

ELECTRICAL LEGEND	
ITEM	DESCRIPTION
	LED LIGHT FIXTURE TYPE AS INDICATED
	LED STRIP LIGHT OR STRIP LIGHT C/W WIREGUARD TYPE AS INDICATED
	DOWN LIGHT FIXTURE SHADED INDICATES UNSWITCHED LIGHT
	EXTERIOR WALL MOUNTED LIGHT FIXTURE
	EMERGENCY LIGHTING UNIT C/W INTEGRAL HEADS AND EXIT LIGHT
	REMOTE HEADS
	WALL SWITCH
	CEILING MOUNTED PIR OCCUPANCY SENSOR
	15 AMP, 125 VOLT DUPLEX AND QUAD RECEPTACLE 5-15R, STANDARD MOUNTING HEIGHT
	20 AMP, 125 VOLT DUPLEX RECEPTACLE 5-20R, HIGH MOUNTED AS SHOWN
	DISCONNECT SWITCH
	MAGNETIC MOTOR STARTER
	SINGLE PHASE MOTOR, hp AS INDICATED
	DUCT SMOKE DETECTOR
	MANUAL FIRE ALARM PULL STATION
	FIRE ALARM HORN STROBE LIGHT
GFI	INDICATES "GROUND FAULT INTERRUPTER"
R	ATTRIBUTE 'R' INDICATES ELECTRICAL EQUIPMENT TO BE REMOVED
RL	ATTRIBUTE 'RL' INDICATES RELOCATED ELECTRICAL EQUIPMENT
WG	ATTRIBUTE 'WG' INDICATES EQUIPMENT WITH WIRE GUARD
WP	ATTRIBUTE 'WP' INDICATES WEATHERPROOF
	FORCE FLOW HEATER
	JUNCTION BOX
	PANELBOARD "FACP" INDICATES FIRE ALARM CONTROL PANEL
	CONTROL RELAY
	DOOR CONTACT
	UNLESS OTHERWISE NOTED, ALL ELECTRICAL EQUIPMENT & DEVICES SHOWN IN THICK DASHED LINES IS EXISTING TO BE REMOVED. ATTRIBUTE 'RL' INDICATES EQUIPMENT TO BE RELOCATED. ATTRIBUTE 'RW' INDICATES EQUIPMENT TO BE REWired.
	UNLESS OTHERWISE NOTED, ALL ELECTRICAL EQUIPMENT & DEVICES SHOWN IN THIN SOLID LINES IS EXISTING TO REMAIN.
	UNLESS OTHERWISE NOTED, ALL ELECTRICAL EQUIPMENT & DEVICES SHOWN IN THICK SOLID LINES IS NEW, PROVIDED OR RELOCATED UNDER THIS CONTRACT.

MECHANICAL EQUIPMENT and MOTOR LIST															
UNIT No.	UNIT DESCRIPTION	LOCATION	VOLTS/PH/Hz	LOAD	PROTECTION	STARTER				PILOT DEVICE				NOTES	
						TYPE	SUPPLIED	INSTALLED	WIRED	DISCONNECT	TYPE	SUPPLIED	INSTALLED		WIRED
AH-3	AIR HANDLING UNIT	DRESSING ROOM 5	208 3 60		15 MOCPP	PCS	M	M	E	E	I	M	M	E	INTERLOCKED W/ EF-9. (NOTE 6)
FFH-1	FORCED FLOW HEATER	VESTIBULE	208 1 60		30A	-	-	-	-	DC	T	M	M	E	SEE NOTE 5.0
EF-8	EXHAUST FAN	NEW WRM	120 1 60	FRAC.	15A	MG	E	E	E	T,J	WS	E	E	E	

ABBREVIATIONS:
M = Mechanical Div 15
E = Electrical Div 16
DC = Direct Connection to Equipment - By Electrical Contractor Div 16
BAS = Building Automation System
FCCF = Firefighters Central Control Facility
CP = Control Panel
MG = Magnetic starter (HOA) hand off auto switch
MG2 = Mag starter 2 speed (SFOA) slow fast off auto
MS = Manual Starter
MRR = Motor rated relay 24 vac coil and MS
PCS = Packaged Control System
VSD = Variable speed drive

