

## ADDENDUM #2

To: All Bidders

Project Name: Renovations to:  
1350 Edgmont Avenue  
Chester, PA 19013

Prepared for: Chester Upland School District  
1350 Edgmont Avenue  
Chester, PA 19013

Date: 02/23/2023

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Notice to all Contractors bidding the Renovations to CUSD 1350 Edgmont Ave project. This Addendum is to amend or clarify the Contract documents as follows:

### GENERAL:

- A. This Addendum constitutes part of the Project Manual and Contract. Should conflict occur between the Project Manual and items in this Addendum or between Drawings and this Addendum, the Addendum shall govern.
- B. Work described in this Addendum shall be in accordance with Specifications for like items in remainder of building and complete with all labor and materials required.
- C. Bidders are requested to attach a copy of this Addendum to the Project Manual in their possession.
- D. Work affected by items in this Addendum shall be appropriately adjusted to accommodate these changes.
- E. Acknowledge receipt of this Addendum by inserting its number and date in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.
- F. Bids shall only be based on the products specified. No pre-bid substitutions shall be considered. Products that meet or exceed the product specifications will be considered for use during the Shop Drawing Submittal Phase.

G. STANDARD OF QUALITY: The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes. **In general**, it is not the intent to limit the bidder, the bid or the evaluation of the bid to any one material or product specified but rather to describe the minimum standard, **except where listed without the following clause**. When proprietary names are used, they shall generally be followed by the words "or alternatives of the quality necessary to meet the specifications". Where proprietary names are used and are not followed by a clause similar to that listed above, the contractor is limited to providing that specified product to keep a standard product already established by the School District. A bid containing an alternative which does not meet the specifications may not be accepted, but, if an award is made to the bidder, the bidder will be required to replace any alternatives which do not meet the specifications at no additional cost. The intent of the bid documents is based on this STANDARD OF QUALITY and not to be proprietary in nature in any way.

## **SPECIFICATIONS**

1.01 Specification Section 283100 – ACCESS CONTROL SYSTEMS; **REVISED** as follows:

Page 281300-4, **ADD** Section 2.2 below:

2.2 DISTRICT PREFERRED VENDOR

A. Delaware Camera Systems; [www.delawarecamerasystems.com](http://www.delawarecamerasystems.com)

1. Contact Name: Art Wheeler
2. Phone: 302-218-3181 X 4.
3. Email: [art@delawarecamerasystems.com](mailto:art@delawarecamerasystems.com)
4. Address: PO Box 688 Hockessin, DE 19707

1.02 Specification Section 282000 – VIDEO SURVEILLANCE; **REVISED** as follows:

Page 282000-6, **ADD** Section 2.6 below:

2.6 DISTRICT PREFERRED VENDOR

A. Delaware Camera Systems; [www.delawarecamerasystems.com](http://www.delawarecamerasystems.com)

1. Contact Name: Art Wheeler
2. Phone: 302-218-3181 X 4.
3. Email: [art@delawarecamerasystems.com](mailto:art@delawarecamerasystems.com)
4. Address: PO Box 688 Hockessin, DE 19707

1.03 Specification Section 283111 - Building Intrusion Detection; **REPLACED** in its entirety.

## **DRAWINGS**

### **Electrical:**

2.01 Drawing E101.PH2; **REPLACE** sheet in its entirety.

2.02 Drawing E102.PH2; **REPLACE** sheet in its entirety.

2.03 Drawing E103.PH2; **REPLACE** sheet in its entirety.

- 2.04 Drawing E104.PH2; **REPLACE** sheet in its entirety.
- 2.05 Drawing E105.PH2; **REPLACE** sheet in its entirety.
- 2.06 Drawing E402.PH2; **ADD** sheet in its entirety.
- 2.07 Drawing E700.PH2; **REPLACE** sheet in its entirety.
- 2.08 Drawing E701.PH2; **REPLACE** sheet in its entirety.

**Mechanical:**

- 2.09 Drawing M101:
  - **REVISED** ductwork in S1 STAIR corridor to include Fire/Smoke Combination Dampers.
  - **ADDED** duct smoke detectors to ductwork in S1 STAIR corridor.
  - **REVISED** ductwork in C103 CORRIDOR.
  - **REVISED** ductwork in 36 JANITOR.
  - **REVISED** ductwork in C102 CORRIDOR.
  - **REVISED** ductwork in A105 SGI.
  - **REVISED** ductwork in 68 SPRINKLER ROOM.
- 2.10 Drawing M102:
  - **REVISED** ductwork in 62 STAIR corridor to include Fire/Smoke Combination Dampers
  - **ADDED** duct smoke detectors to ductwork in 62 STAIR corridor.
- 2.11 Drawing M600; **REVISED** VAV box schedule for VAV-1.6 & VAV-1.9.

**BIDDERS QUESTIONS**

- 3.01 **Question:** Please provide the manufacturer for the existing fire alarm and security systems.  
**Response:** *See Specification Section 284600 – Fire Detection and Alarm, Item 2.1 for Fire Alarm manufacturer of existing alarm. There is no present, existing security system.*
- 3.02 **Question:** What is the current roof warranty? Will roof penetrations affect this warranty?  
**Response:** *The owner will confirm roof warranty at a later date.*
- 3.03 **Question:** Can you please provide insurance limits required for this project?  
**Response:** *This will be answered in a future addendum.*
- 3.04 **Question:** Is the Qualification form to be submitted upon award as noted in the ITB, or with the bid as noted on the bid form?  
**Response:** *Submit qualification form with bid.*
- 3.05 **Question:** Is the 009000 Sub List and Equipment Suppliers List to be submitted with the bid or upon award?  
**Response:** *Suppliers list to be submitted upon award.*

3.06 **Question:** On the RCP there are some cross hatches that look like either lights or specialty ceiling they are at XF and X3 .Could you clarify what exactly they are?

**Response:** *Reference A900.2 for finish specifications. Items in question are both acoustic baffles and lights. AB-1, AB3-6 are acoustics baffles; AB-2 is a light fixture.*

3.07 **Question:** Are there any alternate bids on this project?

**Response:** *There are no alternates for this project.*

## ATTACHMENTS

### Specifications:

283111 Building Intrusion Detection

### Drawings:

E101.PH2	FIRST FLOOR PLAN – POWER
E102.PH2	ENLARGED PLANS – POWER
E103.PH2	FIRST FLOOR PLAN – LIGHTING
E104.PH2	SECOND FLOOR PLAN – POWER
E105.PH2	SECOND FLOOR PLAN – LIGHTING
E402.PH2	FIRST FLOOR PLAN – CONFERENCE A100.5 – AV SYSTEM PLANS AND DETAILS
E700.PH2	SCHEDULES – ELECTRICAL
E701.PH2	SCHEDULES – ELECTRICAL
M101	FIRST FLOOR PLAN – MECHANICAL
M102	SECOND FLOOR PLAN – MECHANICAL
M600	SCHEDULES – MECHANICAL

END OF ADDENDUM

Civil

**T&M Associates**  
74 West Broad Street, Suite 530  
Bethlehem, PA 18018  
(610)-625-2999

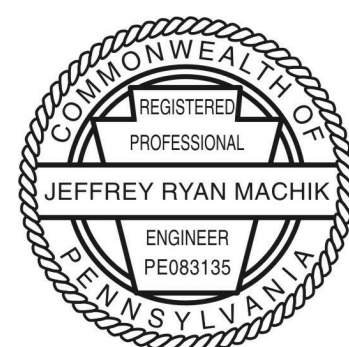
MEP

**SNYDER HOFFMAN**  
1005 West Lehigh Street  
Bethlehem, PA 18018  
(601) 694-8020

Structural Engineer

**SCHRADERGROUP**  
153 East King Street, Suite 211-212  
Lancaster, PA 17602  
717.299.8965

Professional Seal:



Owner:

**CHESTER UPLAND  
SCHOOL DISTRICT**  
232 W. 9th Street  
Chester, PA 19013

1350 EDMONT AVENUE  
RENOVATIONS

1350 EDMONT AVENUE  
CHESTER, PA 19013

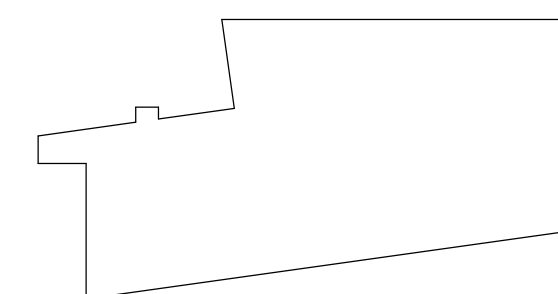
ISSUED FOR:

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DATE: 01/30/2023

SG PROJECT NUMBER: 22-023.1

**Key Plan:**

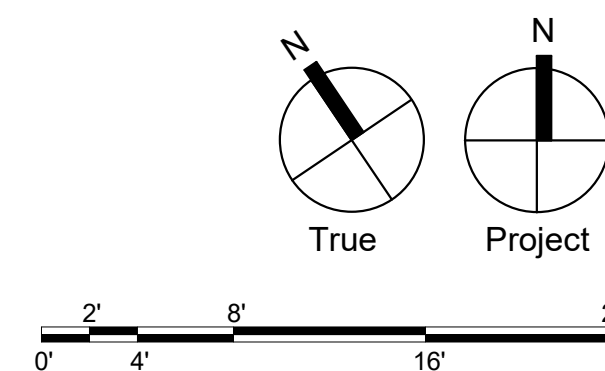


Drawing Title:

FIRST FLOOR PLAN -  
MECHANICAL

Drawing Number:

# M101



1 FIRST FLOOR PLAN - MECHANICAL  
M101 SCALE: 1/8" = 1'-0"

M10-



Civil:

