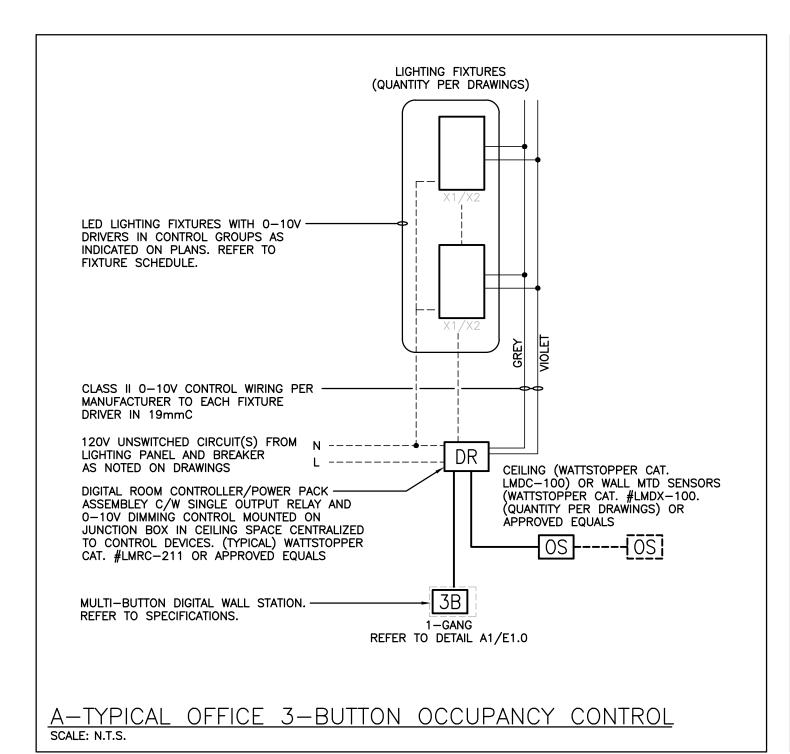


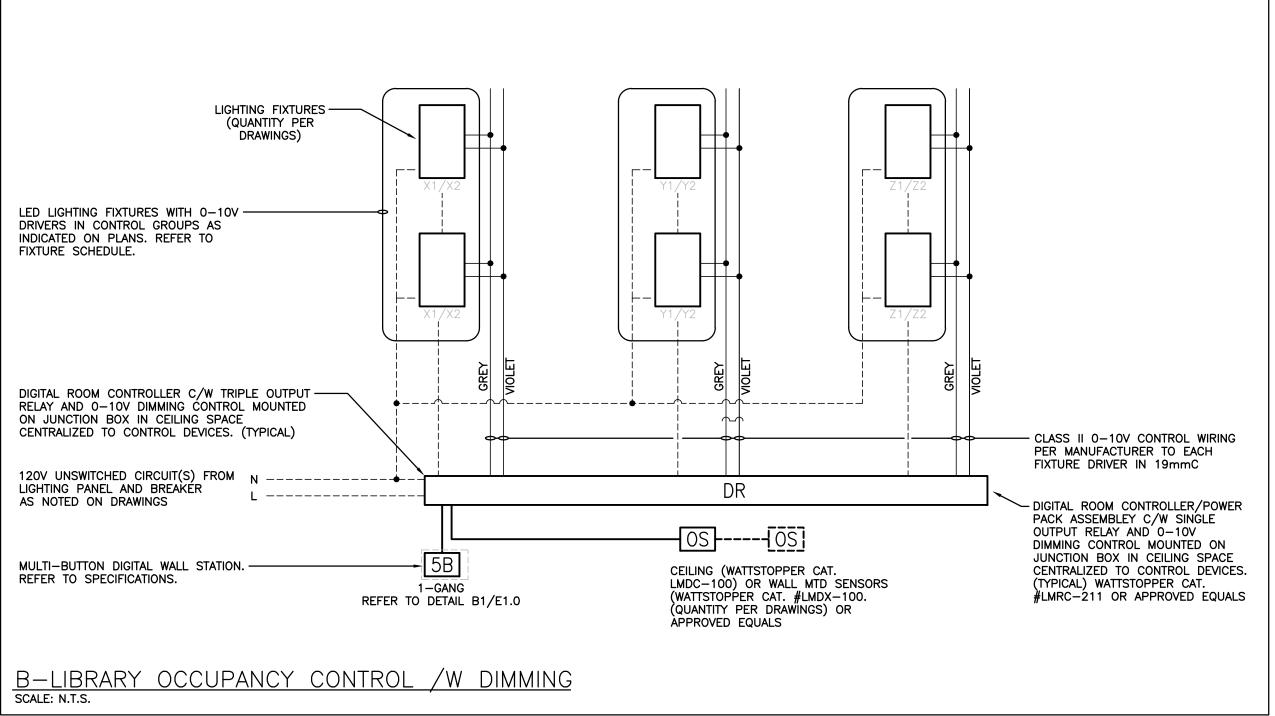
ELE	CTRICAL SYMBOLS	NC	TE: ALL SYMBOLS MAY NOT BE USED								
	LIGHTING	POWER									
X	LIGHT FIXTURE TYPE AS INDICATED	Ф	WALL MOUNTED RECEPTACLE (15A-120V)								
ᇫ	WALL MOUNTED EXIT LIGHT SHADING INDICATES FACE	#	RECEPTACLE MTD. ABOVE COUNTER								
1991	CEILING MOUNTED EXIT LIGHT ARROWS DENOTE DIRECTION SHADING INDICATES FACE	-	PANEL AS INDICATED								
FRE	SINGLE OR TWIN EMERGENCY LIGHTING FIXTURE	짣	FUSED DISCONNECT								
\$	SINGLE POLE SWITCH	수	CLOCK AS PER SPECIFICATION								
OS	DIGITAL CEILING MOUNTED MOTION SENSOR		GENERAL								
XB	DIGITAL WALL STATION, 'X' DENOTES NUMBER OF CONTROL BUTTONS IN SINGLE GANG	ER	INDICATED EXISTING ITEM TO REMAIN								
DR	DIGITAL ROOM CONTROLLER	R	INDICATES EXISTING ITEM TO BE RELOCATED/IN RELOCATED POSITION								
	FIRE ALARM	×	NOTE INDICATOR								
=	HEAT DETECTOR (135 DEGREE RATE OF RISE AND FIXED TEMPERATURE)	⊗	MECHANICAL ITEM NO.								
⑤	SMOKE DETECTOR (RL=RELAY BASE)	COMMUNICATIONS									
		•	COMBINATION SINGLE VOICE/ SINGLE COMPUTER OUTLET UNLESS OTHERWISE NOTED C/W 1" (27mm) C TO HANGER SYSTEM IN NEAREST CORRIDOR CEILING SPACE.								
		V _{AP}	WIRELESS ACCESS POINT								

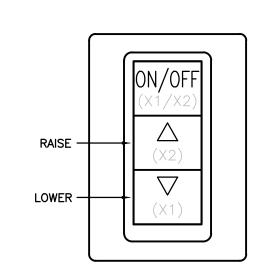
WALL MOUNTED SPEAKER (CS=COLUMN SPEAKER)

