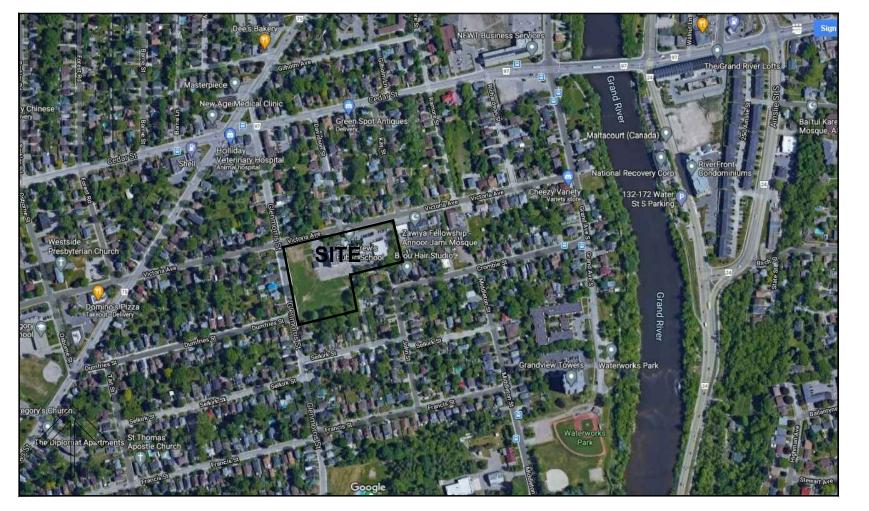


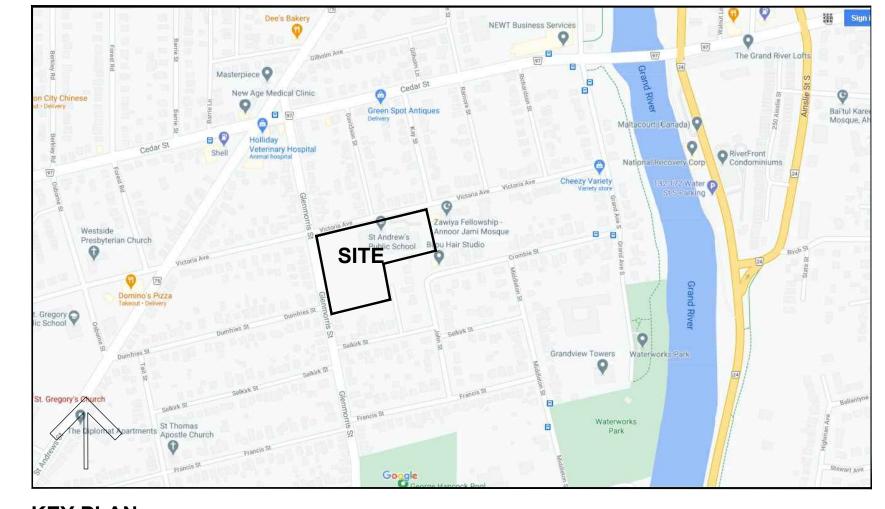
WATERLOO REGION DISTRICT SCHOOL **BOARD**

ST. ANDREW PUBLIC SCHOOL INTERIOR RENOVATIONS

65 Victoria Ave Cambridge, ON. N1S 2V1 TENDER No. #7183-RW-22



SATELLITE VIEW



KEY PLAN

ONTARIO BUILDING CODE DATA MATRIX

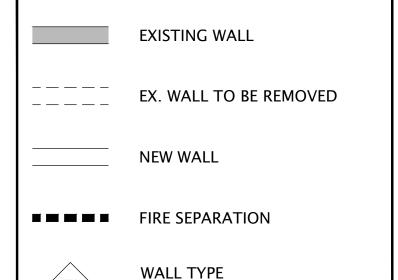
Firm Name:

Infor Colin Partne	matior J. Kings	sland S., B.Arch.,		ct	Tor Tele Fac	Dufferin S onto, Ontar ephone: 4′ simile: 416 ail: C.Kings	io M6K 3. 16-203-77 -203-7763	J1 99 x 105				
Nam	e and	Address	of Pi	roject:	INTERIO 65 Victo	dge, ON.			e wi	he architect no xercised resp th respect to c he architect's the archite	onsible lesign a seal nu	control activities. umber is
	C	Ontario	Build	ding C	ode Data	a Matrix	- Part	s 3 & 9		OBC Re	fere	nce
1	Proje	ect Descript	ion:	□ Ch	ange of Use	□ New □ Addit ■ Altera	ion	■ Part 11	■ Par 1.1.2.			ert 9 .[2] & 9.10.1.3
2	Maio	r Occupan	cv(s):		Group 'A', Di			School	3.1.2.	1 (1)	9.10.	2
3		ling Area (r			EXISTING	New:	0	Total: EXIST				.2.[A]
4		s Area (m²			EXISTING	New:	0	Total: EXIST				.2.[A] .2.[A]
 5		ber of Store		Above G			Grade:			2.[A]&3.2.1.1.		.2.[A] & 9.10.
6		ber of Stree			-		NG TO RE			10 & 3.2.5	9.10.	
7					'A', Division		,o io ne			2083	9.10.	
8		Sprinkler System Existing: ☐ entire building ☐ selected compartments ☐ selected floor areas ☐ basement ☐ in lieu of roof rating						3.2.2.2 3.2.1.9 3.2.2.2	2083 5. 17.	9.10.	8.2.	
						□ base		_ iii iieu oi 100i fat	ing INDEX		INDE	: A
9	Stan	Standpipe required: ☐ Yes ■ No					3.2.9.		N/A			
10	Fire .	Alarm requ						3.2.4.		9.10.	18	
11	Wate	er Service/S	Supply	is adequ	ate:	■ Yes	[□ No	3.2.5.7	7	N/A	
12	High	Building:				☐ Yes	Ì	■ No	3.2.6.	1	N/A	
13	Actu	struction Re	tion:		Combustible		on-comb.	required Both Stible Both		2083	9.10.	
14		zanine(s) A			/A		61 111			1.(3)-(8)	9.10.	
15	Occi	ıpant Load	pased		m²/person ccupancy <u>EX</u>	(ISTING Lo	gn of build ad 320 ad 3	Students	3.1.1	/ . 	9.9.1	.3.
16	Barri	er-free Des	ign:		Yes □ N	lo			3.8		9.5.2	•
17	Haza	ardous Sub	stance	es:	Yes ■ N	lo .			3.3.1.2	2 & 3.3.1.19.	9.10.	1.3.(4)
18		stance	FR	R (Hours	ssemblies) ISTING Hou			esign No. or ion (SB-3) N/A	3.2.2.2	2083	9.10.	8.
	Ratir	ng (FRR)			ISTING HOL			N/A N/A				
				ezzanine:				N/A N/A				
					porting Meml	+		esign No. or ion (SB-3)				
			Flo	ors: EX	ISTING Hou	ırs		N/A				
			Ro	of: EX	ISTING Hou	ırs		N/A				
_	L		Мє	ezzanine:	Hou	ırs		N/A			L	
19	Spat	ial Separat	ion - C	onstruction	on of Exterior	r Walls			3.2.3.	1	9.10.	14.
	Wall		L.D. (m)	L/H or H/L	Permitted Max. % of Openings	Proposed % of Openings	(Hours	Listed Design or Description	Comb. Const.	Comb. Cor Nonc. Clad		Non-comb. Const.
	North	N/A	-	-	-	EXISTING	G TO REA	AAIN -	-	-		-
	South	N/A	-	-	-	EXISTING	G TO REM	AAIN -	-	-		-
	East	N/A	-	-	-	EXISTING	G TO REM	MAIN -	-	-		-
	West	N/A	_	_	_	ĺ	G TO REM	.1	_	_		_

Female 13 - 2 + 1Bradley 7 0 4 6 - Bradley 13 - (11 Demo) = 2 - (1Bradley Demo) = 2 7 0 4 6 - Bradley Demo) = 2 1 1 1 1 1 1 1 1 1	<u>Staf</u> Tota 3.7.4.3. (1	al school Occu 4) Students: 320 / 2 = 16								
3.7.4.3. (14) Students: 320 / 2 = 160 at 1 wc per 30 males = 6 320 / 2 = 160 at 1 wc per 26 females = 7 3.7.4.7. (1) Staff - School: 30 / 2 = 15 for 10 to 24 persons of each sex Required = 2 wc's for each sex Required = 2 wc's for each sex Required Proposed	3.7.4.3. (1	4) Students: 320 / 2 = 16	ıpant Load							
320 / 2 = 160 at 1 wc per 30 males = 6 320 / 2 = 160 at 1 wc per 26 females = 7 3.7.4.7. (1) Staff - School: 30 / 2 = 15 for 10 to 24 persons of each sex Required = 2 wc's for each sex Required = 2 wc's for each sex Required Proposed		320 / 2 = 16		3	50					
3.7.4.7. (1) Staff - School: 30 / 2 = 15 for 10 to 24 persons of each sex Required = 2 wc's for each sex Required = 2 wc's for each sex	3.7.4.7. (1	320 / 2 = 16								
Existing Required Proposed W.C. Ur. Lav. W.C. Ur. Lav. Lav. W.C. Ur. Lav. Emaile Student (11 Demo) = 2 (12 Demo) = 2 (13 Demo) = 2 (13 Demo) = 2 (14 Demo) = 2 (15 Demo) = 4 (15 D) Staff - Scho		: :::. ::::30	-					
Existing Required Proposed		for 10 to 24								
W.C. Ur. Lav. W.C. Ur. Lav. W.C. Ur. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav.		Required =	2 wc's for ea	ıch sex						
W.C. Ur. Lav. W.C. Ur. Lav. W.C. Ur. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. W.C. Ur. Lav. Lav. Lav. Lav. Lav. Lav. W.C. Ur. Lav.										
Student 13 - - - (1Bradley Demo) = 2 7 0 4 6 - Bradley Demo) = 2 7 0 4 6 - Bradley Demo) = 2 7 0 4 6 - Bradley Demo) = 2 7 0 4 6 - Bradley Demo) = 2 7 0 4 6 - Bradley Demo) = 2 7 7 7 7 7 7 7 7 7		W.C.		Lav.						Lav.
Student (4 Demo) = 2 (8 Demo) = 1 - (1Bradley Demo) = 2 6 - 3 2 3 Bradent Staff 7 - (1 Demo) = 6 (1 Demo) = 4 - 2	Student	13 - (11 Demo) = 2	-	- (1Bradlev	7	0	4	6	-	1 Bradle
(1 Demo) = 6 (1 Demo) = 4	Student	6 - (4 Demo) = 2	9 - (8 Demo) = 1	2+ 1Bradley - (1Bradley Demo) = 2		-		2	3	1 Bradle
B.F. 1 - 1 - 2 - 2 -	Staff	7 - (1 Demo) = 6	-	5 - (1 Demo) = 4		-	2	-	-	-
	B.F.	1	-	1	-	-	-	2	-	2

ntari	o Building Code Dat	ta Matrix - Parts 11 - Renovati	on of Existii	ng Building	OBC Reference
11.1	Project Description:	Describe Existing Use: ELEMENTA Construction index: Hazard Index:	ARY SCHOOL	- A2	11.2.1.1
		☐ Not Applicable (no change of ma	jor occupancy)	
11.2	Alteration to Existing Building is:	Basic Renovation ■ Extensive Renovation □			11.3.3.1
11.3	Reduction in				11.4.2
	Performance Level:	Structural:	■ No	☐ Yes	11.4.2.1
		By Increase in occupant load: By change of major occupancy:	■ No ■ No	□ Yes □ Yes	11.4.2.2 11.4.2.3
		Plumbing:	■ No	□ Yes	11.4.2.4
		Sewage-system:	■ No	☐ Yes	11.4.2.5
11.4	Compensating				11.4.3
		Increase in occupant load:	■ No	☐ Yes (explain)	11.4.3.3
		Change of major occupancy:	■ No	☐ Yes (explain)	11.4.3.4
		Plumbing:	□ No	■ Yes (explain)	11.4.3.5
		Plumbing fixtures replaced.			
		Sewage System:	■ No	☐ Yes (explain)	11.4.3.6
11.5	Compliance Alternatives Proposed:	■ No □ Yes (give number(s))			11.5.1
11.6	Alternative Measures Proposed:	■ No			11.5.2

SYMBOL LEGEND



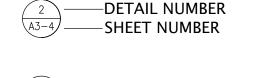
SEE SPECIFICATION





DOOR NUMBER













SEE SPECIFICATION FOR: ROOM FINISH SCHEDULE SECTION 00860

LIST OF DRAWINGS

COVER, OBC MATRIX AND KEY PLANS

PARTIAL LOWER FLOOR PLAN - DEMOLITION & NEW LAYOUT

S1.0 PARTIAL GROUND FLOOR FRAMING PLANS & SECTIONS

M101 MECHANICAL LEGEND & SCHEDULES

LOWER LEVEL PART PLAN - DEMOLITION

M303 LOWER LEVEL PART PLAN - GYM DEMO / RENO

ELECTRICAL

E301 ELECTRICAL SPECIFICATIONS

E302 ELECTRICAL SPECIFICATIONS

OVERALL LOWER FLOOR PLAN

PARTIAL LOWER FLOOR PLAN - DEMOLITION & NEW LAYOUT

PARTIAL LOWER FLOOR PLAN - REFLECTED CEILING PLAN

PARTIAL LOWER FLOOR PLAN - NEW FINISHES

A4-0 INTERIOR ELEVATIONS

STRUCTURAL

S1.1 PARTIAL ROOF FRAMING PLANS & SECTIONS

MECHANICAL

M201 LOWER LEVEL WASHROOM PLANS - DEMOLITION

M301 LOWER LEVEL WASHROOM PLANS - RENOVATION LOWER LEVEL PART PLAN - RENOVATION

M401 MECHANICAL DETAILS & SPECIFICATION

E101 ELECTRICAL SCHEDULES, KEYPLAN AND LEGEND E201 ELECTRICAL DEMOLITION AND RENOVATION PLANS ELECTRICAL DEMOLITION AND RENOVATION PLANS



KINGSLAND + ARCHITECTS INC

219 Dufferin Street, Suite 308b Toronto, Ontario M6K 3J1

ph 416.203.7799

fax 416.203.7763

ONTARIO BUILDING CODE, LATEST

3. THE DESIGN LOADS SHALL NOT BE EXCEEDED DURING CONSTRUCTION.

EDITION, AND ALL OTHER ACTS
ADMINISTERED BY ALL AUTHORITIES HAVING

CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS, AND SPECIFICATIONS.

DRAWINGS, SHALL BE CHECKED BY THE CONTRACTOR BEFORE PROCEEDING WITH

IS DEPENDENT ON THE FULL INTERACTION GENERAL CONTRACTOR SHALL PROVIDE AL NECESSARY TEMPORARY BRACING DURING

6. ALL DIMENSIONS GIVEN ARE IN METRIC.



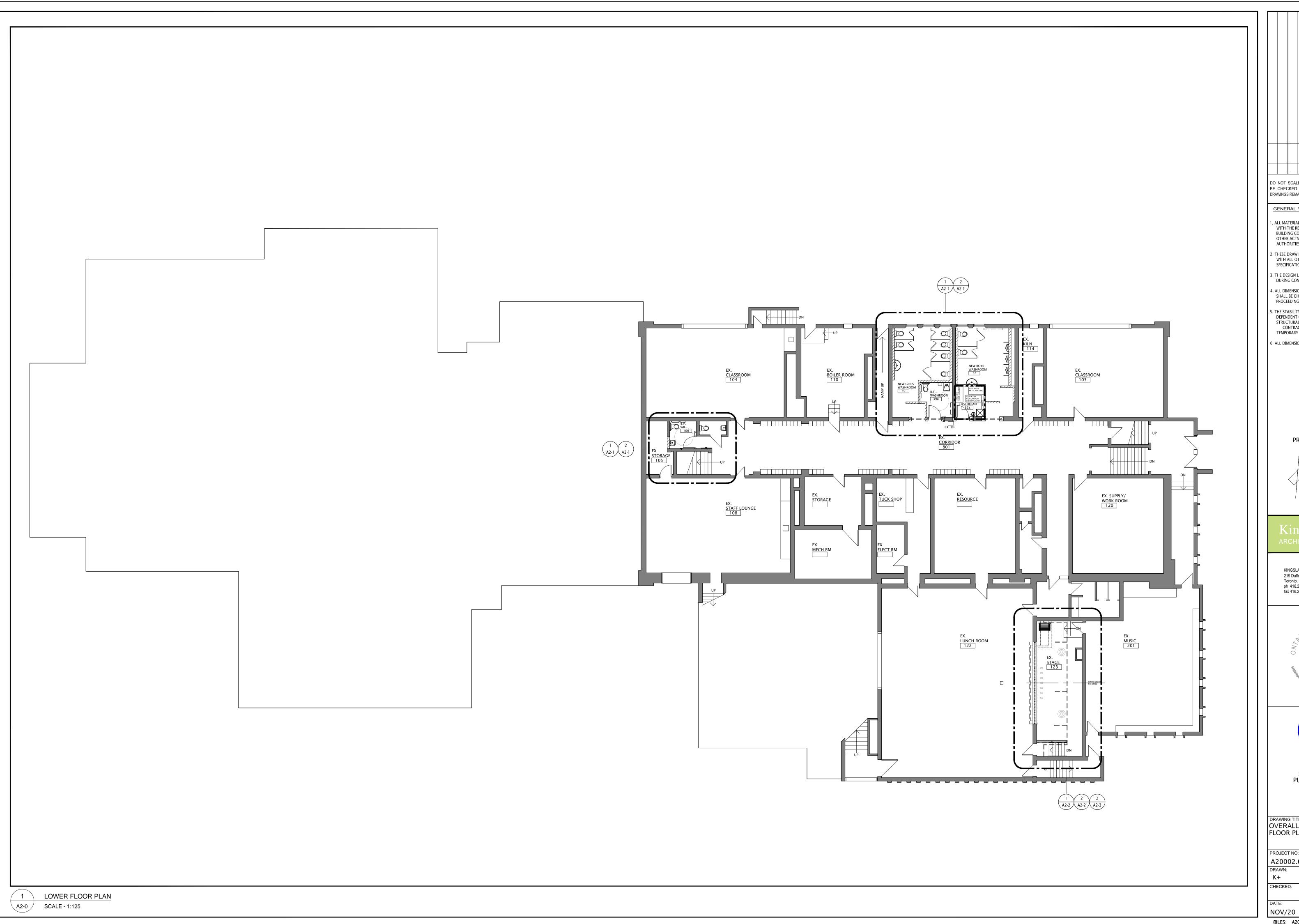
ST. ANDREW PUBLIC SCHOOL

> 65 Victoria Ave Cambridge, ON

COVER, OBC MATRIX AND **KEY PLANS**

PROJECT NO: A20002.6 N.T.S. DRAWING NO: REV. K+ CHECKED: B.F.

NOV/20 FILES: A20002.6- A0-0 COVER.DWG





DO NOT SCALE DRAWINGS. ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE JOB. ALL DRAWINGS REMAIN THE PROPERTY OF THE ARCHITECTS.

GENERAL NOTES

- 1. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, LATEST EDITION, AND ALL
 OTHER ACTS ADMINISTERED BY ALL AUTHORITIES HAVING JURISDICTION.
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- 4. ALL DIMENSIONS, SHOWN ON THE DRAWINGS, SHALL BE CHECKED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- . THE STABILITY OF THE STRUCTURAL FRAME IS DEPENDENT ON THE STRUCTURAL FRAME IS

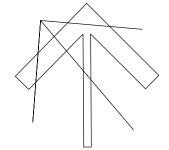
 DEPENDENT ON THE FULL INTERACTION OF ALL

 STRUCTURAL COMPONENTS. THE GENERAL

 CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY BRACING DURING CONSTRUCTION.

6. ALL DIMENSIONS GIVEN ARE IN METRIC.

PROJECT NORTH



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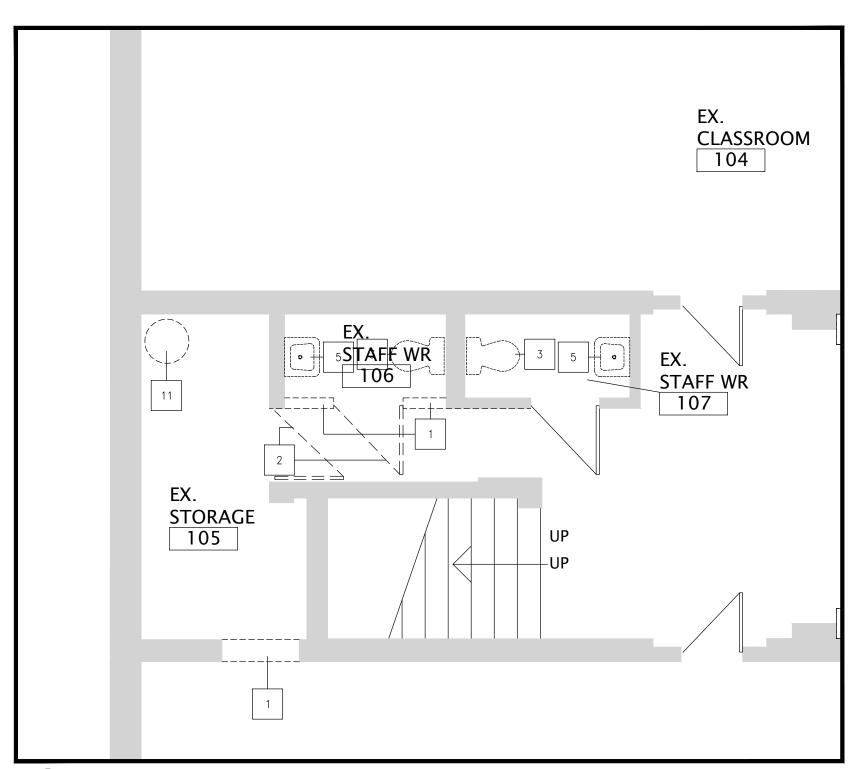
ST. ANDREW PUBLIC SCHOOL

65 Victoria Ave Cambridge, ON N1S 2V1

DRAWING TITLE:
OVERALL LOWER
FLOOR PLAN

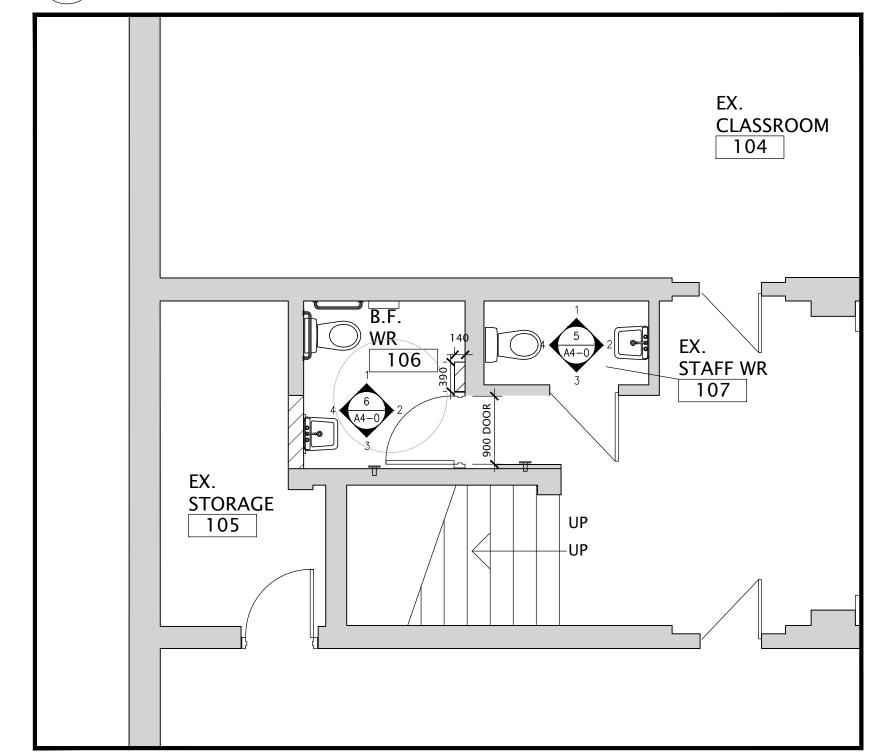
PROJECT NO: SCALE: A20002.6 1:125 DRAWING NO: REV. K+ CHECKED:

GILES: A20002.6- A2-0 OVERALL PLAN.DWG



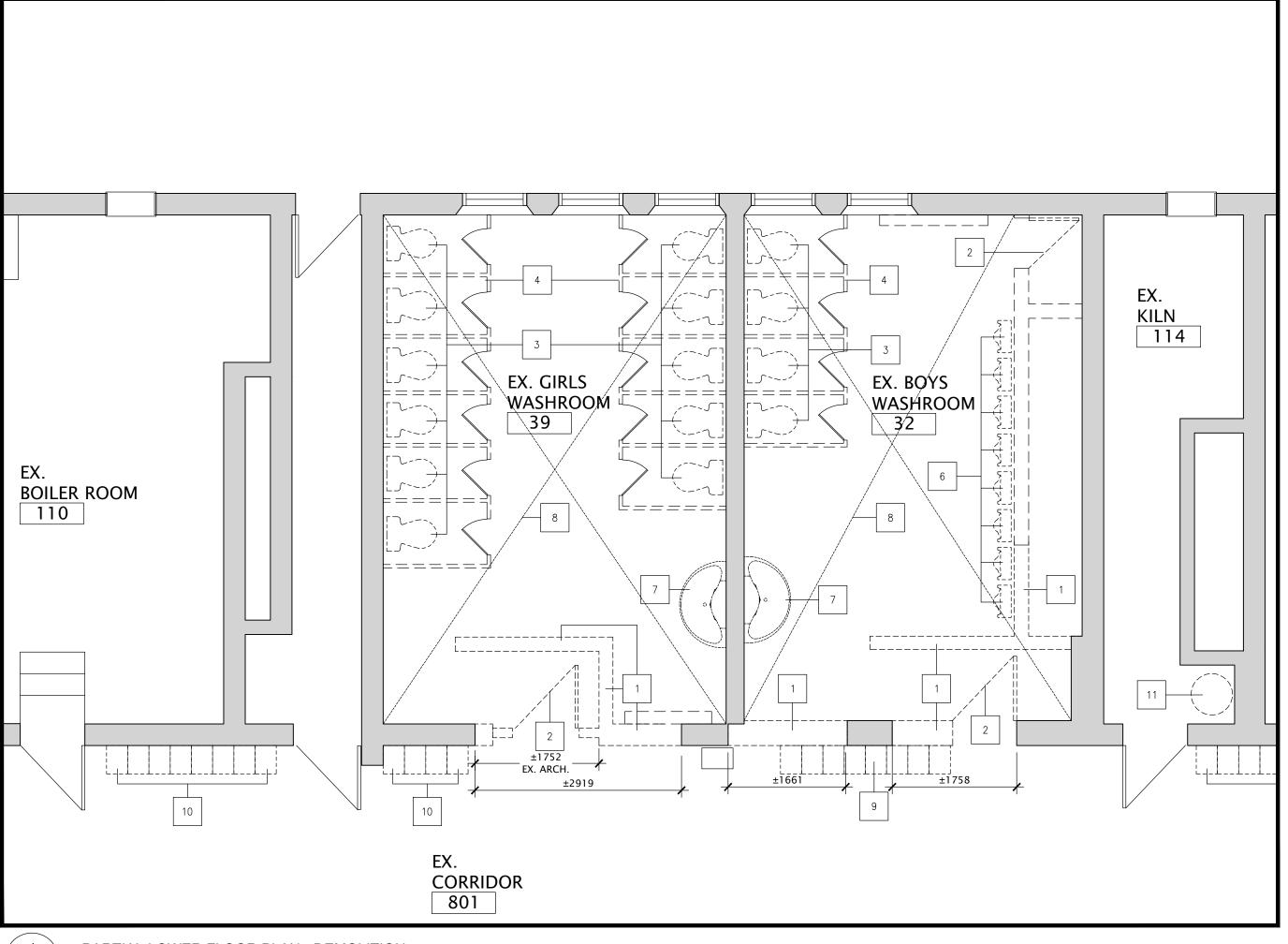
3 PARTIAL LOWER FLOOR PLAN - DEMOLITION

A2-1 SCALE: 1:50 - EXISTING STAFF WASHROOM



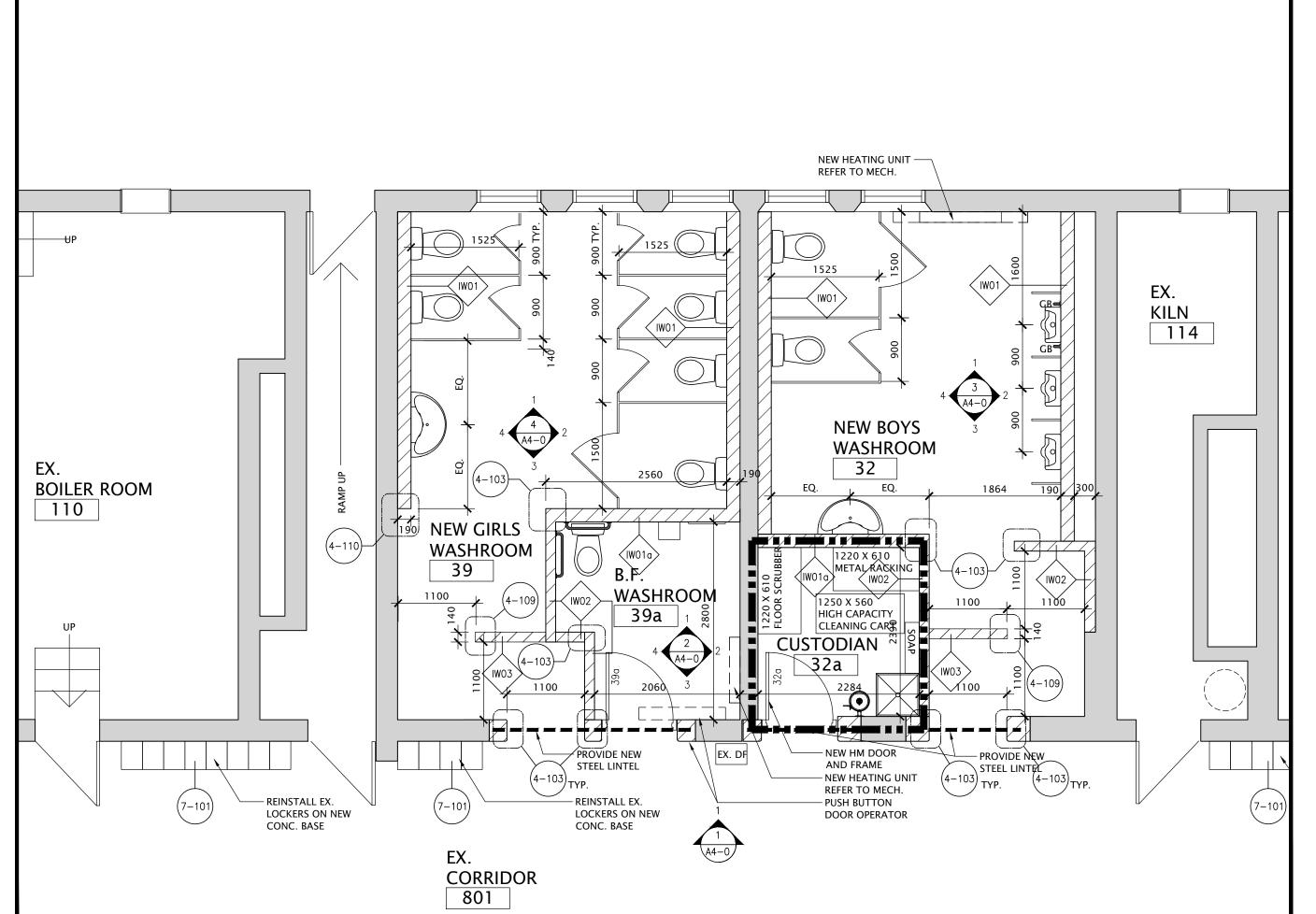
4 PARTIAL LOWER FLOOR PLAN - NEW LAYOUT

SCALE: 1:50 - NEW STAFF WASHROOM



PARTIAL LOWER FLOOR PLAN - DEMOLITION

A2-1 SCALE: 1:50 - EXISTING BOY'S WASHROOM #



PARTIAL LOWER FLOOR PLAN - NEW LAYOUT

SCALE: 1:50 - NEW BOY'S WASHROOM #

DEMOLITION NOTES

THIS DRAWING IS FOR REFERENCE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE DEMOLITION REQUIRED TO COMPLETE THE WORK. ALL DEMOLITION INCIDENTAL TO COMPLETING THE WORK IS PART OF THE WORK.

