGS NEW STRAIGHT SIDED OPENINGS THROUGH EXISTING SLABS AND WALLS SHALL BE SAWCUT WITH NO OVERCUTS. USE CORED HOLES AT THE CORNERS. JACKHAMMERING SHALL NOT BE PERMITTED. REFER TO THE DETAILS AND PROCEDURES INDICATED ON THE STRUCTURAL DRAWINGS FOR THE NEW OPENINGS. ALTERNATES TO THE ABOVE PROCEDURES MUST BE REVIEWED BY RJC PRIOR TO THE START OF DEMOLITION OR CONSTRUCTION.
- O. UNLESS NOTED OTHERWISE AT ALL LOCATIONS WHERE NEW CONCRETE WILL BE IN CONTACT WITH EXISTING CONCRETE SURFACES, THE EXISTING CONCRETE SURFACE IS TO BE COMPLETELY CLEANED AND ROUGHENED BY BUSH HAMMERING, (OR APPROVED EQUAL) TO AN AMPLITUDE OF 6 mm (1/4").
- 1. CONNECTIONS FOR NEW STRUCTURAL STEEL FRAMING TO EXISTING STRUCTURAL STEEL SHALL BE ACHIEVED THROUGH WELDED CONNECTIONS UNLESS OTHERWISE NOTED.
- 12. CONTRACTOR TO ENSURE THAT UNDERGROUND OR IN-SLAB SERVICES ARE NOT DAMAGED THROUGH DEMOLITION, SAWCUTTING, HOLE AUGURING, OR OTHER CONSTRUCTION ACTIVITIES. SEE SPECIFICATION FOR TESTING/LOCATING REQUIREMENTS. 13. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION, AND
- ETC., REQUIRED TO COMPLETE THE WORK (SUBMIT SHORING DRAWINGS SEALED BY A SPECIALTY STRUCTURAL ENGINEER). 4. DRILL AND SITE MEASURE BOLT HOLES IN EXISTING STRUCTURE PRIOR TO FABRICATING STEEL CONNECTION PLATES. BOLT HOLES MAY HAVE TO BE MOVED FROM WHAT IS SHOWN ON THE DRAWINGS TO AVOID

THE DESIGN AND ERECTION OF ALL TEMPORARY STRUCTURES, FORMWORK, FALSEWORK, SHORING, BRACING,

#### CUTTING EXISTING REINFORCING OR TO AVOID OTHER SITE CONDITIONS. SITE MODIFICATION OF STEEL CONNECTION PLATES WILL NOT BE ACCEPTED WITHOUT THE PRIOR APPROVAL OF RJC.

#### TEMPORARY WORK:

- THE CONTRACTOR SHALL DESIGN, PROVIDE, ERECT, MAINTAIN, REMOVE AND ASSUME FULL AND SOLE RESPONSIBILITY FOR ALL TEMPORARY WORKS REQUIRED FOR THE SAFE AND COMPLETE EXECUTION OF THE
- IN THE EXECUTION OF THE TEMPORARY WORKS AND FOR THE DURATION OF THE CONTRACT, THE CONTRACTOR SHALL MAKE ADEQUATE PROVISION FOR ALL LIKELY CONSTRUCTION LOADING AND PROVIDE SUFFICIENT BRACING AND PROPS TO KEEP THE WORKS IN PLUMB AND ALIGNMENT AND FREE FROM
- ACCESS OF HEAVY CONSTRUCTION EQUIPMENT AND ACCUMULATION OF CONSTRUCTION MATERIALS ON THE FLOORS ARE NOT PERMITTED, UNLESS SUCH HAVE BEEN CATERED FOR IN THE CONTRACTOR'S TEMPORARY WORK DESIGN TO THE SATISFACTION OF THE ENGINEER.
- COSTS OF ALL TEMPORARY WORKS ARE TO BE INCLUDED IN THE CONTRACT PRICE.
- SUBMIT SHOP DRAWINGS FOR ALL TEMPORARY WORKS FOR REVIEW BEFORE FABRICATION COMMENCES. SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF

#### FIELD REVIEW BY READ JONES CHRISTOFFERSEN (RJC):

READ JONES CHRISTOFFERSEN (RJC) PROVIDES FIELD REVIEW ONLY FOR THE WORK SHOWN ON THESE DRAWINGS. THIS REVIEW IS NOT A "FULL TIME" REVIEW BUT IS A PERIODIC REVIEW AT THE SOLE DISCRETION OF READ JONES CHRISTOFFERSEN IN ORDER TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY READ JONES CHRISTOFFERSEN. FIELD REVIEW BY READ JONES CHRISTOFFERSEN IS NOT CARRIED OUT FOR THE CONTRACTOR'S BENEFIT, NOR DOES IT MAKE READ JONES CHRISTOFFERSEN GUARANTORS OF THE CONTRACTOR'S WORK. IT REMAINS THE CONTRACTOR'S RESPONSIBILITY TO BUILD THE WORK IN CONFORMANCE WITH THE DOCUMENTS. RJC SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR. SUB—COTNRACTOR. OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH HE CONTRACT DOCUMENTS. RJC WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON RJC'S DRAWINGS. THE EXTENT OF THIS REVIEW IS AT THE SOLE DISCRETION OF RJC AND IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMANCE WITH THE BUILDING ENVELOPE DESIGN CONCEPT. THE REVIEW IS NOT AN APPROVAL OF THE DESIGN, DETAILS, AND DIMENSIONS INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

- PROVIDE 24 HOURS ADVANCE NOTICE OF EACH REQUIRED FIELD REVIEW. FIELD REVIEWS SHALL BE SCHEDULED TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH RJC.
- THE WORK TO BE REVIEWED SHALL BE GENERALLY COMPLETE.

#### SHOP DRAWING REVIEW RESPONSIBILITY:

AS PART OF THEIR FIELD SERVICES, RJC WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON RJC'S DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS. REVIEW OF SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND IS NOT AN APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PROCESS, TECHNIQUES OF CONSTRUCTION AND INSTALLATION, AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES.

#### CONCRETE:

- CONCRETE IS SPECIFIED AS PER THE "PERFORMANCE" ALTERNATE AS OUTLINED IN CSA A23.1. CONCRETE IS TO BE CAST-IN-PLACE. THE USE OF SHOTCRETE FOR ANY ELEMENTS REQUIRES APPROVAL BY THE ENGINEER. ANY COSTS ASSOCIATED WITH CHANGES TO BE MADE TO THE CONTRACT DOCUMENTS TO ACCOMMODATE SHOTCRETE AS WELL AS ANY ADDITIONAL TESTING IS TO BE PAID FOR BY THE CONTRACTOR.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR WORKING WITH THE CONCRETE SUPPLIER TO ENSURE THAT THE PLASTIC AND HARDENED MIX PROPERTIES MEET SITE REQUIREMENTS FOR PLACING, FINISHING, AND THE OWNERS' SPECIFIED PERFORMANCE REQUIREMENTS. THE GENERAL CONTRACTOR SHALL MEET THE DOCUMENTATION AND QUALITY CONTROL REQUIREMENTS OUTLINED UNDER THE "PERFORMANCE" ALTERNATE
- THE SUPPLIER SHALL MEET ALL CERTIFICATION AND DOCUMENTATION REQUIREMENTS AS OUTLINED UNDER THE "PERFORMANCE" ALTERNATE OF CSA A23.1.
- . THE CONCRETE SUPPLIER SHALL BE CERTIFIED BY THE READY MIXED CONCRETE ASSOCIATION OF ONTARIO.
- . CONCRETE PROPERTIES:

GENERAL (AREAS NOT INCLUDING PARKING)				
ELEMENT	COMPRESSIVE STRENGTH (MPa) 28 DAY U.N.O.	EXPOSURE CLASS	COMMENTS	
TOPPING ON STEEL DECK	25 MPa	N		
SLABS AND TOPPINGS	25 MPa (28 DAY) 30 MPa (90 DAY)	N		

- PORTLAND CEMENT SHALL BE TYPE GU UNLESS NOTED OTHERWISE.
- CONCRETE SHALL HAVE A UNIT WEIGHT OF 23±1 kN/m3 (145±5 PCF) UNLESS NOTED OTHERWISE.
- THE CONCRETE PROPERTIES USED IN DESIGN ARE BASED ON 19 mm AGGREGATE, UNLESS NOTED OTHERWISE. ALL LOCATIONS FOR CONCRETE MIX DESIGNS WITH AGGREGATE SIZE SMALLER THAN 19mm PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. ANY INCREASE IN REQUIRED CONCRETE STRENGTH OR INCREASE IN QUANTITY OF REINFORCEMENT DUE TO PROPOSED USE OF CONCRETE MIX WITH AGGREGATE SIZE SMALLER THAN 19mm TO BE PAID FOR BY THE CONTRACTOR.
- RECYCLED AGGREGATE IS NOT TO BE USED WITHOUT WRITTEN APPROVAL BY THE ENGINEER.
- 10. SLUMP AND AGGREGATE SIZE TO BE PER SPECIFICATION SECTION 03700.
- . MAXIMUM WATER/CEMENT RATIO AND AIR CONTENT TO MEET THE REQUIREMENTS FOR THE EXPOSURE CLASS AS OUTLINED IN CSA A23.1.
- 2. AT THE REQUEST OF THE OWNER, THE SUPPLIER WILL FURNISH TEST DATA RESULTS (LESS THAN 3 MONTHS OLD) FOR EACH PROPOSED MIX DESIGN DEMONSTRATING THAT THEY MEET THE STRENGTH, DURABILITY, AND SHRINKAGE REQUIREMENTS SPECIFIED.
- 3. CURING OF CONCRETE TO MEET THE REQUIREMENTS OF SPECIFICATION SECTION 03700. NEW SLABS AND TOPPINGS ARE TO BE WET CURED FOR MINIMUM 10 DAYS.
- 5. NO CALCIUM CHLORIDE IS PERMITTED, IN ANY FORM, IN ANY CONCRETE MIX WITHOUT THE EXPRESS
- 14. REFER TO ARCHITECTURAL DRAWINGS FOR FINISH REQUIREMENTS.
- WRITTEN CONSENT OF READ JONES CHRISTOFFERSEN LTD.

CSA G30.18 GRADE 400R

CSA G30.18 GRADE 400W

CSA G30.5 GRADE 400

#### CONCRETE REINFORCEMENT:

- REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS:
- A. 10M AND LARGER (U.N.O.) WELDED WIRE REINFORCEMENT ALL REINFORCING THAT WILL BE WELDED OR IS PART OF THE SEISMIC RESISTING ELEMENTS:
- REINFORCING FOR SHEAR WALLS, HEADERS AND ZONES (INCLUDING ZONE TIES AND HEADER TIES/STIRRUPS) AND MOMENT FRAME COLUMNS AND BEAMS (INCLUDING COLUMN TIES AND BEAM STIRRUPS).
- (NOTE: CSA G30.18 W GRADES MAY BE SUBSTITUTED FOR CSA G30.18 R GRADES)
- UNLESS OTHERWISE NOTED CONCRETE COVER TO REINFORCEMENT SHALL BE
- A. FOR FIRE RATINGS:

	FIRE RATINGS		
ELEMENT	0-2 HOURS	3 HOURS	
SLABS AND SLAB BANDS (NON-PARKING), STIRRUPS IN SLAB BANDS, ZONE TIES, NON-RETAINING WALLS	25mm (30M = 30mm)	35mm	

- LARGEST COVER REQUIRED GOVERNS.
- SEE ARCHITECTURAL DRAWINGS FOR FIRE RATINGS.
- DESIGNATION OF REINFORCING BARS:
- A. BARS SHOWN THUS IN BOTTOM OF BEAMS OR SLABS OR IN FAR FACE OF WALL \_\_\_\_ BARS SHOWN THUS IN TOP OF BEAMS AND SLABS OR IN NEAR FACE OF WALL B. STRAIGHT BARS: E.G 6-10M4200 MEANS 6-10M BARS 4200 LONG. E.G 15M3800 + 15M3200 ALT. @ 300 MEANS 1-15M3800 BAR THEN 1-15M3200 BAR SPACED 300 AWAY
- E.G 13-A20M4000 MEANS 13-20M BARS 4000 H.1.E. 180°. E.G 3-C25M3000 MEANS 3-25M BARS 3000 LONG H.1.E. 90°. (NOTE: BENT BAR LENGTHS INCLUDE HOOK DIMENSION)
- DO NOT SUBSTITUTE DEFORMED WIRE FOR REINFORCING BARS WITHOUT PRIOR APPROVAL OF THE RJC. SUPPORT REINFORCING WITH CHAIRS, ACCESSORIES, OR REINFORCING BARS AS REQUIRED. BARS USED AS
- SUPPORT BARS SHALL BE CONSIDERED AS ACCESSORIES. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN CONCRETE COVER AS SPECIFIED. ALL SUPPORTS AND BARS MUST BE TIED TOGETHER TO MAINTAIN REINFORCING STEEL SECURELY IN PLACE DURING CONCRETE
- TESTING OF REINFORCING STEEL SHALL CONFORM TO THE SPECIFICATIONS.

#### CONCRETE ANCHORS:

- EXCEPT WHERE INDICATED ON THE DRAWINGS, ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI (CANADA) LTD. CONTACT HILTI AT (800) 363-4458 FOR PRODUCT RELATED QUESTIONS.
- HIT-HY 200 SAFE SET SYSTEM OR HIT-HY 200 FOR FAST CURE APPLICATIONS.
- HIT-RE 500 OR HIT-RE 500 SD ADHESIVE ANCHOR FOR SLOW CURE APPLICATION.
- "SCREENED EPOXY ANCHOR" MEANS A "HIT HY 70 ADHESIVE ANCHOR". "KWIK BOLT" MEANS A "KWIK BOLT TZ OR KWIK BOLT 3 EXPANSION ANCHOR", TO BE SELECTED BASED ON APPLICATION REQUIREMENTS. "HSL" MEANS AN "HSL HEAVY-DUTY EXPANSION ANCHOR".
- ANCHOR CAPACITY USED IN DESIGN IS BASED ON GUIDELINES PUBLISHED BY HILTI. ALTERNATE FASTENING SYSTEMS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. ALTERNATE ADHESIVE ANCHORS MUST BE EQUAL CONSIDERING LOAD RESISTANCE. IN SERVICE AND INSTALLATION TEMPERATURE, AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS, CREEP TESTING, SEISMIC TESTING, AND APPROPRIATE ON SITE TRAINING.
- INSTALL AS PER THE MANUFACTURER'S SPECIFICATION. WEDGE ANCHORS TO HAVE HOLES CLEANED WITH HIGH PRESSURE AIR BLAST. ADHESIVE (EPOXY) ANCHORS TO HAVE HOLES WELL CLEANED WITH HIGH PRESSURE AIR BLAST FOLLOWED BY BRUSHING THEN HIGH PRESSURE AIR BLAST. USE STEEL WIRE BRUSH ON CONCRETE AND NYLON BRUSH ON MASONRY.
- ON-SITE TRAINING AND REVIEW BY HILTI:

THE CONTRACTOR SHALL RETAIN A HILTI REPRESENTATIVE TO PROVIDE ON-SITE ANCHOR INSTALLATION TRAINING FOR ALL OF THE HILTI PRODUCTS SPECIFIED. THE CONTRACTORS PERSONNEL MUST BE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS. LETTERS OF TRAINING FOR OF INSTALLERS TO BE SUBMITTED TO RJC.

THE CONTRACTOR IS TO RETAIN AN INDEPENDENT TESTING AGENCY TO PROVIDE AN ON-GOING SERVICE OF ON-STE QUALITY CONTROL REVIEWS TO ENSURE THAT ANCHORS ARE BEING INSTALLED IN ACCORDANCE TO HILTI (CANADA) LIMITED'S SPECIFICATIONS. QUALITY ASSURANCE REPORTS FROM THE HILTI REPRESENTATIVE ARE TO BE SUBMITTED TO RJC AFTER EACH SITE VISIT.

- A REPRESENTATIVE SAMPLE OF ANCHORS ARE TO BE TESTED FOR EACH TYPE OF ANCHOR SPECIFIED ANCHORS WHICH FAIL THE LOAD TEST SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S
- TESTING OF EPOXY ANCHORS:

PROVIDE TESTING OF EPOXY ANCHORS BY THE PROJECT MATERIALS CONSULTANT / TESTING AGENCY AS

- PROOF LOAD TEST 10% OF EPOXY ANCHORS TO MANUFACTURER'S SPECIFIED CAPACITY. - RANDOMLY SELECT 2% OF EPOXY ANCHORS (3 MINIMUM) FOR TESTING TO FAILURE. CONTRACTOR TO REPLACE ANCHORS AT CONTRACTOR'S COST.
- THE ABOVE TESTING IS PAID FOR BY THE OWNER. THE FOLLOWING TESTING IS PAID FOR BY THE
- IF ANY PROOF LOAD TEST FAILS, TEST 100% OF ANCHORS. - IF ANY ANCHORS ARE FOUND TO BE INSTALLED WITHOUT COMPLETE EPOXY OR ARE EMBEDDED LESS THAN 90% OF THE DEPTH SHOWN ON THE DRAWINGS, THEN PROOF LOAD TEST 100% OF THE
- PROVIDE FULL TIME FIELD REVIEW OF ALL REPAIRS BY MATERIALS CONSULTANT/TESTING AGENCY. THE TESTING AGENCY IS TO PROVIDE A TESTING AND REPAIR REPORT SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OR TERRITORY WHERE THE WORK IS DONE.
- ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
- . DO NOT CUT REINFORCING BARS TO INSTALL ANCHORS UNLESS THE STRUCTURAL DRAWINGS SPECIFICALLY NOTE FOR A PARTICULAR DETAIL THAT THE REINFORCING BARS IN THE CONCRETE CAN BE CUT.
- ). EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF CONCRETE ANCHORS, BY HILTI RERROSCAN, HILTI PS 1000, GPR, X-RAY, CHIPPING OR OTHER MEANS, BEFORE ANY HOLES ARE DRILLED.
- . WHEN ANCHORS ARE USED TO ATTACH STRUCTURAL STEEL, THE CONTRACTOR SHALL USE A TEMPLATE TO LOCATE THE ANCHOR HOLES. IF THIS IS NOT DONE, THEN UPON COMPLETION OF ANCHOR INSTALLATION, THE CONTRACTOR SHALL PREPARE TEMPLATES OF THE AS-BUILT ANCHOR POSITIONS. THE CONTRACTOR
- SHALL REFER TO THESE TEMPLATES FOR THE FABRICATION OF THE STEEL STRUCTURE. AT LOCATIONS OF INTERFERENCE BETWEEN CONCRETE ANCHORS AND EXISTING REINFORCEMENT, ADJUST PROPOSED LOCATIONS OF ANCHORS AS REQUIRED TO AVOID CUTTING REINFORCEMENT. SUBMIT A
- PROPOSED ANCHOR LAYOUT TO RJC FOR REVIEW AND APPROVAL BEFORE INSTALLING ANCHORS. 2. DO NOT OVERSIZE HOLES IN STEEL MATERIAL TO FIT ANCHOR LOCATIONS EXCEPT FOR COLUMN BASE PLATE HOLES WHICH ARE FABRICATED SLIGHTLY OVERSIZED AS PER STANDARD PRACTICE.

### NON-STRUCTURAL ELEMENTS:

"NON-STRUCTURAL" OR "SECONDARY STRUCTURAL" ELEMENTS ARE NOT PART OF THE STRUCTURAL DESIGN SHOWN ON THESE DRAWINGS. SUCH ELEMENTS ARE DESIGNED, DETAILED AND REVIEWED IN THE FIELD BY OTHERS. THEY APPEAR ON DRAWINGS OTHER THAN THESE DRAWINGS OF READ JONES CHRISTOFFERSEN LTD.. WHERE STRUCTURAL ENGINEERING RESPONSIBILITY IS REQUIRED FOR THESE ELEMENTS. THIS SHALL BE PROVIDED BY SPECIALTY STRUCTURAL ENGINEERS, WHO SHALL ALSO PROVIDE ANY LETTERS REQUIRED BY BUILDING PERMIT AUTHORITIES.

- . EXAMPLES OF NON-STRUCTURAL ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO:
- A. ARCHITECTURAL COMPONENTS SUCH AS GUARDRAILS, HANDRAILS, FLAG POSTS, CANOPIES, CEILINGS,
- MILLWORK, ETC B. CLADDING, GLAZING, WINDOW MULLIONS, INTERIOR STUD WALLS AND EXTERIOR STUD WALLS. SKYLIGHTS
- MECHANICAL AND ELECTRICAL EQUIPMENT, COMPONENTS, AND THEIR ATTACHMENT DETAILS. NON-LOAD BEARING MASONRY. . NON-STRUCTURAL CONCRETE TOPPINGS.
- SHOP DRAWINGS FOR NON-STRUCTURAL ELEMENTS WHICH MAY AFFECT THE PRIMARY STRUCTURAL SYSTEM SHALL BE SUBMITTED TO READ JONES CHRISTOFFERSEN LTD. THESE DRAWINGS WILL BE REVIEWED ONLY FOR THE EFFECT OF THE ELEMENT ON THE PRIMARY STRUCTURAL SYSTEM.
- THE DESIGN WIND LOADS TO BE USED FOR GLAZING ARE SHOWN BELOW. LOADS ARE UNFACTORED (SPECIFIED). THE LOADS ARE BASED ON Iw = 1.0 FOR ULTIMATE LIMIT STATES. MULTIPLY TABLE VALUES BY Iw = 0.75 FOR SERVICEABILITY LIMIT STATES

٥.	TW = 0.70 TON SERVICE EIIIII STATES.								
	HEIGHT ABOVE STREET (METERS)	INWARD PRESSURE (kPa)	OUTWARD PRESSURE (kPa)	OUTWARD PRESSURE AT CORNER (kPa)					
	10.5	0.51	0.4	0.4					

- CORNER PRESSURES ARE TO BE TAKEN AT A DISTANCE OF IN EACH DIRECTION FROM EACH CORNER OF THE BUILDING.
- . FOR STONE OR MASONRY CLADDING, SEISMIC FORCES MAY GOVERN.
- . THE DESIGN WIND LOAD TO BE USED FOR INTERIOR STUDS AND PARTITIONS IS 5 PSF (UNFACTORED) UNLESS NOTED OTHERWISE. THE MAXIMUM ALLOWABLE DEFLECTIONS FOR GLAZING, STUDS, PARTITIONS AND CLADDING UNDER THE WIND LOADS SHOWN ABOVE SHALL MEET THE ARCHITECTURAL SPECIFICATIONS, THE NATIONAL BUILDING
  - CODE AND THE MANUFACTURER'S SPECIFICATIONS. IN NO CASE SHALL THE DEFLECTIONS EXCEED THE
  - A. ELEMENTS SUPPORTING GLAZING ----- L/180, MAX. 25mm
- CONCRETE TOPPING NOTES (ON STEEL DECK): ALL CONCRETE TOPPING ON STEEL DECK WHICH IS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE STRUCTURAL CONCRETE TOPPING. TOPPING OR COVER SLAB THICKNESSES SHOWN ARE MEASURED FROM
- TOP OF DECK. TOTAL THICKNESS IS MEASURED FROM BOTTOM OF DECK TO TOP OF COVER SLAB. TOPPING/COVER SLAB THICKNESS - - - -TOTAL OVERALL THICKNESS
- . CONCRETE IS TO BE WELL VIBRATED, ESPECIALLY AT COLUMNS AND AROUND EMBEDDED METAL.
- ALL POUR JOINT LOCATIONS SHALL BE PRE-APPROVED. EXCEPT AT SLAB EDGES AND EXPANSION JOINTS. POUR JOINTS SHALL GENERALLY BE AT LOCATIONS WHICH ARE AT THE MID-SPAN OF BOTH BEAM AND
- SCREEDING SHALL CONFORM TO CAMBERS IN STRUCTURAL STEEL, TO MAINTAIN THE REQUIRED CONCRETE THICKNESSES. HOWEVER, ALLOWANCE SHOULD BE MADE FOR ADDITIONAL CONCRETE REQUIRED DUE TO STEEL DECK DEFLECTION AND STRUCTURAL STEEL TOLERANCES.
- ALL CONCRETE TOPPING SHALL BE REINFORCED. WHERE NO REINFORCING IS SHOWN ON THE DRAWINGS. USE THE FOLLOWING:
- 65mm COVER SLAB – WWR 152x152 – MW9.1 x MW9.1 75mm COVER SLAB – WWR 152x152 – MW11.1 x MW11.1 90mm COVER SLAB - WWR 152x152 - MW13.3 x MW13.3 – WWR 152x152 – MW16.0 x MW16.0 OR 100mm COVER SLAB
- 10M @ 400 EACH WAY (25mm COVER FROM TOP) WELDED WIRE REINFORCEMENT SHALL BE SUPPORTED 25mm ABOVE STEEL DECK. LAP WIRE
- REINFORCEMENT A MINIMUM OF 2 CROSS WIRES + 50mm. U.N.O. PROVIDE 15M1000 @ 300mm ADDITIONAL TOP REINFORCING CENTERED OVER ALL SUPPORTS WHERE THE STEEL DECK IS NOT A CONTINUOUS SHEET. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING LOCATIONS:
- AT SUPPORTS WHERE THE DECK IS LAPPED.
- AT SUPPORTS WHERE THE DECK CHANGES DIRECTION. AT SUPPORTS WHERE CHANGES IN DECK ELEVATION OCCUR.
- AT SUPPORTS WHERE THE CONCRETE TOPPING MEETS A FORMED CONCRETE SLAB. U.N.O. PROVIDE 15M1500 @ 500mm ADDITIONAL TOP REINFORCING CENTERED OVER ALL INTERIOR GIRDERS.

AT ALL OPENINGS GREATER THAN 150mm, REINFORCE EACH SIDE OF THE OPENING WITH REINFORCING

- BARS, SEE ALSO STANDARD DETAIL AND FLOOR PLANS. 0. OPENINGS SMALLER THAN 150mm X 150mm WHICH ARE CLOSER THAN 600mm SPACING SHALL HAVE 2-15M1500 PLACED BETWEEN THEM.
- 1. ALL EXTRA REINFORCING SHOWN ON PLANS, TOP AND BOTTOM, SHALL BE CHAIRED, U.N.O.
- 12. AT ALL RE-ENTRANT CORNERS OF BUILDING PERIMETER, PROVIDE 2-15M1500 ALONG EACH EDGE EXTENDING 600mm BEYOND THE CORNER.
- 3. CONDUITS AND PIPES ARE NOT ALLOWED IN THE CONCRETE TOPPING ON TOP OF STEEL DECK UNLESS APPROVED BY THE STRUCTURAL ENGINEER.



Read Jones Christoffersen Ltd.

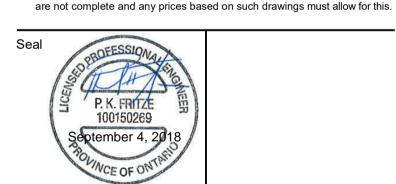




**KEY PLAN** 

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.
No.	Revision	Date	Ву

- Drawing Notes 1. 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. 2. These drawings are "design drawings" only. They may not be suitable for use as shop drawings. Use of these drawings as base drawings for "shop drawings" is not permitted unless written permission containing certain conditions and limitations is obtained from RJC. The work "as constructed"
- may vary from what is shown on these drawings. 3. Use of these drawings is limited to that identified in the Revision column. Do not construct from these drawings unless marked "Issued for Construction" by RJC in the Revision column, and then only for the parts noted. The drawings shall not be used for "pricing", "costing", or "tender" unless so indicated in the Revision column. "Pricing" or "Costing" drawings



Project Name 348 Davenport Road **Toronto, Ontario** 

### **DAVENPORT** SHELTER RENOVATION

Sheet Title

### **GENERAL NOTES**

Designed By P.F.

Date **July, 2018** RJC Project Number TOR.121290.0001

Scale N.T.S.

Sheet Number

#### EMBEDMENT / DEVELOPMENT LENGTHS AND SPLICE LENGTHS:

WHERE EMBEDMENT OR SPLICES ARE DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY. WHERE THE DRAWINGS INDICATE A COMPRESSION EMBEDMENT, IT IS A COMPRESSION EMBEDMENT LENGTH AND IT SHALL BE AS NOTED BELOW.

WHERE THE DRAWINGS INDICATE A TENSION EMBEDMENT, IT IS A TENSION EMBEDMENT LENGTH AND SHALL BE AS NOTED BELOW.

WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION EMBEDMENT, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION EMBEDMENT.

WHERE NO SPLICE OR SPLICE TYPE IS CALLED FOR ON THESE DRAWINGS, IT SHALL BE A TENSION SPLICE,

EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPLICE. IN TABLES BELOW, EMBEDMENT LENGTHS ARE SHOWN WITHOUT BRACKETS, AND SPLICE LENGTHS ARE SHOWN

IN BRACKETS. ALL LENGTHS ARE FOR Fy = 400 MPa REBAR. FOR Fy=500 MULTIPLY VALUES IN TABLES

ALL TENSION SPLICE LENGTHS ARE CLASS "B" (1.3ld).

#### COMPRESSION EMBEDMENT AND SPLICE LENGTHS

- COMPRESSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE THE "COMPRESSION DEVELOPMENT LENGTH" AS DEFINED IN CAN/CSA-A23.3-04 CLAUSE 12.3.2.
- SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A COMPRESSION SPLICE AS DEFINED IN CAN/CSA-A23.3-04 CLAUSE 12.16.1.

CONCRETE	FUNCTION		RI	REBAR DESIGNATION			
STRENGTH		10M	15M	20M	25M	30M	35M
20 MD=	EMBEDMENT	215	325	430	430	645	755
20 MPa	(SPLICE)	(300)	(440)	(585)	(585)	(880)	(1025)
OF MD.	EMBEDMENT	200	290	385	385	580	675
25 MPa	(SPLICE)	(300)	(440)	(585)	(585)	(880)	(1025)
30 MPa &	EMBEDMENT	200	265	5 355 355 53	530	620	
GREATER	(SPLICE)	(300)	(440)	(585)	(585)	(880)	(1025)

#### TENSION EMBEDMENT AND SPLICE LENGTHS

- TENSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE A "TENSION DEVELOPMENT LENGTH" AS DEFINED IN CAN/CSA-A23.3-04 CLAUSE 12.2.3.
- SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A CLASS 'B' TENSION SPLICE (1.3%) AS PER CAN/CSA-A23.3-04 CLAUSE 12.15.

#### CASE 1 CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CAN/CSA-A23.3-04 TABLE 12.1 (0.45k<sub>1</sub> k<sub>2</sub>k<sub>3</sub>k<sub>4</sub>f<sub>y</sub>d<sub>b</sub>/ $\sqrt{f}$ 'c) ARE TO BE AS PER THE FOLLOWING TABLE FOR:

- BEAM AND GIRDER TOP AND BOTTOM BARS. SLAB BAND TOP BARS.
- TWO WAY SLAB TOP AND BOTTOM BARS. ONE WAY SLAB BOTTOM BARS.
- WALL HORIZONTAL AND VERTICAL DISTRIBUTED REINFORCING.
- SEE ALSO NOTES ON TOP BARS AND EPOXY COATED REINFORCEMENT.
- MEMBERS WHICH DO NOT SATISFY THE ABOVE CONDITIONS SHALL HAVE TENSION EMBEDMENTS AND SPLICES AS PER CASE 2 TABLE BELOW.

CONODETE	FUNCTION	REBAR DESIGNATION					
CONCRETE STRENGTH	FUNCTION	NEBAN DESIGNATION					
		10M	15M	20M	25M	30M	35M
20 MPa	EMBEDMENT	325	485	645	1010	1210	1410
ZO MPG	(SPLICE)	(420)	(630)	(840)	(1310)	(1570)	(1835)
25 MD=	EMBEDMENT	300	435	580	900	1080	1260
25 MPa	(SPLICE)	(390)	(565)	(750)	(1170)	(1405)	(1640)
70. MD.:	EMBEDMENT	300	395	530	825	990	1155
30 MPa	(SPLICE)	(390)	(515)	(685)	(1070)	(1285)	(1500)

#### NOTES:

"TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. "TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300mm OR MORE OF CONCRETE BELOW THE BAR.

#### CASE 2 CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CAN/CSA-A23.3-04 TABLE 12.1  $(0.6k_1 k_2 k_3 k_4 f_y d_b / \sqrt{f'_c})$  ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS NOT SATISFYING CASE 1 CONDITIONS AS SET OUT ABOVE. FOR EXAMPLE:

- ONE WAY SLAB TOP BARS (SEE TOP BAR NOTE).
- SLAB BAND BOTTOM BARS. BARS (EXCLUDING THE SPLICE) SPACED CLOSER TOGETHER THAN 2 BAR DIAMETERS.
- STIRRUPS IN BEAMS, GIRDERS AND TRANSFER SLABS. SEE ALSO NOTES ON TOP BARS AND EPOXY COATED REINFORCEMENT.

CONCRETE	FUNCTION	REBAR DESIGNATION							
STRENGTH		10M	15M	20M	25M	30М	35M 1880 (2445) 1680 (2185) 1535		
00 MD-	EMBEDMENT	430	645	860	1345	1610	1880		
20 MPa	(SPLICE)	(560)	(840)	(1120)	(1745)	(2095)	(2445)		
05.140	EMBEDMENT	385	580	770	1200	1440	1680		
25 MPa	(SPLICE)	(500)	(750)	(1000)	(1560)	(1875)	(2185)		
70 MD-	EMBEDMENT	355	530	705	1100	1315	1535		
30 MPa	(SPLICE)	(460)	(685)	(915)	(1425)	(1710)	(1995)		

#### NOTES:

"TOP BAR" VALUES ARE 1.3 TIMES THE ABOVE LENGTHS. "TOP BAR" APPLIES TO HORIZONTAL REINFORCEMENT CAST WITH 300mm OR MORE OF CONCRETE BELOW THE BAR.

#### STRUCTURAL STEEL:

STRUCTURAL STEEL SECTIONS SHALL BE NEW AND CONFORM TO THE FOLLOWING:

A.	W AND WI SHAPES	CSA G40.21	GRADE 345WM/ASIM
В.	C, HP, L, M, MC, MT, S, AND ST SHAPES	CSA G40.21	GRADE 350W, ASTM
C.	A992, OR ASTM A572 GRADE 50 RECTANGULAR OR SQUARE HSS	CSA G40.21	GRADE 350W CLASS C
	OR ASTM A1085		
D.	ROLLED PLATES AND BARS	CSA G40.21	GRADE 300W
F	BOLTS (SEE PLANS AND DETAILS)	ASTM F3125	GRADE A325 OR A490

F. STRUCTURAL STEEL ANCHOR RODS (U.N.O.) ----- ASTM F1554 GRADE 36 MINIMUM G. REINFORCING BAR ANCHOR BOLTS ----- CSA G30.18 GRADE 400R

DESIGN FORCES INDICATED ON DRAWINGS FOR STRUCTURAL STEEL WORK ARE FACTORED FORCES UNLESS NOTED OTHERWISE. FORCES ARE VERTICAL SHEAR FORCES UNLESS NOTED OTHERWISE.

A. FORCES ----- kN B. MOMENTS ----- kN-m C. LINE LOADS ----- kN/m D. DISTRIBUTED LOADS ----- kPa

SEE "DESIGN LOADS" NOTES FOR DEFINITIONS AND VALUES OF LIVE LOAD, DEAD LOAD AND SUPERIMPOSED DEAD LOAD. SEE ALSO PLANS FOR OTHER LOAD/FORCE REQUIREMENTS.

#### CONNECTION DESIGN BY FABRICATOR

ALL CONNECTIONS TO BE DESIGNED BY FABRICATOR UNLESS NOTED OTHERWISE. ALL BEAM CONNECTIONS TO BE STANDARD FRAME BEAM CONNECTIONS OR EQUIVALENT, UNLESS NOTED OTHERWISE. THE FABRICATOR SHALL SUBMIT SUMMARY DESIGN DRAWINGS FOR REVIEW SHOWING IN DETAIL THE "STANDARD" CONNECTIONS AND THEIR CAPACITIES THAT IS INTENDED FOR USE ON THE PROJECT. THESE DRAWINGS ARE IN ADDITION TO THE REGULAR SHOP DRAWINGS, AND SHALL PRECEDE THEM.

SHOP DRAWINGS SHALL BE PREPARED UNDER THE DIRECTION OF A SPECIALTY STRUCTURAL ENGINEER. FOR THOSE CONNECTIONS AND COMPONENTS DESIGNED BY THE FABRICATOR, THIS ENGINEER OR THEIR REPRESENTATIVE SHALL VISIT THE SITE TO REVIEW IN PLACE THE CONNECTIONS AND COMPONENTS DESIGNED BY THIS ENGINEER TO SATISFY THEMSELVES THAT THESE CONNECTIONS AND COMPONENTS SUBSTANTIALLY COMPLY WITH THEIR DESIGN ON THE SHOP DRAWINGS. THIS ENGINEER SHALL PROVIDE A LETTER TO RJC TO THIS EFFECT. THIS ENGINEER SHALL ALSO PROVIDE SEALED SKETCHES FOR ALL FIELD MODIFICATIONS MADE TO THEIR DESIGN.

THE CONTRACTOR SHALL NOTIFY THE CONSULTANT IN WRITING (AND BEFORE THE SUBMISSION OF SHOP DRAWINGS) AS TO WHO THE ENGINEER WILL BE THAT WILL BE DESIGNING AND PROVIDING FIELD REVIEW FOR THE CONNECTIONS AND COMPONENTS DESIGNED BY THE CONTRACTOR.

PRIOR TO SUBMITTING SHOP DRAWINGS THE CONTRACTOR SHALL NOTIFY RJC IN WRITING THAT THE FABRICATOR IS CERTIFIED TO A MINIMUM OF DIVISION 2 OF CSA W47.1.

DRAWINGS OF COMPONENTS AND CONNECTIONS DESIGNED BY THE FABRICATOR'S SPECIALTY STRUCTURAL ENGINEER SHALL BE SIGNED AND SEALED BY THIS ENGINEER OR A LETTER SHALL BE SUBMITTED AT THE END OF SHOP DRAWING PRODUCTION SIGNED AND SEALED BY THIS ENGINEER, IDENTIFYING WHAT WAS DESIGNED AND LISTING THE FINAL DRAWINGS WITH DATES AND REVISION NUMBERS.

CONNECTIONS AND SPLICES NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUESTED BY THE FABRICATOR MUST BE ACCEPTABLE TO RJC AND DETAILED ON THE SHOP DRAWINGS. TESTING OF THESE CONNECTIONS SHALL BE AT THE DISCRETION OF RJC AND TO THE CONTRACTORS ACCOUNT.

SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO START OF STEEL FABRICATION. ALSO REFER TO "SHOP DRAWINGS" NOTE IN THE GENERAL NOTES SECTION OF THE STRUCTURAL DRAWINGS.

#### FABRICATION AND DETAILING

- FILLET WELDS SHALL BE 5mm MINIMUM UNLESS NOTED OTHERWISE.
- BOLTS SHALL BE 19mm MINIMUM A325 UNLESS NOTED OTHERWISE.
- BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS IN EACH CONNECTED PIECE AND BE DESIGNED AS BEARING CONNECTIONS, U.N.O.
- I. IN ADDITION TO ALL OTHER CRITERIA SPECIFIED IN ASTM F1554, ALL HOOKED ANCHOR RODS IN CONCRETE SHALL BE MANUFACTURED WITH A MINIMUM INSIDE BEND RADIUS OF 3 TIMES THE ROD DIAMETER, UNLESS NOTED OTHERWISE.

ALL WELDED HEADED STUDS AND WELDED DEFORMED BAR ANCHORS SHALL BE INSTALLED AS PER THE MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS OR SHOP FILLET WELDED TO DEVELOP THE TENSILE FACTORED RESISTANCE OF THE BAR. ANY FIELD FILLET WELDED DEFORMED BARS OR STUDS WILL BE REJECTED. SEE PLANS, SECTIONS, DETAILS, AND SCHEDULES FOR LOCATIONS, ETC. THE CONTRACTOR SHALL CO-ORDINATE THE DESIGN, SUPPLY, AND INSTALLATION OF ALL STUDS AND ANCHORS, INCLUDING, BUT NOT LIMITED TO STUDS AND DEFORMED BAR ANCHORS ON COMPOSITE BEAMS, DRAG STRUTS, EMBEDDED PLATES, ETC.

. UNLESS NOTED OTHERWISE, COLUMN CAP PLATES SHALL BE 16mm THICK AND COLUMN BASE PLATES SHALL BE 20mm MINIMUM THICK.

- PROVIDE 6mm CAP PLATES FOR ALL HSS MEMBERS UNLESS NOTED OTHERWISE.
- CONNECTION DETAILS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE ALTERED BY THE CONTRACTOR WITHOUT WRITTEN APPROVAL FROM READ JONES CHRISTOFFERSEN LTD.
- UNLESS NOTED OTHERWISE ON THE PLANS, REFER TO THE DETAILS IN THE GENERAL NOTES FOR FRAMING
- FOR SUPPORT OF ROOF TOP MECHANICAL EQUIPMENT. 10. STEEL SHALL BE PREPARED AND FINISHED IN ACCORDANCE WITH CSA S16 AND THE ARCHITECTURAL

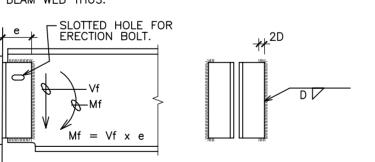
. ALL STRUCTURAL STEEL OUTSIDE OF THE BUILDING ENVELOPE TO BE HOT-DIP GALVANIZED UNLESS NOTED

- DRAWINGS AND PAINTING SPECIFICATIONS WHICH MAY INCLUDE ADDITIONAL CLEANING AND PRIMING
- 12. DESIGN DRAWINGS INCLUDE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. SEE ALSO ARCHITECTURAL DRAWINGS FOR ROOF AND FLOOR ELEVATIONS, ROOF SLOPES, EDGE DETAILS, AND ADDITIONAL DIMENSIONS AND DETAILS. WHERE ELEVATIONS, ROOF SLOPES, ET CETERA, ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY MUST BE CONFIRMED WITH THE ARCHITECTURAL DRAWINGS.
- 13. UNLESS NOTED OTHERWISE, DO NOT OVERSIZE HOLES IN STEEL TO FIT ANY CAST-IN-PLACE OR POST-INSTALLED ANCHORS WITHOUT APPROVAL IN WRITING BY RJC.
- 14. UNLESS NOTED OTHERWISE, CAST-IN-PLACE ANCHOR RODS FOR COLUMN BASES TO HAVE PLACEMENT ROD HOLE SIZES IN STEEL PLATES NOT TO EXCEED DIAMETER OF FASTENER + 6mm.
- 15. UNLESS NOTED OTHERWISE, HOLE SIZES IN STEEL PLATES FOR POST-INSTALLED ANCHORS NOT TO EXCEED DIAMETER OF FASTENER + 3mm.

#### 16. GENERAL SEISMIC REQUIREMENTS

OTHERWISE.