CEILING MOUNTED SPEAKER

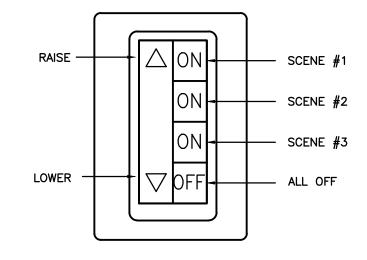
Space Type	Room Names	Control Sequence / Control Device(s):	Control System						
Offices	TYPICAL	Sequence: Lights turned on automatically via occupancy sensor. ADJUST: The occupant manually adjusts lighting within the room to desired level or preset in each group via wall dimmer. OFF: 5 minutes after the room has been vacated, the lights will automatically turn off.	DIGITAL ROOM CONTROL SYSTEM						
Library	TYPICAL	Sequence: ON: Lights turned on manually via wall station(s). ADJUST: The occupant manually adjusts lighting rows within the room to desired level or preset via dimmer station. OFF: 15 minutes after the room has been vacated, the lights will automatically turn off. OVERRIDE: User manually adjusts fixture zone lighting levels or on/off and that state shall remain without reverting to previous state unless sensors do not detect occupancy for extended period, whereby normal sensor operation is to resume.							
SYSTEM DESCRIF	PTIONS:		•						
DIGITAL ROOM CONTROL (DLM) SYS	STEM.	LINE VOLTAGE OCCUPANCY CONTROL SYSTEM							
DIGITAL ROOM CONTROL RELAY PO PLUG AND PLAY DIGITAL SENSORS CONTROL STATIONS.		LINE VOLTAGE WALL SENSOR SWITCHES AND LINE VOLTAGE POWER PACKS WITH HARD WIRED SENSORS. REFER TO SPECIFICATIONS SECTION 26 05 75.							



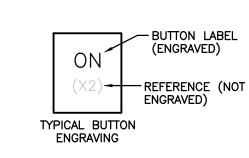




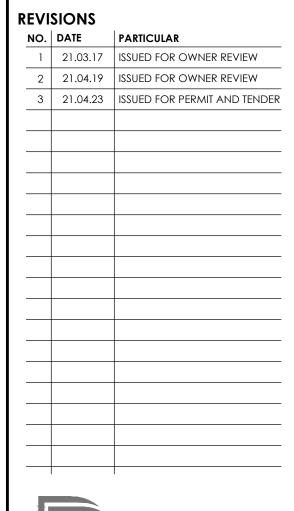
A1-OFFICE BUTTON CONFIGURATION SCALE: NTS



B1-LIBRARY BUTTON CONFIGURATION SCALE: NTS



- 1. REFER TO LIGHTING PLANS FOR GROUPINGS.
- 2. WALL STATION BUTTONS TO BE ENGRAVED WITH LABELS ACCORDING TO LEVEL AS NOTED. COORDINATE LABELS WITH SCHOOL BOARD REPRESENTATIVE. PROVIDE BUTTON ENGRAVING WORKSHEET WITH SHOP DRAWING SUBMISSION FOR REVIEW. WORKSHEETS TO BE COMPLETED FOR EACH CONTROL STATION GROUP. USE SINGLE MULTI-GANG FACEPLATE WITH P-TOUCH LABEL AS NOTED, FINISH PER SPECIFICATIONS.
- 3. REFER TO SPECIFICATIONS FOR INFORMATION REGARDING PROGRAMMING OF INPUT DEVICES AND DIGITAL WALL STATIONS PER ROOM TYPE.





55 Northland Road, Waterloo, ON N2V 1Y8 Phone: 519-725-3555 Fax: 519-725-2515 Website: deiassociates.ca Project Number: 20295

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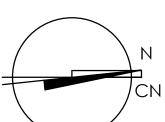
PROJECT: 22061 A/C UPGRADES AND WINDOW REPLACEMENTS

ST. JACOBS PUBLIC SCHOOL 72 QUEENSWAY DR.

ST. JACOBS, ON

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E1.0

CHECKED BY:



GENERAL DEMOLITION NOTES

- 'ER' DENOTES EXISTING ITEM TO REMAIN.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE. - 'R' INDICATES EXISTING ITEM TO BE RELOCATED. REFER TO RENOVATION DRAWINGS AND RELOCATE DEVICE AND WIRING TO SUIT. UNLESS OTHERWISE NOTED.
- 'D' INDICATES EXISTING ITEM TO BE DELETED. UNLESS OTHERWISE NOTED DISCONNECT AND REMOVE NOTED DEVICE AND WIRING BACK TO SOURCE.
- ALL LIGHTING FIXTURES BEING RELOCATED SHALL BE CLEANED AND CHECKED PRIOR TO BEING REINSTALLED.

SPECIFIC DEMOLITION NOTES

- ALL ELECTRICAL DEVICES LOCATED WITHIN BORDERED AREA ON CEILING TO BE REMOVED FOR THE DEMOLITION OF CEILING TILES. ALL DEVICES AND WIRING TO BE REINSTALLED AFTER CEILING WORK IS COMPLETED. CEILING TILES NOT SHOWN.
- INDICATES MECHANICAL UNIT BEING REMOVED BY MECHANICAL DIVISION. THIS CONTRACTOR IS TO DISCONNECT AND REMOVE FEEDER BACK TO SOURCE. DISCONNECT AND REMOVE ALL CONTROL DEVICES. LABEL SOURCE BREAKER AS SPARE
- LIGHTING WITHIN AREA TO BE REMOVED. EXISTING LIGHTING CIRCUIT AND CONTROLS TO REMAIN FOR CONNECTION TO NEW FIXTURES AS SHOWN ON RENOVATION.
- INDICATES LIGHT FIXTURES AND CONTROLS TO BE REMOVED, EXISTING LIGHTING CIRCUIT TO REMAIN FOR CONNECTION TO NEW FIXTURES AND CONTROLS PER RENOVATION PLANS.

REV	SIONS	
NO.	DATE	PARTICULAR
1	21.03.17	ISSUED FOR OWNER REVIEW
2	21.04.19	ISSUED FOR OWNER REVIEW
3	21.04.23	ISSUED FOR PERMIT AND TENDE
-		
-		
-		
	1	



MECHANICAL | ELECTRICAL | AQUATIC

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Tender No. 7188-KP-21

PROJECT:

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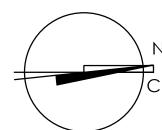
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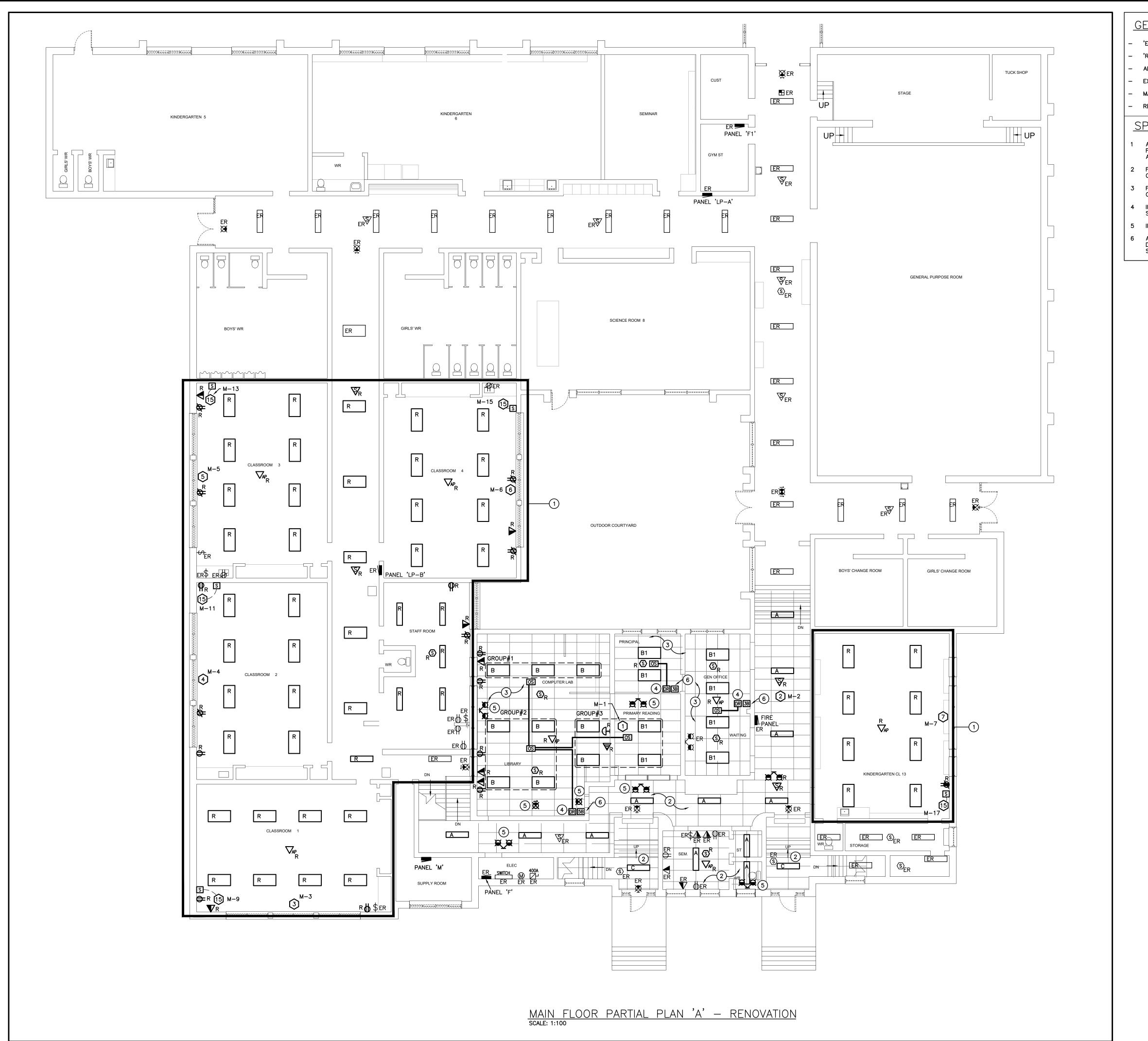
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GENERAL RENOVATION NOTES

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

SPECIFIC RENOVATION NOTES

- ALL ELECTRICAL DEVICES LOCATED WITHIN BORDERED AREA ON CEILING TO BE REMOVED FOR THE DEMOLITION OF CEILING TILES. ALL DEVICES AND WIRING TO BE REINSTALLED AFTER CEILING WORK IS COMPLETED. CEILING TILES NOT SHOWN.
- FIXTURES IN INDICATED AREA ARE TO BE CONNECTED TO EXISTING LIGHTING CIRCUIT AND CONTROLS.
- FIXTURES IN INDICATED AREA ARE TO BE CONNECTED TO EXISTING LIGHTING CIRCUIT AND CONTROLLED AS SHOWN.
- INDICATES POWER PACK(S)/ROOM CONTROLLER(S) INSTALLED WITHIN ACCESSIBLE CEILING SPACE FOR CONTROL OF NOTED OCCUPANCY SENSOR(S).
- INDICATED DEVICE IS TO BE CEILING MOUNTED. PROVIDE ADEQUATE SUPPORT.
- AT INDICATED LOCATION THIS CONTRACTOR IS TO USE EXISTING BACKBOX MADE AVAILABLE DURING DEMOLITION FOR INDICATED DEVICE(S). THIS CONTRACTOR IS TO PROVIDE SUITABLE STAINLESS STEEL COVERPLATE TO MATCH NEW DEVICE(S) AND EXISTING BACKBOX.

REVI	SIONS	
NO.	DATE	PARTICULAR
1	21.03.17	ISSUED FOR OWNER REVIEW
2	21.04.19	ISSUED FOR OWNER REVIEW
3	21.04.23	ISSUED FOR PERMIT AND TENDER



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OF CIVIDES AND THINDOW REFERENCE

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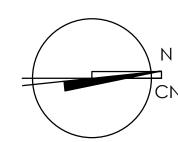
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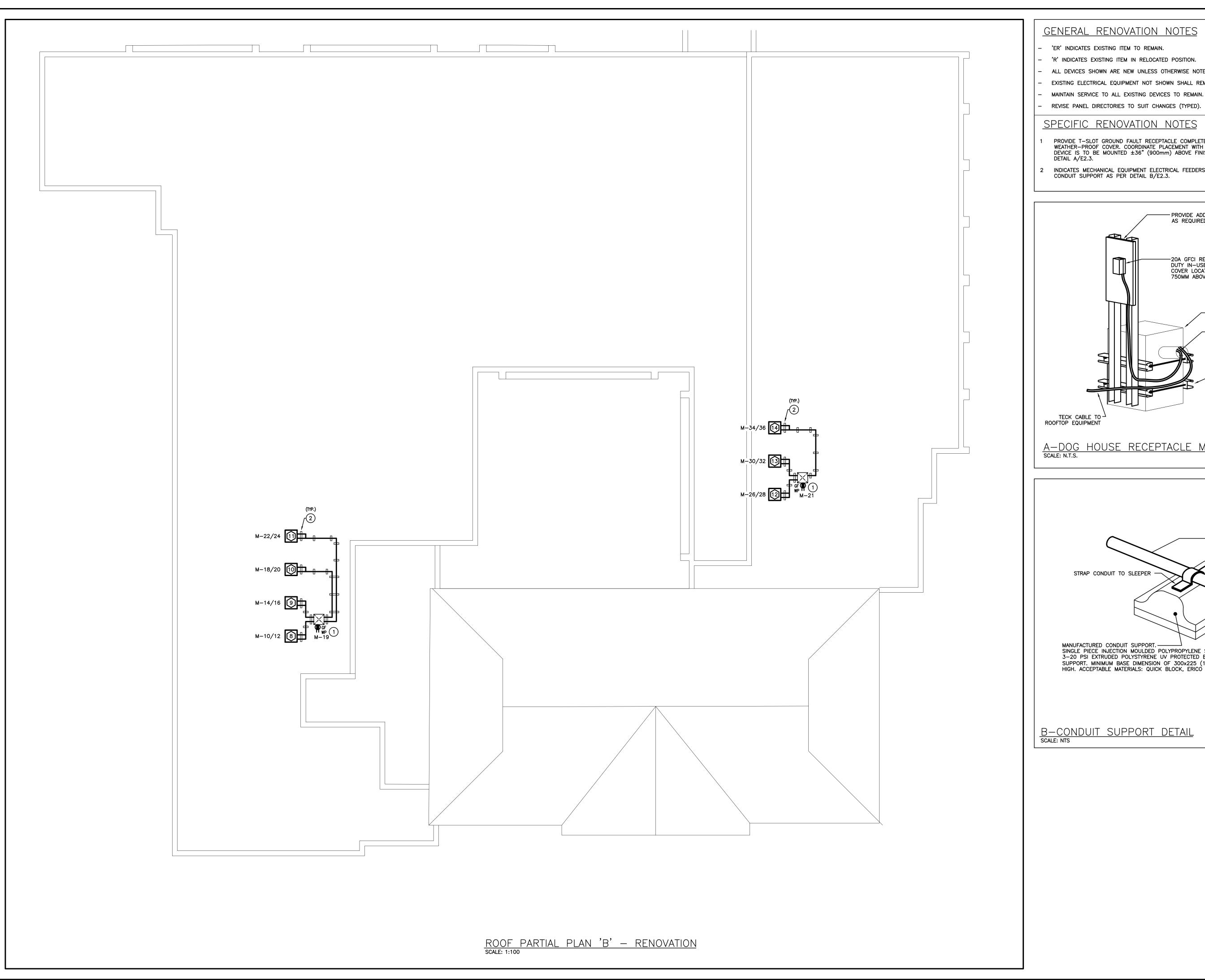
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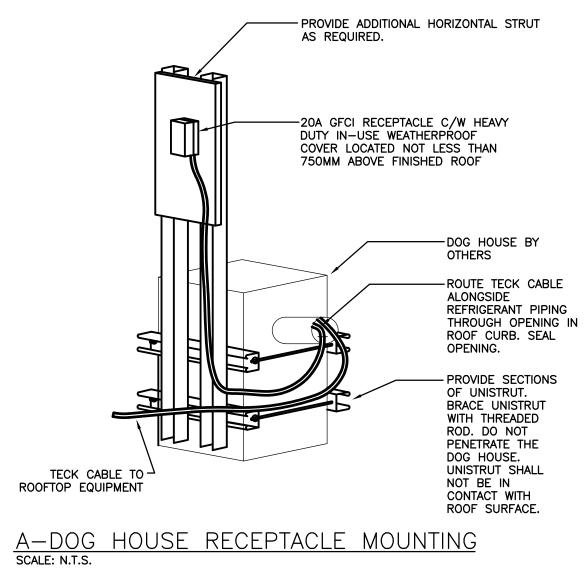