**T&M Associates**  
74 West Broad Street, Suite 530  
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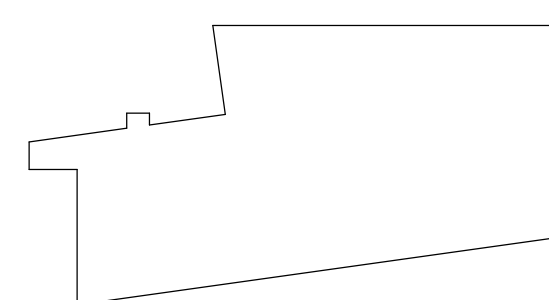
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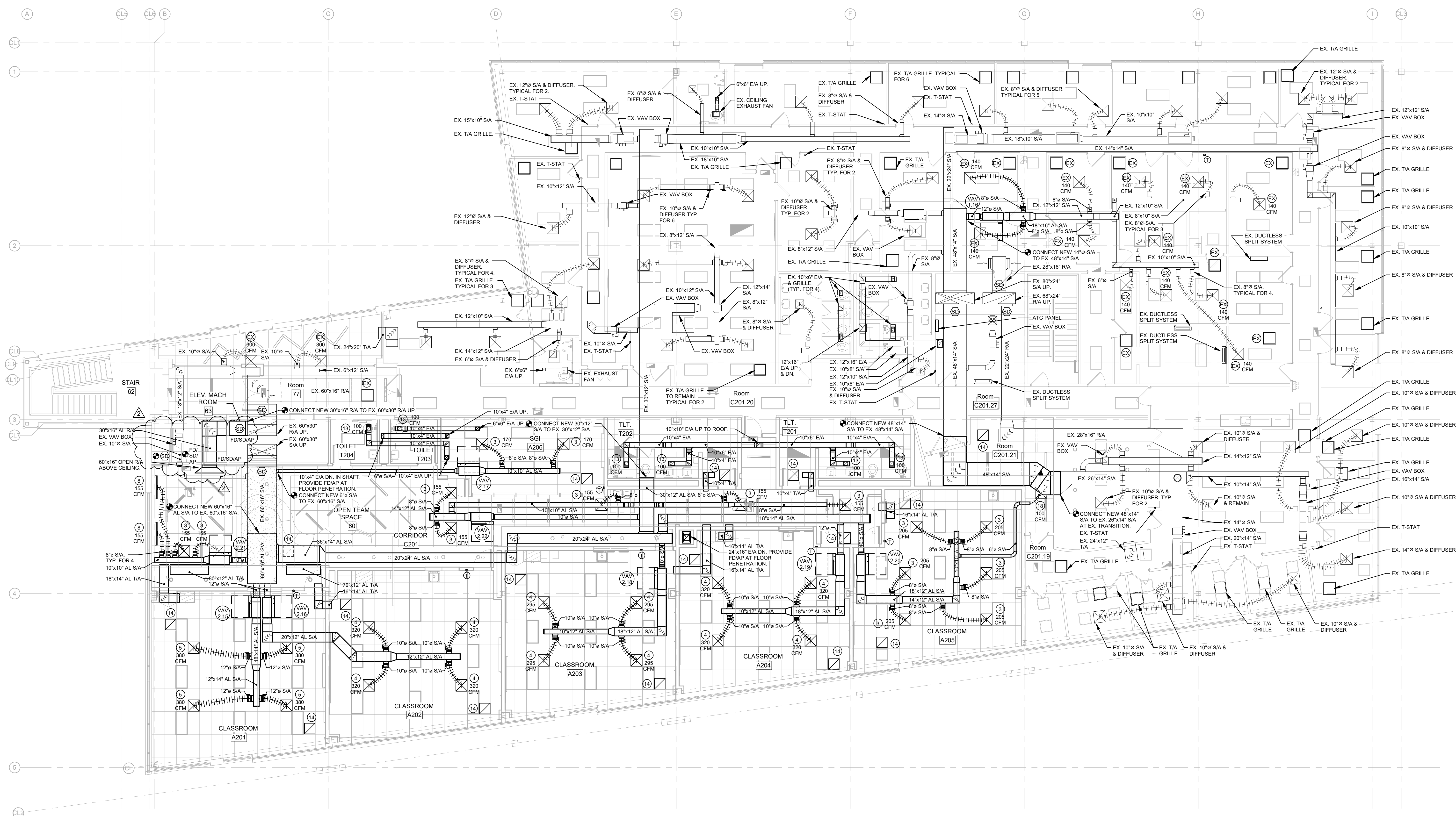


Drawing Title:

SECOND FLOOR PLAN -  
MECHANICAL

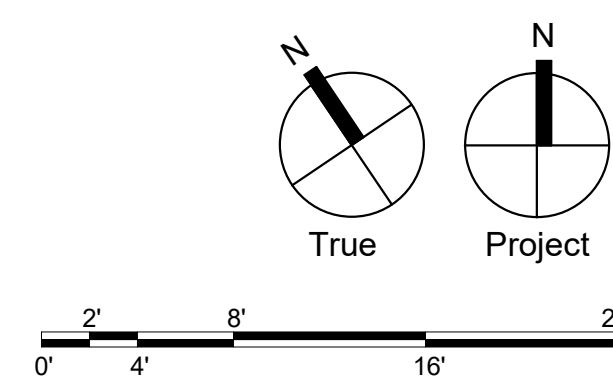
Drawing Number:

# M102



## 1 | SECOND FLOOR PLAN - MECHANICAL

M102 SCALE: 1/8" = 1'-0"



VAV = VAV BOX # = MARK		SHUT-OFF VAV BOX SCHEDULE																		
TAG No.	AREA SERVED	MFR.	MODEL No.	SYSTEM	CFM			INLET DIA."	INLET APD"	HEATING COIL (ELECTRIC)				ELECTRICAL			DISCHARGE NC LEVEL	RADIATED NC LEVEL	NOTES	
					MIN.	HTG.	MAX.			EAT DB°F	LAT DB°F	KW	STAGES	APD"	MCA	MOP				V/P/Hz
VAV-1.3	C102 CORRIDOR	TRANE	VCEF05	EX RTU-1	75	75	240	05	0.02	55.0	92.9	1.0	1	0.02	3.5	15.0	208/3/60	22	<15	1
VAV-1.4	A102 CLASSROOM	TRANE	VCEF10	EX RTU-1	430	430	760	10	0.02	55.0	91.6	5.0	1	0.02	17.4	20.0	208/3/60	18	15	1
VAV-1.5	A101 CLASSROOM	TRANE	VCEF10	EX RTU-1	430	430	760	10	0.02	55.0	91.6	5.0	1	0.02	17.4	20.0	208/3/60	18	15	1
VAV-1.6	C102 CORRIDOR	TRANE	VCEF06	EX RTU-1	100	100	340	06	0.10	55.0	86.5	1.0	1	0.10	3.5	15.0	208/3/60	20	<15	1
VAV-1.7	A103 CLASSROOM	TRANE	VCEF10	EX RTU-1	430	430	760	10	0.02	55.0	91.6	5.0	1	0.02	17.4	20.0	208/3/60	18	15	1
VAV-1.8	A104 CLASSROOM	TRANE	VCEF12	EX RTU-1	800	800	1,320	12	0.03	55.0	90.4	9.0	1	0.03	31.2	35.0	208/3/60	18	19	1
VAV-1.9	A105 SGI	TRANE	VCEF08	EX RTU-1	220	220	730	08	0.07	55.0	97.9	3.0	1	0.07	10.4	15.0	208/3/60	22	21	1
VAV-1.11	45 OPEN TEAM SPACE C101 CORRIDOR	TRANE	VCEF06	EX RTU-1	310	310	450	06	0.03	55.0	90.4	2.5	1	0.03	8.7	15.0	208/3/60	17	15	1
VAV-1.12	A108 CLASSROOM	TRANE	VCEF10	EX RTU-1	480	480	760	10	0.02	55.0	91.1	5.5	1	0.02	19.1	20.0	208/3/60	18	15	1
VAV-1.13	A107 CLASSROOM	TRANE	VCEF10	EX RTU-1	480	480	1,080	10	0.03	55.0	91.1	5.5	1	0.03	19.1	20.0	208/3/60	22	21	1
VAV-1.14	A106 CLASSROOM	TRANE	VCEF12	EX RTU-1	800	800	1,320	12	0.03	55.0	90.4	9.0	1	0.03	31.2	35.0	208/3/60	20	19	1
VAV-1.15	36 JAN., 68 SPRINKLER ROOM, C103 CORRIDOR	TRANE	VCEF06	EX RTU-1	300	300	390	06	0.13	55.0	91.7	3.5	1	0.13	12.1	15.0	208/3/60	21	15	1
VAV-1.16	SECOND FLOOR OFFICES	TRANE	VCEF12	EX RTU-1	505	505	1,680	12	0.05	55.0	91.0	6.0	1	0.05	20.8	25.0	208/3/60	23	24	1
VAV-2.1	CAFETERIA LOBBY	TRANE	VCEF06	EX RTU-2	220	220	220	06	0.04	55.0	97.9	3.0	1	0.04	10.4	15.0	208/3/60	16	<15	1
VAV-2.2	C101 CORRIDOR	TRANE	VCEF10	EX RTU-2	300	300	960	10	0.03	55.0	91.7	3.5	1	0.03	12.1	15.0	208/3/60	20	19	1
VAV-2.3	A111 MULTI-PURPOSE CAFETERIA	TRANE	VCEF10	EX RTU-2	1,000	1,000	1,000	10	0.03	55.0	89.6	11.0	1	0.03	38.2	40.0	208/3/60	21	20	1
VAV-2.4	A111 MULTI-PURPOSE CAFETERIA	TRANE	VCEF14	EX RTU-2	1,260	1,260	1,800	14	0.01	55.0	90.0	14.0	1	0.01	48.6	50.0	208/3/60	21	21	1
VAV-2.5	A111 MULTI-PURPOSE CAFETERIA	TRANE	VCEF14	EX RTU-2	1,260	1,260	1,800	14	0.01	55.0	90.0	14.0	1	0.01	48.6	50.0	208/3/60	21	21	1
VAV-2.6	A110 KITCHEN	TRANE	VCEF12	EX RTU-2	675	675	1,720	12	0.06	55.0	90.0	7.5	1	0.06	26.0	30.0	208/3/60	24	24	1
VAV-2.7	A109 KITCHEN STORAGE	TRANE	VCEF08	EX RTU-2	490	490	490	08	0.04	55.0	93.5	6.0	1	0.04	20.8	25.0	208/3/60	19	16	1
VAV-2.8	A001 LOBBY	TRANE	VCEF08	EX RTU-2	400	400	400	08	0.03	55.0	90.4	4.5	1	0.03	15.6	20.0	208/3/60	16	15	1
VAV-2.9	A100 ADMIN, A100.1 COPYWORK ROOM	TRANE	VCEF08	EX RTU-2	300	300	580	08	0.05	55.0	91.7	3.5	1	0.05	12.1	15.0	208/3/60	21	18	1
VAV-2.10	A112 LEARNING SPECIALISTS	TRANE	VCEF05	EX RTU-2	120	120	240	05	0.02	55.0	93.1	1.5	1	0.02	5.2	15.0	208/3/60	22	<15	1
VAV-2.11	C104 CORRIDOR	TRANE	VCEF05	EX RTU-2	150	150	240	05	0.02	55.0	92.9	2.0	1	0.02	6.9	15.0	208/3/60	22	<15	1
VAV-2.12	A100.5 CONFERENCE	TRANE	VCEF06	EX RTU-2	200	200	400	06	0.14	55.0	94.3	2.5	1	0.14	8.7	15.0	208/3/60	23	15	1
VAV-2.13	A100.3 COUNSELOR	TRANE	VCEF05	EX RTU-2	160	160	280	05	0.02	55.0	92.9	2.0	1	0.02	6.9	15.0	208/3/60	25	<15	1
VAV-2.14	A100.4 PRINCIPAL	TRANE	VCEF08	EX RTU-2	420	420	480	08	0.04	55.0	92.5	5.0	1	0.04	17.4	20.0	208/3/60	19	16	1
VAV-2.15	A201 CLASSROOM	TRANE	VCEF12	EX RTU-2	850	850	1,520	12	0.04	55.0	92.0	10.0	1	0.04	34.7	35.0	208/3/60	22	21	1
VAV-2.16	A202 CLASSROOM	TRANE	VCEF12	EX RTU-2	600	600	1,280	12	0.03	55.0	91.7	7.0	1	0.03	24.3	25.0	208/3/60	20	19	1
VAV-2.17	A206 SGI	TRANE	VCEF06	EX RTU-2	210	210	340	06	0.10	55.0	85.0	2.0	1	0.10	6.9	15.0	208/3/60	20	<15	1
VAV-2.18	A203 CLASSROOM	TRANE	VCEF10	EX RTU-2	500	500	1,180	10	0.04	55.0	92.8	6.0	1	0.04	20.8	25.0	208/3/60	23	23	1
VAV-2.19	A204 CLASSROOM	TRANE	VCEF12	EX RTU-2	600	600	1,280	12	0.03	55.0	91.7	7.0	1	0.03	24.3	25.0	208/3/60	20	19	1
VAV-2.20	A205 CLASSROOM	TRANE	VCEF10	EX RTU-2	520	520	1,240	10	0.04	55.0	91.3	6.0	1	0.04	20.8	25.0	208/3/60	24	23	1
VAV-2.21	C201 CORRIDOR	TRANE	VCEF10	EX RTU-2	500	500	770	10	0.02	55.0	89.6	5.5	1	0.02	19.1	20.0	208/3/60	18	15	1
VAV-2.22	60 OPEN TEAM SPACE	TRANE	VCEF10	EX RTU-2	620	620	620	10	0.01	55.0	93.1	7.5	1	0.01	26.0	30.0	208/3/60	16	<15	1