- A. WHERE CONNECTION FORCES ARE NOT SHOWN ON THE DRAWINGS, THE CONNECTION DESIGN SHALL SATISFY THE REQUIREMENTS OF CSA S16 - CLAUSE 27.
- B. STEEL IN THE ENERGY DISSAPATION SYSTEM SHALL SATISFY THE LIMITS OF Fy, Fu, AND CHARPY V-NOTCH IMPACT REQUIREMENTS AS NOTED IN CSA S16 - CLAUSE 27.1.5.
- C. WELDS AND WELD MATERIAL SHALL SATISFY CSA S16 CLAUSE 27.1.5.3 (CHARPY REQUIREMENTS).
- D. BOLTED CONNECTIONS SHALL SATISFY CSA S16 CLAUSE 27.1.6.
- 7. UNLESS NOTED, BEAM AND GIRDER CONNECTIONS TO EMBEDDED PLATES SHALL BE DOUBLE ANGLE FRAMING CONNECTIONS WELDED TO THE BEAM WEB THUS:

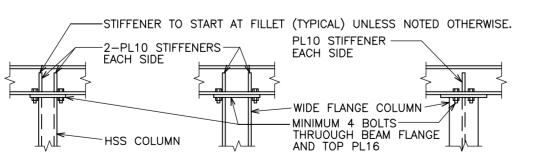


18. UNLESS NOTED OTHERWISE ALL CONNECTIONS FOR BEAMS AND GIRDERS SHALL BE DESIGNED FOR A SHEAR BASED ON THE MEMBER'S FULL MOMENT RESISTANCE CAPACITY RELATED TO A UNIFORM LOAD ON A SIMPLE SUPPORTED SPAN.

19. TOP FLANGES OF BEAMS TO BE FREE OF ALL PAINT, DIRT, HEAVY RUST, MILL SCALE, SAND AND OTHER MATERIALS WHICH WILL INTERFERE WITH WELDING OF STUD SHEAR CONNECTIONS AND STEEL DECK TO

20. BEAMS NOTED AS COMPOSITE ON THE DRAWINGS REQUIRE STUD SHEAR CONNECTIONS, SEE ALSO SHEAR CONNECTOR NOTES. SEE ALSO PLANS, SECTIONS, DETAILS AND SCHEDULES FOR STUDS SHOWN ON BEAMS / GIRDERS / DRAG-STRUTS ETC. OTHER THAN COMPOSITE BEAMS.

1. UNLESS NOTED OTHERWISE WHERE BEAMS SIT OVER COLUMNS, PROVIDE FULL HEIGHT, FULL WIDTH PL10 STIFFENERS EACH SIDE OVER COLUMN.



#### NAILING

NAILING SHALL CONFORM TO THE BUILDING CODE PART 9, AND "WOOD BUILDING TECHNOLOGY" PUBLISHED BY THE CANADIAN WOOD COUNCIL. NAILING CALLED UP ON THESE DRAWINGS (I.E. FOR SHEATHING) IS BASED ON COMMON NAILS. SEE NOTE 10 UNDER MATERIALS FOR COMMON NAIL SIZES.

UNLESS NOTED OTHERWISE NAIL ALL FLOOR SHEATHING WITH 65mm NAILS AT 250mm O/C FOR FLOORS TO ALL SUPPORTING MEMBERS. FLOOR SHEATHING SHALL BE NAILED WITH SPIRAL NAILS AND SHALL BE GLUED TO THE JOISTS IN ADDITION TO NAILING. IF SMALLER DIAMETER NAILS (I.E. PNEUMATICALLY DRIVEN NAILS OR 'P-NAILS') ARE USED, INCREASE THE NUMBER OF NAILS BY 33%.

#### TYPICAL FRAMING AROUND OPENINGS

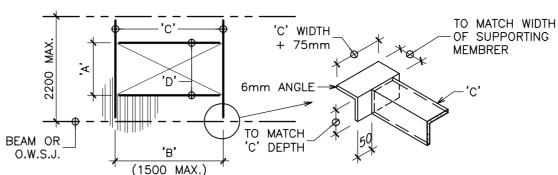
BETWEEN 150mm TO 450mm MAXIMUM DIMENSION WITH

L76x76x4.8 x 1200mm LONG. WELD TO EVERY FLUTE.

IN STEEL DECK WITHOUT CONCRETE TOPPING - U.N.O.:

SEE ALSO MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR ALL OPENINGS IN DECK. U.N.O. REINFORCE OPENINGS WITHOUT MECHANICAL UNITS

TYPICAL DETAILS FOR SMALL MECHANICAL UNITS AND/OR OPENINGS IN DECK UNLESS NOTED OTHERWISE ON PLANS AND DETAILS:

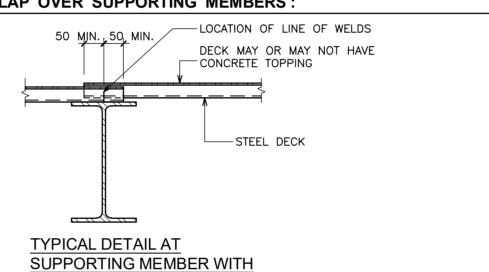


#### CONNECT ANGLES FOR MAXIMUM VERTICAL LOAD OF 6kN.

MECH. UNIT OR OPENING SIZE 'A' x 'B'	ANGLE 'C'	ANGLE 'D'	MECHANICAL UNIT WEIGHT (SPECIFIED)
150 x 150 TO 450 x 450	L76x76x6.4	L76x76x4.8	.025 kN TO 1.0 kN
450 x 450 TO 1500 x 1500	L102x102x6.4	L76x76x4.8	NO UNIT
450 x 450 T0 1500 x 1500	L102x102x6.4	L76x76x6.4	LESS THAN OR EQUAL TO 2 kN (1500mm MAX. HIGH)
450 × 900 T0 1500 × 1500	L102x102x6.4	L102x102x6.4	LESS THAN OR EQUAL TO 2 kN (1500mm MAX. HIGH)

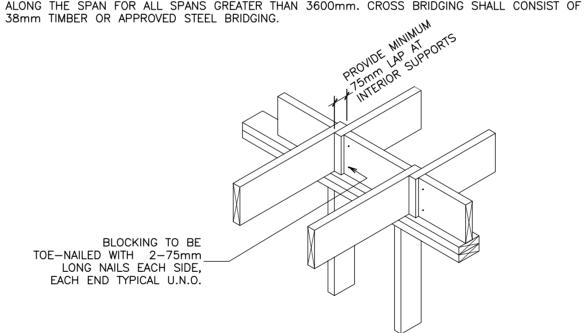
WHERE AN OPENING IN DECK IS UNDER A MECHANICAL UNIT AND IS SMALLER THAN THE FRAMING REQUIRED TO SUPPORT THE MECHANICAL UNIT, REINFORCE THE OPENING WITH L76x76x4.8 ON ALL FOUR SIDES SPANNING BETWEEN THE MECHANICAL UNIT SUPPORT MEMBERS. SEE NOTE 3, PLANS AND DETAILS FOR MECHANICAL UNIT SUPPORT FRAMING.

#### STEEL DECK LAP OVER SUPPORTING MEMBERS:



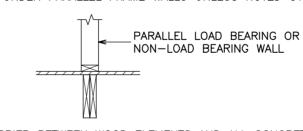
#### FRAMING NOTES:

DIMENSIONAL LUMBER JOISTS SHALL HAVE CROSS-BRIDGING OR FULL-DEPTH BLOCKING AT 1800mm O/C ALONG THE SPAN FOR ALL SPANS GREATER THAN 3600mm. CROSS BRIDGING SHALL CONSIST OF 38mm x



UNBROKEN TOP SURFACE

- TRIM OPENINGS IN FLOORS AND ROOFS (I.E. STAIRS, FIREPLACES, SKYLIGHTS ETC) WITH DOUBLE JOISTS UNLESS NOTED OTHERWISE.
- PROVIDE DOUBLE JOISTS UNDER PARALLEL FRAME WALLS UNLESS NOTED OTHERWISE.



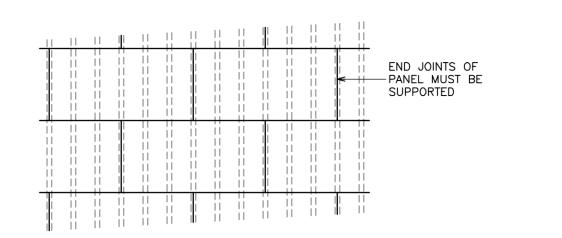
- PROVIDE A MOISTURE BARRIER BETWEEN WOOD ELEMENTS AND ALL CONCRETE OR MASONRY. THIS CAN BE A SHEET OF LIGHT-GAUGE (0.61mm MINIMUM) GALVANIZED METAL, ASPHALT IMPREGNATED BUILDING PAPER (7.5 kg PER 10m²), CLOSED—CELL FOAM GASKET MATERIAL, TYPE S ROLL ROOFING. SHEET POLYETHYLENE NOT PERMITTED. ALL JUNCTIONS AND TERMINATIONS TO BE LAPPED (50mm MINIMUM) AND SEALED. BUTT JOINTS IN MOISTURE BARRIERS NOT PERMITTED.
- UNLESS NOTED OTHERWISE NAIL ALL FLOOR SHEATHING AT 150 mm O/C AT THE EDGES OF SHEATHING SHEETS, AND AT 300mm O/C AT INTERMEDIATE SUPPORTS. FLOOR SHEATHING SHALL BE GLUED AND
- LAY SHEATHING WITH THE SURFACE GRAIN AT RIGHT ANGLES TO THE FRAMING MEMBERS. STAGGER THE
- FRAMING DETAILS SHALL ENSURE UNIFORM VERTICAL SHRINKAGE. ADJACENT PORTIONS OF THE STRUCTURE SHALL BE SUPPORTED ON ROUGHLY EQUIVALENT AMOUNTS OF HORIZONTAL TIMBER (JOISTS AND SILL PLATES). DO NOT MIX KILN-DRIED AND NON-KILN DRIED JOISTS IN ANY GIVEN FLOOR.
- STRUCTURAL ELEMENTS SPECIFIED IN METRIC UNITS HAVE THE FOLLOWING EQUIVALENT IMPERIAL UNITS.

<u>JOISTS</u>	SHEATHIN
38 x 89	6mm
38 x 140	9.5mn
38 x 184	12.5m
38 x 235	19mm
38 x 286	22.5m

JOINTS PARALLEL TO THE FRAMING MEMBERS.

#### SHEATHING:

- 2 LAYERS OF 19mm TONGUE AND GROOVE PLYWOOD STAGGERED. (ANY JOINT WITHOUT A TONGUE AND GROOVE CONNECTION SHALL BE BLOCKED WITH A
- . LAY FLOOR SHEATHING WITH THE SURFACE GRAIN AT RIGHT ANGLES TO THE JOISTS. STAGGER THE JOINTS PARALLEL TO THE JOISTS.



#### LINTELS

OVER ALL OPENINGS IN MASONRY WALLS PROVIDE THE FOLLOWING LINTELS, UNLESS OTHERWISE SHOWN. BLOCK WYTHES

#### STEEL LINTELS

CLEAR SPAN mm	140mm WALL	190mm WALL	240mm WALL	290mm WALL				
UP TO 1200	2 - L64x64x6.4	2 - L89x89x7.9	L89x89x7.9 + L127x89x7.9LLV	3-L89x89x7.9				
1201 TO 1800	2 - L89x64x6.4LLV	2 - L127x89x7.9LLV	L127x89x7.9LLV + L127x127x7.9	3-L127x89x7.9 LLV				
1800 TO 2400	2 – L89x64x7.9LLV	2 - L127x89x9.5LLV	L127x89x9.5LLV + L127x127x9.5	3-L127x89x9.5 LLV				
2401 TO 3000	2 – L89x64x9.5LLV	2 - L152x89x9.5LLV	L152x89x9.5LLV + L127x127x9.5	3-L152x89x9.5 LLV				

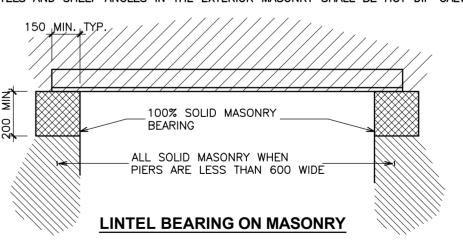
#### OR BLOCK LINTELS

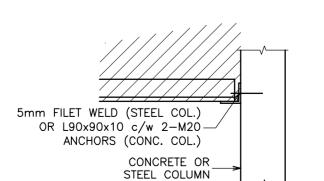
CLEAR SPAN mm	WALL THICKNESS mm	DEPTH mm	REINFORCING (TOP AND BOTTOM)
UP TO 1200	140	200	1-10M
	190	200	1-15M
	240	200	1-15M
	290	300	1-15M
	140	300	1-15M
4004 TO 4000	190	300	1-15M
1201 TO 1800	240	300	1-15M
	290	300	1-15M
	140	400	1-15M
1800 TO 2400	190	400	2-15M
1800 10 2400	240	400	2-15M
	290	300	2-15M
	140	600	2-20M
2404 TO 2000	190	600	2-15M
2401 TO 3000	240	400	2-15M
	290	300	2-15M

#### BLOCK WYTHES

FOR EACH 100mm	LENGTH OF WALL
CLEAR SPAN mm	SIZE
UP TO 1200	L 89x89x7.9
1201 TO 1800	L 127x89x7.9 (LLV)
1800 TO 2400	L 152x89x7.9 (LLV)

- WELD BACK TO BACK ANGLES TOGETHER TOP AND BOTTOM WITH 5mm FILLET 50mm LONG AT 450mm
- MAXIMUM CENTERS. MINIMUM BEARING FOR STEEL LINTELS SHALL BE 150mm AND BLOCK LINTELS SHALL BE 200mm.
- FOR WALLS OVER 300mm THICK ADD ONE ANGLE FOR EACH ADDITIONAL 100mm OF WALL THICKNESS OR
- FOR LINTELS ABUTTING STEEL COLUMNS, CONC WALL OR COLUMNS PROVIDE L90x90x10 SHELF ANGLE.
- FILL VOIDS OF LINTEL BLOCK WITH 12.5 MPa GROUT MIN. USE MASONRY LINTELS IN ALL FIRE RATED MASONRY WALLS — SEE ARCH DWG. FOR WALL RATINGS.
- FOR 140 BLOCK USE BLOCK LINTELS.
- ALL STEEL LINTELS AND SHELF ANGLES IN THE EXTERIOR MASONRY SHALL BE HOT DIP GALVANIZED.





LINTEL BEARING ON COLUMN



Read Jones Christoffersen Ltd.

100 University Avenue, North Tower, Suite 400 Toronto, ON M5J 2X4 Canada tel 416-977-5335 fax 416-977-1427



**KEY PLAN** 

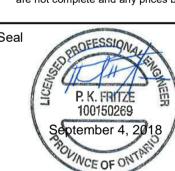
4.	ISSUED FOR CONSTRUCTION	Sept. 4/18	P.F.
3.	ISSUED FOR ADDENDUM NO.1	July. 30/18	P.F.
2.	ISSUED FOR PERMIT	July 13/18	P.F.
1.	ISSUED FOR TENDER	July 13/18	P.F.
No.	Revision	Date	Ву

#### Drawing Notes

- 1. 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.
- use as shop drawings. Use of these drawings as base drawings for "shop drawings" is not permitted unless written permission containing certain conditions and limitations is obtained from RJC. The work "as constructed" may vary from what is shown on these drawings. 3. Use of these drawings is limited to that identified in the Revision column.

2. These drawings are "design drawings" only. They may not be suitable for

Do not construct from these drawings unless marked "Issued for Construction" by RJC in the Revision column, and then only for the parts noted. The drawings shall not be used for "pricing", "costing", or "tender" unless so indicated in the Revision column. "Pricing" or "Costing" drawings are not complete and any prices based on such drawings must allow for this.



Project Name

348 Davenport Road Toronto, Ontario

### DAVENPORT SHELTER RENOVATION

Sheet Title

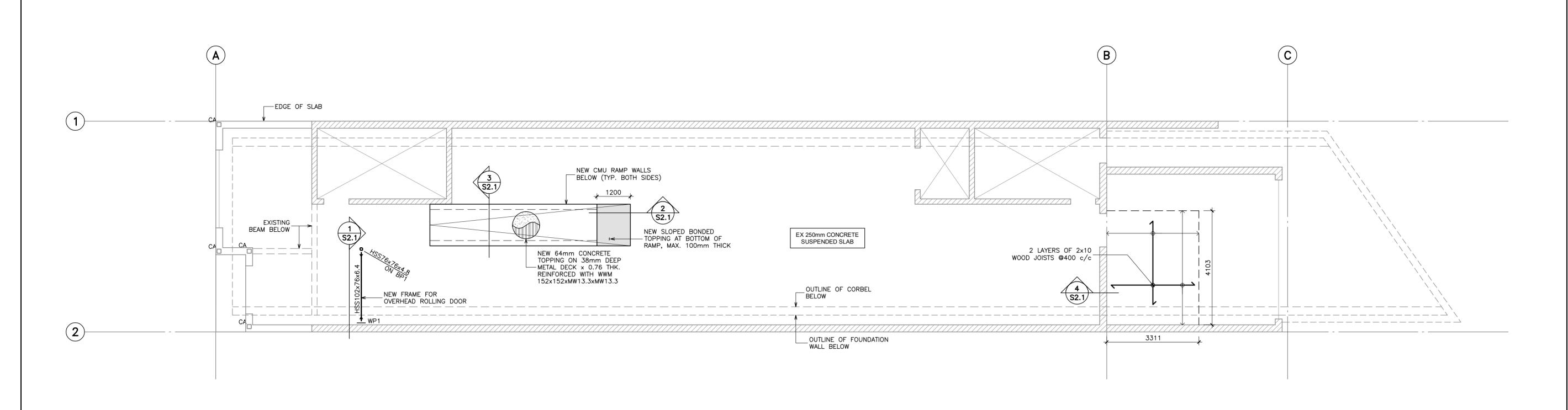
### **GENERAL NOTES**

Scale N.T.S. Designed By P.F. Date **July, 2018** 

Sheet Number

RJC Project Number

TOR.121290.0001



			BASE PL	ATE SCHEDULE	
TYPE	SIZE	ANCHORAGE		DETAILS	COMMENTS
BP1	150x150x13	4—13mmø HILITI HAS RODS, EPOXIED WITH HILTI HY200, MIN. 106mm EMBED.	25 100 25 45 100 25 45 25 100 25		_
BP2	150x89x13	2-13mmø HILTI HAS RODS THROUGH BOLTED	<del>2</del> 5 <b>•</b> ••		_

			WALL PLATE SCHEDULE	
TYPE	SIZE	ANCHORAGE	DETAILS	COMMENTS
WP1	300x300x13	4—13mmø HILTI KWIK HUS, HDG, 106mm EMBED.	38 224 38 CONNECTION TO WP1 BY FABRICATOR	- ANCHORS MIN. 100mm FROM ALL WALL EDGES - GROUT MASONRY SOLID PER DETAIL 14/S2.1 - SIMILAR FOR HSS SECTION
WP2	400x400x13	6—13mmø HILTI KWIK HUS, HDG, 106mm EMBED.	38 224 38 827 FULLY WELD HSS TO WP2	- ANCHORS MIN. 100mm FROM ALL WALL EDGES - GROUT MASONRY SOLID PER DETAIL 14/S2.1

=====	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
77777777	NEW MASONRY PARAPET WALL
	EXISTING STRUCTURAL STEEL FRAMING
	EXISTING 300 DP. OWSJ
	EXISTING 300 DP. OWSJ TO BE REINFORCED
	NEW STRUCTURAL STEEL FRAMING
0	NEW STRUCTURAL STEEL COLUMN
0	EXISTING COLUMN TO REMAIN
WP#	NEW WALL PLATE (REFER TO SCHEDULE ON S1.1)

FULL MOMENT CONNECTION

LOAD BEARING MASONRY WALL

NON-LOAD BEARING MASONRY WALL

LEGEND:

#### **RENOVATION NOTES:**

- 1. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SLOPES, ELEVATIONS, AND FINISH REQUIREMENTS.
- 2. COORDINATE THE REQUIREMENTS OF THE STRUCTURAL WORK WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
- 3. 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.
- 4. SUBMIT STRUCTURAL STEEL SHOP DRAWINGS PRIOR TO FABRICATION IN ACCORDANCE WITH SECTION 05100, SEALED BY THE
- CONTRACTOR'S SPECIALTY ENGINEER.
- 5. SUBMIT STRUCTURAL STEEL DECK SHOP DRAWINGS PRIOR TO FABRICATION IN ACCORDANCE WITH SECTION 05300, SEALED BY THE CONTRACTOR'S SPECIALTY ENGINEER.
- 6. ALL NEW STRUCTURAL STEEL DECK WITH NEW CONCRETE TOPPING SHALL BE CANAM P-3615 COMPOSITE, 38mm DEEP, 0.76mm
- THICK, VENTED.
- 7. ALL NEW STRUCTURAL STEEL DECK WITHOUT CONCRETE TOPPING SHALL BE CANAM P-3615, 38mm DEEP, 0.91mm THICK.

  8. REFER TO SCHEDULE ON S1.1 FOR BASE AND WALL PLATE DETAILS.
- 9. INSTALL ALL REINFORCING PRIOR TO INSTALLATION OF NEW OPENINGS, STRUCTURES OR FINISHES.
- 10. 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.
- 11. CORE ALL THROUGH—SLAB OPENINGS WITH 200mm CORES. DO NOT USE PERCUSSIVE DEMOLITION METHODS UNLESS APPROVED IN WRITING BY RJC.
- 12. DO NOT CUT OR MODIFY EXISTING STRUCTURAL MEMBERS WITHOUT AUTHORIZATION FROM RJC.
- 13. INSTALL LINTELS ABOVE NON-LOAD BEARING WALL OPENINGS SHOWN ON ARCHITECTURAL DRAWINGS, PER THE GENERAL STRUCTURAL NOTES.
- 14. INSTALL STRUCTURAL STEEL REINFORCING AROUND ALL NEW OPENINGS IN ROOF DECK PER THE GENERAL STRUCTURAL NOTES.
- 15. 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.
- 16. CONTRACTOR SHALL CUT WOOD FRAMING TO SIZE TO MEET FINISHES FLOOR ELEVATIONS.
- 17. TOE FASTEN NEW WOOD JOISTS TO GROUND FLOOR SLAB WITH 83mm LONG HILTI KWIK CON II CONCRETE SCREWS @400 c/c, EACH JOIST.
- 18. TOE FASTEN UPPER LAYER OF JOISTS AT EACH INTERSECTION WITH 83mm LONG #10 SCREW.
- 19. 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.





Read Jones Christoffersen Ltd.
Engineers

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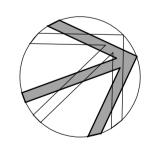
**KEY PLAN** 

l				
	4.	ISSUED FOR CONSTRUCTION	Sept. 4/18	P.F.
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	2.	ISSUED FOR PERMIT	July 13/18	P.F.
	1.	ISSUED FOR TENDER	July 13/18	P.F.
	No.	Revision	Date	Ву

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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

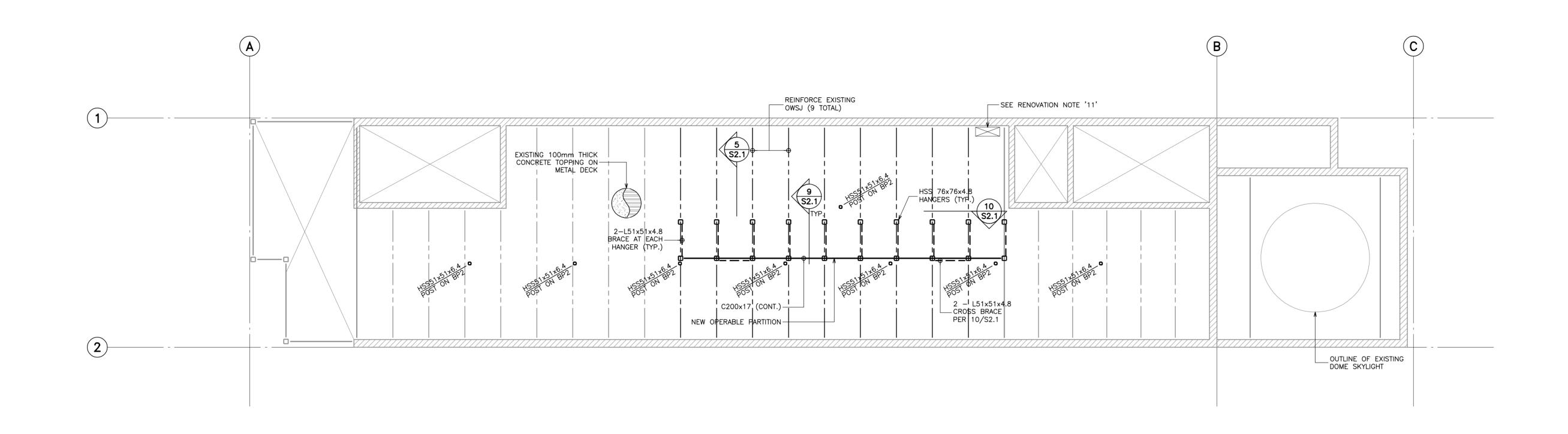
Sheet Number

RJC Project Number

Revision

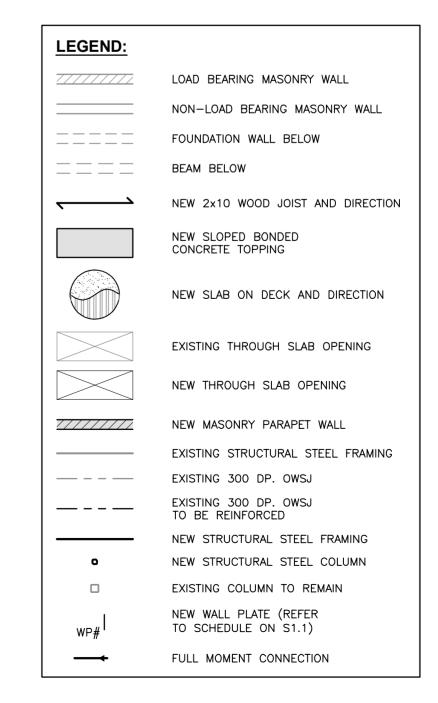
TOR.121290.0001

1.1



#### **RENOVATION NOTES:**

. REFER TO RENOVATION NOTES ON DRAWING S1.1.







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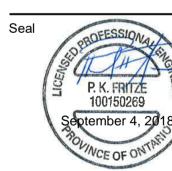


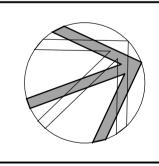
**KEY PLAN** 

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Project Name

348 Davenport Road Toronto, Ontario

### **DAVENPORT** SHELTER RENOVATION

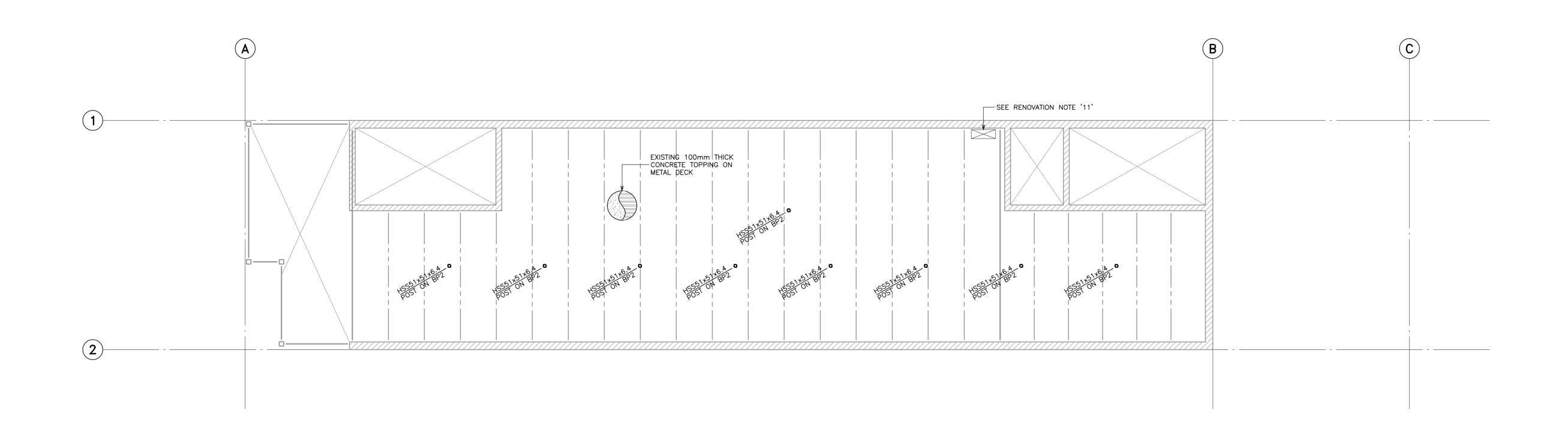
Sheet Title

### **LEVEL 2 RENOVATION PLAN**

Drawn By M.L. Scale **1:75** Designed By P.F.

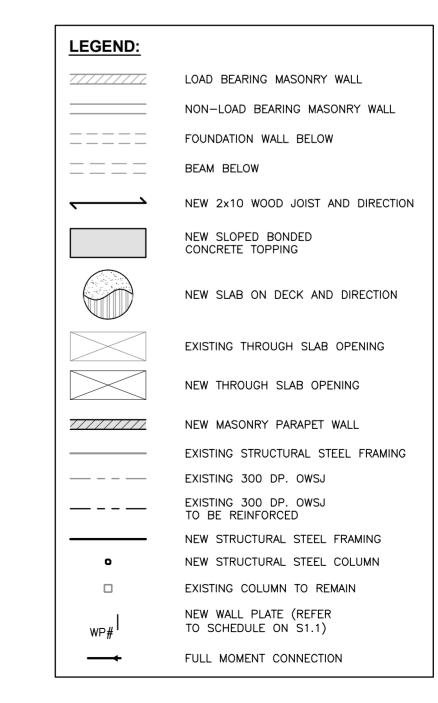
Date July, 2018 TOR.121290.0001 **RJC Project Number** 

Sheet Number **S1.2**  Revision



#### **RENOVATION NOTES:**

. REFER TO RENOVATION NOTES ON DRAWING S1.1.







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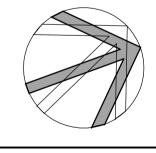
**KEY PLAN** 

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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

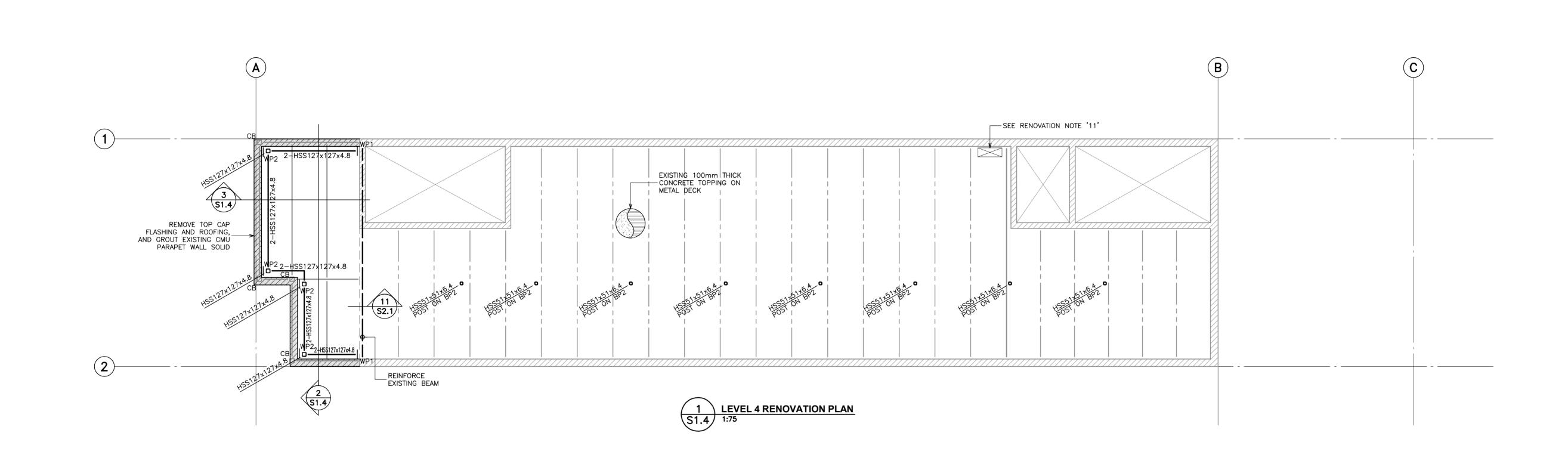
Designed By P.F. Date July, 2

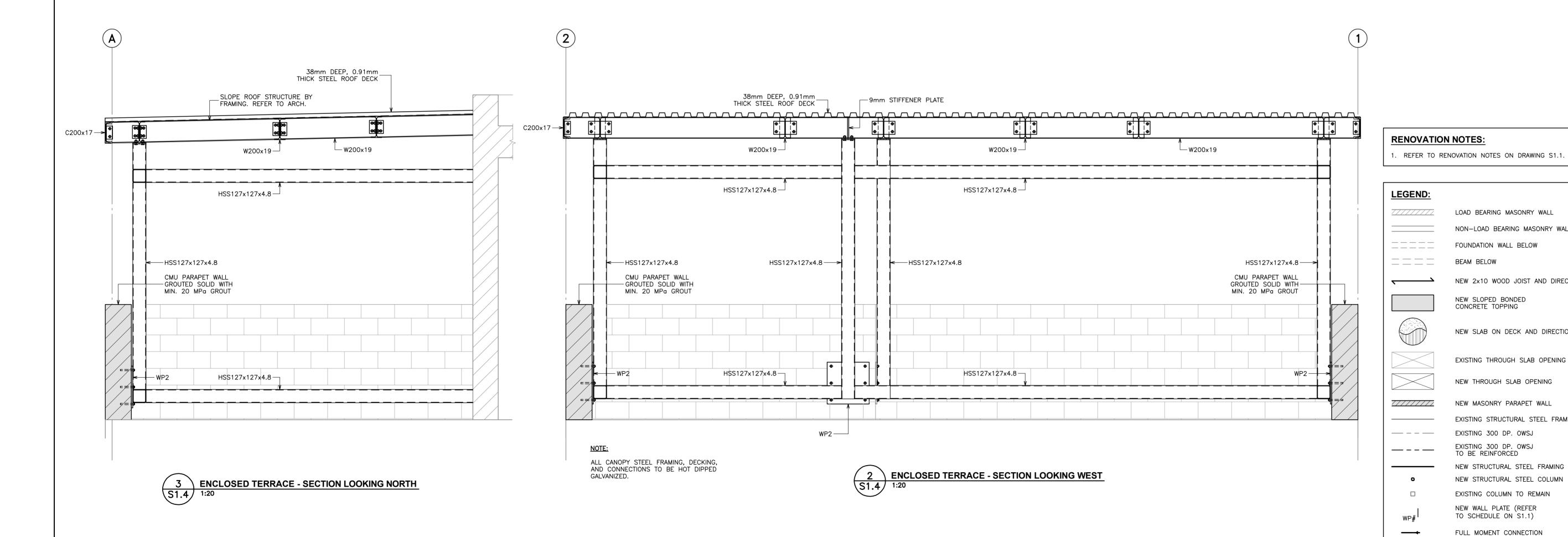
Date July, 2018
TOR.121290.0001

Sheet Number

**RJC Project Number** 

Revision









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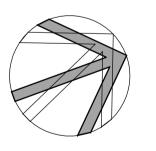
**KEY PLAN** 

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Project Name

NON-LOAD BEARING MASONRY WALL

NEW 2x10 WOOD JOIST AND DIRECTION

NEW SLAB ON DECK AND DIRECTION

NEW THROUGH SLAB OPENING

NEW MASONRY PARAPET WALL

EXISTING 300 DP. OWSJ

NEW WALL PLATE (REFER

TO SCHEDULE ON S1.1)

TO BE REINFORCED

EXISTING STRUCTURAL STEEL FRAMING

NEW STRUCTURAL STEEL FRAMING

NEW STRUCTURAL STEEL COLUMN

FOUNDATION WALL BELOW

BEAM BELOW

348 Davenport Road Toronto, Ontario

#### **DAVENPORT** SHELTER RENOVATION

Sheet Title

### **LEVEL 4 RENOVATION PLAN**

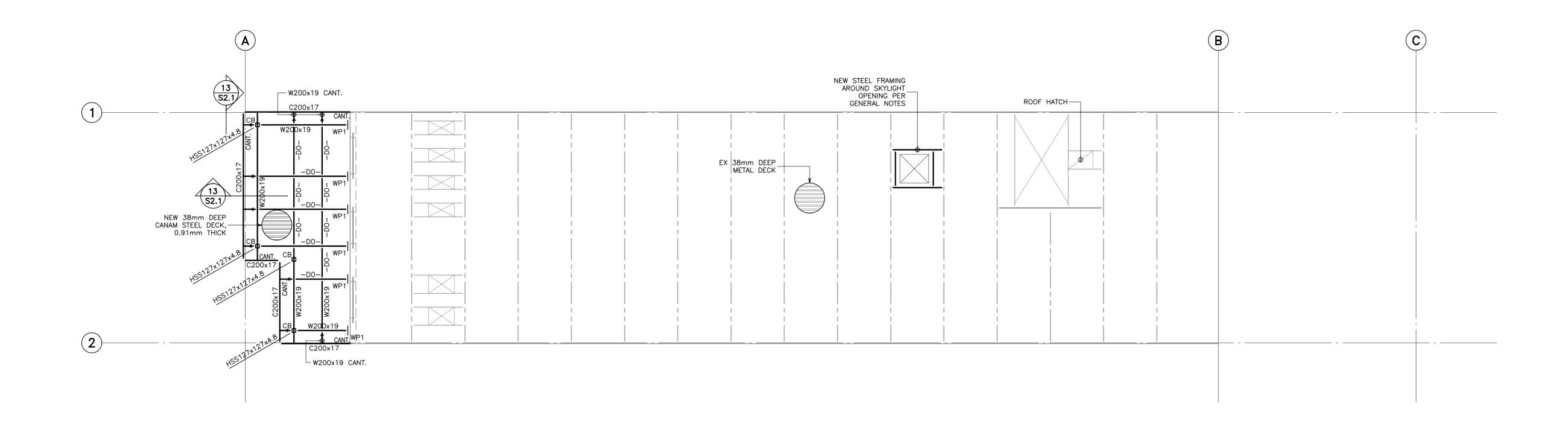
Drawn By M.L. Scale 1:75 Designed By P.F. Date July, 2018

Sheet Number

RJC Project Number

TOR.121290.0001

**S1.4** 



#### **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
0	NEW STRUCTURAL STEEL COLUMN
	EXISTING COLUMN TO REMAIN
wp#	NEW WALL PLATE (REFER TO SCHEDULE ON S1.1)
<b>→</b>	FULL MOMENT CONNECTION





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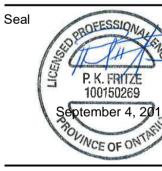


**KEY PLAN** 

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Project Name

348 Davenport Road Toronto, Ontario

### **DAVENPORT** SHELTER RENOVATION

Sheet Title

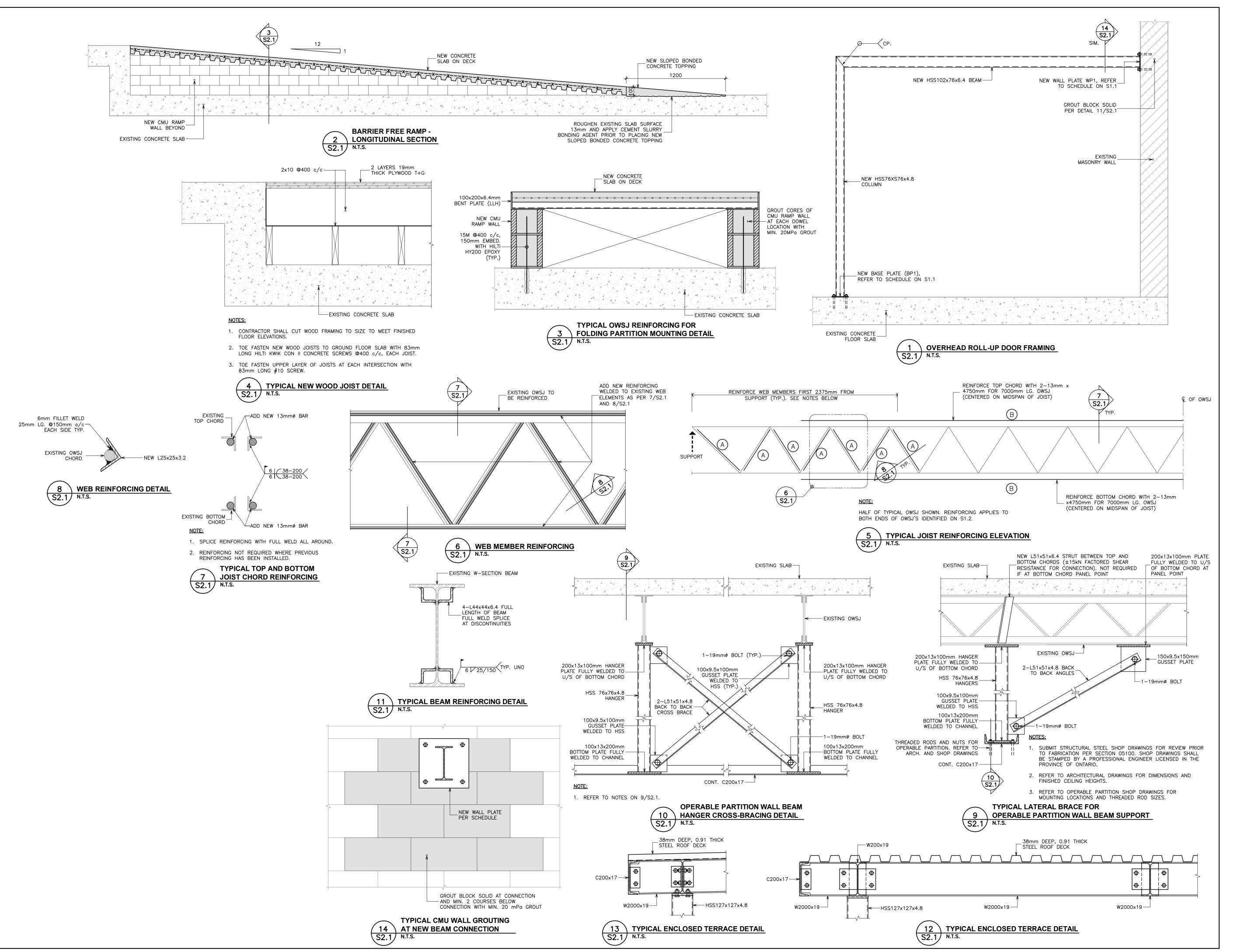
### **ROOF RENOVATION PLAN**

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

Sheet Number

Revision

**S1.5** 







Read Jones Christoffersen Ltd.

