

	LIGHTING		POWER
Х	LIGHT FIXTURE TYPE AS INDICATED	Φ	WALL MOUNTED RECEPTACLE (15A-120V)
Ø Ø	CEILING OR WALL MOUNTED LIGHT FIXTURE TYPE AS INDICATED		WALL MOUNTED T-SLOT RECEPTACL (20A-120V)
<b>Ø</b>	WALL MOUNTED EXIT LIGHT SHADING INDICATES FACE	<b>#</b>	T-SLOT RECEPTACLE MTD. ABOVE COUNTER (20A-120V)
FRF	SINGLE OR TWIN EMERGENCY LIGHTING FIXTURE	₽₽s	RECEPTACLE MTD. ABOVE COUNTER S=SPLIT (15A-120V)
≅ ≅ EM-X	BATTERY UNIT WITH INTEGRAL EMERGENCY FIXTURE (EM-X INDICATES BATTERY UNIT	<b>—</b>	PANEL AS INDICATED
DC-X	TYPE, DC-X INDICATES DC CIRCUIT, AND X-X INDICATES AC SOURCE CIRCUIT	ㅁ	UNFUSED DISCONNECT
\$	SINGLE POLE SWITCH (3=3 WAY, 4=4 WAY, P=PILOT LIGHT, K=KEYED, DM=DIMMER, M=MOTOR RATED)	HD	HAND DRYER
\$°s	OCCUPANCY SENSOR (PASSIVE)	•	PUSH-BUTTON STATION
OS	DIGITAL CEILING MOUNTED MOTION SENSOR		COMMUNICATIONS
DR	DIGITAL ROOM CONTROLLER	$\nabla$	SINGLE COMPUTER OUTLET UNLESS OTHERWISE NOTED C/W 1" (27mm) TO HANGER SYSTEM IN NEAREST
PK	POWER PACK		CORRIDOR CEILING SPACE. 'WAP' WIRELESS ACCESS POINT
XB	DIGITAL WALL STATION, 'X' DENOTES NUMBER OF CONTROL BUTTONS IN SINGLE GANG	8	WALL MOUNTED SPEAKER (CS=COLUMN SPEAKER)
	ACCESS CONTROL	\$	CEILING MOUNTED SPEAKER
ES	ELECTRIC STRIKE. CONFIRM ROUGHIN WITH DOOR HARDWARE.		GENERAL
PTL	"PUSH-TO-LOCK" BUTTON	ER	INDICATED EXISTING ITEM TO REMAIN
<b>●</b> EM	EMERGENCY PUSH BUTTON STATION	D	INDICATES EXISTING ITEM TO BE DELETED
DL-	"ASSISTANCE REQUIRED" DOME LIGHT WITH SOUNDER	R	INDICATES EXISTING ITEM TO BE RELOCATED/IN RELOCATED POSITION
á	"ASSISTANCE REQUIRED" INDICATOR LIGHT WITH SOUNDER	WG	WIREGUARD
	FIRE ALARM	GF	GROUND FAULT
8	ALARM BELL (A, B = SIGNAL CIRCUIT)	X	NOTE INDICATOR
	İ		†

STANDARD CIRCUITING LABELING

SWITCH LEG (IF APPLICABLE)

Consulting Engineers

MECHANICAL ELECTRICAL AQUATIC

55 Northland Road, Waterloo, ON N2V 1Y8

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

2021 DEI & Associates Inc.

55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555 Fax: 519-725-2515
Website: deiassociates.ca
Project Number: 20152





SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

> 1042 Weber Street E. Kitchener, ON N2A 1B6

DRAWING TITLE:

FEB 2021

LEGEND AND KEY PLAN

PROJECT NO:
A20002.7

DRAWN:
TM

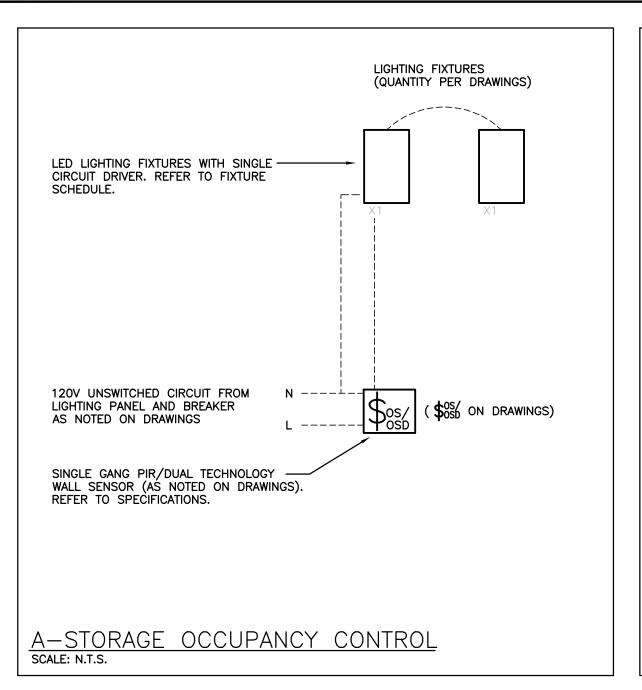
CHECKED:
J.J.

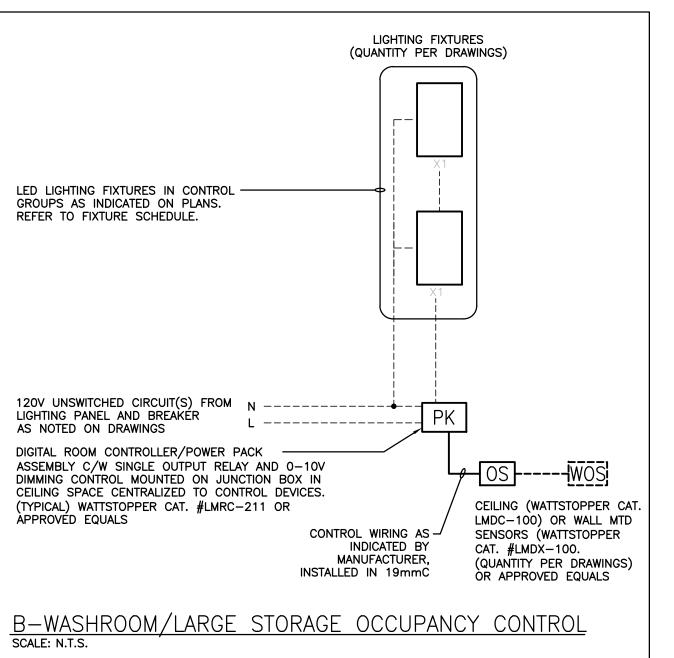
SCALE:
AS NOTED

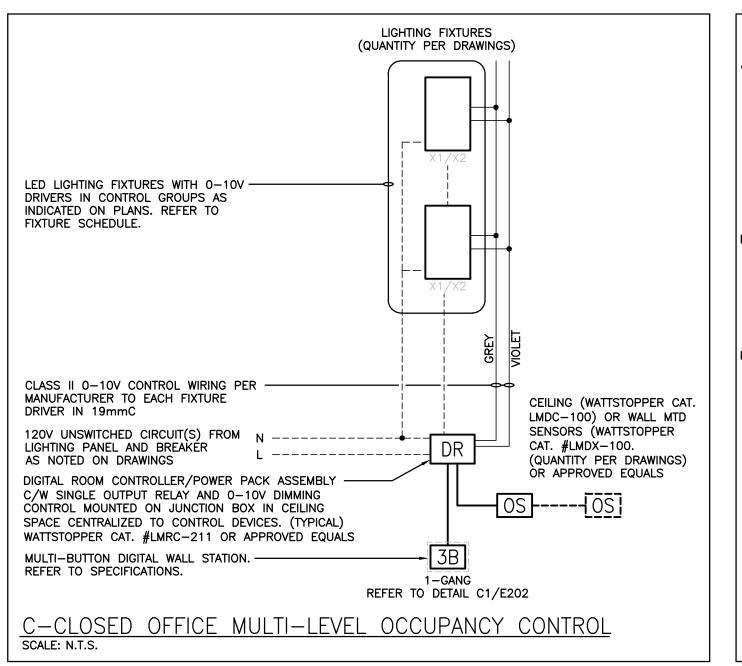
DRAWING NO: REV.

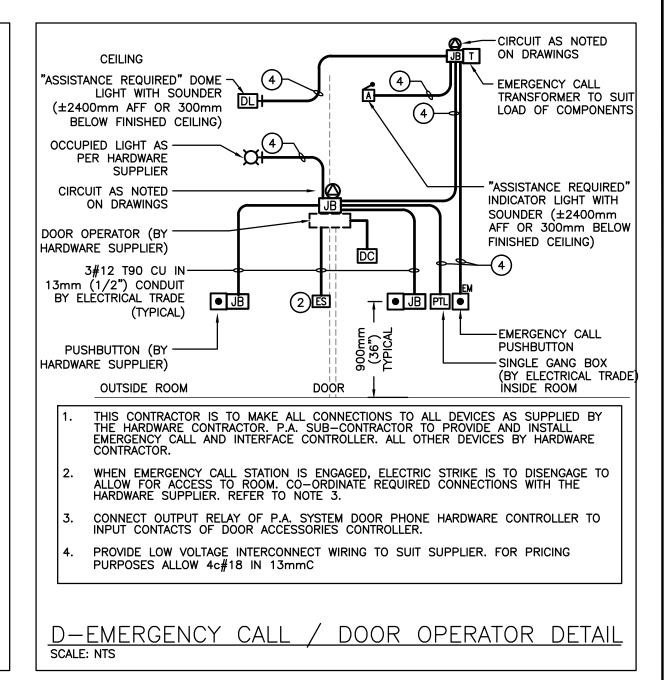
E101

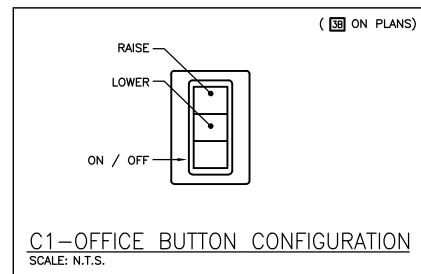




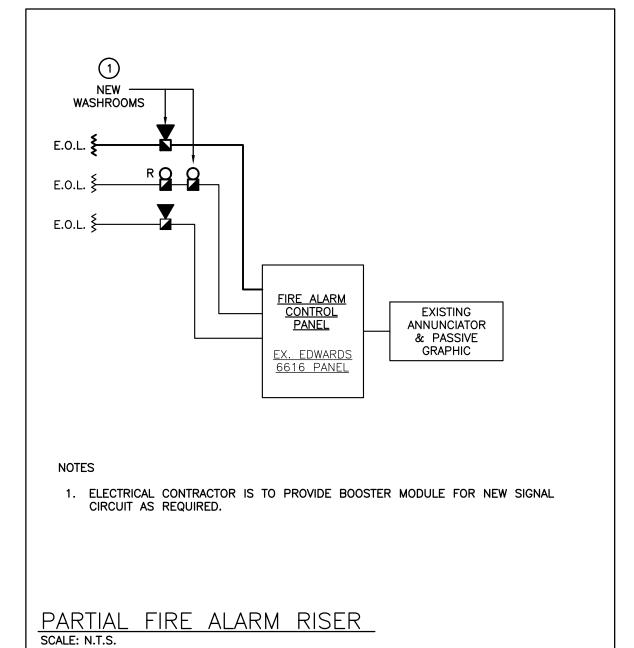








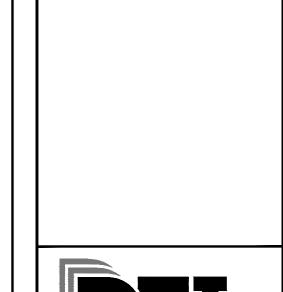
<u> </u>	<u>EQUIPMEN</u>	Τ	WI	RIN	1 <u>G</u>	S	SCH	HE[	DU	<u>LE</u>																							E=ELECTRICAL M=MECHANICAL O=OTHERS
	Description		ı	Data				Start	er		Co	ontro	l Dev	ice			olatir Devic					Re	mote	Iten	ns					Inte	rlock		Remarks
Electrical Item	Description	Provided by	Voltage	Size hp/kW/Amps	Phase	Magnetic	Manual	Contactor	Combination	Variable Frequency Drive	Hand/Off/Auto	On/Off Selector	Start/Stop PB.	High/Low/Off	Pilot Light	Disconnect	WP Disconnect	Brkr/Fuse	Starter/Device Wired By	Thermostat	RA Thermostat	Time Clock	1 1	Motor Kated Sw. c/w Pilot Light	Dual Voltage Relay	Control Panel	Wired by	Bldg Auto System	Wired by	Interlock To	Interlock By		Description
1	GAS HEAT PUMP GHP-1,6	М	208	0.0	1												Е	Ε	Е													ROOF	
2	GAS HEAT PUMP GHP-2,3,4	М	208	1.0 kW	1												Е	Ε	Е													ROOF	
3	GAS HEAT PUMP GHP-5	М	208	0.0	1												Е	Ε	Ε													ROOF	
4	INDOOR UNITS RF-2-1	М	208	0.5	1											Ε		Е	Е	М							М	М	М				
5	RECESS/SUSP. RF FAN COIL	М	208	0.0	1											Ε		Ε	Ε	М							М	М	М				
6	WALL MOUNT RF FAN COIL	М	208	0.6	1											Е		E	Е	М							М	М	М				
7	CONDENSATE PUMP	М	120		1											Е		Е	Е														
8	URINAL CONTROLLER	М	120	FHP	1											E		E	E							М	M/E						