- NOTES:
1. PROVIDE DISCONNECT SWITCH & STEP-DOWN TRANSFORMER FOR CONTROL CIRCUIT.

FAN SCHEDULE														
EF #	EF = EXHAUST FAN # = MARK													
TAG	AREA(S) SERVED	MFR	MODEL	CFM	ESP*	RPM	DRIVE	SONES	MOTOR W / HP	V/P/Hz	CONTROL	DAMPER	WEIGHT LBS	NOTES
EF-3	T102 TOILET	GREENHECK	SP-A90	100	0.1	900	DIRECT	0.3	17.0 W	115/1/60	SWITCH	B.D.D.	12.0	1
EF-4	T103 TOILET	GREENHECK	SP-A90	100	0.1	900	DIRECT	0.3	17.0 W	115/1/60	SWITCH	B.D.D.	12.0	1
EF-5	KITCHEN TOILET	GREENHECK	SP-A90	100	0.1	900	DIRECT	0.3	17.0 W	115/1/60	SWITCH	B.D.D.	12.0	1
EF-6	T204 TOILET	GREENHECK	G-060-VG	100	0.3	1,586	DIRECT	3.8	1/15 HP	115/1/60	ATC	B.D.D.	21.0	1
EF-7	T101 TOILET	GREENHECK	G-060-VG	100	0.3	1,586	DIRECT	3.8	1/15 HP	115/1/60	ATC	B.D.D.	21.0	1
EF-8	T203 TOILET	GREENHECK	G-060-VG	100	0.3	1,586	DIRECT	3.8	1/15 HP	115/1/60	ATC	B.D.D.	21.0	1
EF-9	T201 TOILET, T202 TOILET	GREENHECK	G-080-VG	400	0.3	1,666	DIRECT	8.1	1/10 HP	115/1/60	ATC	B.D.D.	29.0	1
EF-10	32 BOYS TOILET, 33 GIRLS TOILET, SECOND FLOOR TLT	GREENHECK	G-200HP-VG	2,150	2.0	1,284	DIRECT	18.9	2.0 HP	208/1/60	ATC	B.D.D.	164.0	1
EF-11	A110 KITCHEN	GREENHECK	CUE-130-VG	1,920	0.7	1,666	DIRECT	16.5	3/4 HP	115/1/60	ATC	B.D.D.	65.0	1
EF-12	070 MECHANICAL	GREENHECK	SP-A90	100	0.1	900	DIRECT	0.3	17.0 W	115/1/60	ATC	B.D.D.	12.0	1

- NOTES:
1. PROVIDE DISCONNECT SWITCH.

ELECTRIC CABINET HEATER SCHEDULE													
TAG	LOCATION	MFR.	MODEL	CFM	FAN SPEED	KW	STAGES	EAT	LAT	V/P/Hz	MOUNTING	NOTES	
ECH-1	A111 MULTI-PURPOSE CAFETERIA	BERKO	CUH935	250	HIGH	3.0	1	60.0	98.0	208/1/60	SURFACE MOUNTED	1-3	
ECH-2	A109 KITCHEN STORAGE	BERKO	CUH935	250	HIGH	3.0	1	60.0	98.0	208/1/60	CEILING, FULLY RECESSED	1-4	

- NOTES:
1. PROVIDE INTEGRAL DISCONNECT SWITCH & SINGLE POINT POWER CONNECTION.
  2. PROVIDE INTEGRAL 2-STAGE THERMOSTAT.
  3. HEATER SHALL BE FURNISHED IN WHITE.
  4. PROVIDE RECESS TRIM KIT AND ARCHITECTURAL EXTRUDED ALUMINUM GRILLES.

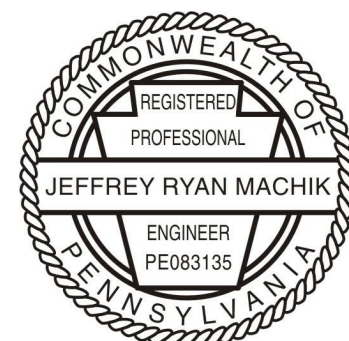
ELECTRIC BASEBOARD RADIATION SCHEDULE											
TAG No.	LOCATION	MFR.	MODEL No.	WATTS	ELEMENT LENGTH	ENCLOSURE			V/P/Hz	MOUNTING	NOTES
						L	W	H			
ER-1	S1 STAIR	BERKO	BKOC2515W	1,250	5'-0"	5'-0"	2'-7/8"	6-3/4"	120/1/60	WALL	1

- NOTES:
1. PROVIDE INTEGRAL DISCONNECT SWITCH AND THERMOSTAT.

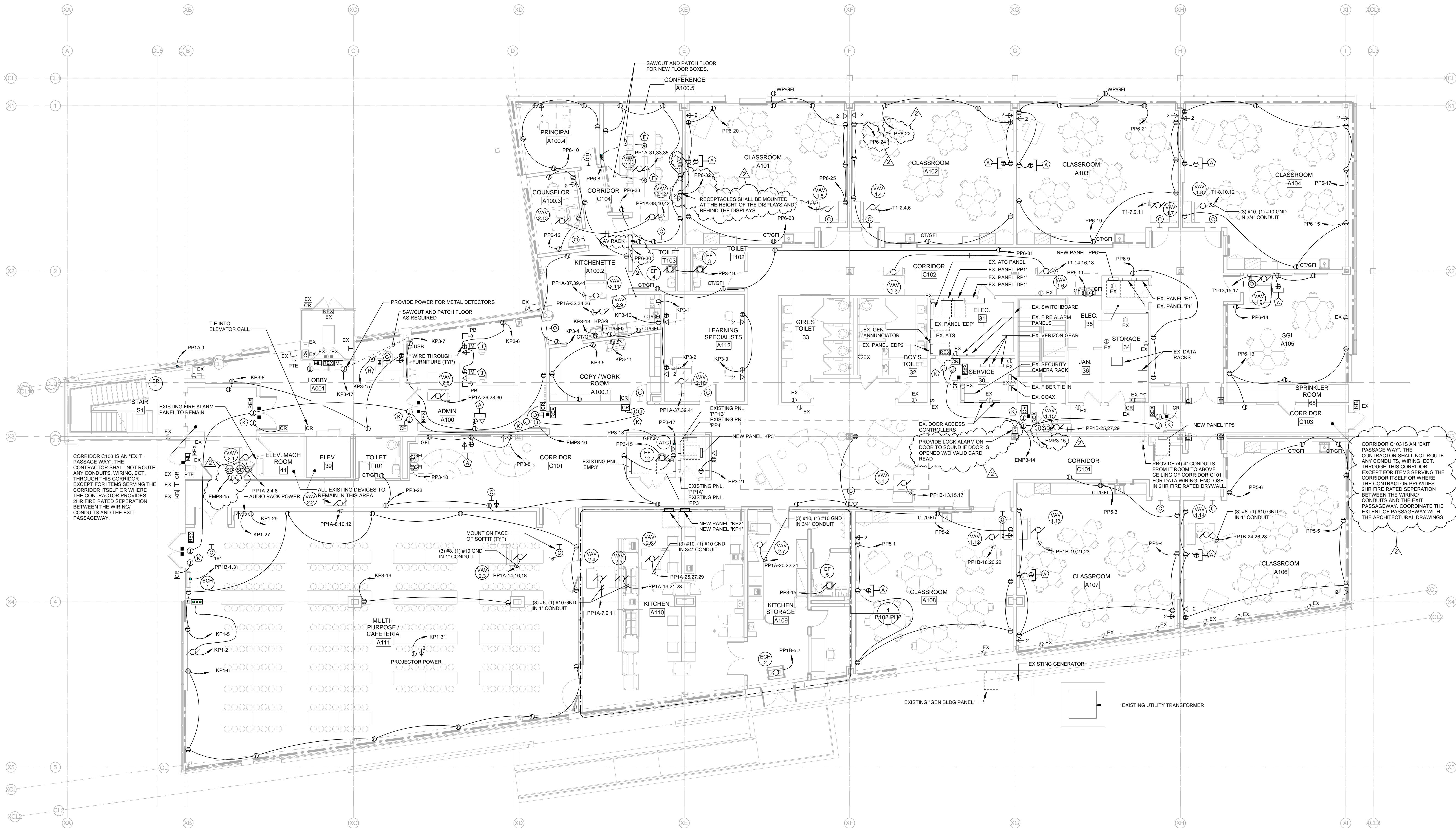
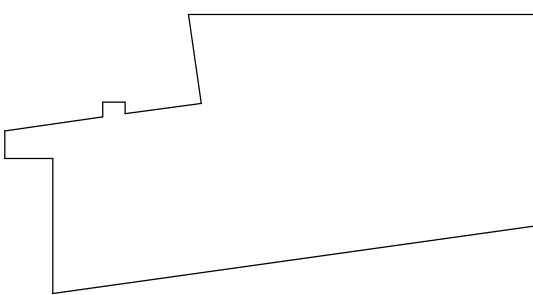
GRILLE, REGISTER, & DIFFUSER SCHEDULE										
TAG	MFR	MODEL	SIZE	PATTERN	TYPE	MOUNT	FINISH	MAX N.C.	NOTES	
1	TITUS	TDC	9"x9"	6" DIA. NECK 4-WAY	S/A	LAY-IN	BWE	25	1, 2	
2	TITUS	TDC	9"x9"	6" DIA. NECK 2-WAY	S/A	LAY-IN	BWE	25	1, 2	
3	TITUS	TDC	9"x9"	6" DIA. NECK 4-WAY	S/A	LAY-IN	BWE	25	1, 2	
4	TITUS	TDC	12"x12"	10" DIA. NECK 4-WAY	S/A	LAY-IN	BWE	25	1, 2	
5	TITUS	TDC	12"x12"	12" DIA. NECK 4-WAY	S/A	LAY-IN	BWE	25	1, 2	
6	TITUS	TDC	6"x6"	6" DIA. NECK 3-WAY	S/A	SURFACE MOUNT	BWE	25	1, 2	
7	TITUS	ML-38	48"x4"	3/4" SPACING, 2-SLOT, 6" DIA. NECK	S/A	LAY-IN	BWE	25	1, 2	
8	TITUS	ML-38	48"x4"	3/4" SPACING, 4-SLOT, 8" DIA. NECK	S/A	LAY-IN	BWE	25	1, 2	
9	TITUS	ML-38	48"x4"	3/4" SPACING, 4-SLOT, 10" DIA. NECK	S/A	LAY-IN	BWE	25	1, 2	
10	TITUS	PAS	24"x24"	10" DIA. NECK 4-WAY	S/A	LAY-IN	BWE	25	1, 2	
11	TITUS	301FL	10"x8"	3/4" SPACING, 35" DEFLECTION	S/A	SURFACE MOUNT	BWE	25	1, 2	
12	TITUS	301FL	10"x10"	3/4" SPACING, 35" DEFLECTION	S/A	SURFACE MOUNT	BWE	25	1, 2	
13	TITUS	350FL	8"x8"	3/4" SPACING, 35" DEFLECTION	T/A, E/A	SURFACE MOUNT	BWE	25	1, 2	
14	TITUS	350FL	22"x22"	3/4" SPACING, 35" DEFLECTION	T/A	SURFACE MOUNT	BWE	25	1, 2	
15	TITUS	350FL	10"x10"	3/4" SPACING, 35" DEFLECTION	T/A, E/A	SURFACE MOUNT	BWE	25	1, 2	
16	TITUS	350FL	42"x18"	3/4" SPACING, 35" DEFLECTION	T/A	SURFACE MOUNT	BWE	25	1, 2	
17	TITUS	PAR	24"x24"	15"x15" NECK	E/A	LAY-IN	BWE	25	1, 2	
18	TITUS	TDC	9"x9"	6" DIA. NECK 1-WAY	S/A	LAY-IN	BWE	25	1, 2	