SAW CUT AND REMOVE PORTION EX.

WALL AND BASE MAKE GOOD ALL
SUBFACE TO RECEIVE NEW FINISH

SURFACE TO RECEIVE NEW FINISH

REMOVE EX. DOOR AND FRAME

REFER MECH. FOR NEW WORKS

REMOVE EX. WATER CLOSET

4 REMOVE EX. TOILET PARTITIONS COMPLETELY

5 REMOVE EX. WALL SINK REFER MECH. FOR NEW WORKS

REMOVE EX. URINAL

REFER MECH. FOR NEW WORKS

REMOVE EX. HAND WASH

REFER MECH. FOR NEW WORKS

8 REMOVE EX. VINYL FLOOR AND BASE MAKE GOOD FOR NEW FLOOR

9 REMOVE AND RELOCATE EX. LOCKERS

10 REMOVE AND REINSTALL EX. LOCKERS ON NEW CONC. BASE

REMOVE AND RELOCATE EX. WATER HEATERS REFER MECH. FOR NEW LOCATION

NEW CONSTRUCTION NOTES

THIS DRAWING IS FOR REFERENCE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PATCH AND MAKE GOOD ALL AFFECTED AREAS REQUIRED TO COMPLETE THE WORK. ALL WORK INCIDENTAL TO COMPLETING THE WORK IS PART OF THE WORK.

INTERIOR WALL AND CEILING TYPE

-190mm CONC. BLOCK WALL TO
EXTEND ±100MM ABOVE NEW CEILING

-190mm CONC. BLOCK WALL TO UNDERSIDE OF EXISTING FLOOR SLAB

-140mm CONC. BLOCK WALL

IWO

-140mm CONC. BLOCK WALL TO UNDERSIDE OF EXISTING FLOOR SLAB

2200mm HIGH

LEGENE

FIRE SEPARATION WITH
1 HR FIRE-RESISTANCE RATING

0 22/02/08 ISSUED FOR PERMIT AND TENDER

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GENERAL NOTES

ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, LATEST EDITION, AND ALL OTHER ACTS ADMINISTERED BY ALL AUTHORITIES HAVING JURISDICTION.

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6. ALL DIMENSIONS GIVEN ARE IN METRIC.

Kingsland .

KINGSLAND + ARCHITECTS INC 219 Dufferin Street, Suite 308b Toronto, Ontario M6K 3J1 ph 416.203.7799 fax 416.203.7763





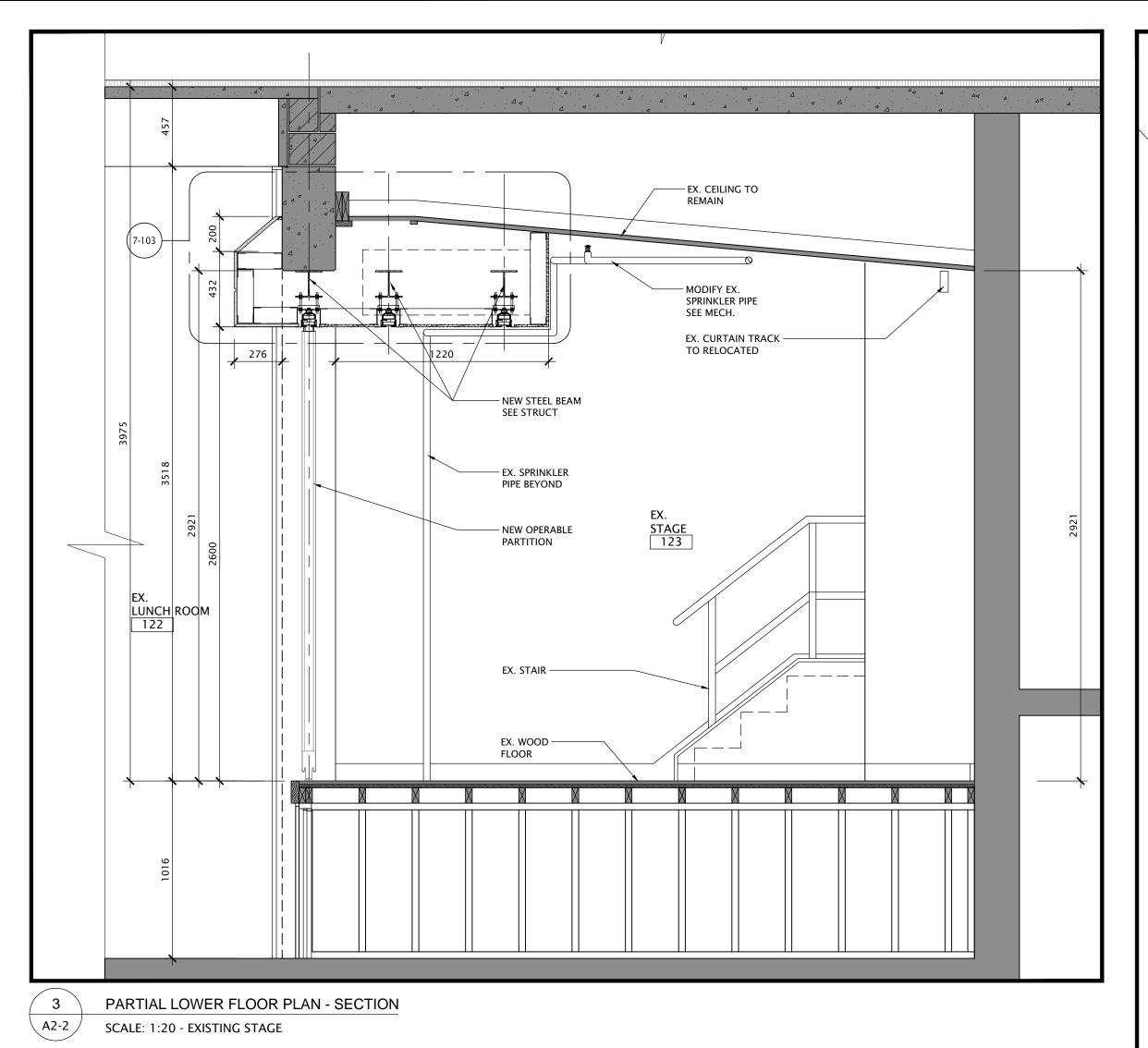
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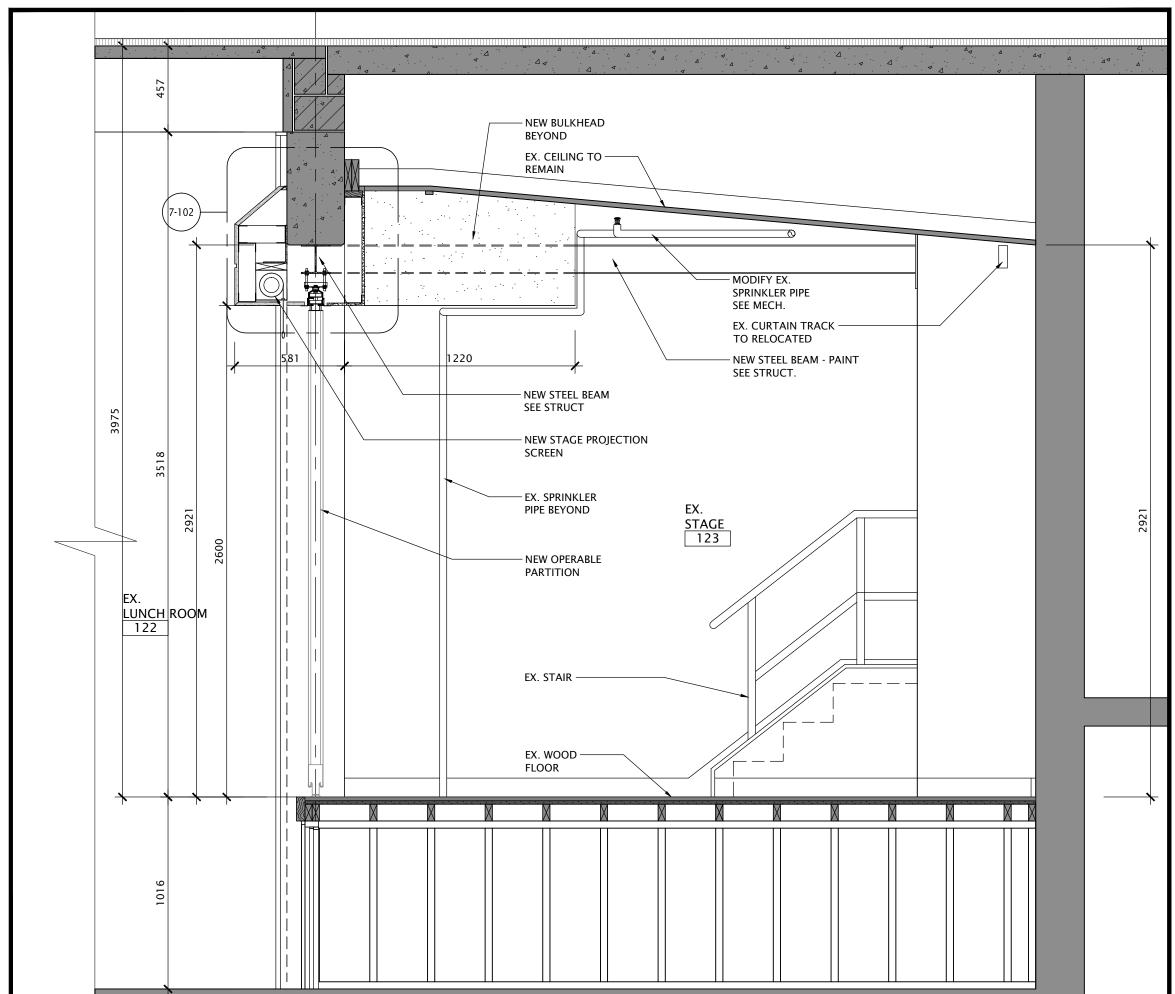
65 Victoria Ave Cambridge, ON

DRAWING TITLE:
PARTIAL LOWER FLOOR PLAN
DEMOLITION & NEW LAYOUT

			~
PROJECT NO:	SCALE:		8, 21
A20002.6	1:50		
DRAWN:	DRAWING NO:	REV.	February
K+			Fe
CHECKED:	1004		ED:
B.F.	A2-1	0	PLOTTED:
DATE:			

NOV/20 | FILES: A20002.6- A2-1 PARTIAL DEMO & N



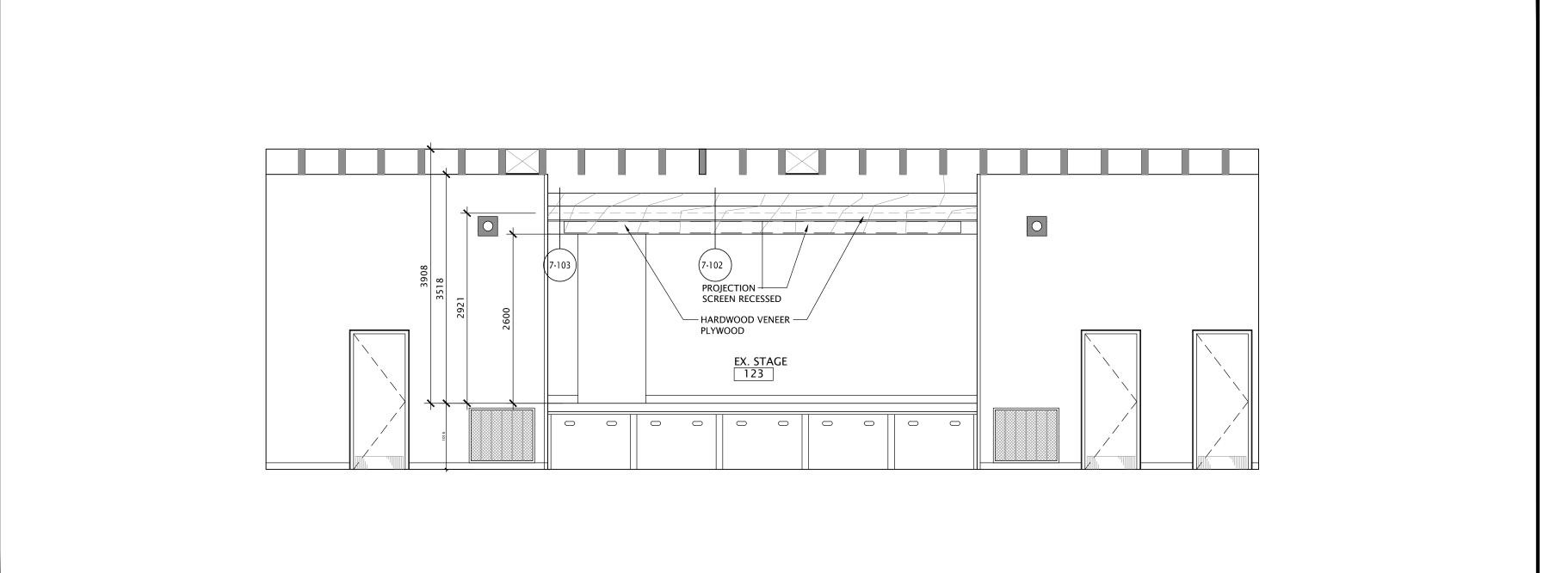


_=== NEW SPRINKLER — REFER TO MECH — CEILING MOUNTED PROJECTOR 🛆 CENTRE LINE OF THE STAGE A2-2 EX. LUNCH ROOM PROJECTION SCREEN - NEW MOVABLE PARTITION FOLDING PARTITION TRACK NEW SPRINKLER — REFER TO MECH

−EX. SPRINKLER PIPE TO REMAIN REFER TO MECH REMOVE EX. STEEL TRACK EX. SPRINKLER PIPE ABOVE TO BE REMOVE AND MODIFY REFER TO MECH REMOVE EX. LIGHT FIXTURE, PATCH AND MAKE GOOD CENTRE LINE OF THE STAGE CEILING EX.___ SEE ELECT. 123 REMOVE AND — CEILING RELOCATE EX. MOUNTED CURTAIN TRACK LIGHT FIXTURES TO REMAIN EX. DIFFUSER TO REMOVE EX. CEILING MOUNT WOOD PIECE SITE VERIFY LOCATION PARTIAL LOWER FLOOR PLAN - DEMOLITION A2-2 SCALE: 1:50 - EXISTING STAGE

PARTIAL LOWER FLOOR PLAN - NEW

SCALE: 1:50 - EXISTING STAGE



PARTIAL LOWER FLOOR PLAN - ELEVATION A2-2

SCALE: 1:50 - EXISTING STAGE

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ST. ANDREW PUBLIC SCHOOL

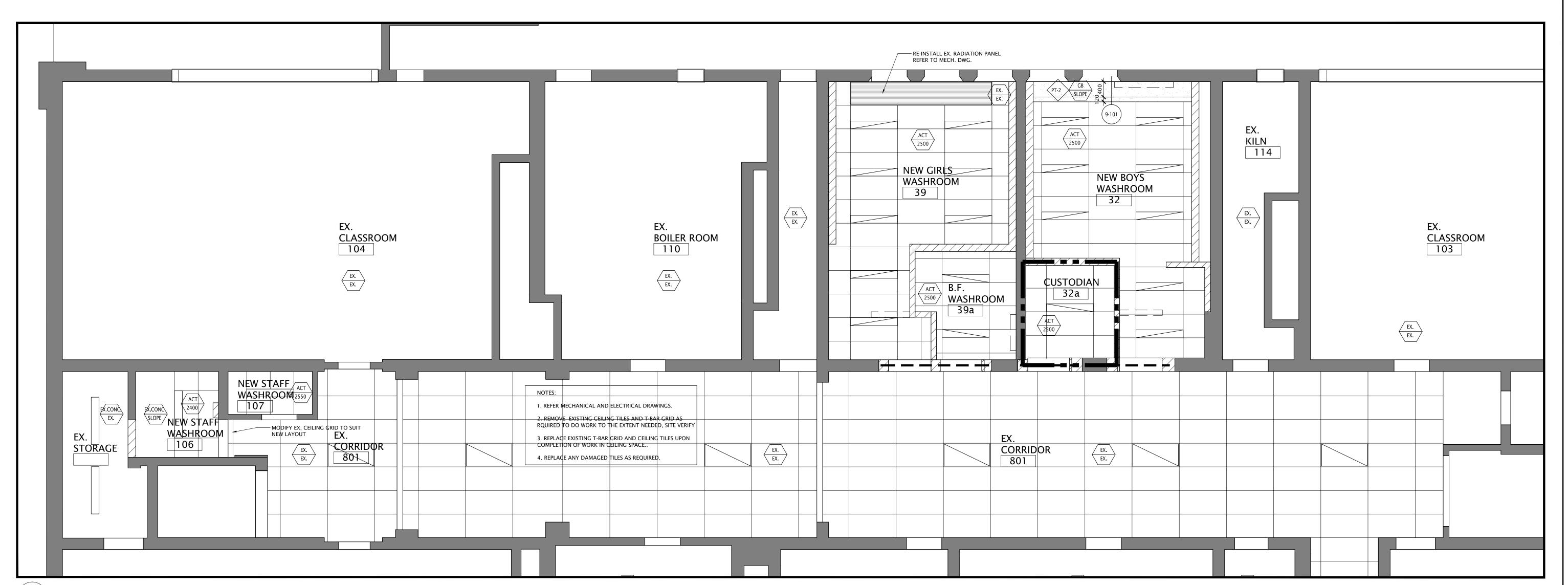
> 65 Victoria Ave Cambridge, ON

DRAWING TITLE: PARTIAL LOWER FLOOR PLAN DEMOLITION & NEW LAYOUT SECTION

PROJECT NO: SCALE: A20002.6 1:50 DRAWN: DRAWING NO: REV. K+ CHECKED: A2-2 0 B.F.

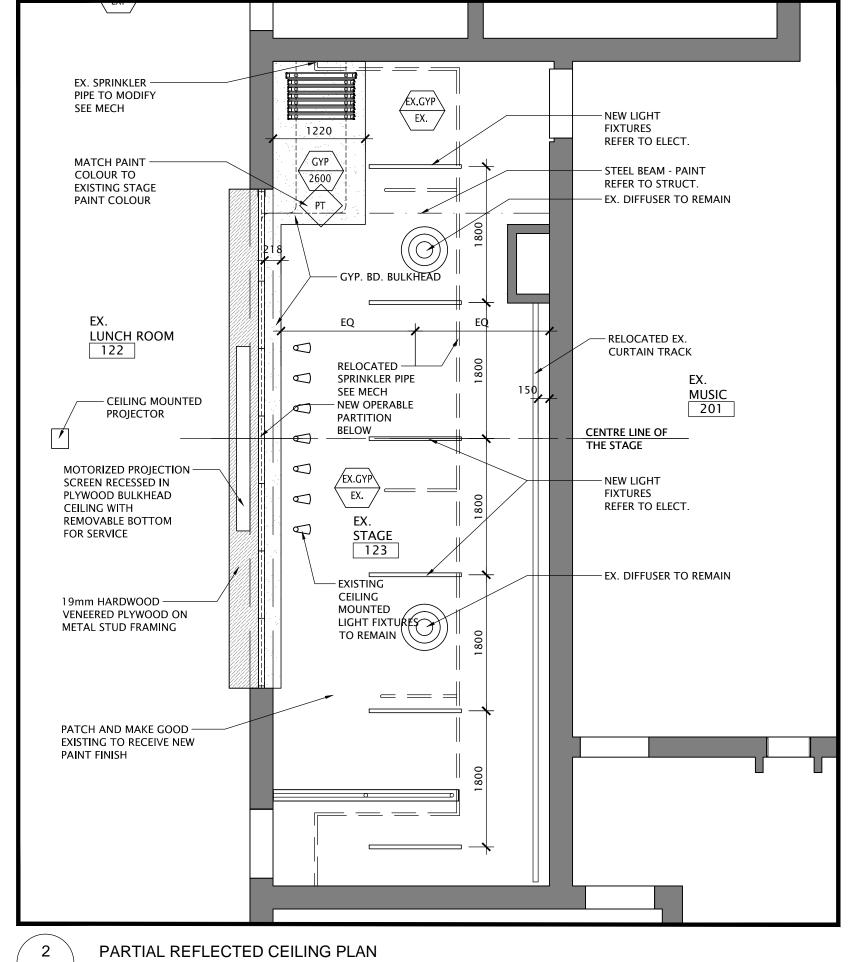
NOV/20 FILES: A20002.6- A2-2 PARTIAL DEMO & NEW PLN

PARTIAL LOWER FLOOR PLAN - SECTION A2-2 SCALE: 1:20 - EXISTING STAGE



PARTIAL REFLECTED CEILING PLAN

A2-3 SCALE: 1:50 - STAFF WASHROOM , BOY'S , GIRL'S , B.F. WASHROOM AND CUSTODIAN



A2-3 ∕ SCALE: 1:50 - STAGE

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LEGEND:

GYP CEILING TYPE CEILING HEIGHT LED LIGHT

SPRINKLER

150 X 1220

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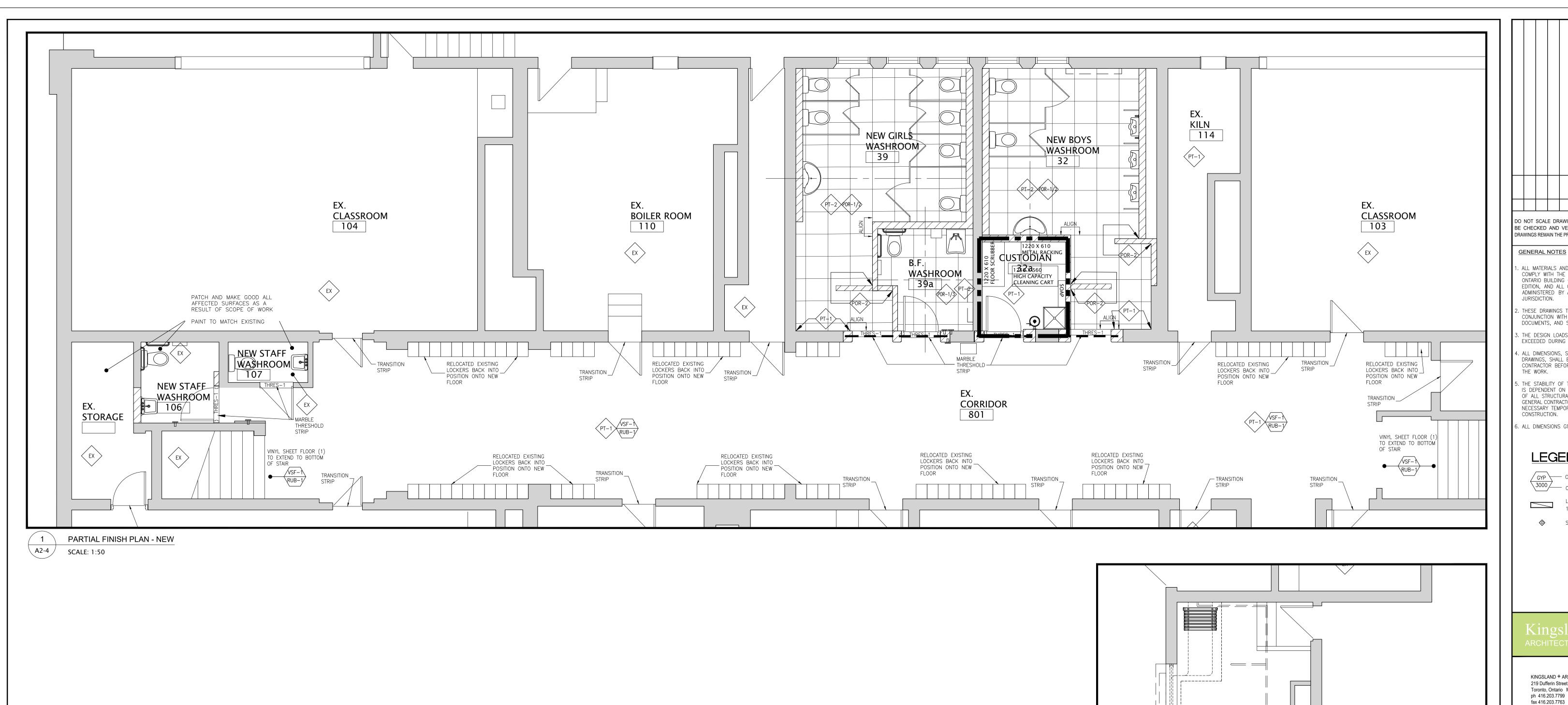
ST. ANDREW PUBLIC SCHOOL

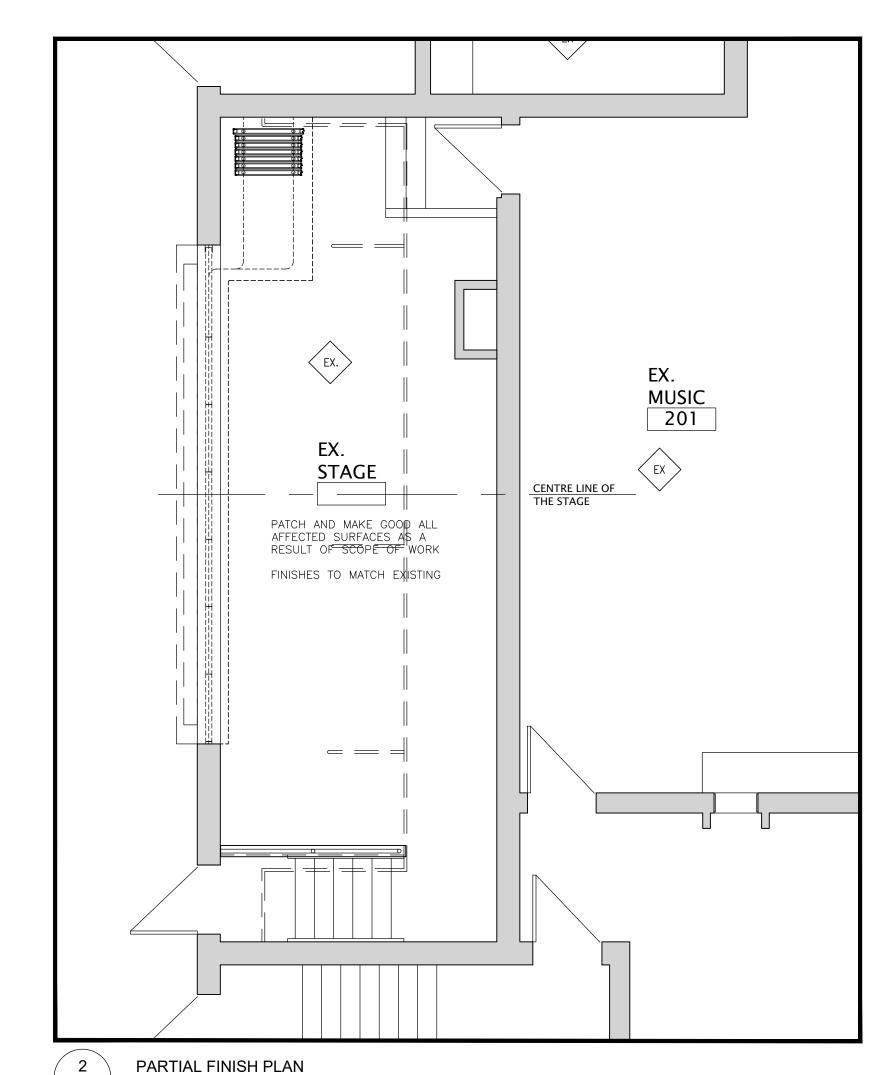
65 Victoria Ave Cambridge, ON

DRAWING TITLE: PARTIAL LOWER FLOOR PLAN REFLECTED CEILING PLANS

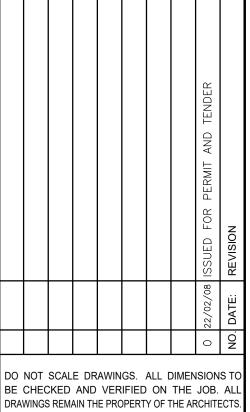
PROJECT NO: SCALE: A20002.6 1:50 DRAWN: DRAWING NO: REV. K+ CHECKED: B.F.

NOV/20 FILES: A20002.6- A2-3 NEW RCP PLAN.DWG





SCALE: 1:50 - STAGE



GENERAL NOTES

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. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS, AND SPECIFICATIONS.

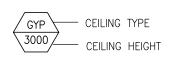
3. THE DESIGN LOADS SHALL NOT BE EXCEEDED DURING CONSTRUCTION.