	ltem	Manufacturer/Catalog Number	Voltage	Lamp	Mounting	Description
LITHONIA CAT.#ZL1D-L48-5000LM-FST-MVOLT-35K-80CRI-WH SIGNIFY CAT.#FSS440L830-UNV-DIM  EMERG. BEGHELLI TEMPESTA SERIES: EM-1 #TA-LED-EM-120-TB-90SP (RECESSED TBAR MOUNT)  OR APPROVED EQUALS BY: EMERGILITE STANPRO DUAL-LITE  WHITE FINISH.  WHITE FINISH.  WHITE FINISH.  WHITE FINISH.  VANDAL RESISTANT LONG LIFE, SEALED BATTERY C/W 17W LED MODULES, POLYCARBONATE BODY AND 90 MINUTE BATTERY DURATION	L3	#24-GR-LD5-38-A125-UNV-L840-CD-1 C/W SK-24-WS LITHONIA CAT. #2GTL-4-40L-EZ1-LP840 C/W 2X4SMKSHP PAF	120V	3800 LUMENS 4000K	RECESSED	PATTERN 12 LENS, WHITE FINISH AND
BATT. EM-1 #TA-LED-EM-120-TB-90SP (RECESSED TBAR MOUNT)  OR APPROVED EQUALS BY: EMERGILITE STANPRO DUAL-LITE  C/W 17W LED MODULES, POLYCARBONATE BODY AND 90 MINUTE BATTERY DURATION	LU	LITHONIA CAT.#ZL1D-L48-5000LM-FST-MVOLT-35K-80CRI-WH	120V	3500 LUMENS 4000K	SURFACE	
		EM-1 #TA-LED-EM-120-TB-90SP (RECESSED TBAR MOUNT)  OR APPROVED EQUALS BY: EMERGILITE STANPRO DUAL-LITE	12V/120V	N/A	AS NOTED	C/W 17W LED MODULES, POLYCARBONATE BODY

Space Type	Room Names	Control Sequence / Control Device(s):	Control System	
ustodial Office TYPICAL		Sequence: ON: Lights turned on to 50% output setting via occupancy sensor(s). ADJUST: The occupant manually adjusts lighting within the room to desired level or preset in each group via wall scene station. OFF: 5 minutes after the room has been vacated, the lights will automatically turn off.	DIGITAL ROOM CONTROL SYSTEM	
Washrooms/Storage	shrooms/Storage  TYPICAL  Sequence: ON: Lights turned on automatically via occupar OFF: 5 minutes after the room has been vaca automatically turn off.		LINE VOLTAGE OCCUPANCY CONTROL SYSTEM	

COLOURS OR EQUAL). PROVIDE THIS COLOUR CHART WITH SHOP DRAWING SUBMITTAL.



The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

© 2021 DEI & Associates Inc.

Consulting Engineers ()
MECHANICAL ELECTRICAL AQUATIC

55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555 Fax: 519-725-2515
Website: deiassociates.ca
Project Number: 20152





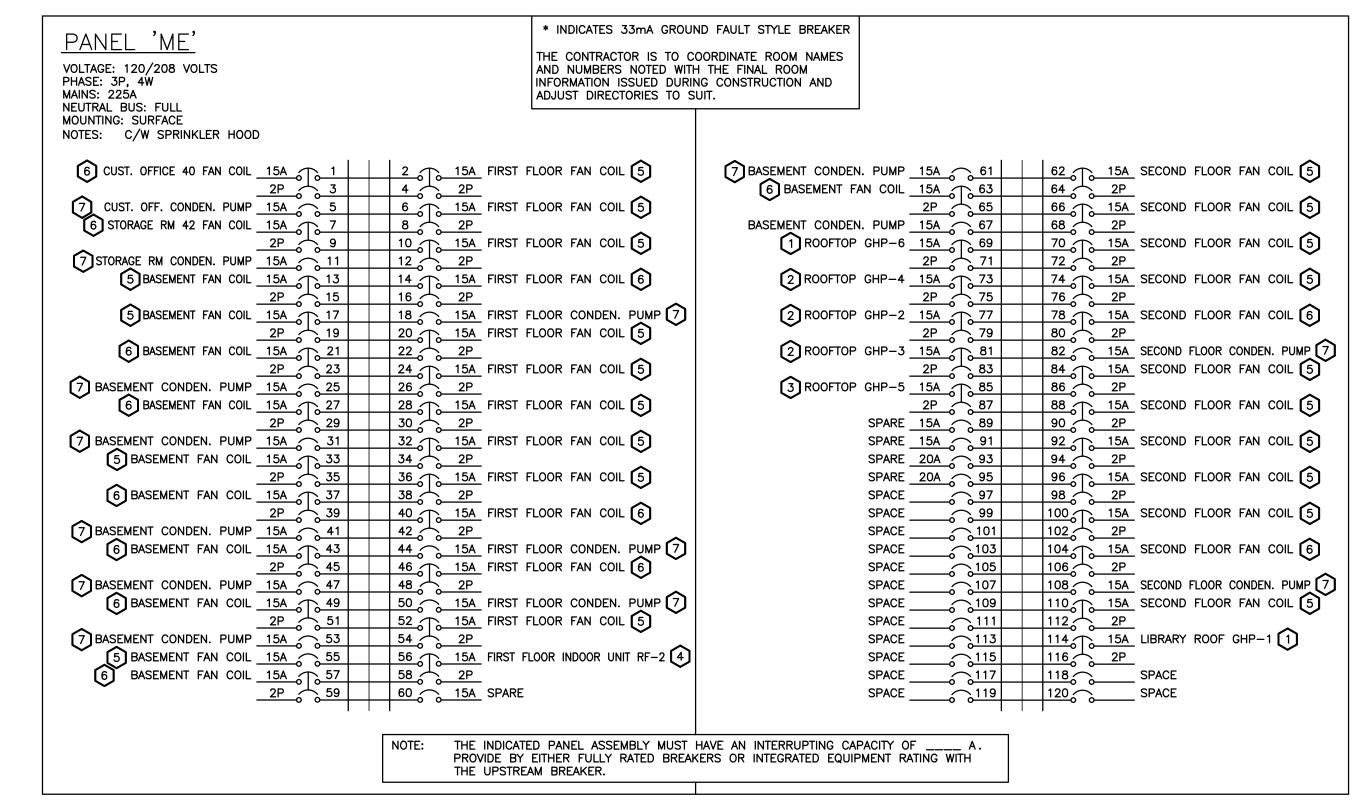
SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

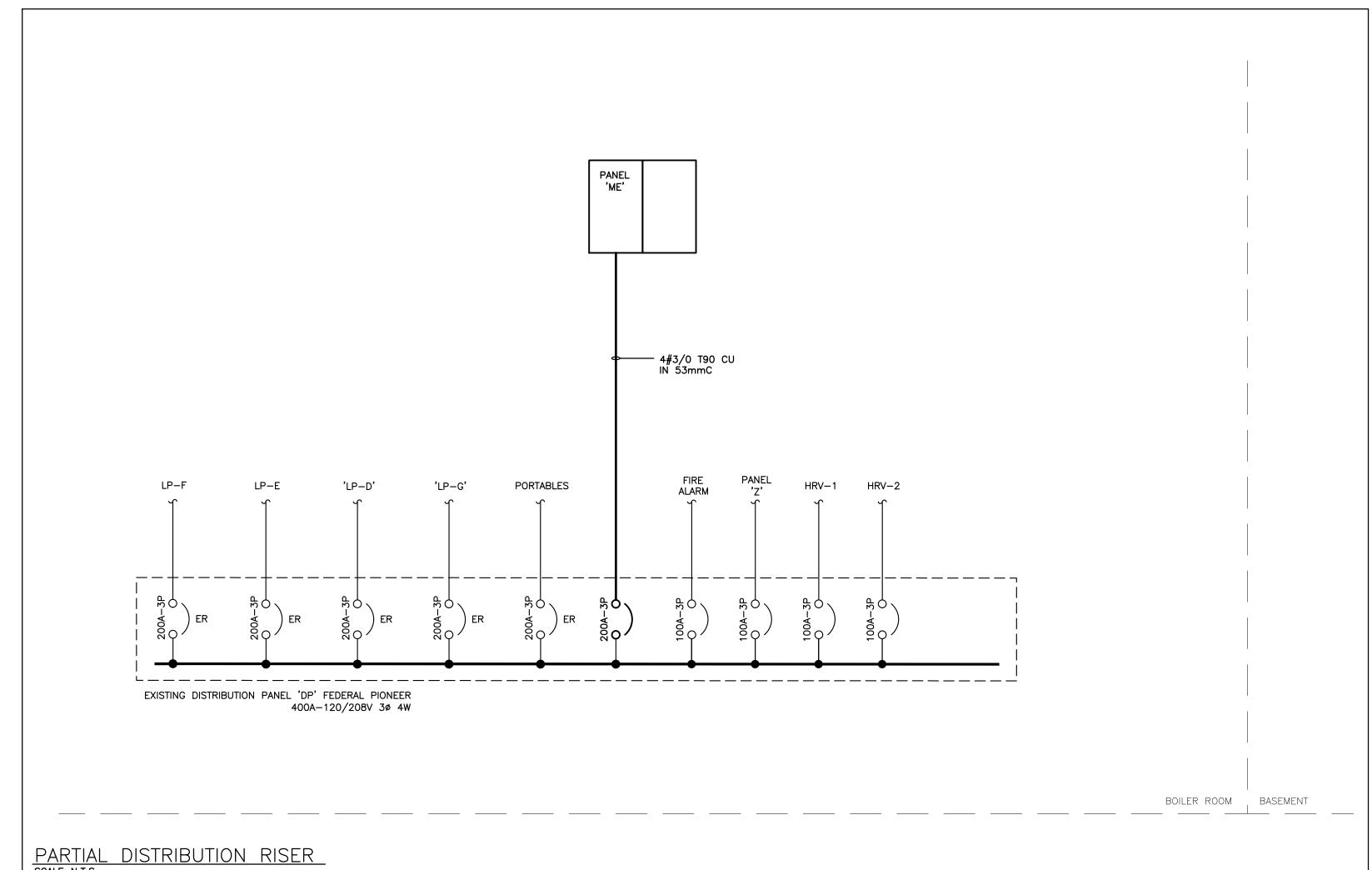
AC & WASHROOM UPO 1042 Weber Street E. Kitchener, ON

N2A 1B6

SCHEDULES AND DETAILS

PROJECT NO:	SCALE:	
A20002.7	AS NOTED	)
DRAWN:	DRAWING NO:	REV.
TM		
CHECKED:		
J.J.	E102	
DATE:		
FEB 2021		





VOLTAGE: 1	NG PANEL '				
PHASE: 3P,	4W				
MAINS: 225 NEUTRAL B					
MOUNTING:					
NOTES: SQU	JARE D TYPE E2				
ER	EXISTING _	15A 1	2 0 1	<u>5A</u> EXISTING	
ER	EXISTING _	15A 3	4 0 1	<u>5A</u> EXISTING	
ER	EXISTING _	15A 5	6 0 1	<u>5A</u> EXISTING	
ER	EXISTING _	15A 7	8 0 1	<u>5A</u> EXISTING	
ER	EXISTING _	15A 9	10	SPACE	
ER	EXISTING <sub>-</sub>	15A 11	1 0 0	<u>5A</u> EXISTING	
ER	SPACE _	13	14 0 1	<u>5A</u> EXISTING	
ER	EXISTING <sub>-</sub>		16	SPACE	
ER	EXISTING _		18	SPACE	
ER	EXISTING _	<del></del>	20	SPACE	
ER	SPACE _	21	22	SPACE	
ER	EXISTING _	<del></del>	24	SPACE	
ER	EXISTING _		26	SPACE	
ER	EXISTING		28	SPACE	
ER	SPACE	29	30	SPACE	
ER	EXISTING _	0   0	1 0 0	5A EXISTING	
ER ER	-	3P 35	34 0 0 1	5A EXISTING	
ER	- EXISTING	3P 35 35 37		 3P	
ER	LXISTING _	39	40	SPACE	
ER	-	3P 41	42	SPACE	
ER	SPACE	43	44	SPACE	
ER	SPACE _	45	46	SPACE	
ER	SPACE -	47	48	SPACE	
ER	SPACE	49	50	SPACE	
ER	·	51	52	SPACE	
ER	00.00	53	54	SPACE	
ER	SPACE	55	56	SPACE	
ER	SPACE	57	58	SPACE	
ER	SPACE	59	60	SPACE	
ER	SPACE _	61	62	SPACE	
ER	SPACE	63	64	SPACE	
					l l
ER	SPACE	65	66	SPACE	