100 University Avenue, Toronto, ON M5J 2X4 Canada tel 416-977-5335 fax 416-977-1427



**KEY PLAN** 

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Project Name

348 Davenport Road **Toronto, Ontario** 

#### **DAVENPORT SHELTER RENOVATION**

Sheet Title

#### **SECTIONS AND DETAILS**

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

Revision

Sheet Number

#### MECHANIC

	PLUMBING
SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER  DOMESTIC HOT WATER RECIRCULATION
	EXISTING DOMESTIC COLD WATER
	EXISTING DOMESTIC HOT WATER
	EXISTING DOMESTIC HOT WATER RECIRCULATION
	SANITARY VENT LINE  EXISTING SANITARY VENT LINE
	BURIED SANITARY DRAIN
——-SAN-——	SUSPENDED SANITARY DRAIN
——SAN ———	SANITARY DRAIN IN CEILING SPACE OF FLOOR BELOW
——PSAN ———	SANITARY PUMPED DISCHARGE
—— SANB ——	EXISTING BURIED SANITARY DRAIN
—— SAN ———	EXISTING SUSPENDED SANITARY DRAIN  EXISTING SANIT. DRAIN IN CEILING SPACE OF FLOOR BELOW
PSAN	EXISTING SANITARY PUMPED DISCHARGE
stmb	BURIED STORM DRAIN
STM	SUSPENDED STORM DRAIN
STM	STORM DRAIN IN CEILING SPACE OF FLOOR BELOW
——PSTM——	STORM PUMPED DISCHARGE
STMB	EXISTING BURIED STORM DRAIN
STM	EXISTING SUSPENDED STORM DRAIN  EXIS. STORM DRAIN IN CEILING SPACE OF FLOOR BELOW
——————————————————————————————————————	EXISTING STORM PUMPED DISCHARGE
——————————————————————————————————————	CLEANOUT PLUG
——⊚ co	FLOOR CLEANOUT
—-с—	CONDENSATE DRAIN
c	EXISTING CONDENSATE DRAIN
	NATURAL GAS LINE EXISTING NATURAL GAS LINE
—— G ——— O	EXISTING NATURAL GAS LINE  ELBOW, TURNED DOWN AND TURNED UP
	BRANCH - TOP CONNECTION
<del></del>	BRANCH - BOTTOM CONNECTION
<del></del>	INTERIOR WALL HYDRANT
	EXTERIOR NON FREEZE WALL HYDRANT
HB FD F0	INTERIOR HOSE BIB
☐ FD ☐ FFD	FLOOR DRAIN FUNNEL FLOOR DRAIN
O HD	HUB DRAIN
RD ☑ RD	ROOF DRAIN
- N.D	HVAC (PIPING)
CYMBOL	DESCRIPTION
SYMBOL RS ——	REFRIGERANT SUCTION
—— RL ——	REFRIGERANT LIQUID
—— RS ——	EXISTING REFRIGERANT SUCTION
—— RL ——	EXISTING REFRIGERANT LIQUID
VALVE	ES & PIPING FITTINGS
SYMBOL	DESCRIPTION
M)	DOMESTIC COLD WATER METER
$\sim$	
	DOMESTIC COLD WATER METER WITH REMOTE READOUT
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV)
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE CIRCUIT BALANCING VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE CIRCUIT BALANCING VALVE CONCENTRIC REDUCER
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE CIRCUIT BALANCING VALVE CONCENTRIC REDUCER ECCENTRIC REDUCER BACKFLOW PREVENTER (DOUBLE CHECK VALVE) PLUG VALVE
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE CIRCUIT BALANCING VALVE CONCENTRIC REDUCER ECCENTRIC REDUCER BACKFLOW PREVENTER (DOUBLE CHECK VALVE) PLUG VALVE PRESSURE GAUGE WITH GAUGE COCK AND SNUBBER
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE CIRCUIT BALANCING VALVE CONCENTRIC REDUCER ECCENTRIC REDUCER BACKFLOW PREVENTER (DOUBLE CHECK VALVE) PLUG VALVE PRESSURE GAUGE WITH GAUGE COCK AND SNUBBER PUMP
	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE CIRCUIT BALANCING VALVE CONCENTRIC REDUCER ECCENTRIC REDUCER BACKFLOW PREVENTER (DOUBLE CHECK VALVE) PLUG VALVE PRESSURE GAUGE WITH GAUGE COCK AND SNUBBER
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	DOMESTIC COLD WATER METER WITH REMOTE READOUT GATE VALVE GLOBE VALVE PRESSURE REDUCING VALVE (PRV) CHECK VALVE RELIEF VALVE STRAINER DRAIN COCK SOLENOID VALVE BUTTERFLY VALVE GRISWOLD VALVE BALL VALVE TWO—WAY AUTOMATIC CONTROL VALVE CIRCUIT BALANCING VALVE CONCENTRIC REDUCER ECCENTRIC REDUCER BACKFLOW PREVENTER (DOUBLE CHECK VALVE) PLUG VALVE PRESSURE GAUGE WITH GAUGE COCK AND SNUBBER PUMP HOSE END BLIND FLANGED CONNECTION CAPPED CONNECTION UNION CONNECT NEW SERVICES TO EXISTING PRESSURE GAUGE WITH GAUGE COCK AND SNUBBER THERMOMETER WITH THERMOMETER WELL BACKFLOW PREVENTER (B.F.P.) (SUPPLIED WITHOUT SHUT—OFF VALVES)  BACKWATER VALVE (B.W.V.)
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	VENTILATION
<u> </u>	DUCTWORK (DOUBLE LINE)
	EXISTING DUCTWORK (DOUBLE LINE)
	DUCTWORK (SINGLE LINE)
	EXISTING DUCTWORK (SINGLE LINE)
	ACOUSTICALLY LINED DUCTWORK (DOUBLE LINE)
	ACOUSTICALLY LINED DUCTWORK (SINGLE LINE)  FLEXIBLE DUCT
	EXISTING FLEXIBLE DUCT
	SUPPLY DUCT UP (RECTANGULAR)
<b>-</b>	ROUND DUCT UP
	RETURN DUCT UP
	SUPPLY DUCT DOWN
	ROUND DUCT DOWN
	RETURN DUCT DOWN
	CHANGE IN DUCT ELEVATION
	DUCT MOUNTED EQUIPMENT WITH FLEXIBLE CONNECTORS
	SPIN ON FITTING WITH FLEXIBLE DUCT  EXISTING SPIN ON FITTING WITH FLEXIBLE DUCT
DG A	DOOR GRILLE
U/C	DOOR UNDERCUT
BD BD	MANUAL BALANCING DAMPER
FDFD	FIRE DAMPER
MD HMD	AUTOMATIC (MOTORIZED) DAMPER
SD SD	SMOKE (MOTORIZED) DAMPER
BDD BDD	BACKDRAFT DAMPER
	RETURN OR EXHAUST AIR GRILLE
	EXISTING RETURN OR EXHAUST AIR GRILLE
	SQUARE SUPPLY AIR DIFFUSER  EXISTING SQUARE SUPPLY AIR DIFFUSER
©	ROUND SUPPLY AIR DIFFUSER
©	EXISTING ROUND SUPPLY AIR DIFFUSER
	SIDEWALL GRILLE
	EQUIPMENT
	EXISTING EQUIPMENT
<u> </u>	THERMOSTAT
	EXISTING THERMOSTAT
T	TEMPERATURE SENSOR  EXISTING TEMPERATURE SENSOR
<u> </u>	EXISTING CENTRAL VACUUM SYSTEM OUTLET
<del>-x</del> <del>-x</del>	EXISTING SERVICES OR EQUIPMENT TO BE REMOVED
	ABBREVIATIONS
0.7.100	
SYMBOL P	DESCRIPTION PUMP
HWH	HOT WATER HEATER
EHC	ELECTRIC DUCT HEATING COIL
UH	UNIT HEATER
FFH	FORCED FLOW HEATER
ВВН	BASEBOARD HEATER
ET	EXPANSION TANK
DHWH	DOMESTIC HOT WATER HEATER
AFF	ABOVE FINISHED FLOOR
N	NEW
ER PTIL	DENOTES EXISTING TO BE RELOCATED
RTU CC	ROOF TOP UNIT  COOLING COIL
НС	HEATING COIL
HRC	HEAT RECOVERY COIL
RF	RETURN FAN
SF	SUPPLY FAN
EF	EXHAUST FAN
S/A	SUPPLY AIR DUCTWORK
R/A	RETURN AIR DUCTWORK
	EXHAUST AIR DUCTWORK
E/A	
E/A CTE	CONNECT TO EXISTING
E/A CTE	EXISTING SERVICES / EQUIPMENT TO BE REMOVED
E/A CTE -///////	EXISTING SERVICES / EQUIPMENT TO BE REMOVED  NEW
E/A CTE	EXISTING SERVICES / EQUIPMENT TO BE REMOVED

	FIRE PROTECTION		
SYMBOL	DESCRIPTION		
—— SP ——	SPRINKLER LINE		
—— SPD ——	SPRINKLER DRAIN		
——F——	FIRE LINE		
—— SP ——	EXISTING SPRINKLER LINE		
—— SPD ——	EXISTING SPRINKLER DRAIN		
— F —	EXISTING FIRE LINE		
•	PENDANT SPRINKLER HEAD		
0	UPRIGHT SPRINKLER HEAD		
<b>■</b>	SIDEWALL SPRINKLER HEAD  CONCEALED TYPE SPRINKLER HEAD		
<u>\</u>	EXISTING SPRINKLER HEAD		
	EXISTING SPRINKLER HEAD		
7	SPRINKLER ZONE BORDER LINE		
☐ FDC	FIRE DEPARTMENT CONNECTION		
SVC	SPRINKLER ZONE VALVE CABINET (RECESSED TYPE)		
FHC	FIRE HOSE CABINET (SURFACE MOUNTED)		
FHC	FIRE HOSE CABINET (RECESSED)		
	SPRINKLER DRY PIPE VALVE		
<b>⊘</b>	SPRINKLER WET PIPE ALARM CHECK VALVE		
<u> </u>	PREACTION SPRINKLER VALVE		
<del></del>	TEST DRAIN MODULE		
P.I.V.	POST INDICATOR VALVE		
	OUTSIDE FIRE HYDRANT WITH VALVE		
F.E.	FIRE EXTINGUISHER		
—— <del>Ы</del>	FIRE DEPARTMENT TEST CONNECTION		
Ø PS			
<u> </u>	ALARM PRESSURE SWITCH		
<u></u> SV	SUPERVISED OS AND Y VALVE		
——————————————————————————————————————	INDICATIVE TYPE SUPERVISED BUTTERFLY VALVE		
FS FS	ALARM FLOW SWITCH		
EP	EXCESS PRESSURE PUMP		
FP	FIRE PUMP		
JP	JOCKEY PUMP		
SP	SPRINKLER PUMP		
	GENERAL		
SYMBOL	DESCRIPTION		
X	SECTION No.		
M-XXX	DRAWING No.		
	_		
(x)	DETAIL No. \ FOR CONTINUATION, SEE		
M-XX	DRAWING No. DETAIL No. /DRAWING No.		
	EQUIPMENT NUMBER		
X \			
XXXX	T EQUIPMENT DESIGNATION		
X XXXX	REFER TO NOTE "X" ON THIS DRAWING		
X XXXX N-X			
X XXXX N-X	REFER TO NOTE "X" ON THIS DRAWING  TYPE OF GRILLE OR DIFFUSER		
	REFER TO NOTE "X" ON THIS DRAWING		
x,xx	REFER TO NOTE "X" ON THIS DRAWING  TYPE OF GRILLE OR DIFFUSER AIR QUANTITY (L/S)		
X,XX	REFER TO NOTE "X" ON THIS DRAWING  TYPE OF GRILLE OR DIFFUSER AIR QUANTITY (L/S)		

	ELECTRICAL DRAWING LIST
NUMBER	DESCRIPTION
M-1	MECHANICAL LEGEND, DRAWING LIST AND SCHEDULES
M-2	BASEMENT 1 & 2 AND LEVEL 1 - PLUMBING DEMOLITION
M-3	LEVEL 2, 3 AND 4 - PLUMBING DEMOLITION
M-4	BASEMENT 1 & 2 AND LEVEL 1 - HVAC DEMOLITION
M-5	LEVEL 2, 3 AND 4 - HVAC DEMOLITION
M-6	BASEMENT 1 & 2 AND LEVEL 1 - FIRE PROTECTION DEMOLITION
M-7	LEVEL 2, 3 AND 4 - FIRE PROTECTION DEMOLITION
M-8	BASEMENT 1 & 2 AND LEVEL 1 — PLUMBING NEW LAYOUT
M-9	LEVEL 2, 3 AND 4 — PLUMBING NEW LAYOUT
M-10	BASEMENT 1 & 2 AND LEVEL 1 - HVAC NEW LAYOUT
M-11	LEVEL 2, 3 AND 4 - HVAC NEW LAYOUT
M-12	BASEMENT 1 & 2 AND LEVEL 1 - FIRE PROTECTION NEW LAYOUT
M-13	LEVEL 2, 3 AND 4 - FIRE PROTECTION NEW LAYOUT
M-14	MECHANICAL DETAILS
M-15	MECHANICAL SPECIFICATION

#### PLUMBING FIXTURE SCHEDULE

#### WATER CLOSET TYPE "WC" (FLOOR MOUNTED)

- AMERICAN STANDARD WATER CLOSET "MADERA FLOWISE" 15" HEIGHT, ELONGATED, SIPHON ACTION WITH DIRECT-FED JET, ELONGATED BOWL, BACK SPUD, HIGH-EFFICIENCY TOILET, LOW CONSUMPTION (1.1 GPF TO 1.6 GPF (4.2 LPF TO 6.0 LPF). MODEL #3453.001
- .2 SEAT: AMERICAN STANDARD #5901.100 HEAVY DUTY OPEN FRONT, FOR ELONGATED BOWL, WITH SLOW CLOSE SNAP-OFF HINGE LESS COVER.
- .3 FLUSH VALVE: AMERICAN STANDARD MODEL 6068.322.007, SELECTRONIC FLOWISE, SENSOR OPERATED, CONCEALED TOILET FLUSH VALVE WITH WALL BOX WITH 1-1/2" BACK SPUD. INLET TO INCLUDE 1" ANGLE STOP WITH INTEGRAL BACKFLOW PREVENTER AND WHEEL HANDLE. OUTLET TO INCLUDE 1-1/2" VACUUM BREAKER AND ADJUSTABLE TAIL PIECE. PROVIDE S.S. RECESSED BACK BOX TO HOUSE ALL COMPONENTS. NO EXPOSED DEVICES WILL

BE PERMITTED. PROVIDE S.S. ACCESS PANEL WITH TEMPER PROOF SCREWS

#### BARRIER FREE WATER CLOSET TYPE "WC-1" (FLOOR MOUNTED)

- I AMERICAN STANDARD WATER CLOSET "MADERA FLOWISE" 16-1/2" HEIGHT, ELONGATED, SIPHON ACTION WITH DIRECT-FED JET, ELONGATED BOWL, BACK SPUD, HIGH-EFFICIENCY TOILET, LOW CONSUMPTION (1.1 GPF TO 1.6 GPF (4.2 LPF TO 6.0 LPF). MODEL #3463.001
- .2 SEAT: AMERICAN STANDARD #5901.100 HEAVY DUTY OPEN FRONT, FOR ELONGATED BOWL, WITH SLOW CLOSE SNAP-OFF HINGE WITH COVER.
- .3 FLUSH VALVE: AMERICAN STANDARD MODEL 6068.322.007, SELECTRONIC FLOWISE, SENSOR OPERATED, CONCEALED TOILET FLUSH VALVE WITH WALL BOX WITH 1-1/2" BACK SPUD. INLET TO INCLUDE 1" ANGLE STOP WITH INTEGRAL BACKFLOW PREVENTER AND WHEEL HANDLE. OUTLET TO INCLUDE 1-1/2" VACUUM BREAKER AND ADJUSTABLE TAIL PIECE. PROVIDE S.S. RECESSED BACK BOX TO HOUSE ALL COMPONENTS. NO EXPOSED DEVICES WILL BE PERMITTED. PROVIDE S.S. ACCESS PANEL WITH TEMPER PROOF SCREWS

#### LAVATORY TYPE "LAV"

- I. KINDRED, MODEL KSOV1821/7, DROP IN STAINLESS STEEL VANITY BASIN, 18 GAUGE STAINLESS STEEL, 3 HOLES 4" CENTERSET, 1 1/4" (32 MM) DIAMETER WASTE OUTLET. OVERALL SIZE: 18" X 21" X 7" (460MM X 530MM X 180MM)
- .2 FAUCET: DELTA, MODEL 21C424, 4" (100MM) CENTER, TWO 100MM BLADE HANDLES, SANITARY HOODS, POLISH CHROME FINISH, 1.5 GPM (5.7 L/MIN) VANDAL RESISTANT AERATOR.
- .3 SUPPLIES: POLISHED CHROME PLATED SUPPLIES: 10MM (3/8") SUPPLIES WITH BALL TYPE VALVE, 305MM (12") LONG STAINLESS STEEL CLAD RUBBER FLEXIBLE RISERS.
- .4 TRAP: 38MM (1-1/4") ROUGH CAST BRASS "P" TRAP WITH CLEANOUT.

- KINDRED, MODEL QSL1718/8, SINGLE BOWL, LEDGEBACK STAINLESS STEEL SINK, 18 GAUGE STAINLESS STEEL, 3 HOLES 4" CENTER-TO-CENTER, 1 1/2" (38 MM) DIAMETER WASTE OUTLET. COMPARTMENT SIZE: 12" X 17" X 8" (300MM X 430MM X 200MM) OVERALL SIZE: 17" X 19-1/8" X 8" (430MM X 490MM X 200MM)
- .2 MOEN COMMERCIAL 8289. SOLID BRASS CONSTRUCTION, CHROME PLATED 8"(203MM) C.C. WITH 1/2"IPS CONNECTIONS. 4" WRIST BLADE HANDLES WITH HOT AND COLD COLOUR INDICATORS; 1/4 TURN CERAMIC DISC CARTRIDGES WITH FREE SPINNING HANDLE HUBS. 1.5GPM [5.7L/MIN] AERATOR WITH AN 8" GOOSENECK SPOUT, (OPTIONAL 2.0GPM [7.6L/MIN] LAMINAR FLOW CONVERSION KIT INCLUDED).
- .3 SUPPLIES: POLISHED CHROME PLATED SUPPLIES: 10MM (3/8") SUPPLIES WITH BALL TYPE VALVE, 305MM (12") LONG STAINLESS STEEL CLAD RUBBER FLEXIBLE RISERS.
- .4 TRAP: 38MM (1-1/2") ROUGH CAST BRASS "P" TRAP WITH CLEANOUT.

#### SINK TYPE "S-1"

- FRANKE COMMERCIAL, DROP-IN, MODEL LBS6810-1/3, SINGLE COMPARTMENT SINK WITH FAUCET LEDGE, 18 GAUGE STAINLESS STEEL, 3 HOLES 4" CENTER-TO-CENTRE SET, 1 ½"DIAMETER. COMPARTMENT SIZE: 18" X 16" X 10" (457MM X 406MM X 254MM), OVERALL SIZE: 20 1/8" X 20 9/16" (511MM X 522MM)
- 2 MOEN COMMERCIAL 8289. SOLID BRASS CONSTRUCTION, CHROME PLATED 8"(203MM) C.C. WITH ½"IPS CONNECTIONS. 4" WRIST BLADE HANDLES WITH HOT AND COLD COLOUR INDICATORS; 1/4 TURN CERAMIC DISC CARTRIDGES WITH FREE SPINNING HANDLE HUBS. 1.5GPM [5.7L/MIN] AERATOR WITH AN 8" GOOSENECK SPOUT, (OPTIONAL 2.0GPM [7.6L/MIN] LAMINAR FLOW CONVERSION KIT INCLUDED).
- .3 SUPPLIES: POLISHED CHROME PLATED SUPPLIES: 10MM (3/8") SUPPLIES WITH BALL TYPE VALVE, 305MM (12") LONG STAINLESS STEEL CLAD RUBBER FLEXIBLE RISERS.
- .4 TRAP: 38MM (1-1/2") ROUGH CAST BRASS "P" TRAP WITH CLEANOUT.

- SHOWER TYPE "SH" SHOWER ENCLOSURE: PROVIDED BY ARCHITECTURAL TRADES, INCLUDING WATERPROOF
- MEMBRANE. CO-ORDINATE WITH OTHER DIVISIONS. .2 LIGATURE RESISTANT WALL SHOWER UNIT LR1748ADA SERIES BY ACORN. ADA COMPLIANT. PROVIDE S.S. ACCESS PANEL ON BACK OF UNIT. PROVIDE TEMPER-PROOF SCREWS. PROVIDE
- SHOWER UNIT TO BE 14 GAUGE, TYPE 304 S.S. WITH SATIN FINISH. CONICAL SHOWER HEAD
- .3 SHOWER VALVE: ASSA 1016 T/P TEMPERATURE AND PRESSURE BALANCING 1.6 GPM FLOW, WITH VANDAL AND LIGATURE RESISTANT TRI-LEVER HANDLE
- .4 PROVIDE NECESSARY FASTENERS
- .5 50MM FLOOR DRAIN WITH S.S. STRAINER WITH PERFORATED OPENINGS (NO SLOP TYPE

ALL WASHROOMS HAVE EPOXY FLOORING THROUGHOUT, DRAINS TO SUIT

#### SHOWER TYPE "SH-1"(BARRIER FREE)

- 1 SHOWER ENCLOSURE: PROVIDED BY ARCHITECTURAL TRADES, INCLUDING WATERPROOF MEMBRANE. CO-ORDINATE WITH OTHER DIVISIONS.
- .2 SHOWER VALVE AND SPRAY HEAD DELTA T13H252: POLISHED CHROME FINISH, PRESSURE AND TEMPERATURE BALANCING CONTROLLER WITH METAL
- LEVER ADA COMPLIANT HANDLE
- 3. HAND SHOWER HEAD, 1.5 GPM FLOW, WITH 24" LONG SLIDING BAR 4. SPOUT WITH PULL-UP DIVERTER
- .5 50MM FLOOR DRAIN WITH S.S. STRAINER WITH PERFORATED OPENINGS (NO SLOP TYPE

ALL WASHROOMS HAVE EPOXY FLOORING THROUGHOUT, DRAINS TO SUIT

### JANITOR SINK TYPE "JS"

- .1 STERN WILLIAMS MOP SINK MODEL SB802: 24" X 24" X 12" (610MM X 610MM X 305MM DEEP) RECEPTOR COMPOSED OF PEARL GREY MARBLE CHIPS AND WHITE PORTLAND CEMENT, WITH NPS 3 DRAIN WITH S.S. STRAINER.
- .2 FAUCET: T-10-VB MOP SERVICE SINK FAUCET WITH VACUUM BREAKER, ADJUSTABLE TOP BRACE, 3/" HOSE THREAD ON SPOUT WITH BRACKET HOOK INLET 8" ON CENTRE, CHROME
- .3 HOSE AND WALL HOOK: T-35, 36" LONG HOSE, WITH 34" CHROME COUPLING. S.S. WALL
- .4 MOP HANGER: T-40, S.S. MOP HANGER, 24" LONG WITH 3 RUBBER SPRING LOADED GRIPS.
- .5 PROVIDE SPLASH CATCHER PANELS ON TWO CORNER WALLS. PANELS TO BE 20 GA, TYPE 304 STAINLESS STEEL. PANELS TO BE 5FT HIGH.

#### EYE WASH STATION TYPE "EW"

- I MODEL7360BT-7460BT WALL MOUNTED EYE/FACE WASH WITH STAINLESS STEEL 11"(27.9CM) ROUND BOWL, NAXION®MSR EYE/FACE WASH HEAD WITH INVERTED DIRECTIONAL LAMINAR FLOW AT 3.7 GPM FLOW CONTROL, UNIVERSAL SIGN, 12MM INLET, 38MM OUTLET
- 2 THERMOSTATIC MIXING VALVE: MODEL 9201EW AXION®EMERGENCY TEMPERING VALVE THERMOSTATICALLY MIXES HOT AND COLD WATER TO PROVIDE SAFE FLUID SUPPLY FOR SINGLE EMERGENCY EYE/FACE WASH, WITH FLOW RATE OF 10GPM (38.8 L). PROVIDE S.S. BACK BOX RECESSES IN WALL TO HOUSE MIXING VALVE AND CONTROLS. PROVIDE S.S. ACCESS PANEL.
- .3 TRAP: 38MM (1-1/2") ROUGH CAST BRASS "P" TRAP WITH CLEANOUT.

#### EYE WASH STATION TYPE "EW"

- MODEL7360BT-7460BT WALL MOUNTED EYE/FACE WASH WITH STAINLESS STEEL 11"(27.9CM) ROUND BOWL, NAXION®MSR EYE/FACE WASH HEAD WITH INVERTED DIRECTIONAL LAMINAR FLOW AT 3.7 GPM FLOW CONTROL, UNIVERSAL SIGN, 12MM INLET, 38MM OUTLET
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- .3 TRAP: 38MM (1-1/2") ROUGH CAST BRASS "P" TRAP WITH CLEANOUT.

#### DRINKING WATER FOUNTAIN 'WF'

- .1 ELKAY WALL MOUNTED FULLY RECESSED FOUNTAIN (NON-FILTERED, NON-REFRIGIRATED)
- STAINLESS STEEL, MODEL EDFB12C.
  UNIT TO BE LEAD FREE.
- 3. UNIT TO COMPLETE WITH FLEXI-GUARD SAFETY BUBBLER, MECHANICAL BUBBLER PUSHBAR ACTIVATION.
- 4. UNIT DIMENSION: 19"(L) x 11-3/16"(W) x 32-1/2"(H)
  5. POWER: NO ELECTRICAL POWER REQUIRED
- 6. FOLLOW MANUFACTURE INSTALLATION INSTRUCTIONS

PLUMBING FIXTURE SERVICE REQUIREMENTS					
	MINIMUM SERVICE CONNECTION SIZE				NNECTION SIZE
).	DESIGNATION	DRAIN	COLD WATER	HOT WATER	VENT
C"&'WC-1'	WATER CLOSET	75	25	-	AS PER CODE
"LAV"	LAVATORY	32	12	12	AS PER CODE
"SH"	SHOWER	50	12	12	AS PER CODE
"S"	SINK	38	12	12	AS PER CODE
"JS"	JANITOR'S MOP RECEPTOR	50	12	12	AS PER CODE
"SS"	UTILITY SINK	38	12	12	AS PER CODE
"EW"	EMERG. EYE WASH	38	12	12	AS PER CODE
"FD"	FLOOR DRAIN	75	_	_	VENT & PRIME AS PER CODE
"WF"	WATER COOLER	32	12	_	AS PER CODE

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Description

16 July '18 1 Final Review 16 July '18 2 Issued for Permit & Tender

3 Issued for Construction

04 Sept '18

SHARMA & PARTNERS INC. Mechanical and Electrical Engineers 85 Curlew Drive, Unit 108 Toronto, Ontario M3A 2P8 Tel.: (416) 291-8822

# WORKSHOP

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

SPI PROJECT #: 2018-1039

#### Davenport Shelter

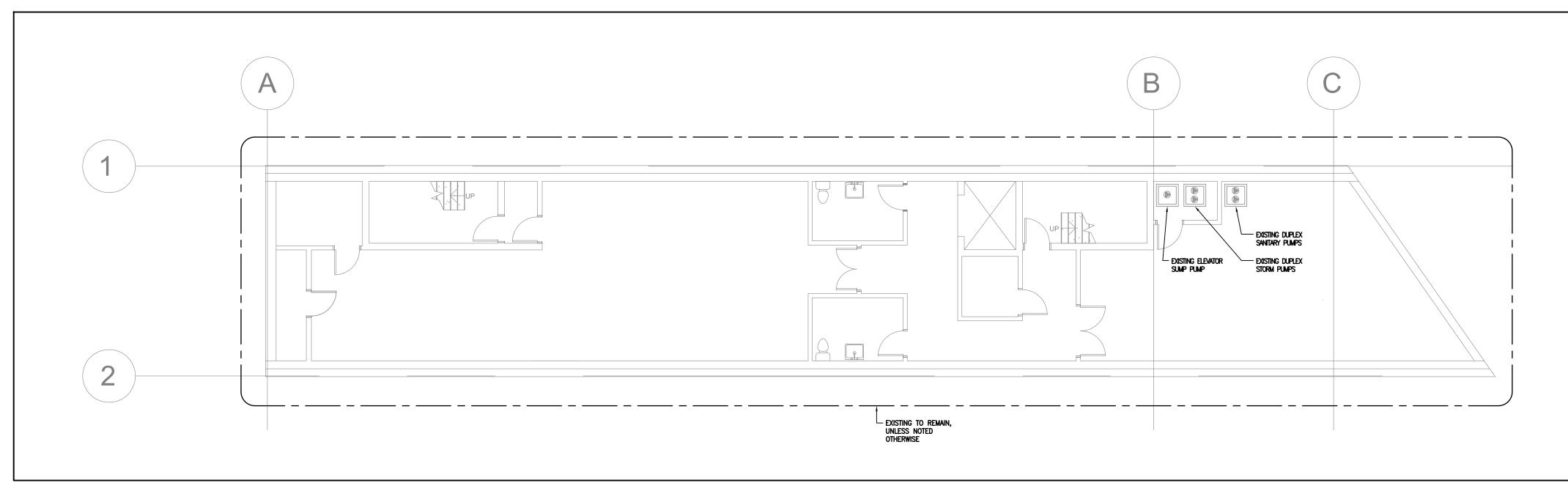
348 Davenport Road Toronto, ON M5R 1K6

04	Sept 2018	Issued for Construction
DA	TE:	STATUS:
<u>18</u>	22	N.T.S.
PR	OJECT CODE:	SCALE:

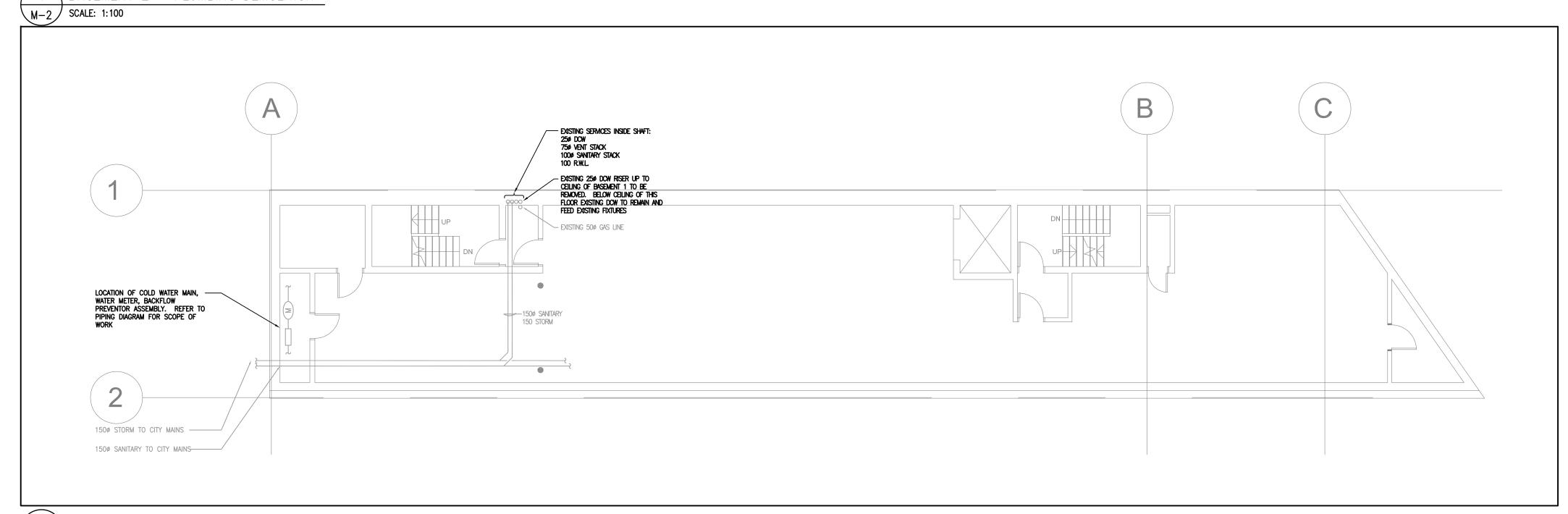
Mechanical Legend, Drawing List and Schedules



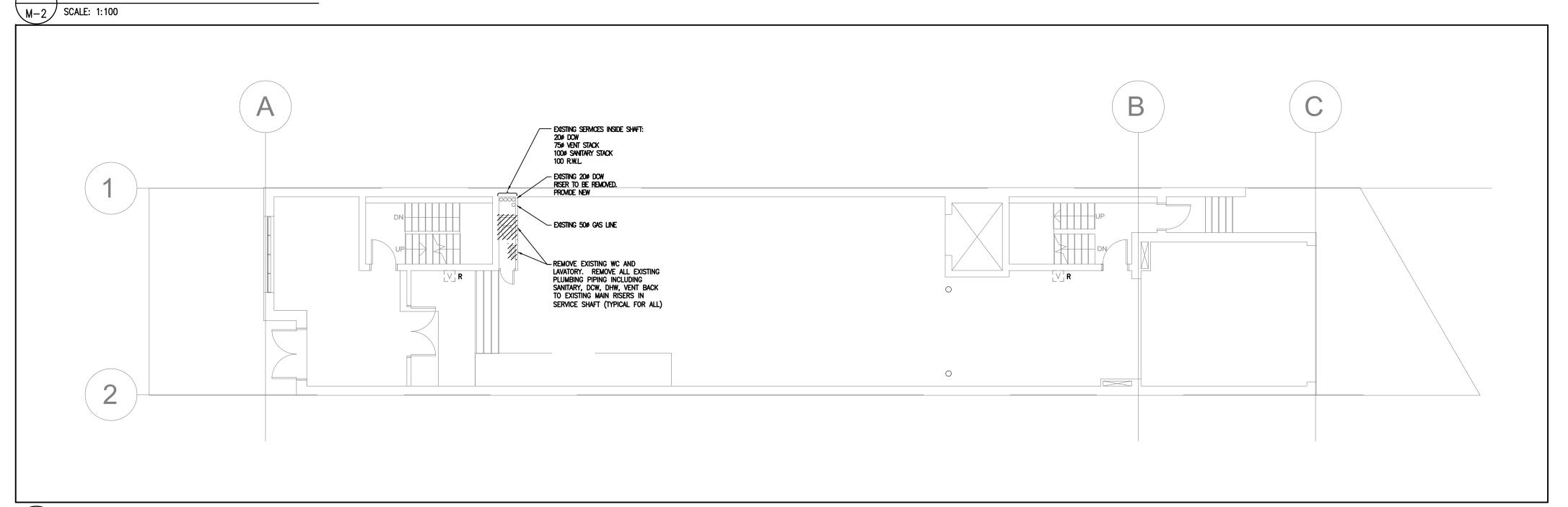




\ BASEMENT 2 - PLUMBING DEMOLITION



 $\setminus$  BASEMENT 1 - PLUMBING DEMOLITION



\ LEVEL 1 - PLUMBING DEMOLITION

M-2 SCALE: 1:100

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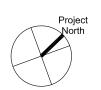
www.workshoparchitecture.ca

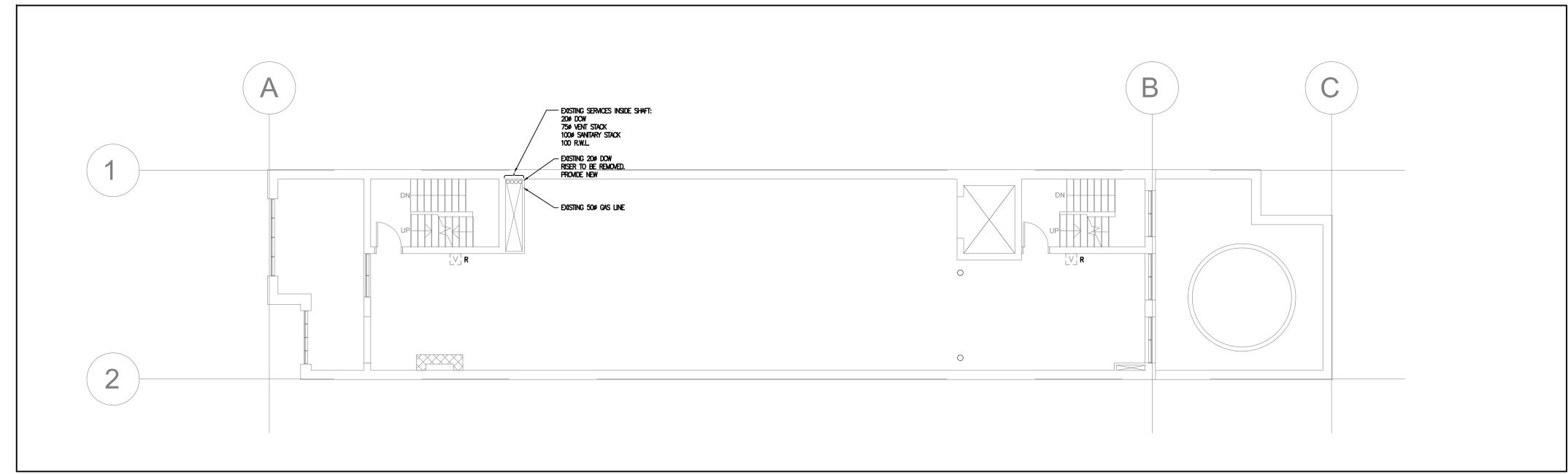
#### Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

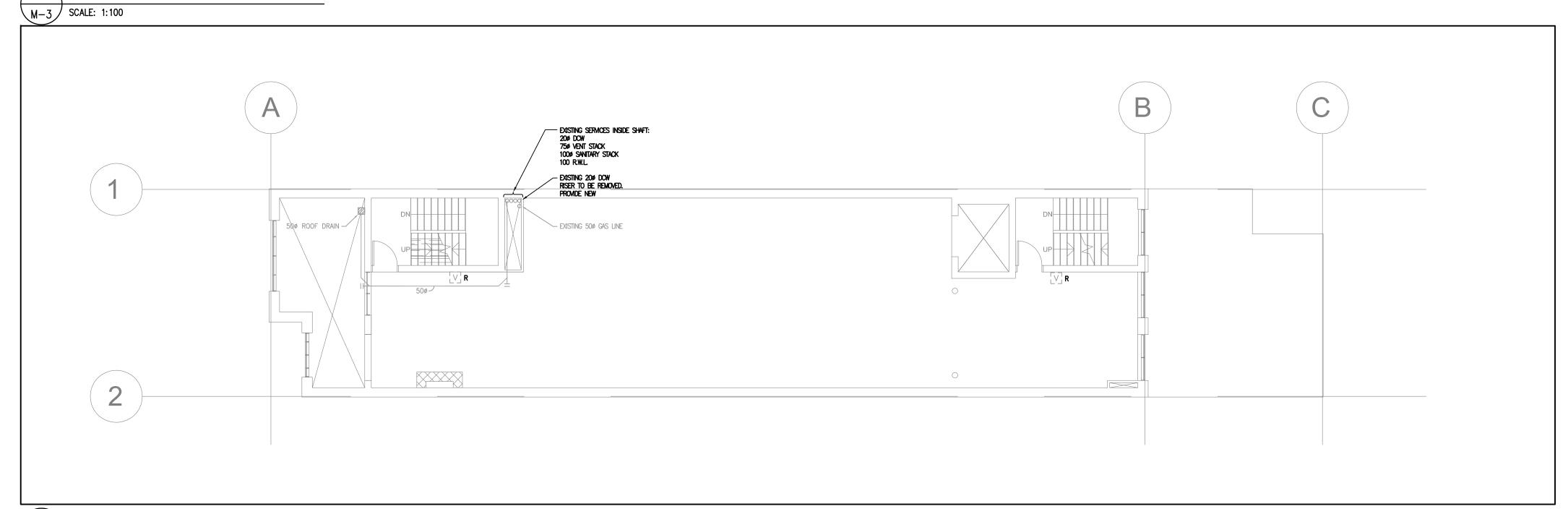
PROJECT CODE:	SCALE:
18_22	As indicate
DATE:	STATUS:
04 Sept 2018	Issued for Construction