PILOT DEVICES:
BA = Building Autom. Sys. (DDC)
ES = End Switch
LT = Line Voltage Thermostat
FS = Flow Switch
GS = Gas Sensor
H = Humidity sensor
I = Interlock
LS = Level Switch
PS = Pressure Switch
TC = Time Clock
T = Thermostat or space sensor (Line Voltage T-Start)
T-LV = Thermostat or space sensor (Low Voltage)
TS = Tamper Switch
VS = Variable speed switch
WS = Wall Switch
CS = Current Sensor
RA = Relay

GENERAL NOTES
1. Single speed magnetic starters to be with H/O/A position switch, pilot lfe and 120 VAC control circuit
2. A terminal section shall be provided with all MCC's & wired in accordance with standard detail drawing
3. Motors 1/2 HP or larger shall have magnetic starters.
4. Control Panels are shipped loose and require field wiring by Div 16.
5. All fire alarm devices wired by Div. 16.
6. PCS equipment requires a single source electrical power connection. Any interlock wiring is by Div. 15.
7. CP, VSD equipment requires power wiring to and from the control panel to the controlled equipment. Div 15 to wire all low voltage pilot devices.
8. All starters to be wired by Div 16.
9. Div 16 to supply and install disconnect switch.
If the disconnect column indicates 'M', then it is a package unit c/w a disconnect switch, wired by Div 16.

NOTES:
1.0 MINIMUM #10 AWG WIRING FOR MECHANICAL AND EQUIPMENT CONNECTION.
2.0 TRANSITION TO TECK 90 CABLE FOR WIRING EXPOSED TO WEATHER PROVIDE SUPPORTS AS REQUIRED.
3.0 USE 2#12 AWG WIRING IN 16MM CONDUIT FOR MOTORIZED DAMPER AND MECHANICAL EQUIPMENT INTERLOCK CONNECTION.
4.0 CONTROL TRANSFORMER AND ALL LOW VOLTAGE WIRING BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120V POWER TO JB.
5.0 CONTROLLED BY LINE VOLTAGE T-START PROVIDED BY MECHANICAL CONTRACTOR. POWER SUPPLY WIRING AND LINE VOLTAGE CONNECTION TO HEATER BY ELECTRICAL CONTRACTOR.
6.0 CONTROLLED BY CONTROL PANEL PROVIDED BY MECHANICAL CONTRACTOR. POWER SUPPLY WIRING AND LINE VOLTAGE CONNECTION BY ELECTRICAL CONTRACTOR.

1 Mechanical Equipment Schedule
E1.0 SCALE: NTS

208/120 VOLTS, 3-PHASE, 4-WIRE, 42 CIRCUITS -										225A		AMPS			
CCT	BKR A.	POLES	LOAD DESCRIPTION	CON. V.A.	DF	DEM. V.A.	DEM. V.A.	DF	CON. V.A.	LOAD DESCRIPTION	POLES	BKR A.	CCT	POLES	CCT
1	15	1	EF-1	200	1.0	200	A								
3	15	1	EF-2	200	1.0	200	B								
5	15	1	REC. 204	400	1.0	400	D								
7	15	1	REC. 216	400	1.0	400	A								
9	15	1	REC. 216	1200	1.0	1200	B								
11			MAGNETIC DOOR HOLDERS	1.0			C								
13				1.0			A	300	1.0	300	EF-7			1	15
15				1.0			B	1000	1.0	1000	WH-1			2	15
17				1.0			C	1000	1.0	1000	WH-1			2	15
19				1.0			A	1000	1.0	1000	WH-2			2	15
21	15	1	NEW DRESSING RM 119 - RECP	1200	1.0	1200	B								
23	15	1	NEW EXTERIOR RECP	1200	1.0	1200	C								
25				1.0			A	1200	1.0	1200	EF-9			1	15
27	20	1	NEW WRM 120 RECP	1200	1.0	1200	B								
29				1.0			C	2883	1.0	2883	AH-3			3	15
31				1.0			A								
33				1.0			B	4211	1.0	4211	FFH-1			2	30
35				1.0			C								
37	15	1	SCOREBOARD	1.0			A	1.0							
39	15	1	SCOREBOARD	1.0			B	1.0							
41	15	1	EXIT+EMERG LGT	1.0			C	600	1.0	600	HEATRACE			1	15
			SUB TOTALS												
TOTAL CONNECTED LOAD				VA											
TOTAL DEMAND LOAD				VA											
CONNECTED LOAD				AMPS											
DEMAND LOAD				AMPS											
MAIN BREAKER SIZE				14 KA											
AMPERE RATING OF PANELBOARD				225 AMPS											
SHORT CIRCUIT RATING				14 KA											
ISOLATED GROUND BUS?				N / Y / N ?											