<u>PROPOSE</u>	ED PANEL 'F	SCH	HED	ULE	PRO DIRE	THE COMPLETION OF THE PROJ VIDE A NEW TYPE WRITTEN PAI ECTORY AND INCLUDE A COPY MAINTENANCE MANUALS	NEL
ER	EXISTING 15A	1		2	15A	EXISTING	ER
ER	EXISTING 15A	3		4	15A	EXISTING	ER
ER	EXISTING 15A	5		6	15A	EXISTING	ER
ER	EXISTING 15A	7		8	15A	EXISTING	ER
ER	EXISTING 15A	9		10		SPACE	ER
ER	EXISTING 15A	( 11		12	15A	EXISTING	ER
ER	SPACE	13		14	15A	EXISTING	ER
ER	EXISTING 15A	( 15		16		SPACE	ER
ER	EXISTING 15A	17		18		SPACE	ER
ER	EXISTING 15A	19		20		SPACE	ER
ER	SPACE	21		22		SPACE	ER
ER	EXISTING 15A	23		24		SPACE	ER
ER	EXISTING 15A	25		26		SPACE	ER
ER	EXISTING 15A	27		28		SPACE	ER
ER	SPACE	29		30		SPACE	ER
ER	EXISTING 15A	31		32	15A	EXISTING	ER
ER		33		34	15A	EXISTING	ER
ER	3P	35		36			ER
ER	EXISTING 15A	37		38	3P		ER
ER		39		40	20A	UNIV. W/R 43a REC	NB
ER	3P	41		42	15A	CUSTODIAN OFFICE 40 REC	NB
ER	SPACE	43		44	15A	STORAGE ROOM 42 REC.	NB
ER	SPACE	45		46	15A	WASHROOM PLUMBING (8)	NB
ER	SPACE	47		48	15A	UNIV. W/R 43a DOOR OPERATOR	NB
ER	SPACE	49		50	15A	BOYS W/R 43 HAND DRYER	NB
ER	SPACE	51		52	15A	BOYS W/R 43 REC	NB
ER	SPACE	53		54	15A	CUSTODIAN CLOSET 40a REC	NB
ER	SPACE	55		56	20A	ROOFTOP MAINTENANCE REC	NB
ER	SPACE	57		58		SPACE	ER
ER	SPACE	59		60		SPACE	ER
ER	SPACE	61		62		SPACE	ER
ER	SPACE	63		64		SPACE	ER
ER	SPACE	65		66		SPACE	ER

SPACE 69 70 SPACE
SPACE 71 72 SPACE

# **DESIGNATION**

'ER' INDICATES EXISTING SERVICE AND BREAKER THAT SHOULD REMAIN UNTOUCHED 'SP' INDICATES EXISTING BREAKER THAT MAY BECOME SPARE DUE TO DEMOLITION. (CONFIRM ON SITE) 'RW' INDICATES EXISTING BREAKER THAT SHOULD BE REWIRED TO SERVICE DEVICES INDICATED ON PLAN 'SB' INDICATES SPARE BREAKER TO BE USED FOR NEW SERVICE INDICATED. 'NB' INDICATES NEW BREAKER AND WIRING TO SERVICE INDICATED. PROVIDE MOUNTING HARDWARE AS

SPACE 69 70 SPACE SPACE 71 72 SPACE

'D' INDICATES EXISTING BREAKER TO BE REMOVED COMPLETE. PROVIDE FILLER PLATES AS REQUIRED.

NOTES: THIS CONTRACTOR IS TO INVESTIGATE BREAKERS AND REVISE PANEL SCHEDULES TO SUIT RENOVATION, NOTING ANY BREAKERS THAT BECOME SPARE DUE TO DEMOLITION. THIS CONTRACTOR IS ALSO TO NOTIFY THE CONSULTANT OF ANY BREAKERS THAT ARE INDICATED TO BE DEMOLISHED OR REUSED, BUT WHICH ARE IN USE BY OTHER DEVICES OR SERVICES.

RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR





Project Number: 20152



SUNNYSIDE PUBLIC SCHOOL **HVAC & WASHROOM UPGRADE** 

1042 Weber Street E. Kitchener. ON

N2A 1B6

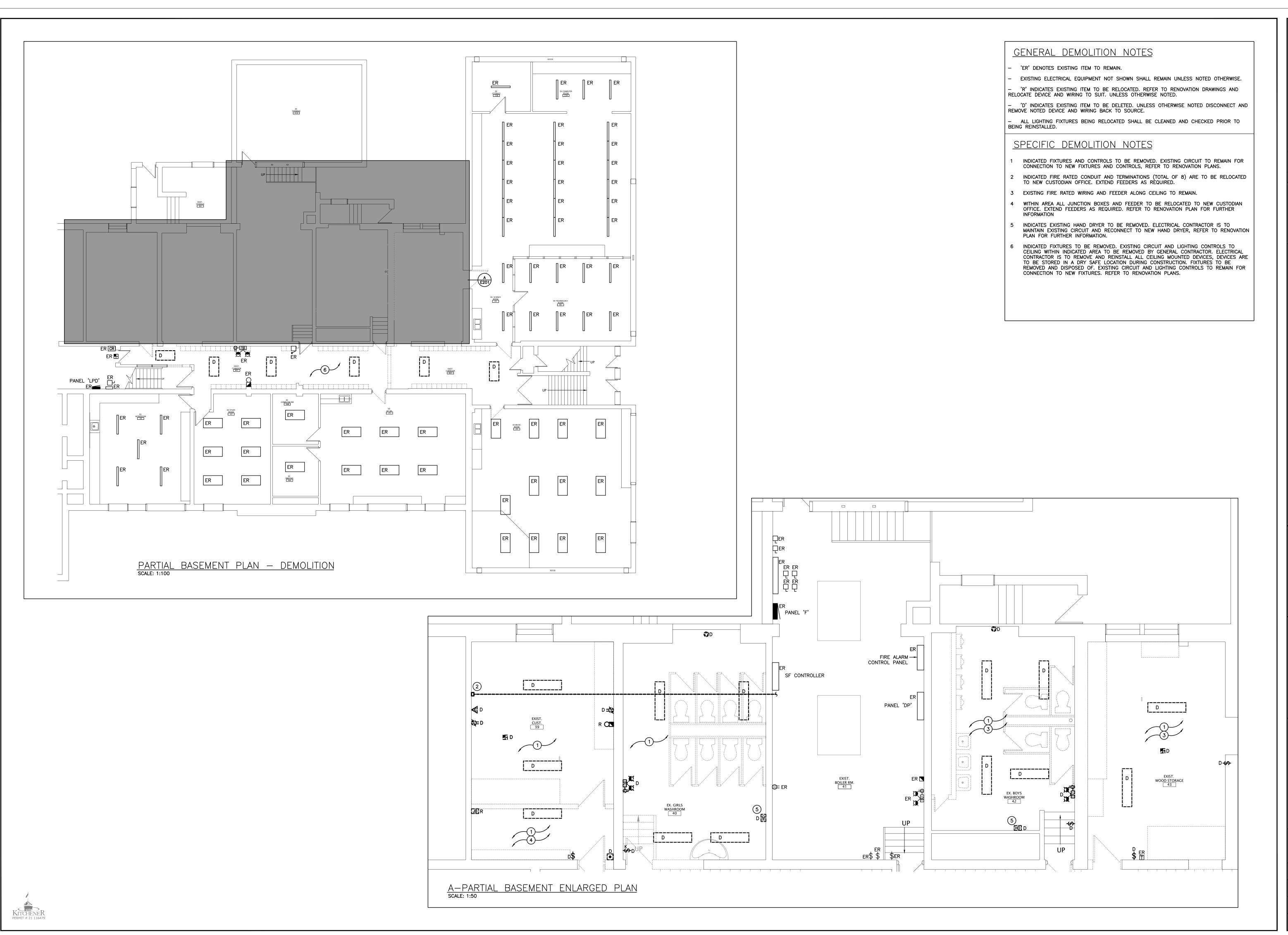
RAWING TITLE:

FEB 2021

PARTIAL DISTRIBUTION RISER AND PANEL SCHEDULES ROJECT NO:

A20002.7 AS NOTED CHECKED:





2 21.04.23 ISSUED FOR ISSUED FOR PERMIT AND 1 21.04.06 ISSUED FOR CLIENT REVIEW

NO. DATE: REVISION

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

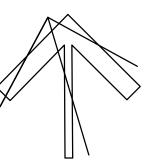
The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

© 2021 DEI & Associates Inc.

PROJECT NORTH



Consulting Engineers

55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555 Fax: 519-725-2515
Website: deiassociates.ca
Project Number: 20152





SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

> 1042 Weber Street E. Kitchener, ON N2A 1B6

DRAWING TITLE:

BASEMENT DEMOLITION PLANS

PROJECT NO: SCALE:

A20002.7 AS NOTED

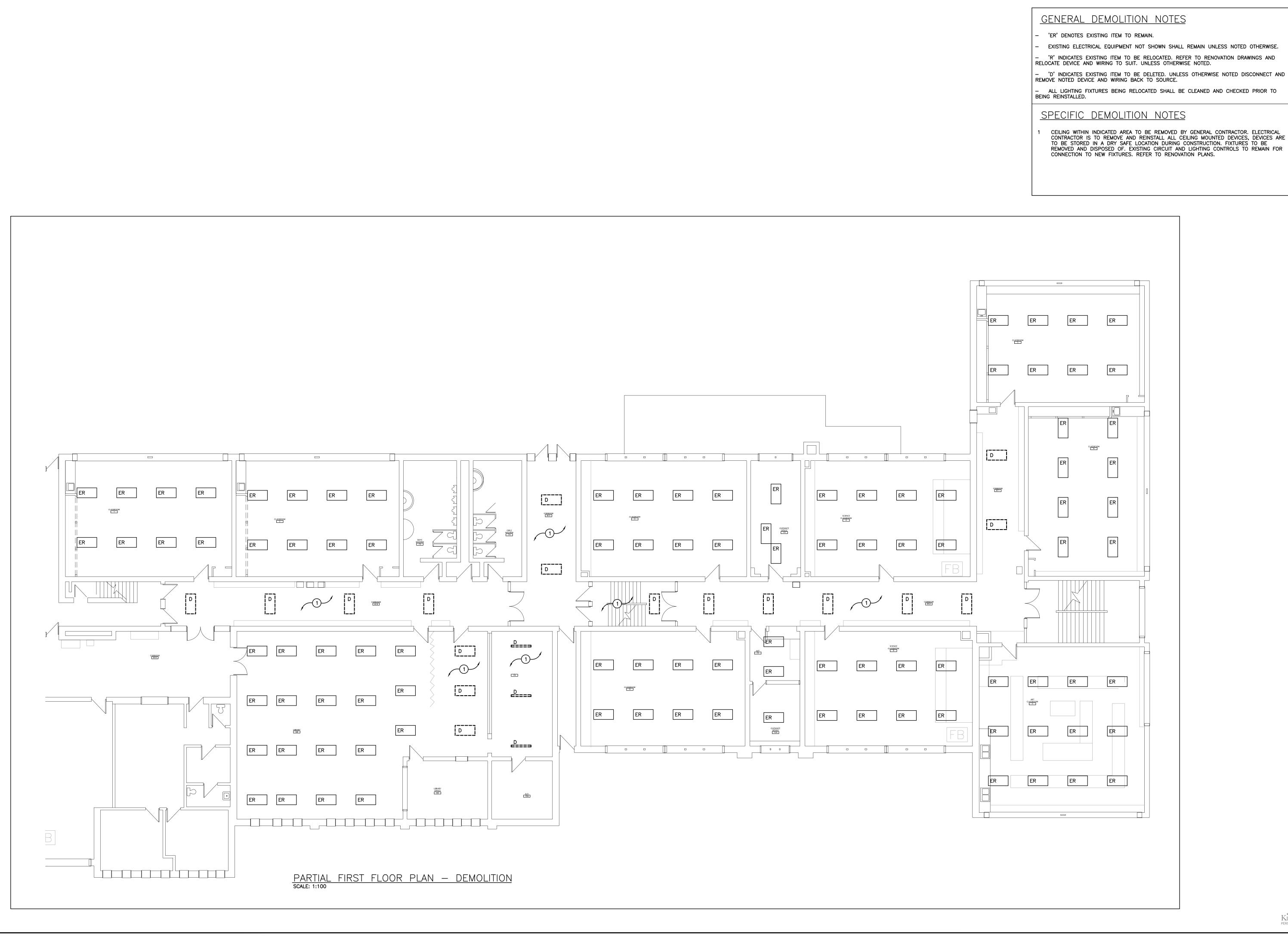
DRAWN: DRAWING NO: REV

TM

CHECKED: F201

J.J. E201

DATE:
FEB 2021



EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.

CEILING WITHIN INDICATED AREA TO BE REMOVED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR IS TO REMOVE AND REINSTALL ALL CEILING MOUNTED DEVICES, DEVICES ARE TO BE STORED IN A DRY SAFE LOCATION DURING CONSTRUCTION. FIXTURES TO BE REMOVED AND DISPOSED OF. EXISTING CIRCUIT AND LIGHTING CONTROLS TO REMAIN FOR

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

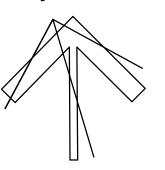
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consultant. Do not scale this drawing.

© 2021 DEI & Associates Inc.