Basement 1 & 2 and Level 1 Plumbing Demolition

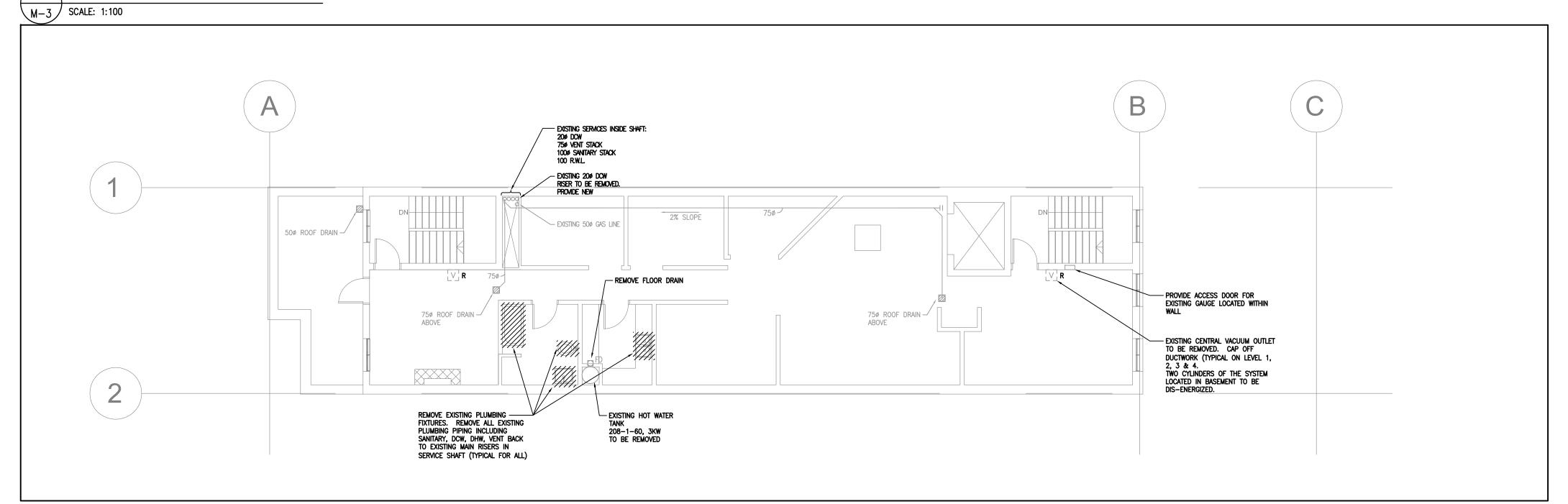




\ LEVEL 2 - PLUMBING DEMOLITION



2 LEVEL 3 - PLUMBING DEMOLITION



\ LEVEL 4 - PLUMBING DEMOLITION

M-3 SCALE: 1:100

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#### Davenport Shelter

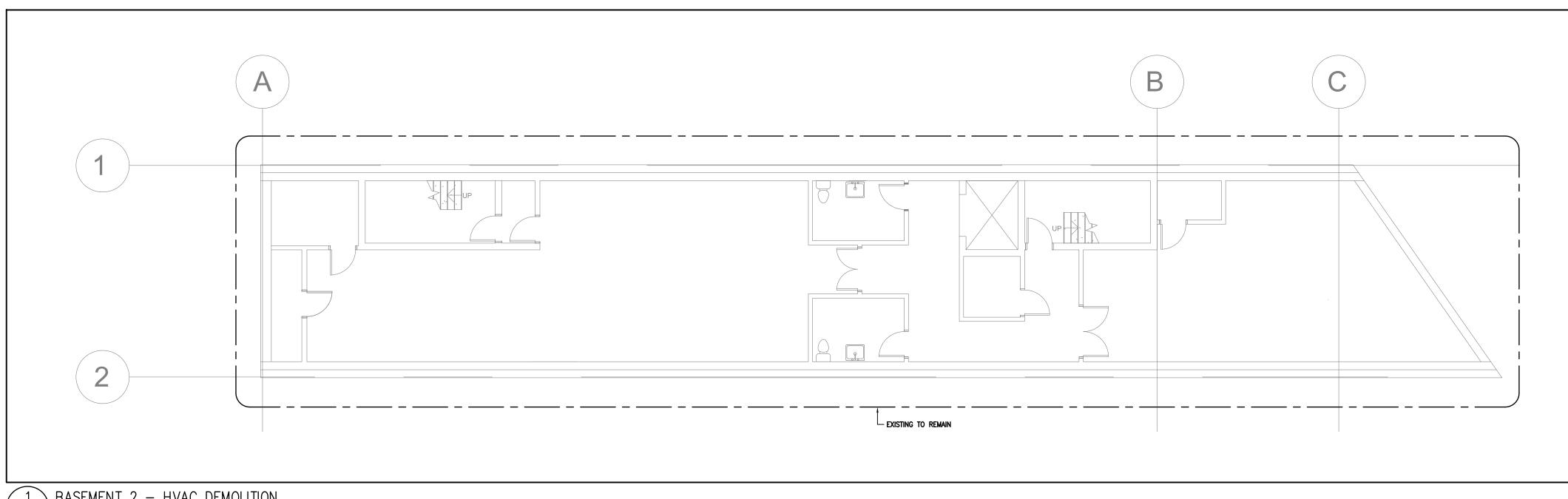
348 Davenport Road Toronto, ON M5R 1K6

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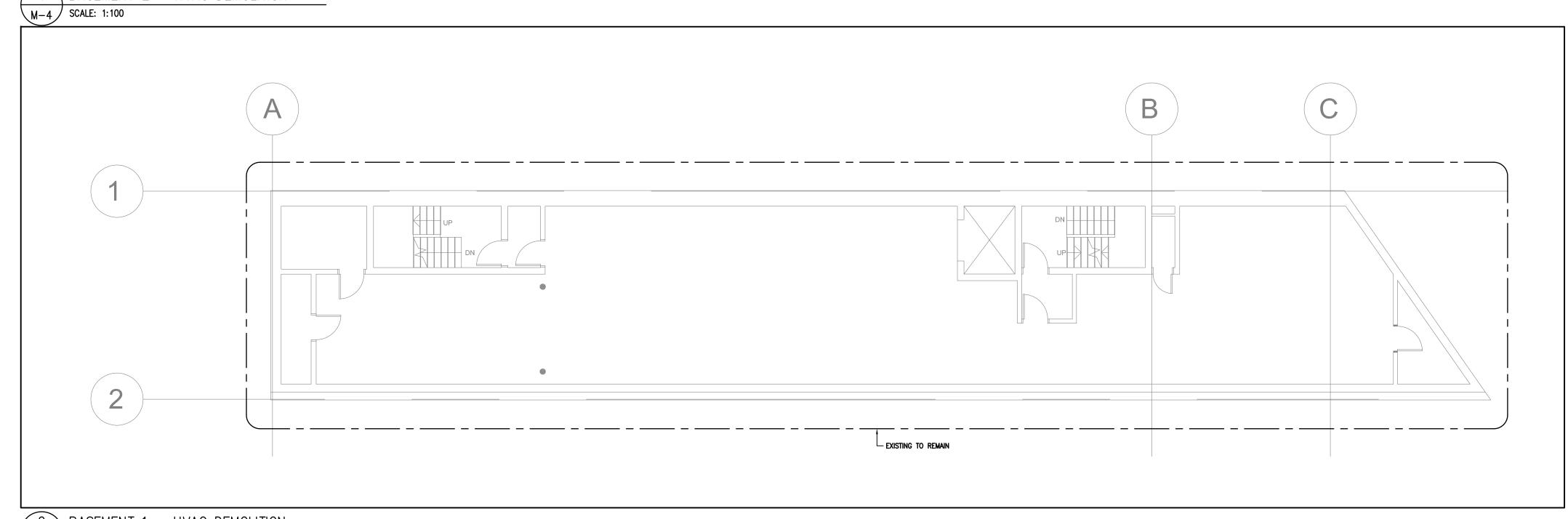
Level 2, 3 & 4 Plumbing Demolition



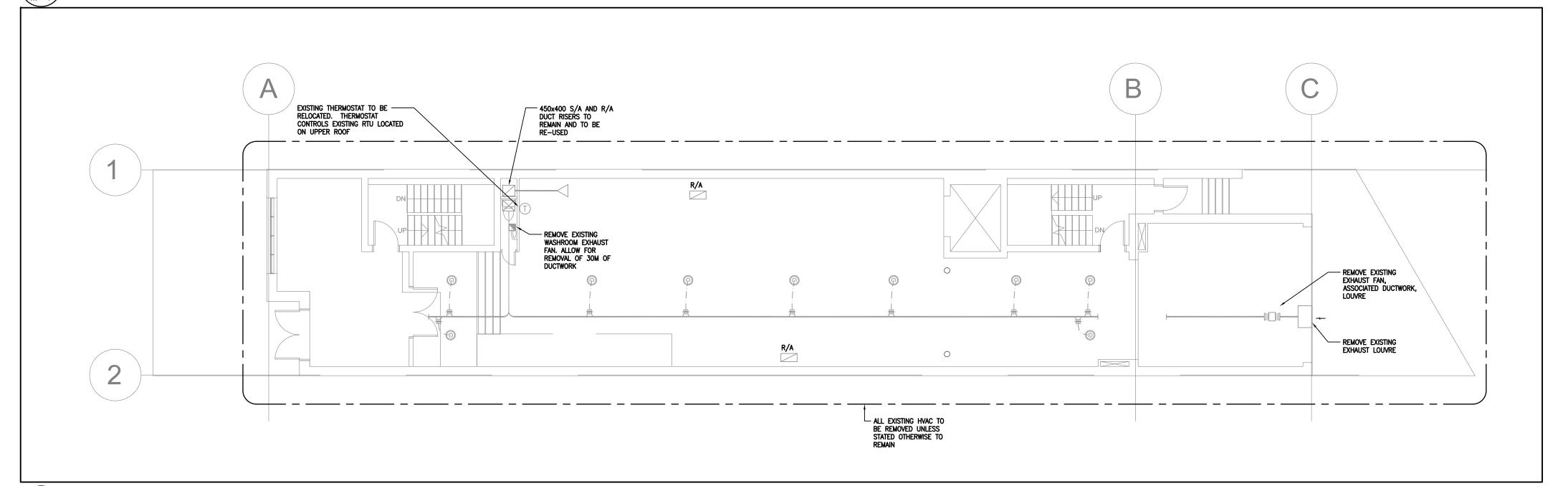




➤ BASEMENT 2 — HVAC DEMOLITION



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



LEVEL 1 - HVAC DEMOLITION

M-4 SCALE: 1:100

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#### Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

**DEMOLITION NOTES:** 

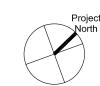
REMOVE ALL EXISTING DUCTWORK, FITTINGS, DIFFUSERS AND GRILLES UP TO MAINS BELOW ROOF FROM RTU.

2. EXISTING DUCTWORK LAYOUT IS SHOWN FOR REFERENCE ONLY. VERIFY ON SITE AS REQUIRED.

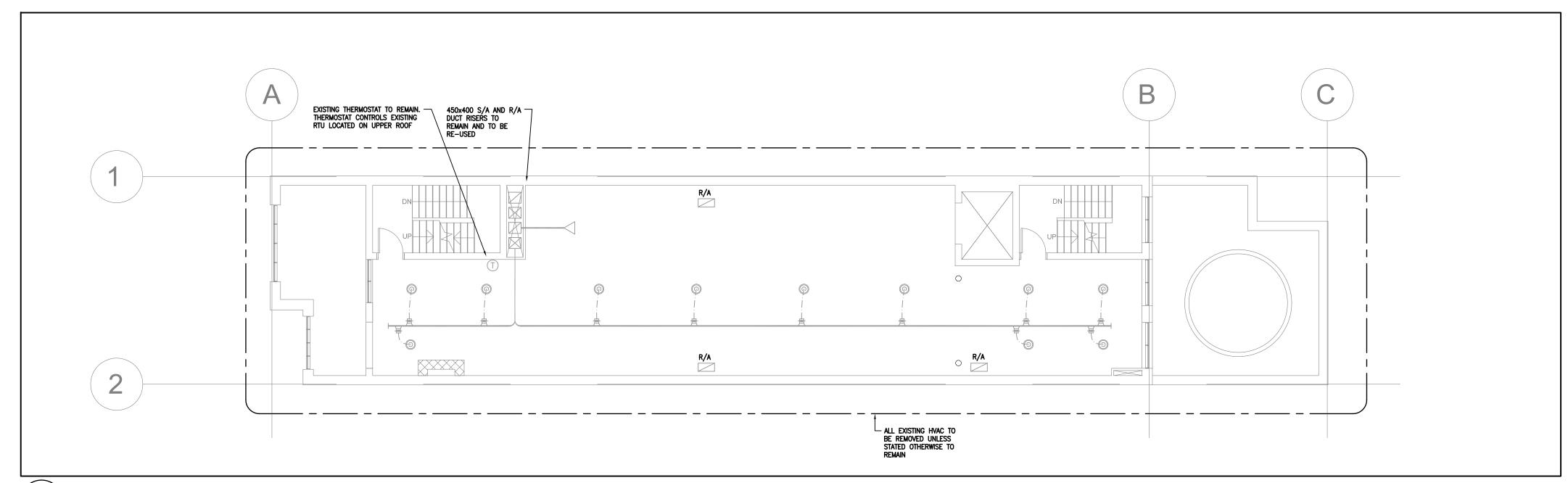
IN ADDITION TO SHOWN, ALLOW IN CONTRACT FOR REPLACEMENT OF 5 EXISTING FIRE DAMPERS WITH NEW ONES. (400x300 DUCT SIZE)

PROJECT CODE:	SCALE:
18_22	As indicat
DATE:	STATUS:
04 Sept 2018	Issued for Constructi
•	

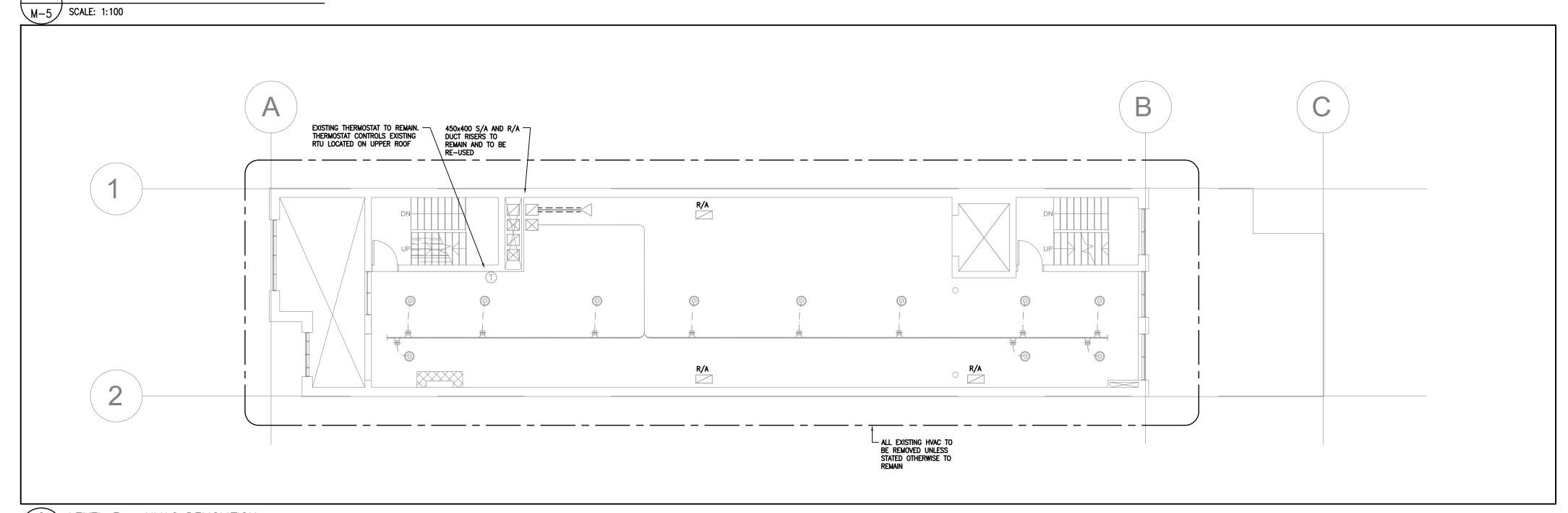
Basement 1 & 2 and Level 1 **HVAC Demolition** 



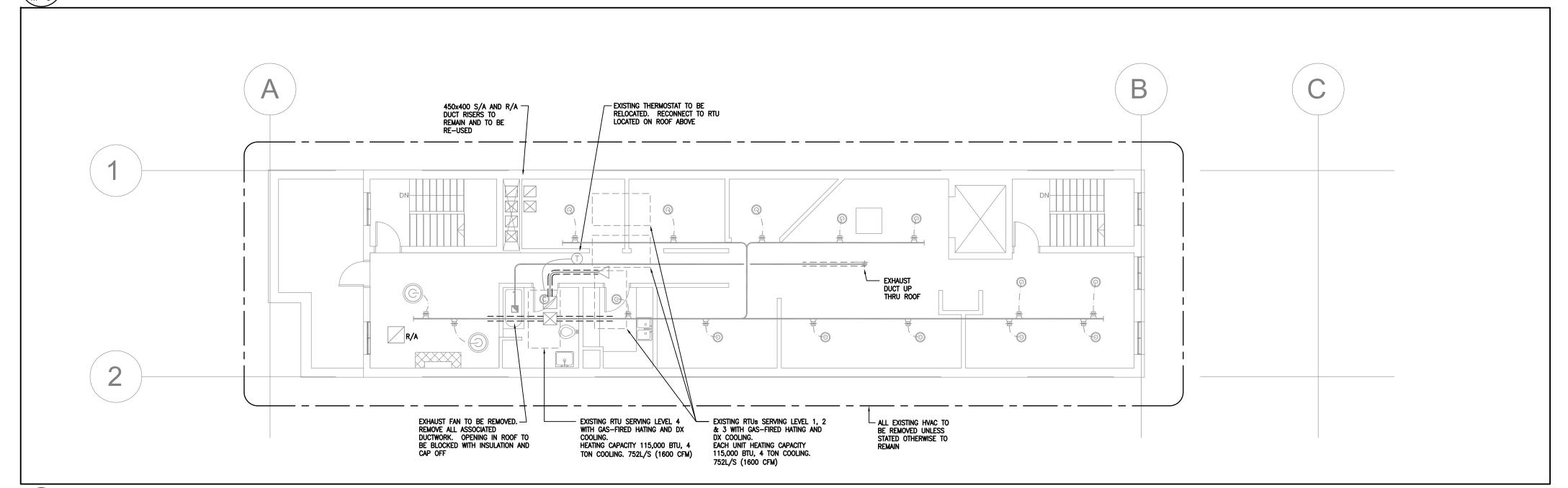




\ LEVEL 2 - HVAC DEMOLITION



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



\ LEVEL 4 - HVAC DEMOLITION

M-5 SCALE: 1:100

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SHARMA & PARTNERS INC. Mechanical and Electrical Engineers 85 Curlew Drive, Unit 108 M3A 2P8 Tel.: (416) 291-8822 SPI PROJECT #: 2018-1039

## WORKSHOP architecture 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 M5R 1K6

**DEMOLITION NOTES:** 

REMOVE ALL EXISTING DUCTWORK, FITTINGS, DIFFUSERS AND GRILLES UP TO MAINS BELOW ROOF FROM RTU.

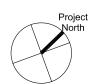
2. EXISTING DUCTWORK LAYOUT IS SHOWN FOR REFERENCE ONLY. VERIFY ON SITE AS REQUIRED.

3. IN ADDITION TO SHOWN, ALLOW IN CONTRACT FOR REPLACEMENT OF 5 EXISTING FIRE DAMPERS

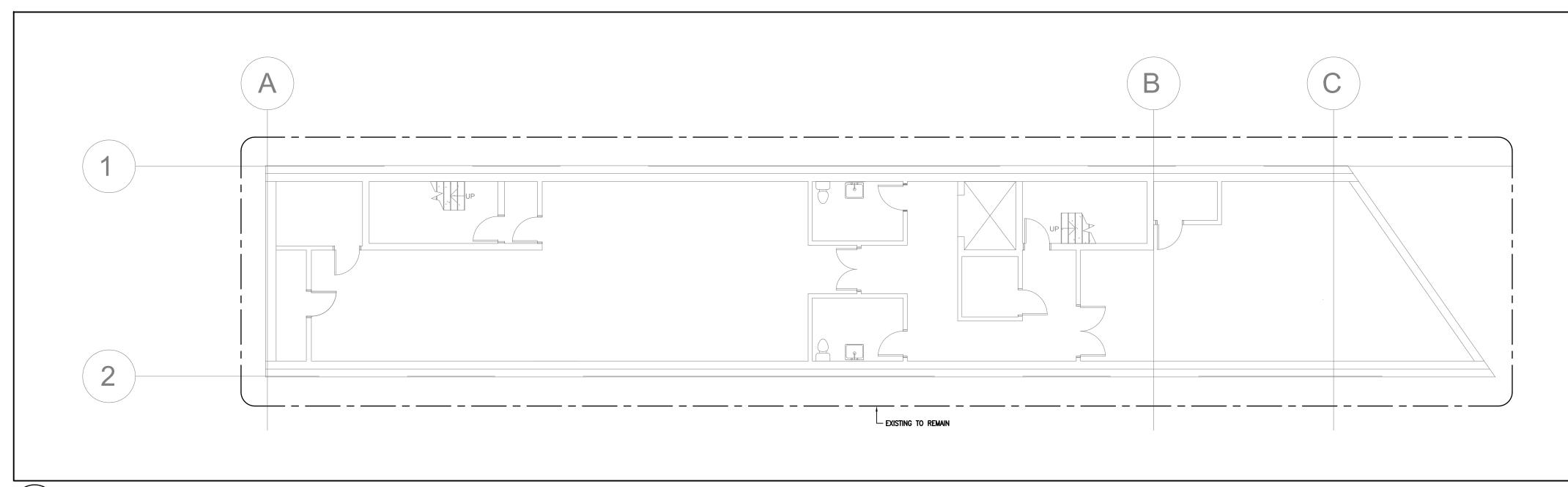
WITH NEW ONES. (400x300 DUCT SIZE)

PROJECT CODE:	SCALE:
18_22	As indicat
DATE:	STATUS:
04 Sept 2018	Issued for Constructi

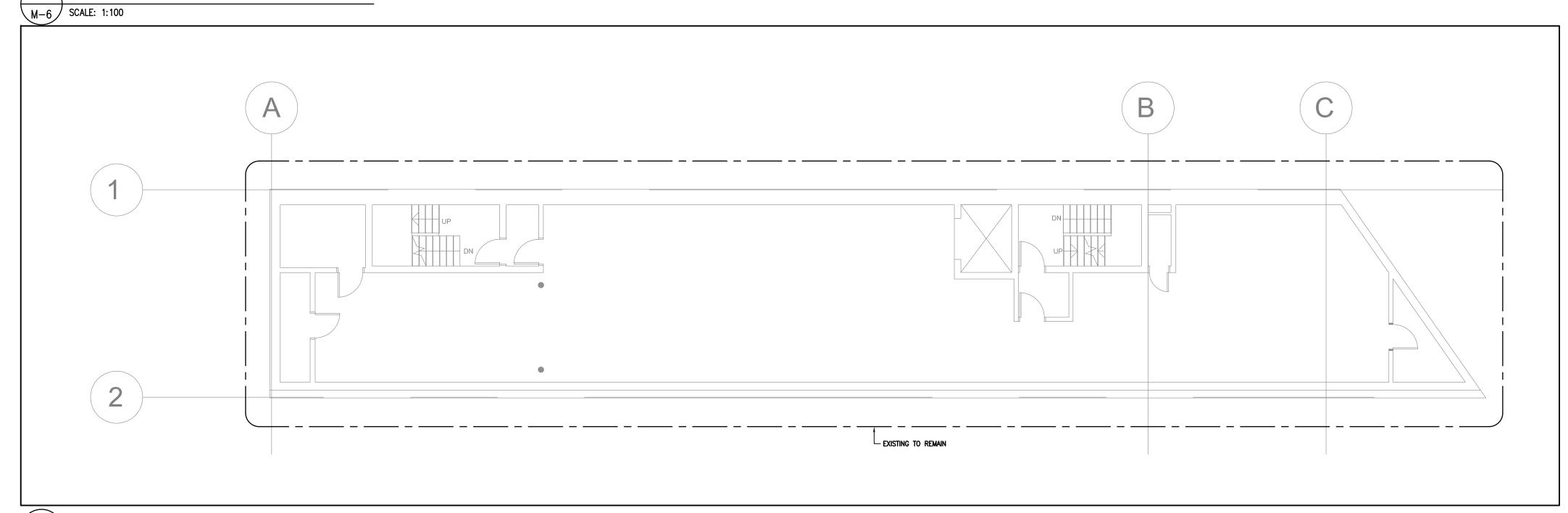
Level 2, 3 & 4 **HVAC Demolition** 



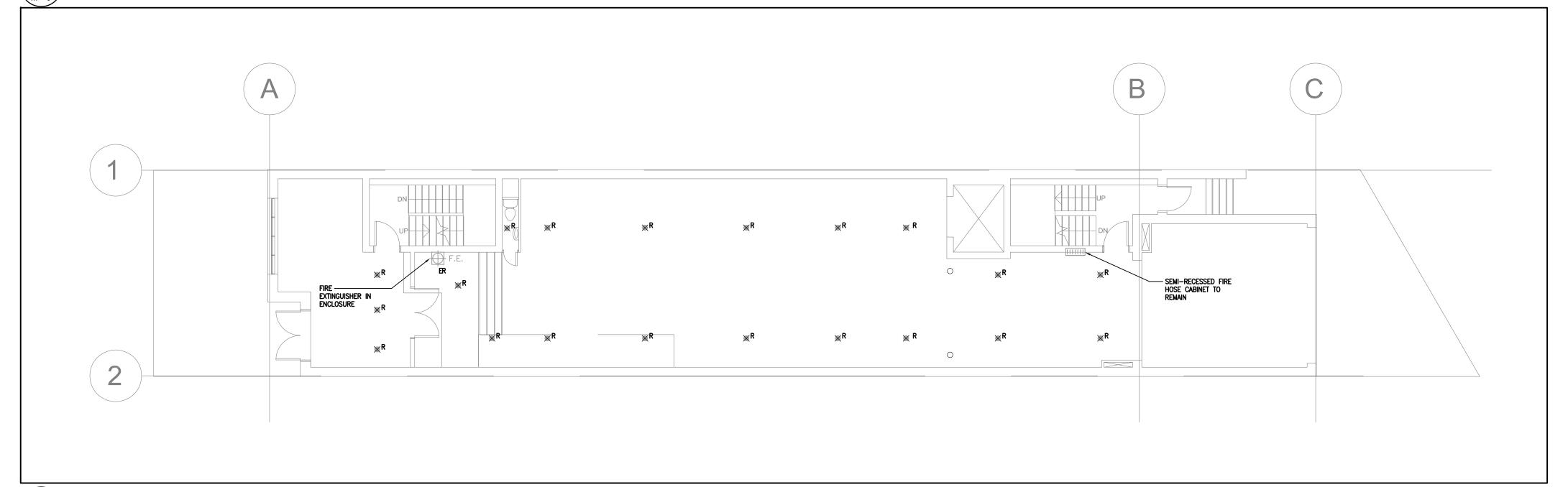




BASEMENT 2 - FIRE PROTECTION DEMOLITION



 → BASEMENT 1 — FIRE PROTECTION DEMOLITION M-6 SCALE: 1:100



\ LEVEL 1 - FIRE PROTECTION DEMOLITION

M-6 SCALE: 1:100

**DEMOLITION NOTES:** 

1. REMOVE SPRINKLER HEADS IN RENOVATED AREAS WHERE SHOWN AND WHERE CEILING IS TO BE REPLACED.

2. 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

3. IN ADDITION TO PIPE REVISIONS ASSOCIATED WITH NEW SPRINKLER HEADS LAYOUT AND NEW CEILING HEIGHTS, ALLOW IN CONTRACT FOR REPLACEMENT OF 50 FT OF 500 & 50 FT OF 380 SPRINKLER LINE (FOR UNFORESEEN SITE CONDITIONS AND SERVICES INTERFERENCE.

4. FOR EXISTING AND NEW CEILING HEIGHTS - REFER TO ARCHITECTURAL DRAWINGS. REVISE SPRINKLER PIPING TO SUIT NEW CEILING HEIGHTS.

<u>LEGEND:</u>

EX DENOTES EXISTING TO REMAIN ER EXISTING TO BE RELOCATED (PROVIDE NEW

SPRINKLER HEAD IN NEW LOCATION)
EXISTING TO BE REMOVED

RP RELOCATED POSITION

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16 July '18 16 July '18

04 Sept '18

1 Final Review 2 Issued for Permit & Tender 3 Issued for Construction

SHARMA & PARTNERS INC. Mechanical and Electrical Engineers 85 Curlew Drive, Unit 108 M3A 2P8 Tel.: (416) 291-8822

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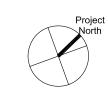
SPI PROJECT #: 2018-1039

Davenport Shelter

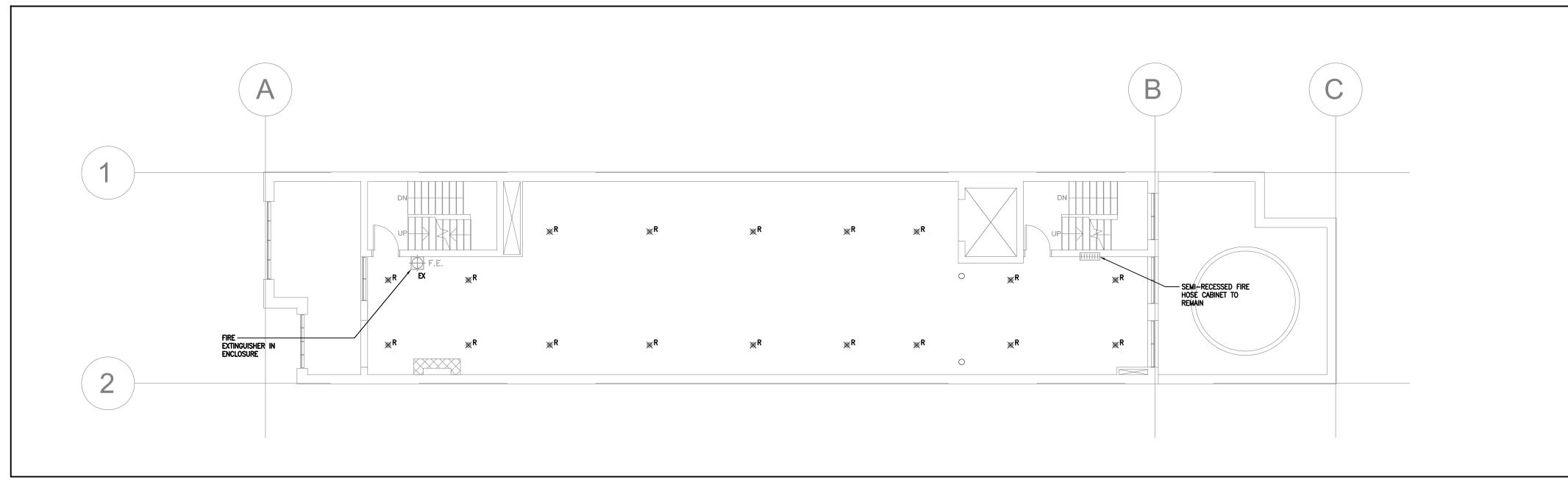
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04 Sept 2018	Issued for Construct
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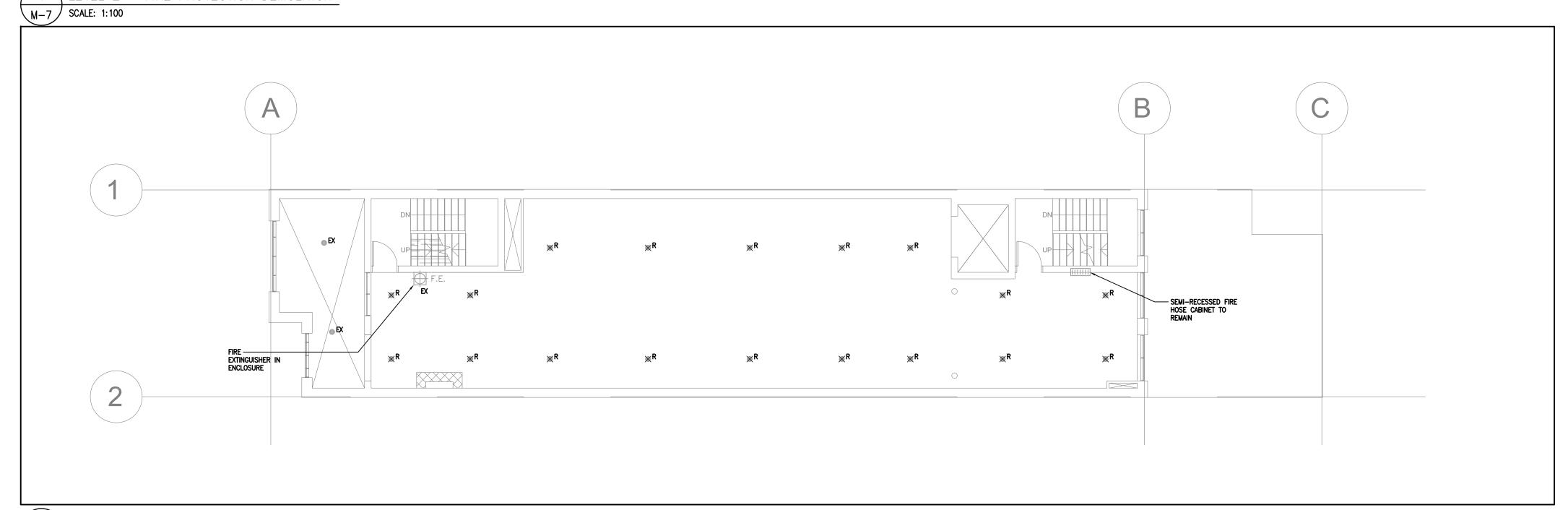
Basement 1 & 2 and Level 1 Fire Protection Demolition



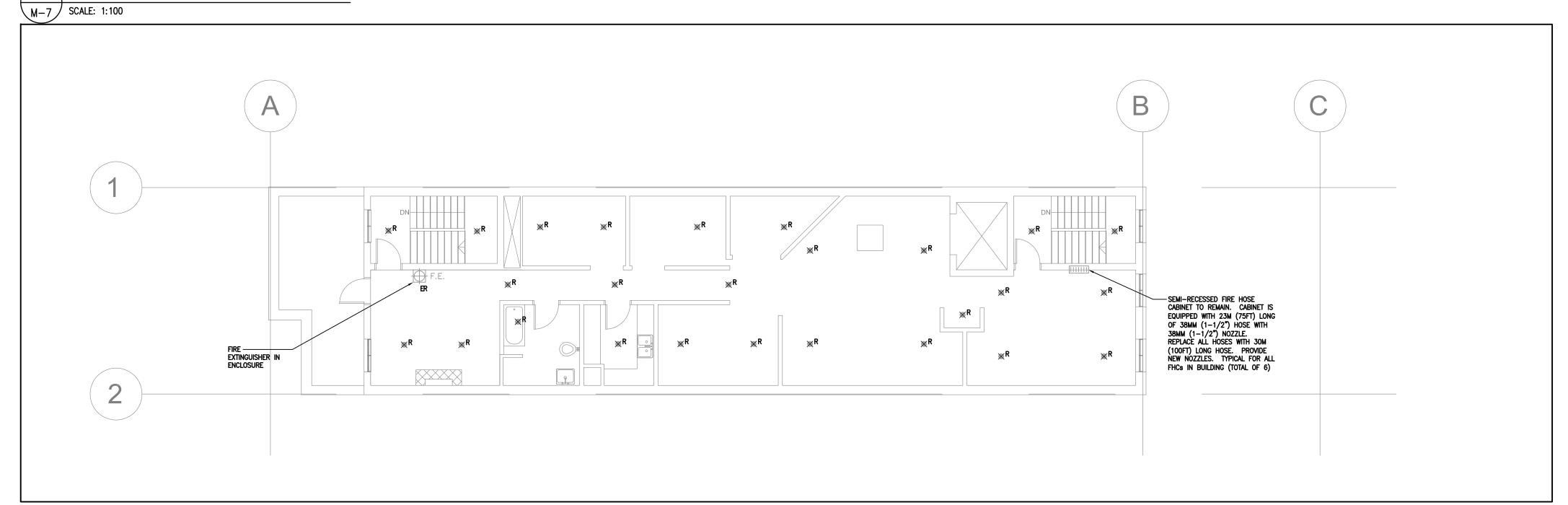




LEVEL 2 - FIRE PROTECTION DEMOLITION



2 LEVEL 3 - FIRE PROTECTION DEMOLITION



\ LEVEL 4 - FIRE PROTECTION DEMOLITION

M-7 SCALE: 1:100

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**DEMOLITION NOTES:** 

REMOVE SPRINKLER HEADS IN RENOVATED AREAS WHERE SHOWN AND WHERE CEILING IS TO BE REPLACED.

2. 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

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4. FOR EXISTING AND NEW CEILING HEIGHTS - REFER TO ARCHITECTURAL DRAWINGS. REVISE SPRINKLER PIPING TO SUIT NEW CEILING HEIGHTS.

<u>LEGEND:</u>

EX DENOTES EXISTING TO REMAIN ER EXISTING TO BE RELOCATED (PROVIDE NEW

SPRINKLER HEAD IN NEW LOCATION)
EXISTING TO BE REMOVED

RP RELOCATED POSITION

SPI PROJECT #: 2018-1039

Mechanical and Electrical

WORKSHOP architecture

WORKSHOP architecture inc

1157 Davenport Road

Toronto Ontario M6H 2G4

T 416.901.8055 F 416.849.0383

www.workshoparchitecture ca

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SHARMA & PARTNERS INC.

Engineers

M3A 2P8

85 Curlew Drive, Unit 108

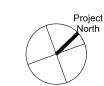
Tel.:(416) 291-8822

Davenport Shelter

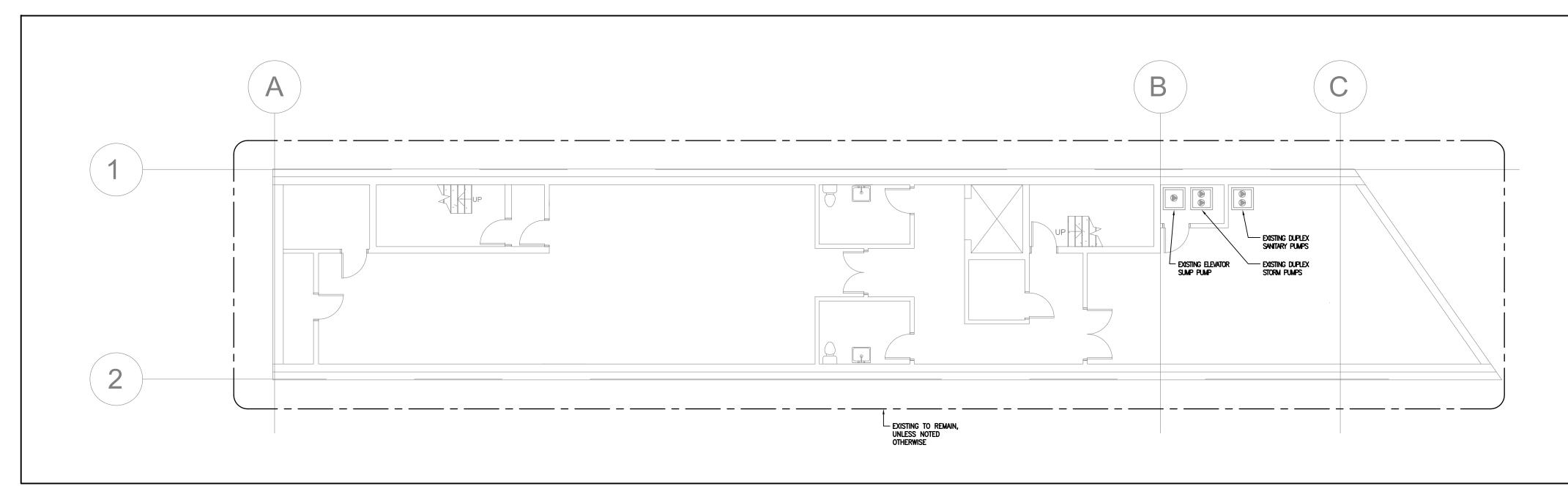
348 Davenport Road Toronto, ON M5R 1K6

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

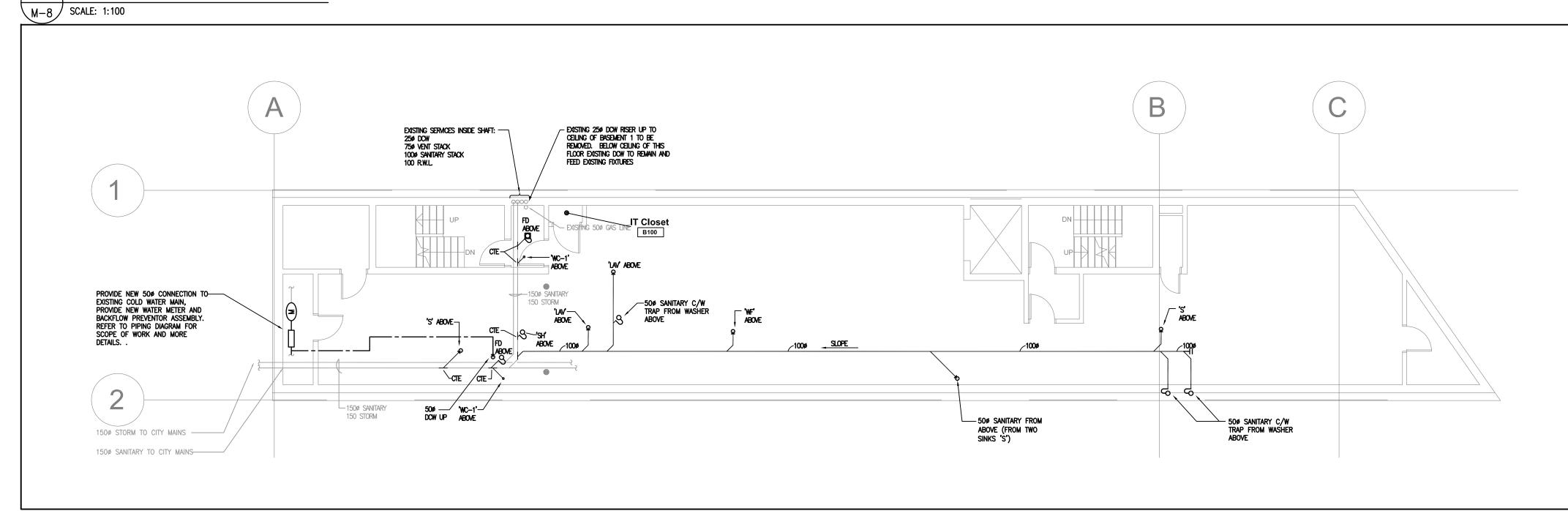
Level 2, 3 & 4 Fire Protection Demolition