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- REVISE PANEL DIRECTORIES TO SUIT CHANGES (TYPED).

SPECIFIC RENOVATION NOTES

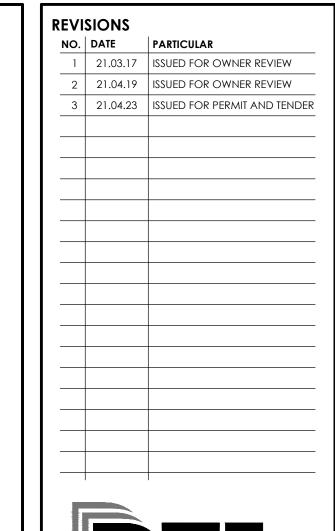
- PROVIDE T-SLOT GROUND FAULT RECEPTACLE COMPLETE WITH "HEAVY DUTY IN-USE" WEATHER-PROOF COVER. COORDINATE PLACEMENT WITH MECHANICAL TRADE. INDICATED DEVICE IS TO BE MOUNTED ±36" (900mm) ABOVE FINISHED ROOF LEVEL. REFER TO
- INDICATES MECHANICAL EQUIPMENT ELECTRICAL FEEDERS TO CONDENSING UNITS. PROVIDE CONDUIT SUPPORT AS PER DETAIL B/e2.3.



RIGID PVC CONDUIT C/W EXPANSION FITTINGS. STRAP CONDUIT TO SLEEPER MANUFACTURED CONDUIT SUPPORT.

SINGLE PIECE INJECTION MOULDED POLYPROPYLENE SUPPORT WITH TYPE 3-20 PSI EXTRUDED POLYSTYRENE UV PROTECTED BASE GLUED TO THE SUPPORT. MINIMUM BASE DIMENSION OF 300x225 (12"x9") x 140 mm (5.5") HIGH. ACCEPTABLE MATERIALS: QUICK BLOCK, ERICO

B-CONDUIT SUPPORT DETAIL SCALE: NTS





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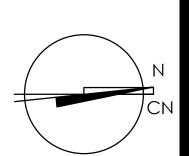
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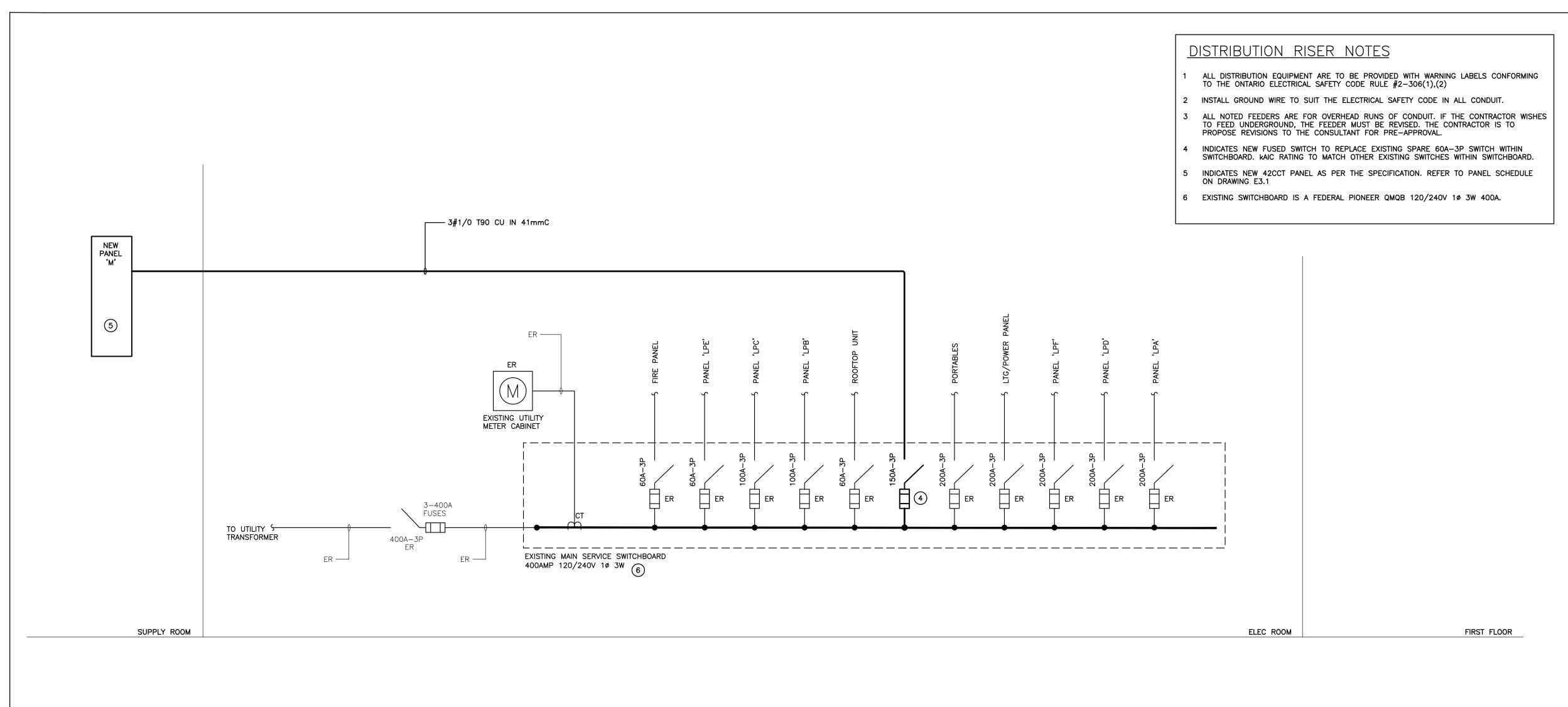
E2.2