PANEL D
208/120VOLTS

2 Revised Panel D
E1.0 SCALE: NTS

277/480 VOLTS, 3-PHASE, 4-WIRE, 42 CIRCUITS -										225A		AMPS			
CCT	BKR A.	POLES	LOAD DESCRIPTION	CON. V.A.	DF	DEM. V.A.	DEM. V.A.	DF	CON. V.A.	LOAD DESCRIPTION	POLES	BKR A.	CCT	POLES	CCT
1	15	1	EXISTING LOAD	1.0			A	1.0		EXISTING LOAD			1	15	2
3	15	1	EXISTING LOAD	1.0			B	1.0		EXISTING LOAD			1	15	4
5	15	1	EXISTING LOAD	1.0			C	1.0		EXISTING LOAD			1	15	6
7	15	1	EXISTING LOAD	1.0			A	1.0		EXISTING LOAD			1	15	8
9	15	1	EXISTING LOAD	1.0			B	1.0		EXISTING LOAD			1	15	10
11	15	1	EXISTING LOAD	1.0			C	1.0		EXISTING LOAD			1	15	12
13	15	1	EXISTING LOAD	1.0			A	1.0		EXISTING LOAD			1	15	14
15	15	1	EXISTING LOAD	1.0			B	1.0		EXISTING LOAD			1	15	16
17	15	1	EXISTING LOAD	1.0			C	1.0		EXISTING LOAD			1	15	18
19	15	1	EXISTING LOAD	1.0			A	1.0		EXISTING LOAD			1	15	20
21	15	1	EXISTING LOAD	1.0			B	1.0		EXISTING LOAD			1	15	22
23	15	1	EXISTING LOAD	1.0			C	1.0		EXISTING LOAD			1	15	24
25	15	1	EXISTING LOAD	1.0			A	1.0		EXISTING LOAD			1	15	26
27			EXISTING LOAD	1.0			B	1.0		EXISTING LOAD					28
29			EXISTING LOAD	1.0			C	1200	1.0	1200	NEW LIGHTING - RM 119, 120, 121			1	15
31			PREPARED SPACE	1.0			A	1.0		PREPARED SPACE					32
33			PREPARED SPACE	1.0			B	1.0		PREPARED SPACE					34
35			PREPARED SPACE	1.0			C	1.0		PREPARED SPACE					36
37	15	1	EXISTING LOAD	1.0			A	1.0		EXISTING LOAD			1	15	38
39	15	1	EXISTING LOAD	1.0			B	1.0		EXISTING LOAD			1	15	40
41	15	1	EXISTING LOAD	1.0			C	1.0		EXISTING LOAD			1	15	42
			SUB TOTALS												
TOTAL CONNECTED LOAD				VA											
TOTAL DEMAND LOAD				VA											
CONNECTED LOAD				AMPS											
DEMAND LOAD				AMPS											
MAIN BREAKER SIZE				14 KA											
AMPERE RATING OF PANELBOARD				225 AMPS											
SHORT CIRCUIT RATING				14 KA											
ISOLATED GROUND BUS?				N / Y / N ?											

PANEL C
277/480VOLTS

3 Revised Panel C
E1.0 SCALE: NTS

FIXTURE SCHEDULE	FIXTURE DESCRIPTION	NAME	CATALOGUE NUMBER	FIXTURE TYPE IMAGE	MANUFACTURER	COLOUR TEMP	CRI	LUMENS	WATTS
A	4' LED SUSPENDED STRIPLIGHT	ST2 STRIPLIGHT	4ST2L4040		METALLUX	4000K	80	4,642	40
A1	4' LED SURFACE MOUNTED STRIPLIGHT	ST2 STRIPLIGHT	4ST2L4040		METALLUX	4000K	80	4,642	40
WG	4' WIRE GUARD	WIRE GUARD	WG/SSF-4FT		METALLUX				
B	4' VAPORITITE LED SURFACE MOUNTED LIGHT	VAPORITITE LED	4VT2-L05-4-UNV-L855		METALLUX	3500K	80	4,000	50.6
C	6-INCH RECESSED DOWNLIGHT	6-INCH LED SQUARE DOWNLIGHT	PR58F6240010-REM14		COOPER LIGHTING	3000K	80	3000	14
D	LED WALL LIGHT	LUMARK XTOR CROSSTOUR LED	XTOR48-W-BK-PC2		COOPER LIGHTING	4000K	70	4205	38
E	VANITY LIGHT	FMVTSL VANITY LEDD	FMVTSL24INMVOLT30CRIBNM4		LITHONIA LIGHTING	3000K	90	1300	9.5
COMBO	SIGN	EAC SERIES							
EXIT	SIGN	EA SERIES							
	REMOTE HEADS	EP9M SERIES							
X	EXISTING EXTERIOR LIGHT								