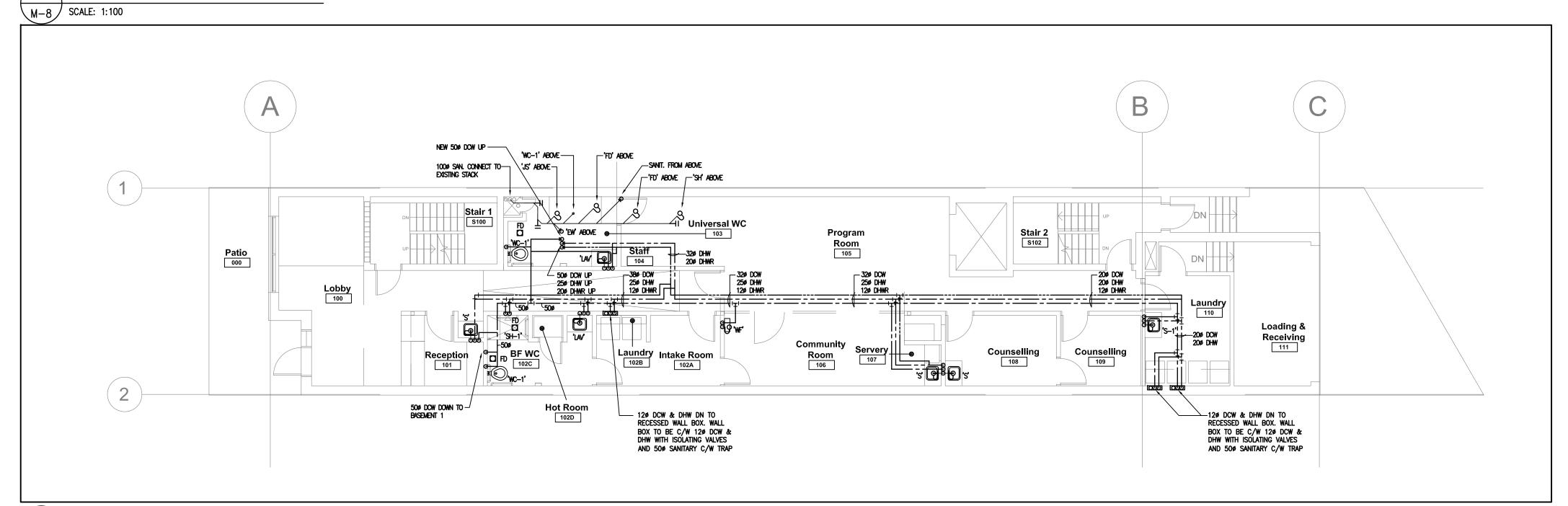




BASEMENT 2 - PLUMBING NEW LAYOUT

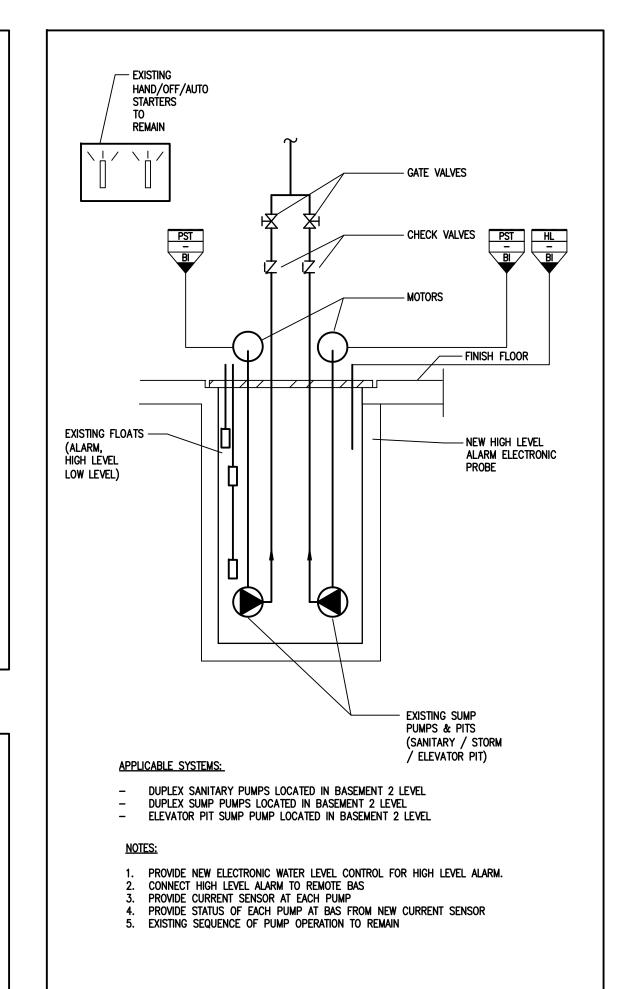


BASEMENT 1 - PLUMBING NEW LAYOUT



\ LEVEL 1 - PLUMBING NEW LAYOUT

M-8 SCALE: 1:100



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

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1 Final Review

2 Issued for Permit & Tender

3 Issued for Addendum MAD-1 4 Issued for Construction

16 July '18

16 July '18 30 July '18

04 Sept '18

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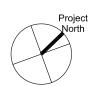
SPI PROJECT #: 2018-103

#### Davenport Shelter

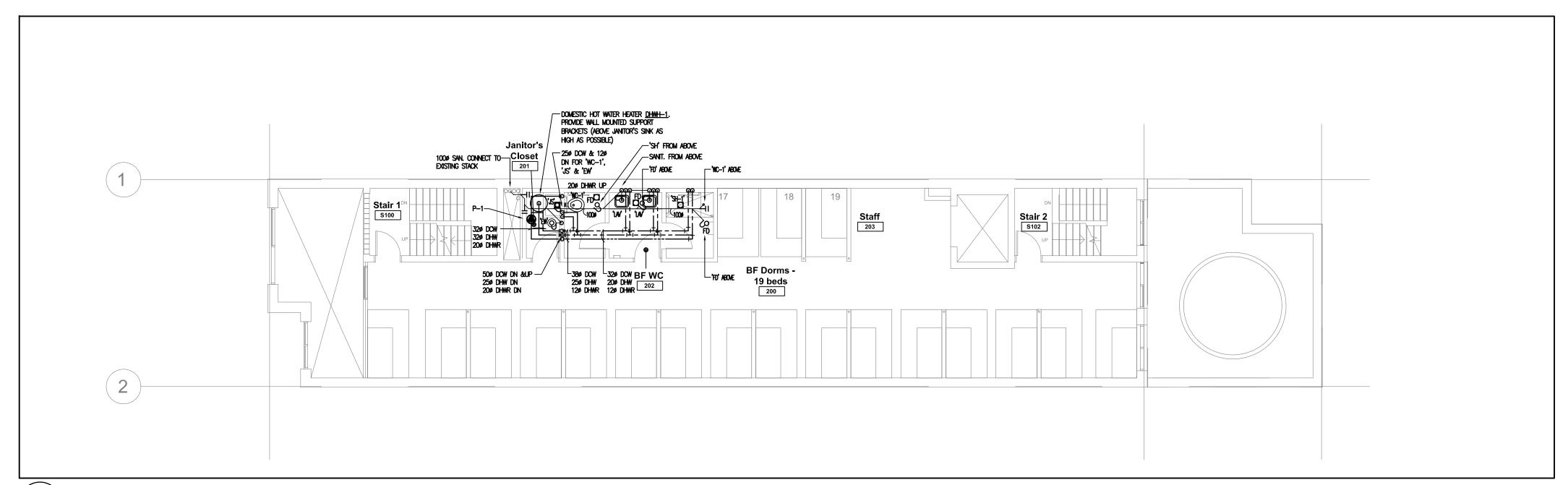
348 Davenport Road Toronto, ON M5R 1K6

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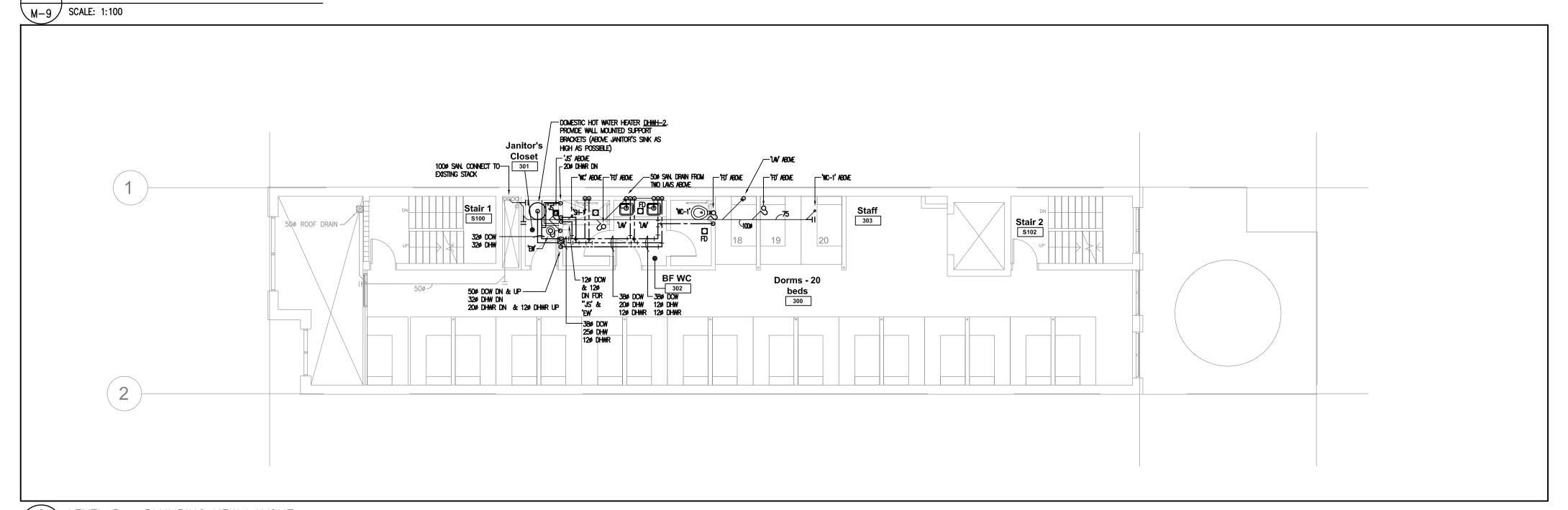
Basement 1 & 2 and Level 1 Plumbing New Layout



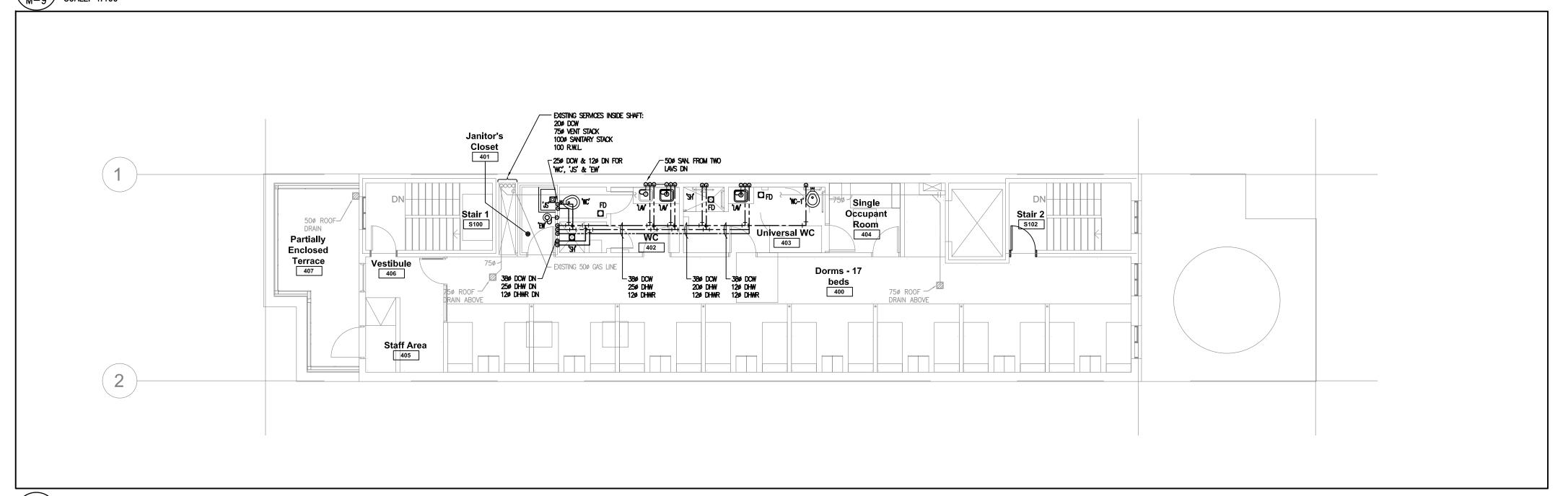




LEVEL 2 - PLUMBING NEW LAYOUT



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



\ LEVEL 4 - PLUMBING NEW LAYOUT

M-9 SCALE: 1:100

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#### Davenport Shelter

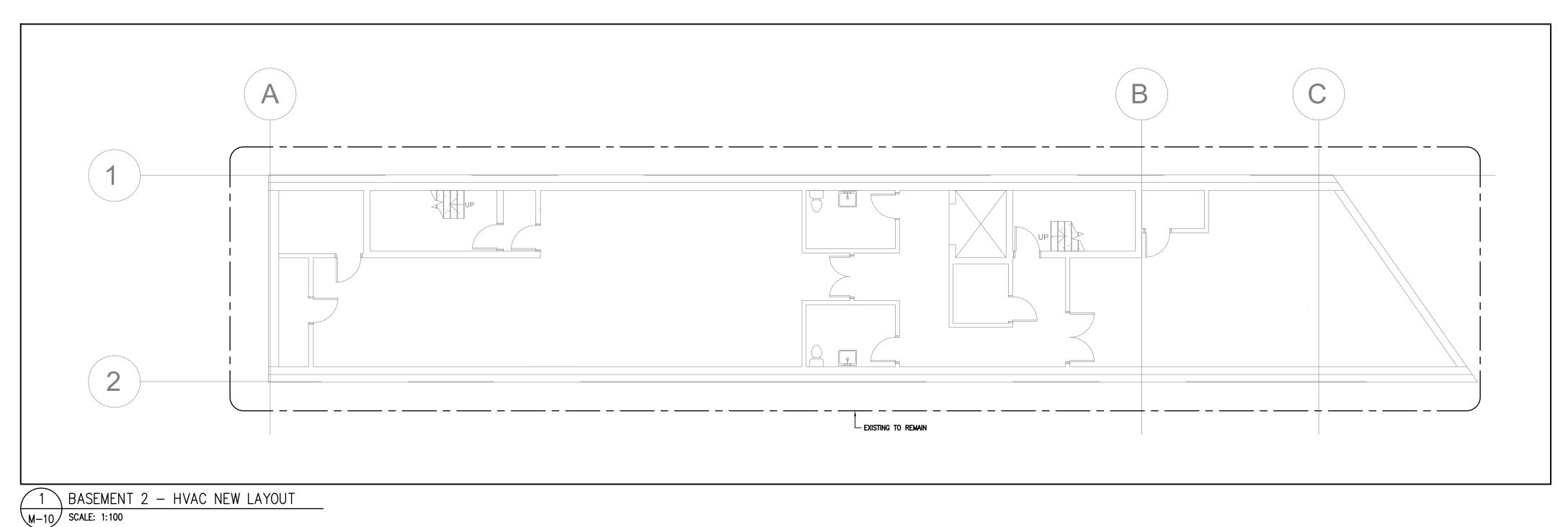
348 Davenport Road Toronto, ON M5R 1K6

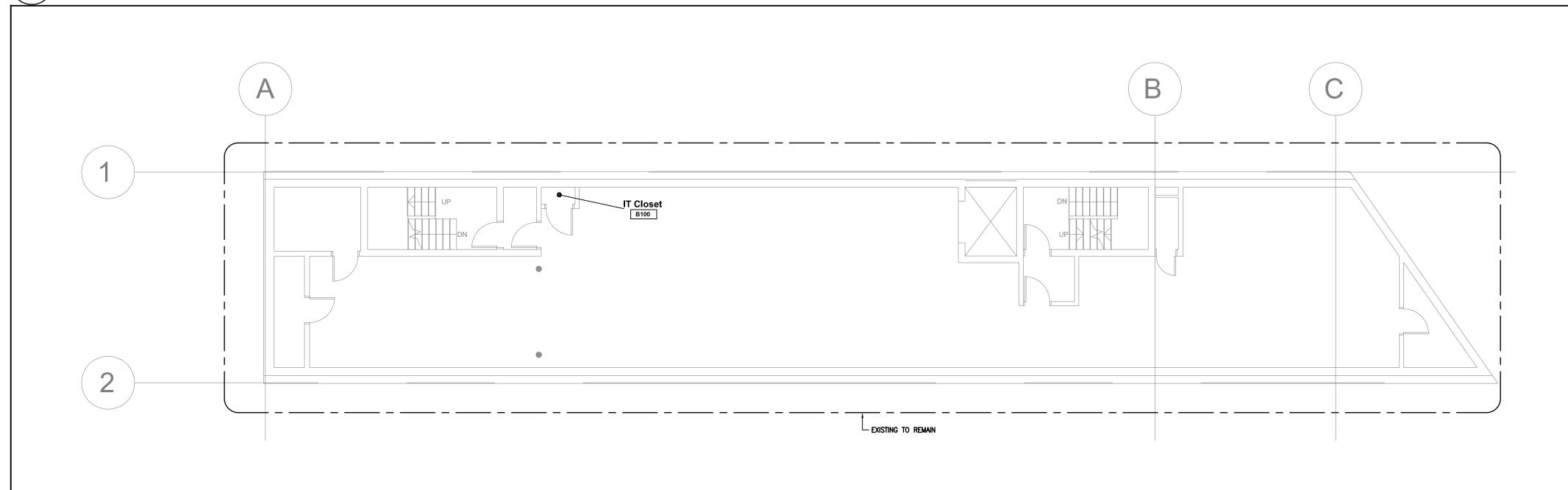
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Level 2, 3 & 4 Plumbing New Layout

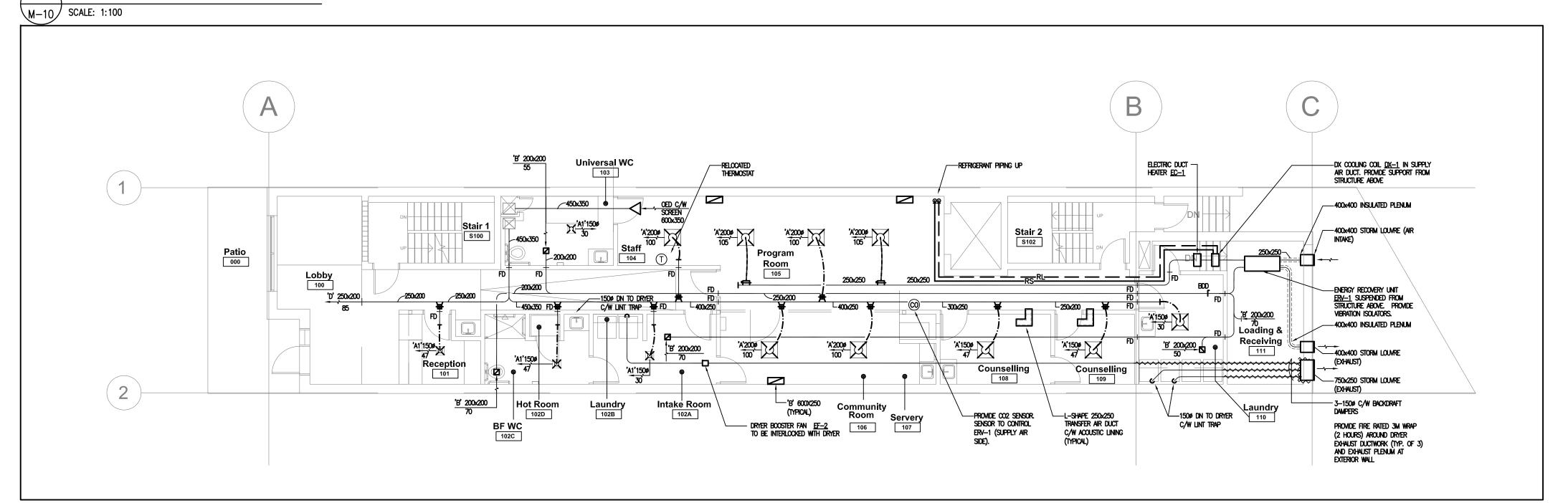








∖ BASEMENT 1 − HVAC NEW LAYOUT



\ LEVEL 1 - HVAC NEW LAYOUT

M-10 SCALE: 1:100

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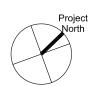
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#### Davenport Shelter

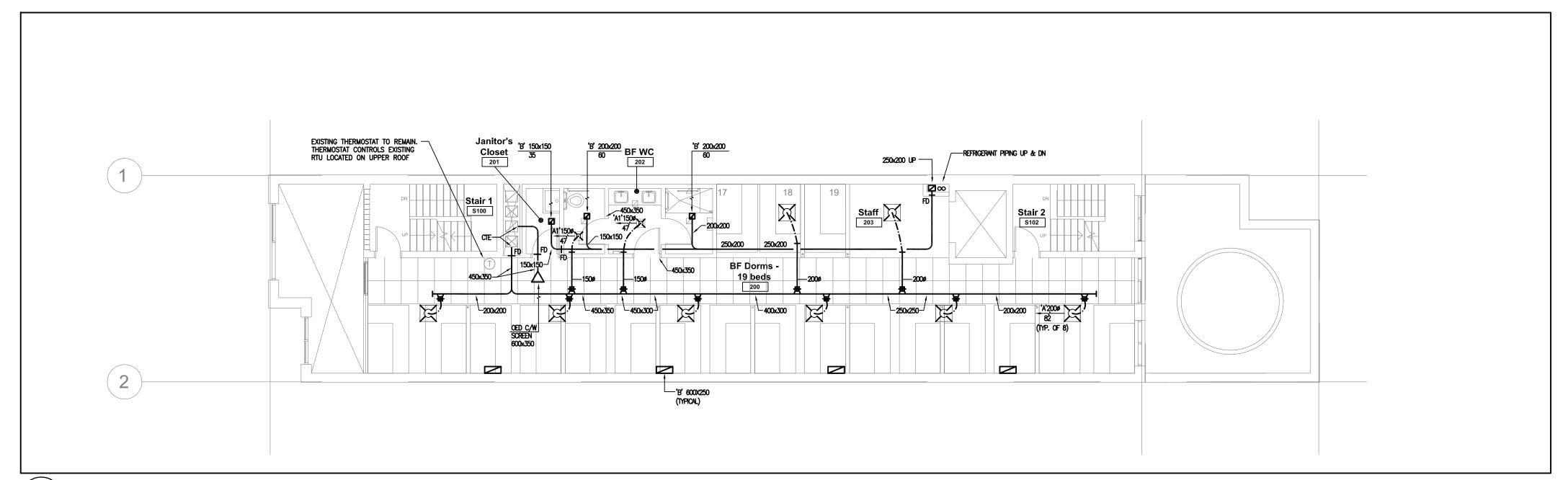
348 Davenport Road Toronto, ON M5R 1K6

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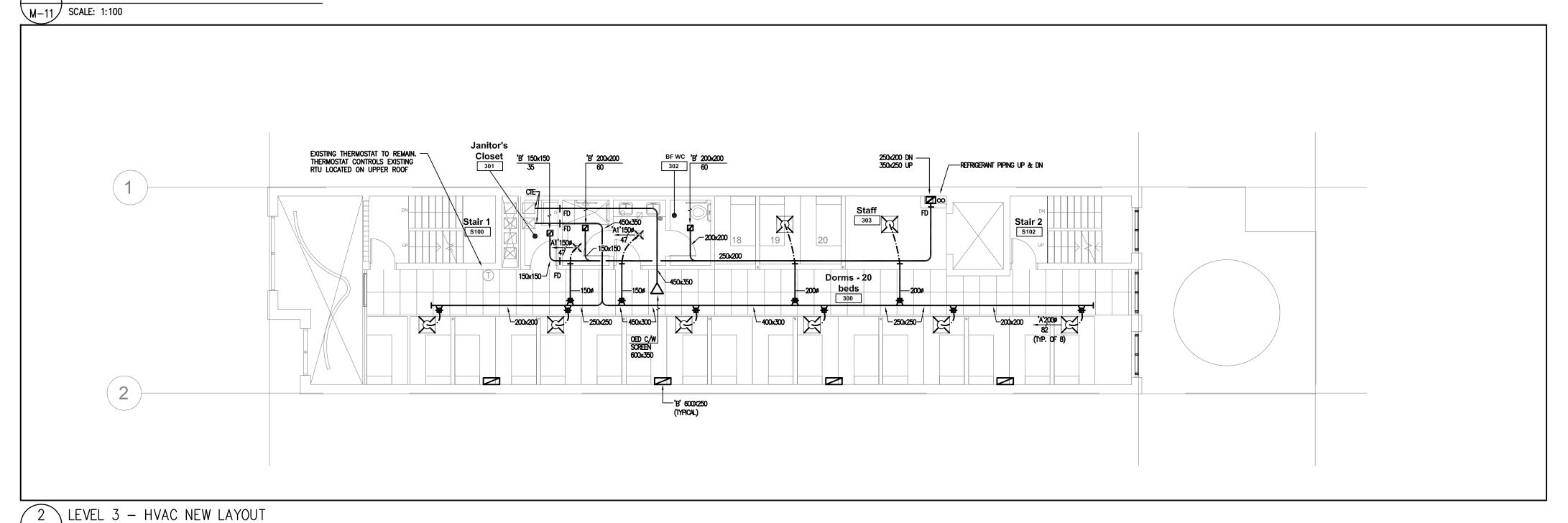
Basement 1 & 2 and Level 1 **HVAC New Layout** 



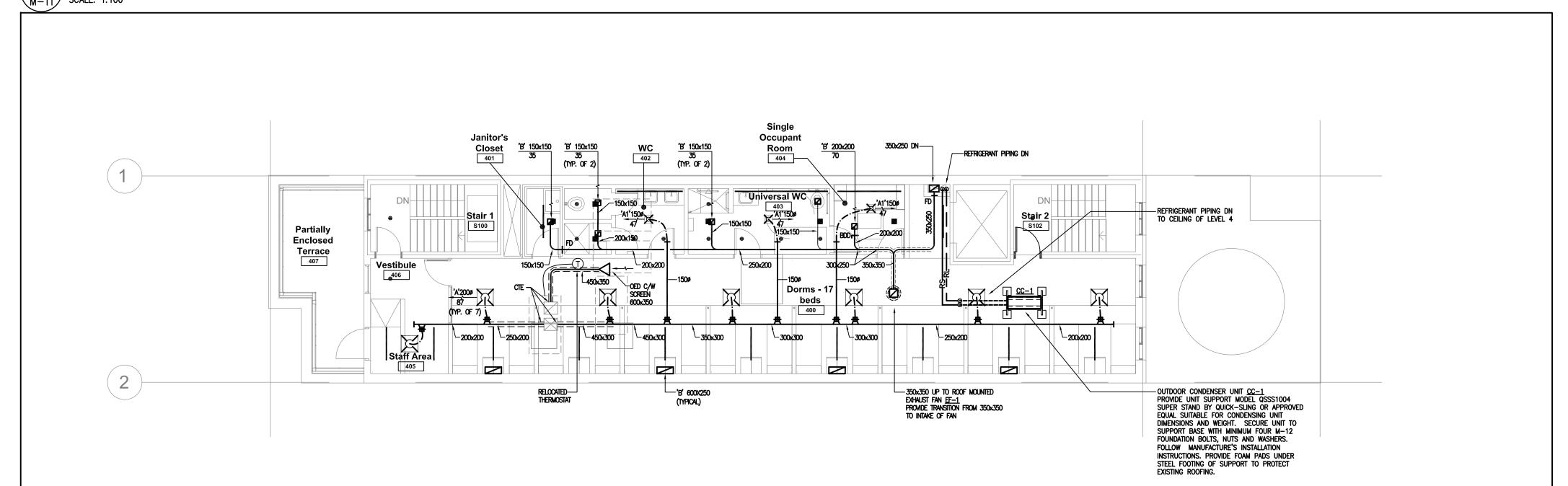




\ LEVEL 2 - HVAC NEW LAYOUT



M-11 SCALE: 1:100



\ LEVEL 4 - HVAC NEW LAYOUT

M-11 SCALE: 1:100

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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 Curlew Drive, Unit 108 Toronto, Ontario M3A 2P8 Tel.: (416) 291-8822 SPI PROJECT #: 2018-1039

## WORKSHOP architecture WORKSHOP architecture inc 1157 Davenport Road Toronto Ontario M6H 2G4 T 416.901.8055 F 416.849.0383

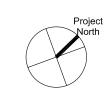
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#### Davenport Shelter

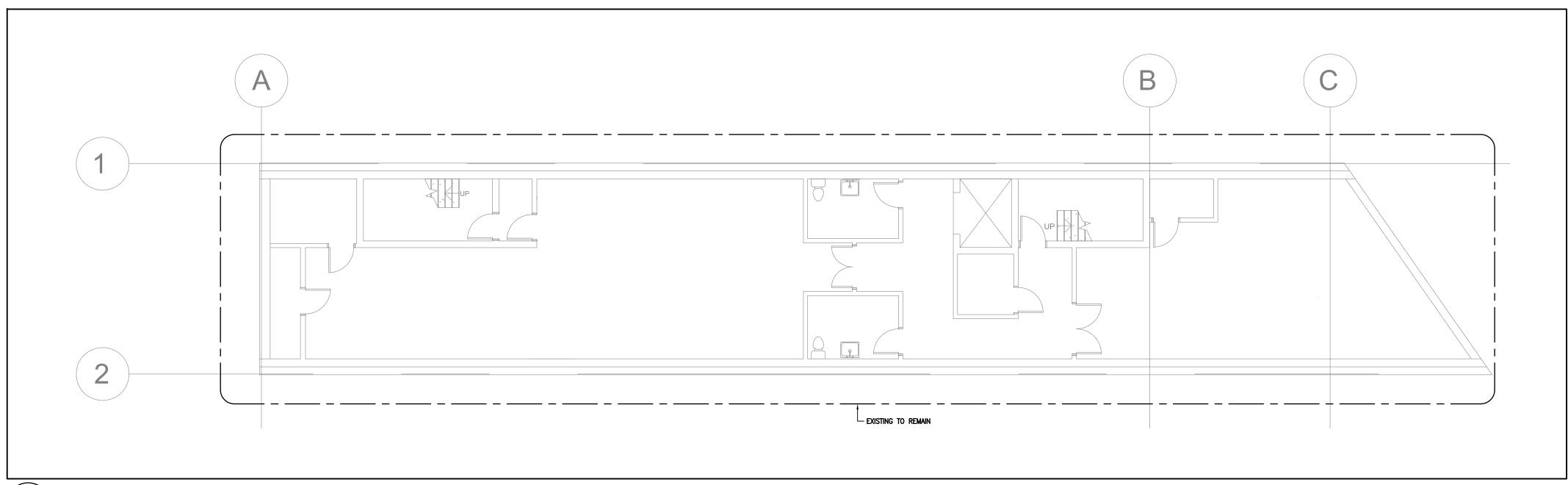
348 Davenport Road Toronto, ON M5R 1K6

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

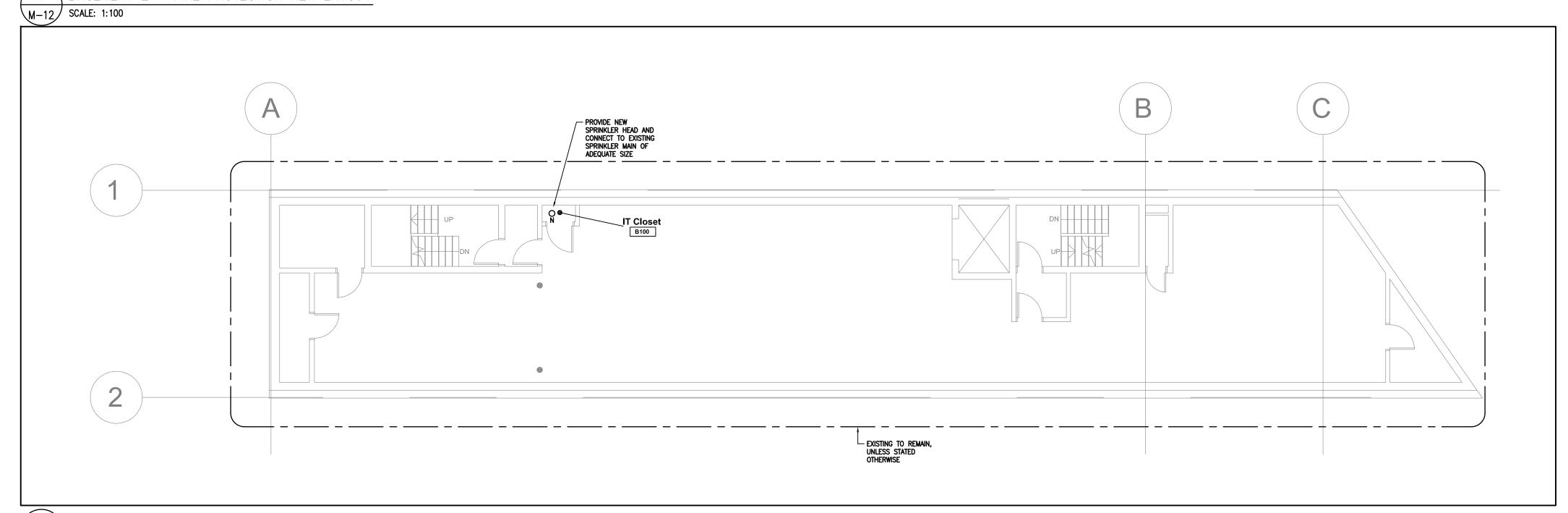
Level 2, 3 & 4 **HVAC New Layout** 



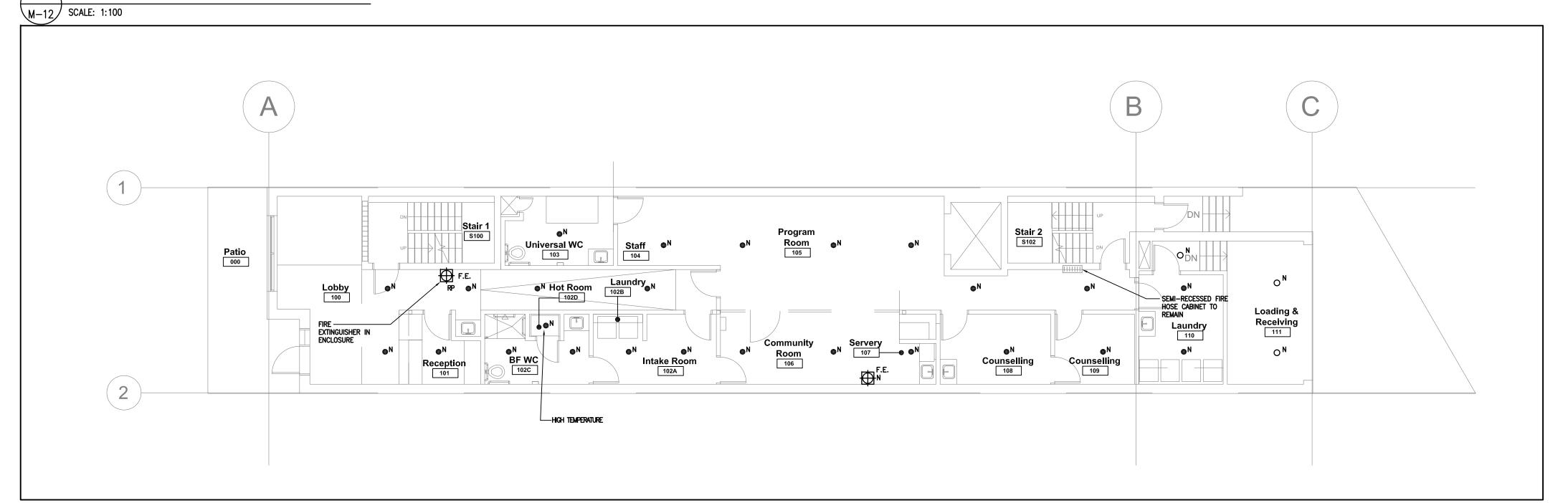




\ BASEMENT 2 - FIRE PROTECTION NEW LAYOUT



\ BASEMENT 1 − FIRE PROTECTION NEW LAYOUT

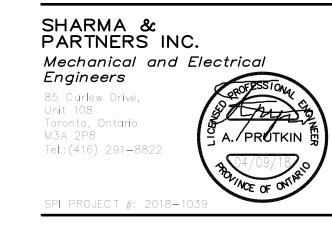


\ LEVEL 1 - FIRE PROTECTION NEW LAYOUT

M-12 SCALE: 1:100

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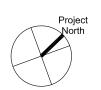
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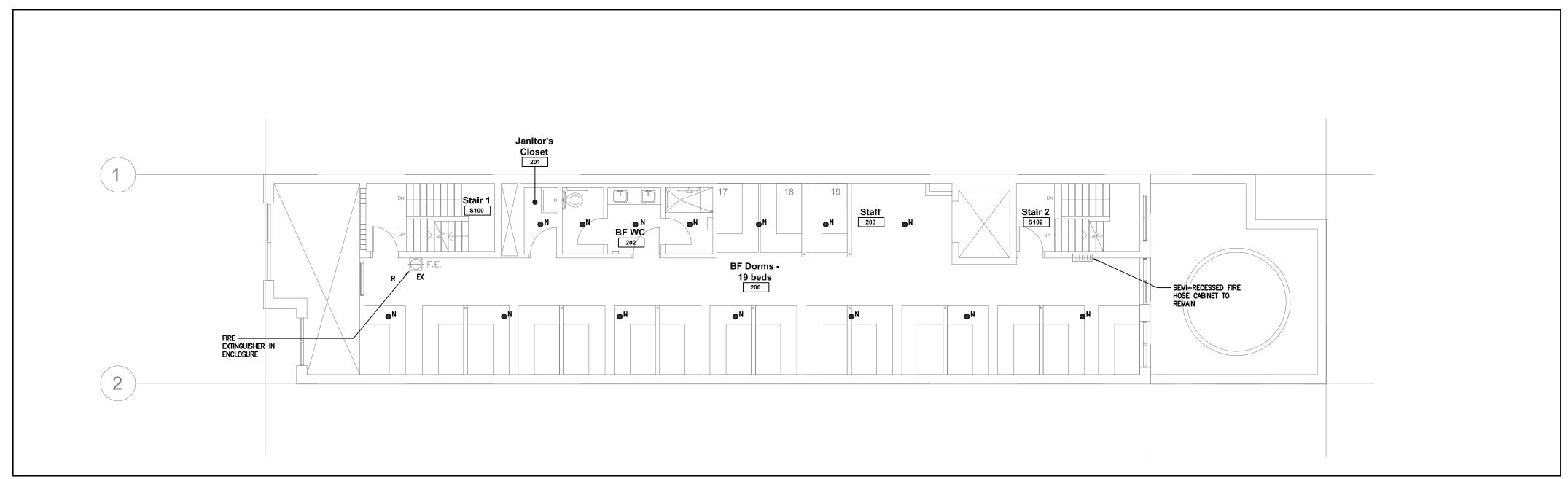
348 Davenport Road Toronto, ON M5R 1K6

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04 Sept 2018	Issued for Construction
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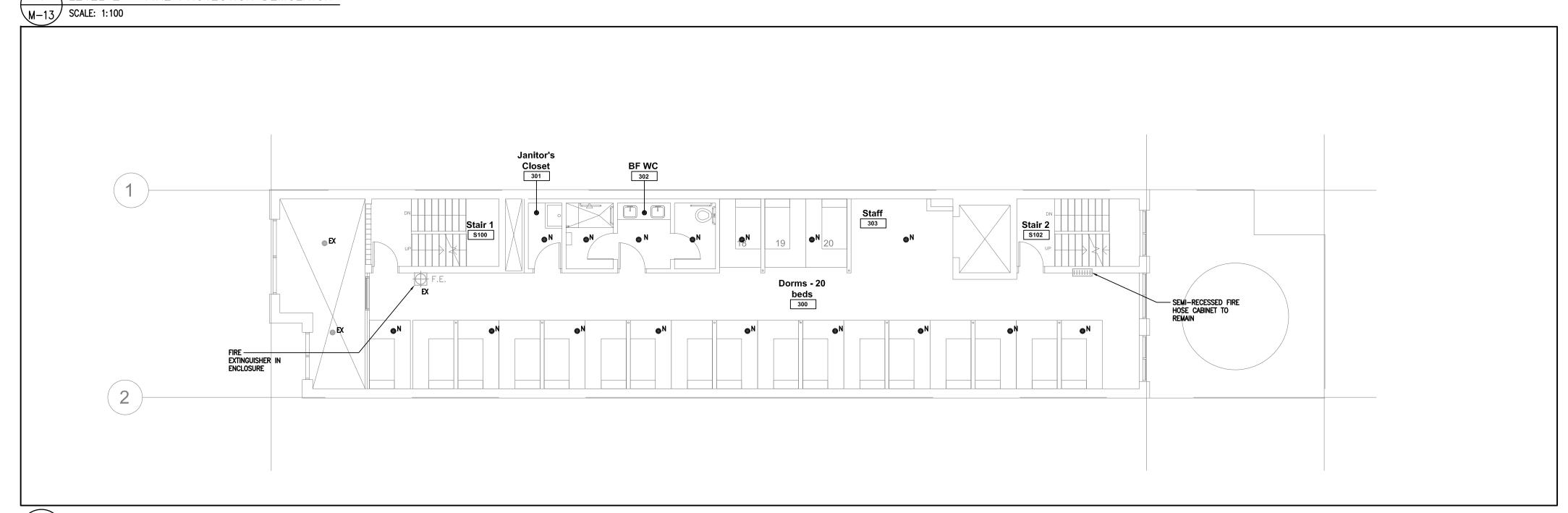
Basement 1 & 2 and Level 1 Fire Protection New Layout