- NOTES:
1. ALL GRILLES, REGISTERS, AND DIFFUSERS SHALL BE FURNISHED WITH A FRAME STYLE SUITABLE FOR THE MATERIAL IT IS TO BE INSTALLED IN.
  2. COORDINATE COLOR WITH ARCHITECT.





NO.	DESCRIPTION	DATE
1	Revision 1	Date 1
2	ADDENDUM #2	02/23/2023

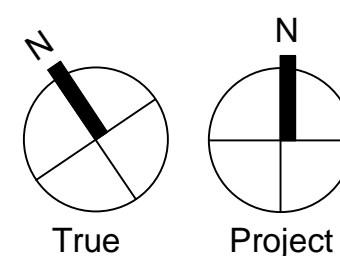


1 | FIRST FLOOR PLAN - POWER

E101.PH2 SCALE: 1/8" = 1'-0"

DRAWING NOTES

- PROVIDE QUAD RECEPTACLE HIGH ON WALL, COORDINATE WITH ARCHITECTURAL ELEVATIONS, PROVIDE DATA DROPS WHEN INDICATED ON PLAN.
- PROVIDE PEDESTAL RECEPTACLE SEE KITCHEN PEDESTAL DETAIL, PROVIDE SAW-CUTTING AND PATCHING OF FLOOR FOR INSTALLATION.
- PROVIDE RETRACTABLE FOOD SERVICE RATED CORD REEL, PROVIDE RECEPTACLE IN CEILING FOR CONNECTION AND MOUNT CORD REEL TO BOTTOM OF CEILING, PROVIDE KITCHEN LEASH MODEL #: KL-152012-D OR EQUAL.
- FIELD VERIFY DUCTLESS SPLIT SYSTEM ASSOCIATED WITH CONDENSING UNIT, CONDENSING UNIT SHALL REMAIN IF ASSOCIATED DUCTLESS SPLIT SYSTEM IS DESIGNATED TO REMAIN, CONDENSING UNIT SHALL BE REMOVED IF ASSOCIATED DUCTLESS SPLIT SYSTEM IS DESIGNATED TO BE REMOVED.
- PROVIDE FLOOR-BOX WITH QUAD RECEPTACLE AND (2) DATA DROPS, PROVIDE 1.25" CONDUIT TO FLOOR BOX FROM ACCESSIBLE CEILING ABOVE FOR DATA, PROVIDE (1) BLANK PLATE IN FLOOR BOX FOR FUTURE AV INPUTS (TYP.)
- PROVIDE INTERCOM MASTER STATION, PROGRAM FOR FRONT DOOR RELEASE ONLY.
- PROVIDE FLOOR BOX WITH QUAD RECEPTACLE, (2) DATA DROPS AND 1.25" CONDUIT FOR LOW-VOLTAGE WIRING.
- PROGRAM INTERCOM MASTER STATION FOR FRONT DOOR AND OFFICE DOORS RELEASE.
- PROVIDE LOW-VOLTAGE CABLING FOR CONTROL DOOR, REFER TO DETAIL AND SPECIFICATIONS.





Civ

74 West Broad Street, Suite 530  
Bethlehem, PA 18018  
(610)-625-2999

**SNYDER HOFFMAN**  
1005 West Lehigh Street  
Bethlehem, PA 18018  
(601) 694-8020

153 East King Street, Suite 211-212  
Lancaster, PA 17602  
717.299.8965

**CHESTER UPLAND  
SCHOOL DISTRICT**  
232 W. 9th Street  
Chester, PA 19013


1350 EDMONT AVENUE  
RENOVATIONS

1350 EDMONT AVENUE  
CHESTER, PA 19013

[illegible]