4. ALL DIMENSIONS, SHOWN ON THE DRAWINGS, SHALL BE CHECKED BY THE CONTRACTOR BEFORE PROCEEDING WITH

5. THE STABILITY OF THE STRUCTURAL FRAME IS DEPENDENT ON THE FULL INTERACTION OF ALL STRUCTURAL COMPONENTS. THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY BRACING DURING CONSTRUCTION.

6. ALL DIMENSIONS GIVEN ARE IN METRIC.

LEGEND:



150 X 1220 LED LIGHT

SPRINKLER

Kingsland — ARCHITECTS INC.

KINGSLAND + ARCHITECTS INC 219 Dufferin Street, Suite 308b Toronto, Ontario M6K 3J1 ph 416.203.7799





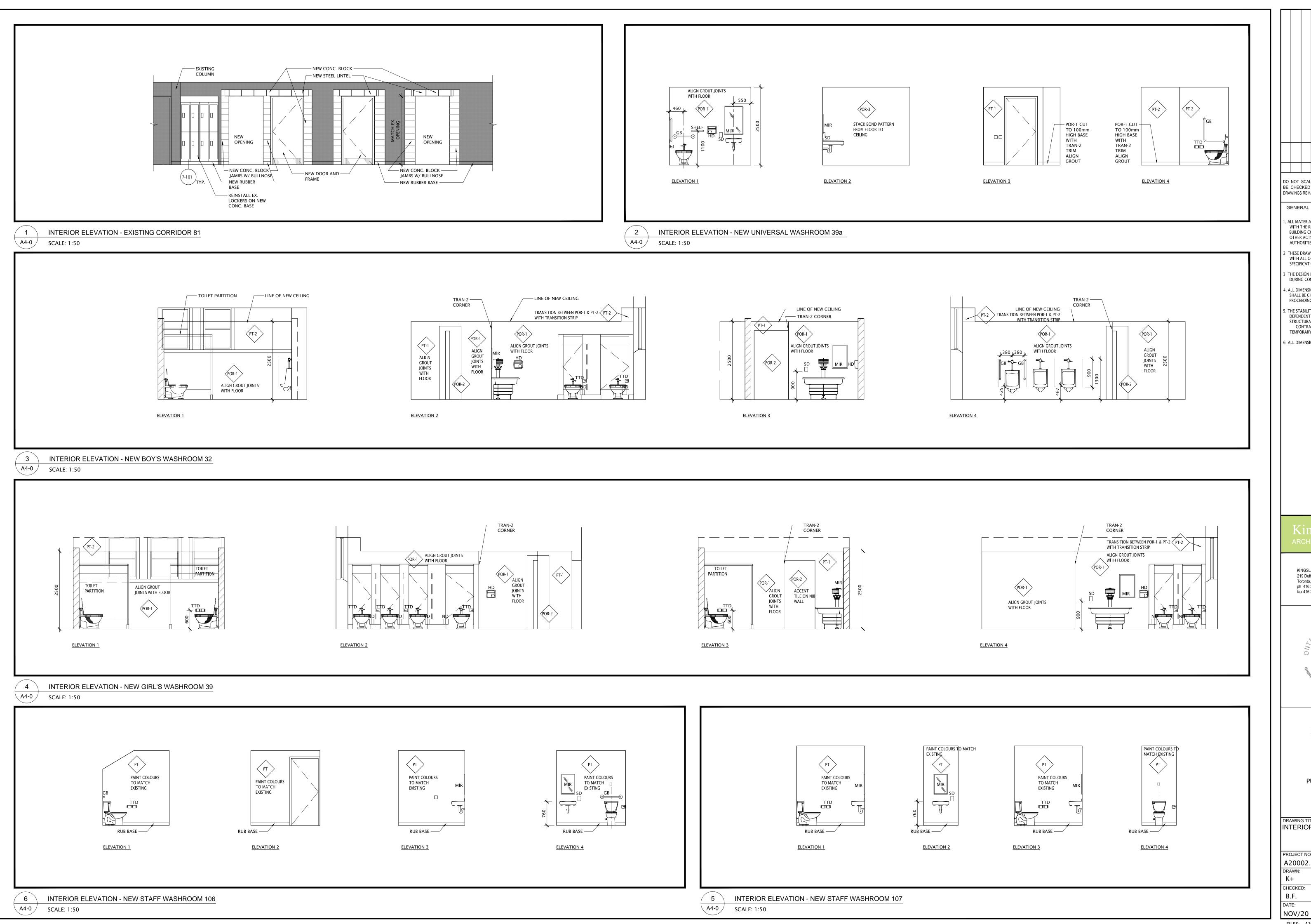
ST. ANDREW PUBLIC SCHOOL

65 Victoria Ave Cambridge, ON

PARTIAL LOWER FLOOR PLAN -**NEW FINISHES**

PROJECT NO:	SCALE:		ω̂
A20002.6	1:50		
DRAWN:	DRAWING NO:	REV.	February
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B.F.	A2-4	O	PLOTTED
DATE:			₾
NOV/20			핃

NOV/20 FILES: A20002.6- A2-4 NEW FINISH.DWG



DO NOT SCALE DRAWINGS. ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE JOB. ALL DRAWINGS REMAIN THE PROPERTY OF THE ARCHITECTS

GENERAL NOTES

. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, LATEST EDITION, AND ALL OTHER ACTS ADMINISTERED BY ALL AUTHORITIES HAVING JURISDICTION.

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KINGSLAND + ARCHITECTS INC 219 Dufferin Street, Suite 308b Toronto, Ontario M6K 3J1 ph 416.203.7799 fax 416 203 7763





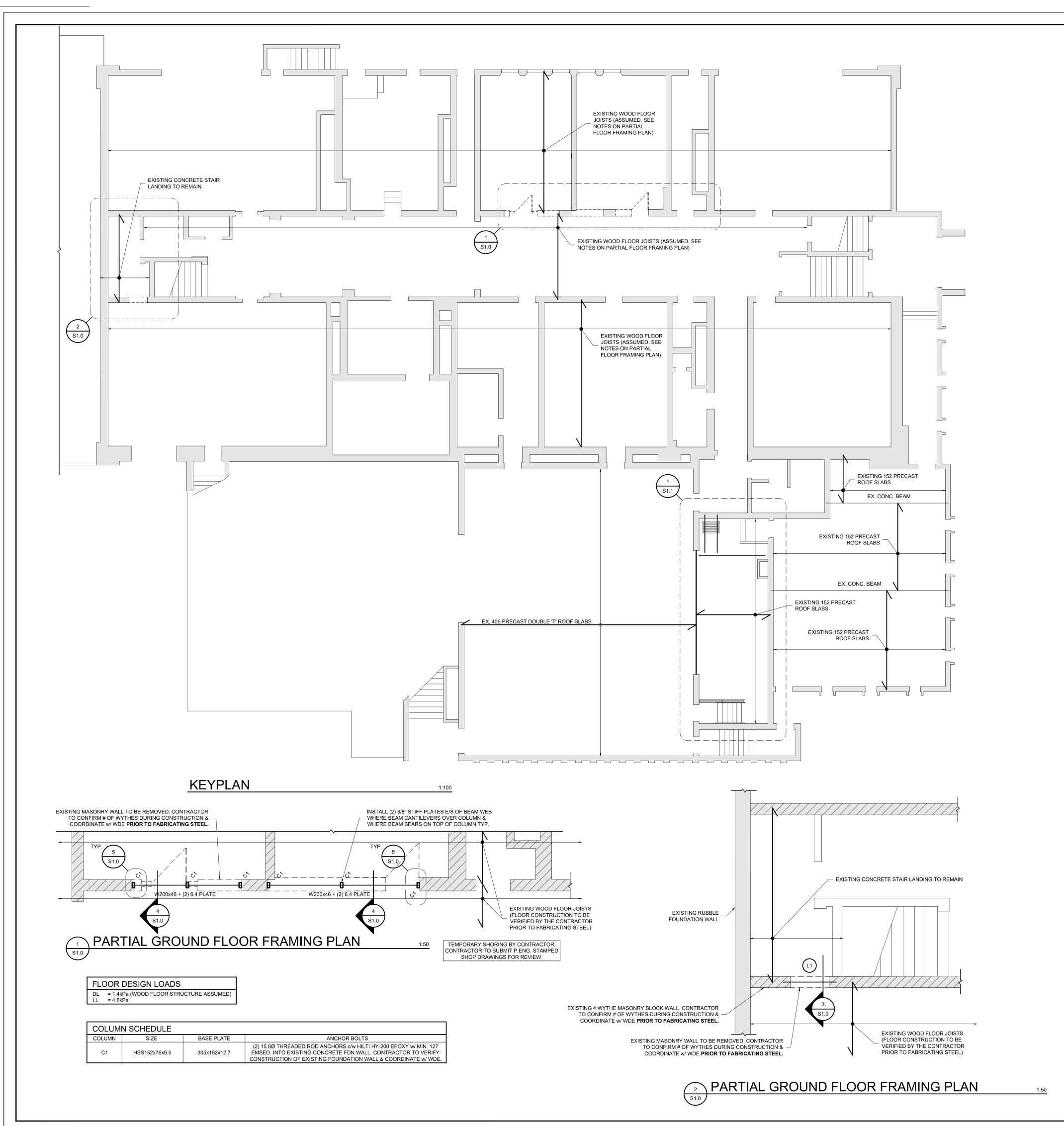
ST. ANDREW **PUBLIC SCHOOL**

> 65 Victoria Ave Cambridge, ON

DRAWING TITLE: INTERIOR ELEVATIONS

PROJECT NO: SCALE: A20002.6 1:50 DRAWING NO: REV. A4-0 0

FILES: A20002.6- A4-0 INTERIOR ELEVATION.DWG



CONSTRUCTION NOTES:

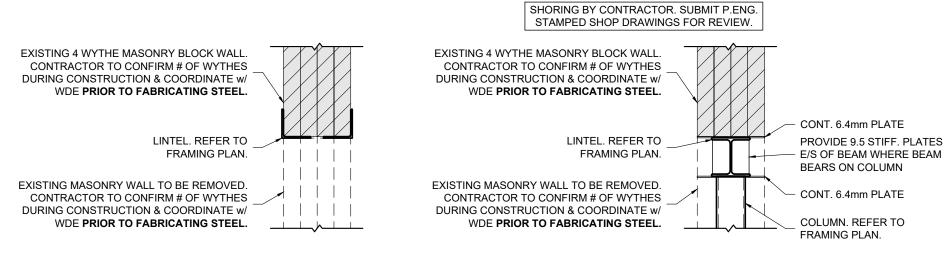
- 1. ALL WORK SHALL CONFORM TO THE ONTARIO BUILDING CODE AND ALL STANDARDS REFERENCED WITHIN, LOCAL REGULATIONS AND BYLAWS, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT FOR CONSTRUCTION PROJECTS. THE LATEST VERSIONS OF STANDARDS SHALL APPLY
- 2. READ THESE DRAWINGS IN CONJUNCTION WITH ALL RELATED CONTRACT DOCUMENTS AND CONSULTANT DRAWINGS.
- 3. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS IN RELATION TO THE DRAWINGS AND NOTIFY THE ENGINEER TO ALL DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK. 4. DRAWINGS ARE NOT TO BE SCALED.
- 5. THE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE WITH THE PARTY WHOM THE ENGINEER HAS ENTERED INTO CONTRACT. THERE ARE NO REPRESENTATIONS MADE TO ANY PARTY WITH WHOM THE ENGINEER HAS NOT
- ENTERED INTO CONTRACT. 6. THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING AND INSPECTION COMPANY TO ENSURE THAT THE WORK IS DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS INCLUDING COMPACTION TESTING, REINFORCING STEEL PLACEMENT. CONCRETE TESTING AND STRUCTURAL STEEL
- 7. THE ENGINEER SHALL BE GIVEN MINIMUM 24 HOURS NOTICE BY THE CONTRACTOR FOR ALL CONSTRUCTION REVIEWS. SITE VISITS AND REVIEWS BY THE ENGINEER OR HIS REPRESENTATIVE ARE INTENDED FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THE REVIEWS SHALL NOT MEAN THAT THE ENGINEER HAS SEEN ALL CONSTRUCTION PROCEDURES. REVIEW BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS AND FOR MEETING ALL THE REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS.
- 8. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION LOADS AND TEMPORARY BRACING TO ENSURE SAFETY AND THE BUILDING IS PLUMB AND IN TRUE ALIGNMENT AT ALL PHASES OF CONSTRUCTION AS PER O.REG 213/91. ALL BRACING MEMBERS SHOWN ON THE DRAWINGS ARE DESIGNED FOR THE FINISHED STRUCTURE AND MAY NOT BE SUFFICIENT FOR ERECTION PURPOSES. SHORING AND BRACING IS REQUIRED UNTIL PROPOSED STRUCTURE IS PROPERLY IN PLACE. SHORING AND BRACING SHALL BE DESIGNED, REVIEWED AND APPROVED BY A PROFESSIONAL ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED WITH P.ENG'S STAMP FOR OUR REVIEW PRIOR TO CONSTRUCTION.

9. NO SUBSTITUTIONS FROM THE SPECIFIED PRODUCTS AND MATERIALS ARE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

TESTING REQUIREMENTS INSPECT ALL FIELD WELDS STRUCTURAL STEEL CONNECTIONS ALL TESTING TO BE COMPLETED BY A CERTIFIED INDEPENDENT TESTING AND INSPECTION COMPANY. COPIES OF ALL REPORTS ARE TO BE FORWARDED TO THE ENGINEER FOR REVIEW.

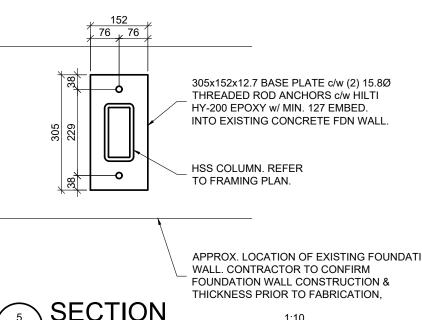
- B. STRUCTURAL STEEL
- 1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA-S16
- AND THE CISC CODE OF STANDARD PRACTICE. 2. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA G40.20, G40.21 GRADE 350W CLASS C FOR H.S.S., G40.21 GRADE 350W FOR W SHAPE SECTIONS AND G40.21 GRADE 350W FOR CHANNELS, ANGLES AND MISCELLANEOUS METAL.
- 3. BOLTED CONNECTIONS SHALL USE GRADE A325 BOLTS. 4. ANCHOR BOLTS SHALL BE FABRICATED USING STEEL ROD CONFORMING TO THE LATEST VERSION OF CSA G40.21 GRADE 300W.
- 5. WELDING SHALL CONFORM TO CSA W59 AND CSA W47 DIVISION 1 OR DIVISION 2.1 BY THE CANADIAN WELDING BUREAU. WELDING SHALL BE COMPLETED BY CWB CERTIFIED FABRICATOR AND ERECTOR TO THE CSA STANDARDS W178.1 AND
- 6. WHERE FORCES ARE NOT SHOWN ON THE DRAWINGS BEAM REACTIONS SHALL BE 1/2 THE TOTAL UNIFORM DISTRIBUTED FACTORED LOADS NOTED IN THE BEAM LOAD TABLES OF PART 5 OF THE CISC'S HANDBOOK OF STEEL CONSTRUCTION.
- 7. COLUMN BEARING GROUT SHALL BE 40 MPa MINIMUM, NON-SHRINK AND 38mm (1 1/2") MINIMUM THICK.
- 8. STRUCTURAL STEEL MEMBERS SHALL NOT BE SPLICED WITHOUT THE APPROVAL OF THE ENGINEER.
- 9. STEEL BEAMS AND LINTELS SHALL HAVE MINIMUM 200mm (8") BEARING ON MASONRY UNLESS OTHERWISE NOTED. WELD BEAMS AND LINTELS TO BEARING PLATES WHERE PROVIDED WITH MINIMUM 4.8mm x 50mm (3/16"x2") FILLET WELD
- 10. PROVIDE (2) 10mm (3/8") STIFFENER PLATES EACH SIDE OF BEAMS CANTILEVERED OVER COLUMNS OR SUPPORTS OR SUPPORTING COLUMNS. 11. ALL STRUCTURAL STEEL IS TO BE SHOP PRIME PAINTED UNLESS NOTED OTHERWISE. STRUCTURAL STEEL WHICH IS TO BE PROTECTED WITH SPRAY APPLIED FIREPROOFING IS TO BE KEPT CLEAN AND UNCOATED. STRUCTURAL STEEL EXPOSED TO WEATHER IS TO BE HOT DIP GALVANIZED CONFORMING TO THE LATEST VERSION OF CAN/CSA-G164. ALL COATINGS ARE TO BE TOUCHED UP ON SITE WITH APPROVED PAINT FOR PRIMED STEEL AND ZINC RICH PAINT FOR
- GALVANIZED STEEL. 12. TO FACILITATE THE MECHANICAL AND ELECTRICAL INSTALLATIONS PANEL POINT OF JOISTS ARE TO LINE UP JOIST TO JOIST WITHIN SIMILAR AREAS.
- 13. ALL BUILDING MATERIALS AND EQUIPMENT SUPPORTED BY OPEN WEB STEEL JOISTS ARE TO BE CONNECTED AT JOIST PANEL POINTS.

SHOP DRAWINGS REQUIRED REQ'D P.ENG. STAMP MINIMUM CERTIFICATION REQUIREMENTS: YES YES CONNECTIONS ONLY
YES YES LAYOUT, AND ANCHORAGE DETAILS STRUCTURAL STEEL SHORING SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION, SHOP DRAWINGS MUST BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO ISSUING TO THE ENGINEER FOR









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GENERAL NOTES

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WITZELDYCE ENGINEERING INC. 826 KING STREET NORTH, UNIT 20 WATERLOO, ON. N2J 4G8 www.witzeldyce.com

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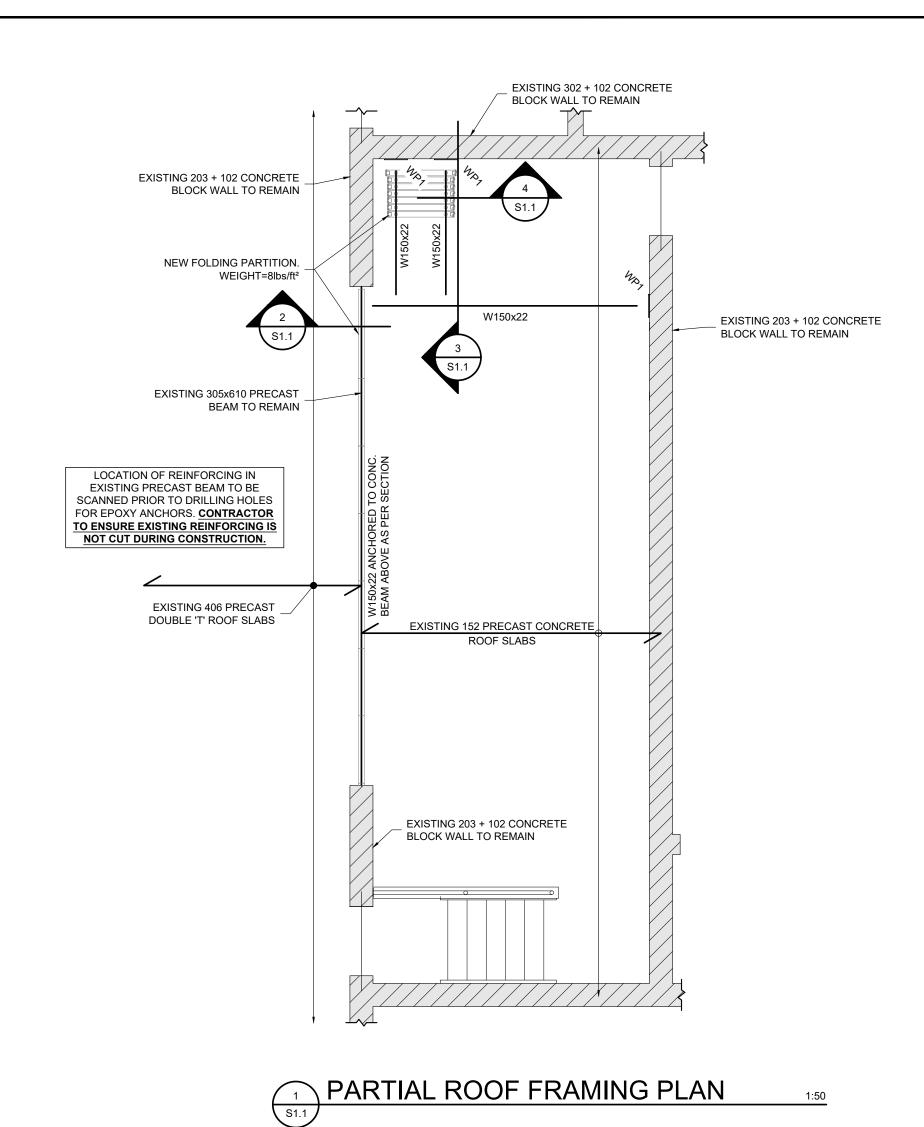
ST. ANDREW **PUBLIC SCHOOL**

> 65 Victoria Ave Cambridge, ON

PARTIAL GROUND FLOOR FRAMING PLANS & SECTIONS

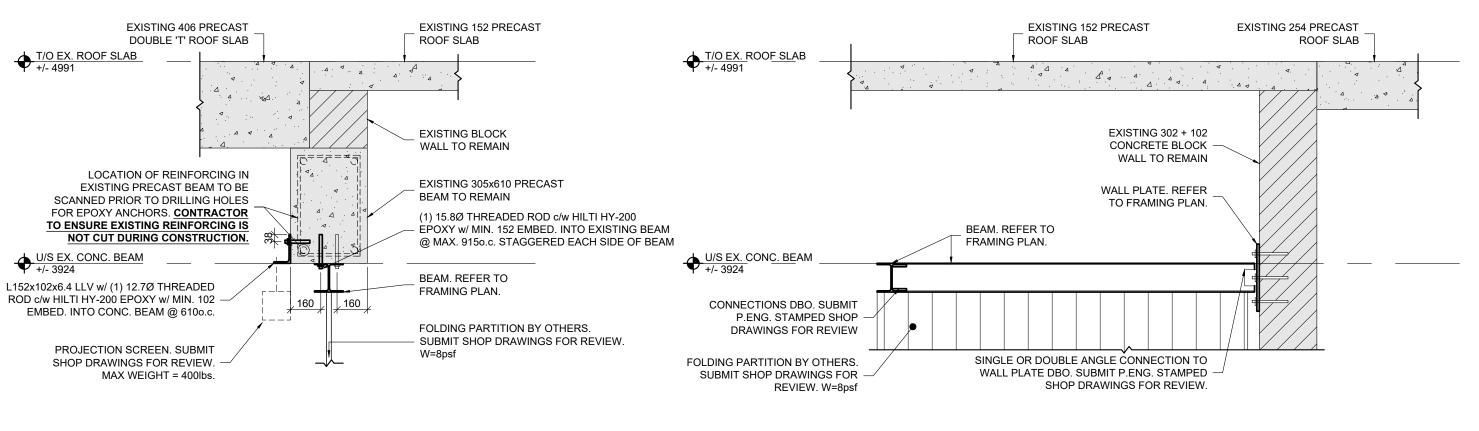
PROJECT NO: SCALE: AS NOTED 14146-101 DRAWING NO: | REV.

APPROX. LOCATION OF EXISTING FOUNDATION RGW CHECKED MCJ/DAW **JANUARY 2022**



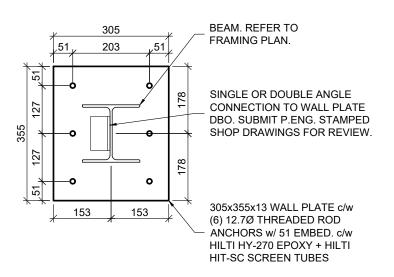


RC	OF DESIGN LOADS
DL	= 3.1kPa (CONC. ROOF SLAB)
	+ 0.5kPa (ROOFING)
	+ 0.4kPa (PARTITION)
	= 4kPa TOTAL
SL	= 1.9kPa + DRIFT AS PER PLAN

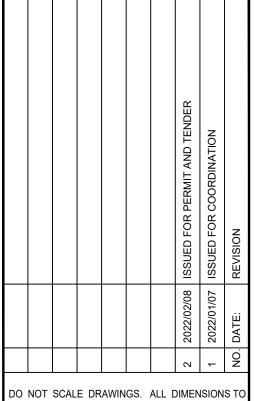












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ST. ANDREW PUBLIC SCHOOL

65 Victoria Ave Cambridge, ON N1S 2V1

DRAWING TITLE:

PARTIAL ROOF FRAMING PLANS & SECTIONS

PROJECT NO:	SCALE:	
14146-101	AS NOT	ED
DRAWN:	DRAWING NO:	REV.
RGW		
CHECKED:		
MCJ/DAW	51.1	1
DATE:		
JANUARY 2022		
	14146-101 DRAWN: RGW CHECKED: MCJ/DAW DATE:	14146-101 AS NOT DRAWN: RGW CHECKED: MCJ/DAW DATE:

Item	Туре		ection S		Accordable Manufactures	Fixture Description	Asserbable Manufachuran	Trim Description	Accordable Manufordura	Accessories
WC-1	WATER CLOSET FLUSH VALVE HANDS FREE (BATTERY)	HW CW	3 3		Acceptable Manufacturer AMERICAN STANDARD MADERA 2234 001 KOHLER WELLCOMME K-4350 MANSFIELD BALTIC 1311NS ZURN Z5655-BWL	Fixture Description VITREOUS CHINA, SIPHON JET, ELONGATED RIM, TOP SPUD FOR FLUSH VALVE, BOLT CAP, BOTTOM OUTLET, FLOOR-MOUNTED, 10" OR 12" ROUGH-IN, MIN 2" TRAP WAY, MAXIMUM 6 litres (1.6 gal) PER FLUSH.	Acceptable Manufacturer DELTA 81T201BT ZURN SLOAN	Trim Description EXPOSED, POLISHED CHROME PLATED, SENSOR OPERATED DIAPHRAGM TYPE FLUSH VALVE WITH SEAT BUMPER, 25MM (1") SCREWDRIVER ANGLE STOP, MOTORIZED ACTUATOR, AUTOMATIC SENSOR WITH MANUAL PUSH BUTTON OVERRIDE, VACUUM BREAKER ADJUSTABLE TAIL PIECE, OPTIONAL 24 HR COURTESY FLUSH, FLUSH CONNECTION & COUPLING FOR 40MM (1 1/2") TOP SPUD WITH 11 1/2" TALL OUTLET TUBE, WALL AND SPUD ESCUTCHEINS. BATTERY OPERATED C/W 4 'AA' CELL BATTERIES, SENSOR BOX C/W COVER, VANDAL RESISTANT SCREWS, FLUSH CYCLE SET FOR 6.0 LITRE (1.6 GAL) PER FLUSH.	Acceptable Manufacturer SEAT: BEMIS 1955C CENTOCO	Accessory Description SEAT: BLACK, ELONGATED, OPEN FRONT, LESS COVER, MOLDEI SOLID PLASTIC, STAINLESS STEEL CHECK HINGES, STAINLESS STEEL OR SOLID BRASS INSERT POST.
WC-2	BARRIER FREE WATER CLOSET FLUSH VALVE, 16" HIGH, HANDS FREE (BATTERY)	1	3	1 1/	AMERICAN STANDARD MADERA 3043.001 KOHLER HIGHCREST K-4302 MANSFIELD ADRIATIC 1319 ZURN ECO VANTAGE Z5665-BWL	BARRIER FREE, 16" TALL TO RIM, VITREOUS CHINA, SIPHON JET, ELONGATED RIM, TOP SPUD FOR FLUSH VALVE, BOLT CAP, BOTTOM OUTLET, FLOOR-MOUNTED, 12" ROUGH-IN, MIN 2" TRAP WAY, MAXIMUM 6 litres (1.5 gal) PER FLUSH.	DELTA 81T221BT ZURN SLOAN	EXPOSED, POLISHED CHROME PLATED, SENSOR OPERATED DIAPHRAGM TYPE FLUSH VALVE WITH SEAT BUMPER, 25mm (1") SCREWDRIVER ANGLE STOP, MOTORIZED ACTUATOR, AUTOMATIC SENSOR WITH MANUAL PUSH BUTTON OVERRIDE, VACUUM BREAKER ADJUSTABLE TAIL PIECE, OPTIONAL 24 hr COURTESY FLUSH, FLUSH CONNECTION & COUPLING FOR 40mm (1 1/2") TOP SPUD WITH 24" TALL OUTLET TUBE, WALL AND SPUD ESCUTCHEINS. BATTERY OPERATED C/W 4 'AA' CELL BATTERIES, SENSOR BOX C/W COVER, VANDAL RESISTANT SCREWS, FLUSH CYCLE SET FOR 6.0 litre (1.6 gal) PER FLUSH.	SEAT: BEMIS 1950 CENTOCO	SEAT: BLACK, ELONGATED, OPEN FRONT WITH COVER, MOLDED SOLID PLASTIC, STAINLESS STEEL CHECK HINGES, STAINLESS STEEL OR SOLID BRASS INSERT POST.
WC-3	WATER CLOSET FLUSH TANK	1/2	3	1 1/	AMERICAN STANDARD CADET 2462 016,3481 016 KOHLER WELLWORTH K-3505 MANSFIELD QUANTUM 147-123ZURN Z5530-IN	VITREOUS CHINA, TANK WITH LINER & PRESSURE ASSISTED, SIPHON JET, ELONGATED RIM, METAL CHROME TRIP LEVER, TWO PIECE (TANK & BOWL) CLOSE COUPLED, BOLT CAP, BOTTOM OUTLET, FLOOR-MOUNTED, 12" ROUGH-IN, MIN 2" TRAP WAY, MAXIMUM 6 litres (1.6 gal) PER FLUSH.			SEAT: BEMIS 1955C CENTOCO	SEAT: BLACK, ELONGATED, OPEN FRONT, LESS COVER, MOLDE SOLID PLASTIC, STAINLESS STEEL CHECK HINGES, STAINLESS STEEL OR SOLID BRASS INSERT POST.
WC-4	BARRIER FREE WATER CLOSET FLUSH TANK, 16" HIGH	1/2	3	1 1/	KOHLER HIGHLINE K-3493	BARRIER FREE, 16" TALL TO RIM, VITREOUS CHINA, TANK WITH LINER & PRESSURE ASSISTED, SIPHON JET, ELONGATED RIM, METAL TRIP LEVER TWO PIECE (TANK & BOWL) CLOSE COUPLED, BOLT CAP, BOTTOM OUTLET, FLOOR-MOUNTED, 12" ROUGH-IN, MIN 2" TRAP WAY, MAXIMUM 6 litres (1.6 gal) PER FLUSH.			SEAT: BEMIS 7850TDG CENTOCO AM820STS	SEAT: BLACK, ELONGATED, OPEN FRONT WITH COVER, MOLDED SOLID ANTIMICROBIAL PLASTIC, STAINLESS STEEL CHECK HINGES, STAINLESS STEEL OR SOLID BRASS INSERT POST.
U-1	URINAL WITH FLUSHING SYSTEM	3/4	2	1 1/	/2 AMERICAN STANDARD WASHBROOK 6515.005 KOHLER BARDON K-4904-ER ZURN Z5760	VITREOUS CHINA, WASHOUT TYPE, INTEGRAL FLUSHING RIM, EXTENDED SHIELDS, INTEGRAL TRAP, BACK OUTLET, WALL—MOUNTED, BACK SUPPLY SPUD, MIN 2" TRAP WAY, MAXIMUM 1.9 litres (0.5 gal) PER FLUSH. C/W FLOOR MOUNTED CARRIER PROVIDE 400 mm (16") LONG x 20¢ (3/4"), STAINLESS STEEL FLEXIBLE SUPPLY CONNECTOR		REFER TO SPEC FOR AUTOMATIC URINAL FLUSHING SYSTEM. PROVIDE FLOOR MOUNTED WALL CARRIER.		
WF-1	B.F. WASH FOUNTAIN	1/2 1/2	1 1	/2 1 1/	/4 BRADLEY SENTRY SN2023-A-IR-STD-TMA-NSD -BS	BARRIER FREE SEMI—CIRCULAR STAINLESS STEEL BOWL. ALL EXPOSED COMPONENTS TO BE STAINLESS STEEL. SUITABLE FOR THREE (3) USERS. STANDARD PEDESTAL HEIGHT. C/W BACKSPLASH. TRIM: INFRARED CONTROLLED, AT EACH INDIVIDUAL USER, MOLDED SPRAYHEAD, STOP VALVES, HORIZONTAL SWING CHECK VALVES, THERMOSTATIC MIXING VALVE PRESET AT 40°C. NO SOAP DISPENSER. SUITABLE FOR 120 V/1/60 COMPLETE WITH CLASS II 120/24V PLUG IN TRANSFORMER. COLOUR BY ARCHITECT.				
L-1	BARRIER FREE WALL HUNG LAV FAUCET HANDS FREE (BATTERY)	1/2 1/2	1 1,	/4 1 1/	/4 AMERICAN STANDARD MURRO 0955-001EC KOHLER BRENHAM K-1997 ZURN Z5344	WALL-HUNG SINK, VITREOUS CHINA, WITH SPLASH LIP, SINGLE CENTER SUPPLY OPENING, OVERFLOW. SIZE: 559 mm x 540 mm (22 x 21 1/4"). C/W SHROUD/KNEE CONTACT GUARD	DELTA 591T1256 MOEN COMMERCIAL ZURN	BATTERY ELECTRONIC PROXIMITY SENSING FAUCET. CAST BRASS ONE PIECE BODY. ADJUSTABLE SENSING RANGE AND TIME OUT, CHROME FINISH. VANDAL RESISTANT AERATOR HAVING INTEGRAL FLOW CONTROL FOR 0.5gpm (1.9 I/min) @ 413 kPa (60 psi) MAX. UNDER COUNTER PLASTIC SURFACE MOUNTED HOUSING WITH FLUSH STAINLESS STEEL COVER FOR SOLENOID AND CONTROLLER. SENSOR ACTIVATES IN PRESENCE OF PERSON'S HANDS IN LAVATORY. USES FOUR 'AA' CELL BATTERIES.		WASTE FITTING: NPS 32 MM (1¼") OFFSET WASTE WITH OPEN GRID STRAINER. PROVIDE FLOOR MOUNTED WALL CARRIER PROVIDE SHROUD/KNEE CONTACT GUARD
L-2	WALL MOUNTED LAV ELECTRONIC FAUCET	1/2 1/2	1 1,	/4 1 1/	/4 AMERICAN STANDARD LUCERNE 355.012 KOHLER BRENHAM K-1997 ZURN Z5344	WALL-HUNG SINK, VITREOUS CHINA, WITH SPLASH LIP, SUPPLY OPENINGS ON 100 MM (4") CENTRES, OVERFLOW. SIZE: 557 MM X 502 MM (21 15/16" X 19 3/4").		BATTERY ELECTRONIC PROXIMITY SENSING FAUCET. CAST BRASS ONE PIECE BODY. ADJUSTABLE SENSING RANGE AND TIME OUT, CHROME FINISH. VANDAL RESISTANT AERATOR HAVING INTEGRAL FLOW CONTROL FOR 0.5GPM (1.9 L/MIN) © 413 KPA (60 PSI) MAX. UNDER COUNTER PLASTIC SURFACE MOUNTED HOUSING WITH FLUSH STAINLESS STEEL COVER FOR SOLENOID AND CONTROLLER. SENSOR ACTIVATES IN PRESENCE OF PERSON'S HANDS IN LAVATORY. USES FOUR 'AA' CELL BATTERIES.		WASTE FITTING: OPEN GRID STRAINER. PROVIDE FLOOR MOUNTED WALL CARRIER THERMOSTATIC MIXING VALVE UNDER LAV. DELTA R3070—MIXLE POWERS LM490 OR EQUAL.
MS-1	MOP SINK	1/2 1/2	3	1 1/	72 FIAT MSB 2424 ZURN 1996-24 STERN WILLIAMS MTB-2424	SINK: MOLDED HIGH DENSITY COMPOSITE BASIN WITH 80 mm (3") CHROME PLATED CAST BRASS DOME STRAINER AND GASKETED OUTLET CONNECTION. OVERALL SIZE: 600 mm X 600 mm X 250 mm HIGH (24" X 24" X 10").	FIAT 830-AA ZURN Z842M1-5H DELTA 28T9	WALL MOUNTED FAUCET: CHROME PLATED CAST BRASS WALL MOUNTED FAUCET WITH WALL BRACE, 20 mm (3/4") THREADED OUTLET SPOUT WITH PAIL HOOK, 200 mm (8") CENTRESET LEVER HANDLES, VACUUM BREAKER, ESCUTCHEONS, UNION INLETS, AERATOR, & INTEGRAL STOP VALVES. PROVIDE ACCESSORIES TO LIMIT MAXIMUM FLOW RATE TO 8.35 I/min (2.2 gpm) AT 413 KPA (60 psi).	FIAT ZURN STERN WILLIAMS DELTA	HOSE AND HOSE BRACKET: 1200 mm (48") LONG RUBBER HOSE MOP HANGER WALL GUARD: STAINLESS STEEL 600 mm (24") HIGH CONTINUOUS ON ADJACENT WALLS.
EW-1	EYE WASH	1/2 1/2	1 1,	/4 1 1/	/4 HAWS 7260BT-7270BT BRADLEY S19-220 GUARDIAN G1750P-TMV	250 MM (10") DIAMETER IMPACT RESISTANT BOWL CHROME PLATED BRASS SPRAY HEADS COMPLETE WITH COVERS, AND WALL MOUNTING BRACKET. TEPID WATER MIXING VALVE MEETING REQUIREMENTS OF ANSI STANDARD Z358.1—2004. MIXING VALVE IS TO PROVIDE WATER TEMPERATURE BETWEEN 15.5°C (60°) AND 38°C (100°F). 15 MM (1/2") CHROME PLATED BRASS STAY OPEN BALL VALVE COMPLETE WITH PUSH HANDLE.			HAWS TWBS.EWE BRADLEY S19-2000 GUARDIAN G3600	TEMPERING VALVE TO BLEND HOT AND COLD WATER TO DELIVER TEPID WATER. AS REQUIRED BY ANSI Z358.1
FD-1	FLOOR DRAIN		NOT	ED 1 1/	/2 ZURN ZN415B MIFAB F1100-C CONTOUR C2000-R6 WATTS FD-100-C-A	GENERAL DUTY CAST IRON BODY, ADJUSTABLE HEAD, NICKEL BRONZE STRAINER, INTEGRAL SEEPAGE PAN, AND CLAMPING COLLAR. USE SQUARE STRAINER IN TILED AREAS AND ROUND STRAINER ELSEWHERE. C/W TRAP PRIMER				

Item	Туре	Acceptable Manufacturer	Description
H1	CONVECTOR	ENG-A C-3W	16ga STEEL CABINET WITH ALL MOUNTING HARDWARE. ELEMENT TO BE 4x4 ALUMINUM FINS ON 1/20 COPPER TUBE WITH 50 FINS/FT. PROVIDE STAMPED GRILLES ON FRONT INLET & OUTLET. SURFACE MOUNTED ON WALL WITH TOP OF UNIT AT 42" AFF. PROVIDE MANUAL DAMPER AND OPERATOR KNOB.

WAT	er heate	ER SC	HEDL	<u>JLE</u>			CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.
Item	Туре	Inpu Capacity	Medium	Storage	Side Recovery GPH @ 90°	Manufacturer & Model	Remarks
WH-1	DOMESTIC WATER HEATER	4.5 kW	ELEC	60		RENTAL WH	ELECTRIC WATER HEATER, 208/1/60 SUPPLIED BY RENTAL COMPANY, INSTALLED BY CONTRACTOR

ltem	Туре	Equalizing Grid	Volume Damper	Acceptable Manufacturer	Description
D1	SQUARE CEILING DIFFUSER	YES	NONE	EH PRICE SCDA	MULTICONE, FULLY ADJUSTABLE, 24x24, STEEL CEILING DIFFUSER W/ROUND NECK. SUITABLE FOR LAY-IN T-BAR CEILING, OR DRYWALL CEILING WHEN C/W FRAME. PROVIDE FIRE STOP FLAP & FIRE BLANKET.
S1	SUPPLY GRILLE	NO	NONE	EH PRICE 22-FLA	DOUBLE DEFLECTION, 3/4" SPACING, ALUMINUM AIRFOIL BLADES PARALLEL TO LONDIMENSION, C/W 1 1/4" FLAT BORDER & SCREWED FASTENING FOR SURFACE MOUNTING.
R1	CEILING RETURN GRILLE (NON-DUCTED)	NO	NONE	EH PRICE 80-CH	1/2x1/2x1/2 ALUMINUM EGGCRATE CORE, C/W CHANNEL BORDER FOR LAY-IN T-BAR CEILING.
E1	EXHAUST GRILLE (DUCTED)	NO	NONE	EH PRICE 80-FA	1/2x1/2x1/2 ALUMINUM EGGCRATE CORE, C/W 1 1/4" FLAT BORDER & SCREWED FASTENING FOR SURFACE MOUNTING.
ACCEF	. DIFFUSER/GRILLE NOTES: PTABLE MANUFACTURERS: EH E COLOURS ARE SELECTED E	PRICE, NA	AILOR, TITI	JS, KRUEGER, CARNES, METALAIF	RE, TUTTLE & BAILEY

Item	Description	Item	Description
	ITEM TO BE REMOVED	 	STRAINER
	CUT EXISTING & CONNECT NEW PIPING		SCREWED OR WELDED PI
·	POTABLE COLD WATER	——IФI——	BALL VALVE
	POTABLE HOT WATER	•	PENDENT HEAD
	POTABLE HOT WATER RECIRC.	0	UPRIGHT PENDENT HEAD
-SAN-EX-	- EXISTING SAN ABOVE FLOOR	D	SIDEWALL HEAD
-SAN-EX-	- EXISTING SAN BELOW FLOOR	FHC	FIRE HOSE CABINET
- — SAN — ·	- SANITARY ABOVE FLOOR	FEC	RECESSED CABINET MOUNTIRE EXTINGUISHER
	- SANITARY BELOW FLOOR	▼ FE	WALL MOUNTED FIRE EXTINGUISHER
STM-EX	_ EXISTING STM ABOVE FLOOR	o ^{co}	FLOOR CLEANOUT
STM-EX	_ EXISTING STM BELOW FLOOR	——-1 CO	LINE CLEANOUT
	- VENT	G Q	THERMOSTAT (WITH GUAR WHERE INDICATED)
SP	- SPRINKLER		SUPPLY AIR DUCT
—HWS—	- HEATING WATER SUPPLY		RETURN/EXHAUST AIR DU
- —HWR—	- HEATING WATER RETURN	-	ACOUSTIC DUCT LINING
FD O	FLOOR DRAIN	— BD	BALANCING DAMPER
- 79.	TRAP PRIMER	→ FD	FIRE DAMPER
	TEE CONNECTION	— BDD	BACK DRAFT DAMPER
c —	PIPE DOWN		RECTANGULAR DUCTWORK
o —	PIPE UP		RIGID ROUND DUCT
~	FLEXIBLE CONNECTION	Type Size Capacity	DIFFUSER/GRILLE SIZE (in TYPE & CAPACITY (cfm)
	REDUCER/INCREASER	Type Size / cfm Capacity	HYDRONIC HEATING SIZE, TYPE & CAPACITY
N	- CHECK VALVE	EX	EXISTING DUCT (SIZE AS INDICATED)
	- UNION		

GENERAL NOTES

- A. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PREPARED SPECIFICATION.
- B. SANITARY VENT PIPING IS NOT SHOWN. PROVIDE ALL NECESSARY VENT PIPING FROM ALL FIXTURES FOR A COMPLETE SYSTEM TO ALL LOCAL PLUMBING CODE & LOCAL AUTHORITY REQUIREMENTS, CONNECTED TO EXISTING VENTS OR NEW VENTS AS REQUIRED. CO-ORDINATE VENT LOCATION(S) WITH GENERAL CONTRACTOR. MAINTAIN MIN 14'-0" FROM ANY AIR INLET. INSTALL VENT PIPING HIGH IN JOIST SPACE.
- C. UPON COMPLETION OF THE PROJECT THE CONTRACTORS SHALL PROVIDE THE FOLLOWING CERTIFICATES BEFORE CONFORMANCE LETTERS ARE ISSUED BY THE CONSULTANT: - POTABLE WATER TEST (SEE SPEC PART 2, #1)
 - BACKFLOW TEST CERTIFICATE(S) FOR ALL TESTABLE DEVICES
 - NFPA-13 SPRINKLER CONTRACTOR'S MATERIAL & TEST CERTIFICATE
 ALL CERTIFICATES ARE TO BE SUBMITTED TOGETHER IN A SINGLE PACKAGE.

GENERAL SPRINKLER NOTES

- SUBMIT PRELIMINARY DESIGN & HYDRAULIC CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER, AND MANUFACTURERS' PRODUCT SHEETS FOR SHOP DRAWING SUBMISSION AS SPECIFIED PRIOR TO COMMENCING WORK.
- ENSURE DESIGN MEETS OR EXCEEDS PRESENT NFPA 13 STANDARDS. ENSURE SPRINKLER SYSTEMS ARE INSTALLED TO NFPA 13 STANDARDS. UPON COMPLETION, SPRINKLER CONTRACTOR TO PROVIDE REPRODUCIBLE DRAWING (AT 1:100 SCALE) AND HYDRAULIC CALCULATIONS OF AS—BUILT CONDITION.
- 3. SPRINKLER CONTRACTOR'S 'PROFESSIONAL ENGINEER' TO PROVIDE O.B.C. AND NFPA REQUIRED INSPECTION AND CERTIFICATION.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLAN.
- 5. PROVIDE SPRINKLER HEAD TYPES AS FOLLOWS:
- 5.1. PROVIDE UPRIGHT HEADS WITHIN 12" OF EXPOSED DECK THROUGHOUT EXPOSED STRUCTURE AREAS. PROVIDE HEAD GUARDS IN STAGE AND WHERE HEADS ARE BELOW 8'-0".
- 5.2. PROVIDE CONCEALED PENDENT HEADS IN CEILINGS OF UNSUPERVISED AREAS (CORRIDORS, WASHROOMS). COVER PLATE FINISH SELECTED BY CONSULTANT. 5.3. PROVIDE SEMI-RECESSED HEADS IN ALL OTHER CEILING AREAS (CLASSROOMS, OFFICES, SEMINAR RMs, etc.). HEAD & ESCUTCHEON FINISH SELECTED BY
- 6. SPRINKLER HEADS TO BE IN CENTRELINE OF CEILING TILE. MINIMUM 150mm (6")
- 7. FINAL NUMBER AND LOCATION OF SPRINKLER HEADS TO BE DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS AND APPROVED DRAWINGS. HEAD LOCATIONS SHOWN ARE DIAGRAMATIC ONLY.
- 8. SPRINKLER PIPING TO BE COORDINATED WITH OTHER SERVICES PRIOR TO INSTALLATION
- 9. SPRINKLER CONTRACTOR TO VISIT SITE AND EVALUATE EXISTING CONDITIONS PRIOR TO TENDER CLOSING. INCLUDE ALL MODIFICATIONS IN TENDER PRICE.
- 10. EXISTING SPRINKLER SYSTEM TO BE RENOVATED/MODIFIED TO SUIT NEW LAYOUT. CONTRACTOR IS RESPONSIBLE TO SURVEY EXISTING SYSTEMS FOR CREATION OF SHOP DWGS.

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

Project Number: 20151



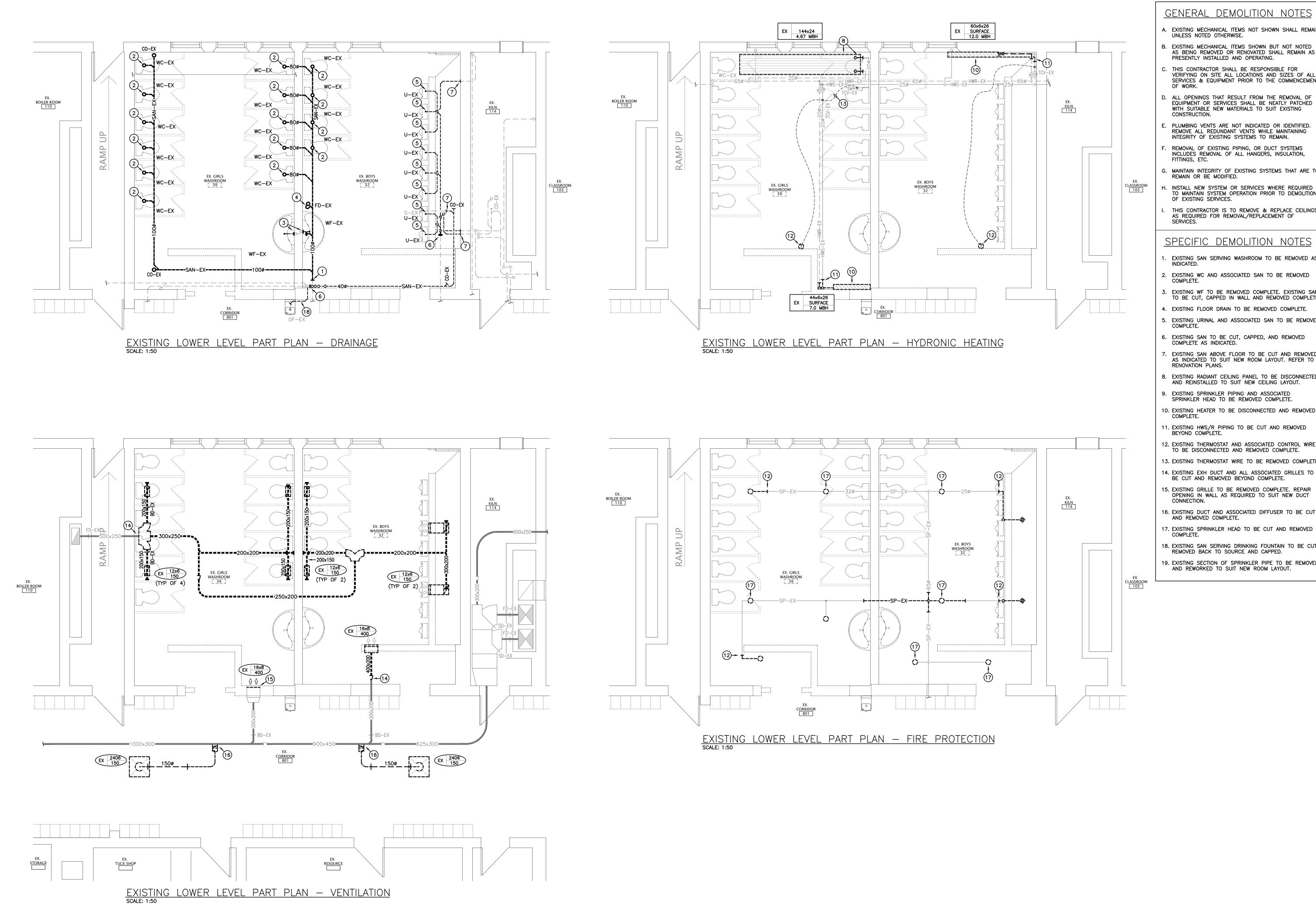


ST. ANDREW PUBLIC SCHOOL

> 65 Victoria Ave Cambridge, ON

DRAWING TITLE: MECHANICAL LEGEND

& SCHEDULES									
PROJECT NO: SCALE:									
A20002.6	AS NOTED								
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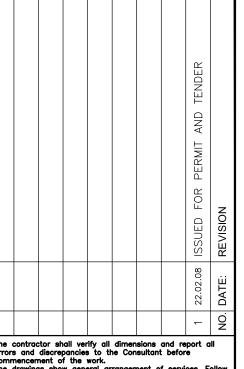


GENERAL DEMOLITION NOTES

- A. EXISTING MECHANICAL ITEMS NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.
- B. EXISTING MECHANICAL ITEMS SHOWN BUT NOT NOTED AS BEING REMOVED OR RENOVATED SHALL REMAIN AS PRESENTLY INSTALLED AND OPERATING.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ON SITE ALL LOCATIONS AND SIZES OF ALL SERVICES & EQUIPMENT PRIOR TO THE COMMENCEMENT
- D. ALL OPENINGS THAT RESULT FROM THE REMOVAL OF EQUIPMENT OR SERVICES SHALL BE NEATLY PATCHED WITH SUITABLE NEW MATERIALS TO SUIT EXISTING
- PLUMBING VENTS ARE NOT INDICATED OR IDENTIFIED. REMOVE ALL REDUNDANT VENTS WHILE MAINTAINING INTEGRITY OF EXISTING SYSTEMS TO REMAIN.
- REMOVAL OF EXISTING PIPING, OR DUCT SYSTEMS INCLUDES REMOVAL OF ALL HANGERS, INSULATION, FITTINGS, ETC.
- . MAINTAIN INTEGRITY OF EXISTING SYSTEMS THAT ARE TO
- H. INSTALL NEW SYSTEM OR SERVICES WHERE REQUIRED TO MAINTAIN SYSTEM OPERATION PRIOR TO DEMOLITION
- THIS CONTRACTOR IS TO REMOVE & REPLACE CEILINGS AS REQUIRED FOR REMOVAL/REPLACEMENT OF

SPECIFIC DEMOLITION NOTES

- EXISTING SAN SERVING WASHROOM TO BE REMOVED AS
- EXISTING WC AND ASSOCIATED SAN TO BE REMOVED COMPLETE.
- 3. EXISTING WF TO BE REMOVED COMPLETE. EXISTING SAN TO BE CUT, CAPPED IN WALL AND REMOVED COMPLETE.
- 4. EXISTING FLOOR DRAIN TO BE REMOVED COMPLETE.
- EXISTING URINAL AND ASSOCIATED SAN TO BE REMOVED COMPLETE.
- . EXISTING SAN TO BE CUT, CAPPED, AND REMOVED COMPLETE AS INDICATED.
- EXISTING SAN ABOVE FLOOR TO BE CUT AND REMOVED AS INDICATED TO SUIT NEW ROOM LAYOUT. REFER TO RENOVATION PLANS.
- 8. EXISTING RADIANT CEILING PANEL TO BE DISCONNECTED AND REINSTALLED TO SUIT NEW CEILING LAYOUT.
- 9. EXISTING SPRINKLER PIPING AND ASSOCIATED SPRINKLER HEAD TO BE REMOVED COMPLETE.
- 10. EXISTING HEATER TO BE DISCONNECTED AND REMOVED
- 11. EXISTING HWS/R PIPING TO BE CUT AND REMOVED
- BEYOND COMPLETE.
- TO BE DISCONNECTED AND REMOVED COMPLETE.
- 13. EXISTING THERMOSTAT WIRE TO BE REMOVED COMPLETE.
- 14. EXISTING EXH DUCT AND ALL ASSOCIATED GRILLES TO BE CUT AND REMOVED BEYOND COMPLETE.
- 15. EXISTING GRILLE TO BE REMOVED COMPLETE. REPAIR OPENING IN WALL AS REQUIRED TO SUIT NEW DUCT
- 16. EXISTING DUCT AND ASSOCIATED DIFFUSER TO BE CUT AND REMOVED COMPLETE.
- 17. EXISTING SPRINKLER HEAD TO BE CUT AND REMOVED
- 18. EXISTING SAN SERVING DRINKING FOUNTAIN TO BE CUT REMOVED BACK TO SOURCE AND CAPPED.
- 19. EXISTING SECTION OF SPRINKLER PIPE TO BE REMOVED AND REWORKED TO SUIT NEW ROOM LAYOUT.



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

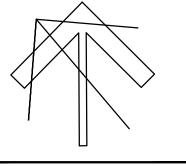
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

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.

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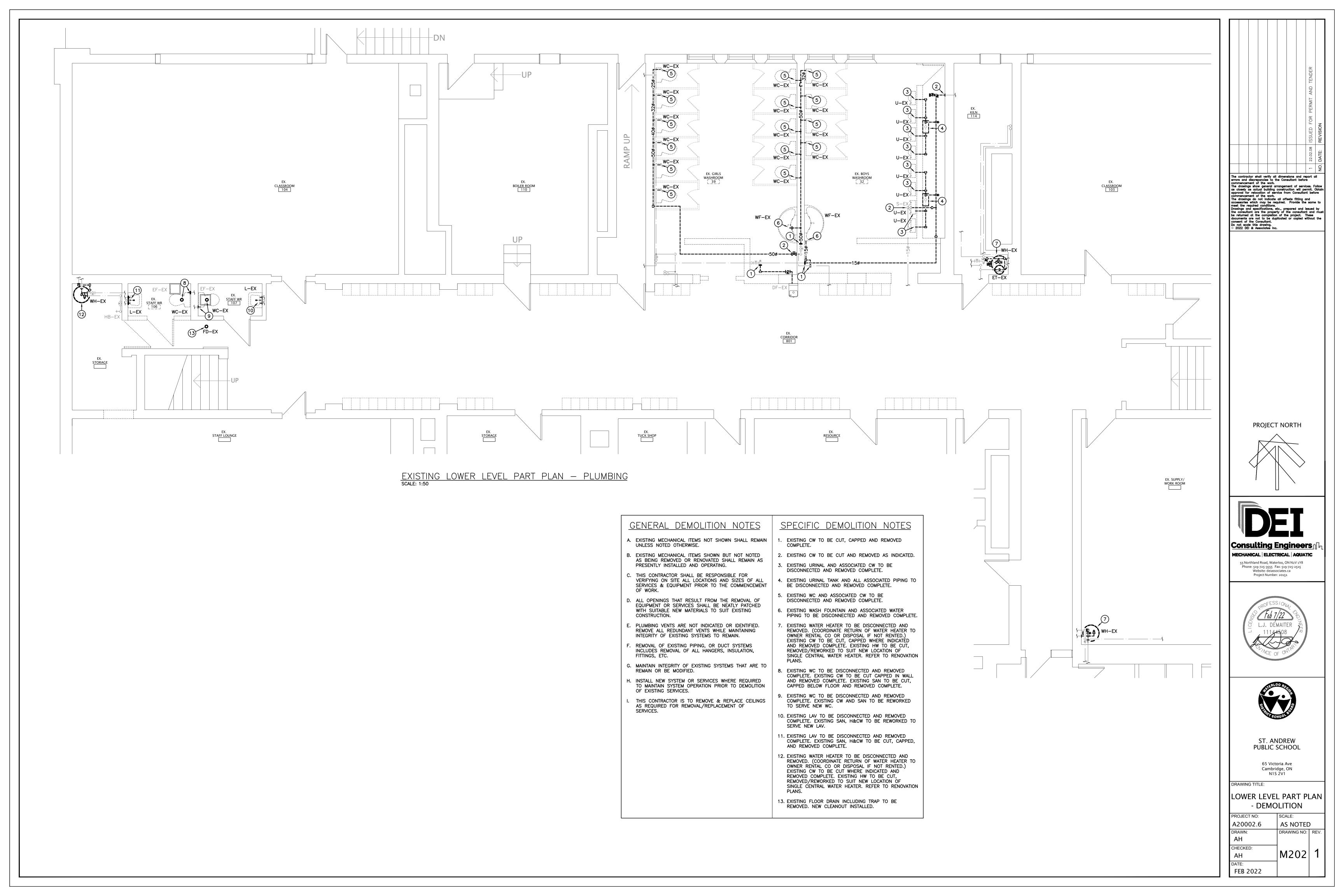
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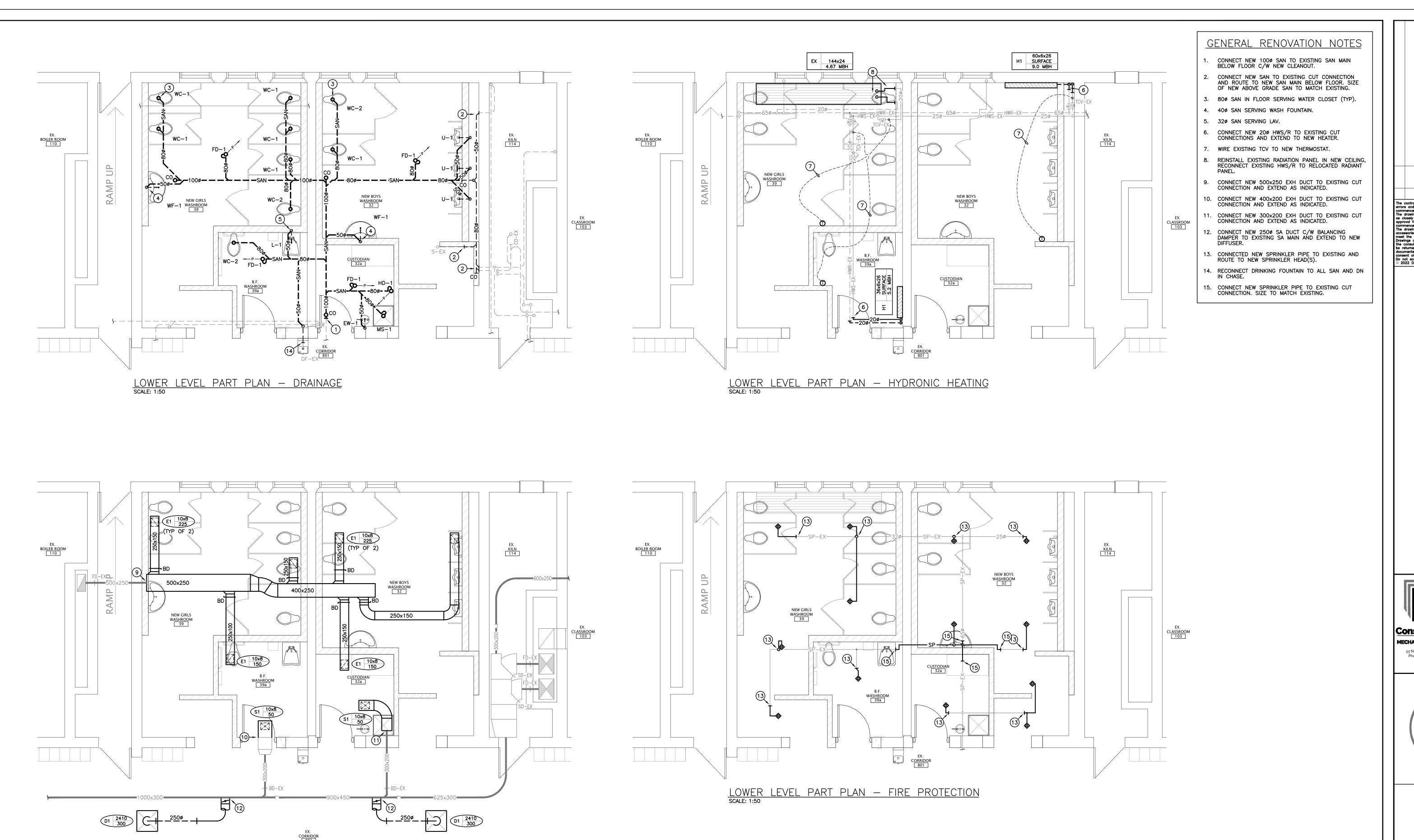
> 65 Victoria Ave Cambridge, ON