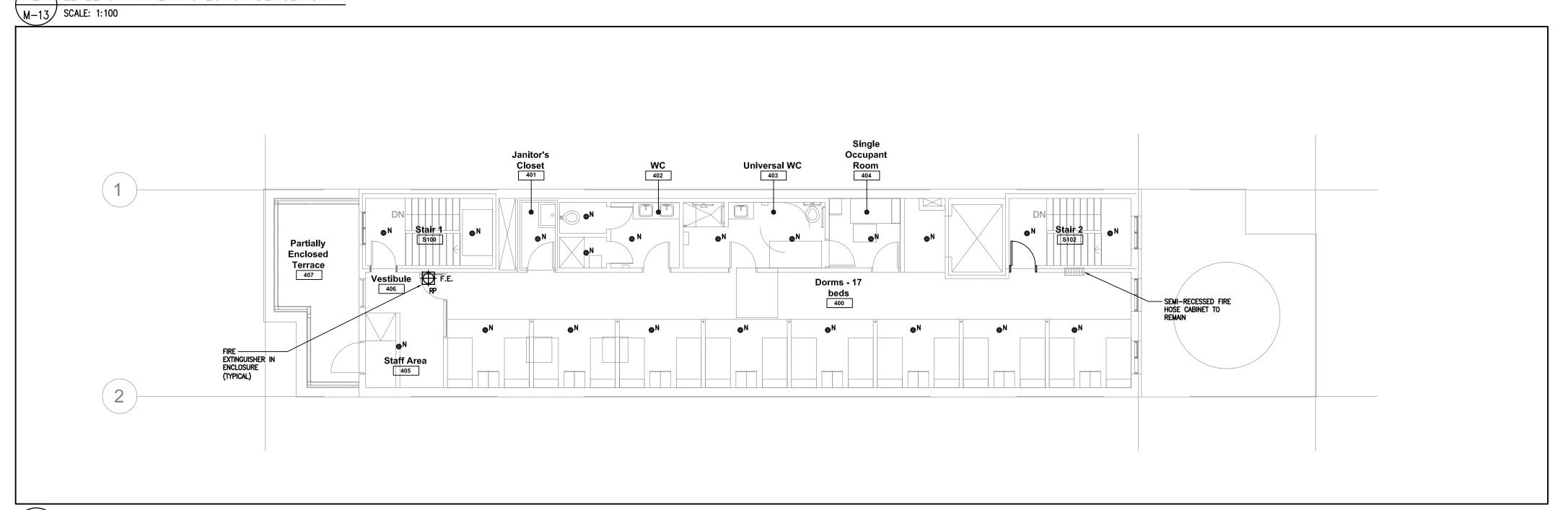




\ LEVEL 2 - FIRE PROTECTION DEMOLITION



2 LEVEL 3 - FIRE PROTECTION DEMOLITION



\ LEVEL 4 - FIRE PROTECTION DEMOLITION

M-13 SCALE: 1:100

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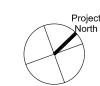
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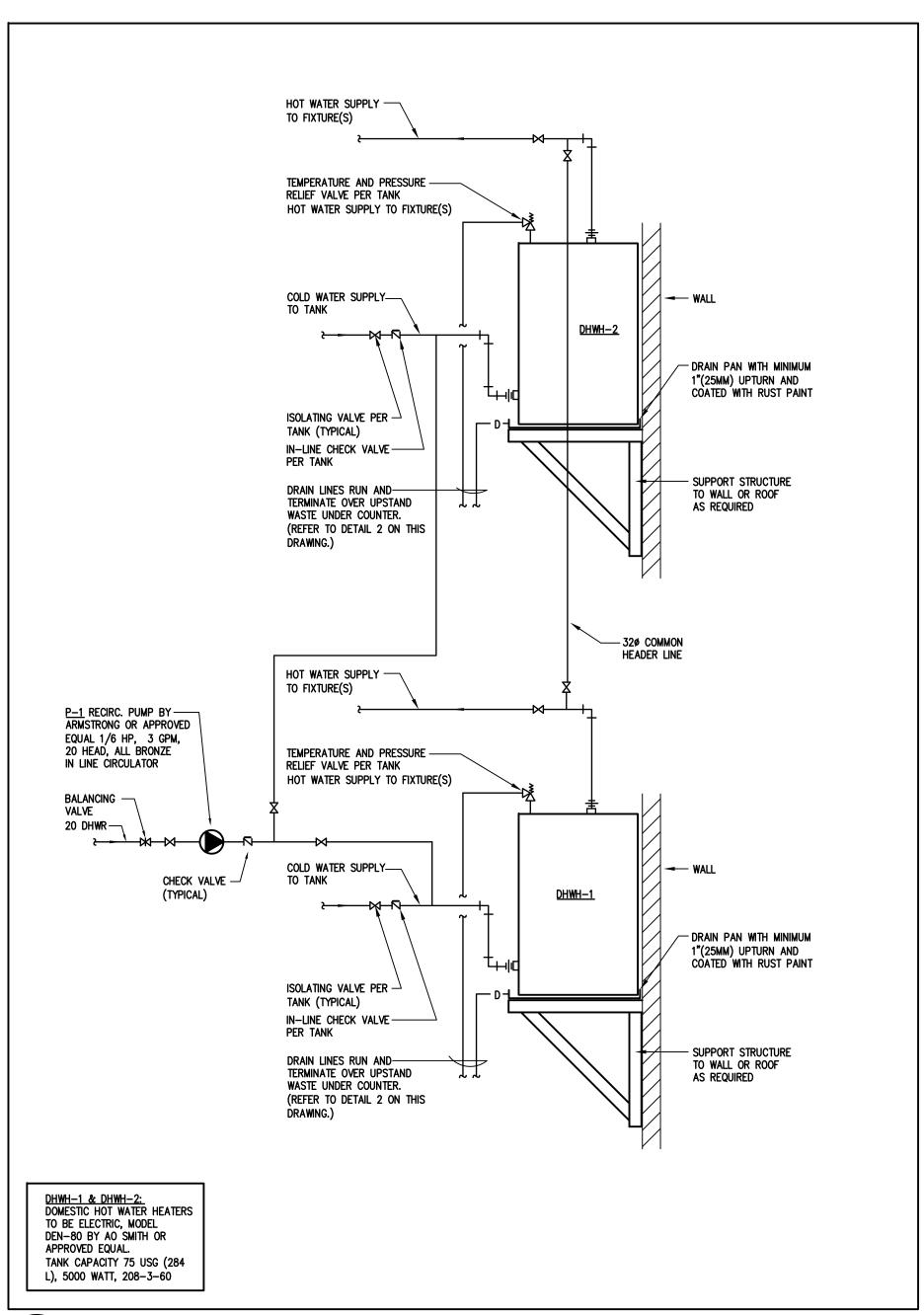
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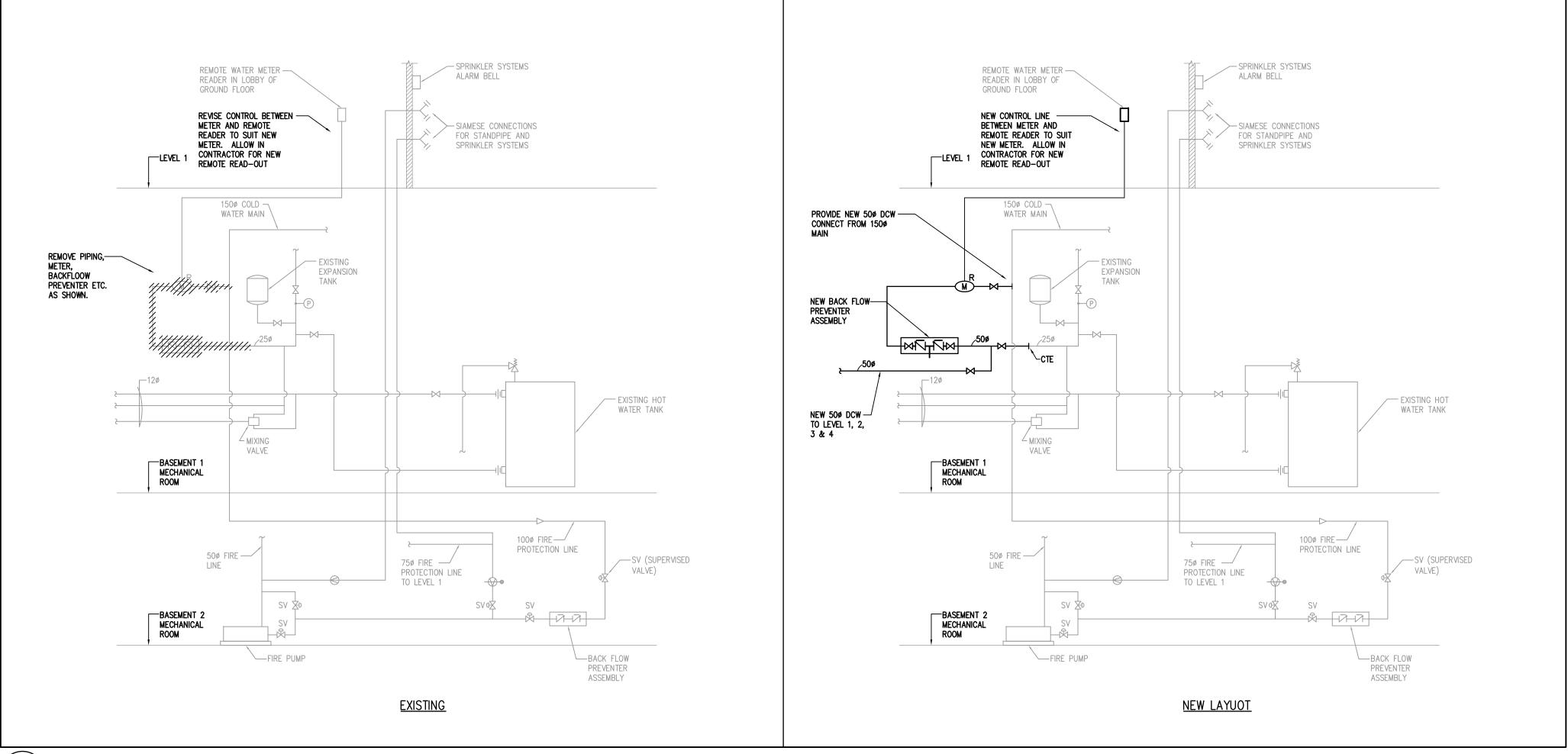
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Level 2, 3 & 4 Fire Protection New Layout









3 COLD WATER AND FIRE PROTECTION PIPING DIAGRAM SCALEDHICT.S.

	FAN SCHEDULE									
REF. LETTER	AREA SERVED / DESIGNATION	MANUFACTURE	MODEL	CAPACITY L/S (CFM)	E.S.P. PA ("W.G)	ELECTR V-PH-HZ		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 BACKDRAFT DAMPER, SPEED CONTROLLER (POTENTIOMETR DIAL MOUNTED ON MOTOR), 350MM ROOF CURB WITH ALUMINUM CURB CAP, BIRD SCREEN, DISCONNECT
EF-2	DRYER BOOSTER FAN	REVERSOMATIC	RI-150	as dryer	62 (0.25)	120-1-60	85W	DIRECT	2550	C/W BACKDRAFT DAMPER, DISCONNECT, WEATHERPROOF WALL BOX, SPEED CONTROLLER, FAN TO BE INTERLOCKED WITH DRYER

	HEAT RECOVERY WHEELS																	
						ENTERIN	IG AIR	LEAVIN	IG AIR			ENTERI	NG AIR	LEAVIN	NG AIR			
TAG	AHU No.	DESIGNATION	SEASON	SUPPLY AIR FLOW (L/S)	PRESSURE DROP (Pa)	DB °C (°F)	WB ℃ (℉)	DB ℃ (℉)	₩B ℃ (℉)	EXHAUST AIRFLOW (L/S)	PRESSURE DROP (Pa)	DB °C (°F)	WB ℃ (℉)	DB °C (°F)	WB *C (*F)	MOTOR (HP)	SELECTION	REMARKS
HRW-1	HPII_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 ERV WHEEL	HEAT RECOVERY WHEEL IS PART OF HEAT RECOVERY UNIT HRU-1, FACTORY
1111/44-1	11110-1	DASEMENT	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	COOK ERV WHEEL	Installed and Wired
NOTES	OTES: WINTER OUTDOOR AIR TEMPERATURE IS ADJUSTED TO FROST PREVENTION CONDITIONS FOR WHEEL.																	

MODEL

COOK ERV-500

AREA

SERVED

TAG

ERV-1 LEVEL 1

	AIR COOLED CONDENSING UNITS								
				COOLI	NG CAPACITY		ELECTRICAL DATA		REMARKS
NO.	AREA SERVED	MAKER	REFRIGERANT	RATED	CAPACITY RANGE	V-PH-HZ	MAX. BREAKER SIZE	MCA	
				BTU/H	TON			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.

FUNCTION AIR FLOW OUTSIDE AIR (%)

	REGISTERS, GRILLES & DIFFUSERS SCHEDULE								
			MANUFACTURER DA	OPPOSED					
ref. Letter	APPLICATION	SELECTION	MODEL DESCRIP	TION	BLADE	FINISH	REMARKS		
LETTER		MFG.	AND SIZE (in x	in)	DAMPER				
A	SQUARE PLAQUE SUPPLY AIR DIFFUSER	EH PRICE	SPD -600x600" ROUND NECK	NECK SIZE AS SHOWN ON DWGS	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION		
A1	SQUARE PLAQUE SUPPLY AIR DIFFUSER	EH PRICE	SPD -300x300" ROUND NECK	NECK SIZE AS SHOWN ON DWGS	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION		
В	EGGCRATE RETURN GRILLE	EH PRICE	50R 12x12x12 ALUMINUM CORE, SI		NO NO	WHITE	FRAME & BORDER TO SUIT APPLICATION		
С	RETURN / EXHAUST GRILLE	EH PRICE	535 STEEL	SIZE AS SHOWN ON DWGS 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 DWGS 20MM SPACING DOUBLE DEFLECTION	NO	WHITE	FRAME & BORDER TO SUIT APPLICATION		

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

1600 120-1-60 1750 120-1-60

HEAT RECOVERY AIR HANDLING UNIT SCHEDULE

E.S.P. FAN (PA) RPM

275 150

	ELECTRIC DUCT HEATER SCHEDULE								
	AIR FLOW CAPACITY (L/S)	HEATING CAPACITY (WATT)	DUCT SIZE (mm X mm)	POWER V-PH-HZ	REMARKS				
EC-1	210	5,000	250 x 250	208-1-60	PROVIDE AIR FLOW SWITCH, CONTACTORS, SAFETY CUTOUTS, CONTROL TRANSFORMER, SCR CONTROLLER ETC.				

V-PH-HZ HP V-PH-HZ

120-1-60

UNIT ELECTRIC DATA

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Mechanical a Engineers		
85 Curlew Drive, Unit 108 Toronto, Ontario M3A 2P8 Tel.:(416) 291-882	A. PRI	JTKI
SPI PROJECT #: 20	30, 104/05	FON

# WORKSHOP architecture Inc

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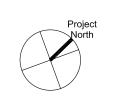
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REMARKS

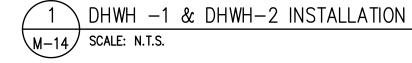
HEAT RECOVERY UNIT TO BE C/W TEMPERATURE SENSOR, MERV 13 SUPPLY AIR FILTER, CONTROLS

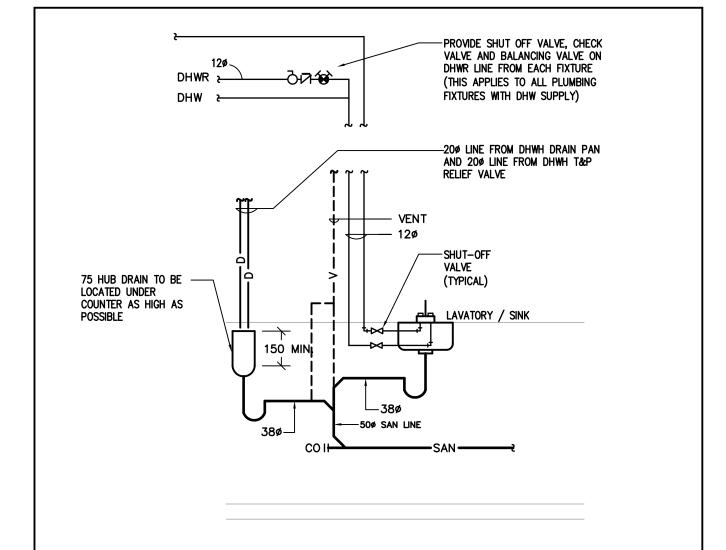
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Mechanical Details









DETAIL OF LAVATORY / SINK PIPING WITH DRAIN FROM DHWH

SCALE: N.T.S.

#### 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 CGA 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
- 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 FOR 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, DX 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 115/1/60, 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
- 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
- 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, VITAULIC 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
- 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. JACKETTING. 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 JACKETTING.

24. REMOVE OLD INSULATION AND PROVIDE NEW ON ALL STORM WATER LINES.

- 25 CLIDDLY ALL HOT WATER TANKS AS SHOWN ON DRAWNINGS
- 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
- 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.
- 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 15850

- 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 UL 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
- 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 JACKETTING.
- 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 1/2" (12MM) OF COATED FIBREGLAS DUCT INSULATION. INSULATE THE EXTERIOR WITH 2" (50MM) OF RIGID INSULATION AND FINISH WITH ALUMINIUM JACKETTING, 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

MAINTENANCE-FREE OPERATION.

- A. PROVIDE ENERGY RECOVERY VENTILATOR AS SHOWN.

  FANS
  TWO (2) FACTORY-BALANCED FANS WITH BACKWARD CURVED BLADES. MOTORS TO BE WITH PERMANENTLY LUBRICATED, SEALED BALL-BEARINGS TO GUARANTEE LONG LIFE AND
- 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 PRESET FROST PREVENTION SEQUENCE IS ACTIVATED AT AN OUTDOOR AIR TEMPERATURE OF 14°F (-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.
- CABINET
  24 GAUGE G90 GALVANIZED STEEL.
- G. INSULATION
- INSULATED WITH 1 IN. (25 MM) OF FOIL-FACED HIGH DENSITY POLYSTYRENE FOAM AN 0.25 IN. (6 MM) OF CLOSED-CELL FOAM ON THE TOP OF THE UNIT. H. FII TERS
- 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.
- 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 C22.2 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
- 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, LOUVRE 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 15950

VI. HVI CERTIFIED

- 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.
- THIS MECHANICAL CONTRACTOR TO HIRE AND PAY FOR APPROVED CONTROL CONTRACTOR.
   PROVIDE ALL CONTROLS AND WIRING INCLUDING APPURTENANCES NECESSARY FOR COMPLETE AND OPERATING SYSTEMS.
- 4. NEW THERMOSTATS SHALL MATCH BASE BUILDING (WITH LOCKABLE VENTILATED TAMPER-PROF COVER)

TEMPERATURE SENSOR). SUPPLY TEMPERATURE SETPOINTS TO BE ADJUSTABLE.

PROVIDE DUCT MOUNTED TEMPERATURE SENSOR DOWNSTREAM OF DX AND HEATING COILS

- 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.

AVOID SIMULTANEOUS HEATING AND COOLING

- 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)
- 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.

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RevDescriptionDate1Final Review16 July '182Issued for Permit & Tender16 July '183Issued for Construction04 Sept '18

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SPI PROJECT #: 2018-10

348 Davenport Road

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PROJECT CODE: SCALE:

18 22 As indicated

DATE: STATUS:

04 Sept 2018 Issued for Construction

Mechanical Specification





### ELECTRICAL LEGEND

	ELECTRIC
	POWER
SYMBOL	DESCRIPTION  125V, 15A DUPLEX U-GROUND RECEPTACLE UNLESS
Φ	OTHERWISE NOTED.
$\oplus_{ extsf{20A}}$	DUPLEX RECEPTACLE AS ABOVE, CSA 5-20A TYPE.
<b>(1)</b> (1) (1)	SAME AS ABOVE EXCEPT CONNECT TO CONTROLLED CIRCUIT. RECEPTACLE SHALL BE GREY COLOUR.
<del></del>	DOUBLE DUPLEX RECEPTACLE IN A COMMON COVER PLATE.
Φ	125V, 15A SINGLE RECEPTACLE. VOLTAGE/AMPERAGE AND
Φ	TYPE AS INDICATED.  SPECIAL RECEPTACLE. VOLTAGE/AMPERAGE AND
	TYPE AS INDICATED.  RECEPTACLES AS ABOVE BUT MOUNTED ABOVE COUNTER
Ø Ø Ø	OR 42"AFF.  RECEPTACLE AS ABOVE SUBSCRIPTS DENOTE SPECIAL
GFI⊕ WP⊕ TL⊕	TYPE AS PER ABBREVIATION LIST.
⊕n≳B	15A DUPLEX RECEPTACLE WITH TWO USB CHARGERS, MODEL TR5262USBW BY LEGRAND OR APPROVED EQUAL
⊕IG	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.
Ф	125V, 15A CEILING MOUNTED DUPLEX RECEPTACLE AS SPECIFIED.
	FUSED DISCONNECT SWITCH. SIZE AS NOTE. (EG. 30A/3PSN
30/20A 3PSN	MITH 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 SUBCRIPTS.
	MOTOR AS INDICATED. INCLUDE FINAL CONNECTION.
$\boxtimes$ $\vdash$	COMBINATION LINE VOLTAGE MOTOR STARTER AND SWITCH.
$\boxtimes$	LINE VOLTAGE MOTOR STARTER. SEE SPECIFICATION FOR SCOPE OF WORK.
J	JUNCTION BOX AS INDICATED.
 ⊕PL	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
<u> </u>	CONNECTION.  WALL MOUNTED FEED TO SYSTEM FURNITURE: POWER AND
P C	COMMUNICATIONS RESPECTIVELY. PROVIDE CONNECTION TO FURNITURE
•	PUSHBUTTON FOR USE AS NOTED.
LP"A" LP"B"	FLUSH OR SURFACE MOUNTED ELECTRICAL PANEL RESPECTIVELY.
<b>₽</b>	ELECTRIC HEATER. BASEBOARD/FORCED—AIR RESPECTIVELY. TYPE AS INDICATED.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
A	ELECTRIC HEATER DESCRIPTION. LETTER DENOTES TYPE.
2KW	NUMBER DENOTES WATTAGE.
	LIGHTING
SYMBOL	DESCRIPTION
F1	FLUORESCENT STRIP LIGHT IN COVE OR VALENCE. LENGTH SHOWN TO SCALE ON THE DRAWINGS. LETTER DENOTES TYPE.
F2 F3 F	FLUORESCENT LUMINAIRE, CEILING OR WALL MOUNTED
F2 ////// NL	RESPECTIVELY. LETTER DENOTES TYPE.  LUMINAIRE AS ABOVE BUT CONNECTED TO NIGHT LIGHT CIRCUIT.
50 F	LUMINAIRE AS ABOVE BUT CONNECTED TO EMERGENCY OR NORMAL &
F2 <b>//////</b> EM	EMERGENCY LIGHT CIRCUITS WITH BY-PASS UNIT - SEE SPEC FOR MORE DETAILS
L1 O L2Q	CEILING OR WALL MOUNTED LUMINAIRE RESPECTIVELY. LETTER DENOTES TYPE.
L1 ⊘NL L2  NL	LUMINAIRE AS ABOVE BUT CONNECTED TO NIGHT LIGHT CIRCUIT.
L1 ⊘EM L2⊘EM	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.
5 62 T 62	SURFACE MOUNTED SINGLE OF DOUBLE EMERGENCY LIGHTING
<u> </u>	REMOTE HEAD. CEILING OR WALL MOUNTED AS SHOWN.  EMERGENCY BATTERY NIT "BU1" C/W LIGHTING HEAD(S) AS
BU1	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. PHOTOCELL.
(DC)	, IIO IOOELL.
PC 1	OCCUPANCY SENSOR. NUMBER DENOTES TYPE. REFER TO
© 1	SCHEDULE.
	SCHEDULE.
©C1	FIRE ALARM
SYMBOL	FIRE ALARM  DESCRIPTION
SYMBOL	SCHEDULE.  FIRE ALARM  DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.
SYMBOL	SCHEDULE.  FIRE ALARM  DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.  FIRE ALARM SPEAKER  FIRE ALARM MANUAL PULL STATION.  FIRE ALARM MINI HORN IN RESIDENT, SWITCH C/W 10
SYMBOL  NA	SCHEDULE.  FIRE ALARM  DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.  FIRE ALARM SPEAKER  FIRE ALARM MANUAL PULL STATION.
SYMBOL  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	SCHEDULE.  FIRE ALARM  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 SILENCEABLE SWITCH  FIRE ALARM BELL
SYMBOL  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	SCHEDULE.  FIRE ALARM  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 SILENCEABLE SWITCH  FIRE ALARM BELL  FIRE ALARM SMOKE DETECTOR
SYMBOL  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	SCHEDULE.  FIRE ALARM  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 SILENCEABLE SWITCH  FIRE ALARM BELL  FIRE ALARM SMOKE DETECTOR  FIRE ALARM SMOKE/CO DETECTOR WITH SOUNDER BASE
SYMBOL  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	SCHEDULE.  FIRE ALARM  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 SILENCEABLE 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,
SYMBOL  NA  NA  SYMBOL  NA  NA  NA  STATEMENT OF THE PROPERTY	SCHEDULE.  FIRE ALARM  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 SILENCEABLE SWITCH  FIRE ALARM BELL  FIRE ALARM SMOKE DETECTOR  FIRE ALARM SMOKE 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. COVARAGWE
SYMBOL  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 SILENCEABLE 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. COVARAGWE  FIRE ALARM HEAT DETECTOR, COMBINATION FIXED TEMPERATURE AND RATE-OF-RISE.
SYMBOL  NA  NA  SYMBOL  NA  NA  NA  STATEMENT OF THE PROPERTY	SCHEDULE.  FIRE ALARM  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 SILENCEABLE 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. COVARAGWE  FIRE ALARM HEAT DETECTOR, COMBINATION FIXED TEMPERATURE
SYMBOL  SYMBOL  SYMBOL  SYMBOL  SYMBOL  HO  ST  ST  ST  ST  ST  ST  ST  ST  ST  S	SCHEDULE.  FIRE ALARM  DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.  FIRE ALARM MANUAL PULL STATION.  FIRE ALARM MINI HORN IN RESIDENT, SWITCH C/W 10 MINUTES SILENCEABLE 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. COVARAGWE  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
SYMBOL  SYMBOL  SYMBOL  SYMBOL  SYMBOL  SYMBOL  HD  SYMBOL  SY	DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.  FIRE ALARM MANUAL PULL STATION.  FIRE ALARM MINI HORN IN RESIDENT, SWITCH C/W 10 MINUTES SILENCEABLE SWITCH  FIRE ALARM SMOKE DETECTOR  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. COVARAGWE  FIRE ALARM HEAT DETECTOR, COMBINATION FIXED TEMPERATURE AND RATE—OF—RISE.  FIRE ALARM HEAT DETECTOR, FIXED TEMPERATURE (EG. 190°F)
SYMBOL  SYMBOL  SYMBOL  SYMBOL  SYMBOL  HO  ST  ST  ST  ST  ST  ST  ST  ST  ST  S	SCHEDULE.  FIRE ALARM  DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.  FIRE ALARM MANUAL PULL STATION.  FIRE ALARM MINI HORN IN RESIDENT, SWITCH C/W 10 MINUTES SILENCEABLE SWITCH  FIRE ALARM BELL  FIRE ALARM SMOKE DETECTOR  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. COVARAGWE  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 WIRED TO FIRE ALARM SYSTEM BY DIV. 16.  RECESSED OR SURFACE MOUNTED FIRE ALARM CONTROL
SYMBOL  SYMBOL	SCHEDULE.  FIRE ALARM  DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.  FIRE ALARM MANUAL PULL STATION.  FIRE ALARM MINI HORN IN RESIDENT, SWITCH C/W 10 MINUTES SILENCEABLE SWITCH  FIRE ALARM BELL  FIRE ALARM SMOKE DETECTOR  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. COVARAGWE  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 WIRED TO FIRE ALARM SYSTEM BY DIV. 16.
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SYMBOL  SYMBOL	DESCRIPTION  FIRE ALARM SPEAKER/STROBE COMBINATION.  FIRE ALARM MANUAL PULL STATION.  FIRE ALARM MINI HORN IN RESIDENT, SWITCH C/W 10 MINUTES SILENCEABLE SWITCH  FIRE ALARM SMOKE DETECTOR  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. COVARAGWE  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 WIRED 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

COMMUN	ICATION / AV SYSTEM
SYMBOL	DESCRIPTION
▼	TELEPHONE OUTLET (SEE RISER DIAGRAM WHERE APPLICABLE)
igwedge	DATA OUTLET (SEE RISER DIAGRAM WHERE APPLICABLE)
lacksquare	COMBINATION TELEPHONE/DATA OUTLET.SEE RISER DIAGRAM FOR DETAIL
$\checkmark$	OUTLET AS ABOVE BUT MOUNTED ABOVE COUNTER OR 42"AFF.
<b>© S</b>	SPEAKER (OTHER THAN FIRE ALARM) WITH OUTLET FOR WALL OR CEILING MOUNTED.
TV	CATV OUTLET. REFER TO SCOPE OF WORK.
$\Box$	CEILING OR WALL MOUNTED WIRELESS ACCESS POINT
•	INTERCOM STATION
	SECURITY
SYMBOL	DESCRIPTION
DC	SECURITY SYSTEM, DOOR CONTACT.
CR	SECURITY SYSTEM, CARD READER
ES	SECURITY SYSTEM, ELECTRIC STRIKE
	CCTV SYSTEM CAMERA
	ABBREVIATIONS
SYMBOL	DESCRIPTION
WP	WEATHERPROOF
GFI	GROUND FAULT INTERRUPTER
MD	MOTORIZED DAMPER
A-1	PANEL "A", CIRCUIT #1.
BBH	BASEBOARD HEATER
AFF	ABOVE FINISHED FLOOR
TL	TWIST-LOCK
N	NEW
ER C	DENOTES EXISTING TO BE RELOCATED
EX	EXISTING TO REMAIN
R	EXISTING TO BE REMOVED
RP	RELOCATED POSITION
CL	CEILING MOUNTED
1D	ONE DATA OUTLET, '1' DENOTES NUMBER OF OUTLETS
1V	ONE VOICE OUTLET, '1' DENOTES NUMBER OF OUTLETS
DWG -	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 DRYER TO BE C/W HEPA FILTER

PROVIDE MOUNTING BRACKETS

- MOUNT DRYER AT 655mm AFF FROM UNDERSIDE

#### EMERGENCY BATTERY UNIT SPECIFICATIONS

### <u>BATTERY UNITS</u>

BATTERY UNIT SHALL BE LUMACELL CAT. #RG24S SERIES WITH CAPACITY AS INDICATED ON DRAWING AND EQUAL BY EMERGILITE, DUALITE OR BEGHELLI. 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'

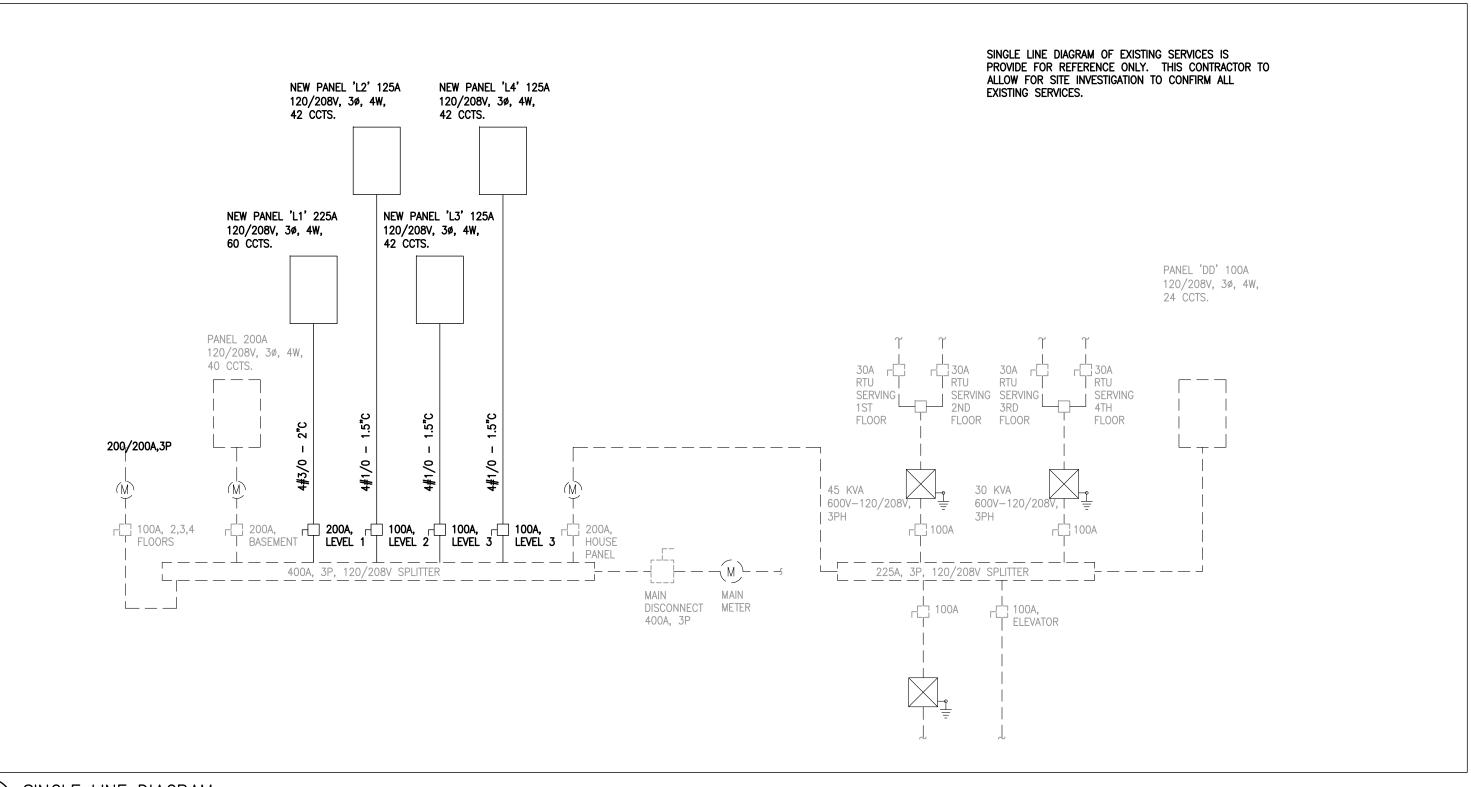
1. SINGLE AND DOUBLE REMOTE HEADS SHALL BE MR16, 24V, 6W, LED LAMPS EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. LUMACELL CAT. #MQM SERIES OR APPROVED EQUAL. 2. WP - SINGLE AND DOUBLE REMOTE HEADS SHALL BE MR16 24V,

DC 12W, EMERGENCY LIGHTING REMOTE HEADS SHALL BE WHITE. WEATHER-PROOF. LUMACELL CAT. #Q-BIC SERIES OR APPROVED EQUAL.

#### <u>EXIT SIGN 'X'</u>

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	
A	208V, 1PH HEAVY DUTY ELECTRIC BASEBOARD HEATER WHITE FINISH C/W TEMPER-PROOF BUILT-IN THERMOSTAT. KILOWATTAGE AS INDICATED ON DRAWING.  OUELLET CAT.# OPR SERIES OR APPROVED EQUAL.	
B	208V, 1PH ELECTRIC FORCED—AIR HEATER, WHITE FINISH C/W BUILT—IN THERMOSTAT. KILOWATTAGE AS INDICATED ON DRAWING.  OUELLET CAT.# OAC SERIES OR APPROVED EQUAL.	
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. 2. 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). EMPTY CONDUITS TO BE PROVIDE WITH PULL STRINGS. CONDUIT SIZE IS 3/4"C 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"C WITH 3#6 WIRING AND PROVISION OF NEW OF SAME REMOVAL OF EXISTING 30 M OF 1"C WITH 3 CAT 6 CABLES AND PROVISION OF NEW OF SAME LENGTH. ADDITIONAL 50M OF 3#10-20MMC

#### <u>GENERAL NOTES:</u> (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. 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.
- 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.
- REFER TO ARCHITECT'S OR INTERIOR DESIGNER'S DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT AND DEVICES.
- 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.
- 14. ALLOW CUTTING AND PATCHING AT EXISTING WALLS/CEILINGS 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.

13. ALL EXISTING EQUIPMENT AND DEVICES SHALL REMAIN UNLESS OTHERWISE NOTED.

- 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
- 18. ALL EXPOSED CONDUIT AND BOXES TO BE PAINT FINISH.

CONDUIT ROUTING.

- 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.
- 1. TELEPHONE OUTLET SHALL BE SINGLE GANG BOX C/W 3/4"C TO ZONE CONDUIT.

- 5. PROVIDE ZONE CONDUIT/BOXES FOR VOICE AND DATA CABLING.

7. LOCATION AND QUANTITY OF OUTLETS ARE SHOWN ON FLOOR PLAN.

6. CEILING PLENUM IS RETURN AIR PLENUM AND ALLOWED FOR FT6 RATING CABLES ONLY.

THIS ELECTRICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING:

2. DATA OUTLET SHALL BE SINGLE BOX C/W 3/4"C TO ZONE CONDUIT.

3. COMBINATION TELEPHONE/DATA OUTLET SHALL BE SINGLE GANG C/W 3/4"C TO ZONE

4. ALL CONDUITS SHALL BE C/W PULL STRING.

SHARMA & PARTNERS INC. Mechanical and Electrical Engineers 85 Curlew Drive, Unit 108 M3A 2P8 Tel.: (416) 291-8822

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Description

2 Issued for Permit & Tender

3 Issued for Construction

16 July '18 16 July '18

04 Sept '18

be immediately reported to the architect.

1 Final Review

# WORKSHOP

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SPI PROJECT #: 2018-1039

#### Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

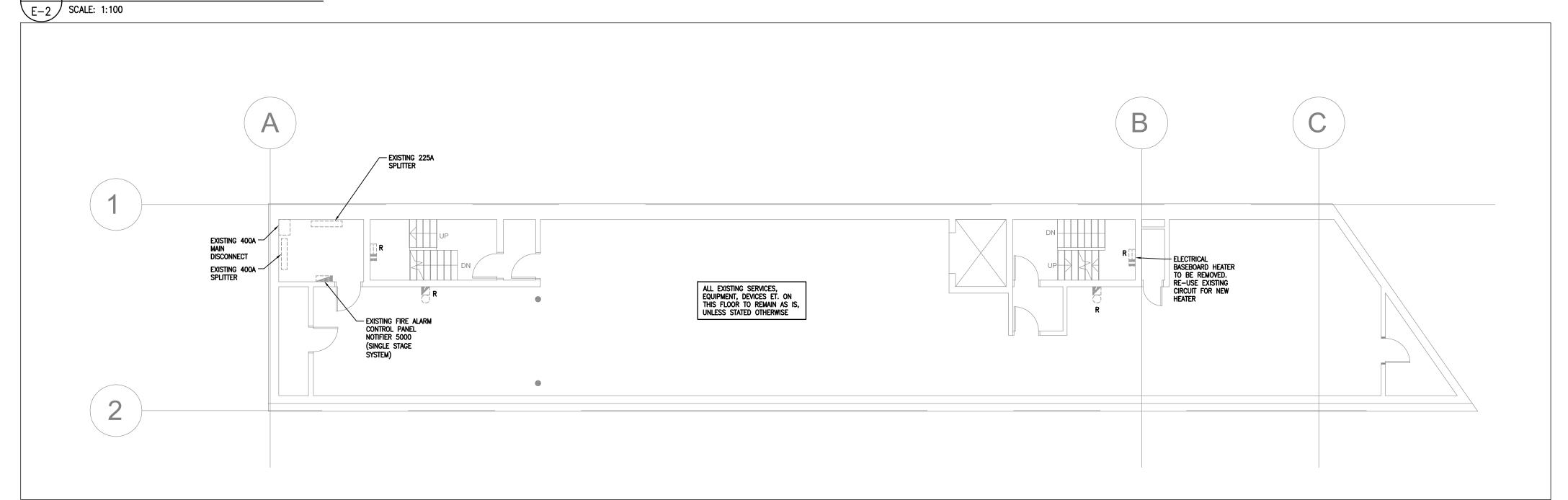
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18_22	N.T.S.
PROJECT CODE:	SCALE:

Electrical Legend, Drawing List, Details and Schedules

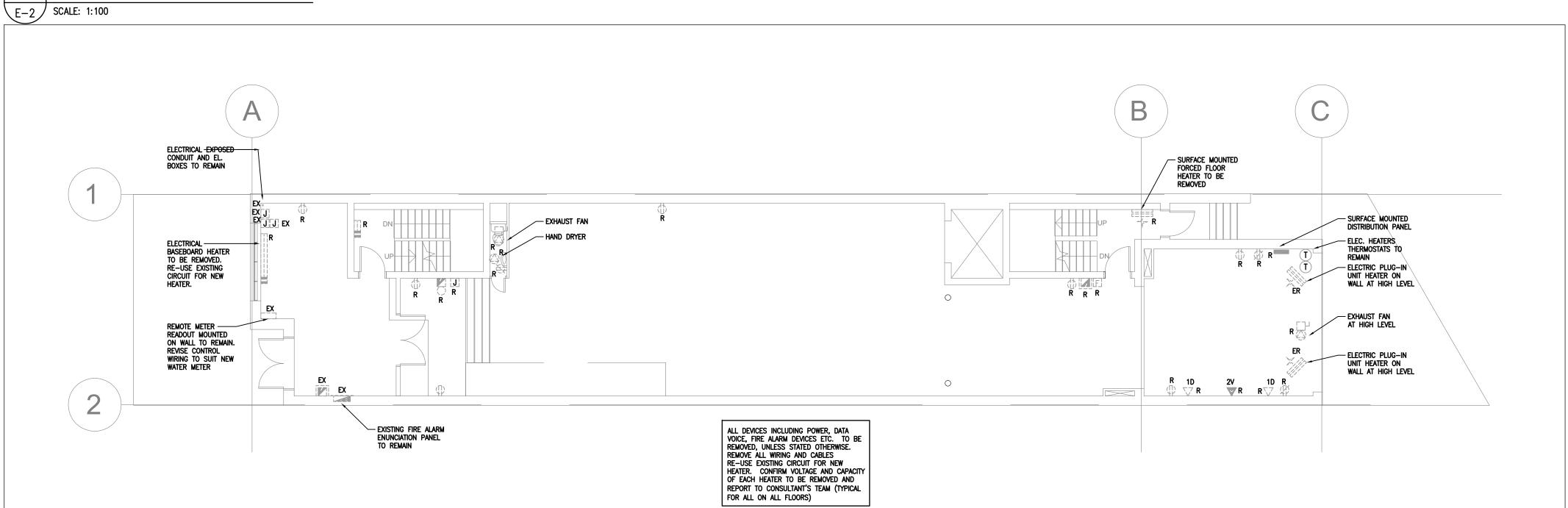




\ BASEMENT 2 - POWER DEMOLITION



2 BASEMENT 1 - POWER DEMOLITION

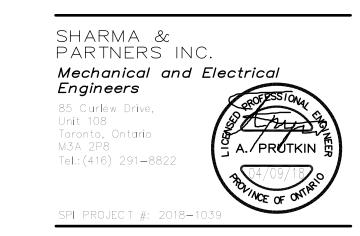


\ LEVEL 1 - POWER DEMOLITION

E-2 SCALE: 1:100

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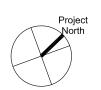
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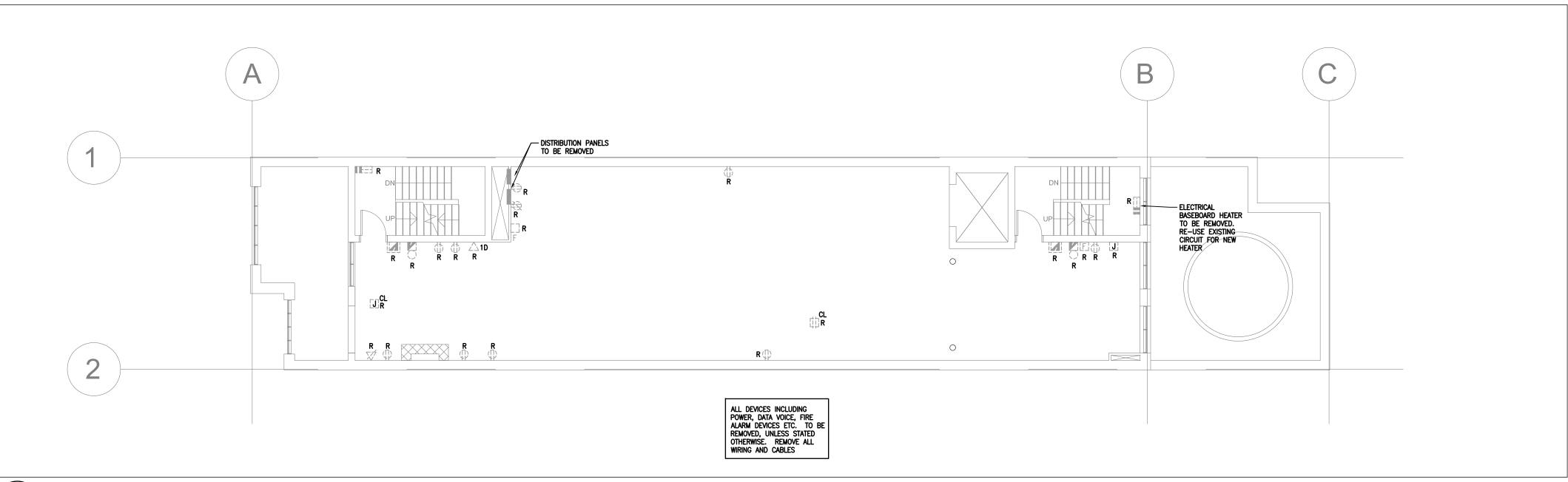
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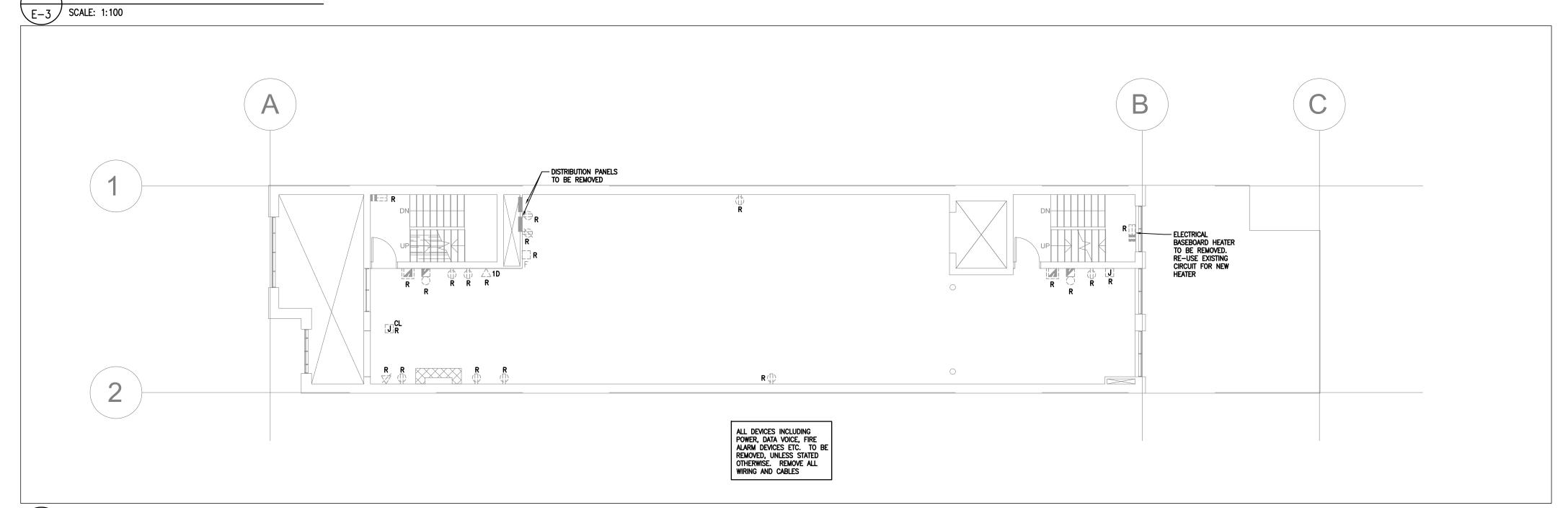
Basement 1 & 2 and Level 1 **Power Demolition** 