PANEL 'M' VOLTAGE: 120/240 VOLTS PHASE: 1P, 3W MAINS: 225A NEUTRAL BUS: FULL	* INDICATES 33MA GROUND FAULT STYLE BREAKER THE CONTRACTOR IS TO COORDINATE ROOM NAMES AND NUMBERS NOTED WITH THE FINAL ROOM INFORMATION ISSUED DURING CONSTRUCTION AND ADJUST DIRECTORIES TO SUIT.
MOUNTING: SURFACE NOTES: C/W SPRINKLER HOOD	
1 UNIT VENTILATOR UV-5 3 UNIT VENTILATOR UV-7 15A 3 5 UNIT VENTILATOR UV-9 15A 5 7 UNIT VENTILATOR UV-9 15A 5 7 UNIT VENTILATOR UV-11 15A 7 15 CLASSROOM 1 EXH FAN 15A 9 15 CLASSROOM 2 EXH FAN 15A 11 15 CLASSROOM 3 EXH FAN 15A 15 15 KINDERGARTEN 13 EXH FAN 15A 15 ROOFTOP MAINTENANCE REC 20A 19 ROOFTOP MAINTENANCE REC 20A 21 X 15A 23 X 15A 25 X 15A 31 X 15A 33 X 15A 33 X 15A 33 X 15A 33 X 15A 39	2 15A UNIT VENTILATOR UV-6 2 4 0 15A UNIT VENTILATOR UV-8 4 6 15A UNIT VENTILATOR UV-10 6 8 20A ROOFTOP MAINTENANCE REC 10 45A CONDENSING UNIT CU-5 8 12 2P 14 45A CONDENSING UNIT CU-6 9 16 2P 18 30A CONDENSING UNIT CU-7 10 20 2P 22 30A CONDENSING UNIT CU-8 11 24 2P 26 30A CONDENSING UNIT CU-9 12 28 2P 30 30A CONDENSING UNIT CU-10 13 32 2P 34 30A CONDENSING UNIT CU-11 14 36 2P 38 15A X 40 15A X 40 15A X
	HAVE AN INTERRUPTING CAPACITY OF 11000 A. KERS OR INTEGRATED EQUIPMENT RATING WITH

PARTIAL DISTRIBUTION RISER DIAGRAM SCALE: NTS

ltem	Manufacturer/Catalog Number	Voltage	Lamp	Mounting	Description
A	LITHONIA CAT. #GTL-4-33L-EZ1-LP840 METALUX CAT. #14GR-LD5-32-F1-120V-L835-CD1-U C/W SK-14-WT	120V	LED 3300 LUMENS 4000K 28.4W	SURFACE	1X4 LED TROFFER C/W PATTERN 12 LENS AND WHITE FINISH. PROVIDE SURFACE MOUNTING KIT.
В	LITHONIA CAT. #2GTL-4-40L-MVOLT-EZ1-LP840 COOPER CAT. #24-GR-LD5-38-A125-UNV-L840-CD-1	120V	LED 4000 LUMENS 4000K 38.9W	RECESSED	2X4 (610mmX1220mm) LED TROFFER C/W PATTERN 12 LENS AND WHITE FINISH.
B1	LITHONIA CAT. #2GTL-4-30L-MVOLT-EZ1-LP840 COOPER CAT. #24-GR-LD5-30-A125-UNV-L840-CD-1	120V	LED 3000 LUMENS 4000K 23.3W	RECESSED	SIMILAR TO FIXTURE TYPE 'B' BUT WITH LOWER LUMEN PACKAGE.
C	COOPER CAT. #S122DR-S-485D840-8-40-ETG-4F0-1-U-DD-A-X MARK LIGHTING CAT. #SL4L-LOP-4FT-RLP-TG-80CRI-40K-400LMF-MIN1-120	120V	LED 400 LUM/FT 3000K 4.8W/FT	RECESSED	4' (1240mm) LINEAR RECESSED DIRECT FIXTURE C/W ASYM FLUSH OPTIC AND 0-10V DIMMING. FINISH TO SUIT ARCHITECT.
(SELF-	BEGHELLI QRRMSPLUMWOLR EMERGILITE CAT. #EAXWSP LUMACELL CAT. #LAXWS STANPRO CAT. #RMXLOWHIB AIMLITE CAT. #RPALUMWHTBAT READY—LITE CAT. #RA—W—SP—UDO	12V/120V	LED 2.5 WATT (MAX.)AC 2 WATT (MAX.)DC	SURFACE	LED EXTRUDED ALUMINUM PICTOGRAM FIXTURE C/W GREEN FACE AND WHITE LEGEND, UNIVERSAL MOUNTING TO SUIT WALL, END OR CEILING, MAXIMUM 63mm (2.5") THICKNESS AND 12V INTERNAL SEALED RECHARGABLE BATTERY PROVIDING MINIMUM 30 MINUTES OF EMERGENCY POWER
	BEGHELLI CAT. #SR-1QLED & SR-2QLED LUMACELL CAT. #MQM1LD7 & MQM2LD7 EMERGILITE CAT. #EF10LG & EF10DLG STANPRO CAT. #N112V4WLJ & N213V4WLJ AIMLITE CAT. #RMSM1124WLJWHT & RMSM2124WLJWHT READY-LITE CAT. #R-M-1-LD7 & R-M-2-LD7	12V	LED 4W MR16	SURFACE	LED FIXTURE C/W COMPACT DESIGN WITH VARIABLE LIGHT PATTERN, WHITE COLOUR AND 360° ROTATION.

	Description	scription Data					Data Starter					Control Device				Isolating Device					Re	emote	Iten	ns					Inte	rlock	Remarks
Electrical Item	Description	Provided by	Voltage	Size hp/kW/Amps Phase	Magnetic	Manual	Contactor	Combination	Variable Frequency Drive	Hand/Off/Auto	On/Off Selector	Start/Stop PB.	High/Low/Off	Pilot Light		WP Disconnect		Starter/Device Wired By	Thermostat	RA Thermostat	Time Clock	Var.Speed Cntrl	Motor Rated Sw. c/w Pilot Light	Dual Voltage Relay	Control Panel	Wired by	Bldg Auto System	Wired by	Interlock To	Interlock By	Description
1	UNIT VENTILATOR UV-5	М	120	6.3 MCA 1											E		Ε	E	М							М	М	М	8	М	LIBRARY
2	UNIT VENTILATOR UV-6	М	120	6.3 MCA 1											Ε		Е	E	М							М	м	М	9	М	ADMIN/GEN. OFFICE
3	UNIT VENTILATOR UV-7	М	120	6.3 MCA 1											E		Ε	E	М							М	м	М	10	М	CLASSROOM 1
4	UNIT VENTILATOR UV-8	М	120	6.3 MCA 1											E		Е	E	М							М	м	М	11	М	CLASSROOM 2
5	UNIT VENTILATOR UV-9	М	120	6.3 MCA 1											E		Ε	Ε	М							М	м	М	12	М	CLASSROOM 3
6	UNIT VENTILATOR UV-10	М	120	6.3 MCA 1											Ε		E	E	М							М	м	М	13	М	CLASSROOM 4
7	UNIT VENTILATOR UV-11	М	120	6.3 MCA 1											E		Ε	E	М							М	м	М	14	М	KINDERGARTEN CLASSROOM 13
8	CONDENSING UNIT	М	240	26.2 MCA 1												Е	E	Ε											1	М	LIBRARY
9	CONDENSING UNIT	М	240	26.2 MCA 1												Е	E	E											2	М	ADMIN/GEN. OFFICE
	CONDENSING UNIT	М	240	18.6 MCA 1												Е	E	Ε											3	М	
11	CONDENSING UNIT	М	240	18.6 MCA 1												Е	Е	E											4	М	
12	CONDENSING UNIT	М	0.40	18.6 MCA 1												Е	Е	E											5	М	
	CONDENSING UNIT		240	18.6 MCA 1												Е	Е	E											6	М	
	CONDENSING UNIT		0.40	18.6 MCA 1												Е	Е	E											7	М	
	EXHAUST FAN EF-101		120	FHP 1											Е		E	Ε					Ε			Ε					