DRAWING TITLE:

LOWER LEVEL WASHROOM

PLANS - DEMOLITION PROJECT NO: SCALE: A20002.6 AS NOTED DRAWING NO: REV. AH CHECKED M201 ΑH FEB 2022





RESOURCE

LOWER LEVEL PART PLAN — VENTILATION SCALE: 1:50

TUCK SHOP

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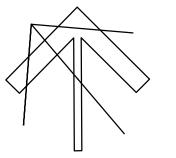
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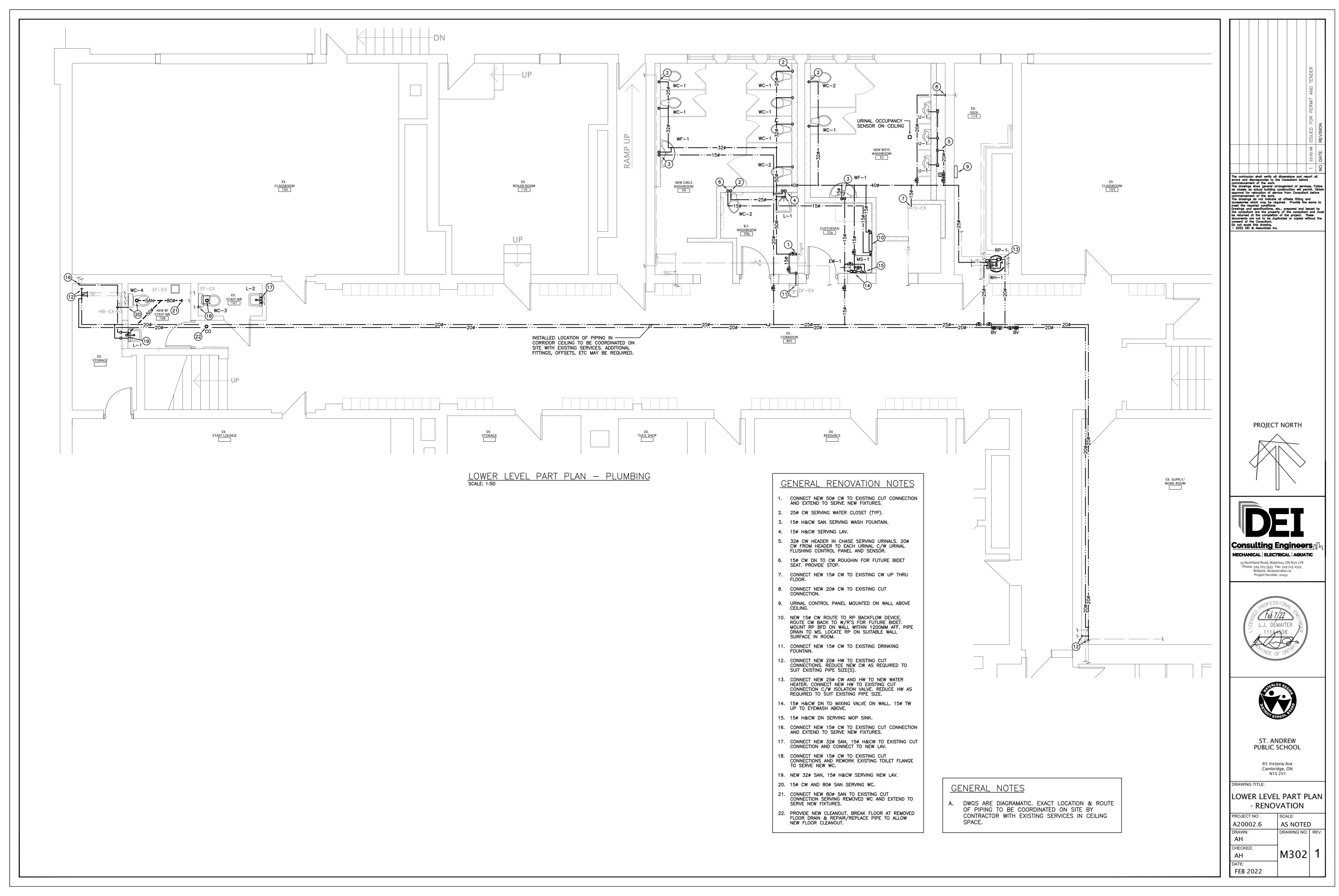
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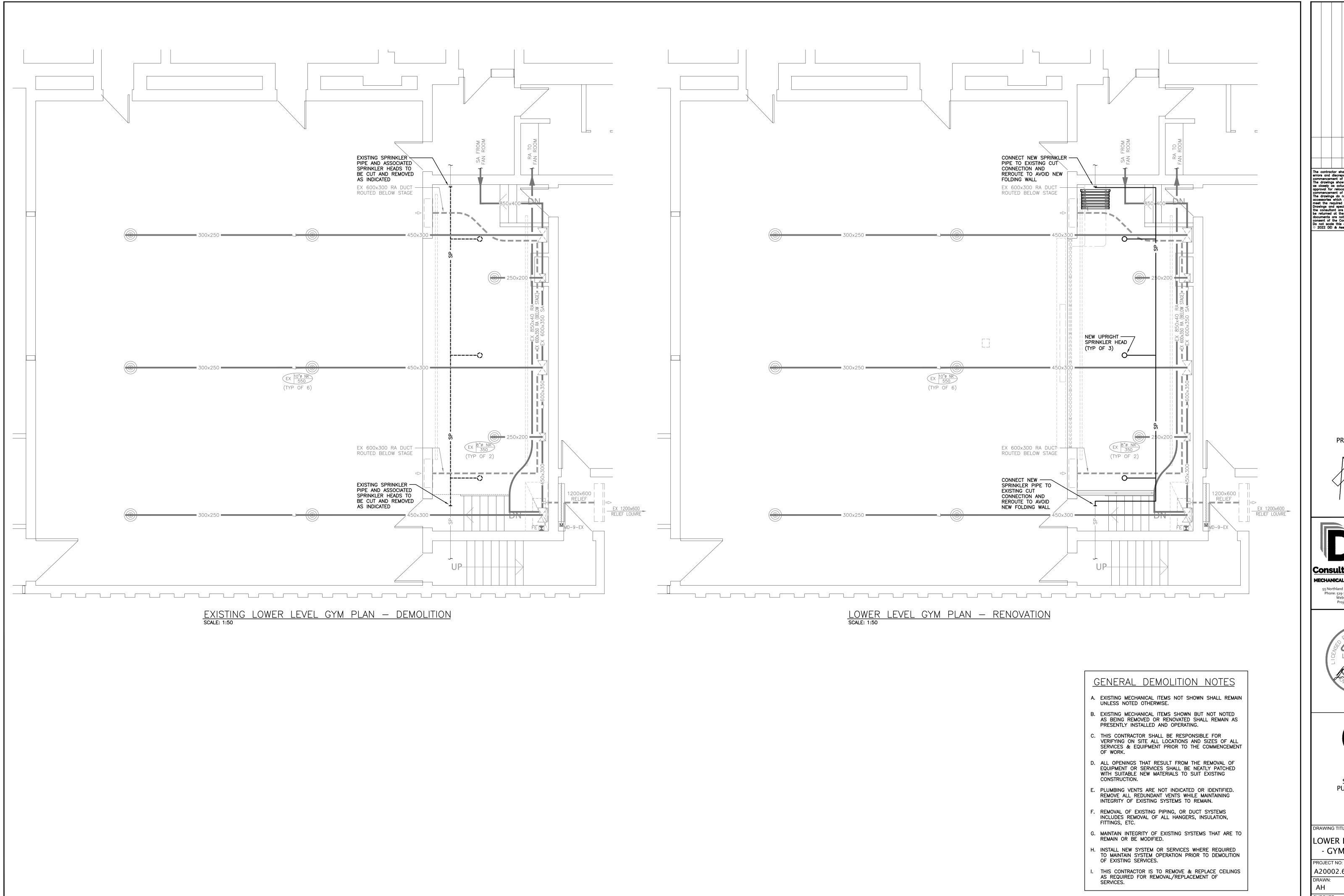
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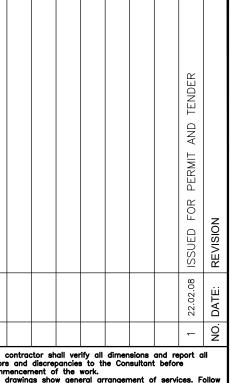
DRAWING TITLE:

LOWER LEVEL WASHROOM

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DATE: FEB 2022			







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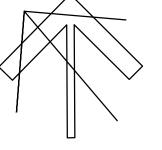
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Cambridge, ON

DRAWING TITLE:

LOWER LEVEL PART PLAN - GYM DEMO / RENO

PROJECT NO: SCALE: A20002.6 AS NOTED DRAWING NO: REV. CHECKED: ΑH FEB 2022

MECHANICAL SPECIFICATION

PART A GENERAL NOTES

- PROVIDE LABOUR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE INSTALLATION WITH QUALITY WORKMANSHIP ACCEPTABLE TO
- OBTAIN ALL PERMITS AND PAY ALL TAXES, FEES, AND OTHER COSTS INCURRED WITH THIS WORK. FILE ALL PLANS. OBTAIN ALL NECESSARY APPROVALS, CERTIFICATES. SUBMIT ALL FINAL CERTIFICATES TO THE CONSULTANT. COMPLY WITH RULES AND RECOMMENDATIONS OF THE BOARD OF FIRE UNDERWRITERS, THE CANADIAN GAS ASSOCIATION, THE LOCAL BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL UTILITY COMPANY AND BY-LAWS. POST BUILDING PERMIT AT SITE IN ACCORDANCE WITH O.B.C. REQUIREMENTS.
- 3. 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 CONSULTANT.
- COORDINATE WITH OTHER CONTRACTORS INSTALLING EQUIPMENT OR MATERIAL AND ARRANGE EQUIPMENT IN PROPER RELATION WITH ALL OTHER
- 5. CUTTING AND PATCHING SHALL BE BY THE CONTRACTOR REQUIRED 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.
- PROVIDE TWO MARKED COPIES OF "RECORD DRAWINGS" SHOWING THE SYSTEM AS INSTALLED. THE CONTRACTOR WILL INCLUDE IN HIS TENDER \$50.00 FOR EACH AND EVERY DRAWING FOR DEI & ASSOCIATES INC. TO CAD THE RED-LINE RECORD DRAWINGS. THE CAD DRAWINGS FILES WILL BE PROVIDED TO THE OWNER AS PART OF THE MAINTENANCE MANUALS.
- 8. THE MECHANICAL SYSTEMS OF THIS BUILDING MUST ACHIEVE THE ENERGY EFFICIENCY LEVELS BY CONFORMING TO ANSI/ASHRAE/IESNA 90.1 "ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS" AND CHAPTER 2 OF DIVISION 3 OF SB-10 PRESCRIPTIVE METHOD FROM THE ONTARIO BUILDING CODE.
- 9. ALL EQUIPMENT AND MATERIAL SHALL BE NEW. REPLACE ALL DAMAGED EQUIPMENT.
- 10. MATERIAL AND EQUIPMENT ARE NAMED IN THE SPECIFICATION TO ESTABLISH AN ACCEPTABLE STANDARD OF MATERIALS AND THE QUALITY OF WORKMANSHIP BY WHICH TO ADHERE.
- 11. SUBMIT SIX (6) COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT. THESE WILL BE REVIEWED BY THE CONSULTANT. RESUBMIT AS OFTEN AS MAY BE FOUND NECESSARY. SUBMIT ONE COMPLETE SUBMISSION IN A 3 RING BINDER INDEXED AND LABELED FOR THIS PROJECT.
- 12. PROVIDE ALL NECESSARY PROTECTION FOR FINISHED OR UNFINISHED WORK. ALL OPENINGS IN PIPES, DUCTS AND EQUIPMENT SHALL BE CAPPED TO ENSURE SERVICES ARE KEPT CLEAN WHEN NOT IN USE.
- 13. 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 OF LABOUR
- 14. PROVIDE STRUCTURAL SUPPORTS, SUPPORTING RODS, HANGERS, INSERTS AND BRACKETS FOR EQUIPMENT AND SERVICES. DO NOT SUPPORT SERVICES FROM STEEL DECK.
- 15. INSTRUCT THE OWNER'S STAFF IN THE CARE, MAINTENANCE AND OPERATION OF THE SYSTEMS.
- 16. SUBMIT THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS IN A 3 RING BINDER LABELED FOR THE PROJECT.
- 17. REMOVE ALL PROTECTIVE COVERINGS, CLEAN AND POLISH ALL EQUIPMENT, FREE ALL OBSTRUCTIONS, CLEAN AND REPLACE ALL FILTERS WITH NEW, AND LEAVE ALL KEYS AND WRENCHES WITH THE OWNER.
- 18. ALL SURPLUS AND WASTE MATERIALS SHALL BE PROMPTLY REMOVED FROM THE PREMISES.
- 19. ALL AREAS NOT AFFECTED BY RENOVATION OR DEMOLITION SHALL REMAIN AS PRESENTLY INSTALLED UNLESS NOTED OTHERWISE.
- 20. THE OWNER WILL DECIDE WHICH ITEMS OR EQUIPMENT SLATED FOR REMOVAL THAT THEY WISH TO RETAIN AS THEIR PROPERTY AND THIS CONTRACTOR SHALL REMOVE ALL OTHER MATERIALS FROM THE PREMISES.
- 21. PROVIDE LAMICOID TAGS FOR IDENTIFICATION OF NEW EQUIPMENT ADDED.

HEREIN SHALL BE RUN IN EMT CONDUIT TO STANDARDS OF DIVISION 16000.

- 22. ALL ELECTRICAL LINE AND LOW VOLTAGE WIRING WHICH IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AS SPECIFIED ELSEWHERE
- 23. WARRANTY ALL MATERIAL AND EQUIPMENT FOR A PERIOD OF TWO (2) YEARS AFTER FINAL ACCEPTANCE OF SYSTEM.
- 24. VIDEO RECORDING OF NEW & EXISTING UNDERGROUND SERVICES PRIOR TO FINAL ACCEPTANCE OF THE NEW UNDERGROUND PLUMBING SYSTEM AND PRIOR TO POURING THE FLOOR THIS CONTRACTOR SHALL RETAIN A QUALIFIED CONTRACTOR TO VIDEO TAPE THE NEW, EXISTING AND REVISED SANITARY AND STORM DRAINAGE PIPING AND BRANCH PIPING. TRANSFER ALL VIDEOTAPE INFORMATION TO DVD. THIS CONTRACTOR SHALL FLUSH THE NEW AND EXISTING STORM AND SANITARY SYSTEM TO REMOVE ALL DEBRIS PRIOR TO FINAL VIDEO TAPING OF SYSTEMS. PROVIDE 3 COPIES OF DVD. IDENTIFY VIDEO ROUTING ON
- 25. LOCATION OF EXISTING UNDERGROUND SERVICES THIS CONTRACTOR SHALL LOCATE EXISTING SERVICES PRIOR TO STARTING ANY WORK IN THE AFFECTED AREA. THIS CONTRACTOR SHALL USE A VIDEO CAMERA FOR THE EXISTING STORM AND/OR SANITARY DRAINAGE AT THE INDICATED CONNECTION POINT TO CONFIRM LOCATION, SIZE AND INVERT OF THE EXISTING PIPING.
- THIS CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED COMPANY TO PROVIDE AND X-RAY AND/OR SCAN OF THE EXISTING BURIED SERVICES IN WALL AND/OR FLOORS PRIOR TO STARTING ANY WORK IN THE AFFECTED AREA. FAILURE TO LOCATE EXISTING PIPING, CONDUIT REBAR ETC., SHALL NOT RELIEVE THIS CONTRACTOR OF REPAIR OF SAME PRIOR TO INSTALLING HIS SERVICE. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND/OR REPLACEMENT OF EXISTING SERVICES CAUSED BY CUTTING THE EXISTING CONCRETE SLABS AND/OR
- 27. EXCAVATING AND BACKFILLING PROVIDE ALL EXCAVATING AND BACKFILLING INSIDE AND OUTSIDE THE BUILDING FOR PLUMRING PIPES DRAINS AND FOLLIPMENT ALL BACKFILLING SHALL BE NEW CLEAN GRANULAR 'A' FILL BROUGHT IN SPECIFICALLY FOR THE PURPOSE OF BACKFILLING TO THE UNDERSIDE OF FLOOR SLAB. ALL BACKFILLING SHALL BE COMPACTED AT INTERVALS NOT MORE THAN 150 MM (6") LAYER TO THE SATISFACTION OF THE CONSULTANT, PROVIDE EXCAVATING AND BACKFILLING OUTSIDE THE BUILDING WITH GRANULAR A BROUGHT IN SPECIFICALLY FOR BACKFILLING TO A MINIMUM OF 450 MM (18") OVER THE PIPE. BACKFILLING OUTSIDE BUILDING OVER AND ABOVE THE 450 MM (18") BACKFILL AS PREVIOUSLY SPECIFIED HEREIN S'HALL BE BY THE MECHANICAL CONTRACTOR AS SPECIFIED UNDER DIVISION 2. WHERE BÁCKFILLING OUTSIDE THE BUILDING IS NOT SPECIFIED UNDER DIVISION 2 THE MECHANICAL CONTRACTOR SHALL PROVIDE NEW CLEAN GRANULAR 'A' FILL TO GRADE LEVEL. BOTTOMS OF TRENCHES SHALL BE EXCAVATED SO THAT THE PIPE WILL BE SUPPORTED ON A 150 MM (6") COMPACTED BED OF CLEAN GRANULAR 'A' FILL. PROVIDE ALL NECESSARY PUMPING TO MAINTAIN EXCAVATION FREE OF WATER. SHOULD WATER BE ENCOUNTERED DURING EXCAVATION, THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL LABOUR AND MATERIAL, INCLUDING ALL EQUIPMENT REQUIRED FOR DEWATERING THE EXCAVATION. AFTER THE WATER HAS BEEN REMOVED, THIS CONTRACTOR SHALL INSTALL A 300 MM (12") BASE OF COMPACTED 50 MM (2") CLEAR STONE COVERED WITH FILTER CLOTH BEFORE INSTALLING BACKFILL AS DETAILED AND/OR AS SPECIFIED. BE RESPONSIBLE FOR ALL WEATHER PROTECTION REQUIRED TO INSTALL PIPING AND/OR EQUIPMENT TO THE SATISFACTION OF THE CONSULTANT. BE RESPONSIBLE FOR PROVIDING ALL CLEAR STONE OR GRANULAR 'A' MATERIAL SUITABLE FOR APPLICATION TO REPLACE EXISTING SOIL NOT SUITABLE FOR BACKFILLING ABOVE THE 450 MM (18") BEDDING MATERIAL.
- PROVIDE SCHEDULE 40 STEEL PIPE SLEEVES AT POINTS WHERE PIPES PASS THROUGH MASONRY, CONCRETE OR FIRE RATED ASSEMBLIES AND AS INDICATED. GROUT SLEEVES IN PLACE. MINIMUM 6 MM (1/4") CLEARANCE ALL AROUND, BETWEEN SLEEVE AND UNINSULATED PIPE OR BETWEEN SLEEVE AND INSULATION. CAULK BETWEEN SLEEVE AND PIPE IN FOUNDATION WALLS AND BELOW GRADE FLOORS WITH WATERPROOF FIRE RETARDANT NON—HARDENING MASTIC. WHERE SLEEVES PASS THROUGH WALLS OR FLOORS. PROVIDE SPACE FOR FIRESTOPPING. WHERE PIPES PASS THROUGH FIRE RATED WALLS, FLOORS AND PARTITIONS, MAINTAIN FIRE RATING INTEGRITY. ENSURE NO CONTACT BETWEEN COPPER TUBE OR PIPE AND FERROUS SLEEVE. FILL FUTURE-USE SLEEVES WITH LIME PLASTER OR OTHER EASILY REMOVABLE FILLER. COAT EXPOSED EXTERIOR SURFACES OF FERROUS SLEEVES WITH HEAVY APPLICATION OF ZINC RICH PAINT TO CGSB 1-GP-181M+AMDT-MAR-78.
- PROVIDE MINIMUM 20 GAUGE DUCT SLEEVES WHERE DUCTS PASS THROUGH MASONRY, CONCRETE OR FIRE RATED ASSEMBLIES. MAINTAIN MINIMUM 25 MM CLEARANCE ALL AROUND OR TO THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. SEAL AT WALL AS INDICATED. WHERE DUCTS PASS THROUGH FIRE RATED WALLS, FLOORS AND PARTITIONS, MAINTAIN FIRE RATING INTEGRITY.

PART B PLUMBING NOTES

- CONTRACTOR TO PROVIDE POTABLE WATER CERTIFICATE FOR E. COLI AND COLIFORM FROM A RECOGNIZED TESTING LABORATORY UPON COMPLETION OF THE PROJECT. WATER IS TO BE TAKEN FROM A NEW FIXTURE TO TEST THE NEW PIPING INSTALLED.
- CONNECT TO EXISTING SERVICES WHERE SHOWN ON DRAWINGS.
- SANITARY, SOIL WASTE, VENT, AND ALL WATER PIPING SHALL CONFORM AND BE INSTALLED TO THE ONTARIO PLUMBING CODE AND THE CANADIAN PLUMBING CODE, LATEST EDITION. ALL GAS PIPING SHALL CONFORM TO THE CANADIAN GAS CODE AND THE LOCAL GAS
- SANITARY PIPING: ALL SANITARY PIPING SHALL BE TESTED WITH WATER UNDER THE GUIDANCE OF THE LOCAL PLUMBING INSPECTOR. SMOKE TESTS OR ANY OTHER TEST REQUIRED BY THE PLUMBING INSPECTOR SHALL ALSO BE MADE. WATER PIPING: ALL WATER PIPING SHALL BE TESTED TO 150 PSI. PRESSURE FOR NOT LESS THAN FOUR HOURS WITHOUT A LOSS IN PRESSURE
- MAINTAIN TESTABLE RP BACKFLOW PREVENTOR BETWEEN MUNICIPAL WATER AND NEW PLUMBING SYSTEM. ENSURE A MINIMUM OF 90% OF PLUMBING FIXTURES ARE INSTALLED. FLUSH WATER MAINS THROUGH AVAILABLE OUTLETS WITH A SUFFICIENT FLOW OF POTABLE WATER TO PRODUCE A VELOCITY OF 1.5 M/S, WITHIN PIPE FOR 10 MIN, OR UNTIL FOREIGN MATERIALS HAVE BEEN REMOVED AND FLUSHED WATER IS CLEAR WITH BACKFLOW PROTECTION. PROVIDE CONNECTIONS AND PUMPS FOR FLUSHING AS REQUIRED. OPEN AND CLOSE VALVES, AND OPERATE FIXTURES TO ENSURE THOROUGH FLUSHING. TAKE WATER SAMPLES AT REMOTE FIXTURES AND SERVICE CONNECTIONS.
- 6. PIPE AND FITTINGS SANITARY AND VENT DRAINS: (ABOVE GRADE), MEDIUM WEIGHT CAST IRON WITH MECHANICAL RUBBER JOINTS OR TYPE DWV COPPER PIPE. SANITARY AND VENT PIPING: (BELOW GRADE) PVC DRAINAGE PIPE TO SDR 35 WITH SOLVENT WELDED JOINTS. ABS DRAINAGE PIPE WITH SOLVENT WELDED JOINTS. WATER PIPING: TYPE L COPPER WITH LEAD FREE SOLDER JOINTS.
- ISOLATION VALVES: HOT AND COLD WATER BRONZE BODY, CLASS 150, STAINLESS STEEL BALL, FULL PORT, PTFE SEAT AND PACKING, STEEL LEVER HANDLE. MILWAUKEE BA-455, CRANE, TOYO CHECK VALVES: HOT AND COLD WATER SIZES 1/2" DIAMETER TO 2" DIAMETER CRANE FIG. 1342, OR EQUAL JENKINS, BRONZE SWING CHECK, SOLDER ENDS. CRANE FIG. 29 OR EQUAL JÉNKINS VERTICAL LIFT CHECK VALVE, SCREWED ENDS ON VERTICAL PIPING.
- 8. CLEAN OUTS
 CLEAN OUTS: PROVIDE AND SET CLEAN OUT PLUGS IN ALL DRAINS AND SOIL PIPE LINES WHERE OBSTRUCTIONS MAY BE FOUND, AT CHANGES
 OF DIRECTION, AT THE BASE OF ALL SANITARY STACKS AND AT INTERVALS. LENGTHS TO THE ONTARIO PLUMBING CODE. CLEAN OUTS SHALL
 BE FULL SIZES OF PIPES UP TO 4" DIAMETER AND NOT LESS THAN 4" DIAMETER FOR LARGER PIPES. ANCON CO-100-R OR EQUAL.
- 9. TRAP PRIMERS
 TRAP PRIMERS: ALL TRAPS WHERE REQUIRED BY THE CODE TO BE PRIMED OR WHERE SHOWN ON THE DRAWINGS SHALL HAVE ZURN Z-1022
 OR EQUAL TRAP SEAL PRIMER INSTALLED IN THE NEAREST COLD WATER LINE TO THE TRAP. TRAP PRIMER SHALL BE CONCEALED, PROVIDE

SUITABLE FOR 208/1/60. THE HOT WATER HEATER SHALL BE COMPLETE WITH T&P RELIEF VALVES, LIMIT CONTROLS AND DRAIN VALVE.

- DRIP COCKS: SUPPLY AND INSTALL 1/2" DIAMETER MUELLER OR EQUAL DRAIN VALVES AT ALL LOW POINTS IN THE WATER SYSTEMS TO COMPLETELY DRAIN THE SYSTEMS. ALL DRIP COCKS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- 11. DOMESTIC WATER HEATER SUPPLY AND INSTALL A 60 IMPERIAL GALLON ELECTRIC WATER HEATER WHERE SHOWN ON THE DRAWINGS AND LISTED IN THE SCHEDULES. WATER HEATER SHALL BE GIANT (OR EQUIVALENT) AND SHALL BE RENTED FROM RELIABLE UTILITY. COORDINATE WITH THE SECRETARY AT 519-570-0003 EXT 4432 TO REVIEW AND APPROVE RENTAL AGREEMENT. FEES (IF ANY) SHALL BE PAID BY THE OWNER DIRECTLY TO RELIABLE BUT ALL ARRANGEMENTS FOR RENTAL OF THE HEATER SHALL BE MADE BY THE MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR TO INCLUDE FOR INSTALLATION, COMPLETE WITH PIPING, START-UP, ETC. THE WATER HEATER SHALL BE PROVIDED WITH A 4.5 KW ELEMENT,

- 12. PLUMBING FIXTURES FIXTURES AS LISTED ON THE DRAWINGS. ALL FIXTURES MUST BE NEW AND CLEAN WHEN THE WORK IS TAKEN OVER BY THE OWNER. ALL PLUMBING FIXTURES SHALL BE EQUIPPED WITH SUPPLY VALVES, FAUCETS, TRAPS, SUPPORTS, WATER CONNECTIONS, ESCUTCHEONS, HANGERS, BOLTS. ETC. FIXTURES SHALL BE CRANE OR EQUAL AMERICAN STANDARD. KOHLER. TRAPS: 2" DIAMETER AND SMALLER. SHALL BE CAST BRASS AND CHROME PLATED IN EXPOSED AREAS. ALL SINK TRAPS SHALL BE TWO PIECE CONSTRUCTION. ALL TRIM MUST BE CAMBRIDGE BRASS OR EQUAL. ON COMPLETION ALL FIXTURES, ACCESSORIES AND EXPOSED PIPING SHALL BE THOROUGHLY CLEANED AND LEFT READY FOR USE. AFTER FINAL INSPECTION BY THE PLUMBING INSPECTOR CAULK AROUND BASE OF ALL FIXTURES TO THE WALL OR FLOOR WITH
- 13. FIRE EXTINGUISHERS SUPPLY AND INSTALL WHERE SHOWN ON DRAWINGS NATIONAL OR EQUAL UL LABELED 5 LB. MULTIPURPOSE DRY CHEMICAL FIRE EXTINGUISHERS WITH HOSE SHUTOFF NOZZLE AND WALL MOUNTING BRACKETS. PROVIDE RECESSED WALL CABINET WHERE NOTED.
- PIPING SUBJECTED TO THERMAL EXPANSION SHALL BE INSTALLED USING PIPE LOOPS AND/OR EXPANSION COMPENSATORS TO PERMIT FREE EXPANSION AND CONTRACTION WITHOUT CAUSING DAMAGE TO OR STRESSES AT JOINTS AND HANGER AND TO REDUCE STRAIN ON CONNECTED
- 15. AUTOMATIC URINAL FLUSHING SYSTEM

SILICONE CAULKING.