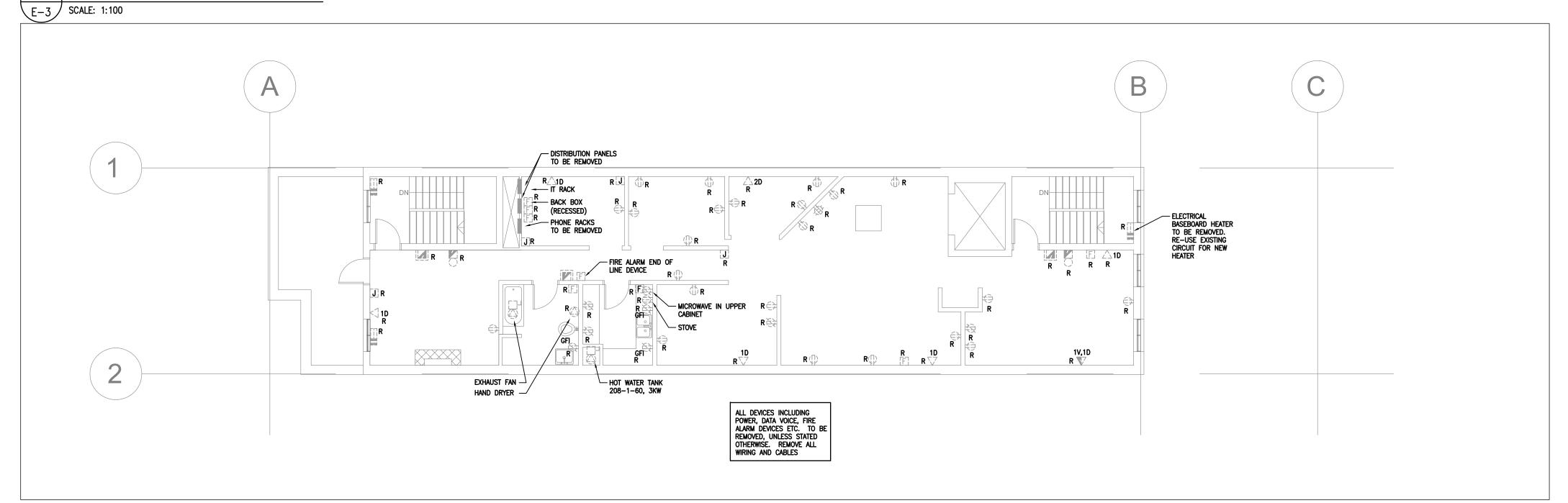




\ LEVEL 2 - POWER DEMOLITION



2 LEVEL 3 - POWER DEMOLITION



3 LEVEL 4 - POWER DEMOLITION

E-3 SCALE: 1:100

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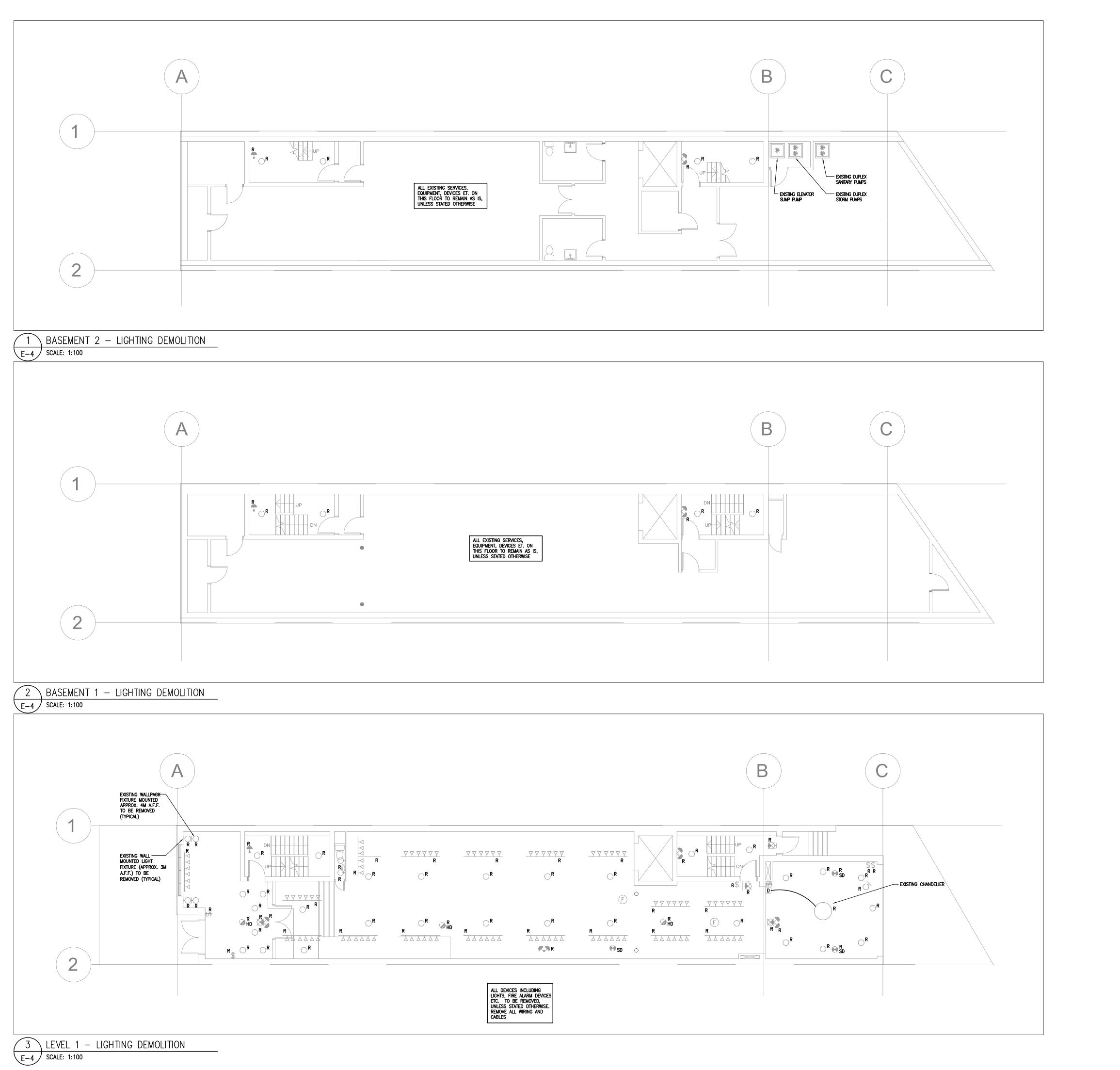
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Level 2, 3 & 4 **Power Demolition** 







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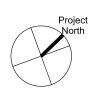
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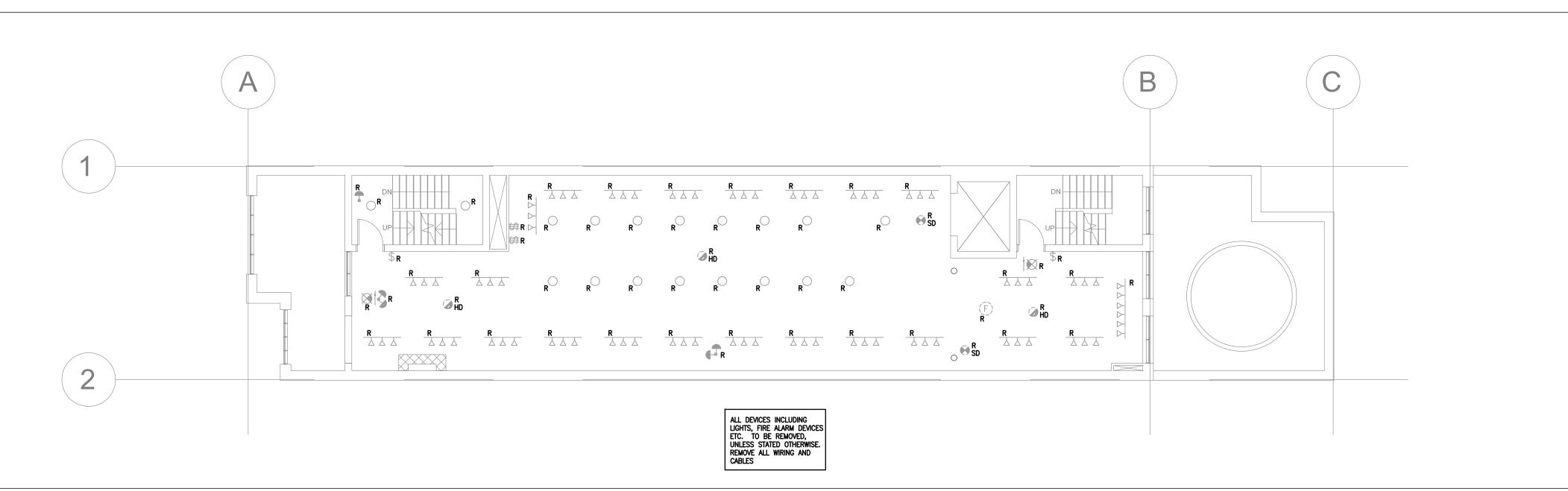
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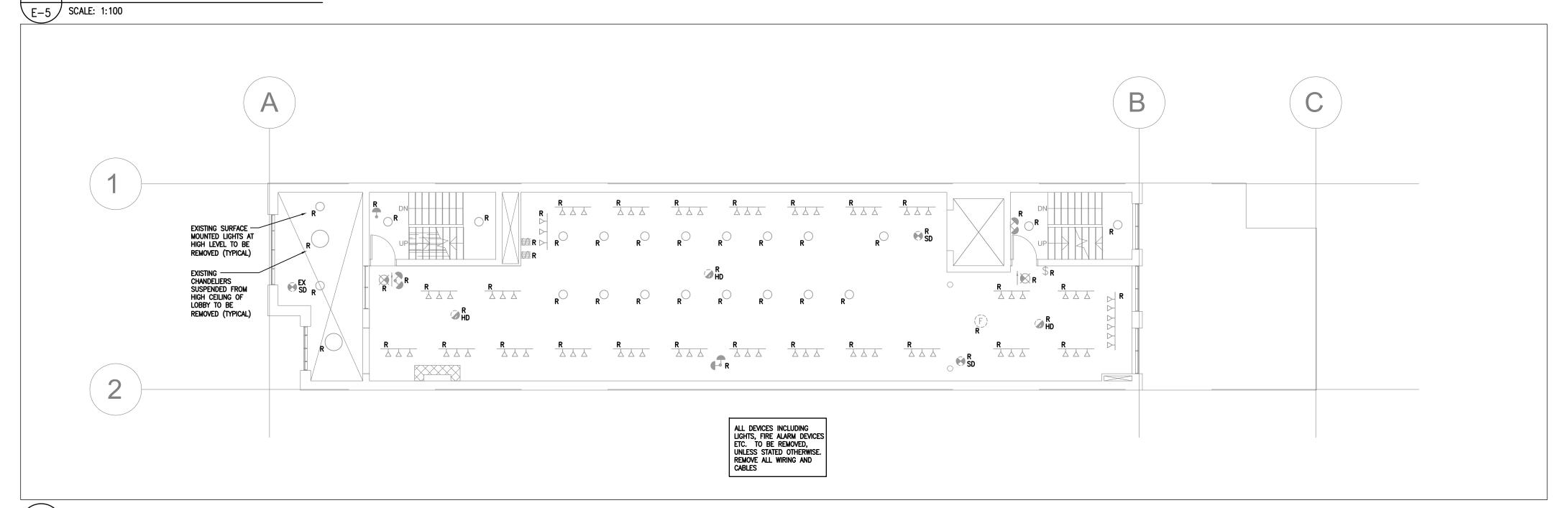
Basement 1 & 2 and Level 1 **Lighting Demolition** 



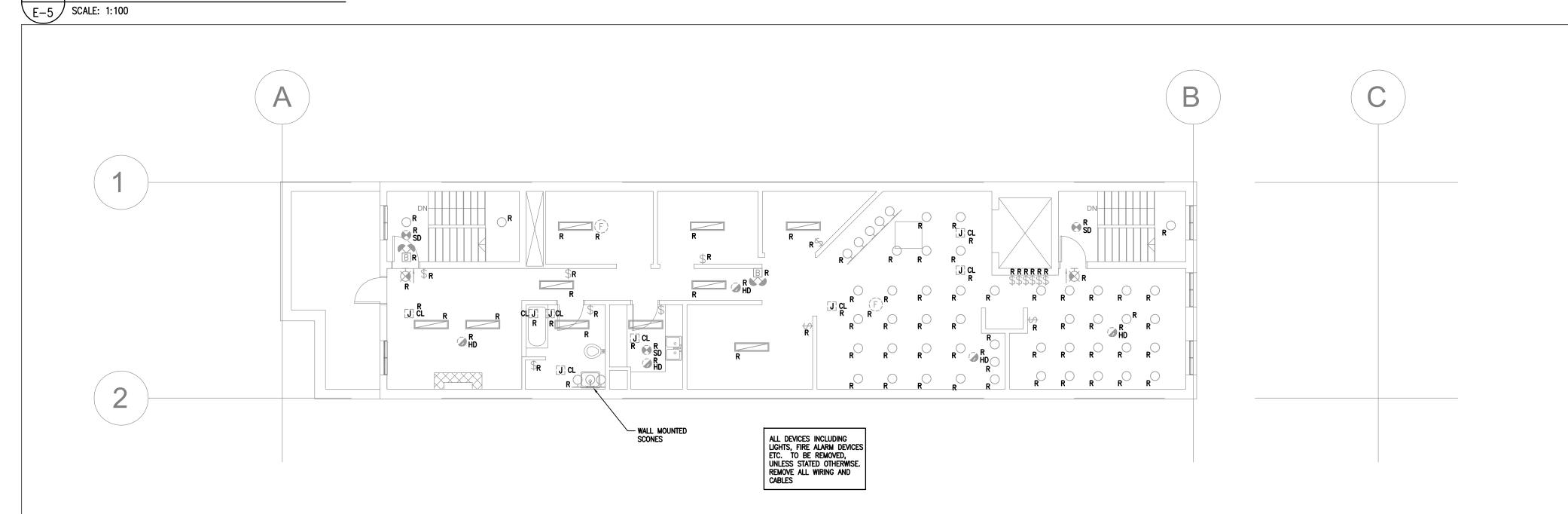




\ LEVEL 2 - LIGHTING DEMOLITION



BASEMENT 1 - LIGHTING DEMOLITION

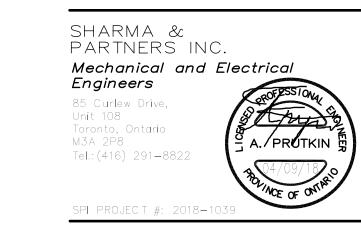


\ LEVEL 1 - LIGHTING DEMOLITION

E-5 SCALE: 1:100

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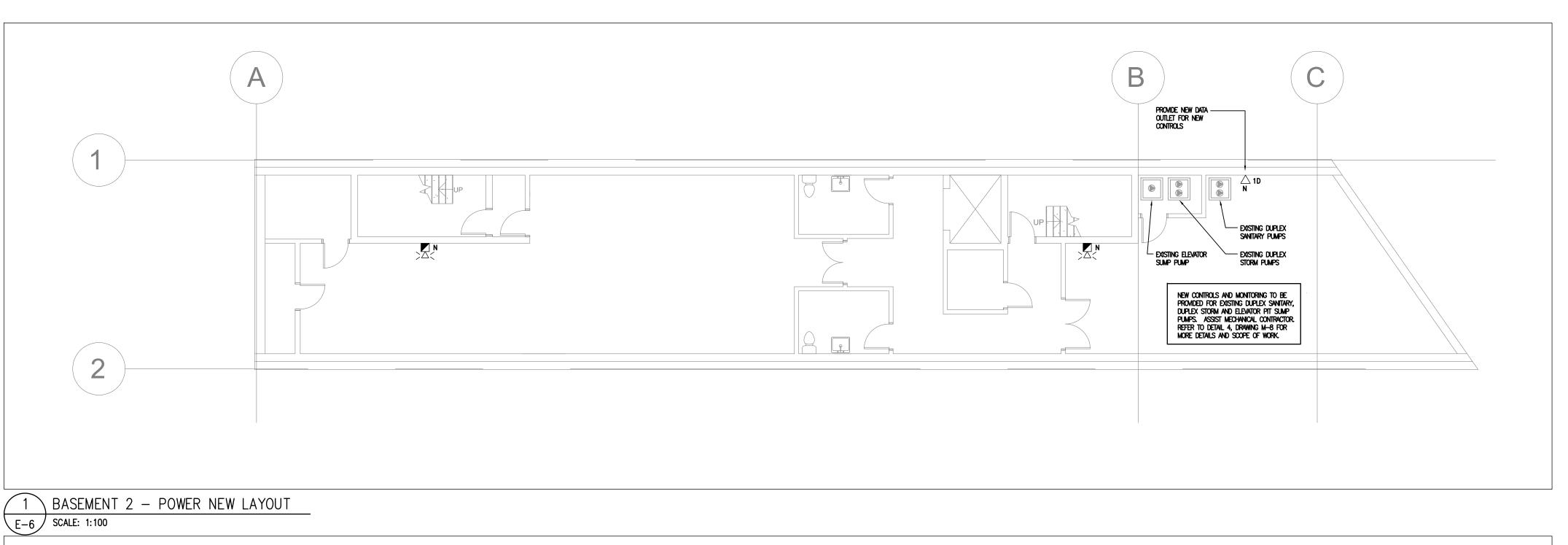
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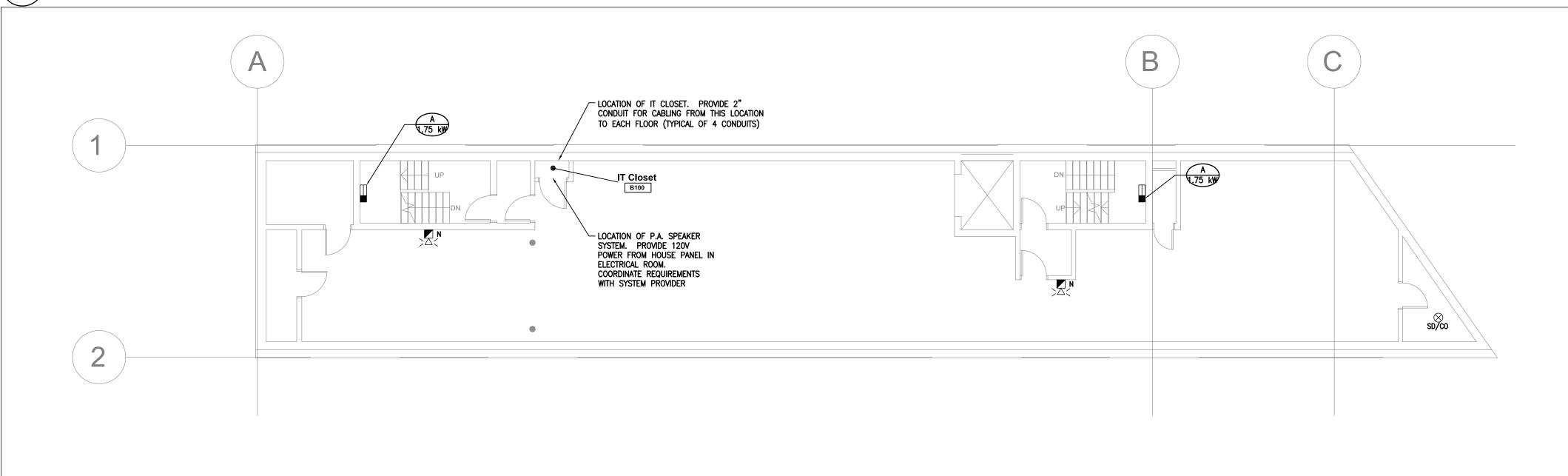
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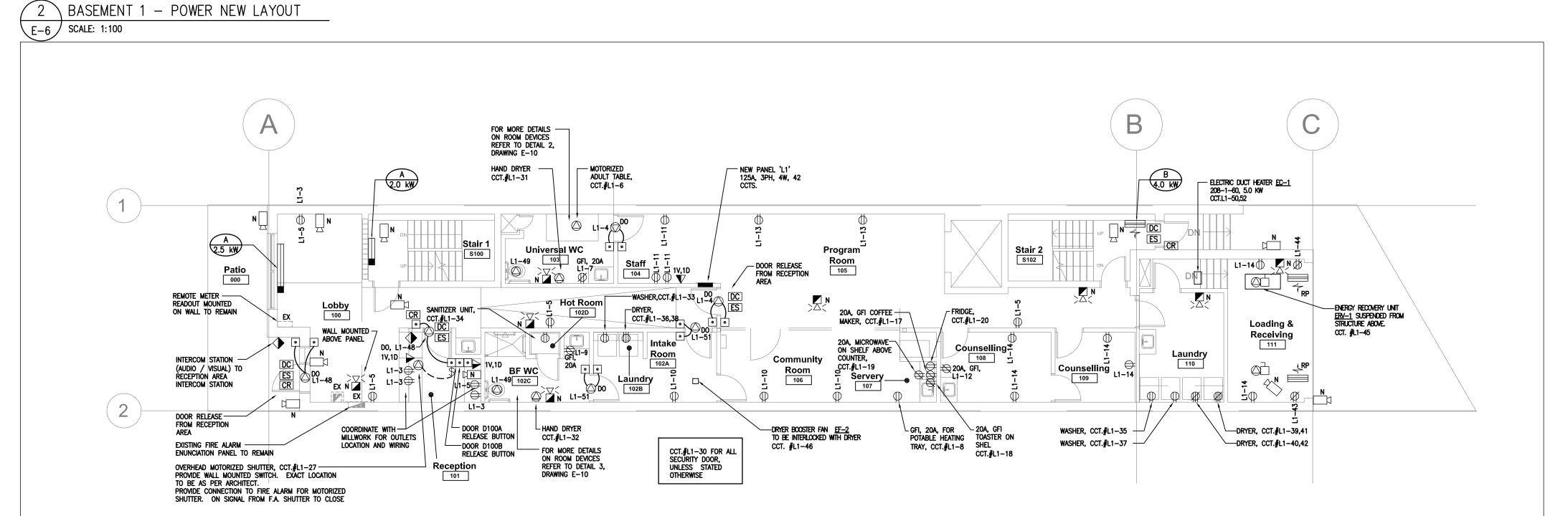
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Level 2, 3 & 4 Lighting Demolition









3 LEVEL 1 - POWER NEW LAYOUT

E-6 SCALE: 1:100

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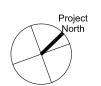
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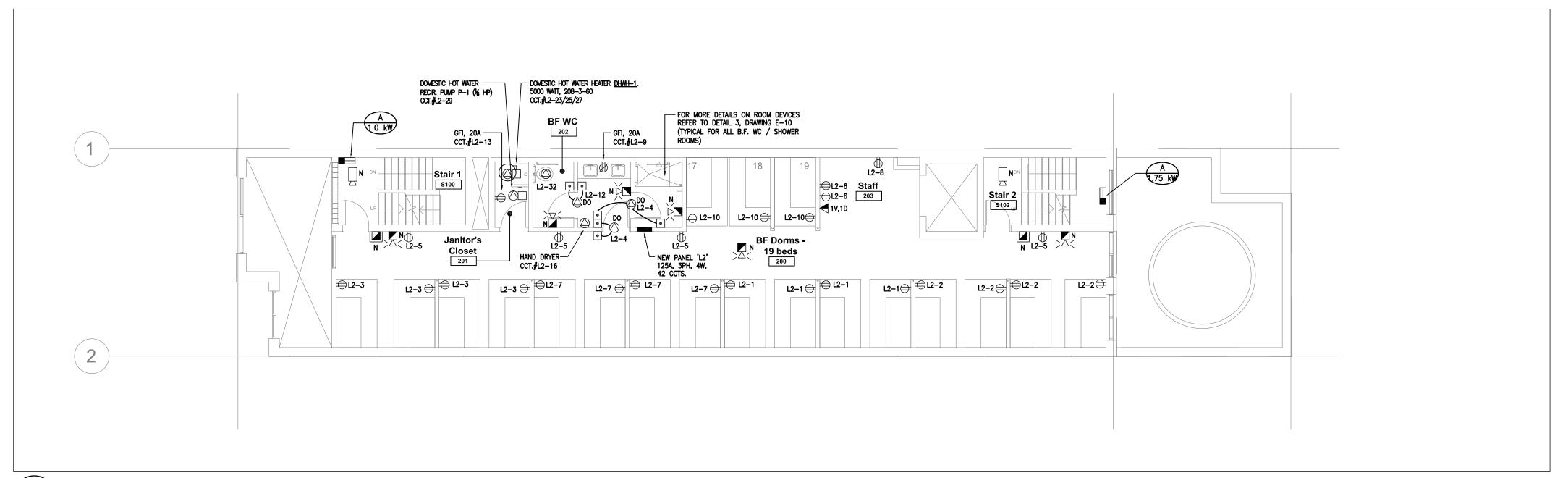
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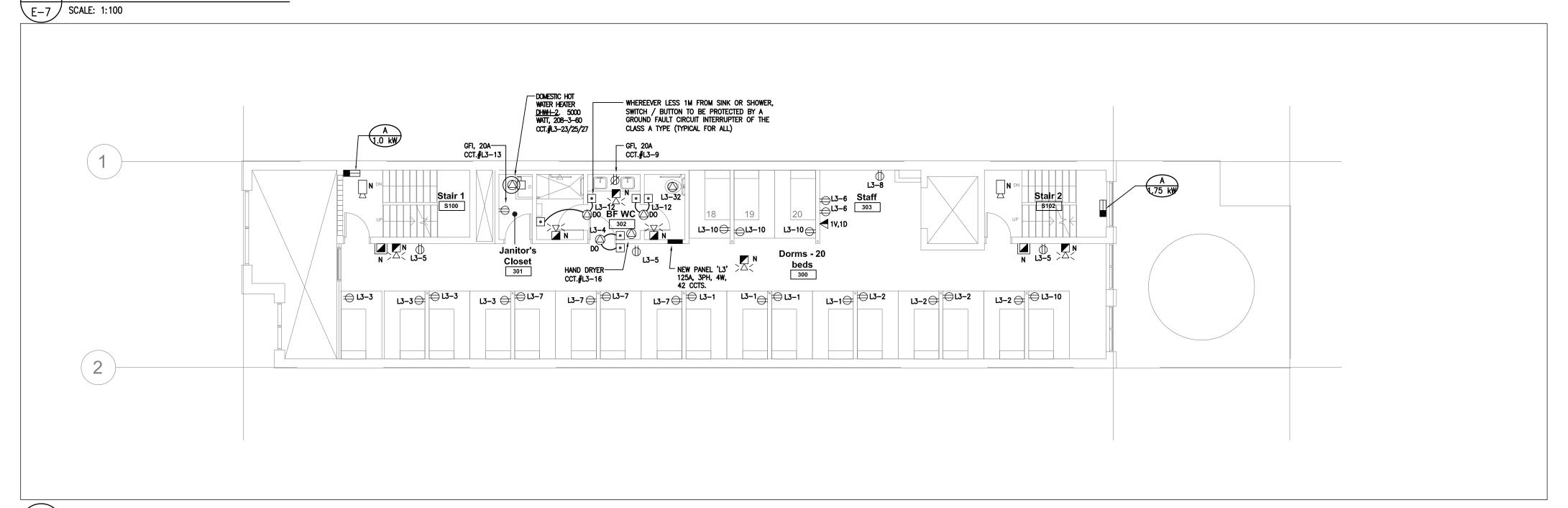
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Basement 1 & 2 and Level 1 Power New Layout

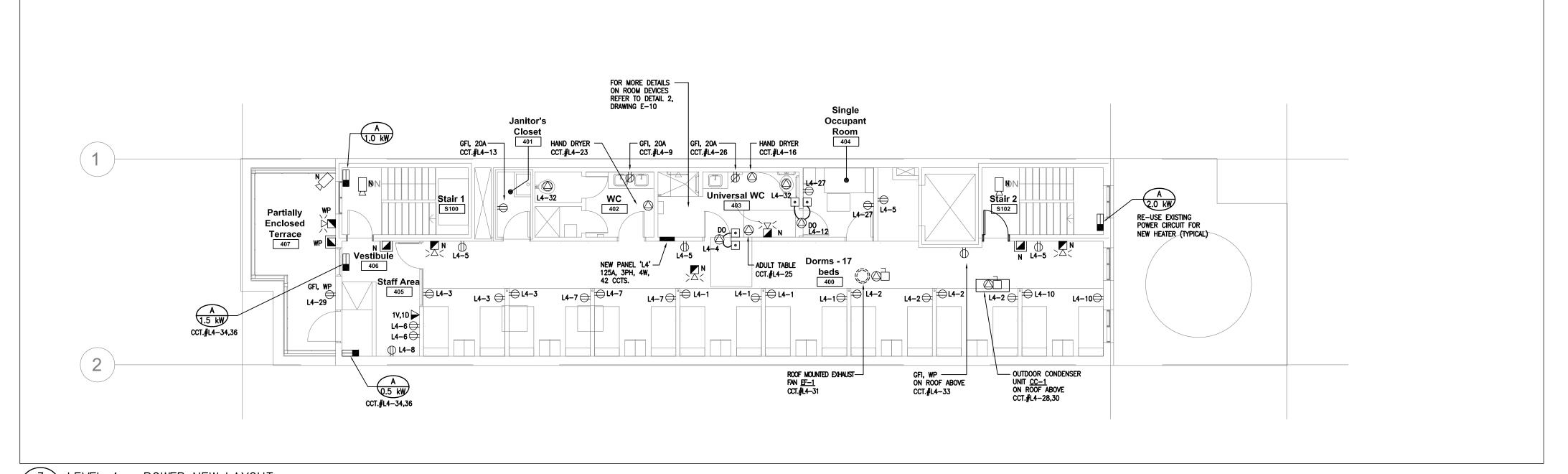




\ LEVEL 2 - POWER NEW LAYOUT



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



3 LEVEL 4 - POWER NEW LAYOUT

E-7 SCALE: 1:100

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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 85 Curlew Drive, Unit 108 Toronto, Ontario M3A 2P8 Tel.: (416) 291-8822 SPI PROJECT #: 2018-10

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#### Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

<u> </u>	
04 Sept 2018	Issued for Construction
DATE:	STATUS:
18_22	As indicate
PROJECT CODE:	SCALE:

Level 2, 3 & 4 Power New Layout





3 LEVEL 1 - LIGHTING NEW LAYOUT

E-8 SCALE: 1:100

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1 Final Review 16 July '18 2 Issued for Permit & Tender 16 July '18

04 Sept '18

3 Issued for Construction

SHARMA & PARTNERS INC. Mechanical and Electrical Engineers 85 Curlew Drive, Unit 108 Toronto, Ontario M3A 2P8 Tel.: (416) 291-8822 SPI PROJECT #: 2018-103

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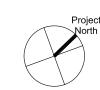
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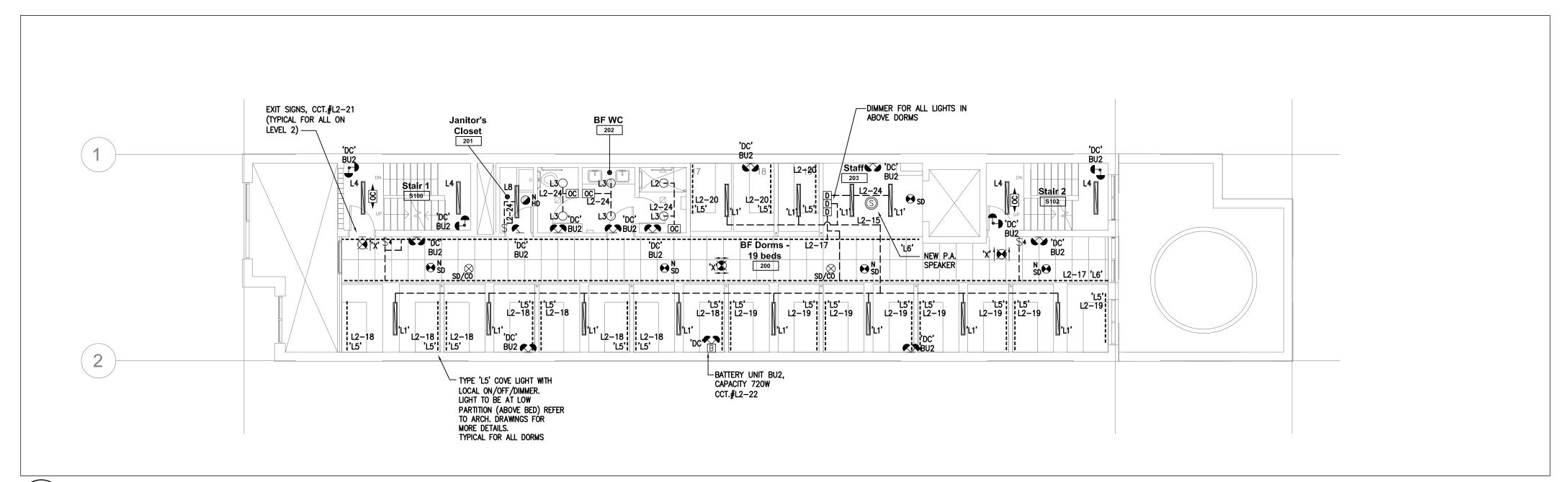
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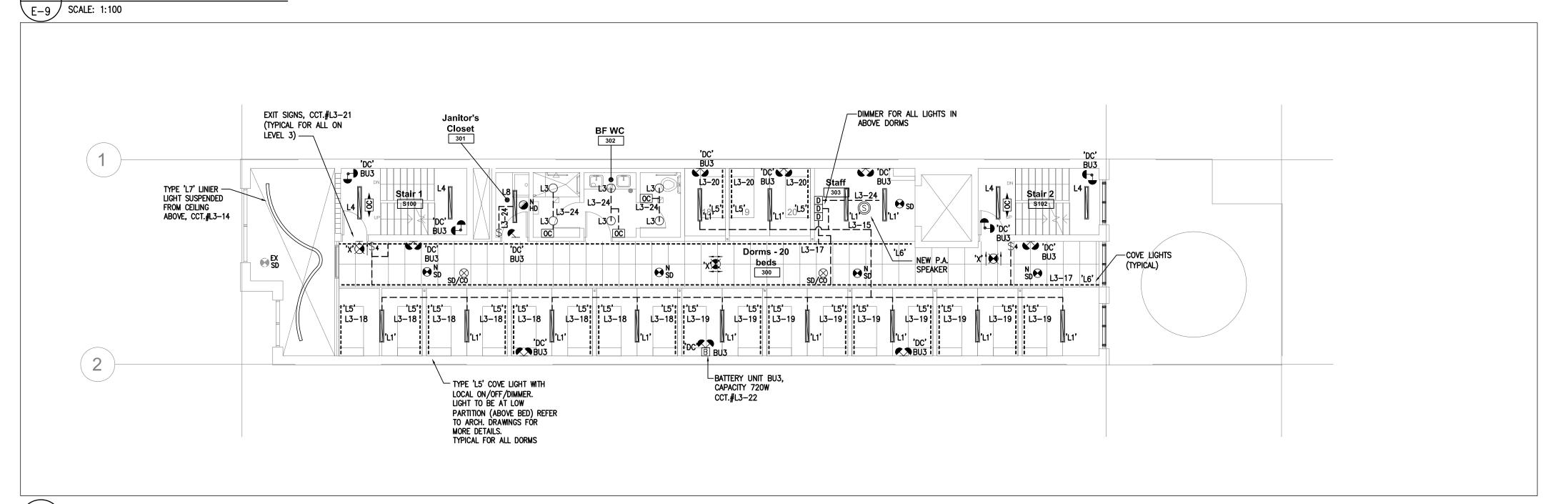
Basement 1 & 2 and Level 1 **Lighting New Layout** 



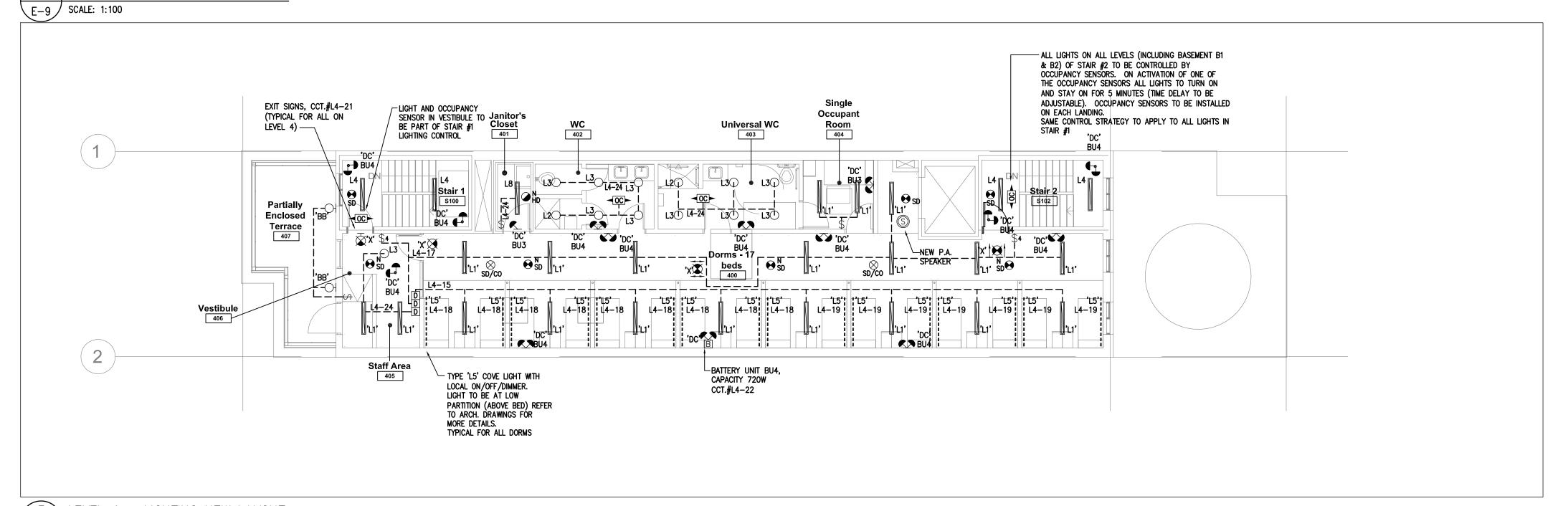




\ LEVEL 2 - LIGHTING NEW LAYOUT



\ LEVEL 3 — LIGHTING NEW LAYOUT



\ LEVEL 4 - LIGHTING NEW LAYOUT

E-9 SCALE: 1:100

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

SHARMA & PARTNERS INC. Mechanical and Electrical Engineers 85 Curlew Drive, Unit 108 M3A 2P8 Tel.: (416) 291-8822 SPI PROJECT #: 2018-103