REVISIONS NO. DATE PARTICULAR 1 21.03.17 ISSUED FOR OWNER REVIEW 2 21.04.19 ISSUED FOR OWNER REVIEW 3 21.04.23 ISSUED FOR PERMIT AND TENDER



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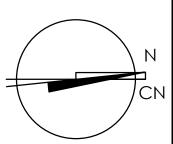
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E3.1

BASEMENT

ELECTRICAL SPECIFICATION

- .1 PROVIDE LABOUR MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE INSTALLATION WITH QUALITY WORKMANSHIP ACCEPTABLE TO THE OWNER, ARCHITECT AND CONSULTANT.
- .2 OBTAIN ALL PERMITS AND PAY ALL TAXES, FEES AND OTHER COSTS INCURRED WITH THIS WORK. FILE ALL PLANS. OBTAIN NECESSARY APPROVALS, CERTIFICATES AND INSPECTIONS. SUBMIT ALL FINAL CERTIFICATES TO THE CONSULTANT.
- .3 COMPLY WITH RULES AND RECOMMENDATIONS OF THE BOARD OF UNDERWRITERS, ELECTRICAL SAFETY AUTHORITY, THE CANADIAN STANDARDS ASSOCIATION AND ALL REQUIREMENTS OF THE LOCAL UTILITY.
- .4 VISIT THE SITE BEFORE SUBMITTING TENDERS TO EVALUATE ANY SITE CONDITIONS THAT MIGHT ARISE. INCLUDE ALL SITE CONDITIONS IN TENDER, EXTRAS WILL NOT BE ACCEPTED UNLESS BELIEVED TO BE REASONABLE BY THE OWNER AND
- .5 CUTTING AND PATCHING SHALL BE BY THE CONTRACTOR REQUIRING TO INSTALL THE SERVICE.
- .6 THE DRAWINGS ARE DIAGRAMMATIC, THE SERVICES SHALL BE INSTALLED TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF THE SPACES THROUGH WHICH THEY PASS.
- .7 SUBMIT COPIES OF SHOP DRAWINGS AS 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 SHALL BE CAPPED TO ENSURE SERVICES ARE KEPT CLEAN WHEN NOT IN USE.
- .9 MAINTAIN INSURANCE TO FULLY PROTECT THE CONTRACTOR, OWNER AND CONSULTANT FROM ANY AND ALL CLAIMS SUCH AS UNDER THE WORKMEN'S COMPENSATION ACT, ETC. POST PROJECT NOTIFICATION AT THE SITE IN ACCORDANCE WITH THE MINISTRY
- .10 PROVIDE STRUCTURAL SUPPORTS, PLATFORMS, SUPPORTING RODS, HANGERS, INSERTS AND BRACKETS FOR EQUIPMENT AND SERVICES. DO NOT SUPPORT SERVICES FROM STEEL DECK.
- .11 INSTRUCT THE OWNER'S STAFF IN THE CARE, MAINTENANCE AND OPERATION OF THE SYSTEMS.
- .12 WARRANTY ALL LABOUR, MATERIAL AND EQUIPMENT FOR A PERIOD OF ONE (1) YEAR 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
- WALL RECEPTACLES:
- GENERAL: 400mm (16")
- ABOVE TOP OF COUNTERS: 100mm (4")
 IN MECHANICAL/ELECTRICAL ROOMS: 1100mm (44") (GANG WITH SWITCH). PANEL BOARDS: 1400mm (4'-8") OR AS REQUIRED BY CODE.

SWITCHES, DIMMERS AND SPEED CONTROLLERS: 1100mm (44")

- TELEPHONE OUTLETS: 400mm (16") VOICE/DATA OUTLETS: 400mm (16")
- FIRE ALARM STATIONS: 1200mm (48")
- FIRE ALARM SIGNAL DEVICES: 2250mm (7'-6") FIRE ALARM STROBES: 2250mm (7'-6")
- THERMOSTAT: 1200mm (44")
- SECURITY SYSTEM MOTION DETECTORS: 300mm (12") BELOW FINISHED CEILING OR CEILING MOUNTED AS DIRECTED BY **MANUFACTURER** SECURITY SYSTEM KEY SWITCHES: 1100mm (44")
- .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 EXCAVATION AND BACKFILLING SHALL BE BY THE TRADE INSTALLING THE SERVICE.
- .19 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.
- .20 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 OPERATING AND MAINTENANCE MANUALS.
- .21 CONTRACTOR SHALL PROVIDE RED LINE RECORD DRAWINGS OF 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.
- .22 THE CONTRACTOR IS TO DETERMINE GENERAL INSPECTION FEES WITH THE ELECTRICAL SAFETY AUTHORITY AND INCLUDE AS PART
- .23 A SUBMISSION HAS BEEN MADE (IF REQUIRED BY THIS SCOPE OF PROJECT) BY THE CONSULTANT TO THE ELECTRICAL SAFETY AUTHORITY FOR REVIEW OF THIS PROJECT. THE PAYMENT OF THE REQUIRED REVIEW COSTS WILL BE COORDINATED BY THE CONSULTANT. A COPY OF THE ELECTRICAL SAFETY AUTHORITY REVIEW REPORT WILL BE FORWARDED TO THE SUCCESSFUL CONTRACTOR FOR INFORMATION AND ACTION.

PANEL BOARDS

- .1 PANEL BOARDS MUST CONFORM TO CSA C22.2 NO. 29 (LATEST EDITION).
- .2 IN ADDITION TO CSA REQUIREMENTS MANUFACTURER'S NAMEPLATE MUST SHOW FAULT CURRENT THAT PANEL INCLUDING BREAKERS HAS BEEN BUILT TO WITHSTAND. SERIES RATING IS ACCEPTABLE-SUBMIT INFORMATION WITH SHOP DRAWINGS.
- .3 BUS AND BREAKERS/SWITCHES MUST BE RATED FOR 10KA (SYMMETRICAL) INTERRUPTING CAPACITY OR AS INDICATED.
- .4 SEQUENCE PHASE BUSSING WITH ODD NUMBERED BREAKERS ON LEFT AND EVEN ON RIGHT, WITH EACH BREAKER IDENTIFIED BY PERMANENT NUMBER IDENTIFICATION AS TO CIRCUIT NUMBER AND PHASE.
- .5 PANEL BOARD MAINS, NUMBER OF CIRCUITS, AND NUMBER AND SIZE OF BRANCH CIRCUIT AS INDICATED.
- .6 TWO KEYS FOR EACH PANEL BOARD AND KEY PANEL BOARDS ALIKE.
- .7 ALUMINUM BUS WITH NEUTRAL OF SAME AMPERE RATING AS MAINS.
- .8 MAINS MUST BE SUITABLE FOR BOLT-ON BREAKERS. PROVIDE MAIN (IF APPLICABLE) AND BRANCH BREAKERS AS BOLT-ON
- .9 TRIM AND DOOR FINISH MUST BE BAKED GRAY ENAMEL.
- .10 BREAKERS WITH THERMAL AND MAGNETIC TRIPPING IN PANEL BOARD EXCEPT AS INDICATED OTHERWISE.
- .11 PROVIDE NAMEPLATE FOR EACH PANEL BOARD WITH ENGRAVED DESCRIPTION AS INDICATED.
- .12 FOR EACH NEW AND EXISTING PANEL PROVIDE COMPLETE CIRCUIT DIRECTORY WITH TYPEWRITTEN LEGEND SHOWING LOCATION OF EACH CIRCUIT.
- .13 LOCATE PANEL BOARDS AS INDICATED AND MOUNT SECURELY, PLUMB, TRUE AND SQUARE, TO ADJOINING SURFACES.
- .14 INSTALL SURFACE MOUNTED PANEL BOARDS ON PLYWOOD BACKBOARDS. WHERE PRACTICAL, GROUP PANEL BOARDS ON COMMON BACKBOARD.
- .15 CONNECT LOADS TO CIRCUITS.
- .16 CONNECT NEUTRAL CONDUCTORS TO COMMON NEUTRAL BUS.
- .17 BRANCH CIRCUIT PANEL BOARDS MUST BE ONE OF THE FOLLOWING: CUTLER HAMMER CAT. #POW-R-LINE-C PRL-1 OR PRL-2
- SCHNEIDER ELECTRIC CAT. #NQOD SERIES SIEMENS CAT. #SENTRON PT SERIES
- .18 POWER DISTRIBUTION CIRCUIT BREAKER PANEL BOARDS MUST BE ONE OF THE FOLLOWING: CUTLER HAMMER CAT. #POW-R-LINE-C PRL-3A OR PLR-4A
- SCHNEIDER ELECTRIC CAT. #CDP OR I-LINE SERIES SIEMENS CAT. #P2 SERIES
- .19 BRANCH CIRCUIT PANELBOARDS INDICATED TO BE COMPLETE WITH A TRANSIENT VOLTAGE SURGE SUPPRESSION FILTERING SYSTEM INTEGRAL TO THE PANEL TUB MUST BE ONE OF THE FOLLOWING:
- CUTLER HAMMER CAT. #CPSBXCH208YSD SCHNEIDER ELECTRIC CAT. #SURGEGUARD NOOD SERIES SIEMENS CAT. #SENTRON P1 TVSS SERIES
- .20 ALL REDUNDANT BREAKERS ARE TO REMAIN AND BE RE-LABELED AS "SPARE".
- .21 EXISTING PANELS MUST BE REVIEWED FOR LOOSE AND/OR FAULTY BREAKERS AND WIRING. ALL REQUIRED MODIFICATIONS MUST BE PERFORMED TO CORRECT ANY UNCOVERED PROBLEMS.