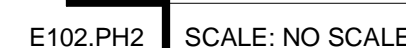
DATE: 01/30/2023

SG PROJECT NUMBER: 22-023.1



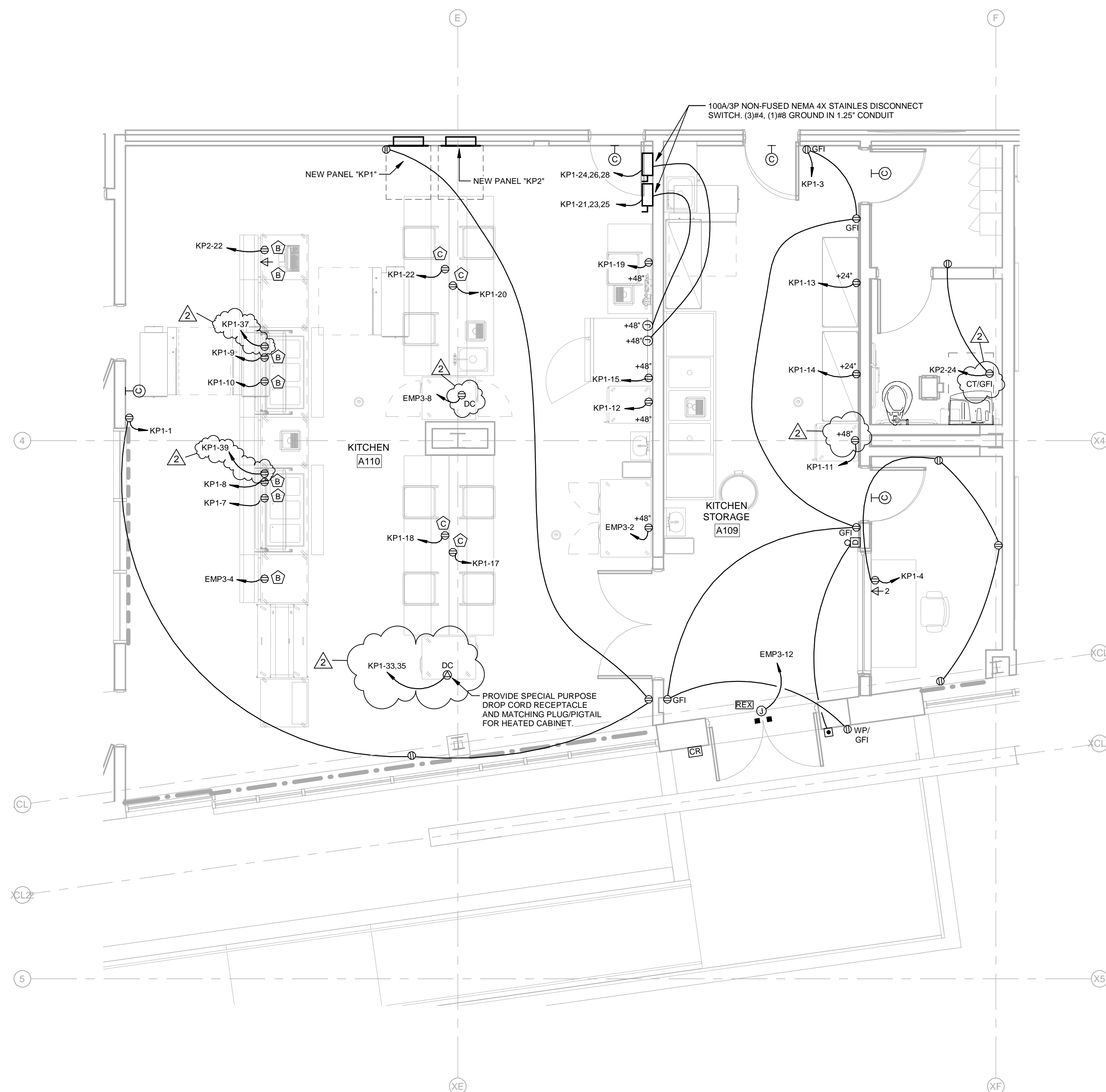
## ENLARGED PLANS - POWER

# E102.PH2

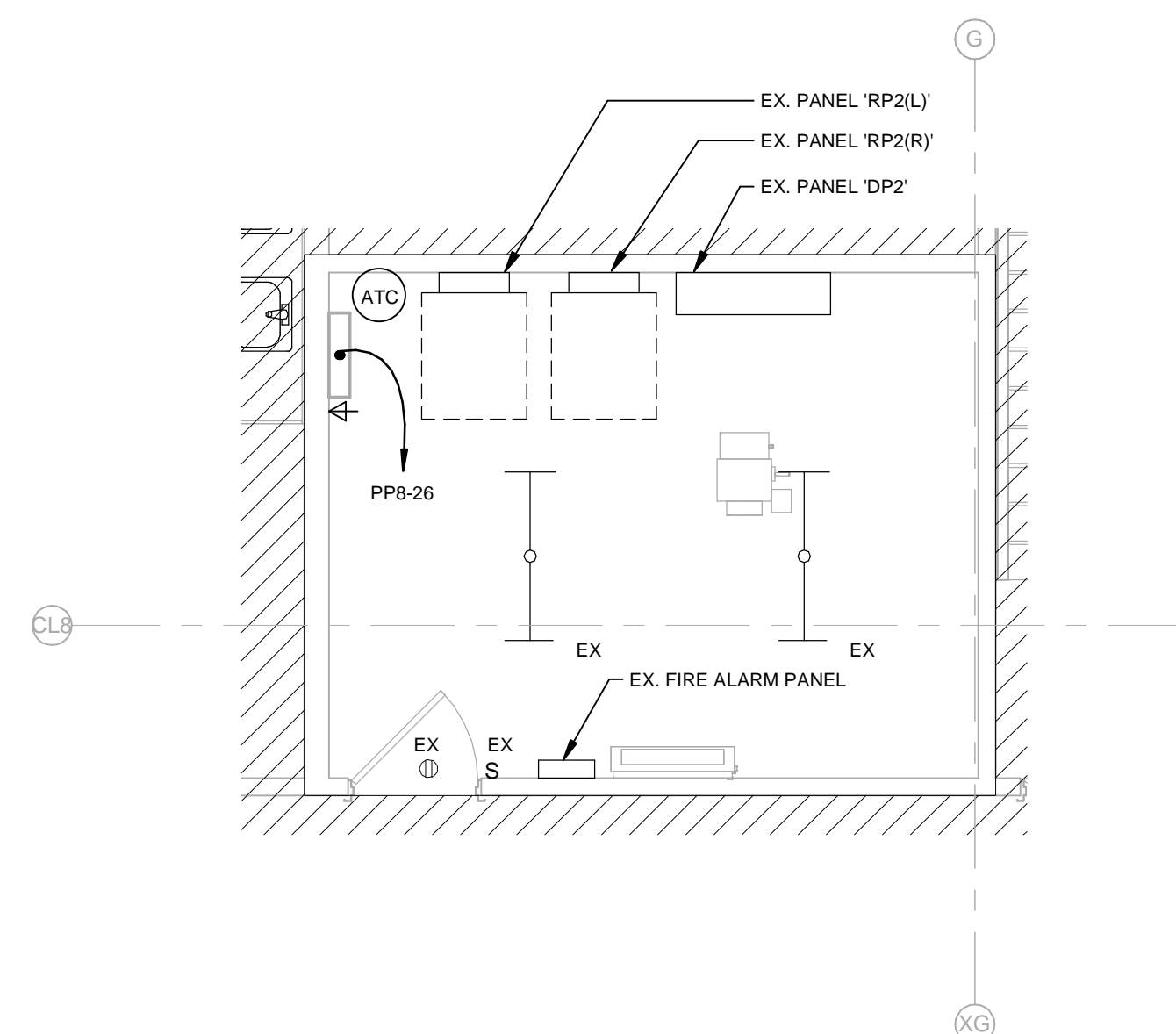


NO SCALE

E102.PH2	SCALE: NO SCALE
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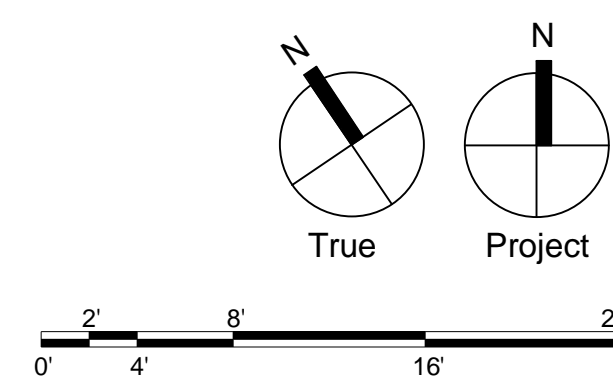


E102.PH2 SCALE: 1/4" = 1'-0"



- 7 PROVIDE QUAD RECEPTACLE HORN ON WALL, COORDINATE WITH ARCHITECTURAL ELEVATIONS.
- 8 PROVIDE WIRING TO BE INSTALLED ON PLUMB, PROVIDE PEDestal RECEPTACLE SEE KITCHEN PEDestal DETAIL, PROVIDE SAW-CUTTING AND PATCHING FOR DOOR FRAME FLATLATION.
- 9 PROVIDE RETRACTABLE FOOD SERVICE RACK, CORREL, PROVIDE RECEPTACLE IN CEILING AS SHOWN AND MAKE SURE IT IS ATTACHED TO BOTTOM OF CEILING, PROVIDE KITCHEN LEASH MODEL K-1520102 OR EQUAL.
- 10 FIELD VERIFY DUCTLESS SPLIT SYSTEM CONDENSING UNIT SHALL REMAIN IF ASSOCIATED WITH EXISTING SYSTEM, IF NOT, CONDENSING UNIT REMAIN, CONDENSING UNIT SHALL BE REMOVED AS NOTED, IF NOTED, CONDENSING SYSTEM IS DESIGNATED TO BE REMOVED.
- 11 PROVIDE FLOOR-BOX WITH QUAD RECEPTACLE AS SHOWN, PROVIDE ACCESSIBLE APPROXIMATE TO FLOOR BOX FROM ACCESSIBLE CEILING ABOVE FOR DATA, PROVIDE 11 BLANK PLATE IN FLOOR BOX AS SHOWN IN DETAIL.
- 12 PROVIDE INTERCOM MASTER STATION, PROGRAM FOR FRONT DOOR RELEASE ONLY.
- 13 PROVIDE FLOOR BOX WITH QUAD RECEPTACLE, DATA, PROVIDE 120V 125% CONDUIT FOR LOW VOLTAGE WIRING.
- 14 PROGRAM INTERCOM FOR MASTER STATION FOR FRONT DOOR AND OFFICE DOORS RELEASE
- 15 PROVIDE LOW-VOLTAGE CABLING FOR CONTROL, PROVIDE DETAIL.

E102.PH2 SCALE: 1/4" = 1'-0"



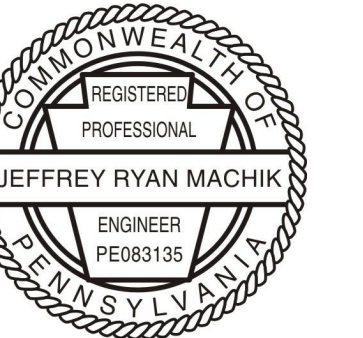


**T&M Associates**  
74 West Broad Street, Suite 530  
Bethlehem, PA 18018  
(610)-625-2999

MEP:  
SNYDER HOFFMAN  
1005 West Lehigh Street  
Bethlehem, PA 18018  
(601) 694-8020

*Structural Engineer*  
**SCHRADERGROUP**  
153 East King Street, Suite 211-212  
Lancaster, PA 17602  
717.299.8965

Professional Seal:



Owner:  
CHESTER UPLAND  
SCHOOL DISTRICT  
232 W. 9th Street  
Chester, PA 19013

1350 EDMONT AVENUE  
RENOVATIONS

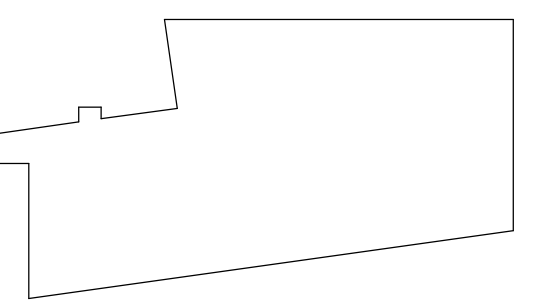
1330 EDMONT AVENUE  
CHESTER, PA 19013

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DATE:	01/30/2023
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<b>SG PROJECT NUMBER:</b>	22-023.1
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**Key Plan:**



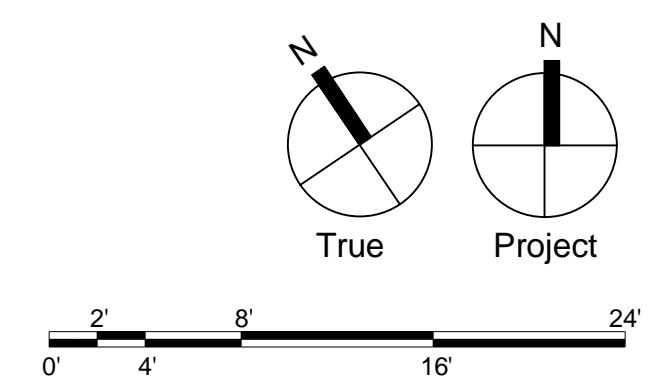
FIRST FLOOR PLAN -  
LIGHTING

# E103.PH2



### LIGHTING NOTES

1. CONTRACTOR SHALL INCLUDE PREMIUM FINISHES FOR ALL FIXTURES. FINISHES SHALL BE SELECTED BY THE ARCHITECT DURING SHOP DRAWING REVIEW.
2. CIRCUIT ALL EXIST SIGNS TO NEAREST GENERATOR LIGHTING CIRCUIT. EXIT SIGN CIRCUITING SHALL NOT BE SWITCHED OR CONTROLLED.



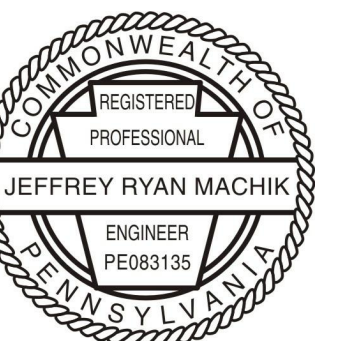


Civilt.