4 Lighting Fixture Schedule
E1.0 SCALE: NTS

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March 27, 2023

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PROJECT

**Drumheller Memorial Arena
Dressing Room Addition**

No.	Description	Date
3	Issued for Tender	Mar 30, 2023
2	Issued for Review	Mar 9, 2023
1	Issued for Review	Feb 8, 2023

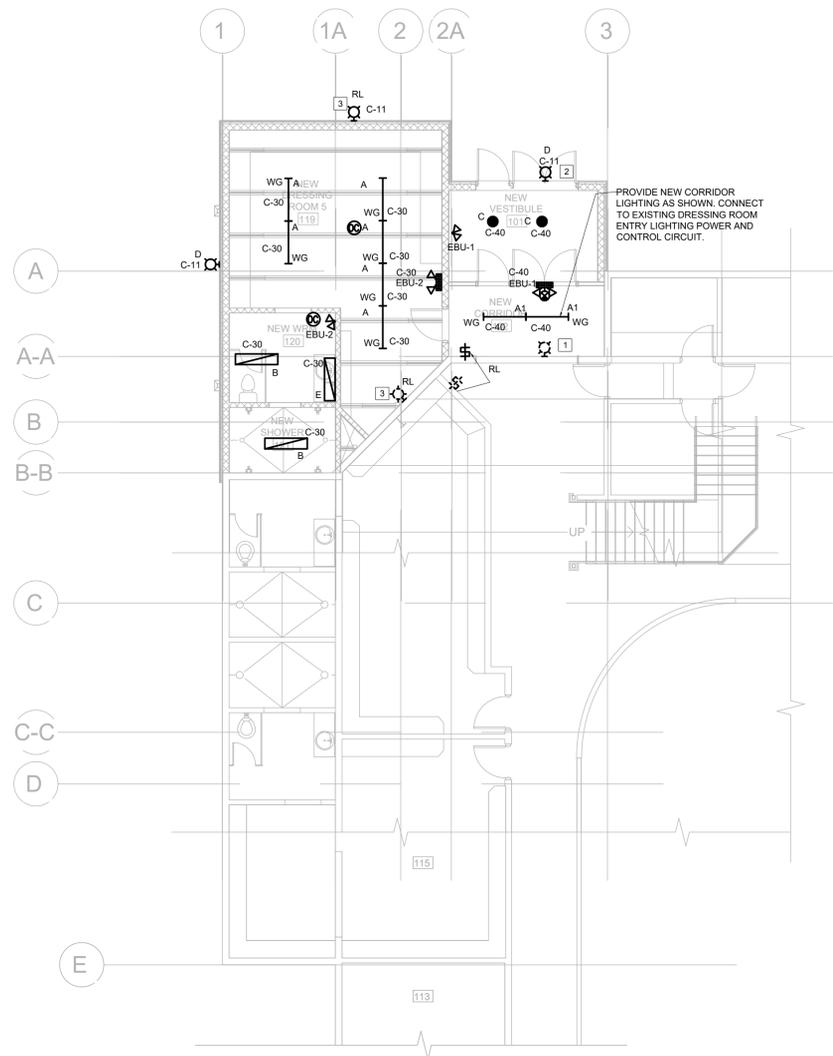
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DRAWN BY: D. Akoto
CHECKED BY: D. McGrath, P.Eng
ENGINEER: E. Runoh, P.Eng
PROJECT No: 22CEB01000
DATE: March 2023
SCALE: As Indicated