- .1 PASSIVE INFRARED MOTION SENSOR I FIRST OF ALL IT CAN BE FLUSH MOUNTED ON THE CEILING OR BEHIND A CEILING GRATE AND STILL GIVE OPTIMUM PERFORMANCE. .2 SENSOR SHALL ACTIVATE ONLY WHEN THE URINALS ARE USED. DESIGNED TO OFFER COVERAGE OF 360°. SENSOR SHALL "ONLY" PICK UP SOMEONE DIRECTLY IN FRONT OF URINALS. .3 SENSOR ALSO HAS AN ACTIVATION LIGHT TO SHOW IT HAS PICKED UP MOTION. THIS LIGHT CAN EITHER REMAIN VISIBLE OR BE COVERED BY THE PLASTIC SLIDE LOCATED ON THE SENSOR. THIS LIGHT IS USEFUL WHEN SETTING UP THE FIELD OF ACTIVATION, HOWEVER IT IS NORMALLY COVERED AFTER INSTALLATION SO THAT IT DOES NOT ATTRACT ATTENTION. THIS SENSOR HAS A 16 VOLT
- DC @ 50MA RATING. .2 SOLENOID VALVE AND ASSEMBLY THE SOLENOID VALVE SHALL BE INSTALLED IN THE MAIN SUPPLY LINE. .2 THE SOLENOID VALVE SHALL HAVE A 6 WATT RATING AND OPERATES ON 24 VOLTS DC. THIS SOLENOID VALVE IS A "NORMALLY
- CLOSED" VALVE SO THAT SHOULD THE POWER BE INTERRUPTED THE VALVE WILL REMAIN CLOSED. IT IS ALSO TO BE A "SLOW ACTUATING" VALVE, MEANING THAT IT IS DESIGNED TO OPEN AND CLOSE SLOWLY. PROGRAMMABLE CONTROL UNIT
- .1 THE CONTROL UNIT SHALL PLUG INTO A 110 VOLT OUTLET. THE OUTPUT IS 24 VOLTS DC/60HZ/1.2 AMPS AND SHALL BE CSA .2 STAGE 1 IS THE "INACTIVITY" TIMER. THIS STAGE IS PROGRAMMABLE FROM 1 HOUR TO 99 HOURS. THE FUNCTION OF THIS STAGE
- IS TO FLUSH THE URINALS WITHIN A CERTAIN PERIOD OF TIME, EVEN IF THE SYSTEM IS NOT ACTIVATED BY THE MOTION SENSOR, .3 STAGE 2 IS A PROGRAMMABLE DELAY TIME INITIATED FROM THE ACTIVATION OF THE MOTION SENSOR. THIS DELAY CAN BI
- PROGRAMMED FROM 1 MINUTE TO 99 MINUTES. THE PURPOSE OF THIS DELAY IS TO PREVENT THE URINALS FROM BEING FLUSHED AFTER EACH AND EVERY PERSON .4 STAGE 3 IS ALSO PROGRAMMABLE FROM 1 TO 99 MINUTES AND DETERMINES HOW LONG THE SOLENOID VALVE IS OPEN TO FLUSH
- THE URINALS (DETERMINES FLUSH VOLUME). .5 TEST BUTTON SHALL ALLOW THE ON SITE PERSON TO TEST THE SYSTEM TO ENSURE IT FLUSHES, IN A REDUCED DELAY TIME. .6 THE CONTROL UNIT SHALL ALSO MONITOR THE NUMBER OF FLUSHES.
- 4 MOUNTING OF ALL DEVICES AND ALL WIRING SHALL BE BY THIS CONTRACTOR TO THE STANDARDS OF DIVISION 16. .5 ACCEPTABLE MATERIALS: WATER MATRIX UTC SENTINEL (1-800-668-4420)

RECOMMENDATIONS. RECOVER EXPOSED PIPING WITH 6 OZ. CANVAS JACKET AND TWO COATS LAGGING ADHESIVE.

16. PIPE INSULATION INSULATE ALL DOMESTIC HOT AND COLD WATER PIPING AND STORM PIPING ABOVE GRADE. WITH 1" (FOR PIPING UNDER 1 1/2" DIAMETER) OR 1 1/2" (FOR PIPING 1 1/2" DIAMETER AND HIGHER) FIBERGLASS INSULATION WITH VAPOUR BARRIER. INSTALL AS PER MANUFACTURERS

PART C SPRINKLER NOTES

- 1. SERVICES: CONNECT TO EXISTING SERVICES WHERE SHOWN ON DRAWINGS.
- 2. CODES AND REGULATIONS: ALL SPRINKLER PIPING, SPACING AND EQUIPMENT SHALL CONFORM TO THE ONTARIO BUILDING CODE, NFPA-13 AND THE AUTHORITIES HAVING JURISDICTION.
- TESTING: PIPING SHALL BE TESTED TO NFPA-13 REQUIREMENTS
- PIPE AND FITTINGS:

PIPE SIZE AND LAYOUT

- 50 MM (2") AND SMALLER: SCHEDULE 40 STEEL PIPE WITH SCREWED FITTINGS.
 65 MM (2 1/2") AND LARGER: SCHEDULE 10 STEEL PIPE WITH VICTAULIC FITTINGS.
- PIPE HANGERS: ULC LISTED FOR FIRE PROTECTION SERVICES.
- GENERAL: TO NFPA-13 AND ULC LISTED FOR FIRE SERVICES. SPRINKLER HEADS SHALL BE FULLY CONCEALED WITH WHITE COVER. VIKING MODEL B-1 OR EQUAL. COORDINATE LOCATION WITH REFLECTED RELOCATE EXISTING SPRINKLER HEADS AS INDICATED. INSTALL IN EXISTING CEILING.
- DESIGN SYSTEM IN ACCORDANCE WITH ONTARIO FIRE MARSHALL, LOCAL AUTHORITY HAVING JURISDICTION, OWNERS, UNDERWRITERS AS REQUIRED, AND NFPA 13, USING FOLLOWING PARAMETERS: HAZARD TO SUIT OCCUPANCY.
- HYDRAULIC DESIGN OR PIPE SCHEDULE SIZING DESIGN. SPRINKLER HEAD LAYOUT: TO NFPA 13 OR AS DIRECTED BY AUTHORITIES HAVING JURISDICTION, AND/OR AS INDICATED.
- PROVIDE COMPLETE DRAWINGS AND CALCULATIONS STAMPED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF
- 8. PROFESSIONAL ENGINEER SHALL PROVIDE ON SITE REVIEW AND CERTIFICATION FOR LOCAL BUILDING CODE REVIEW.
- INSTALL, INSPECT AND TEST TO ACCEPTANCE IN ACCORDANCE WITH ANSI/NFPA-13. TESTING TO BE WITNESSED BY AUTHORITY HAVING JURISDICTION. SPACE HANGERS AND SUPPORT OF SPRINKLER PIPING IN ACCORDANCE WITH NFPA REGULATIONS. PROTECT EXPOSED WORK. DO NOT COVER OR CONCEAL PIPING ACCESSORIES OR WORK PRIOR TO INSPECTION AND APPROVAL BY AUTHORITIES HAVING JURISDICTION. DAMAGED AND PAINTED COMPONENTS. COORDINATE THE SPRINKLER PIPING AND EQUIPMENT WITH THAT OF OTHER TRADES ON THE JOB. MAINS AND BRANCHES SHALL BE RUN SO AS NOT TO INTERFERE WITH BUILDING'S STRUCTURE, MECHANICAL OR ELECTRICAL INSTALLATIONS. GUARANTEE THAT THE SYSTEMS AND EQUIPMENT BE INSTALLED IN ACCORDANCE WITH ALL LOCAL AND PROVINCIAL BY-LAWS AND THE RULES AND REGULATIONS OF THE INSURANCE UNDERWRITERS AND THE BUILDING CODE OF ONTARIO.

PART D HYDRONIC HEATING

3 PIPE INSULATION:

- SCHEDULE 40 STEEL PIPE TO ASTM 53, GRADE B PIPING NPS 2 AND UNDER SHALL BE MALLEABLE IRON 150 LB SCREWED FITTINGS WITH PULVERIZED LEAD PASTE.
- PIPING NPS 21/2 AND OVER SHALL BE WELDED FITTINGS AND STEEL FLANGES TO ANSI/ASME B16.5.
- BALL VALVES: CLASS 125 SCREWED ENDS, STAINLESS STEEL BALL AND TEFLON SEATS. BALANCING VALVES: BELL AND GOSSETT MODEL CB.
- INSULATE ALL HEATING WATER PIPING WITH 11/2" FIBERGLASS INSULATION WITH VAPOUR BARRIER. INSTALL AS PER MANUFACTURERS RECOMMENDATIONS. RECOVER EXPOSED PIPING WITH PVC JACKET.
- 1.6 MM (16 GAUGE) THICK STEEL WITH ROUNDED EXPOSED CORNERS AND EDGES, REMOVABLE PANELS, GLASS FIBRE INSULATION AND COILS: ALIMINUM FINS MECHANICALLY BONDED TO COPPER TUBES IN COILS, HYDROSTATICALLY TESTED TO 1 MPA (145 PSI).
- REFILL SYSTEM WITH CLEAN WATER ADDING WATER TREATMENT AS SPECIFIED. CO-ORDINATE FILLING OF SYSTEM WITH HVAC WATER TREATMENT
- 6. FLUSHING AND CLEANING
 PROCEDURE: FLUSHING AND CLEANING SHOULD ONLY TAKE PLACE AFTER SUCCESSFUL PIPING PRESSURE TESTING. TERMINAL DEVICE (REHEAT COILS, HEAT PUMPS, PERIMETER RADIATION, ETC.), AIR HANDLING UNIT COILS AND THEIR ASSOCIATED CONTROL AND BALANCING VALVES SHOULD BE BYPASSED DURING THE PRELIMINARY FLUSHING AND CLEANING PROCESS. INSTRUMENTS SUCH AS FLOW METERS, FLOW METERING VALVES AND ORIFICE PLATES SHOULD ONLY BE INSTALLED AFTER FLUSHING AND CLEANING.
- 7. EXISTING SYSTEM DRAINAGE DRAIN EXISTING HOT HYDRONIC SYSTEM AS REQUIRED TO FACILITATE SYSTEM RENOVATIONS. DISPOSAL OF EXISTING SYSTEM SHALL BE TO THE REQUIREMENTS OF THE LOCAL AND/OR PROVINCIAL REGULATIONS.

PART D HEATING, AIR CONDITIONING, AND VENTILATION NOTES

- 1. DUCTWORK TO BE CONSTRUCTED TO SMACNA STANDARDS, MEDIUM STATIC PRESSURE WITH LEAKAGE RATE OF 5% MAXIMUM. FABRICATED IN ACCORDANCE WITH RECOMMENDATIONS OF SMACNA AND ASHRAE. SEAL ALL TRANSVERSE AND LONGITUDINAL JOINTS WITH DUCT SEALER.
- ROUND DUCTS: FACTORY FABRICATED, SPIRAL WOUND, WITH MATCHING FITTINGS AND SPECIALS TO SMACNA. TRANSVERSE JOINTS UP TO 900 MM (36"): SLIP TYPE WITH TAPE AND SEALANTS. SQUARE AND RECTANGULAR DUCTS TO SMACNA. TRANSVERSE JOINTS, LONGEST SIDE UP TO AND INCLUDING 750 MM (30"): SMACNA PROPRIETARY DUCT JOINTS.
- BALANCING SINGLE BLADE BALANCING DAMPERS WITH LOCKING QUADRANT, ROUND BALANCING DAMPERS TO BE 1/16" THICK. RECTANGULAR BALANCING DAMPERS TO BE 1/16" THICK. MULTI-LEAF OPPOSED BLADE DAMPERS DESIGNED TO SMACNA DETAILS WITH LOCKING QUADRANT. MANUFACTURED ADJUSTABLE EXTRACTORS TO BE WITH ADJUSTMENT ROD. ACCEPTABLE PRODUCTS: TITUS, NAILOR APPROVED DAMPERS OF THICKNESS' AND TYPES OF CONSTRUCTION IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS.
- GRILLES, REGISTERS AND DIFFUSERS SHALL BE THE SAME MANUFACTURER. TYPE AS SHOWN ON THE DRAWING. ACCEPTABLE MATERIALS: E.H. PRICE, TITUS, NAILOR, KRUEGER, TUTTLE & BAILEY, METALAIR.
- ON THE LAST 5'-0" OF ALL EXHAUST DUCTS, INCLUDING PLENUM DUCTWORK. FIBERGLASS FOIL FACED RIGID DUCT INSULATION 1" THICK TYPE PF-335-3/4 LB. DENSITY WITH RFFRK FACING. GLUE AND PIN AS PER MANUFACTURERS RECOMMENDATIONS.
- BALANCE AIR AND WATER SYSTEMS USING NEBB CERTIFIED FIRM AND AS PER NEBB REQUIREMENTS TO WITHIN 5% OF TOTAL SYSTEM
- .1 AIR AUDIT INC. 110 TURNBULL COURT, UNIT 11 CAMBRIDGE, ONTARIO N1T 1K6 (519) 740-0871

.2 AIR VELOCITIES CONTROL LTD. 100 PREMIUM WAY MISSISSAUGA, ONTARIO L5B 1A2

CAPACITY. PROVIDE 3 COPIES OF BALANCING REPORTS C/W SYSTEM SCHEMATICS.

(905) 279-4433 .3 FLOWSET BALANCING LTD. 431 WILLIS DR. OAKVILLE, ONTARIO L6L 4V6 (416) 410-9793

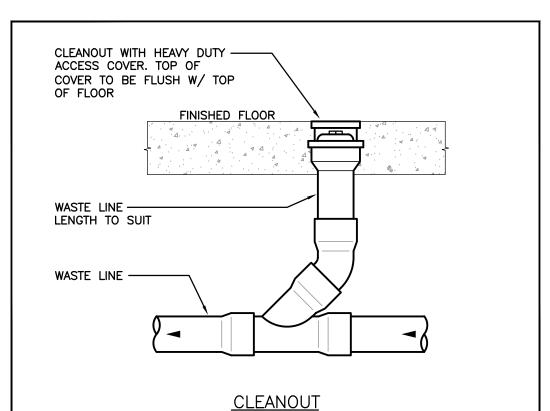
PART E CONTROLS

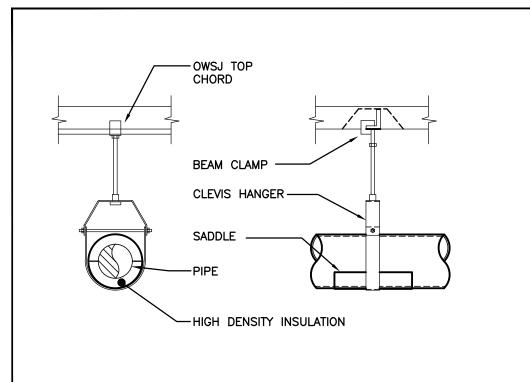
PRODUCTS

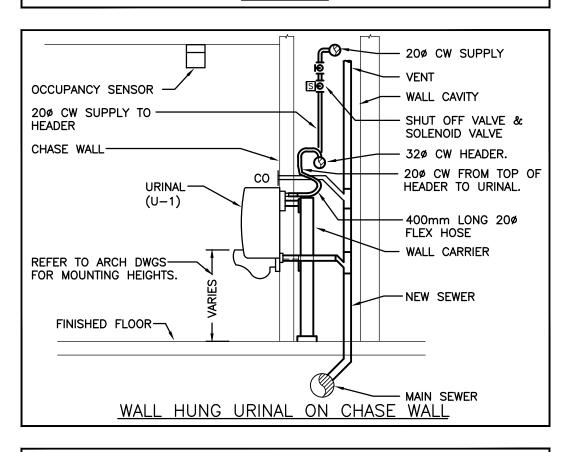
- .1 FURNISH AND INSTALL ALL COMPONENTS, DEVICES AND CONTROL WIRING FOR A FULLY INTEGRATED ENERGY MANAGEMENT AND ENVIRONMENTAL CONTROL SYSTEM INCORPORATING DIRECT DIGITAL CONTROL (DDC), AND EQUIPMENT MONITORING. THE SYSTEM SHALL CONTROL/MONITOR EXHAUST FAN EQUIPMENT. THE WORK SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING
 - .1 ALL NECESSARY HARDWARE, SOFTWARE, CONTROL PANELS, CONTROL WIRING, FIELD DEVICES, INSTALLATION, DOCUMENTATION AND OWNER TRAINING AS SPECIFIED. .2 THE INSTALLED SYSTEM SHALL INCORPORATE ELECTRONIC AND DIGITAL CONTROL DEVICES TO PERFORM THE CONTROL SEQUENCES AND MONITORING OUTLINED HEREIN. SPECIFIC CONTROL SEQUENCE REQUIREMENTS ARE AS DETAILED ELSEWHERE IN THIS SECTION OF THE .3 CONTROL AND MONITORING OF THE EQUIPMENT AND SYSTEMS SHOWN ON THE DRAWINGS (REFER ALSO TO SEQUENCE OF OPERATION FOR ADDITIONAL DETAILS).
 - 🕴 TESTING, DEBUGGING, CÁLIBRATING, ADJUSTMENT, PROGRAMMING AND CONFIRMATION OF TOTAL SYSTEM OPERATION. MANUFACTURER AND INSTALLING CONTRACTOR THE TEMPERATURE CONTROL MANUFACTURER SHALL BE TOUR ANDOVER (TAC). THE LOCAL TAC CONTRACTOR IS AVAILABLE AT PHONE 519-893-2638
 - S ANY NEW WORK MUST BE A SEAMLESS EXTENSION OF THE CURRENT ENERGY MANAGEMENT AND BUILDING CONTROL SYSTEM .1 THE EXISTING TAC VISTA SOFTWARE IS, AND SHALL CONTINUE TO BE, THE ONLY HEAD-END BAS SERVER FOR THE ENTIRE SCHOOL THE GRAPHICS AND CONTROLLER DATABASE MUST BE PRESENTED INSIDE THE VISTA HEAD-END SERVER IN ITS NATIVE FORMAT IN ORDER TO PRESERVE THE REAL—TIME SPEED, INTEGRITY AND MULTI—SITE ADMINISTRATION OF THE ENTIRE SYSTEM.
 - SCOPE OF WORK REFER TO DRAWINGS AND SPECIFICATION FOR COMPLETE SCOPE.
- WASHROOM HEATER TEMPERATURE CONTROL. .3 UPDATED GRAPHICS FLOOR PLANS & EQUIPMENT (FAN NUMBERS TO BE BE DETERMINED BY BAS CONTRACTOR - NEXT AVAILABLE
- .1 THE CONTROL SYSTEM SHALL BE A TOUR ANDOVER (TAC) XENTA/DISTECH BUILDING AUTOMATION SYSTEM (BAS). .2 THE DDC SYSTEM SHALL BE GENERALLY COMPRISED OF THE FOLLOWING DEVICES TO ACHIEVE THE CONTROL FUNCTIONS DESCRIBED IN THIS SECTION:
- XENTA/DISTECH PROGRAMMABLE CONTROLLERS DISTECH INPUT/ OUTPUT PROGRAMMABLE I/O MODULES.
- CONTROL RELAYS. CONTROLLERS SHALL EXECUTE THE APPLICATION PROGRAMS, CALCULATIONS, AND COMMANDS TO PROVIDE THE CONTROL FUNCTION SPECIFIED FOR THAT UNIT. EACH CONTROLLER SHALL INCLUDE ITS OWN MICRO-COMPUTER CONTROLLER, POWER SUPPLY, INPUT/OUTPUT MODULES, TERMINATION MODULES AND REAL TIME CLOCK.
- .4 CONTROLLERS SHALL BE CAPABLE OF FULL CONTROL FUNCTIONALITY AND ALARM REPORTING INDEPENDENTLY OR AS A PART OF THE DDC INSTALLATION
 - .1 ALL CONTROLLERS AND COMPONENTS IN THE SYSTEM AND ON THE NETWORK SHALL BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATIONS, GENERAL INSTALLATION STANDARDS FOR DIGITAL CONTROLS AND IN ACCORDANCE WITH THE APPROVED SHOP
 - .2 ALL CONTROL COMPONENTS FOR OFF SITE SYSTEM ACCESS SHALL BE LOCATED WHERE NOTED ON THE DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONNECTIONS / CABLING FOR OFF SITE ACCESS TO THE WEB ACCESS COMPONENTS. .4 ALL PROGRAMMABLE CONTROLLERS, WEB ACCESS COMPONENTS, RELAYS AND OTHER CONTROL COMPONENTS SHALL BE LOCATED WITHIN
 - CONTROL PANELS. CONTROL PANELS SHALL BE WALL MOUNTED AND SHALL BE LOCATED WITHIN SUSPENDED CEILING SPACES OR OTHER
 - .1 UPON COMPLETION OF INSTALLATION, TEST, ADJUST AND CALIBRATE CONTROLS PROVIDED UNDER THIS SECTION. .2 ON SYSTEM COMPLETION, A DEMONSTRATION OF COMPLETE SYSTEM OPERATION SHALL BE MADE TO THE OWNER'S AUTHORIZED REPRESENTATIVE AND CONSULTANT. .3 THE CONSULTANT SHALL VERIFY THROUGH THE OWNERS REPRESENTATIVES THAT THE ENTIRE SYSTEM IS COMPLETE AND OPERATING TO THE SATISFACTION OF THE OWNER BEFORE FINAL ACCEPTANCE IS APPROVED.
 - .6 FLECTRICAL WIRING I ALL WIRING SHALL BE INSTALLED TO THE STANDARDS SPECIFIED IN THE ELECTRICAL DIVISION.
 - USE ECHELON RECOMMENDED ORANGE JACKET CABLE FOR ALL NETWORK WIRING. RUN ALL WIRING IN EMT CONDUIT WHERE EXPOSED, WHERE RUNNING WITHIN CONCRETE BLOCK WALLS AND WHERE REQUIRED BY THE ONTARIO ELECTRICAL CODE. PLENUM RATED CABLE SHALL BE USED IN RETURN AIR CEILING PLENUMS.
 - CONTROL RELAYS NECESSARY FOR BAS OPERATION SHALL BE PROVIDED BY THE TEMPERATURE CONTROL CONTRACTOR BUT ALL CONTACTORS AND THEIR POWER SUPPLIES HANDLING POWER WIRING TO THE EQUIPMENT SHALL BE BY THE ELECTRICAL CONTRACTOR.
 - .7 WASHROOM EXHAUST FAN SEQUENCE I ALL SETPOINTS SHALL BE ADJUSTABLE
 - PROVIDE START/STOP/STATUS OF THE FAN. FANS TO OPERATE ON TIME OF DAY SCHEDULE MATCHING BOARD'S STANDARD WASHROOM EXHAUST SCHEDULE. .4 GRAPHICAL SEQUENCE OF OPERATIONS WILL BE PROVIDED BY BAS CONTRACTOR.
 - .1 ALL SETPOINTS SHALL BE ADJUSTABLE. PROVIDE START/STOP/STATUS OF THE HEATER

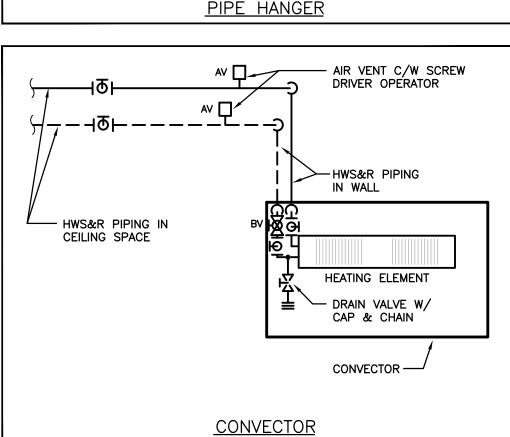
.8 HEAT CONTROL

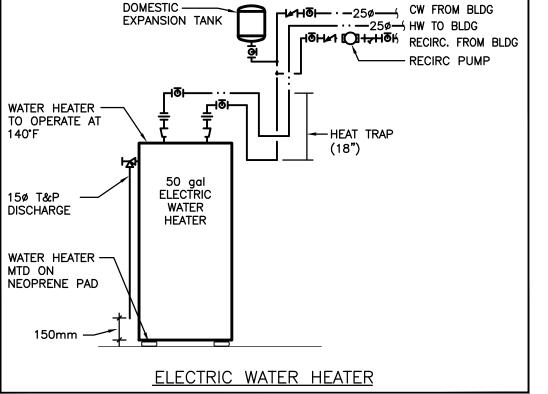
3 HEATER FAN & VALVÉ TO ENABLE/OPEN ON CALL FOR HEAT GRAPHICAL SEQUENCE OF OPERATIONS WILL BE PROVIDED BY BAS CONTRACTOR.

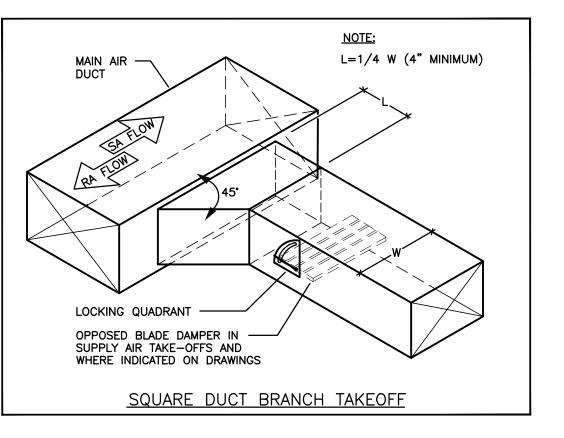


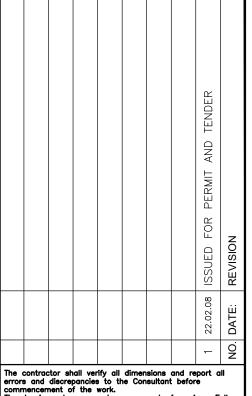












commencement of the work.

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 mus be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.

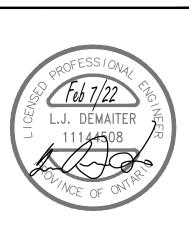
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Phone: 519-725-3555 Fax: 519-725-2515

Project Number: 20151





ST. ANDREW **PUBLIC SCHOOL**

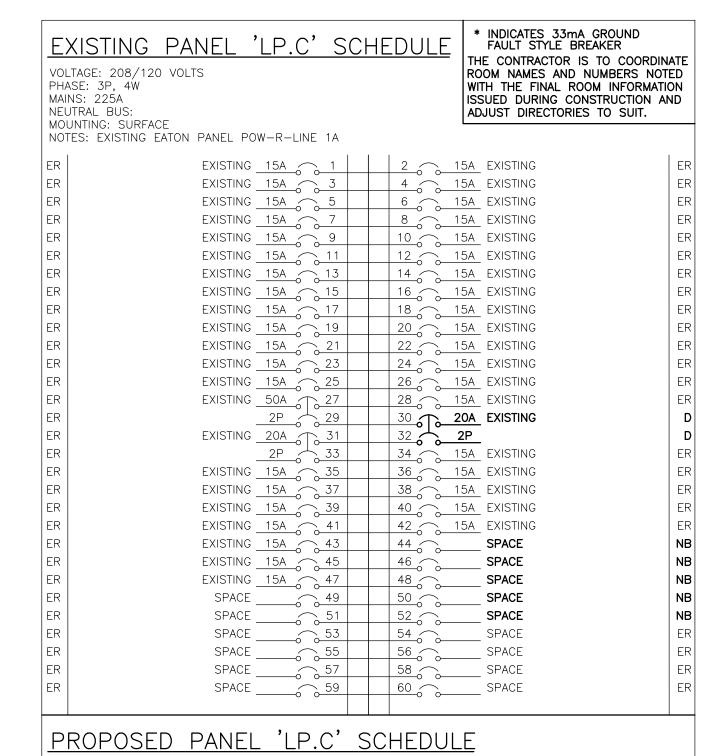
65 Victoria Ave Cambridge, ON N1S 2V1

PROJECT NO:

PRAWING TITLE: **MECHANICAL DETAILS**

SCALE: A20002.6 AS NOTED DRAWING NO: REV AΗ CHECKED AΗ FEB 2022

& SPECIFICATION



EXISTING 15A 1 2 15A EXISTING EXISTING 15A 3 4 15A EXISTING EXISTING 15A 5 6 15A EXISTING EXISTING 15A 7 8 15A EXISTING EXISTING 15A 9 10 15A EXISTING EXISTING 15A 11 12 15A EXISTING EXISTING 15A 13 14 15A EXISTING EXISTING 15A 15A EXISTING 15A 15A EXISTING EXISTING 15A 17 18 15A EXISTING EXISTING 15A 19 20 15A EXISTING EXISTING 15A 21 22 15A EXISTING EXISTING 15A 23 24 15A EXISTING EXISTING 50A 27 28 15A EXISTING EXISTING 2P 30 30A HOT WATER HEATER WH-1 2P 33 34 15A EXISTING EXISTING 15A 35 36 15A EXISTING EXISTING 15A 37 38 15A EXISTING EXISTING 15A 39 40 15A EXISTING EXISTING 15A 41 42 15A EXISTING EXISTING 15A 43 44 15A CUSTODIAN 32A EXISTING 15A 45 46 20A BF. WASHROOM 39A EXISTING 15A 47 48 15A BF. WASHROOM 39A PDO STAGE PROJECTOR 15A 49 50 15A* WASHROOM PLUMBING UC SOUND SYSTEM CONTROL 15A 51 52 15A RECIRC PUMP (P-2) STAGE SCREEN 15A 53 54 15A HAND DRYER STAGE LTG 15A 55 56 15A HAND DRYER WASHROOM REC 20A 57 58 15A WASHROOM PDO

'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.