**MEP:**

Structural Engineer

Professional Seal:



**CHESTER UPLAND  
SCHOOL DISTRICT**  
232 W. 9th Street  
Chester, PA 19013

1350 EDMONT AVENUE  
RENOVATIONS

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CHESTER, PA 19013

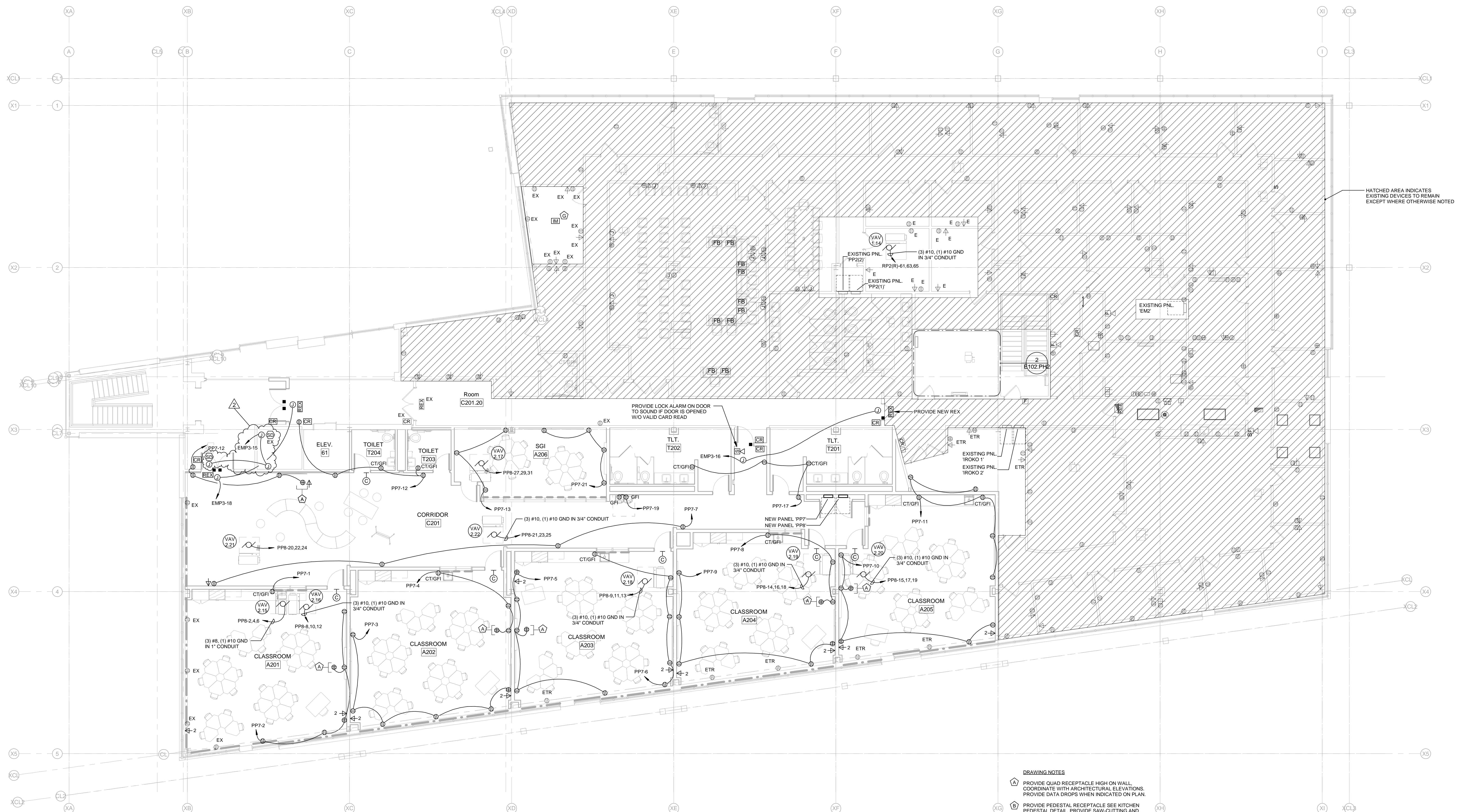
NO.	DESCRIPTION	DATE
2	ADDENDUM #2	02/23/2023

DATE:	01/30/2023
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<b>SG PROJECT NUMBER:</b>	22-023.1
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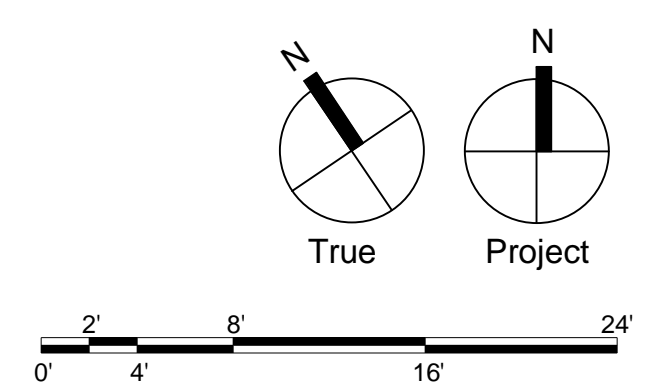
SECOND FLOOR PLAN -  
POWER

E104.PH2



E104.PH2 SCALE: 1/8" = 1'-0"

- (1) PROVIDE QUAD RECEPTACLE HIGH ON WALL, COORDINATE WITH ARCHITECTURAL ELEVATIONS. (2) PROVIDE 125°C CORD REEL FOR LOW-VOLTAGE WIRING.
- (1) PROVIDE PEDESTAL RECEPTACLE SEE KITCHEN PEDESTAL DETAIL. PROVIDE SAW-CUTTING AND FINISH FLOOR.
- (1) PROVIDE RETRACTABLE FOOD SERVICE RATED CORD REEL. PROVIDE RECEPTACLE IN CEILING FOR CONNECTION AND MOUNT CORD REEL TO CEILING. PROVIDE RECEPTACLE LEASH MODEL # K-150212 OR EQUAL.
- (1) FIELD VERIFY DUCTLESS SPLIT SYSTEM ASSOCIATED WITH REFRIGERATION UNIT. CONDENSING UNIT SHALL REMAIN IF ASSOCIATED WITH REFRIGERATION UNIT. CONDENSING UNIT TO REMAIN. CONDENSING UNIT SHALL BE REMOVED IF FIELD VERIFY DUCTLESS SPLIT SYSTEM IS DESIGNATED TO BE REMOVED.
- (1) PROVIDE FLOOR BOX WITH QUAD RECEPTACLE AND (2) DATA PADS. PROVIDE 125° CORD REEL FOR FRONT OFFICE AND 125° CORD REEL FOR DATA. PROVIDE (1) BLANK PLATE IN FLOOR FOR FUTURE ADDITIONAL DATA PADS.
- (1) PROVIDE INTERCOM MASTER STATION, PROGRAM FOR FRONT DOOR RELEASE ONLY.
- (1) PROVIDE FLOOR BOX WITH QUAD RECEPTACLE, (2) DATA PADS AND 125° CORD REEL FOR LOW-VOLTAGE WIRING.
- (1) PROGRAM INTERCOM MASTER STATION FOR FRONT DOOR AND OFFICE DOORS RELEASE.
- (1) PROVIDE LOW-VOLTAGE CABLING FOR CONTROL CABLES TO BE INSTALLED.





**T&M Associates**  
74 West Broad Street, Suite 530  
Bethlehem, PA 18018  
(610)-625-2999

MEP:  
SNYDER HOFFMAN  
1005 West Lehigh Street  
Bethlehem, PA 18018  
(601) 694-8020

Structural Engineer  
**SCHRADERGROUP**  
153 East King Street, Suite 211-212  
Lancaster, PA 17602  
717.299.8965

Owner:  
CHESTER UPLAND  
SCHOOL DISTRICT  
232 W. 9th Street  
Chester, PA 19013

1350 EDMONT AVENUE  
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[illegible]

DATE:	01/30/2023
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<b>SG PROJECT NUMBER:</b>	22-023.1
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SECOND FLOOR PLAN -  
LIGHTING

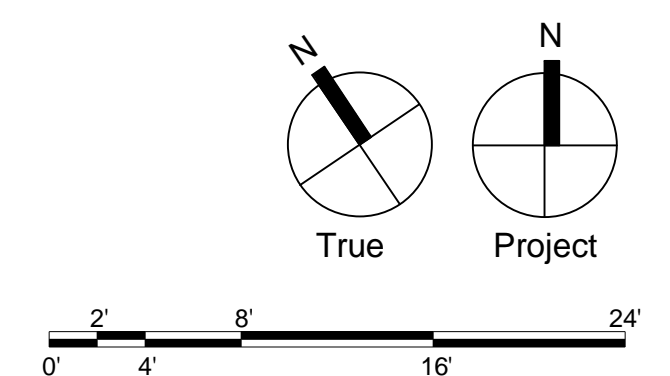
E105.PH2



## 1 | SECOND FLOOR PLAN - LIGHTING

LIGHTING NOTES

1. CONTRACTOR SHALL INCLUDE PREMIUM FINISHES FOR ALL FIXTURES. FINISHES SHALL BE SELECTED BY THE ARCHITECT DURING SHOP DRAWING REVIEW.
2. CIRCUIT ALL EXIST SIGNS TO NEAREST GENERATOR LIGHTING CIRCUIT. EXISTING CIRCUITING SHALL NOT BE SWITCHED OR CONTROLLED.