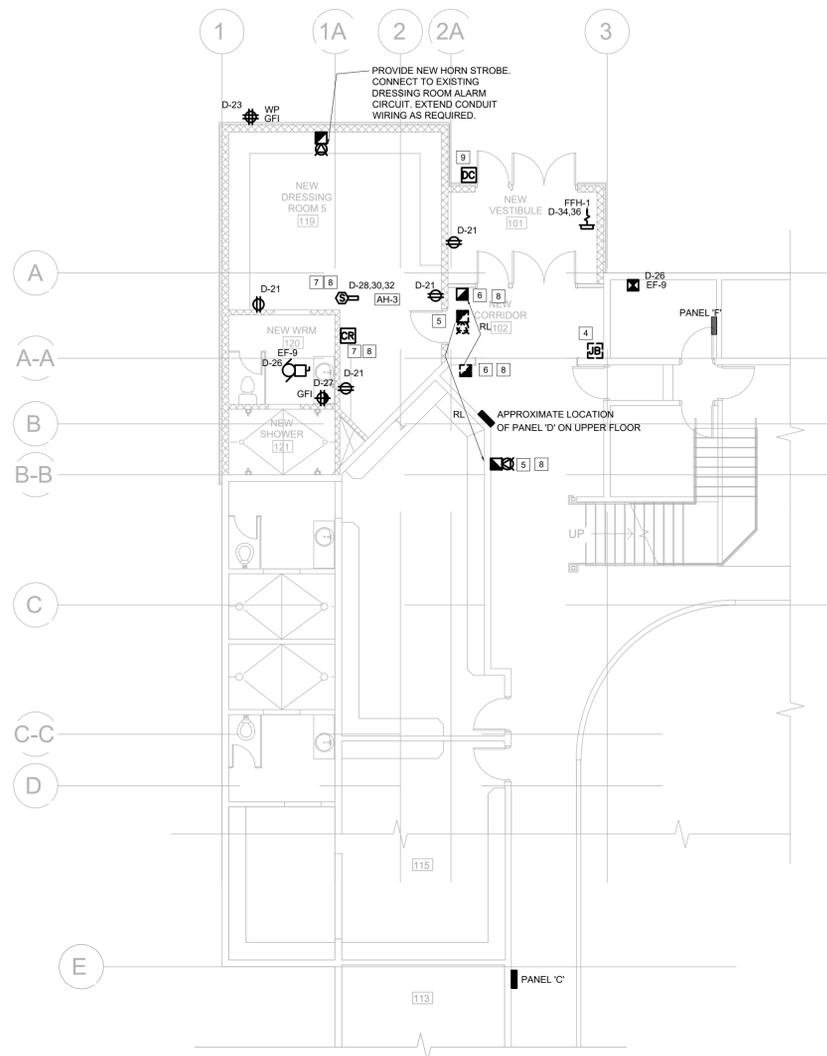
DESCRIPTION

Electrical Legends and Schedules

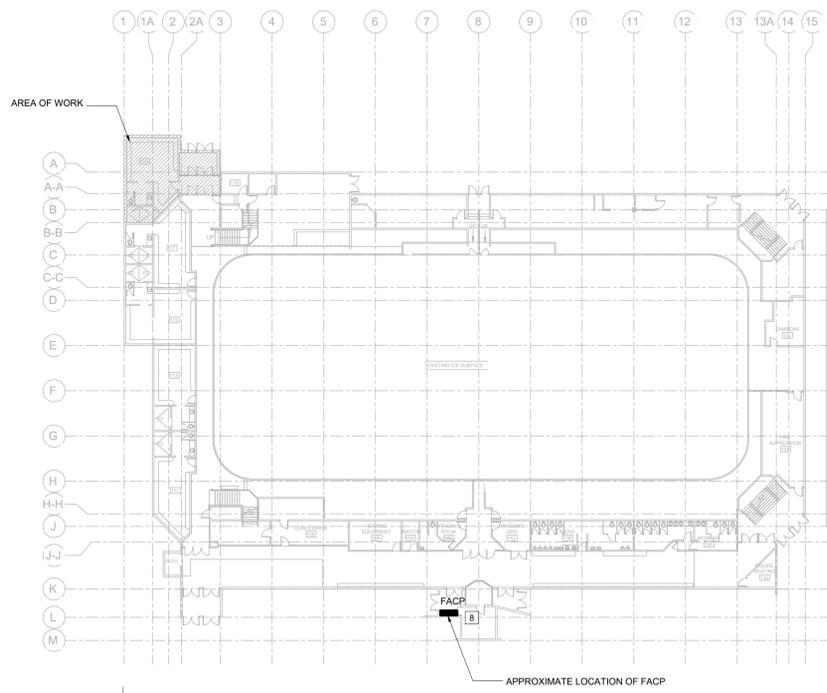
DRAWING NO. **E1.0** SHEET **1** OF **4**