PROJECT NORTH



Consulting Engineers

55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555 Fax: 519-725-2515
Website: deiassociates.ca
Project Number: 20152





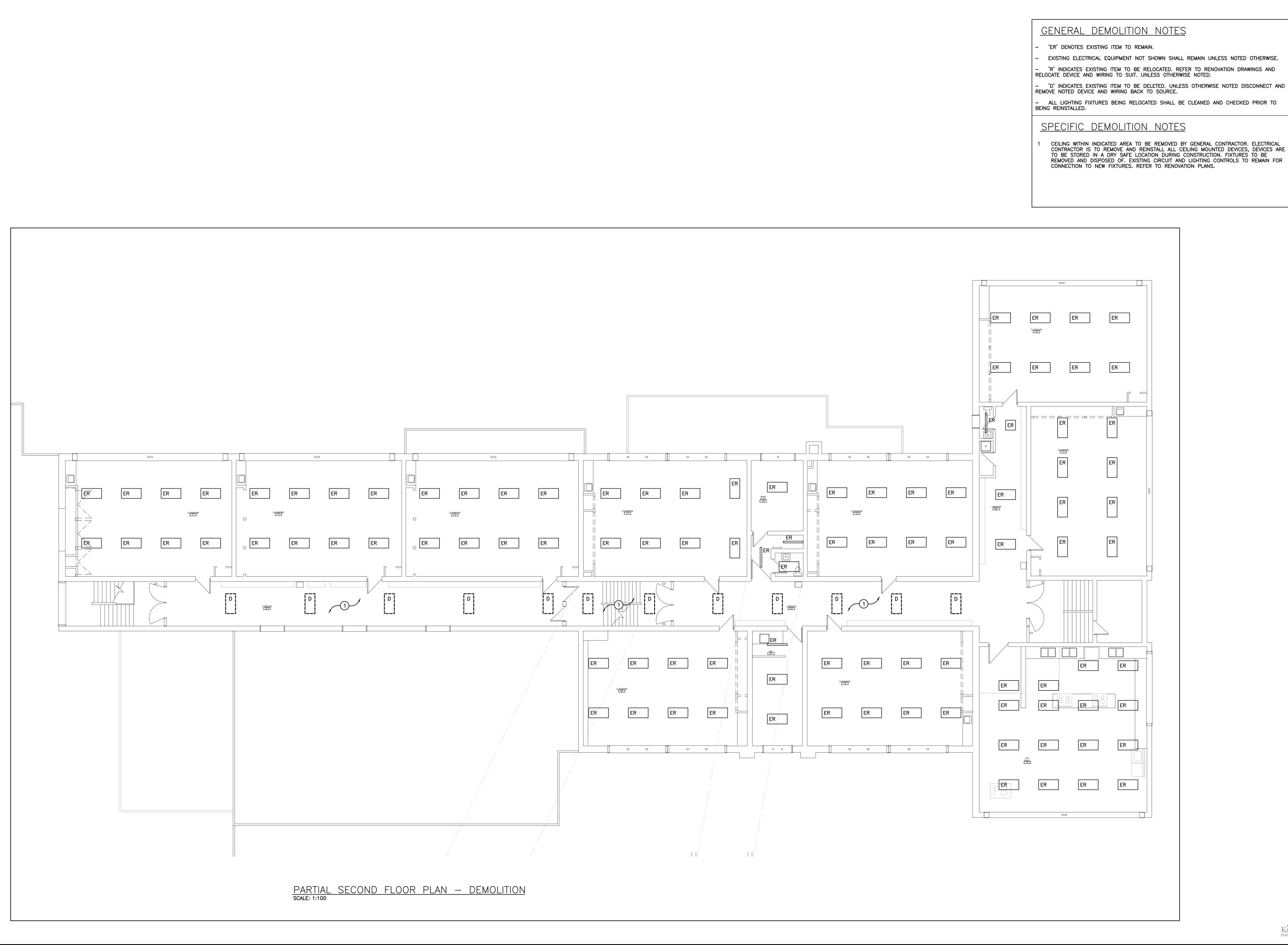
SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

1042 Weber Street E. Kitchener, ON N2A 1B6

FIRST FLOOR **DEMOLITION PLANS** 

A20002.7 AS NOTED

E202 FEB 2021



EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.

- ALL LIGHTING FIXTURES BEING RELOCATED SHALL BE CLEANED AND CHECKED PRIOR TO

CEILING WITHIN INDICATED AREA TO BE REMOVED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR IS TO REMOVE AND REINSTALL ALL CEILING MOUNTED DEVICES, DEVICES ARE TO BE STORED IN A DRY SAFE LOCATION DURING CONSTRUCTION. FIXTURES TO BE REMOVED AND DISPOSED OF. EXISTING CIRCUIT AND LIGHTING CONTROLS TO REMAIN FOR

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

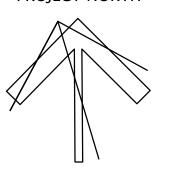
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consultant. Do not scale this drawing.

© 2021 DEI & Associates Inc.

PROJECT NORTH









SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

1042 Weber Street E. Kitchener, ON

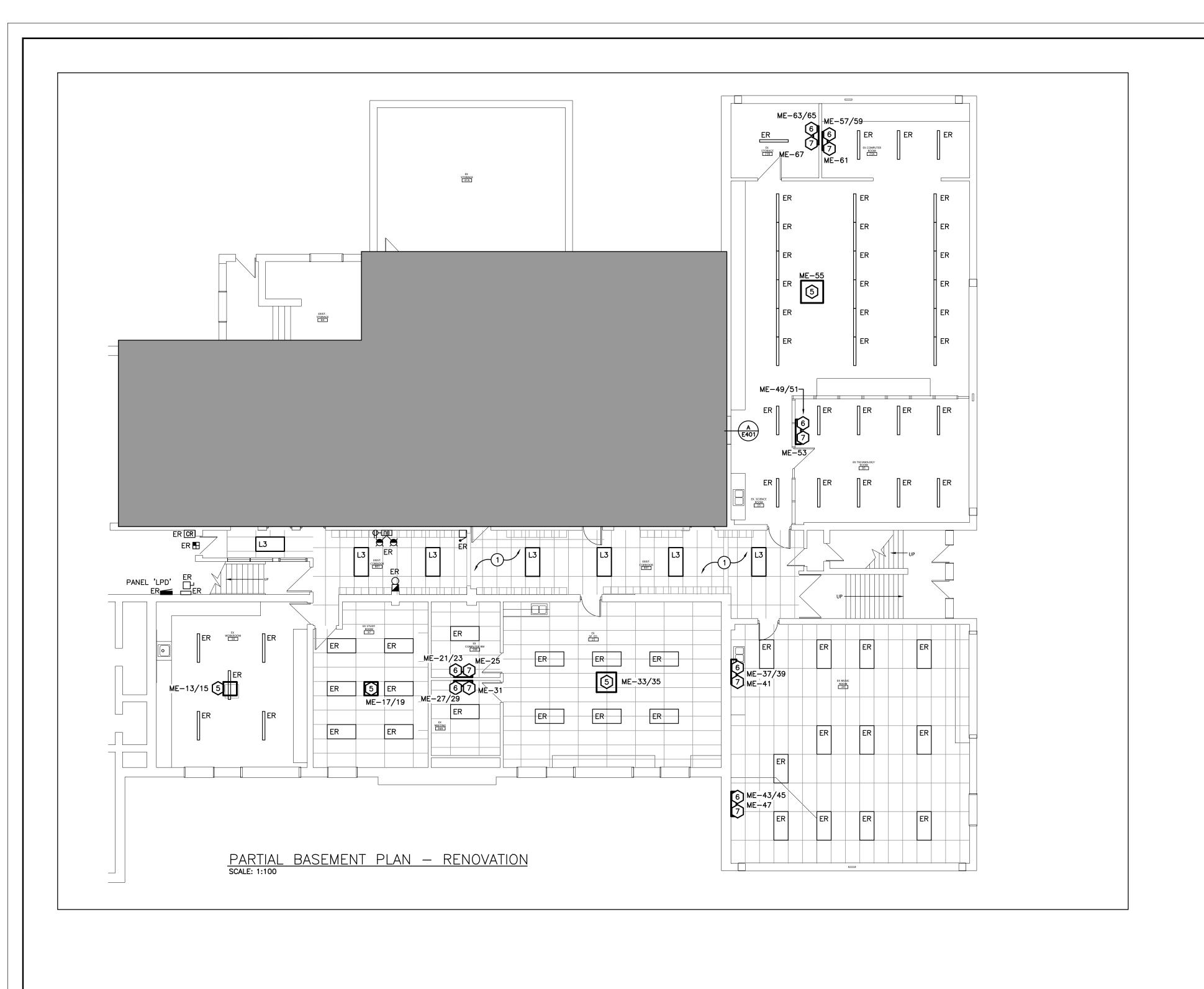
N2A 1B6

SECOND FLOOR **DEMOLITION PLANS** 

A20002.7 AS NOTED

FEB 2021

E203



GENERAL RENOVATION NOTES

'ER' INDICATES EXISTING ITEM TO REMAIN.

- 'R' INDICATES EXISTING ITEM IN RELOCATED POSITION.
- ALL DEVICES SHOWN ARE NEW UNLESS OTHERWISE NOTED.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.
- MAINTAIN SERVICE TO ALL EXISTING DEVICES TO REMAIN.
- REVISE PANEL DIRECTORIES TO SUIT CHANGES (TYPED).

# SPECIFIC RENOVATION NOTES

INDICATES FIXTURES TO BE CONNECTED TO EXISTING CIRCUIT AND EXISTING CONTROLS MADE DURING DEMOLITION. CONTRACTOR IS TO SUPPLY AND INSTALL ANY ADDITIONAL SUPPORT REQUIRED FOR NEW FIXTURES. REFER TO SPECIFICATIONS.

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

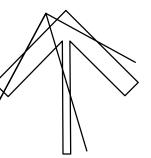
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

PROJECT NORTH





55 Northland Road, Waterloo, ON N2V 1Y8 Phone: 519-725-3555 Fax: 519-725-2515 Website: deiassociates.ca Project Number: 20152





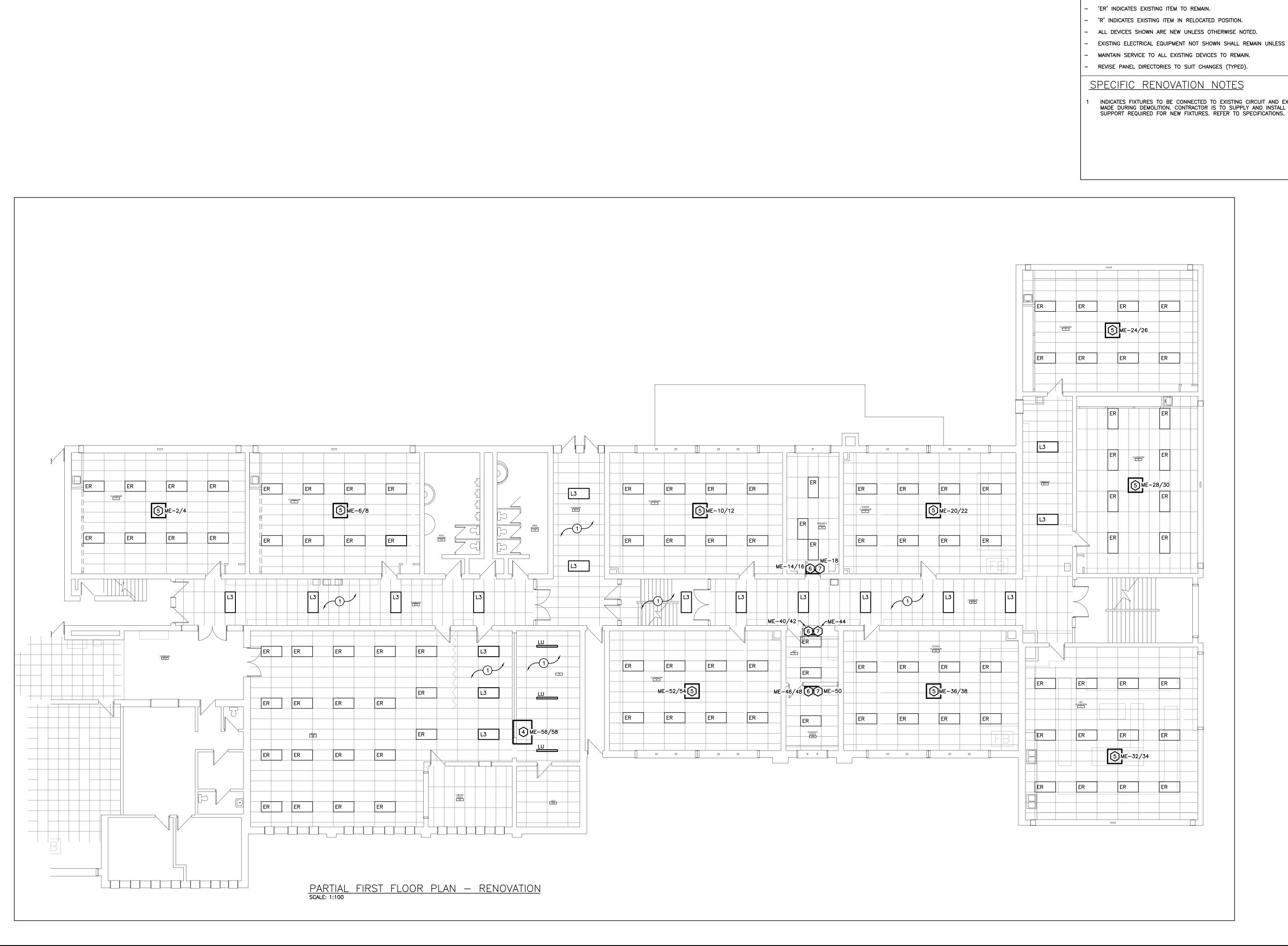
SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

1042 Weber Street E. Kitchener, ON N2A 1B6

**BASEMENT** RENOVATION PLANS

AS NOTED A20002.7

E301 FEB 2021





EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.