Civi

Contac

MEP:

**SNYDER HOFFMAN**  
1005 West Lehigh Street  
Bethlehem, PA 18018  
(601) 694-8020

Structural Engineer

Contac

Professional Seal:



Owner:

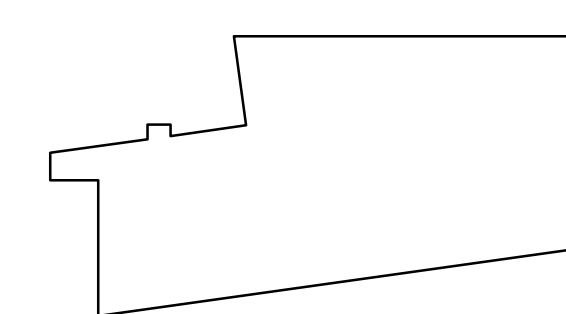
**CHESTER UPLAND  
SCHOOL DISTRICT**  
232 W. 9th Street  
Chester, PA 19013

1350 EDMONT AVENUE  
RENOVATIONS

1350 EDMONT AVENUE  
CHESTER, PA 19013

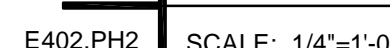
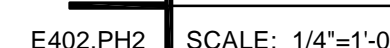
<b>DATE:</b>	1/30/2023
<b>SG PROJECT NUMBER:</b>	22-023

**Key Plan:**



**Drawing Title:**  
FIRST FLOOR PLAN -  
CONFERENCE A100.5 -  
AV SYSTEM PLANS AND  
DETAILS  
**Drawing Number:**

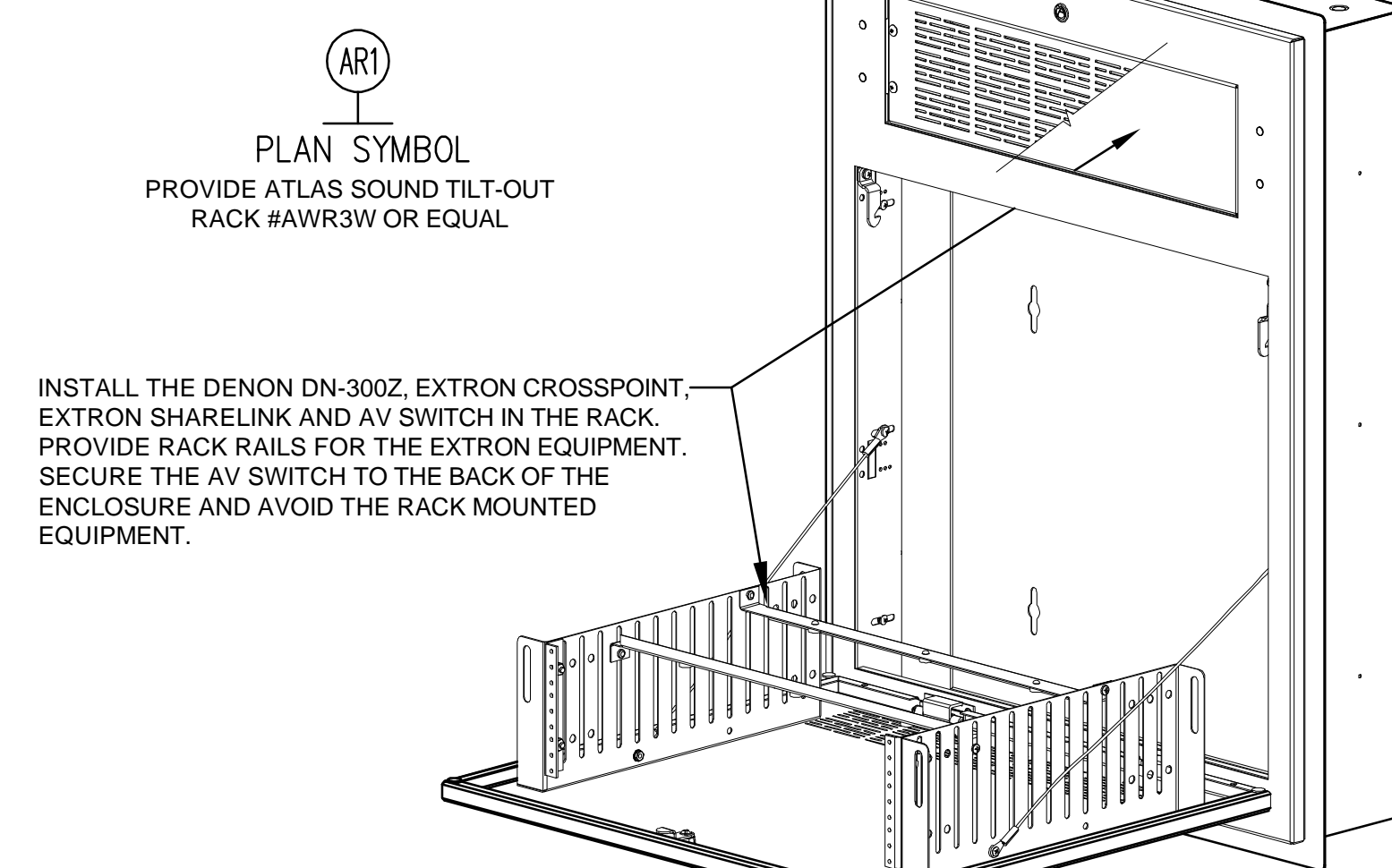
E402.PH2



CABLE LEGEND	
TYPE	DESCRIPTION
AUDIO	22 AWG 2 COND., SHIELDED, PLENUM
AXLINK	AMX AXLINK CABLE OR APPROVED EQUIVALENT
CAT5E	CAT5e, UNSHIELDED, PLENUM
CAT6 SHIELDED	CAT6, SHIELDED, PLENUM
EXTRON	EXTRON OR EXTRON APPROVED EQUIVALENT
CONTROL	22 AWG 4 COND., SHIELDED, PLENUM
IR EMITTER	IR EMITTER CABLE
FIBER OPTIC	FIBER OPTIC (SPECIFY IN DESCRIPTION)
PREMADE CABLE	SPECIFIED BELOW EACH LABEL
POWER (TYP. LOW VOLTAGE)	16 AWG 2 COND., UNSHIELDED, PLENUM
RF ANTENNA	RG58/RG11 (SPECIFY IN DESCRIPTION)
RG6 VIDEO	RG6, 20 AWG CENTER W/ COPPER SHIELD
RG6 FOR CATV/MATV	RG6, 20 AWG CENTER W/ ALUMINUM SHIELD
SDI DIGITAL VIDEO	RG6, DIGITAL COAX CABLE, PLENUM
70W SPEAKER	16 AWG 2 COND., UNSHIELDED, PLENUM
LOW IMPEDANCE SPEAKER	14 AWG 2 COND., 19/27 BARE COPPER, UNSHIELDED PLENUM
EXTRON XTP	EXTRON XTP CABLE OR APPROVED EQUIVALENT

MOUNTING HEIGHTS:	
RECEPTACLES	18" ABOVE FINISHED FLOOR TO CENTER OF BOX (UNLESS NOTED OTHERWISE)
SWITCHES	48" ABOVE FINISHED FLOOR TO CENTER OF BOX
REMOTE ANTENNA	AS HIGH AS POSSIBLE ON THE WALL OR ABOVE DROP CEILING – NOTED ON PLANS
CT RECEPTACLES	3" ABOVE COUNTERTOP OR 1" ABOVE BACKSPLASH

THE AUDIO RACK SHALL BE RECESSED IN THE WALL  
PROVIDE ALL COMPONENTS REQUIRED TO RECESS  
THE ENCLOSURE.



E402.PH2	SCALE: Non
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SPEAKER MOUNTING NOTES

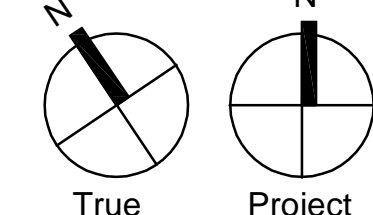
1. PROVIDE NECESSARY SUSPENSION AND MOUNTING HARDWARE AS REQUIRED PER MANUFACTURERS RECOMMENDATION FOR PROPER AND SAFE MOUNTING OF THE SPEAKERS.
2. IF NECESSARY, PROVIDE EXPOSED SURFACE MOUNTED JUNCTION BOXES AND CONDUIT FOR SUSPENDED SPEAKERS. PAINT JUNCTION BOXES AND CONDUIT TO MATCH ADJACENT AREAS.
3. SPEAKER COLOR SHALL BE WHITE. ALL VISIBLE BRACKETS AND MOUNTING HARDWARE SHALL MATCH THE SPEAKER

### WIRING DIAGRAM NOTES

1. WIRING DIAGRAM SHALL BE USED AS A GENERAL GUIDE FOR WIRING AND ASSEMBLY OF THE SYSTEM AND MAY NOT SHOW ALL EQUIPMENT THAT NEEDS TO BE PROVIDED. EQUIPMENT LOCATIONS, QUANTITIES AND TYPES TO BE PROVIDED ARE SHOWN ON THE FLOOR PLANS.
2. THE EQUIPMENT MANUFACTURERS LATEST PUBLISHED SPECIFICATIONS SHALL BE CONSIDERED AS PART OF THIS DESIGN.
3. THE CONTRACTOR SHALL FURNISH CONDUIT, WIRE, CONNECTORS, HARDWARE AND ALL OTHER INCIDENTAL ITEMS NECESSARY FOR COMPLETE AND PROPER OPERATION OF THE AV SYSTEM REGARDLESS IF SHOWN OR IDENTIFIED.