DESIGNATION

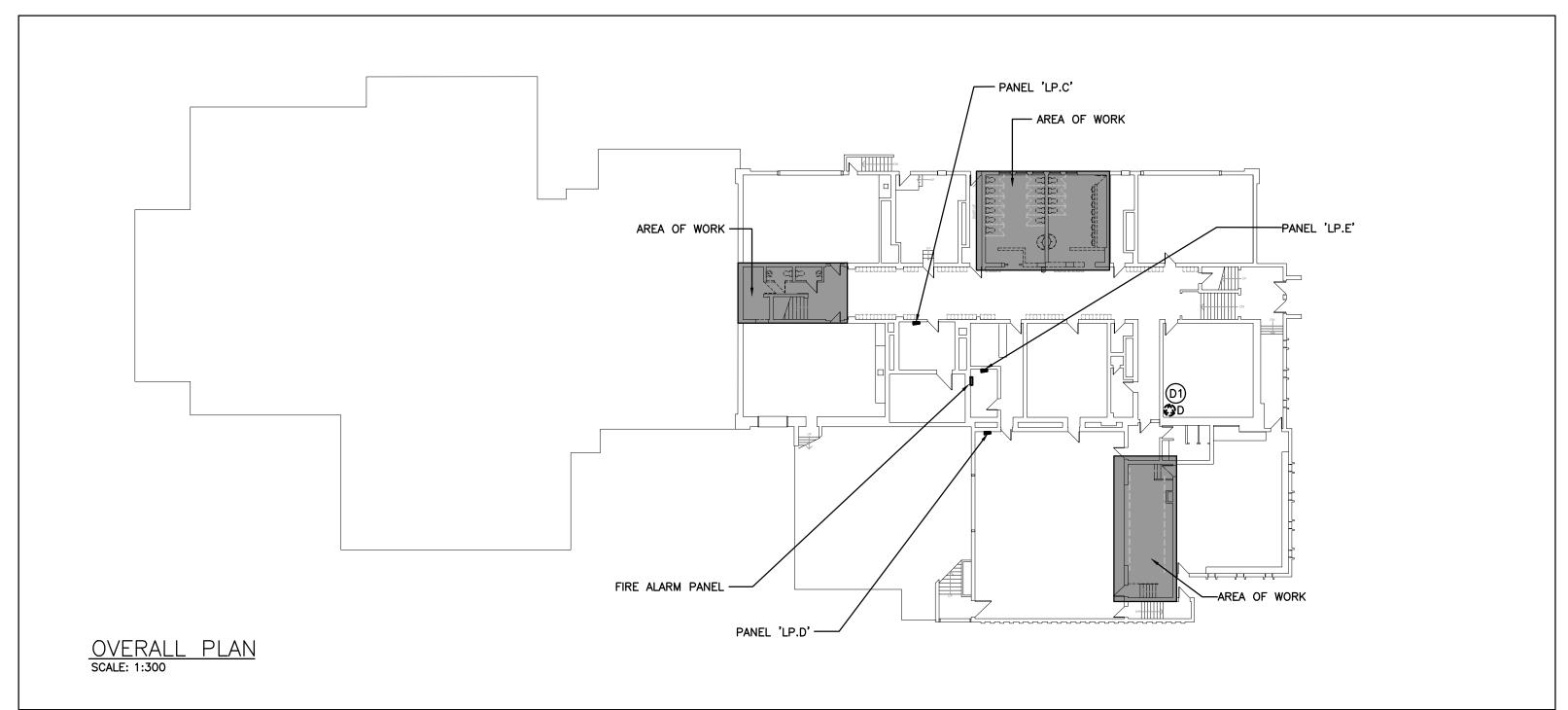
'NB' INDICATES NEW BREAKER AND WIRING TO SERVICE INDICATED. PROVIDE MOUNTING HARDWARE AS REQUIRED. 'D' INDICATES EXISTING BREAKER TO BE REMOVED COMPLETE. PROVIDE FILLER PLATES AS REQUIRED.

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.

Space Type

 $\left\langle P-2\right\rangle$

Washrooms/Storage

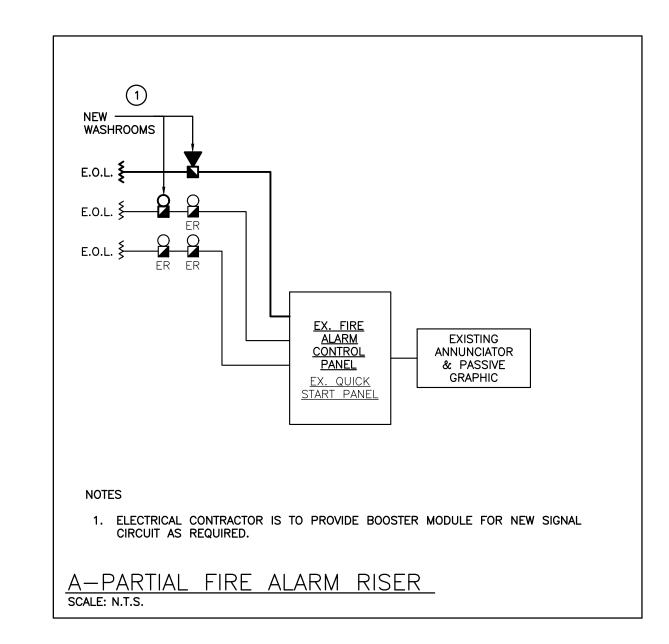


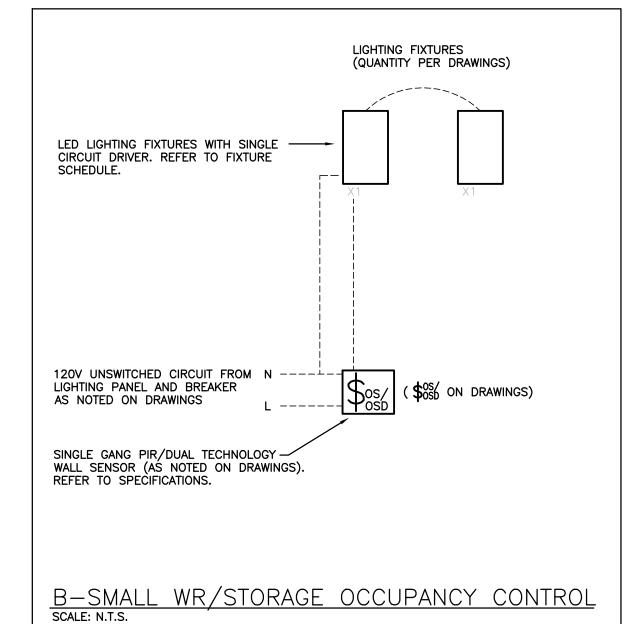
Control System

OCCUPANCY CONTROL

LINE VOLTAGE

Item	Manufacturer/Catalog Number	Voltage	Lamp	Mounting	Description
L1	METALUX CAT. #14CZ-LD4-35-44-UNV-CD LITHONIA CAT. #BLT4-40L-EZ1-LP835 SIGNIFY CAT. FSS455L835-UNV-DIM	120V	48W LED 4300lm 3500°K	RECESSED	1'X4' (305mmX1220mm) RECESSED SHALLOW VOLUMETRIC LED FIXTURE C/W OPAL ACRYLIC LENS.
LU	METALUX CAT. #4SLSTP4040DD-120V LITHONIA CAT.#ZL1D-L48-5000LM-FST-MVOLT-35K-80CRI-WH SIGNIFY CAT. 1TG32L830-4-FS-02F-UNV-DIM	120V	44W LED 3500lm 4000 K	SURFACE	4' (1220mm) LENSED LED STRIP FIXTURE C/W WHITE FINISH. WIRE GUARDS REQUIRED IN NOTED LOCATIONS
EMERG. BATT.	BEGHELLI TEMPESTA SERIES: EM-1 #TA-LED-EM-120-TB-90SP (RECESSED TBAR MOUNT) OR APPROVED EQUALS BY: EMERGILITE STANPRO DUAL-LITE READY-LITE AIMLIGHT CAT. #VP1 SERIES	12V/120V	N/A	AS NOTED	VANDAL RESISTANT LONG LIFE, SEALED BATTERY, C/W 17W LED MODULES, POLYCARBONATE BODY AND 90 MINUTE BATTERY DURATION
) S	WHERE NOTED ABOVE THAT FIXTURES ARE TO HAVE FINIS SUIT ARCHITECT THE FINISH WILL BE SELECTED FROM MANUFACTURER'S OPTIONAL COLOUR CHART (i.e. RAL CO OR EQUAL). PROVIDE THIS COLOUR CHART WITH SHOP D SUBMITTAL.	LOURS	(2	PART NUI THIS CON CONSULTA 3 LED LUM CONSIDER LUMENS.	ARE ANY DISCREPANCIES BETWEEN THE FIXTURE MBER AND DESCRIPTION, IT IS THE RESPONSIBILITY OF NTRACTOR TO BRING THIS TO THE ELECTRICAL ANTS ATTENTION PRIOR TO SHOP DRAWING REVIEW. EN VALUES QUOTED FOR FIXTURES ARE TO BE RED MINIMUM, AND AS ABSOLUTE OR DELIVERED LUMEN VALUES SHOULD NOT EXCEED MORE THAN 10: IFIED OUTPUT.





	2.0									
X	LIGHT FIXTURE TYPE AS INDICATED	Ф	WALL MOUNTED RECEPTACLE (15A-120V)							
Ø Ø	CEILING OR WALL MOUNTED LIGHT FIXTURE TYPE AS INDICATED	Ψ	WALL MOUNTED T-SLOT RECEPTACL (20A-120V)							
文	WALL MOUNTED EXIT LIGHT SHADING INDICATES FACE	#	T-SLOT RECEPTACLE MTD. ABOVE COUNTER (20A-120V)							
<u>F</u> EE	SINGLE OR TWIN EMERGENCY LIGHTING FIXTURE	P s	RECEPTACLE MTD. ABOVE COUNTER S=SPLIT (15A-120V)							
EM-X DC-X X-X	BATTERY UNIT WITH INTEGRAL EMERGENCY FIXTURE (EM-X INDICATES BATTERY UNIT	—	PANEL AS INDICATED							
	AND X-X INDICATES AC SOURCE CIRCUIT	라	UNFUSED DISCONNECT							
\$	SINGLE POLE SWITCH (3=3 WAY, 4=4 WAY, P=PILOT LIGHT, K=KEYED, DM=DIMMER, M=MOTOR RATED)	HD	HAND DRYER							
\$ ^{os}	OCCUPANCY SENSOR (PASSIVE)	•	PUSH-BUTTON STATION							
OS	DIGITAL CEILING MOUNTED MOTION SENSOR		COMMUNICATIONS							
	ACCESS CONTROL	▽ #	SINGLE COMPUTER OUTLET UNLESS OTHERWISE NOTED C/W 1" (27mm) TO HANGER SYSTEM IN NEAREST							
ES	ELECTRIC STRIKE. CONFIRM ROUGHIN WITH DOOR HARDWARE.		CORRIDOR CEILING SPACE. 'WAP' WIRELESS ACCESS POINT							
PTL	"PUSH-TO-LOCK" BUTTON	\blacksquare	WALL MOUNTED SPEAKER (CS=COLUMN SPEAKER)							
● EM	EMERGENCY PUSH BUTTON STATION	\$	CEILING MOUNTED SPEAKER							
	"ASSISTANCE REQUIRED" DOME LIGHT WITH SOUNDER		GENERAL							
Á	"ASSISTANCE REQUIRED" INDICATOR LIGHT WITH SOUNDER	ER	INDICATED EXISTING ITEM TO REMAI							
	FIRE ALARM	D	INDICATES EXISTING ITEM TO BE DELETED							
8	ALARM BELL (A, B = SIGNAL CIRCUIT)	R	INDICATES EXISTING ITEM TO BE RELOCATED/IN RELOCATED POSITION							
Y	ALARM STROBE (A, B = SIGNAL CIRCUIT)	WG	WIREGUARD							
	STANDARD CIRCUITING LABELING	GF	GROUND FAULT							
POWFR	A-1-1 PANEL LABEL	X	NOTE INDICATOR							
CIRCUIT	INDICATION	\bigotimes	MECHANICAL ITEM NO.							

LIGHTING FIXTURES

(QUANTITY PER DRAWINGS)

CONTROL WIRING AS -

MANUFACTURER, INSTALLED IN 19mmC

INDICATED BY

CEILING/WALL MTD SENSORS

(QUANTİTY PER DRAWINGS)

GENERAL DEMOLITION NOTES

SPECIFIC DEMOLITION NOTES

ELECTRICAL SYMBOLS

LIGHTING

CONTROL DEVICES. LABEL SOURCE DEVICE AS SPARE.

BEING REINSTALLED.

EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.

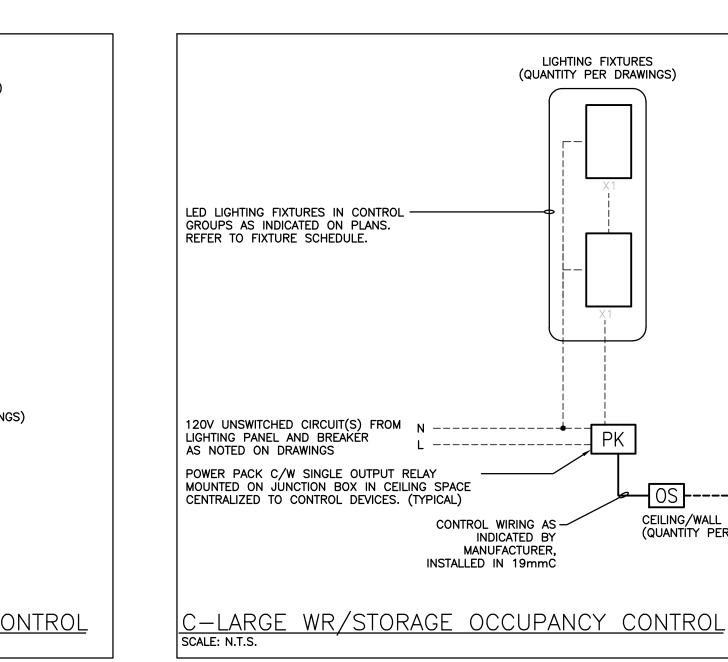
ALL LIGHTING FIXTURES BEING RELOCATED SHALL BE CLEANED AND CHECKED PRIOR TO

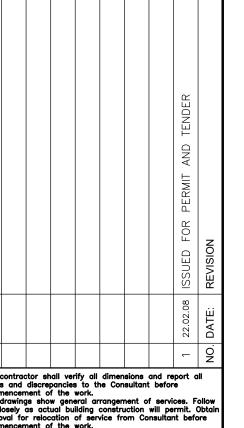
D1 INDICATES WATER HEATER BEING REMOVED BY MECHANICAL TRADE. THIS CONTRACTOR IS

TO DISCONNECT AND REMOVE FEEDER BACK TO SOURCE. DISCONNECT AND REMOVE ALL

NOTE: ALL SYMBOLS MAY NOT BE USED

POWER





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. Do not scale this drawing.

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Project Number: 20151



ST. ANDREW **PUBLIC SCHOOL**

> 65 Victoria Ave Cambridge, ON N1S 2V1

RAWING TITLE:

FEB 2022

Electrical schedules, keyplan and legend ROJECT NO:

A20002.6 AS NOTED DRAWING NO: CHECKED:

	QUIPME	nt wiring	<u> </u>	SC	HED	UL	<u>E</u>																							E=ELECTRICAL M=MECHANICAL O=OTHERS
		Description		ι	Data			Starte	er		Con	trol	Device			solatir Device				F	Remot	e Iter	ms					Inte	erlock	Remarks
Electrical Number	Electrical Item	Description	Provided by	Voltage	Size hp/kW/Amps Phase	Magnetic	Manual	Contactor	Combination	variable Frequency Drive	Hand/Off/Auto	Selector	Start/Stop PB. High/Low/Off	Pilot Light	Disconnect	WP Disconnect	/Fus	Starter/Device Wired By	<u> </u>	Inermostat Time Clock	ابن ـُ	Motor Rated Sw. c/w Pilot Light	Dual Voltage Relay	Control Panel	1	Bldg Auto System	Wired by	Interlock To	Interlock By	Description
1	UC	Urinal Controller	М	120	FHP 1										E		E	Ε						М	м/Е					
2	⟨ WH−1 ⟩	Water Heater WH-1	М	208	4.5 KW 1										E		Е	Ε						М	M/E					

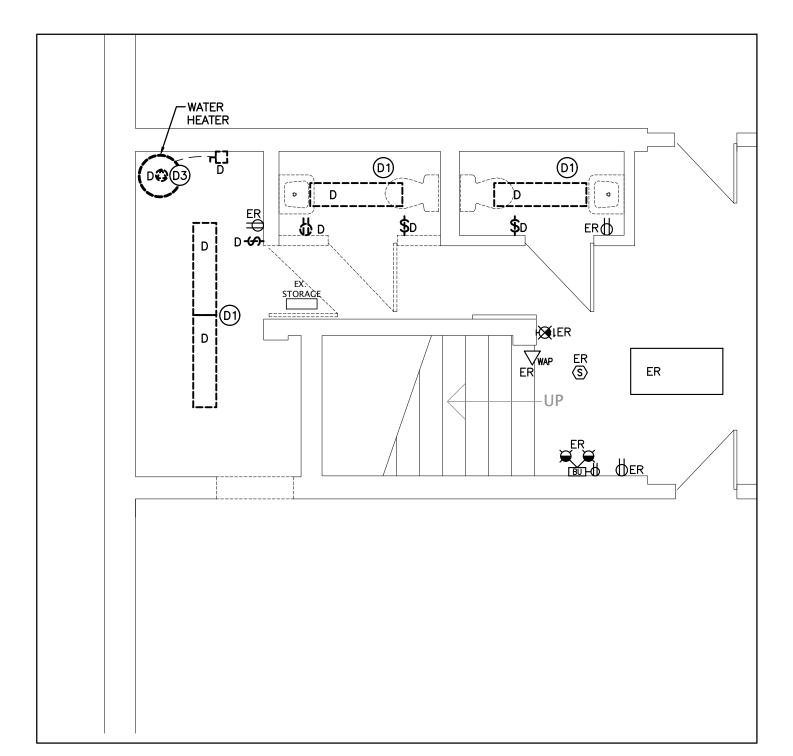
Control Sequence / Control Device(s):

ON: Lights turned on automatically via occupancy sensor (where applicable).

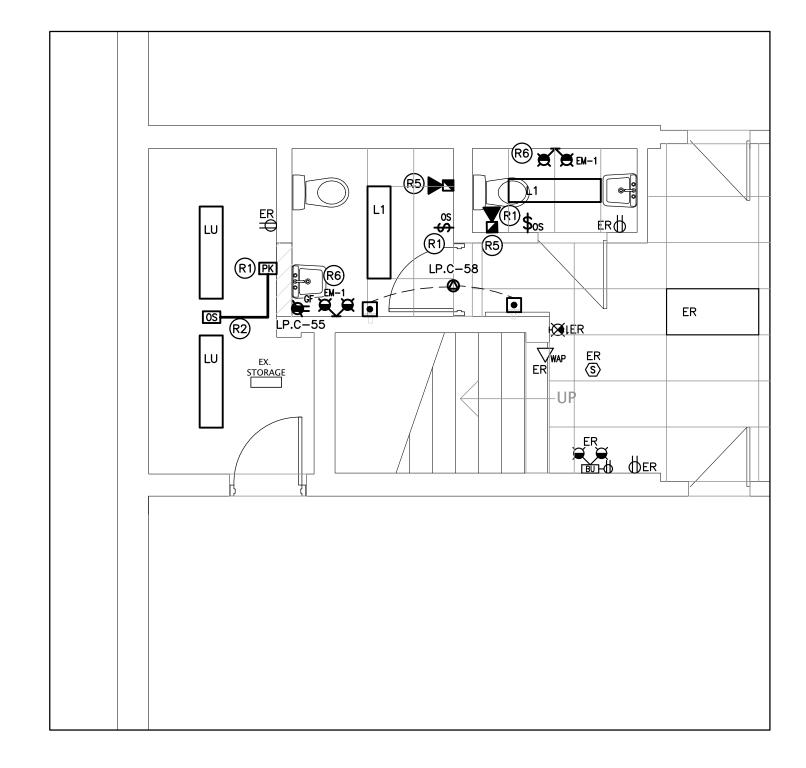
OFF: 5 minutes after the room has been vacated, the lights will automatically turn off.

LIGHTING CONTROL SYSTEMS SEQUENCE OF OPERATION

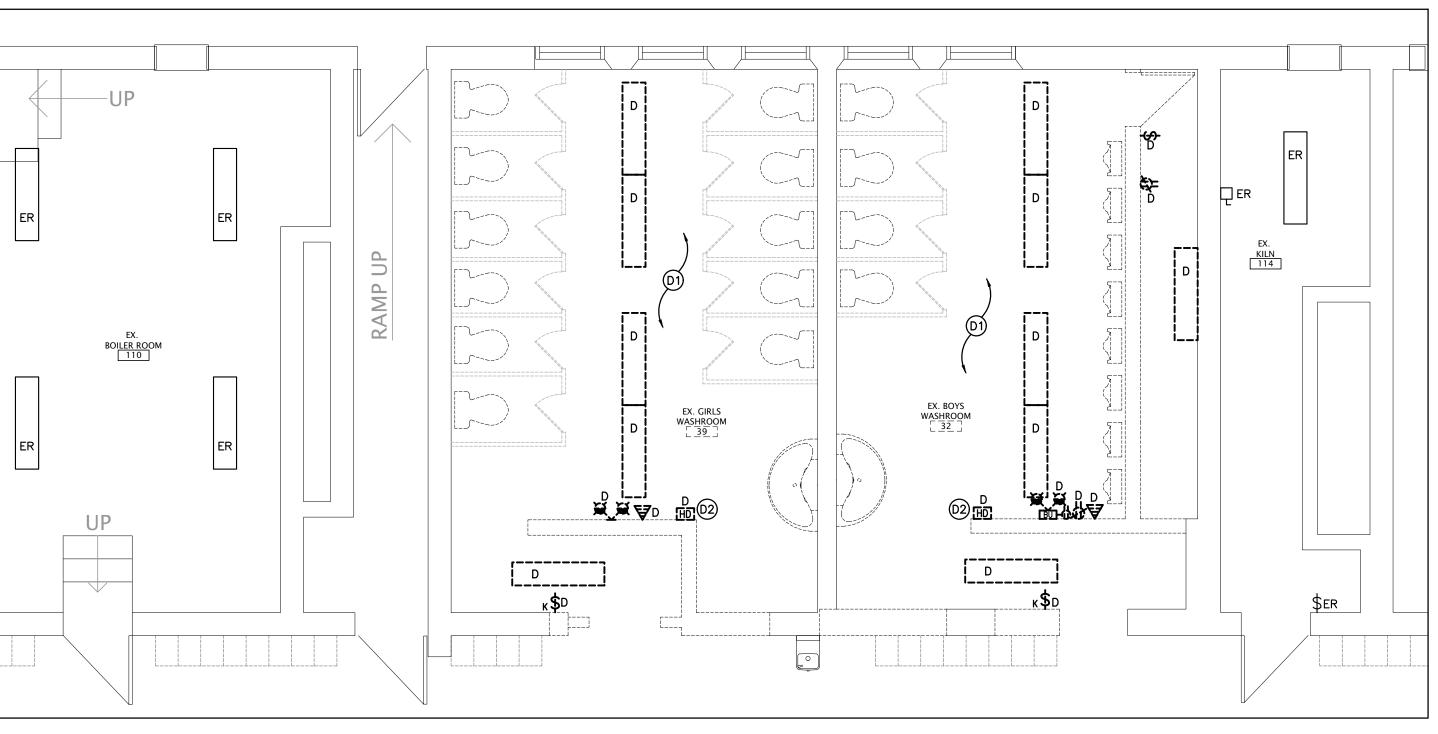
TYPICAL



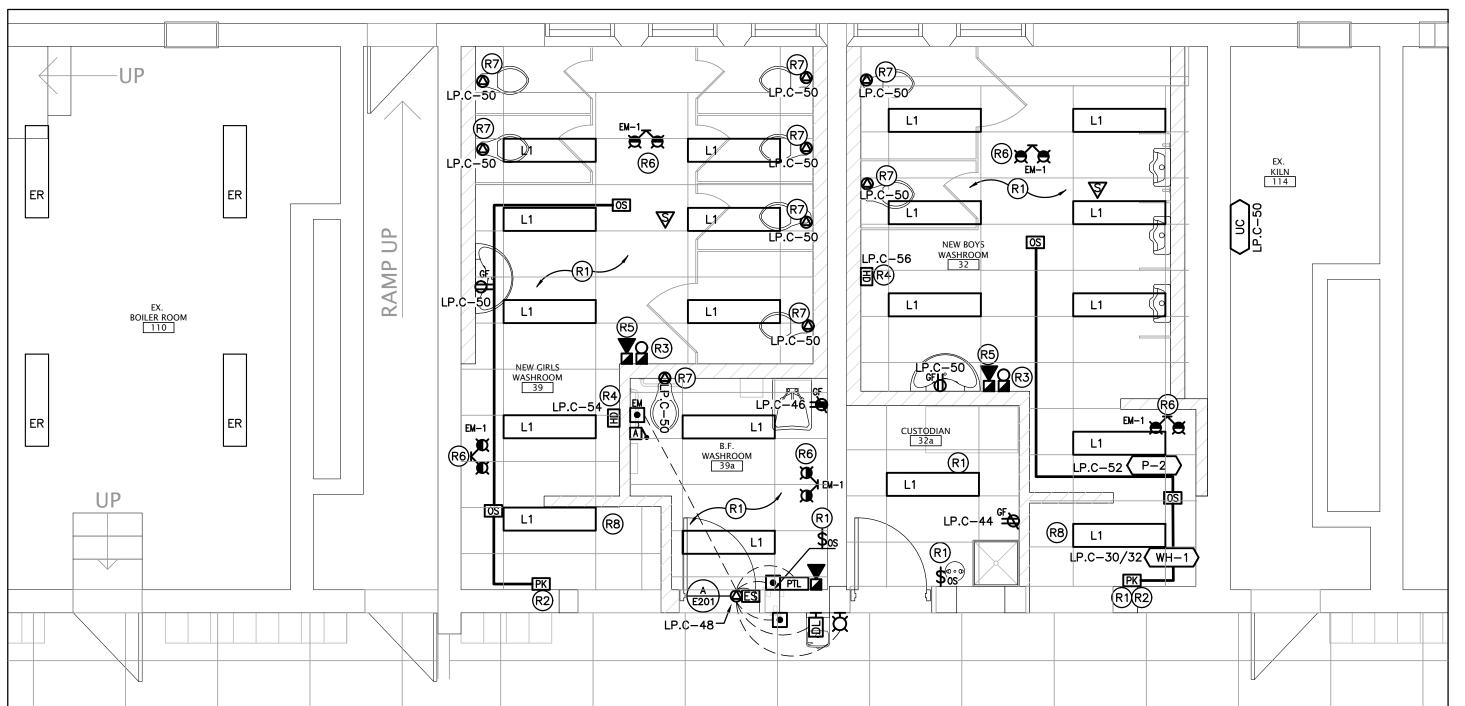
PARTIAL LOWER FLOOR PLAN STORAGE DEMOLITION SCALE: 1:50



PARTIAL LOWER FLOOR PLAN STORAGE RENOVATION



PARTIAL LOWER FLOOR PLAN WASHROOMS DEMOLITION SCALE: 1:50



PARTIAL LOWER FLOOR PLAN WASHROOMS RENOVATION

GENERAL DEMOLITION NOTES

EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE. ALL LIGHTING FIXTURES BEING RELOCATED SHALL BE CLEANED AND CHECKED PRIOR TO BEING

SPECIFIC DEMOLITION NOTES

- D1 INDICATED FIXTURES AND CONTROLS TO BE REMOVED. EXISTING CIRCUIT TO REMAIN FOR CONNECTION TO NEW FIXTURES AND CONTROLS, REFER TO RENOVATION PLANS.
- D2 INDICATES EXISTING HAND DRYER TO BE REMOVED. ELECTRICAL CONTRACTOR IS TO MAINTAIN AND EXTEND EXISTING CIRCUIT AND RECONNECT TO NEW HAND DRYER, REFER TO RENOVATION PLAN FOR FURTHER INFORMATION.
- D3 INDICATES MECHANICAL EQUIPMENT BEING REMOVED BY MECHANICAL TRADE. THIS CONTRACTOR IS TO DISCONNECT AND REMOVE FEEDER BACK TO SOURCE. DISCONNECT AND REMOVE ALL CONTROL DEVICES. LABEL SOURCE DEVICE AS SPARE.

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

commencement of the work.

The drawings show general arrangement of services. Followas closely as actual building construction will permit. Obta 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.

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GENERAL RENOVATION NOTES

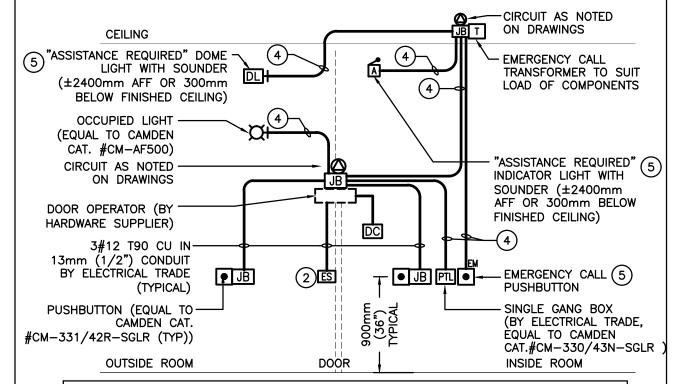
- ALL DEVICES SHOWN ARE NEW UNLESS OTHERWISE NOTED.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.
- MAINTAIN SERVICE TO ALL EXISTING DEVICES TO REMAIN.
- REVISE PANEL DIRECTORIES TO SUIT CHANGES (TYPED).

SPECIFIC RENOVATION NOTES

- R1 INDICATES FIXTURES TO BE CONNECTED TO EXISTING CIRCUIT AND NEW CONTROLS AS SHOWN.
- R2 INDICATES POWER PACK INSTALLED WITHIN ACCESSIBLE CEILING SPACE FOR CONTROL OF NOTED MOTION SENSOR(S). REFER TO LIGHTING CONTROL DETAILS.
- R3 INDICATES NEW F/A BELL TO BE CONNECTED TO EXISTING SIGNAL CIRCUIT.
- R4 CONNECT HAND DRYER TO EXISTING CIRCUIT, EXTEND CIRCUIT AS REQUIRED.
- R5 INDICATES NEW FIRE ALARM STROBE TO BE INSTALLED ON NEW SIGNAL CIRCUIT. CONTRACTOR IS TO PROVIDE BOOSTER MODULE FOR NEW SIGNAL DEVICE(S).
- R6 CONNECT NEW EMERGENCY BATTERY UNIT TO UNSWITCHED SIDE OF EXISTING LIGHTING BRANCH CIRCUIT WHICH SERVES THIS AREA.
- R7 INDICATES 120V FEED TO 24VDC STEP DOWN TRANSFORMER MOUNTED ABOVE CEILING OR AT A HIGH LEVEL FOR AUTOMATIC PLUMBING FIXTURE(S). COORDINATE WITH MECHANICAL TRADE.
- R8 INDICATED FIXTURE TO BE CONNECTED AND CONTROLLED WITH CORRIDOR LIGHITNG.