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"
- .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.

PINK

- .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.
- DATA SYSTEM ORANGE PUBLIC ADDRESS BLACK FIRE ALARM

EMERGENCY LIGHTING

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

- .1 THIS CONTRACTOR MUST SUBMIT A BREAKDOWN OF THE TENDER PRICE INTO CLASSIFICATIONS TO THE SATISFACTION OF THE CONSULTANT, WITH THE AGGREGATE OF THE BREAKDOWN TOTALING THE TOTAL CONTRACT AMOUNT. EACH ITEM MUST BE BROKEN OUT INTO MATERIAL AND LABOUR COSTS. PROGRESS CLAIMS, WHEN SUBMITTED ARE TO BE ITEMIZED AGAINST EACH ITEM OF THE DRAW BREAKDOWN. THIS SHALL BE DONE IN TABLE FORM SHOWING CONTRACT AMOUNT, AMOUNT THIS DRAW, TOTAL TO DATE, % COMPLETE AND BALANCE.
- .2 BREAKDOWN SHALL BE AS FOLLOWS: PERMITS AND FEES
- MOBILIZATION (MAXIMUM 1%) DEMOLITION
- PANELBOARDS AND MISCELLANEOUS DISTRIBUTION EQUIPMENT
- FEEDER CONDUITS BRANCH CONDUITS
- FEEDER CABLES BRANCH WIRING
- LIGHTING FIXTURES .10 FIRE ALARM SYSTEM
- .11 STARTERS, CONTACTORS, AND CONTROL DEVICES .12 WIRING FOR MECHANICAL EQUIPMENT
- .13 CASH ALLOWANCES (ITEMIZED) .14 COMMISSIONING (MINIMUM 3%)
- .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.

SHOP DRAWINGS AND PRODUCT DATA

CONTRACTOR.

- .1 FURNISH COMPLETE CATALOG DATA FOR MANUFACTURED ITEMS OF EQUIPMENT TO BE USED IN THE WORK TO CONSULTANT FOR REVIEW WITHIN 30 DAYS AFTER AWARD OF CONTRACT.
- IF MATERIAL OR EQUIPMENT IS NOT AS SPECIFIED OR SUBMITTAL IS NOT COMPLETE, IT WILL BE REJECTED BY CONSULTANT. ADDITIONAL SHOP DRAWINGS REQUIRED BY THE CONTRACTOR FOR MAINTENANCE MANUALS, SITE COPIES ETC., SHALL BE PHOTOCOPIES OF THE "REVIEWED" SHOP DRAWINGS. ALL COSTS TO PROVIDE ADDITIONAL COPIES OF SHOP DRAWINGS SHALL BE BORNE BY THE
- .4 PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. .5 CATALOG DATA OR SHOP DRAWINGS FOR EQUIPMENT, WHICH ARE NOTED AS BEING REVIEWED BY CONSULTANT OR HIS ENGINEER SHALL NOT SUPERSEDE CONTRACT DOCUMENTS.
- .6 REVIEW COMMENTS OF CONSULTANT SHALL NOT RELIEVE THIS DIVISION FROM RESPONSIBILITY FOR DEVIATIONS FROM CONTRACT DOCUMENTS UNLESS CONSULTANT'S ATTENTION HAS BEEN CALLED TO SUCH DEVIATIONS IN WRITING AT TIME OF SUBMISSION, NOR
- SHALL THEY RELIEVE THIS DIVISION FROM RESPONSIBILITY FOR ERRORS IN ITEMS SUBMITTED. .7 CHECK WORK DESCRIBED BY CATALOG DATA WITH CONTRACT DOCUMENTS FOR DEVIATIONS AND ERRORS.
- .8 SHOP DRAWINGS AND PRODUCT DATA SHALL SHOW: MOUNTING ARRANGEMENTS.
- OPERATING AND MAINTENANCE CLEARANCES. E.G. ACCESS DOOR SWING SPACES. .9 SHOP DRAWINGS AND PRODUCT DATA SHALL BE ACCOMPANIED BY:
- DETAILED DRAWINGS OF BASES, SUPPORTS, AND ANCHOR BOLTS. MANUFACTURER TEST DATA WHERE REQUESTED.
- MANUFACTURER TO CERTIFY AS TO CURRENT MODEL PRODUCTION.
- CERTIFICATION OF COMPLIANCE TO APPLICABLE CODES. .10 STATE SIZES, CAPACITIES, BRAND NAMES, MOTOR HP, ACCESSORIES, MATERIALS, GAUGES, DIMENSIONS, AND OTHER PERTINENT
- INFORMATION. LIST ON CATALOG COVERS PAGE NUMBERS OF SUBMITTED ITEMS. UNDERLINE APPLICABLE DATA. .11 ONCE THESE SHOP DRAWINGS ARE RETURNED "REVIEWED" OR "REVIEWED AS NOTED" FABRICATION, PRODUCTION, AND INSTALLATION MAY COMMENCE. NOTE: IF A SHOP DRAWING IS RETURNED "REVIEWED AS NOTED" THIS CONTRACTOR MUST PROVIDE WRITTEN INDICATION THAT THE COMMENTS HAVE BEEN COMPLIED WITH.
- .12 A PARTIAL LIST OF SHOP DRAWINGS INCLUDES:
- PANELBOARDS FIRE ALARM SYSTEM
- LUMINAIRES EMERGENCY BATTERY UNITS AND FIXTURES
- STARTERS, CONTACTORS, AND CONTROL DEVICES FIRESTOPPING MATERIALS
- WIRING DEVICES