INDICATES FIXTURES TO BE CONNECTED TO EXISTING CIRCUIT AND EXISTING CONTROLS MADE DURING DEMOLITION. CONTRACTOR IS TO SUPPLY AND INSTALL ANY ADDITIONAL

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

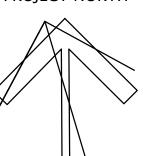
The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

© 2021 DEI & Associates Inc.

PROJECT NORTH









SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

1042 Weber Street E. Kitchener, ON N2A 1B6

FIRST FLOOR RENOVATION PLANS

A20002.7 AS NOTED

E302 FEB 2021





INDICATES FIXTURES TO BE CONNECTED TO EXISTING CIRCUIT AND EXISTING CONTROLS MADE DURING DEMOLITION. CONTRACTOR IS TO SUPPLY AND INSTALL ANY ADDITIONAL

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

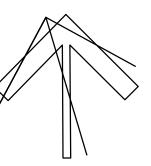
The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

© 2021 DEI & Associates Inc.

PROJECT NORTH









SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

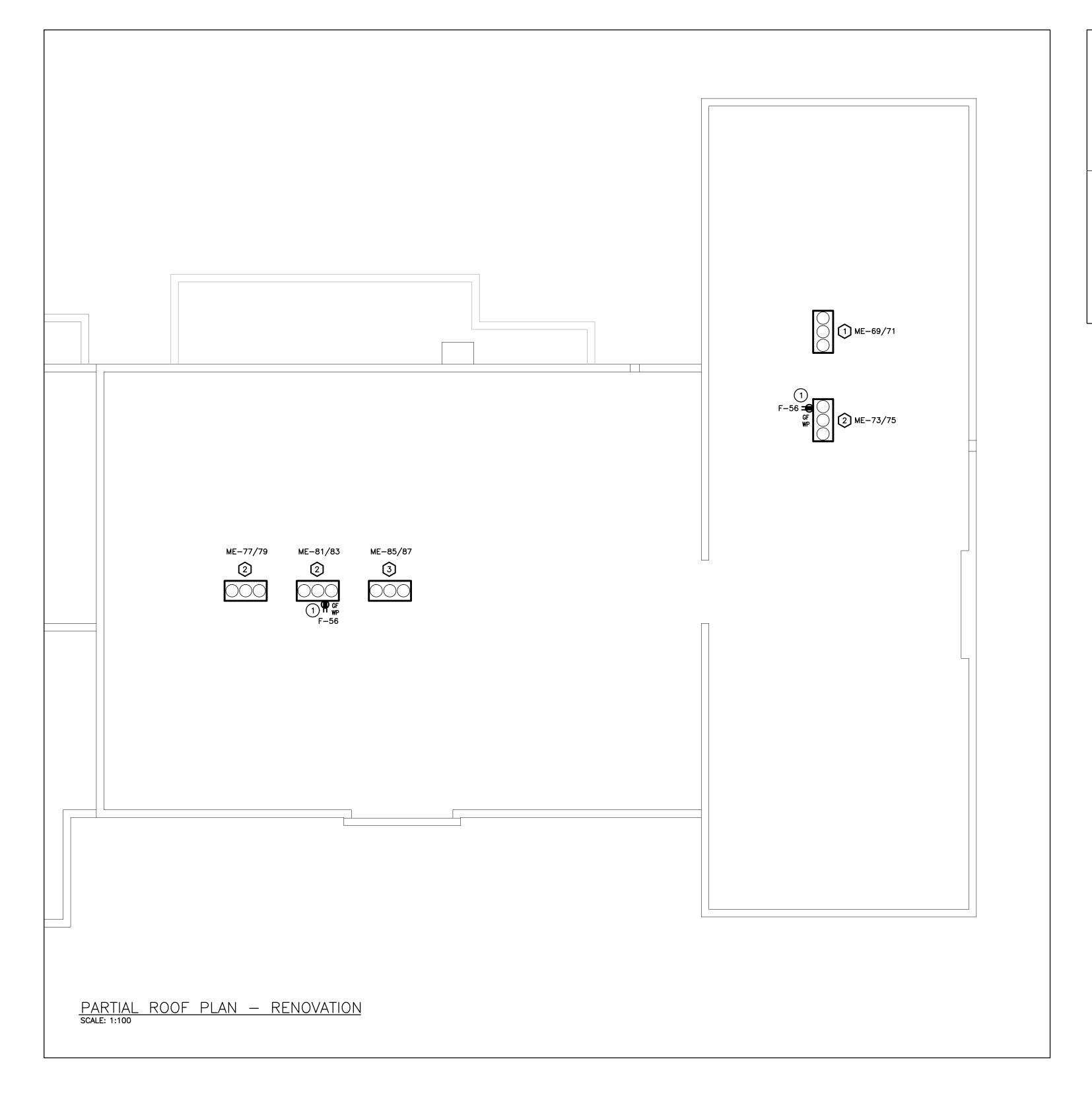
1042 Weber Street E. Kitchener, ON N2A 1B6

SECOND FLOOR RENOVATION PLANS

A20002.7 AS NOTED

E303 FEB 2021





GENERAL RENOVATION NOTES

- 'ER' INDICATES EXISTING ITEM TO REMAIN.
- 'R' INDICATES EXISTING ITEM IN RELOCATED POSITION.
- ALL DEVICES SHOWN ARE NEW UNLESS OTHERWISE NOTED.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.
- MAINTAIN SERVICE TO ALL EXISTING DEVICES TO REMAIN.
- REVISE PANEL DIRECTORIES TO SUIT CHANGES (TYPED).

# SPECIFIC RENOVATION NOTES

PROVIDE T-SLOT GROUND FAULT RECEPTACLE COMPLETE WITH "HEAVY DUTY IN-USE" WEATHER-PROOF COVER. COORDINATE PLACEMENT WITH MECHANICAL TRADE. INDICATED DEVICE IS TO BE MOUNTED  $\pm 36$ " (900mm) ABOVE FINISHED ROOF LEVEL.

total by the state of the state

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

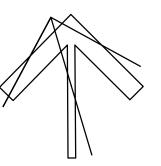
The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

2021 DEI & Associates Inc.

PROJECT NORTH





MECHANICAL | ELECTRICAL | AQUATIC

55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555 Fax: 519-725-2515
Website: deiassociates.ca
Project Number: 20152





SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

> 1042 Weber Street E. Kitchener, ON N2A 1B6

DAMAINO TITLE.

RAWING TITLE:

ROOF RENOVATION PLANS

PROJECT NO: SCALE:
A20002.7 AS NOTED

DRAWN: DRAWING NO: RET

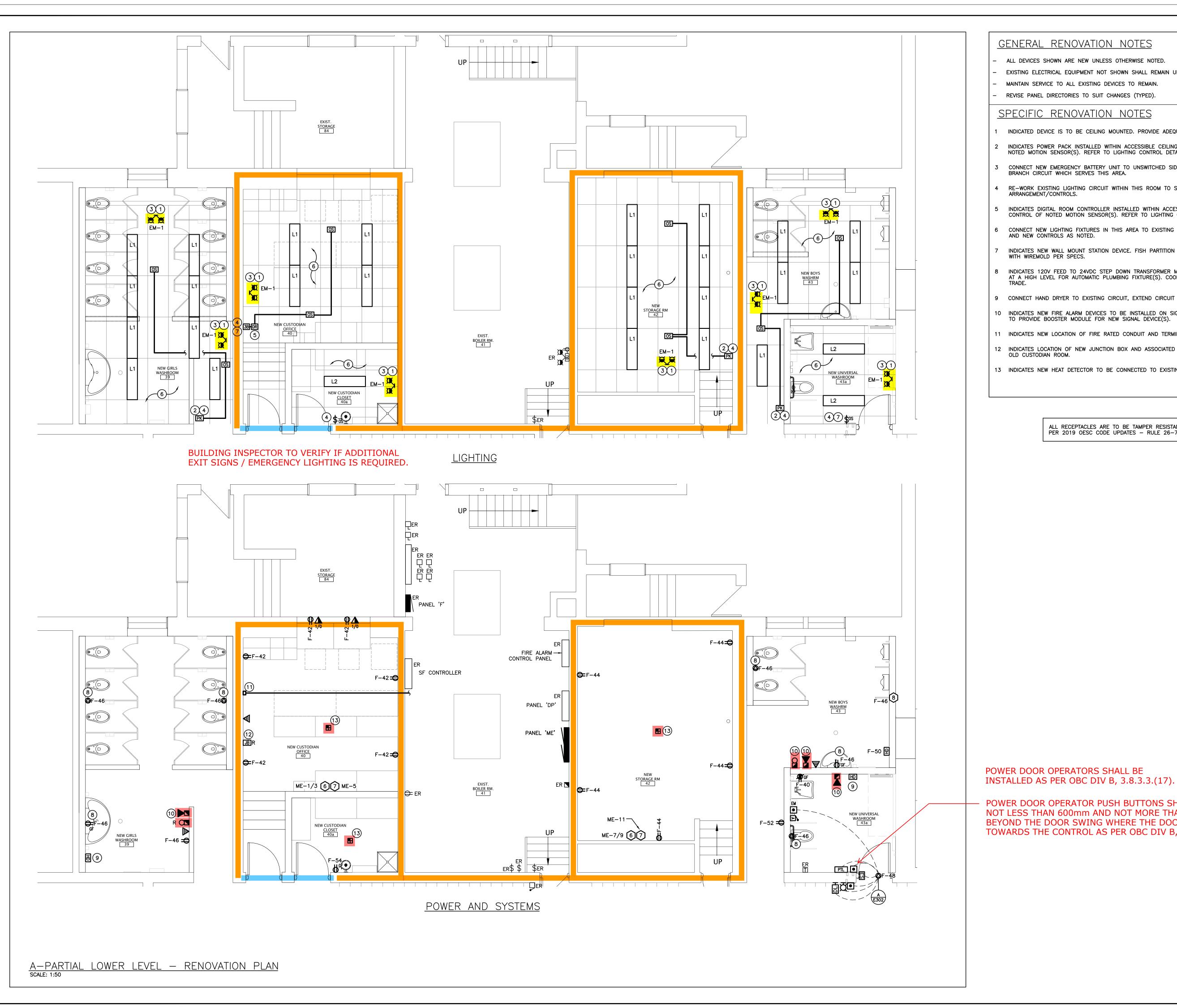
TM

CHECKED:

J.J. E304

DATE:
FEB 2021





# GENERAL RENOVATION NOTES

- ALL DEVICES SHOWN ARE NEW UNLESS OTHERWISE NOTED.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.
- MAINTAIN SERVICE TO ALL EXISTING DEVICES TO REMAIN.
- REVISE PANEL DIRECTORIES TO SUIT CHANGES (TYPED).

# SPECIFIC RENOVATION NOTES

- INDICATED DEVICE IS TO BE CEILING MOUNTED. PROVIDE ADEQUATE SUPPORT.
- INDICATES POWER PACK INSTALLED WITHIN ACCESSIBLE CEILING SPACE FOR CONTROL OF NOTED MOTION SENSOR(S). REFER TO LIGHTING CONTROL DETAILS.
- CONNECT NEW EMERGENCY BATTERY UNIT TO UNSWITCHED SIDE OF EXISTING LIGHTING BRANCH CIRCUIT WHICH SERVES THIS AREA.
- 4 RE-WORK EXISTING LIGHTING CIRCUIT WITHIN THIS ROOM TO SUIT NEW SWITCHING ARRANGEMENT/CONTROLS.
- INDICATES DIGITAL ROOM CONTROLLER INSTALLED WITHIN ACCESSIBLE CEILING SPACE FOR CONTROL OF NOTED MOTION SENSOR(S). REFER TO LIGHTING CONTROL DETAILS.
- CONNECT NEW LIGHTING FIXTURES IN THIS AREA TO EXISTING LIGHTING BRANCH CIRCUIT AND NEW CONTROLS AS NOTED.
- INDICATES NEW WALL MOUNT STATION DEVICE. FISH PARTITION OR FEED TO SURFACE BOX WITH WIREMOLD PER SPECS.
- INDICATES 120V FEED TO 24VDC STEP DOWN TRANSFORMER MOUNTED ABOVE CEILING OR AT A HIGH LEVEL FOR AUTOMATIC PLUMBING FIXTURE(S). COORDINATE WITH MECHANICAL
- 9 CONNECT HAND DRYER TO EXISTING CIRCUIT, EXTEND CIRCUIT AS REQUIRED.
- 10 INDICATES NEW FIRE ALARM DEVICES TO BE INSTALLED ON SIGNAL CIRCUIT. CONTRACTOR IS TO PROVIDE BOOSTER MODULE FOR NEW SIGNAL DEVICE(S).
- 11 INDICATES NEW LOCATION OF FIRE RATED CONDUIT AND TERMINATIONS (TOTAL OF 8).
- 12 INDICATES LOCATION OF NEW JUNCTION BOX AND ASSOCIATED FEEDERS REMOVED FROM OLD CUSTODIAN ROOM.
- 13 INDICATES NEW HEAT DETECTOR TO BE CONNECTED TO EXISTING INITIATING CIRCUIT.

ALL RECEPTACLES ARE TO BE TAMPER RESISTANT TYPE PER 2019 OESC CODE UPDATES - RULE 26-706.