1 Partial Main Floor Lighting Plan
E2.0 SCALE: 1/8" = 1' - 0"



2 Partial Main Floor Power & Systems Plan
E2.0 SCALE: 1/8" = 1' - 0"



3 Main Floor Key Plan
E2.0 SCALE: NTS

- KEY NOTES:**
- DISCONNECT AND REMOVE EXISTING EXTERIOR LIGHT. PREPARE CIRCUIT FOR REUSE.
 - INSTALL NEW EXTERIOR ENTRANCE LIGHTING FIXTURE AS SHOWN. EXTEND CONDUIT AND WIRING AS REQUIRED TO UTILIZE EXISTING EXTERIOR LIGHTING CIRCUIT.
 - EXISTING EXTERIOR LIGHT TO BE RELOCATED AS SHOWN. EXTEND CONDUIT AND WIRING AS REQUIRED TO UTILIZE EXISTING EXTERIOR LIGHTING CIRCUIT.
 - DISCONNECT AND REMOVE EXISTING TEMPORARY DRESSING ROOM FEEDER COMPLETE WITH ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE.
 - EXISTING HORN STROBE TO BE RELOCATED AS SHOWN. EXTEND CONDUIT AND WIRING AS REQUIRED.
 - EXISTING PULL STATION TO BE RELOCATED AS SHOWN. EXTEND CONDUIT AND WIRING AS REQUIRED.
 - PROVIDE NEW DUCT SMOKE DETECTOR INSTALLED AT THE MAIN MUA SUPPLY DUCT. DUCT SMOKE DETECTOR SHALL BE CONNECTED TO EXISTING FIRE ALARM PANEL IN A DEDICATED ZONE. PROVIDE CONNECTION TO FIRE ALARM CONTROL RELAY TO SHUTDOWN THE MUA IN THE EVENT OF DUCT SMOKE DETECTOR ALARM CONDITION.
 - CONTRACTOR SHALL HIRE THE SERVICES OF THE FIRE ALARM PANEL MANUFACTURER TO REPROGRAM THE PANEL, UPDATE THE ANNUNCIATOR, UPGRADE THE PANEL AS REQUIRED AND TO VERIFY NEW INSTALLATION TO CAN/ULC 557.
 - SECURITY WORK SHALL BE BY TOTAL CONTROL SECURITY. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF REMOVAL AND INSTALLATION OF THE NEW SECURITY DEVICES. CONTACT MR. KYLE SUNTJENS AT [KYLE@TOTALCONTROLSECURITY.CA](mailto:kyle@totalcontrolsecurity.ca)

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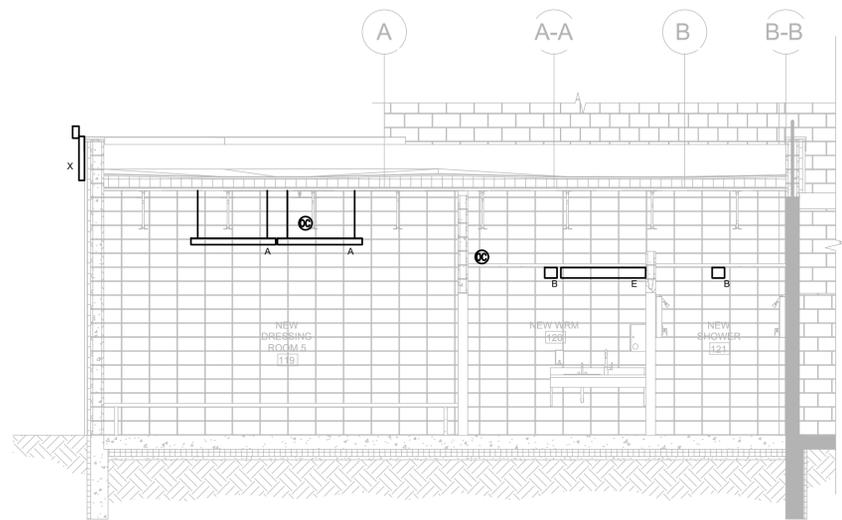
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CHECKED BY: D. McGrath, P.Eng
ENGINEER: E. Runoh, P.Eng
PROJECT No: 22CEB01000
DATE: March 2023
SCALE: As Indicated