.8 OCCUPANCY SENSORS

- <u>FIRESTOPPING</u> .1 FIRESTOPPING MATERIAL AND INSTALLATION WITHIN ANNULAR SPACE BETWEEN CONDUITS, DUCTS, AND ADJACENT FIRE SEPARATION.
- .2 PROVIDE MATERIALS AND SYSTEMS CAPABLE OF MAINTAINING EFFECTIVE BARRIER AGAINST FLAME, SMOKE, AND GASES.
- .3 COMPLY WITH THE REQUIREMENTS OF CAN4-S115-M35, AND DO NOT EXCEED OPENING SIZED FOR WHICH THEY HAVE BEEN TESTED.
- .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 "FIREWRAP" BLANKET AROUND SERVICES PENETRATING FIREWALLS.
- .5 EXTENT OF BLANKET MUST CORRESPOND TO ULC RECOMMENDATIONS. IN GENERAL WRAP INDIVIDUAL CONDUITS WITH APPROVED FIREWRAP MATERIALS ON EACH SIDE OF FIREWALL, REFER TO ARCHITECTURAL DRAWINGS FOR FT RATINGS. PROVIDE 1 AND/OR 2 LAYERS OF FIREWRAP WITH TRANSVERSE AND LONGITUDINAL SEAMS OVERLAPPED AND/OR BUTTED (SECOND LAYER OFFSET FROM FIRST LAYER). CUT EDGES ARE TO BE SEALED WITH ALUMINUM FOIL TAPE. PROVIDE 50 MM STAINLESS STÈEL BANDING AT 200 MM INTERVALS. INSTALL FIREWRAP TO MANUFACTURERS' RECOMMENDATIONS FOR PROPER FT RATING. ACCEPTABLE MANUFACTURERS ARE 3M FIREMASTER DUCTWRAP OR APPROVED EQUAL.
- .6 THE FIRESTOPPING MATERIALS ARE NOT TO SHRINK, SLUMP OR SAG AND BE FREE OF ASBESTOS, HALOGENS AND VOLATILE SOLVENTS.
- .7 FIRESTOPPING MATERIALS ARE TO CONSIST OF A COMPONENT SEALANT APPLIED WITH A CONVENTIONAL CAULKING GUN AND TROWEL.
- .8 FIRESTOP MATERIALS ARE TO BE CAPABLE OF RECEIVING FINISH MATERIALS IN THOSE AREAS, WHICH ARE EXPOSED AND SCHEDULED TO RECEIVE FINISHES.
- .9 FIRESTOPPING SHALL BE INSPECTED AND APPROVED BY LOCAL AUTHORITY PRIOR TO CONCEALMENT OR ENCLOSURE.
- .10 INSTALL MATERIAL AND COMPONENTS IN ACCORDANCE WITH ULC CERTIFICATION, MANUFACTURERS INSTRUCTIONS AND LOCAL AUTHORITY.

.11 SUBMIT PRODUCT LITERATURE AND INSTALLATION MATERIAL ON FIRESTOPPING IN SHOP DRAWING AND PRODUCT DATA MANUAL.

- .12 ACCEPTABLE MANUFACTURERS:
- FYREESLEEVE INDUSTRIES INC. GENERAL ELECTRIC PENSIL FIRESTOP SYSTEMS INTERNATIONAL PROTECTIVE COATINGS CORP. RECTORSEAL CORPORATION (METACAULK)
- PROSET SYSTEMS

ROYAL

- AD SYSTEMS HILTI
- 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.
- .13 ENSURE FIRESTOP MANUFACTURER REPRESENTATIVE PERFORMS ON SITE INSPECTIONS AND CERTIFIES INSTALLATION. SUBMIT INSPECTION REPORTS/CERTIFICATION AT TIME OF SUBSTANTIAL COMPLETION.

WIRING DEVICES

- .1 GENERAL PURPOSE AC SWITCHES MUST CONFORM TO CSA C22.2 NO. 111 (LATEST EDITION)
- .2 INSTALL SINGLE THROW SWITCHES WITH HANDLE IN "UP" POSITION WHEN SWITCH IS CLOSED.
- .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 INSTALL DEVICES IN GANG TYPE OUTLET BOX WHEN MORE THAN ONE DEVICE IS REQUIRED IN ONE LOCATION.

THICKNESS 2.5mm, COVER PLATES FOR WIRING DEVICES MOUNTED IN FLUSH-MOUNTED OUTLET BOXES.

- .6 SHEET STEEL UTILITY BOX COVER FOR WIRING DEVICES INSTALLED IN SURFACE MOUNTED UTILITY BOXES.
- .7 STAINLESS STEEL, VERTICALLY BRUSHED, 1mm THICK OR THERMOPLASTIC CONSTRUCTION, COLOUR TO MATCH WIRING DEVICES,
- .8 SHEET METAL COVER PLATES FOR WIRING DEVICES MOUNTED IN SURFACE—MOUNTED FS OR FD TYPE CONDUIT BOXES.
- .9 WEATHERPROOF "HEAVY DUTY IN USE" COVER PLATES, COMPLETE WITH GASKETS FOR DUPLEX RECEPTACLES AS INDICATED.
- .10 PROTECT STAINLESS STEEL COVER PLATE FINISH WITH PAPER OR PLASTIC FILM UNTIL PAINTING AND OTHER WORK IS FINISHED. .11 INSTALL SUITABLE COMMON COVER PLATES WHERE WIRING DEVICES ARE GROUPED.

FIRE ALARM SYSTEMS

- INSTALLATION OF FIRE ALARM DEVICES MUST CONFORM TO ULC-S524 (LATEST EDITION). (CHUBB EDWARDS FIRESHIELD PLUS WITHIN EAST CORRIDOR)
- .2 ALL WIRING MUST BE COLOUR CODED, SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND CONFORM TO THE LATEST EDITION OF THE ELECTRICAL SAFETY CODE.
- .3 ALL NEW FIRE ALARM DETECTION AND SIGNALING DEVICES ADDED DUE TO RENOVATIONS AND ADDITIONS SHALL BE CONNECTED TO
- EXISTING LOCAL ZONE OR NEW ZONE AS INDICATED. .4 ONCE INSTALLATION IS COMPLETE THE MANUFACTURER'S REPRESENTATIVE MUST MAKE AN INSPECTION OF THE DEVICES INSTALLED.
- .6 ALL COSTS ASSOCIATED WITH THIS INSPECTION BY THE CONTRACTOR AND MANUFACTURER MUST BE CARRIED IN THE TENDER

.5 THIS TEST MUST CONFORM TO THE ONTARIO BUILDING CODE AND THE LATEST EDITION OF ULC CAN4-S537.

.7 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)

NO. DATE PARTICULAR 21.03.17 ISSUED FOR OWNER REVIEW 2 21.04.19 ISSUED FOR OWNER REVIEW 3 | 21.04.23 | ISSUED FOR PERMIT AND TENDER

REVISIONS



5 Northland Road, Waterloo, ON N2V 1Y8 Phone: 519-725-3555 Fax: 519-725-2515 Website: deiassociates.ca Project Number: 20295

errors and discrepancies to the Consultant before commencement of the work. The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work. The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions. Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant. Do not scale this drawing. © 2021 DEI & Associates Inc

The contractor shall verify all dimensions and report all

WATERLOO REGION DISTRICT SCHOOL BOARD

ST. JACOBS, ON

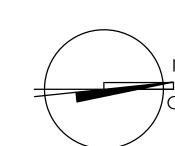
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Tender No. 7188-KP-21 PROJECT: 22061 A/C UPGRADES AND WINDOW REPLACEMENTS

ST. JACOBS PUBLIC SCHOOL 72 QUEENSWAY DR.

ORIGINAL PAGE SIZE ARCH D - 24" x 36" KEY TO DETAIL LOCATION: A - DETAIL NO.
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