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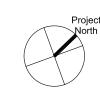
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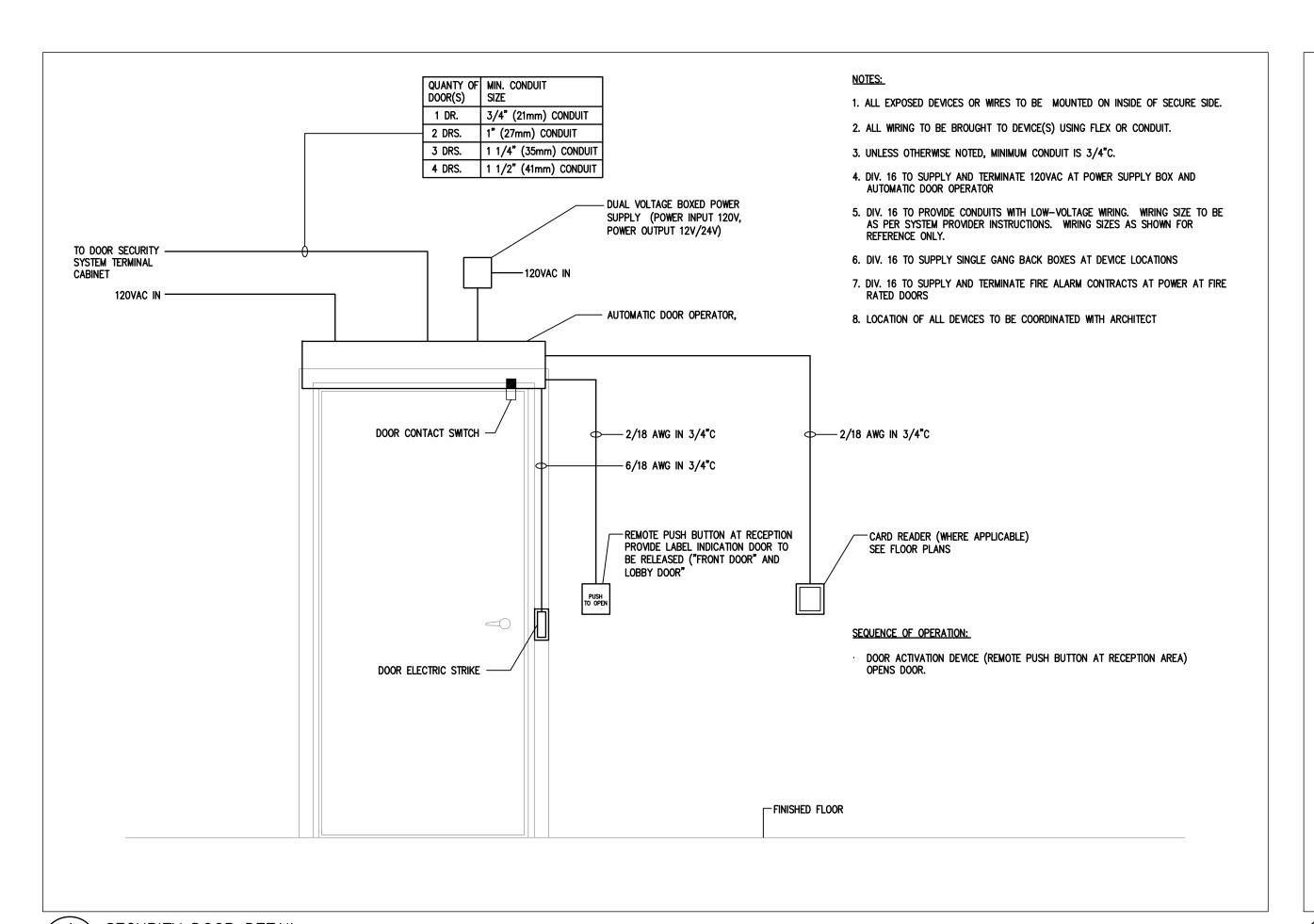
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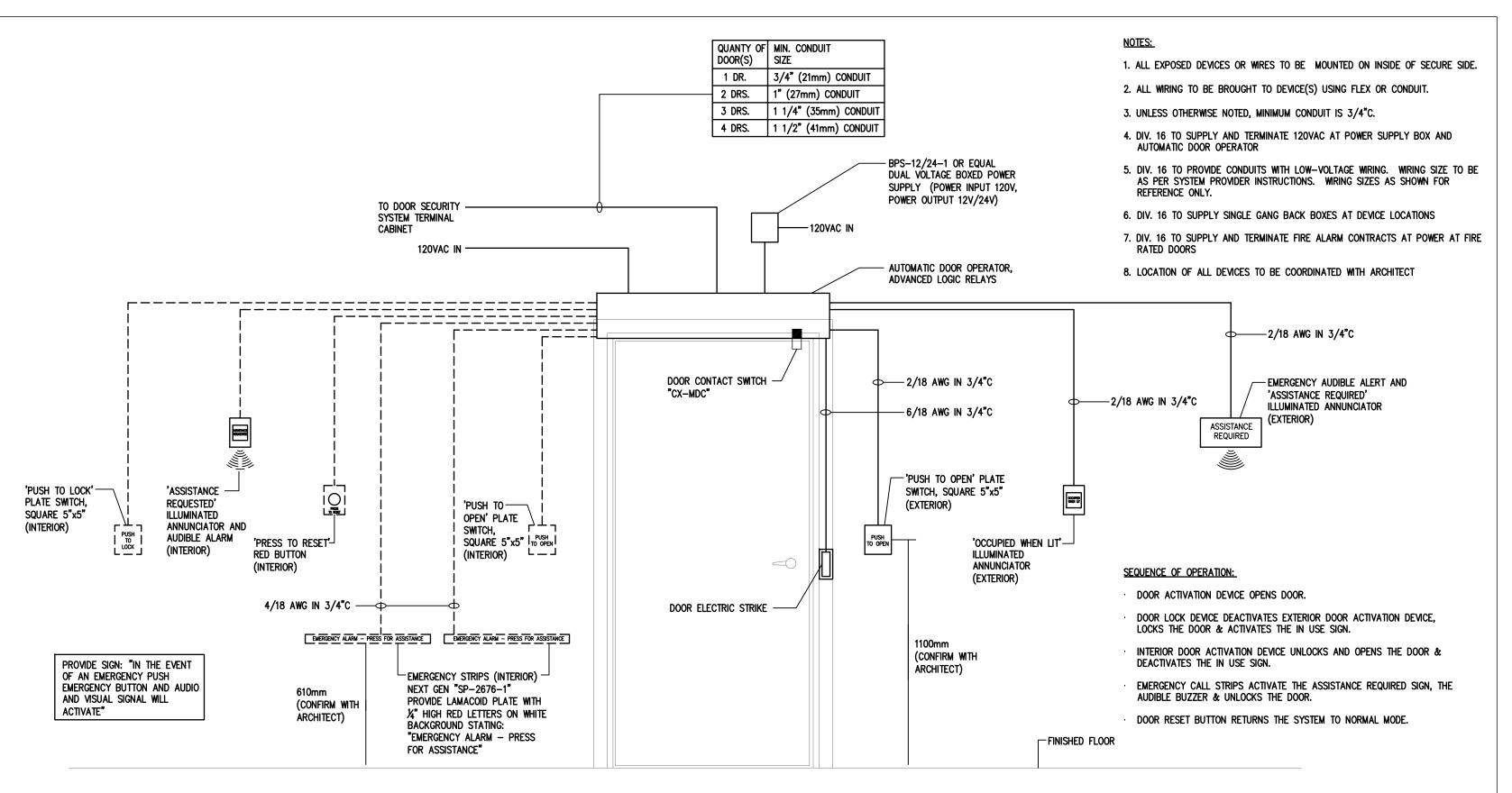
Level 2, 3 & 4 **Lighting New Layout** 



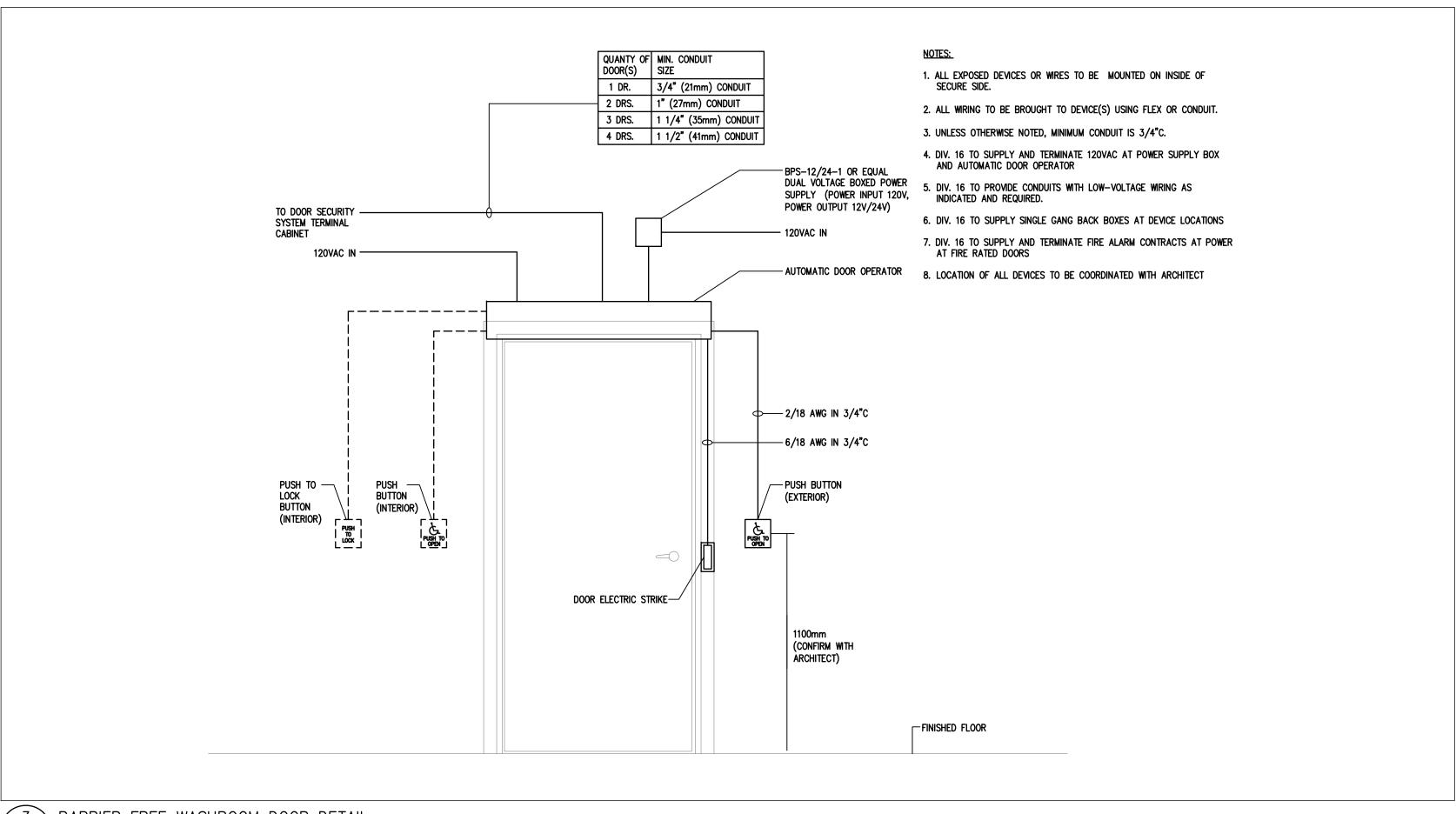




1 SECURITY DOOR DETAIL SCALE: N.T.S.



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



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

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RevDescriptionDate1Final Review16 July '182Issued for Permit & Tender16 July '183Issued for Construction04 Sept '18

SHARMA & PARTNERS INC.

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SPI PROJECT #: 2018-1039

# WORKSHOP architecture

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PROJECT CODE:	SCALE:

Electrical Details





	EL L1 08v,3ph,4w	TYPE: MAINS: MOUNTIN				-0 AM SSI	PS		LOCATION: LEVEL 1		
LOAD	DESCRIPTION	BREAKER		CI	RCL	JITS	3	BREAKER	DESCRIPTION	LOA	
_	SPARE	15A	1	•	$\dashv$	$\exists$	2	15A	SPARE		
-	RECEPTS, RECEPTION	15A	3	$\blacksquare$	+	+	4	15A	DOOR OPERATOR		
_	CONVENIENCE RECEPTS	15A	5	$\mathbb{H}$	+	┪	6	15A	ADULT TABLE, UNIVERSAL WC		
-	GFI RECEPT, UNIVERSAL WC	20A	7	•	$\dashv$	+	8	20A	GFI, POTABLE HEATING TRAY		
-	GFI RECEPT, B.F. WC	20A	9	$\mathbb{H}$	┪	+	10	15A	RECEPTS, COMMUNITY ROOM		
-	RECEPTS, OFFICE	15A	11	$\mathbb{H}$	+	┪	12	20A	GFI RECEPT, CONSULTING ROOM		
-	RECEPTS, PROGRAM ROOM	15A	13	•	$\dashv$	+	14	15A	RECEPT, CONSULTING ROOM		
-	SPARE		15	$\mathbb{H}$	┪	+	16	15A	RECEPT, LOADING AND RECEIVING	-	
-	GFI, COFFEE MAKER	20A	17	$\mathbb{H}$	+	┪	18	20A	GFI, TOASTER	_	
-	MICROWAVE	20A	19	•	$\dashv$	+	20	15A	FRIDGE	-	
-	EXIT SIGNS	15A	21	$\mathbb{H}$	┪	+	22	15A	BATTERY UNIT BU1	-	
_	LIGHTS	20A	23	$\mathbb{H}$	+	┪	24	20A	LIGHTS	_	
-	LIGHTS	20A	25	•	$\dashv$	+	26	20A	LIGHTS	_	
-	MOTORIZED SHUTTER	15A	27	-	┪	+	28	15A	EXTERIOR LIGHTS	-	
-	SPACE	_	29	$\mathbb{H}$	-	┪	30	15A	DOOR CONTROLS	_	
IKW	HAND DRYER	20A	31	•	+	+	32	20A	HAND DRYER	1KW	
-	WASHER	15A	33	$\blacksquare$	+	+	34	15A	SANITIZER UNIT	-	
-	WASHER	15A	35	H	-	┥	36	30A	DDVED		
-	WASHER	15A	37	•	+	+	38	2P	DRYER		
	DDVED	30A	39		+	+	40	30A	DDVED		
	DRYER	2P	41		-	┪	42	2P	DRYER		
	RECEPT, HEATER IN LOADING AREA	20A	43			ĺ	44	20A	RECEPT, HEATER IN LOADING AREA		
	ERV-1	20A	45		-	1	46	15A	DRYER BOOSTER FAN EF-2		
	MECHANICAL CONTROLS	15A	47		-	١	48	15A	DOOR OPERATORS		
	PLUMBING	15A	49		-	١	50	30A	51 50 TOLO DUOT 115 1 TED 50 4		
	DOOR OPERATOR	15A	51		-	١	52	2P	ELECTRIC DUCT HEATER EC-1	5KW	
	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

PANI	 EL L2	TYPE:			LT-(					
	08V,3PH,4W	MAINS: MOUNTIN	IG:		5 AN CESS				LOCATION: LEVEL 2	
LOAD	DESCRIPTION	BREAKER		CIR	CUIT	S		BREAKER	DESCRIPTION	LOAD
-	RECEPTS, DORMS	15A	1	+	$\blacksquare$	H	2	15A	RECEPTS, DORMS	-
-	RECEPTS, DORMS	15A	3	$\mathbb{H}$		H	4	15A	DOOR OPERATOR	-
-	CONVENIENCE RECEPTS	15A	5	$\vdash$	$\dashv$		6	15A	RECEPTS, STAFF ROOM	_
-	RECEPTS, DORMS	20A	7	-	+	H	8	15A	RECEPTS, STAFF ROOM	_
-	GFI RECEPT, B.F. WC	20A	9	+			10	15A	RECEPTS, DORMS	_
-	SPARE	15A	11	1	+		12	12A	DOOR OPERATOR	_
-	GFI RECEPT, JANITOR'S ROOM	20A	13	+	Н	H	14	15A	SPARE	_
-	LIGHTS	20A	15	+			16	15A	HAND DRYER	1K₩
-	LIGHTS	20A	17	$\vdash$	$\dashv$		18	20A	LIGHTS	_
-	LIGHTS	20A	19	-	$\perp$	H	20	20A	LIGHTS	_
-	EXIT SIGNS	15A	21	$\parallel$	$\downarrow$		22	15A	BATTERY UNIT BU2	_
		20A /	23	$\vdash$	+		24	20A	LIGHTS	_
5KW	DHWH-2		25	-	$\perp$	H	26	15A	SPARE	_
			27	$\perp$	$\downarrow$	H	28	15A	SPARE	_
-	DOMESTIC HOT WATER RECIR. PUMP P-1	15A	29	1	$\vdash$		30	15A	SPARE	_
-	SPACE	_	31	-	$\perp$	H	32	15A	PLUMBING	
-	SPACE	_	33	$\vdash$	$\downarrow$	H	34	15A	SPARE	_
-	SPACE	_	35	$\bot$	$\downarrow$		36	15A	SPARE	_
-	SPACE	_	37	-	+	H	38	15A	SPARE	_
_	SPACE	_	39	$\mathbb{H}$		H	40	15A	SPARE	_
-	SPACE	-	41	$\vdash$	+		42	15A	SPARE	_
NOTE:	PROVIDE TEMPER-PROOF LOCKABLE PAN	EL DOORS	5	_						'

	EL L3 08v,3ph,4w	TYPE: MAINS: MOUNTIN			LOCATION: LEVEL 3					
LOAD	DESCRIPTION	BREAKER		CIR	CUI	TS		BREAKER	DESCRIPTION	LO
-	RECEPTS, DORMS	15A	1	+	+	+	2	15A	RECEPTS, DORMS	
_	RECEPTS, DORMS	15A	3	1	┢	+	4	15A	DOOR OPERATOR	
_	CONVENIENCE RECEPTS	15A	5	1	╀		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	1K\
-	LIGHTS	20A	17	+	╀		18	20A	LIGHTS	
_	LIGHTS	20A	19	-	╀	+	20	20A	LIGHTS	
_	EXIT SIGNS	15A	21	-	┥	+	22	15A	BATTERY UNIT BU3	
		20A /	23	-	+	+	24	20A	LIGHTS	
5KW	DHWH-2		25	-	╁	+	26	15A	SPARE	
			27	1	┢	+	28	15A	SPARE	
-	SPACE	_	29		╁	lack	30	15A	SPARE	
_	SPACE	-	31	-	╀	+	32	15A	PLUMBING	
-	SPACE	-	33	+	┢	+	34	15A	SPARE	
-	SPACE	-	35	$\parallel$	╀	+	36	15A	SPARE	
-	SPACE	-	37	-	+	+	38	15A	SPARE	
_	SPACE	-	39	-	+	+	40	15A	SPARE	
_	SPACE	_	41	1	$\perp$	•	42	15A	SPARE	

	EL L4 08v,3ph,4w	TYPE: MAINS: MOUNTIN	IG:		ON AMPS SSED			LOCATION: LEVEL 4	
LOAD	DESCRIPTION	BREAKER		CIRCI	JITS		BREAKER	DESCRIPTION	LOAD
_	RECEPTS, DORMS	15A	1	+	1 2	2	15A	RECEPTS, DORMS	_
-	RECEPTS, DORMS	15A	3	-	4	4	15A	DOOR OPERATOR	_
-	CONVENIENCE RECEPTS	15A	5	$\mathbb{H}$	+ 6	3	15A	RECEPTS, STAFF ROOM	_
_	RECEPTS, DORMS	20A	7	+	- 8	3	15A	RECEPTS, STAFF ROOM	_
_	GFI RECEPT, WC	20A	9	<b>\</b>	1	0	15A	RECEPTS, DORMS	_
_	SPARE	15A	11		1:	2	12A	DOOR OPERATOR	-
_	GFI RECEPT, JANITOR'S ROOM	20A	13	+	1.	4	15A	SPARE	-
_	LIGHTS	20A	15	1	1	6	15A	HAND DRYER	1KW
-	LIGHTS	20A	17	$\mathbb{H}$	1	8	20A	LIGHTS	-
_	LIGHTS	20A	19	+	2	0	20A	LIGHTS	_
_	EXIT SIGNS	15A	21	1	2	2	15A	BATTERY UNIT BU4	_
IKW	HAND DRYER	15A	23		2	4	20A	LIGHTS	-
_	ADULT TABLE, UNIVERSAL WC	15A	25		2	6	15A	GFI RECEPT, UNIVERSAL WC	_
_	RECEPTS, SINGLE OCCUPANT ROOM	15A	27	1	2	8	15A /	OUTDOOD CONDENSING HAIT OO 4	
_	OUTDOOR RECEPT. GFI, WP	20A	29	$\mathbb{H}$	3	0	1P	OUTDOOR CONDENSING UNIT CC-1	_
_	EXHAUST FAN EF-1	15A	31	+	3	2	15A	PLUMBING	_
-	GFI, WP OUTDOOR RECEPT. ON ROOF	20A	33	1	3	4	20A /	NEW PAGEDOADD AND AND AND AND AND AND AND AND AND	
_	SPACE	-	35	$\mathbb{H}$	3	6	1P	NEW BASEBOARD HEATERS	2.0KW
_	SPACE	-	37	<b> </b>	<b>-</b>   3	8	15A	SPARE	_
-	SPACE	-	39	1	4	0	15A	SPARE	-
_	SPACE	_	41		4	2	15A	SPARE	_

#### LUMINAIRE SCHEDULE

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

VOLTAGE: 120V, DIMMING 0-10V

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

MANUFACTURER: STANPRO, CR6 SERIES OR APPROVED EQUAL. CAT# CR61880-WWW/35K-W-L

TYPF 'I 4'

SURFACE MOUNTED LINIER STRIP, LED, DAY-BRITE BY PHILIPS, FINISH: WHITE

LAMP: LED, 4000K, 3000LM/4FT, 23W
VOLTAGE: 120V, DIMMIMG DRIVER 0-10V.
MANUFACTURER: PHILIPS CAT#LF4FR3035UDZT 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, L2SSS 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, DIMMIMG DRIVER 0-10V.
MANUFACTURER: STANPRO CAT#L2SSS-48LS1-W/35K OR APPROVED EQUAL

TYPF 'I

LINIER 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.

YPE 'L7'

CUSTOM SUPER=G MODULE SYSTEM LIGHT FIXTURE BY ZANEEN, SURFACE
MOUNTED
SHAPE AND LENGTH TO MATCH SHAPE AND LENGTH ASSHOWN ON ARCHITECTURAL
DRAWING. PROVIDE ALL COMPONENTS TO ACHIEVE REQUIRED SHAPE, INCLUDE
MOUNTING KIT

FINISH: AS PER ARCHITECT LAMP: LED, 4000K, 0-10V DIIMING 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, DIMMIMG 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 PHOTOCELL

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

- 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.
- 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.# LMDC-100 SERIES.

#### NOTES:

- 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.
- 3. 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.
- 6. 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.

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SHARMA & PARTNERS INC.

Mechanical and Electrical Engineers

85 Curlew Drive, Unit 108
Toronto, Ontario
M3A 2P8
Tel.: (416) 291-8822

SPI PROJECT #: 2018-1039

# WORKSHOP architecture

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### Davenport Shelter

348 Davenport Road Toronto, ON M5R 1K6

PROJECT CODE:	SCALE:
18_22	N.T.S.
DATE:	STATUS:
04 Sept 2018	Issued for Construct

### Panes Schedules





#### GENERAL ELECTRICAL CONDITIONS - SECTION 16050

- 1. COMPLY WITH GENERAL CONDITIONS OF THE CONTRACT AND DIVISION 15, MECHANICAL SPECIFICATIONS. DIVISION 15 SHALL BE THE PRIME CONTRACTOR.
- 2. THIS SECTION APPLIES TO ALL SECTIONS OF DIVISION 16.
- 3. PROVIDE EACH ITEM MENTIONED OR INDICATED OF QUALITY AND SUBJECT TO QUALIFICATIONS NOTED; PERFORM ACCORDING TO CONDITIONS STATED EACH OPERATION PRESCRIBED; AND PROVIDE THEREFORE ALL LABOUR, MATERIAL, EQUIPMENT, INCIDENTALS AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION.
- 1. 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.
- 6. 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.

- 7. ALL MATERIAL SHALL BE STORED NEATLY AND OUT OF THE WAY. CLEAN UP DAILY ALL REFUSE CAUSED BY WORK.
- 8. 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.
- 9. 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.
- 10. 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.
- 11. 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. 12. 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.
- 13. PAY ALL FEES FOR EXAMINATION OF DRAWINGS AND OBTAIN ALL PERMITS REQUIRED AND PAY ALL PERMIT AND INSPECTION FEES.
- 14. 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
- 15. ON AWARD OF CONTRACT, SUBMIT FOR REVIEW LIST OF DELIVERY DATES AND 7 COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT. 16. ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS, NOISE AND VIBRATION. ALL EQUIPMENT SHALL BE CSA APPROVED.
- 17. SCHEDULE AND COORDINATE ALL WORK WITH OTHER TRADES. RELOCATE OR REPLACE CONDUIT OR EQUIPMENT WHICH INTERFERES WITH OTHER TRADES DUE TO LACK OF COORDINATION
- 18. THE OWNER SHALL HAVE TEMPORARY USE OF INSTALLATION PRIOR TO FINAL ACCEPTANCE.
- 19. 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
- 20. ALL ELECTRICAL EQUIPMENT MOUNTED AND CONNECTED BY THIS CONTRACTOR, WHETHER SUPPLIED BY HIM OR NOT, SHALL BE IDENTIFIED BY MEANS OF PLASTIC NAMEPLATES.

EXTRA CLAIM FOR RELOCATION OF ANY EQUIPMENT WITHIN 10 FEET (3M) FROM THE ORIGINAL LOCATION, PROVIDED THAT THE CHANGE IS MADE BEFORE INSTALLATION.

- ALL WIRING SHALL BE CONCEALED EXCEPT IN UNFINISHED AREAS AND IN AREAS NOTED WHERE WIRING MAY BE INSTALLED IN SURFACE CONDUITS.
- 2. RIGID STEEL CONDUITS SHALL BE USED IN: ALL EXPOSED WIRING SUBJECT TO MECHANICAL DAMAGE,
- ALL AREAS REQUIRED BY CODE 3. EMT CONDUITS MAY BE USED WHERE PERMITTED BY CODE:
- EXPOSED WIRING. IN FURRED WALLS.

WITH OTHER TRADES.

- 4. 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. 6. HOME RUNS OF WIRING TO PANELS SHALL BE IN CONDUITS.
- 22. ALL LOW VOLTAGE AND MULTI CONDUCTOR CABLES SHALL BE INSTALLED IN CONDUIT.
- 23. 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 TYPE 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)
- 24. 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:
- 1. TOP OF PANEL BOARD 78" (1980MM) 2. LIGHT SWITCH - 47" (1200MM)
- MOTOR STARTER/THERMOSTAT SAME AS LIGHT SWITCH RECEPTACLE, TELEPHONE, DATA, ETC. - 18" (460MM)
- 5. RECEPTACLES IN MECHANICAL ROOMS AND OTHER UNFINISHED AREAS 47" (1200MM)
- 25. 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.
- 26. 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
- 27. ALL CONDUITS AND OUTLET BOXES SHALL BE SUPPORTED FROM THE BUILDING SURFACES AND SHALL NOT BE SUPPORTED FROM OTHER CONDUITS, DUCTS OR PIPES.
- 28. 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 TREMCO, 3M OR EQUAL.

#### RACEWAY, ELECTRICAL DEVICES AND CONTROLS - SECTION 16100

- 1. PROVIDE ALL MATERIAL, EQUIPMENT AND LABOUR REQUIRED FOR A COMPLETE AND ADEQUATE INSTALLATION OF ELECTRICAL MATERIALS AS SHOWN ON THE DRAWINGS AND AS
- 2. SWITCHES SHALL BE UNLESS OTHERWISE INDICATED, PASS & SEYMOUR, WHITE, DECORA TYPE AS FOLLOWS:
- .1 SPECIFICATION GRADE 15A SINGLE POLE 120V 2601-W 2621-W 3 WAY 120V 2603-W 2623-W 4\_WAY 120V 2604-W 2624-W

DESCRIBED HEREIN.

- .2 SWITCHES OF EQUAL QUALITY AS MANUFACTURED BY BRYANT, ARROW HART, LEVITON, HUBBLE.
- 3. COVERPLATES FOR RECEPTACLES, LIGHT SWITCHES, TELEPHONE, DATA AND TV OUTLETS SHALL BE SMOOTH THERMOPLASTIC FROM THE SAME MANUFACTURER AS FOR WRING DEVICES, COLOUR SHALL MATCH COLOUR OF WIRING DEVICES.
- 4. 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).

#### <u>SERVICES AND DISTRIBUTION - SECTION 16400</u>

- PROVIDE ALL MATERIAL, EQUIPMENT AND LABOUR REQUIRED FOR A COMPLETE AND ADEQUATE DISTRIBUTION SYSTEM AS DESCRIBED HEREIN.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. UNLESS OTHERWISE NOTED, TWO AND THREE POLE MOULDED CASE CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING CAPACITY OF 22KA RMS SYMMETRICAL, AND
- 6. EACH FUSIBLE UNIT OR BREAKER SHALL HAVE A LAMACOID NAMEPLATE ATTACHED WITH CONTACT CEMENT OR SCREWS. NAMEPLATE SHALL CARRY NAME OF EQUIPMENT OR
- PANEL SERVED BY THE UNIT OR BREAKER.
- 7. DISCONNECT SWITCHES SHALL BE TYPE A, HORSEPOWER RATED, "SWITCHMATIC" BY FEDERAL PIONEER OR EQUAL BY SQUARE D, CUTLER-HAMMER, SIEMENS.
- 8. FUSES SHALL BE HRC FORM 1. FUSES PROTECTING MOTORS OR TRANSFORMERS SHALL BE TIME DELAY TYPE.
- 9. 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

- 1. SUPPLY AND INSTALL ALL LIGHTING FIXTURES, LAMPS, AND ALL REQUIRED ACCESSORIES AS INDICATED ON THE DRAWINGS BY LETTER TYPE AND AS HEREINAFTER SPECIFIED.
- 2. SUBMIT SHOP DRAWINGS FOR EACH LIGHTING FIXTURE TYPE.
- 3. 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 4. INCANDESCENT LAMPS SHALL BE 130V STANDARD SERVICE TYPE AS MANUFACTURED BY G.E., PHILIPS, OR SYLVANIA, UNLESS OTHERWISE NOTED.
- 5. 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.
- 6. FLUORESCENT T\_8 LAMPS SHALL BE BI\_PIN, RAPID START, 3500K WITH CRI OF 85, INITIAL LUMENS OF 3000 FOR F32 T\_8, AS MANUFACTURED BY G.E., PHILIPS, OSRAM, OR 7. 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 EMI AND RFI EMISSION. BALLASTS SHALL BE MANUFACTURED TO CERTIFIED BALLAST MANUFACTURERS STANDARDS AND AS MANUFACTURED BY G.E./MOTOROLA, ADVANCE/E.B.T., MAGNETEK, FLOTRONIC (347V ONLY) OR OSRAM.
- 8. DRIVERS FOR LED LIGHTS TO BE DIMMABLE (0-10) WHERE DIMMING CONTROL IS SHOWN
- 9. ALL LIGHTING FIXTURES, INCLUDING THOSE MOUNTED IN SUSPENDED CEILING, TO BE SUPPORTED FROM BUILDING STRUCTURE.
- 10. 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

- 1. 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, REPOUTING, 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.
- 3. 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
- 4. 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.
- 5. ALL WIRING SHALL BE RUN CONCEALED WHERE POSSIBLE EXCEPT THAT CONDUITS IN UNFINISHED AREAS AND ON EXISTING WALLS AND CEILING MAY BE INSTALLED ON
- 6. REWORK EXISTING POWER SERVICE AND DISTRIBUTION TO SUIT MECHANICAL EQUIPMENT REVISIONS. PROVIDE NEW POWER PANEL, SPLITTER AND FUSIBLE UNITS, ETC., AS
- 7. 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.
- 8. POWER SHUTDOWN, IF REQUIRED, MUST BE COORDINATED WITH CLIENT'S REPRESENTATIVE.
- 9. 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.
- 10. ALL UNUSED FUSED SWITCHES AND CIRCUIT BREAKERS SHALL BECOME SPARE. PROVIDE NEW, UP—DATED DIRECTORIES FOR PANELS.
- 11. 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.
- 12. 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.

#### <u>FIRE ALARM SYSTEM - SECTION 16720</u>

- 1. THE FIRE ALARM SYSTEM IS EXISTING NOTIFIER 5000 CONVENTIONAL, SINGLE STAGE.
- 2. REMOVE OLD DEVICES AS SHOWN AND PROVIDE NEW.
- 3. NEW SMOKE DETECTOR, SPEAKERS/STROBE, PULL STATION AND ALL F.A DEVICES AND ACCESSORIES SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM.
- 4. ALLOW FOR RE-WIRING (NEW WIRING FOR DEVICES OR/AND DEVICES ZONES TO FIRE ALARM PANEL) TO SUIT NEW QUANTILES, TYPE, LOCATIONS ETC. OF DEVICES
- 5. EXISTING FIRE ALARM BELLS TO BE REMOVED. PROVIDE NEW SPEAKER/STROBE THROUGH THE BUILDING.
- REVISE 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
- 7. 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).
- 8. THIS CONTRACTOR TO ALLOW IN CONTACT FOR SITE INVESTIGATION TO VERIFY ALL DEVICES AND ZONES
- 9. 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).
- 10. COMPLETE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF CAN/ULC-S524 "STANDARD FOR THE INSTALLATION OF FIRE ALARM SYSTEMS" AND SHALL BE VERIFIED TO CAN/ULC-S537 "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.

- .1 SEPARATION OF WIRING SHALL ADHERE TO SUGGESTED WIRING AND INSTALLATION GUIDE OF CAN/ULC-S524.
- 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 I REQUIREMENTS. CONDUCTORS SHALL BE SOLID COPPER. THE MINIMUM SIZE OF ANY CONDUCTOR SHALL BE:
- .1 FOR ALARM RECEIVING CIRCUIT #18 AWG TWISTED SHIELDED PAIRS. IN NO CASE SHALL THE WIRE RESISTANCE IN THESE CIRCUITS EXCEED 50 OHMS.
- .3 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%.
- .4 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. 12. VERIFICATION AND CERTIFICATION OF EQUIPMENT:

- .1 THAT THE TYPE OF EQUIPMENT INSTALLED IS THAT DESIGNATED IN THE SPECIFICATIONS.
- .2 THAT THE WIRING CONNECTIONS TO ALL EQUIPMENT COMPONENTS SHOW THAT THE INSTALLER UNDERTOOK TO HAVE OBSERVED ULC AND CSA REQUIREMENTS.
- .3 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.
- .4 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.
- .5 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.
- .6 OPEN FLAME AND SMOKE ARE NOT TO BE USED FOR TESTING.
- 13. COMPLETION OF THE INSPECTION AND WHEN ALL OF THE ABOVE CONDITIONS HAVE BEEN COMPLIED WITH, THE MANUFACTURER SHALL ISSUE TO THE CONSULTANT: .1 A COPY OF THE INSPECTING TECHNICIAN'S REPORT SHOWING LOCATION OF EACH DEVICE AND CERTIFYING THE TEST RESULTS OF EACH DEVICE.
- .2 A CERTIFICATE OF VERIFICATION CONFIRMING THAT THE INSPECTION HAS BEEN COMPLETE AND SHOWING THE CONDITIONS UPON WHICH SUCH INSPECTION AND CERTIFICATION HAVE BEEN RENDERED.
- .3 PROOF OF LIABILITY INSURANCE FOR THE INSPECTION. 14. ALL COSTS INVOLVED IN THIS INSPECTION SHALL BE INCLUDED IN THE TENDER PRICE

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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

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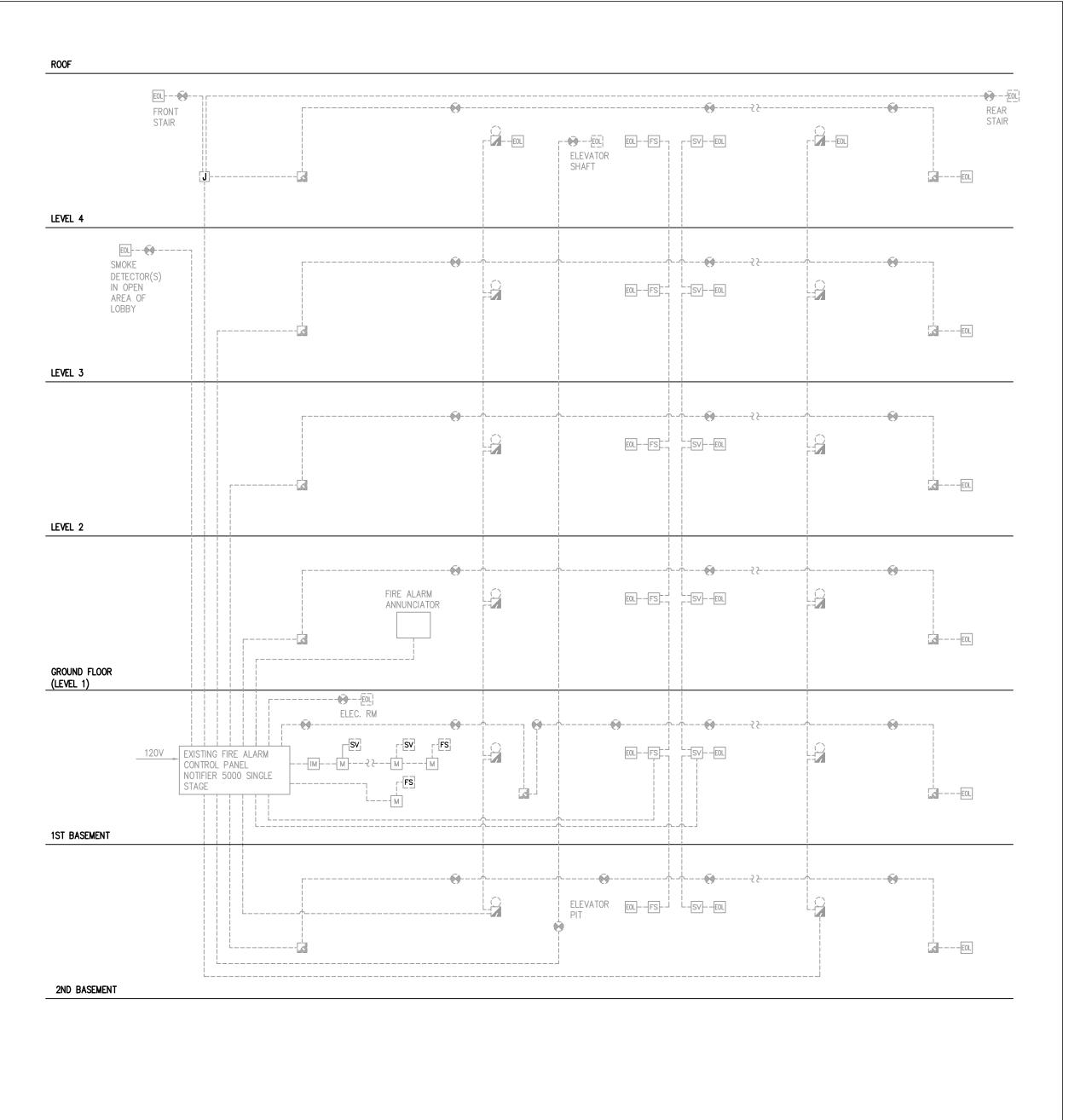
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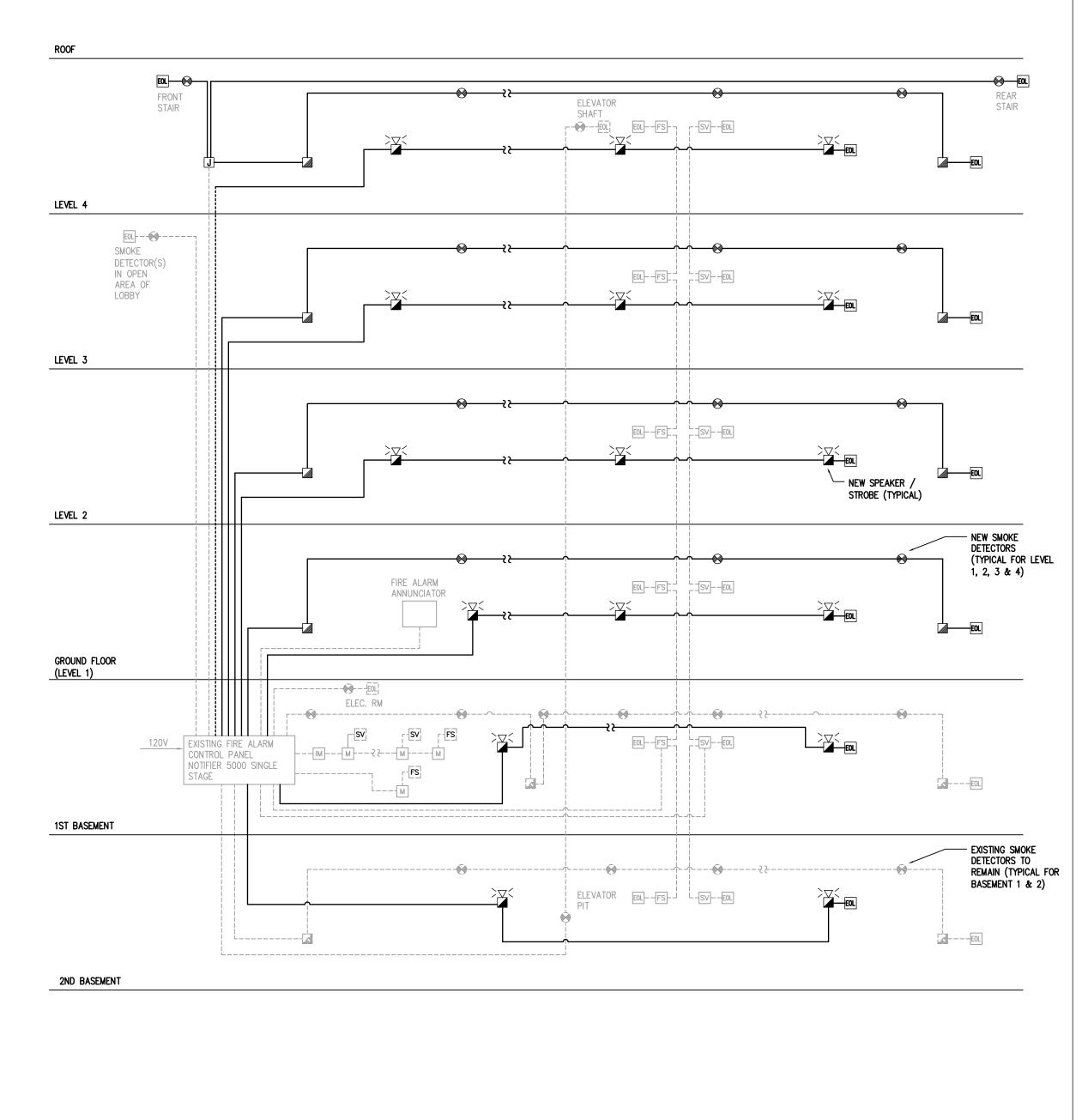
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PROJECT CODE: SCALE: N.T.S. STATUS: DATE: Issued for Construction

Electrical Specification







EX ———	ISTING FIRE ALARM ZONING SCHEDUL
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	

RevDescriptionDate1Final Review16 July '182Issued for Permit & Tender16 July '183Issued for Addendum EAD-130 July '184Issued for Construction04 Sept '18

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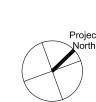
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<u> </u>	
04 Sept 2018	Issued for Constructi
DATE:	STATUS:
18_22	N.T.S.
PROJECT CODE:	SCALE:

Fire Alarm System







M MODULES

IM ISOLATION / ZONE MODULES

FS FLOW SWITCH

SV SUPERVISED VALVE

EDL END OF LINE DEVICE

THIS LINE TYPE DENOTES NEW

THIS LINE TYPE DENOTES EXISTING

DRAWING LEGEND

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.

NOTES:

FIRE ALARM RISER DIAGRAM — NEW LAYOUT SCALE: N.T.S.