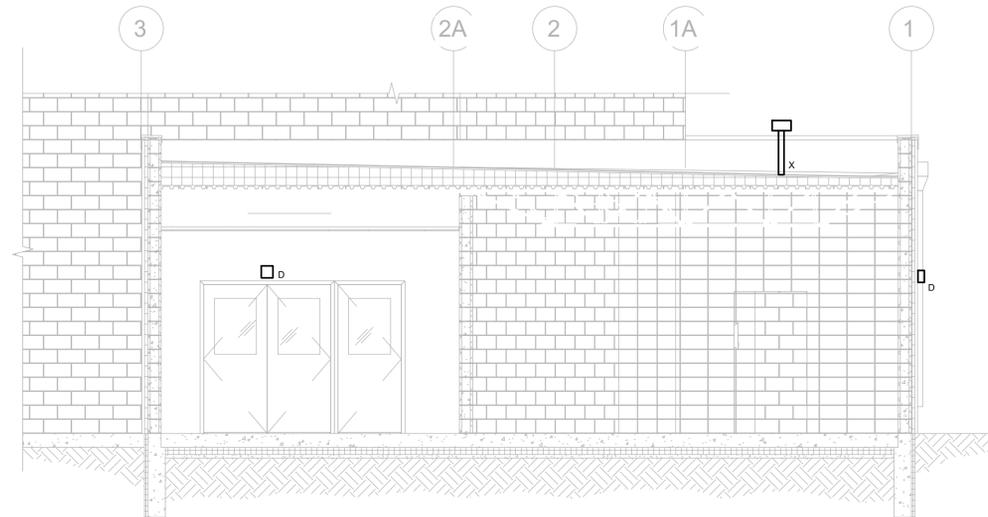
DESCRIPTION

Partial Main Floor Lighting & Power & Systems Plan

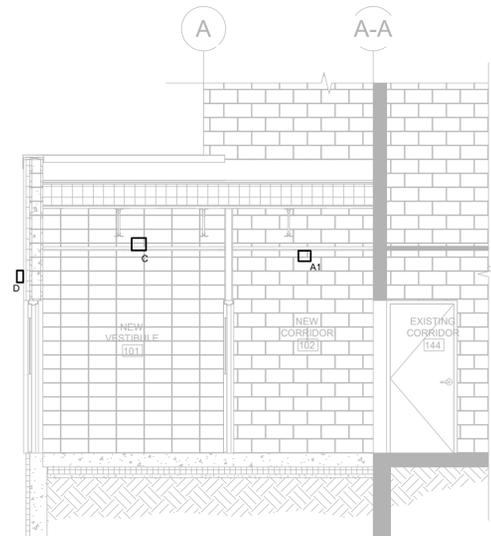
DRAWING NO. **E2.0** SHEET **2** OF **4**



1 Partial Building Section 1
E2.1 SCALE: 1/4" = 1'-0"



2 East Elevation Drawing
E2.1 SCALE: 1/4" = 1'-0"



3 Partial Building Section 3
E2.1 SCALE: 1/4" = 1'-0"

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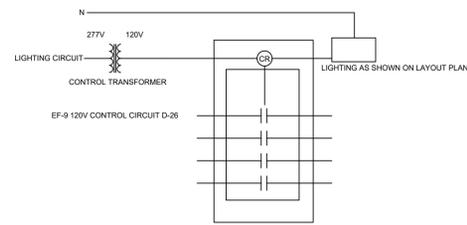
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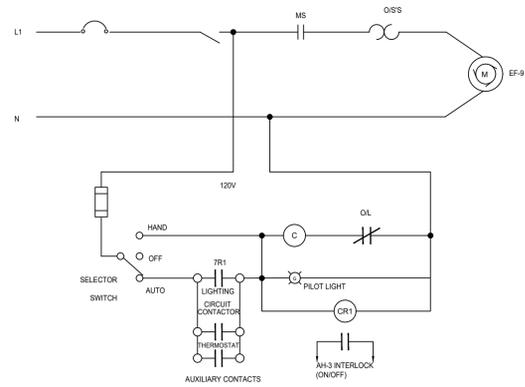
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 ENGINEER: E. Runoh, P.Eng.
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 DATE: March 2023
 SCALE: As Indicated