ALL RECEPTACLES ARE TO BE TAMPER RESISTANT TYPE

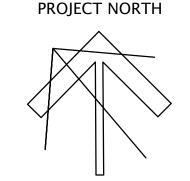
PER 2019 OESC CODE UPDATES - RULE 26-706.



THIS CONTRACTOR IS TO MAKE ALL CONNECTIONS TO ALL DEVICES AS SUPPLIED BY THE HARDWARE CONTRACTOR. P.A. SUB—CONTRACTOR TO PROVIDE AND INSTALL EMERGENCY CALL AND INTERFACE CONTROLLER. ALL OTHER DEVICES BY HARDWARE CONTRACTOR

- WHEN EMERGENCY CALL STATION IS ENGAGED, ELECTRIC STRIKE IS TO DISENGAGE TO ALLOW FOR ACCESS TO ROOM. CO-ORDINATE REQUIRED CONNECTIONS WITH THE HARDWARE SUPPLIER. REFER TO NOTE 3.
- CONNECT OUTPUT RELAY OF P.A. SYSTEM DOOR PHONE HARDWARE CONTROLLER TO INPUT CONTACTS OF DOOR ACCESSORIES CONTROLLER.
- PROVIDE LOW VOLTAGE INTERCONNECT WIRING TO SUIT SUPPLIER. FOR PRICING
- PURPOSES ALLOW 4c#18 IN 13mmC. ELECTRICAL CONTRACTOR IS TO SUPPLY AND INSTALL UNIVERSAL WASHROOM KIT EQUAL TO CAMDEN CAT.#CX-WEC10.

A-EMERGENCY CALL / DOOR OPERATOR DETAIL SCALE: NTS





55 Northland Road, Waterloo, ON N2V 1Y8 Phone: 519-725-3555 Fax: 519-725-2515 Website: deiassociates.ca Project Number: 20151





ST. ANDREW **PUBLIC SCHOOL**

> 65 Victoria Ave Cambridge, ON

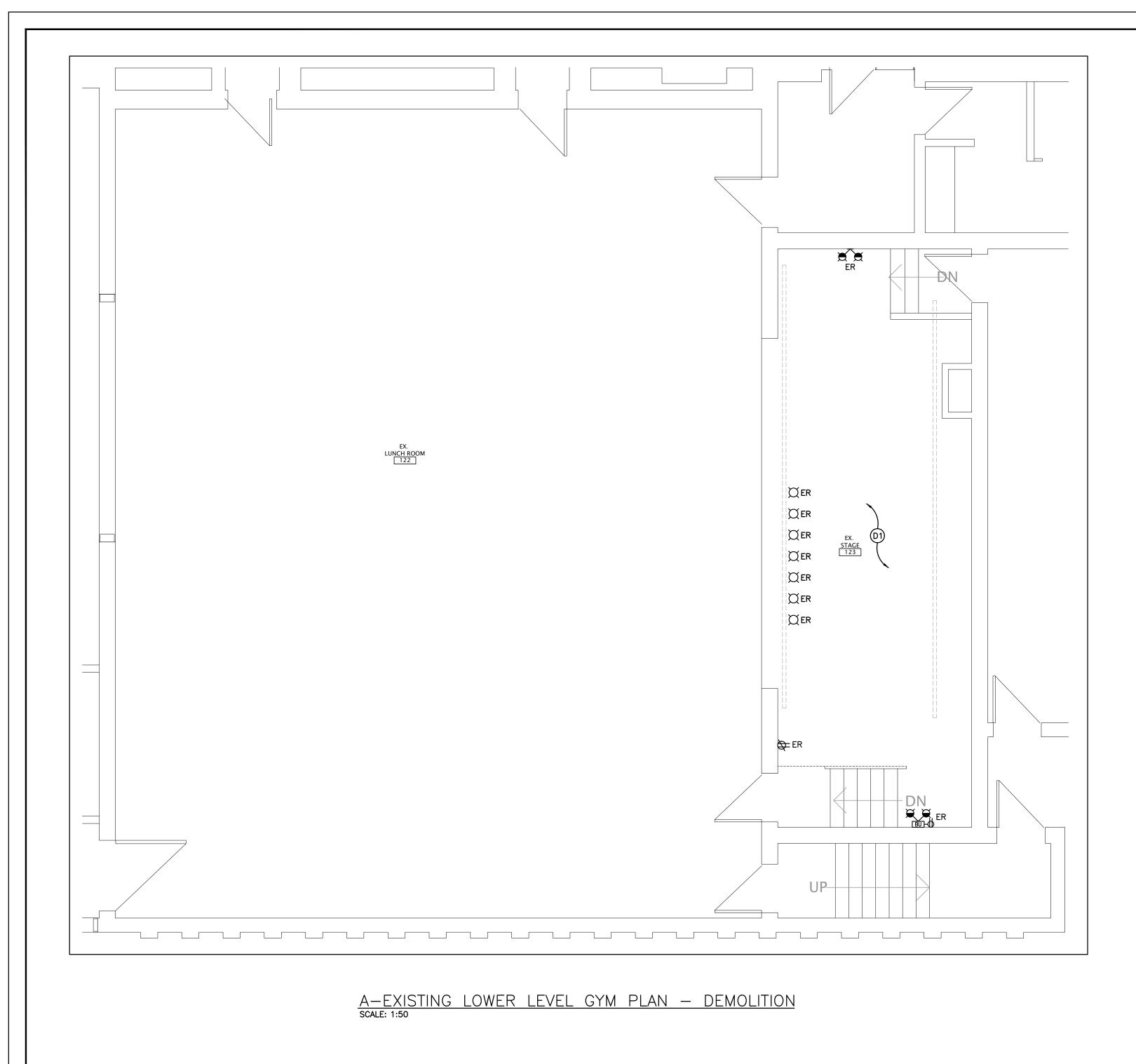
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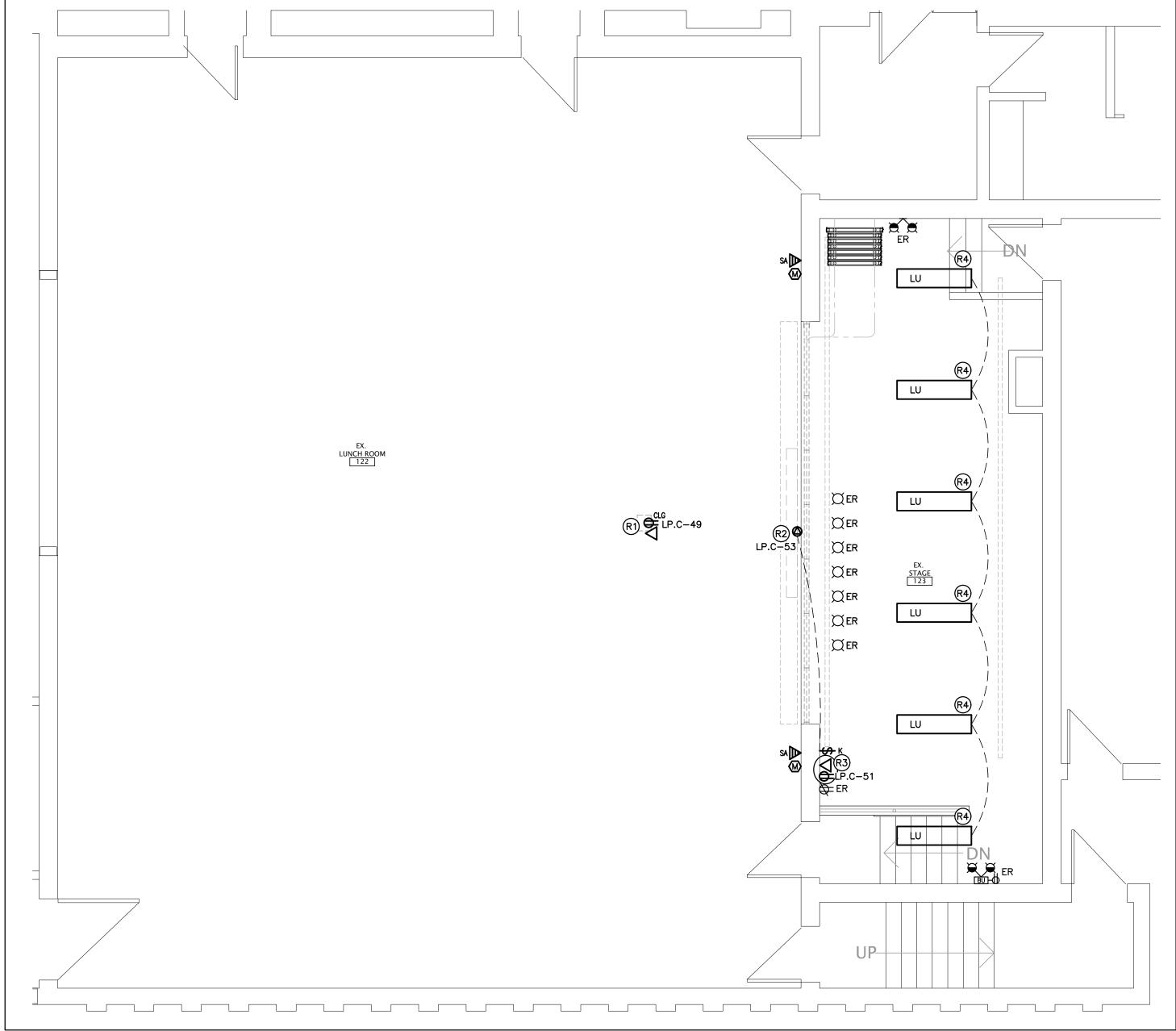
ELECTRICAL DEMOLITION AND RENOVATION PLANS ROJECT NO:

N1S 2V1

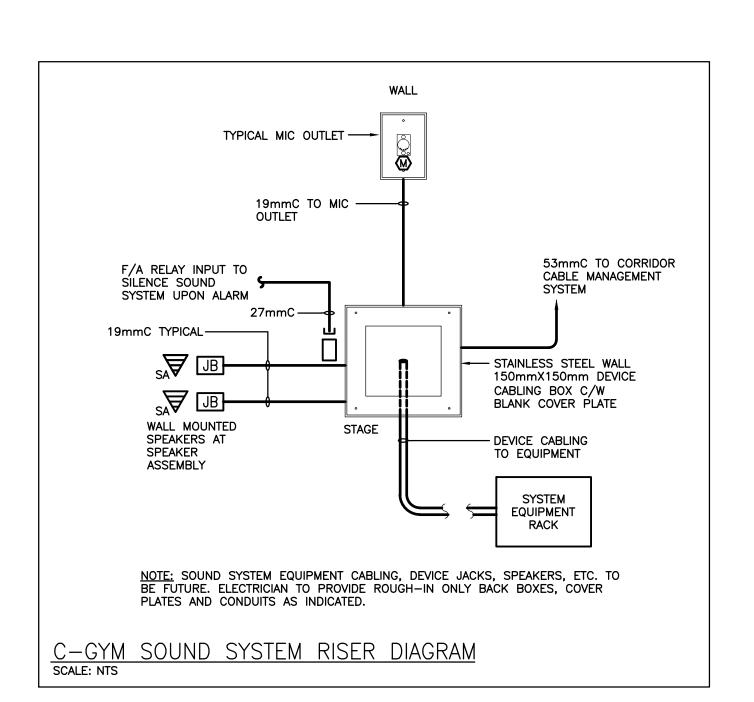
A20002.6 AS NOTED DRAWING NO: RE E201

CHECKED: FEB 2022





B-LOWER LEVEL GYM PLAN - RENOVATION SCALE: 1:50



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 DEMOLITION NOTES

D1 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURES IN THIS AREA. EXISTING CIRCUIT TO REMAIN FOR CONNECTION TO NEW FIXTURES AND CONTROLS, REFER TO RENOVATION PLANS.

SPECIFIC RENOVATION NOTES

- R1 INDICATES DEVICES FOR CEILING MOUNTED PROJECTOR TO BE INSTALLED AT CEILING.
- R2 INDICATES OUTLET/CONNECTION FOR MOTORIZED PROJECT SCREEN.
- R3 INDICATES RECEPTACLE AND DATA OUTLET FOR SOUND SYSTEM. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. REFER TO DETAIL C/E202 FOR ALL ROUGH-INS
- R4 INDICATES FIXTURE TO BE CONNECT TO EXISTING CIRCUIT AND CONTROLS. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS.

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

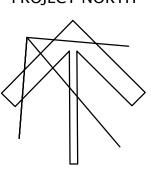
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Do not scale this drawing.

PROJECT NORTH





Project Number: 20151





ST. ANDREW PUBLIC SCHOOL

> 65 Victoria Ave Cambridge, ON N1S 2V1

RAWING TITLE:

FEB 2022

ELECTRICAL DEMOLITION AND RENOVATION PLANS

A20002.6 AS NOTED CHECKED: E202

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 CONSULTANT
- .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
- CONSULTANT. RESUBMIT AS OFTEN AS MAY BE FOUND NECESSARY.

 8 PROVIDE ALL NECESSARY PROTECTION FOR FINISHED OR UNFINISHED WORK. ALL OPENINGS IN CONDUITS, DUCTS AND EQUIPMENT
- .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.

SHALL BE CAPPED TO ENSURE SERVICES ARE KEPT CLEAN WHEN NOT IN USE.

- .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.
- .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:
- GENERAL: 400mm (16")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.
- 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, SUBMIT COMPLETED REPRODUCIBLE PAPER RECORD DRAWINGS AS WELL AS A SCANNED PDF COPY FILE ON USB STICK WITH
- .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.

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 MANNER.
- .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 3/4" (19mm).
- .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 CÔLÓUR
 UP TO 208V YELLOW
 FIRE ALARM RED
- .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:
 - .1 PERMITS AND FEES.2 MOBILIZATION (MAXIMUM 1%).3 DEMOLITION
 - .4 BRANCH CONDUITS
 .5 BRANCH WIRING
 - 6 LIGHTING FIXTURES 7 FIRE ALARM SYSTEM DEVICES
 - 7 FIRE ALARM STSTEM DEVICES
 B WIRING FOR MECHANICAL EQUIPMENT
 9 HAND DRYERS
 - .10 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.

UREA MOLDED HOUSING WITH COLOUR AS SELECTED BY ARCHITECT.

- .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:
- .2 SUITABLE FOR NO. 10 AWG FOR BACK AND SIDE WIRING.
 .3 BREAK-OFF LINKS FOR USE AS SPLIT RECEPTACLES.
- .4 EIGHT BACK WIRED ENTRANCES, FOUR SIDE WIRING SCREWS..5 TRIPLE WIRE CONTACTS AND RIVETED GROUNDING CONTACTS
- .6 ACCEPTABLE MATERIALS:
 - 1 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
- LEVITON
- .9 WALL MOUNTED OCCUPANCY SENSORS (PASSIVE TECHNOLOGY), OCCUPANCY SENSORS USED IN STORAGE AND SERVICE ROOMS SHALL BE EITHER:
- .1 WATTSTOPPER CAT. #PW-100-VOLT-X (COLOUR BY ARCHITECT)
 .2 SENSOR SWITCH CAT. #WSD-VOLT-X (COLOUR BY ARCHITECT)
- .3 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:

 .1 SINGLE RELAY (CIRCUIT): WATTSTOPPER CAT. #DW-100

 .2 DUAL RELAY (CIRCUIT): WATTSTOPPER CAT. #DW-200
- .3 APPROVED EQUAL: .1 SENSOR SWITCH .2 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 OR THERMOPLASTIC CONSTRUCTION, COLOUR TO MATCH WIRING DEVICES, THICKNESS 2.5mm, COVER PLATES FOR WIRING DEVICES MOUNTED IN FLUSH-MOUNTED OUTLET BOXES.
- .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.

<u>EQUIPMENT</u>

- .1 HAND DRYERS
- .1 HAND DRYERS WHERE NOTED ON THE DRAWINGS ARE TO BE SUPPLIED AND INSTALLED BY THIS DIVISION WITH THE FOLLOWING FEATURES:
 - .1 SURFACE MOUNTING. .2 FIXED NOZZLE.
 - WHITE FINISH WITH AUTOMATIC ACTIVATION.
 RATING OF 1000W, 120V, THREE SPEED, SET TO MEDIUM SPEED AND LOW HEAT.
 - .5 WORLD DRYER CAT. #SMARTDRI.6 APPROVED ALTERNATE: AMERICAN DRYER CAT. #GXT

FIRE ALARM SYSTEMS

- .1 INSTALLATION OF FIRE ALARM DEVICES MUST CONFORM TO ULC-S524 (LATEST EDITION).
- .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
- .4 EQUIPMENT SHALL BE SUPPLIED AND INSTALLED AS FOLLOWS;

EXISTING LOCAL ZONE OR NEW ZONE AS INDICATED.

- 1 ALITOMATIC ALADM INITIATING DEVIC
 - AUTOMATIC ALARM INITIATING DEVICES
 .1 MANUAL ALARM STATIONS: PULL LEVER STYLE, WALL MOUNTED SEMI-FLUSH TYPE, NON-CODED SINGLE POLE NORMALLY
 - OPEN CONTACT FOR SINGLE STAGE, ENGLISH SIGNAGE.

 .2 THERMAL FIRE DETECTORS: FIXED TEMPERATURE, NON-RESTORABLE, RATED 57C OR 88C AS INDICATED.
- .3 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 WHERE NOTED.
- .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 150MM (6") BELLS: SURFACE MOUNTED BELL, VIBRATION TYPE 24VDC, 6", 92DBA RATING AT 10', RED FINISH, FM AND ULC LISTED.
- NOTE:

 .1 SIGNAL DEVICES WITH INTEGRAL STROBE LIGHTS IN HIGH ABUSE AREAS (I.E. GYMNASIUM, CHANGE ROOMS, ETC.)
- MUST BE PROVIDED WITH INTEGRAL STROBE LIGHTS IN HIGH ABUSE AREAS (I.E. GYMNASIUM, CHANGE ROOMS, ET MUST BE PROVIDED WITH PROTECTIVE WIREGUARDS.

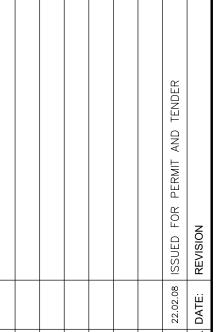
 2 ANY SURFACE MOUNTED SIGNAL DEVICES MUST BE PROVIDED WITH SUITABLE BACKBOXES SUPPLIED BY THE
- .3 END-OF-LINE DEVICES
 .1 END-OF-LINE DEVICES TO CONTROL SUPERVISORY CURRENT IN ALARM CIRCUITS AND SIGNALING CIRCUITS, SIZED TO ENSURE CORRECT SUPERVISORY CURRENT FOR EACH CIRCUIT. OPEN, SHORT OR GROUND FAULT 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:

 A CERTIFICATE OF VERIFICATION
- 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

	<u>EDWARDS</u>
CONTROL PANEL: (EXISTING)	QUICKSTART
AUXILIARY DEVICES:	
23 150mm (6") BELLS	439D SERIES OR MB SERIES
25 STROBE	G1R-VM

AND/OR AUTHORITIES HAVING JURISDICTION.



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

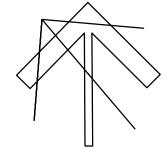
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

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

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Do not scale this drawing.

PROJECT NORTH

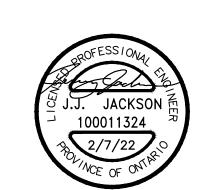


Consulting Engineers N
MECHANICAL ELECTRICAL AQUATIC

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

Project Number: 20151





ST. ANDREW PUBLIC SCHOOL

> 65 Victoria Ave Cambridge, ON

N1S 2V1
DRAWING TITLE:

A20002.6

ELECTRICAL SPECIFICATIONS
PROJECT NO: SCALE:

AS NOTED

TM
CHECKED:

J.J.

J.J. ESU I PATE: FEB 2022

LIGHTING SYSTEMS FIXTURES ARE TO BE PROVIDED AS NOTED IN THE LIGHT FIXTURE SCHEDULE C/W THE FOLLOWING FEATURES: SHOP DRAWINGS AND PRODUCT DATA .1 FURNISH COMPLETE CATALOG DATA FOR MANUFACTURED ITEMS OF EQUIPMENT TO BE USED IN THE WORK TO CONSULTANT FOR FIXTURE LED'S MUST BE TESTED IN CONFORMANCE WITH IESNA LM80 STANDARD. REVIEW WITHIN 30 DAYS AFTER AWARD OF CONTRACT. LED'S MUST BE SELECTED USING A BINNING ALGORITHM TO ENSURE COLOUR AND LUMEN OUTPUT OF A GIVEN FIXTURE IF MATERIAL OR EQUIPMENT IS NOT AS SPECIFIED OR SUBMITTAL IS NOT COMPLETE, IT WILL BE REJECTED BY CONSULTANT. ARE CONSISTENT, AS WELL AS MEET OR SURPASS ANSI C78.377 SPECIFICATION FOR THE RATED LIFETIME OF THE 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 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. BORNE BY THE CONTRACTOR. LUMINAIRES MUST BE TESTED PRIOR TO SHIPPING. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. LUMINAIRES MUST BE ULC CERTIFIED AND APPROVED FOR USE IN CANADA. CATALOG DATA OR SHOP DRAWINGS FOR EQUIPMENT, WHICH ARE NOTED AS BEING REVIEWED BY CONSULTANT OR HIS ENGINEER FIXTURES MUST MAINTAIN A MINIMUM OF 90% OF THEIR INITIAL LIGHT OUTPUT FOR 60,000 HOURS. SUBMIT TEST SHALL NOT SUPERSEDE CONTRACT DOCUMENTS. REVIEW COMMENTS OF CONSULTANT SHALL NOT RELIEVE THIS DIVISION FROM RESPONSIBILITY FOR DEVIATIONS FROM CONTRACT RESULTS UPON REQUEST. LUMEN VALUES INDICATED FOR FIXTURES IN THE PROJECT DOCUMENTS ARE TO BE CONSIDERED AS 'ABSOLUTE' OR 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. 'DELIVERED' VALUES. .8 OTHER THAN FOR SPECIALTY FIXTURES, AND UNLESS OTHERWISE INDICATED, THE MAXIMUM DRIVER CURRENT IS TO BE CHECK WORK DESCRIBED BY CATALOG DATA WITH CONTRACT DOCUMENTS FOR DEVIATIONS AND ERRORS. .8 SHOP DRAWINGS AND PRODUCT DATA SHALL SHOW: MOUNTING ARRANGEMENTS. .2 EMERGENCY LIGHTING UNITS OPERATING AND MAINTENANCE CLEARANCES. E.G. ACCESS DOOR SWING SPACES. .9 SHOP DRAWINGS AND PRODUCT DATA SHALL BE ACCOMPANIED BY: .1 MUST CONFORM TO CSA C22.2 NO. 141 (LATEST EDITION). DETAILED DRAWINGS OF BASES, SUPPORTS, AND ANCHOR BOLTS. .2 SUPPLY VOLTAGE: 120 VOLT, AC. MANUFACTURER TEST DATA WHERE REQUESTED. MANUFACTURER TO CERTIFY AS TO CURRENT MODEL PRODUCTION. .3 OUTPUT VOLTAGE: 12 VOLT, DC. .4 CERTIFICATION OF COMPLIANCE TO APPLICABLE CODES. .10 STATE SIZES, CAPACITIES, BRAND NAMES, MOTOR HP, ACCESSORIES, MATERIALS, GAUGES, DIMENSIONS, AND OTHER PERTINENT .4 BATTERY: SEALED UNITS MUST BE CAPABLE OF SUPPLYING THE WATTAGE INDICATED FOR A MINIMUM OF 30 MINUTES. 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 .5 SIGNAL LIGHTS: "AC POWER ON" CONDITION AND "CHARGING" CONDITION. 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. .6 LAMP HEADS: INTEGRAL ON UNIT, 345° HORIZONTAL AND 180° VERTICAL ADJUSTMENT. LAMP TYPE: MINIMUM 4W LED. .12 A PARTIAL LIST OF SHOP DRAWINGS INCLUDES: FIRE ALARM SYSTEM COMPONENTS .7 AUXILIARY EQUIPMENT: LUMINAIRES EMERGENCY BATTERY UNITS AND FIXTURES .1 TEST SWITCH AC INPUT AND DC OUTPUT TERMINAL BLOCKS INSIDE CABINET. STARTERS, CONTACTORS, AND CONTROL DEVICES FIRESTOPPING MATERIALS CORD AND PLUG CONNECTION FOR AC. HAND DRYERS LIGHTING CONTROL DEVICES .3 REMOTE EMERGENCY LIGHTING FIXTURES .8 UNIVERSAL WASHROOM KIT AND DEVICES .1 REMOTE EMERGENCY LIGHTING FIXTURES MUST CONFORM TO CSA C22.2 NO. 141 (LATEST EDITION). <u>FIRESTOPPING</u> .2 FIXTURES SHALL BE SMALL "MICRO" SIZE WITH WHITE FINISH. .1 FIRESTOPPING MATERIAL AND INSTALLATION WITHIN ANNULAR SPACE BETWEEN CONDUITS, DUCTS, AND ADJACENT FIRE SEPARATION. .3 FIXTURES MUST BE ADJUSTABLE TYPE HEADS WITH CANOPY. .2 PROVIDE MATERIALS AND SYSTEMS CAPABLE OF MAINTAINING EFFECTIVE BARRIER AGAINST FLAME, SMOKE, AND GASES. .4 UNLESS OTHERWISE INDICATED SURFACE MOUNTED FIXTURES IN WASHROOMS, LOCKER ROOMS, CHANGE ROOMS AND .3 COMPLY WITH THE REQUIREMENTS OF CAN4-S115-M35, AND DO NOT EXCEED OPENING SIZED FOR WHICH THEY HAVE BEEN GYMNASIUMS MUST BE PROVIDED WITH WIRE GUARD. .4 FIXTURE INSTALLATION .1 LOCATE AND INSTALL LUMINAIRES AS INDICATED. .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. .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 .5 EXTENT OF BLANKET MUST CORRESPOND TO ULC RECOMMENDATIONS. IN GENERAL WRAP INDIVIDUAL CONDUITS WITH APPROVED #12 "JACK" CHAIN. EACH CHAIN MUST BE SECURED SO NO FIXTURE WEIGHT IS ADDED TO THE CEILING ASSEMBLY. 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 .3 PLASTER FRAMES/FLANGE KITS MUST BE PROVIDED BY THIS DIVISION FOR FIXTURES RECESSED IN PLASTER AND/OR FIRST LAYER). CUT EDGES ARE TO BE SEALED WITH ALUMINUM FOIL TAPE. PROVIDE 50 MM STAINLESS STEEL BANDING AT 200 MM DRYWALL CEILINGS. INTERVALS. INSTALL FIREWRAP TO MANUFACTURERS' RECOMMENDATIONS FOR PROPER FT RATING. ACCEPTABLE MANUFACTURERS ARE 3M FIREMASTER DUCTWRAP OR APPROVED EQUAL. .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) .6 THE FIRESTOPPING MATERIALS ARE NOT TO SHRINK, SLUMP OR SAG AND BE FREE OF ASBESTOS, HALOGENS AND VOLATILE 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. .7 FIRESTOPPING MATERIALS ARE TO CONSIST OF A COMPONENT SEALANT APPLIED WITH A CONVENTIONAL CAULKING GUN AND .6 INSTALL EMERGENCY LIGHTING UNITS AND ASSOCIATED REMOTE MOUNTED FIXTURES AS INDICATED. .8 FIRESTOP MATERIALS ARE TO BE CAPABLE OF RECEIVING FINISH MATERIALS IN THOSE AREAS, WHICH ARE EXPOSED AND .7 DIRECT "HEADS" ON UNITS AND REMOTE MOUNTED FIXTURES TO ILLUMINATE PATH(S) OF EXIT. SCHEDULED TO RECEIVE FINISHES. .8 INSTALL EMERGENCY LIGHTING UNITS AND REMOTE FIXTURES AT 8' (2400mm) ABOVE FINISHED FLOOR UNLESS INDICATED .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 .9 PROVIDE A 15A 120V DUPLEX RECEPTACLE (CONNECT TO CIRCUIT INDICATED) ADJACENT TO UNIT. .11 SUBMIT PRODUCT LITERATURE AND INSTALLATION MATERIAL ON FIRESTOPPING IN SHOP DRAWING AND PRODUCT DATA MANUAL. .10 CONNECT LUMINAIRES TO LIGHTING CIRCUITS AS INDICATED. .11 CONNECT EXIT FIXTURES TO EXIT LIGHTING CIRCUITS AND UNIT EQUIPMENT (IF APPLICABLE). .12 ACCEPTABLE MANUFACTURERS: FYREESLEEVE INDUSTRIES INC. GENERAL ELECTRIC PENSIL FIRESTOP SYSTEMS .12 CONNECT UNIT EQUIPMENT TO CIRCUITS AS INDICATED. INTERNATIONAL PROTECTIVE COATINGS CORP. .13 ALL WIRING OF REMOTE EMERGENCY FIXTURES SHALL BE MINIMUM #10 T90 FOR EACH CIRCUIT AND RUN IN CONDUIT. RECTORSEAL CORPORATION (METACAULK) WIRING MUST BE SIZED IN CONFORMANCE WITH MANUFACTURERS' RECOMMENDATIONS FOR DISTANCE REQUIRED. PROSET SYSTEMS .14 ALIGN LUMINAIRES MOUNTED IN CONTINUOUS ROWS TO FORM STRAIGHT UNINTERRUPTED LINES. AD SYSTEMS .15 ALIGN LUMINAIRES MOUNTED INDIVIDUALLY PARALLEL OR PERPENDICULAR TO BUILDING GRID LINES. ROYAL .16 ALL LIGHTING BRANCH CIRCUITS ARE TO BE PROVIDED WITH SEPARATE NEUTRALS. 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. .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 .6 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: EQUIPMENT TYPE CERTIFICATION OF CORRECT CONNECTION CERTIFICATION OF CORRECT OPERATION DURATION OF TEST IN MINUTES (MINIMUM 30) ACTUAL PERIOD OF TESTING (TIME OF DAY)

commencement of the work.

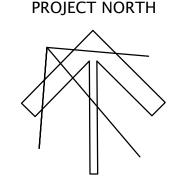
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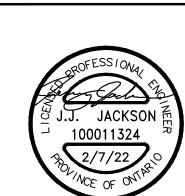
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Project Number: 20151



ST. ANDREW PUBLIC SCHOOL

65 Victoria Ave Cambridge, ON N1S 2V1

RAWING TITLE:

ELECTRICAL SPECIFICATIONS PROJECT NO:

A20002.6 AS NOTED CHECKED:

FEB 2022