POWER DOOR OPERATORS SHALL BE

POWER DOOR OPERATOR PUSH BUTTONS SHALL BE LOCATED NOT LESS THAN 600mm AND NOT MORE THAN 1500mm BEYOND THE DOOR SWING WHERE THE DOOR OPENS TOWARDS THE CONTROL AS PER OBC DIV B, 3.8.3.3.(17)(d).

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.

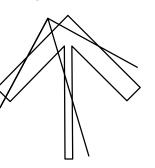
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing.

PROJECT NORTH



**Consulting Engineers** 

55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555 Fax: 519-725-2515
Website: deiassociates.ca
Project Number: 20152





SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

1042 Weber Street E. Kitchener, ON

N2A 1B6

**ENLARGED LOWER LEVEL** RENOVATION PLAN

A20002.7 AS NOTED

CHECKED:

E401 FEB 2021

### ELECTRICAL SPECIFICATION

### **GENERAL NOTES**

- .1 PROVIDE LABOUR MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE INSTALLATION WITH QUALITY WORKMANSHIP ACCEPTABLE TO THE OWNER, ARCHITECT AND CONSULTANT.
- .2 OBTAIN ALL PERMITS AND PAY ALL TAXES, FEES AND OTHER COSTS INCURRED WITH THIS WORK. FILE ALL PLANS. OBTAIN NECESSARY APPROVALS, CERTIFICATES AND INSPECTIONS. SUBMIT ALL FINAL CERTIFICATES TO THE CONSULTANT.
- .3 COMPLY WITH RULES AND RECOMMENDATIONS OF THE BOARD OF UNDERWRITERS, ELECTRICAL SAFETY AUTHORITY, THE CANADIAN STANDARDS ASSOCIATION AND ALL REQUIREMENTS OF THE LOCAL UTILITY.
- .4 VISIT THE SITE BEFORE SUBMITTING TENDERS TO EVALUATE ANY SITE CONDITIONS THAT MIGHT ARISE, INCLUDE ALL SITE CONDITIONS IN TENDER, EXTRAS WILL NOT BE ACCEPTED UNLESS BELIEVED TO BE REASONABLE BY THE OWNER AND
- .5 CUTTING AND PATCHING SHALL BE BY THE CONTRACTOR REQUIRING TO INSTALL THE SERVICE.
- .6 THE DRAWINGS ARE DIAGRAMMATIC, THE SERVICES SHALL BE INSTALLED TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF THE SPACES THROUGH WHICH THEY PASS.
- .7 SUBMIT COPIES OF SHOP DRAWINGS PDF FILES VIA EMAIL FOR ALL MAJOR EQUIPMENT. THESE WILL BE REVIEWED BY THE
- .8 PROVIDE ALL NECESSARY PROTECTION FOR FINISHED OR UNFINISHED WORK. ALL OPENINGS IN CONDUITS, DUCTS AND EQUIPMENT SHALL BE CAPPED TO ENSURE SERVICES ARE KEPT CLEAN WHEN NOT IN USE.
- .9 MAINTAIN INSURANCE TO FULLY PROTECT THE CONTRACTOR, OWNER AND CONSULTANT FROM ANY AND ALL CLAIMS SUCH AS UNDER THE WORKMEN'S COMPENSATION ACT, ETC. POST PROJECT NOTIFICATION AT THE SITE IN ACCORDANCE WITH THE MINISTRY
- .10 PROVIDE STRUCTURAL SUPPORTS, PLATFORMS, SUPPORTING RODS, HANGERS, INSERTS AND BRACKETS FOR EQUIPMENT AND SERVICES. DO NOT SUPPORT SERVICES FROM STEEL DECK.
- .11 INSTRUCT THE OWNER'S STAFF IN THE CARE, MAINTENANCE AND OPERATION OF THE SYSTEMS.
- .12 WARRANTY ALL LABOUR, MATERIAL AND EQUIPMENT FOR A PERIOD OF TWO (2) YEARS AFTER FINAL ACCEPTANCE OF SYSTEM.
- .13 COORDINATE WITH OTHER CONTRACTORS INSTALLING EQUIPMENT OR MATERIAL AND ARRANGE EQUIPMENT IN PROPER RELATION WITH APPARATUS OF ALL OTHER TRADES.
- .14 PROVIDE LAMICOID TAGS FOR IDENTIFICATION OF NEW EQUIPMENT ADDED.

CONSULTANT. RESUBMIT AS OFTEN AS MAY BE FOUND NECESSARY.

- .15 MOUNTING HEIGHTS SHALL BE AS FOLLOWS FROM FINISHED FLOOR TO CENTERLINE OF DEVICE/EQUIPMENT (UNLESS OTHERWISE
- SWITCHES, DIMMERS AND SPEED CONTROLLERS: 1100mm (44")
- WALL RECEPTACLES:
- ABOVE TOP OF COUNTERS: 100mm (4") IN MECHANICAL/ELECTRICAL ROOMS: 1100mm (44") (GANG WITH SWITCH). FIRE ALARM STROBES: 2250mm (7'-6")
- .16 ALL AREAS NOT AFFECTED BY RENOVATION OR DEMOLITION SHALL REMAIN AS PRESENTLY INSTALLED UNLESS OTHERWISE NOTED.
- .17 ALL EXISTING ELECTRICAL DEVICES, OUTLET BOXES, ETC., NOT SHOWN ON DRAWINGS OR MENTIONED IN THE FOLLOWING NOTES
- AND INSTALLED IN WALLS SLATED FOR DEMOLITION, SHALL BE DISCONNECTED AND REMOVED COMPLETELY IN ALL RESPECTS. .18 SUBMIT ONE COPY OF OPERATING AND MAINTENANCE INSTRUCTIONS IN A THREE RING BINDER LABELED FOR THE PROJECT COMPLETE WITH ITEMIZED SECTIONS CONTAINING PROJECT DATA, SHOP DRAWINGS, ETC. UPON ACCEPTANCE OF THE OPERATION
- AND MAINTENANCE MANUAL BY THE CONSULTANT PROVIDE TWO ADDITIONAL COPIES BOUND IN SEPARATE THREE RING BINDERS. A PDF FILE OF THE ENTIRE MANUAL IS TO BE PROVIDED ON A USB STICK. ONLY ONE USB STICK IS TO BE PROVIDED CONTAINING BOTH THE APPROVED MANUALS AND RECORD DRAWINGS. .19 CONTRACTOR SHALL PROVIDE 2 SETS OF REPRODUCIBLE ELECTRICAL DRAWINGS. MARK THEREON ALL CHANGES AS WORK PROGRESSES AND AS CHANGES OCCUR. THIS SHALL INCLUDE FIELD AND CONTRACT CHANGES TO ELECTRICAL SYSTEMS. IDENTIFY EACH DRAWING IN LOWER RIGHT HAND CORNER IN LETTERS AT LEAST 3mm (1/8") HIGH AS FOLLOWS: - "RECORD DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW ELECTRICAL SYSTEMS AS INSTALLED. (SIGNATURE OF CONTRACTOR)(DATE)". SUBMIT HARD COPY TO CONSULTANT FOR APPROVAL. WHEN RETURNED, MAKE CORRECTIONS (IF ANY) AS DIRECTED. ONCE APPROVED,
- .20 THE CONTRACTOR WILL INCLUDE REDLINES FOR EACH AND EVERY ELECTRICAL DRAWING FOR DEI & ASSOCIATES INC. TO CAD THE RECORD DRAWINGS. THE CAD DRAWING FILES WILL BE PROVIDED TO THE OWNER AS PART OF THE MAINTENANCE MANUALS.

SUBMIT COMPLETED REPRODUCIBLE PAPER RECORD DRAWINGS AS WELL AS A SCANNED PDF COPY FILE ON USB STICK WITH

# BASIC MATERIALS

- .1 JUNCTION, OUTLET AND PULL BOXES MUST BE APPROVED TO SUIT INSTALLATION METHODS AND ENVIRONMENT.
- .2 CONDUIT MUST BE CONCEALED UNLESS INSTALLED IN SERVICE OR STORAGE ROOMS.
- .3 CONDUIT MUST BE INSTALLED PARALLEL AND PERPENDICULAR TO BUILDING LINES IN A NEAT AND WORKMANLIKE MANNEL
- .4 ALL FEEDER AND BRANCH CIRCUIT WIRING MUST BE COPPER, T90 RATING/STYLE RUN IN EMT CONDUIT WITH INTERNAL INSULATED GREEN GROUND WIRE UNLESS NOTED OTHERWISE. MINIMUM WIRE SIZE SHALL BE #12 AND MINIMUM CONDUIT SIZE SHALL BE
- .5 AC90 CABLE MAY BE USED FOR BRANCH CIRCUIT WIRING IN STEEL STUD WALLS AND "DROPS" IN T-BAR CEILING AREAS TO LIGHT FIXTURES AND FIRE ALARM DEVICES. LENGTH OF DROP MUST BE LIMITED TO 8'-0" (2400mm).
- .6 WHERE DEVICES ARE TO BE INSTALLED ON EXISTING WALLS IN FINISHED AREA, WHICH CANNOT BE FISHED, INSTALL FEEDS IN A SURFACE METAL RACEWAY EQUAL TO WIREMOLD V700 SERIES.
- .7 COLOUR CODE CONDUITS, BOXES AND METALLIC SHEATHED CABLES.
- .8 CODE WITH PLASTIC TAPE OR PAINT AT POINTS WHERE CONDUIT OR CABLE ENTERS WALL, CEILING, OR FLOOR, AND AT 15m(45')
- .9 COLOUR BANDS MUST BE 25mm(1") WIDE AND CODED AS FOLLOWS FOR NOTED SYSTEMS. SYSTEM UP TO 208V

# FIRE ALARM

.10 THIS CONTRACTOR MUST PAINT ALL SYSTEM JUNCTION BOXES AND COVERS IN CONFORMANCE WITH THE ABOVE SCHEDULE.

# DRAW BREAKDOWN

- .1 THIS CONTRACTOR MUST SUBMIT A BREAKDOWN OF THE TENDER PRICE INTO CLASSIFICATIONS TO THE SATISFACTION OF THE CONSULTANT, WITH THE AGGREGATE OF THE BREAKDOWN TOTALING THE TOTAL CONTRACT AMOUNT. EACH ITEM MUST BE BROKEN OUT INTO MATERIAL AND LABOUR COSTS. PROGRESS CLAIMS, WHEN SUBMITTED ARE TO BE ITEMIZED AGAINST EACH ITEM OF THE DRAW BREAKDOWN. THIS SHALL BE DONE IN TABLE FORM SHOWING CONTRACT AMOUNT, AMOUNT THIS DRAW, TOTAL TO DATE, % COMPLETE AND BALANCE.
- .2 BREAKDOWN SHALL BE AS FOLLOWS:
- PERMITS AND FEES MOBILIZATION (MAXIMUM 1%)
- DEMOLITION **BRANCH CONDUITS**
- BRANCH WIRING LIGHTING FIXTURES
- FIRE ALARM SYSTEM DEVICES
- WIRING FOR MECHANICAL EQUIPMENT HAND DRYERS
- .10 AUXILIARY SYSTEM ROUGH-INS .11 CONTRACT CLOSEOUT (MINIMUM 3% BUT NO LESS THAN \$1,500.00)
- .3 THE BREAKDOWN MUST BE APPROVED BY THE CONSULTANT PRIOR TO SUBMISSION OF THE FIRST DRAW.
- .4 BREAKDOWNS NOT COMPLYING TO THE ABOVE WILL NOT BE APPROVED.
- .5 BREAKDOWN MUST INDICATE TOTAL CONTRACT AMOUNT.
- .6 MOBILIZATION AMOUNT MAY ONLY BE DRAWN WHEN ALL REQUIRED SHOP DRAWINGS HAVE BEEN REVIEWED BY THE CONSULTANT.