DESCRIPTION
**Partial Building Sections
 Lighting Plan**

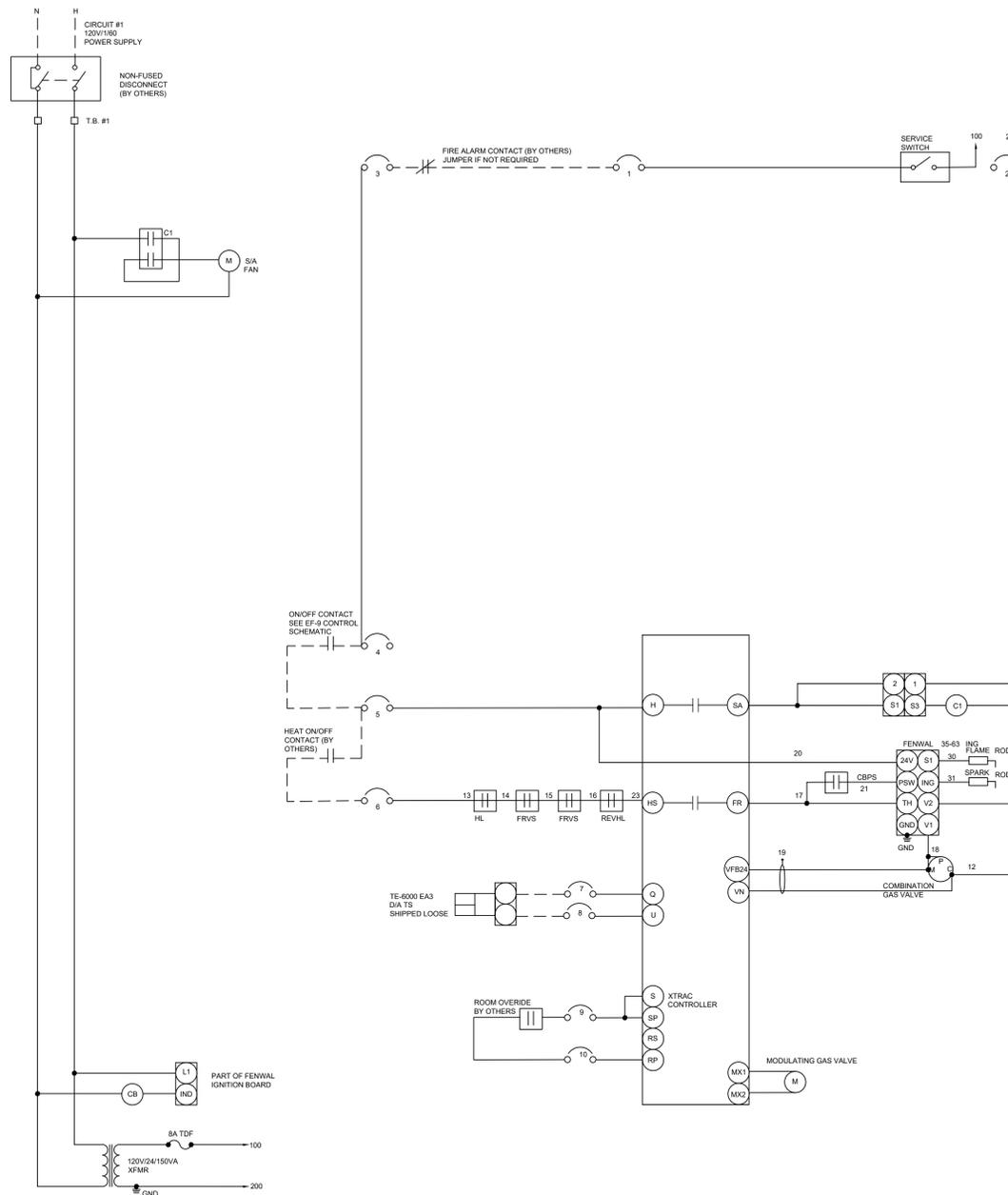
DRAWING NO. **E2.1** SHEET **3** OF **4**



1 EF/Lighting Interlock Schematic
E3.0 SCALE: NTS



2 Exhaust Fan (EF-9) Control Schematic
E3.0 SCALE: NTS



3 Wiring Schematic -MAU Control Panel
3.0 SCALE: NTS

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DESCRIPTION

Electrical Details

DRAWING NO. **E3.0** SHEET **4** OF **4**