# WIRING DEVICES

- .1 GENERAL PURPOSE AC SWITCHES MUST CONFORM TO CSA C22.2 NO. 111 (LATEST EDITION).
- .2 15 OR 20 A, 120 V, SINGLE POLE, DOUBLE POLE, THREE-WAY, OR FOUR-WAY SWITCHES.
- .3 INSTALL SWITCHES IN GANG TYPE OUTLET BOX WHEN MORE THAN ONE SWITCH IS REQUIRED IN ONE LOCATION.
- .4 RECEPTACLES, PLUGS, AND OTHER SIMILAR WIRING DEVICES MUST CONFORM TO CSA C22.2 NO. 42 (LATEST EDITION).
- .5 DUPLEX RECEPTACLES, CSA TYPE 5-15 R, 125 V, 15 A, U GROUND, WITH THE FOLLOWING FEATURES: UREA MOLDED HOUSING WITH COLOUR AS SELECTED BY ARCHITECT. SUITABLE FOR NO. 10 AWG FOR BACK AND SIDE WIRING.
- BREAK-OFF LINKS FOR USE AS SPLIT RECEPTACLES.
- EIGHT BACK WIRED ENTRANCES, FOUR SIDE WIRING SCREWS TRIPLE WIRE CONTACTS AND RIVETED GROUNDING CONTACTS
- .6 ACCEPTABLE MATERIALS:
  - TAMPER RESISTANT RECEPTACLE: HUBBELL CAT. #BR15TR
  - TAMPER RESISTANT T-SLOT RECEPTACLE: HUBBELL CAT. #BR20TR TAMPER RESISTANT GROUND FAULT PROTECTED RECEPTACLE: HUBBELL CAT. #GFTR15
    TAMPER RESISTANT GROUND FAULT PROTECTED T—SLOT RECEPTACLE: HUBBELL CAT. #GFTR20
- .7 OTHER RECEPTACLES WITH AMPACITY AND VOLTAGE AS INDICATED. COLOUR BY ARCHITECT.
- .8 ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE: PASS & SEYMOUR
- .9 WALL MOUNTED OCCUPANCY SENSORS (PASSIVE TECHNOLOGY), OCCUPANCY SENSORS USED IN STORAGE AND SERVICE ROOMS
- WATTSTOPPER CAT. #PW-100-VOLT-X (COLOUR BY ARCHITECT SENSOR SWITCH CAT. #WSD-VOLT-X (COLOUR BY ARCHITECT)
- EQUAL BY COOPER CONTROLS .10 WHERE NOTED ON THE DRAWINGS, THE WALL MOUNTED SWITCH STYLE OCCUPANCY SENSOR USED IN ADMINISTRATIVE OFFICES AND SEMINAR/MEETING ROOMS SHALL BE A DUAL TECHNOLOGY WITCH WITH EITHER SINGLE OR DOUBLE RELAY (CIRCUIT) AS
- NOTED ON THE DRAWINGS. COLOUR TO SUIT ARCHITECT. SWITCHES SHALL BE EITHER: SINGLE RELAY (CIRCUIT): WATTSTOPPER CAT. #DW-100 DUAL RELAY (CIRCUIT): WATTSTOPPER CAT. #DW-200
- APPROVED EQUAL: .1 SENSOR SWITCH COOPER CONTROLS

NOTE: FOR DUAL RELAY SWITCHES, PROGRAM THE SENSORY FOR 15 MINUTE OFF DELAY, ENABLED WAL-THRU, AUDIBLE ALERT ENABLED, RELAY 1 ON MODE: AUTO ON, RELAY 2 ON MODE: MANUAL ON.

- .11 PROVIDE OTHER OCCUPANCY SENSORS TO SUIT THE DETAIL(S) ON THE DRAWINGS.
- .12 ALL SENSORS SHALL BE SET TO 5 MINUTES "DELAY TO OFF" UNLESS OTHERWISE DIRECTED.

### .13 OCCUPANCY SENSORS: .1 INSTALL POWER PACKS IN ACCESSIBLE MAINTENANCE AREAS.

- .2 PROVIDE ACCESS DOORS IF POWER PACKS ARE INSTALLED ABOVE DRYWALL CEILINGS.
- .3 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AIM SENSORY IN THE CORRECT LOCATION REQUIRED FOR COMPLETE AND PROPER COVERAGE WITHIN THE RANGE OF COVERAGE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE LOCATIONS AND QUANTITIES OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE ONLY THE ROOMS WHICH ARE TO BE PROVIDED WITH SENSORS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SENSORS IF REQUIRED TO PROPERLY AND COMPLETELY COVER THE RESPECTIVE ROOMS.
- .4 IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A PRE-INSTALLATION MEETING WITH THE MANUFACTURER'S FACTORY AUTHORIZED REPRESENTATIVE, AT THE FACILITY, TO VERIFY PLACEMENT TO SENSORS AND INSTALLATION CRITERIA.
- .5 THE CONTRACTOR SHALL ALSO PROVIDE THE ON-SITE TRAINING NECESSARY TO FAMILIARIZE THE OWNER'S PERSONNEL WITH
- THE OPERATION, USE, ADJUSTMENT AND PROBLEM SOLVING DIAGNOSIS OF THE OCCUPANCY SENSING DEVICES SYSTEMS. .6 UPON COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL BE COMPLETELY COMMISSIONED BY THE MANUFACTURER'S FACTORY AUTHORIZED TECHNICIAN WHO WILL VERIFY ALL ADJUSTMENTS AND SENSOR PLACEMENT TO ENSURE A TROUBLE-FREE OCCUPANCY-BASED LIGHTING CONTROL. SUBMIT COMMISSIONING REPORT WITH CLOSE-OUT DOCUMENTS.
- .14 INSTALL DEVICES IN GANG TYPE OUTLET BOX WHEN MORE THAN ONE DEVICE IS REQUIRED IN ONE LOCATION.
- .15 SHEET STEEL UTILITY BOX COVER FOR WIRING DEVICES INSTALLED IN SURFACE MOUNTED UTILITY BOXES.
- .16 STAINLESS STEEL, VERTICALLY BRUSHED, 1mm THICK COVER PLATES FOR WIRING DEVICES MOUNTED IN FLUSH-MOUNTED OUTLET
- .17 SHEET METAL COVER PLATES FOR WIRING DEVICES MOUNTED IN SURFACE—MOUNTED FS OR FD TYPE CONDUIT BOXES.
- .18 PROTECT STAINLESS STEEL COVER PLATE FINISH WITH PAPER OR PLASTIC FILM UNTIL PAINTING AND OTHER WORK IS FINISHED.
- .19 INSTALL SUITABLE COMMON COVER PLATES WHERE WIRING DEVICES ARE GROUPED.

## FIRE ALARM SYSTEMS

.1 INSTALLATION OF FIRE ALARM DEVICES MUST CONFORM TO ULC-S524 (LATEST EDITION).

OPEN CONTACT FOR SINGLE STAGE, ENGLISH SIGNAGE.

- .2 ALL WIRING MUST BE COLOUR CODED, SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND CONFORM TO THE LATEST EDITION OF THE ELECTRICAL SAFETY CODE.
- .3 ALL NEW FIRE ALARM DETECTION AND SIGNALING DEVICES ADDED DUE TO RENOVATIONS AND ADDITIONS SHALL BE CONNECTED TO EXISTING LOCAL ZONE OR NEW ZONE AS INDICATED.
- .4 EQUIPMENT SHALL BE SUPPLIED AND INSTALLED AS FOLLOWS;
- - AUTOMATIC ALARM INITIATING DEVICES .1 MANUAL ALARM STATIONS: PULL LEVER STYLE, WALL MOUNTED SEMI-FLUSH TYPE, NON-CODED SINGLE POLE NORMALLY
- THERMAL FIRE DETECTORS: FIXED TEMPERATURE, NON-RESTORABLE, RATED 57C OR 88C AS INDICATED
- THERMAL FIRE DETECTORS: COMBINATION FIXED TEMPERATURE AND RATE OF RISE, NON-RESTORABLE FIXED TEMPERATURE ELEMENT, SELF-RESTORING RATE OF RISE, FIXED TEMPERATURE 57C OR 88C, RATE OF RISE 8.3C PER
- .4 SMOKE DETECTOR: CEILING MOUNTED, PHOTO ELECTRIC TYPE, VISUAL ALARM INDICATOR, COMPLETE WITH RELAY BASE
- .5 SMOKE DETECTOR: PHOTO ELECTRIC TYPE AIR DUCT TYPE WITH SAMPLING TUBES WITH PROTECTIVE HOUSING. .1 PLUG-IN TYPE WITH FIXED BASE.
- .2 WIRE-IN BASE ASSEMBLY WITH INTEGRAL RED ALARM LED, AND TERMINALS FOR REMOTE ALARM LED.
- AUDIBLE/VISUAL SIGNAL DEVICES .1 STROBE: SEMI-RECESSED, 24VDC OPERATION, COMPLETE WITH SELECTABLE 15/30/75/110 CANDELA OUTPUT (UNLESS
- OTHERWISE NOTED SET AT 75 CD), SYNCHRONIZED STROBE, RED FINISH, FM AND ULC LISTED. SUITABLE FOR .2 250mm (10") BELLS: SURFACE MOUNTED BELL, VIBRATION TYPE 24VDC, 10", 94DBA RATING AT 3000mm (10'), RED FINISH, FM AND ULC LISTED.
- SIGNAL DEVICES WITH INTEGRAL STROBE LIGHTS IN HIGH ABUSE AREAS (I.E. GYMNASIUM, CHANGE ROOMS, ETC.)
- MUST BE PROVIDED WITH PROTECTIVE WIREGUARDS. .2 ANY SURFACE MOUNTED SIGNAL DEVICES MUST BE PROVIDED WITH SUITABLE BACKBOXES SUPPLIED BY THE
- .3 END-OF-LINE DEVICES

A CERTIFICATE OF VERIFICATION

- .1 END-OF-LINE DEVICES TO CONTROL SUPERVISORY CURRENT IN ALARM CIRCUITS AND SIGNALING CIRCUITS, SIZED TO ENSURE CORRECT SUPERVISORY CURRENT FOR EACH CIRCUIT. OPEN, SHORT OR GROUND FAULT IN ANY CIRCUIT WILL ALTER SUPERVISORY CURRENT IN THAT CIRCUIT, PRODUCING AUDIBLE AND VISIBLE ALARM AT MAIN CONTROL PANEL AND REMOTELY AT ANNUNCIATORS.
- .5 ONCE INSTALLATION IS COMPLETE THE MANUFACTURER'S REPRESENTATIVE MUST MAKE AN INSPECTION OF THE DEVICES INSTALLED.
- .6 THIS TEST MUST CONFORM TO THE ONTARIO BUILDING CODE AND THE LATEST EDITION OF ULC CAN4-S537.
- .7 ALL COSTS ASSOCIATED WITH THIS INSPECTION BY THE CONTRACTOR AND MANUFACTURER MUST BE CARRIED IN THE TENDER
- .8 UPON SUCCESSFUL COMPLETION OF TESTING THE MANUFACTURER MUST SUBMIT TO THE CONTRACTOR AND CONSULTANT:
- FIELD TECHNICIAN VERIFICATION SHEETS FOR EACH DEVICE VERIFIED (INCLUDE COPIES OF SAME IN MAINTENANCE MANUALS) .9 THE TEST RESULTS ARE TO BE SUBMITTED TO THE CONSULTANT FOR REVIEW PRIOR TO ISSUING TO OWNER'S REPRESENTATIVES

- .1 HAND DRYERS WHERE NOTED ON THE DRAWINGS ARE TO BE SUPPLIED AND INSTALLED BY THIS DIVISION
  - WITH THE FOLLOWING FEATURES: .1 SURFACE MOUNTING.

AND/OR AUTHORITIES HAVING JURISDICTION.

- WHITE FINISH WITH AUTOMATIC ACTIVATION. RATING OF 1000W, 120V, THREE SPEED, SET TO MEDIUM SPEED AND LOW HEAT.
- WORLD DRYER CAT. #SMARTDRI APPROVED ALTERNATË: AMERICAN DRYER CAT. #GXT

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. commencement of the work.

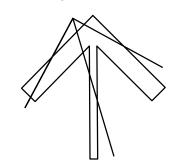
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtai approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing. Do not scale this drawing.
© 2021 DEI & Associates Inc.

PROJECT NORTH



Consulting Engineers MECHANICAL | ELECTRICAL | AQUATIC

5 Northland Road, Waterloo, ON N2V 1Y8

Phone: 519-725-3555 Fax: 519-725-2515

Project Number: 20152





SUNNYSIDE PUBLIC SCHOOL HVAC & WASHROOM UPGRADE

1042 Weber Street E.

Kitchener. ON N2A 1B6

RAWING TITLE:

ROJECT NO:

**ELECTRICAL SPECIFICATIONS** 

A20002.7 AS NOTED

HECKED FEB 2021

# LIGHTING SYSTEMS

FIXTURES ARE TO BE PROVIDED AS NOTED IN THE LIGHT FIXTURE SCHEDULE C/W THE FOLLOWING FEATURES:

- FIXTURE LED'S MUST BE TESTED IN CONFORMANCE WITH IESNA LM80 STANDARD. LED'S MUST BE SELECTED USING A BINNING ALGORITHM TO ENSURE COLOUR AND LUMEN OUTPUT OF A GIVEN FIXTURE
- ARE CONSISTENT, AS WELL AS MEET OR SURPASS ANSI C78.377 SPECIFICATION FOR THE RATED LIFETIME OF THE FIXTURE. COLOUR ACCURACY BETWEEN PRODUCTS MUST BE WITHIN A 2-STEP MACADAM ELLIPSE.
- LUMINAIRES MUST BE TESTED TO IESNA LM79 BY AN INDEPENDENT APPROVED LABORATORY.
- LUMINAIRES MUST BE TESTED PRIOR TO SHIPPING. LUMINAIRES MUST BE ULC CERTIFIED AND APPROVED FOR USE IN CANADA.
- FIXTURES MUST MAINTAIN A MINIMUM OF 90% OF THEIR INITIAL LIGHT OUTPUT FOR 60,000 HOURS. SUBMIT TEST RESULTS UPON REQUEST.
- .7 LUMEN VALUES INDICATED FOR FIXTURES IN THE PROJECT DOCUMENTS ARE TO BE CONSIDERED AS 'ABSOLUTE' OR
- .8 OTHER THAN FOR SPECIALTY FIXTURES, AND UNLESS OTHERWISE INDICATED, THE MAXIMUM DRIVER CURRENT IS TO BE
- .2 SELF-POWERED EMERGENCY LIGHTING UNITS
- .1 EXIT LIGHTING MUST CONFORM TO CSA C22.2 No. 141 (LATEST EDITION OR CSA C860).
- .2 LAMPS: LED 2W
- .3 OPERATION: 25 YEARS LIFE
- .4 EXIT UNITS ARE TO BE PROVIDED WITH THREE (3) PICTOGRAM LEGENDS INDICATING "LEFT FROM HERE", "STRAIGHT FROM HERE", AND "RIGHT FROM HERE".
- .5 SUPPLY VOLTAGE: 120 VOLT, AC.
- .6 BATTERY: SEALED MAINTENANCE FREE, 10 YEAR LIFE.
  BATTERY MUST BE CAPABLE OF SUPPLYING THE WATTAGE INDICATED FOR A MINIMUM OF 30 MINUTES.
- .7 SIGNAL LIGHTS: "AC POWER ON" CONDITION AND "CHARGING" CONDITION.
- .8 CABINET: FINISH: WHITE.
- .9 AUXILIARY EQUIPMENT: TEST SWITCH.
- .3 FIXTURE INSTALLATION .1 LOCATE AND INSTALL LUMINAIRES AS INDICATED.
- .2 FIXTURE SURFACE MOUNTED TO SUSPENDED CEILINGS MUST BE SECURED THROUGH CEILING ASSEMBLY TO CROSS MEMBER SUPPORTS. THESE SUPPORTS ARE TO BE STEEL CHANNELS OR ANGLES INDEPENDENTLY SECURED TO STRUCTURE USING #12 "JACK" CHAIN. EACH CHAIN MUST BE SECURED SO NO FIXTURE WEIGHT IS ADDED TO THE CEILING ASSEMBLY.
- .3 PLASTER FRAMES/FLANGE KITS MUST BE PROVIDED BY THIS DIVISION FOR FIXTURES RECESSED IN PLASTER AND/OR
- .4 WHERE SPECIFIED, FIXTURES TO BE CHAIN HUNG SHALL BE HUNG USING "JACK" CHAIN WITH A CAPACITY TO SUIT THE FIXTURE WEIGHT. BRANCH CIRCUIT WIRING FEEDING THESE FIXTURES SHALL BE AC90 CABLE "TY-WRAPPED" AT 36" (900mm) INTERVALS ALONG LENGTH OF DROP. FINAL APPEARANCE MUST BE NEAT AND PROFESSIONAL.
- .5 INSTALL EXIT LIGHTING UNITS AS INDICATED WITH ILLUMINATED FACES AND CHEVRONS/ARROWS INDICATING PATH(S) OF EXIT.
- .6 INSTALL EMERGENCY LIGHTING UNITS AND ASSOCIATED REMOTE MOUNTED FIXTURES AS INDICATED.
- .7 DIRECT "HEADS" ON UNITS AND REMOTE MOUNTED FIXTURES TO ILLUMINATE PATH(S) OF EXIT.
- .8 INSTALL EMERGENCY LIGHTING UNITS AND REMOTE FIXTURES AT 8' (2400mm) ABOVE FINISHED FLOOR UNLESS INDICATED
- .9 PROVIDE A 15A 120V DUPLEX RECEPTACLE (CONNECT TO CIRCUIT INDICATED) ADJACENT TO UNIT.
- .10 CONNECT LUMINAIRES TO LIGHTING CIRCUITS AS INDICATED.
- .11 CONNECT EXIT FIXTURES TO EXIT LIGHTING CIRCUITS AND UNIT EQUIPMENT (IF APPLICABLE).
- .12 CONNECT UNIT EQUIPMENT TO CIRCUITS AS INDICATED.
- .13 ALIGN LUMINAIRES MOUNTED IN CONTINUOUS ROWS TO FORM STRAIGHT UNINTERRUPTED LINES.
- .14 ALIGN LUMINAIRES MOUNTED INDIVIDUALLY PARALLEL OR PERPENDICULAR TO BUILDING GRID LINES.
- .15 ALL LIGHTING BRANCH CIRCUITS ARE TO BE PROVIDED WITH SEPARATE NEUTRALS.
- .1 ALL LED FIXTURES AND DRIVERS ARE TO BE COMPLETE WITH A 5 YEAR GUARANTEE.
- .2 THE LABOUR REQUIRED TO REPLACE THESE DRIVERS MUST BE INCLUDED IN THE ABOVE GUARANTEE
- .5 TESTING/CERTIFICATION
- .1 AT THE COMPLETION OF THE PROJECT AND IN THE PRESENCE OF THE CONSULTANT, TEST ALL EXIT AND EMERGENCY FIXTURES. ON COMPANY LETTERHEAD, THE CONTRACTOR IS TO PREPARE A CHART INDICATING:
- PROJECT DATE
- EQUIPMENT TYPE CERTIFICATION OF CORRECT CONNECTION
- CERTIFICATION OF CORRECT OPERATION DURATION OF TEST IN MINUTES (MINIMUM 30) ACTUAL PERIOD OF TESTING (TIME OF DAY)

### SHOP DRAWINGS AND PRODUCT DATA

- .1 FURNISH COMPLETE CATALOG DATA FOR MANUFACTURED ITEMS OF EQUIPMENT TO BE USED IN THE WORK TO CONSULTANT FOR
- IF MATERIAL OR EQUIPMENT IS NOT AS SPECIFIED OR SUBMITTAL IS NOT COMPLETE, IT WILL BE REJECTED BY CONSULTANT. ADDITIONAL SHOP DRAWINGS REQUIRED BY THE CONTRACTOR FOR MAINTENANCE MANUALS, SITE COPIES ETC., SHALL BE PHOTOCOPIES OF THE "REVIEWED" SHOP DRAWINGS. ALL COSTS TO PROVIDE ADDITIONAL COPIES OF SHOP DRAWINGS SHALL BE BORNE BY THE CONTRACTOR.
- PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. CATALOG DATA OR SHOP DRAWINGS FOR EQUIPMENT, WHICH ARE NOTED AS BEING REVIEWED BY CONSULTANT OR HIS ENGINEER
- SHALL NOT SUPERSEDE CONTRACT DOCUMENTS. REVIEW COMMENTS OF CONSULTANT SHALL NOT RELIEVE THIS DIVISION FROM RESPONSIBILITY FOR DEVIATIONS FROM CONTRACT DOCUMENTS UNLESS CONSULTANT'S ATTENTION HAS BEEN CALLED TO SUCH DEVIATIONS IN WRITING AT TIME OF SUBMISSION, NOR SHALL THEY RELIEVE THIS DIVISION FROM RESPONSIBILITY FOR ERRORS IN ITEMS SUBMITTED.
- CHECK WORK DESCRIBED BY CATALOG DATA WITH CONTRACT DOCUMENTS FOR DEVIATIONS AND ERRORS.
- .8 SHOP DRAWINGS AND PRODUCT DATA SHALL SHOW:
- MOUNTING ARRANGEMENTS. OPERATING AND MAINTENANCE CLEARANCES. E.G. ACCESS DOOR SWING SPACES.
- .9 SHOP DRAWINGS AND PRODUCT DATA SHALL BE ACCOMPANIED BY: DETAILED DRAWINGS OF BASES, SUPPORTS, AND ANCHOR BOLTS.
  - MANUFACTURER TEST DATA WHERE REQUESTED. MANUFACTURER TO CERTIFY AS TO CURRENT MODEL PRODUCTION.
- .4 CERTIFICATION OF COMPLIANCE TO APPLICABLE CODES. .10 STATE SIZES, CAPACITIES, BRAND NAMES, MOTOR HP, ACCESSORIES, MATERIALS, GAUGES, DIMENSIONS, AND OTHER PERTINENT
- INFORMATION. LIST ON CATALOG COVERS PAGE NUMBERS OF SUBMITTED ITEMS. UNDERLINE APPLICABLE DATA. .11 ONCE THESE SHOP DRAWINGS ARE RETURNED "REVIEWED" OR "REVIEWED AS NOTED" FABRICATION, PRODUCTION, AND INSTALLATION MAY COMMENCE. NOTE: IF A SHOP DRAWING IS RETURNED "REVIEWED AS NOTED" THIS CONTRACTOR MUST PROVIDE WRITTEN INDICATION THAT THE COMMENTS HAVE BEEN COMPLIED WITH.
- .12 A PARTIAL LIST OF SHOP DRAWINGS INCLUDES:
- FIRE ALARM SYSTEM COMPONENTS
- EMERGENCY BATTERY UNITS AND FIXTURES STARTERS, CONTACTORS, AND CONTROL DEVICES

REVIEW WITHIN 30 DAYS AFTER AWARD OF CONTRACT.

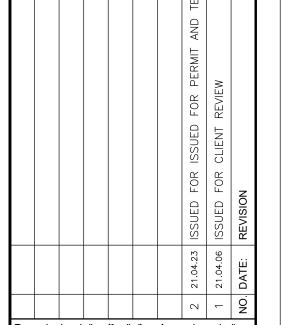
- FIRESTOPPING MATERIALS
- HAND DRYERS LIGHTING CONTROL DEVICES
- WIRING DEVICES

LUMINAIRES

# <u>FIRESTOPPING</u>

- .1 FIRESTOPPING MATERIAL AND INSTALLATION WITHIN ANNULAR SPACE BETWEEN CONDUITS, DUCTS, AND ADJACENT FIRE SEPARATION.
- .2 PROVIDE MATERIALS AND SYSTEMS CAPABLE OF MAINTAINING EFFECTIVE BARRIER AGAINST FLAME, SMOKE, AND GASES.
- .3 COMPLY WITH THE REQUIREMENTS OF CAN4-S115-M35, AND DO NOT EXCEED OPENING SIZED FOR WHICH THEY HAVE BEEN
- .4 SYSTEMS TO HAVE AN F OR FT RATING (AS APPLICABLE) NOT LESS THAN THE FIRE PROTECTION RATING REQUIRED FOR CLOSURES IN A FIRE SEPARATION. PROVIDE "FIREWRÀP" BLANKET AROUND SERVICES PENETRATING FIREWALLS.
- .5 EXTENT OF BLANKET MUST CORRESPOND TO ULC RECOMMENDATIONS. IN GENERAL WRAP INDIVIDUAL CONDUITS WITH APPROVED FIREWRAP MATERIALS ON EACH SIDE OF FIREWALL. REFER TO ARCHITECTURAL DRAWINGS FOR FT RATINGS. PROVIDE 1 AND/OR 2 LAYERS OF FIREWRAP WITH TRANSVERSE AND LONGITUDINAL SEAMS OVERLAPPED AND/OR BUTTED (SECOND LAYER OFFSET FROM FIRST LAYER). CUT EDGES ARE TO BE SEALED WITH ALUMINUM FOIL TAPE. PROVIDE 50 MM STAINLESS STEEL BANDING AT 200 MM INTERVALS. INSTALL FIREWRAP TO MANUFACTURERS' RECOMMENDATIONS FOR PROPER FT RATING. ACCEPTABLE MANUFACTURERS ARE 3M FIREMASTER DUCTWRAP OR APPROVED EQUAL.
- .6 THE FIRESTOPPING MATERIALS ARE NOT TO SHRINK, SLUMP OR SAG AND BE FREE OF ASBESTOS, HALOGENS AND VOLATILE
- .7 FIRESTOPPING MATERIALS ARE TO CONSIST OF A COMPONENT SEALANT APPLIED WITH A CONVENTIONAL CAULKING GUN AND
- .8 FIRESTOP MATERIALS ARE TO BE CAPABLE OF RECEIVING FINISH MATERIALS IN THOSE AREAS, WHICH ARE EXPOSED AND SCHEDULED TO RECEIVE FINISHES.
- .9 FIRESTOPPING SHALL BE INSPECTED AND APPROVED BY LOCAL AUTHORITY PRIOR TO CONCEALMENT OR ENCLOSURE.
- .10 INSTALL MATERIAL AND COMPONENTS IN ACCORDANCE WITH ULC CERTIFICATION, MANUFACTURERS INSTRUCTIONS AND LOCAL
- .11 SUBMIT PRODUCT LITERATURE AND INSTALLATION MATERIAL ON FIRESTOPPING IN SHOP DRAWING AND PRODUCT DATA MANUAL.
- .12 ACCEPTABLE MANUFACTURERS:
- FYREESLEEVE INDUSTRIES INC GENERAL ELECTRIC PENSIL FIRESTOP SYSTEMS
- INTERNATIONAL PROTECTIVE COATINGS CORP. RECTORSEAL CORPORATION (METACAULK)
- PROSET SYSTEMS
- AD SYSTEMS
- ROYAL

NOTE: FIRE STOP MATERIAL MUST CONFORM TO REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION. CONTRACTOR TO CONFIRM PRIOR TO APPLICATION AND ENSURE MATERIAL USED IS COMPATIBLE WITH THAT USED BY OTHER TRADES ON SITE.



The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. commencement of the work.

The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

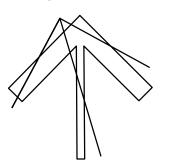
The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

Do not scale this drawing. Do not scale this drawing.

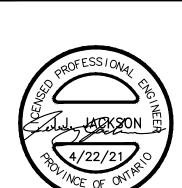
© 2021 DEI & Associates Inc.

PROJECT NORTH





Phone: 519-725-3555 Fax: 519-725-2515 Website: deiassociates.ca Project Number: 20152





SUNNYSIDE **PUBLIC SCHOOL HVAC & WASHROOM UPGRADE** 

> 1042 Weber Street E. Kitchener, ON

N2A 1B6 RAWING TITLE:

**ELECTRICAL SPECIFICATIONS** ROJECT NO:

A20002.7 AS NOTED

HECKED FEB 2021