#### A/V GENERAL NOTES

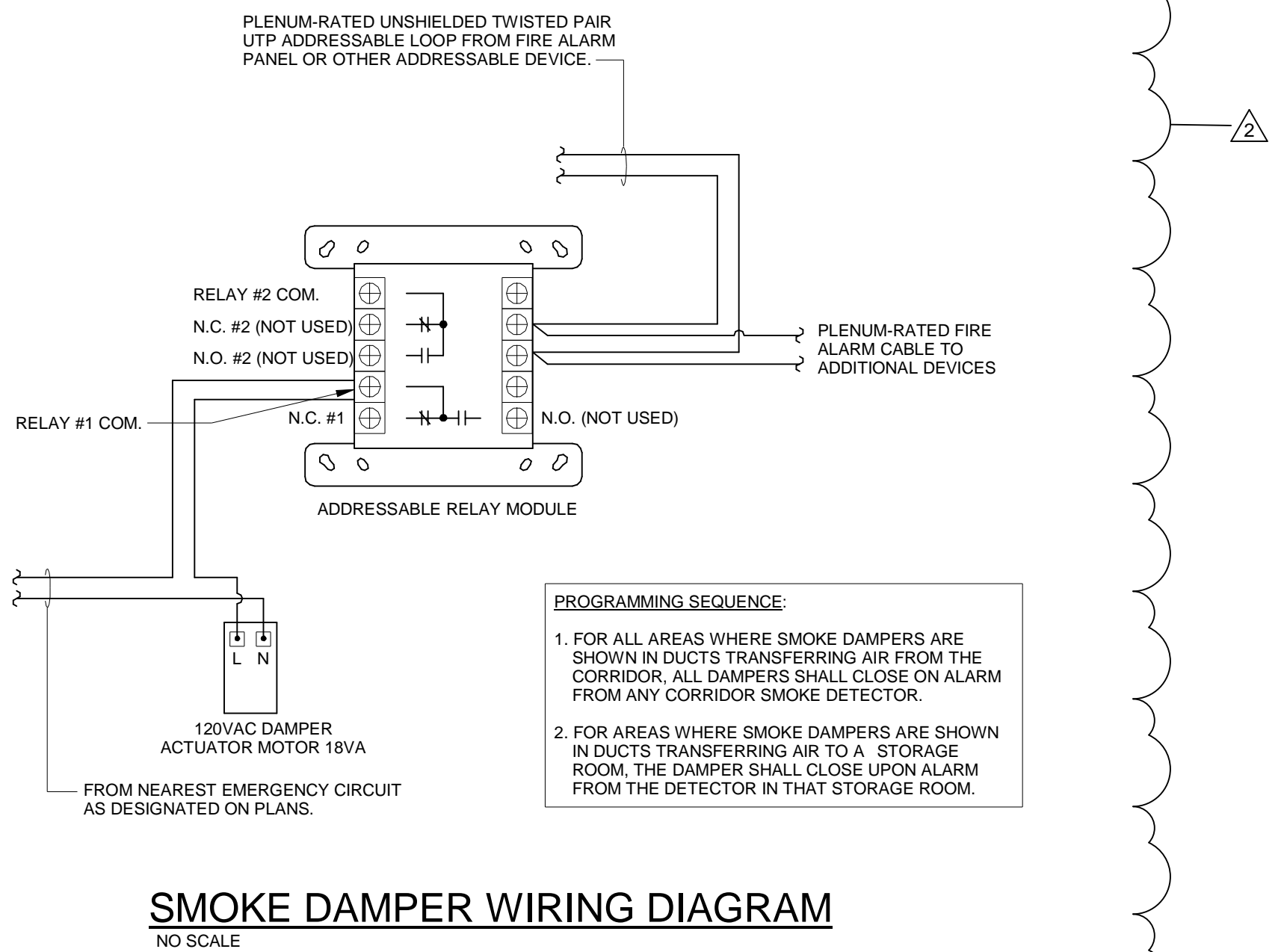
1. ALL DRAWINGS ARE DIAGRAMMATIC. THEY ARE INTENDED TO SHOW APPROXIMATE LOCATIONS OF EQUIPMENT AND CONTROL DIMENSIONS GIVEN ON THE PLANS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE USED TO LOCATE THE EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION OF THE EQUIPMENT PURCHASED. FITS IN THE ROOM OR SPACE SHOWN ARE HAS ALL CLEARANCES REQUIRED BY THE NEC. EXACT LOCATION OF THE EQUIPMENT SHALL BE DETERMINED BY THE CONTRACTOR.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. MATERIAL AND LABOR NECESSARY TO PROJECT SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH LABOR AND MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION OF THE EQUIPMENT. THE FUNCTIONING OF THE SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THIS INCLUDES, BUT NOT LIMITED TO, ALL WIRING, SUPPLEMENTAL EQUIPMENT AND PROGRAMMING OF THE SYSTEM FOR A FULLY FUNCTIONAL SYSTEM.
3. IF APPLICABLE, INSTALL EMPTY CORDS AS INDICATED ON THE DRAWINGS. CORDS CAN COMPLETE WITH JETLINE OR PULL STRING. DRAWING NOTES, THE RINGS AND APPROVED COVER PLATES.
4. USE ELECTRICAL POWER DRAWINGS FOR POWER CIRCUIT DESIGNATIONS FOR RECEPTACLES AND JUNCTION BOXES. IF NOT SHOWN ON THE DRAWINGS, NOTES.
5. SPEAKERS LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL INSTALL EACH SPEAKER CLOSE TO THE LOCATION SHOWN, BUT SHALL COORDINATE THE LOCATIONS TO AVOID LIGHTING FIXTURES OR OTHER TRADES EQUIPMENT.
6. ALL AUDIO AND VIDEO CABLES SHALL BE PLENUM RATED CABLE.
7. PROVIDE ALL NECESSARY BACK BOXES TO ACCOMMODATE THE REQUIRED AV EQUIPMENT. SET MOUNTING HEIGHTS TO THE CENTER OF THE SCREEN. PROVIDE ALL NECESSARY BACK BOXES WITH POWER AND DATA SLOTTED.





Branch Panel: KP1										
Location: KITCHEN A110				Volts: 120/208 Wye			A.I.C. Rating: 10KAIC			
Supply From:				Phases: 3			Mains Type: MCB			
Mounting: Recessed				Wires: 4			Mains Rating: 200 A			
Enclosure: Type 1							MCB Rating 200 A			
CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
1	1	20 A	A110 Kitchen Rcpts	720 / 0			Projection Screen	20 A	1	2
3	1	20 A	A108 Kitchen Storage Rcpts		720 / 180		A110 Kitchen Office Rcpts	20 A	1	4
5	1	20 A	A111 Multi-Purpose/ Cafeteri...			1260 / 1260	A111 Multi-Purpose/ Cafeteri...	20 A	1	6
7	1	20 A	A110 Kitchen Sneeze Guard	1920 / 1200			A110 Kitchen Sneeze Guard	20 A	1	8
9	1	20 A	A110 Kitchen Sneeze Guard		1200 / 1920		A110 Kitchen Sneeze Guard	20 A	1	10
11	1	20 A	A109 Kitchen Storage Hot...			1900 / 1900	A110 Hot Holding Cab...	20 A	1	12
13	1	20 A	A109 Kitchen Storage Rcpts	1440 / 1440			A109 Kitchen Storage Rcpts	20 A	1	14
15	1	20 A	A110 Combi-Oven		960 / 0		Spare	20 A	1	16
17	1	20 A	A110 Kitchen Rcpts			1440 / 1440	A110 Kitchen Rcpts	20 A	1	18
19	1	20 A	A110 Kitchen Rcpts	1440 / 1440			A110 Kitchen Rcpts	20 A	1	20
21	3	70 A	A110 Combi-Oven		7467 / 1440		A110 Kitchen Rcpts	20 A	1	22
23	--	--	--			7467 / 7467	A110 Combi-Oven	70 A	3	24
25	--	--	--	7467 / 7467			--	--	--	26
27	1	30 A	Audio Rack Receipt		360 / 7467		--	--	--	28
29	1	30 A	Audio Rack CQ2200			2000 / 2520	KP3	100 A	3	30
31	1	20 A	Receptacle A111 Projector	500 / 1620			--	--	--	32
33	2	20 A	Receptacle		750 / 1440		--	--	--	34
35	--	--	--			750 / 0	Spare	20 A	1	36
37	1	20 A	Receptacle	1200 / 0			SPD	30 A	3	38
39	1	20 A	Receptacle		1200 / 0		--	--	--	40
41	1	20 A	Spare			0 / 0	--	--	--	42
				27853 VA	25463 VA	29763 VA				
				235 A	212 A	251 A				
Load Classification				Connected Load	Demand Factor	Estimated...	Panel Totals			
Other				44800 VA		100.00%	44800 VA			
Receptacle				38280 VA	63.06%	24140 VA	Total Conn. Load: 83080 VA			
Load Classification				0 VA	0.00%	0 VA	Total Est. Demand: 68940 VA			
							Total Conn. Current: 231 A			
							Total Est. Demand... 191 A			
Notes:										
Provide Bolt-on Breakers, Full Rated Copper Buses, Equipment Ground Bars										
Provide Leviton Cat # 32(208V)-DY3 Surge Protection Device (SPD) with Flush Mounted Enclosure and Dedicated 30A/3p Breaker/Feed or Provide Integrated Equivalent SPD by Equipment Manufacturer										

Branch Panel: PP5										
Location:			Volts: 120/208 Wye			A.I.C. Rating: 25kA/IC				
Supply From:			Phases: 3			Mains Type: MLO				
Mounting: Surface			Wires: 4			Mains Rating: 200 A				
Enclosure: Type 1										
CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
1	1	20 A	A108 Classroom Rcpts	1260 / 1080			A108 and Corridor Rcpts	20 A	1	2
3	1	20 A	A107 Classroom Rcpts		540 / 1260		A107 Classroom Rcpts	20 A	1	4
5	1	20 A	A106 Classroom Rcpts			1260 / 720	A106 Classroom Rcpts	20 A	1	6
7										8
9	1	20 A	Spare		0 / 0		Spare	20 A	1	10
11	1	20 A	Spare			0 / 0	Spare	20 A	1	12
13	1	20 A	Spare	0 / 0			Spare	20 A	1	14
15	1	20 A	Spare		0 / 0		Spare	20 A	1	16
17	1	20 A	Spare			0 / 0	Spare	20 A	1	18
19	1	20 A	Spare	0 / 0			Spare	20 A	1	20
21	1	20 A	Spare		0 / 0		Spare	20 A	1	22
23	1	20 A	Spare			0 / 0	Spare	20 A	1	24
25	1	20 A	Spare	0 / 0			Spare	20 A	1	26
27	1	20 A	Spare		0 / 0		Spare	20 A	1	28
29	1	20 A	Spare			0 / 0	Spare	20 A	1	30
31	1	20 A	Spare	0 / 0			Spare	20 A	1	32
33	1	20 A	Spare		0 / 0		Spare	20 A	1	34
35	1	20 A	Spare			0 / 0	Spare	20 A	1	36
37	1	20 A	Spare	0 / 0			SPD	30 A	3	38
39	1	20 A	Spare		0 / 0		--	--	--	40
41	1	20 A	Spare			0 / 0	--	--	--	42
				2340 VA	1800 VA	1980 VA				
				20 A	15 A	17 A				
Load Classification				Connected Load		Demand Factor	Estimated...	Panel Totals		
Receptacle				6120 VA		100.00%	6120 VA			
								Total Conn. Load: 6120 VA		
								Total Est. Demand: 6120 VA		
								Total Conn. Current: 17 A		
								Total Est. Demand... 17 A		
Notes:										
Provide Bolt-on Breakers, Full Rated Copper Buses, Equipment Ground Bars										
Provide Leviton Cat # 32(208V)-DY3 Surge Protection Device (SPD) with Flush Mounted Enclosure and Dedicated 30A/3p Breaker/Feed or Provide Integrated Equivalent SPD by Equipment Manufacturer										



Branch Panel: KP2

Location: KITCHEN A110

Supply From: KP1

Mounting: Recessed

Enclosure: Type 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 10KAIC

Mains Type: MCB

Mains Rating: 200 A

MCB Rating 200 A

CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
1	3	30 A	Exist Load from Pnl "SBDC"	0 / 0			Exist Load from Pnl "EDU"	50 A	3	2
3	--	--	--		0 / 0		--	--	--	4
5	--	--	--			0 / 0	--	--	--	6
7	1	20 A	Exist Load from Pnl "SBDC"	0 / 0			Exist Load from Pnl "EDU"	50 A	3	8
9	1	20 A	Exist Load from Pnl "SBDC"		0 / 0		--	--	--	10
11	1	20 A	Exist Load from Pnl "SBDC"			0 / 0	--	--	--	12
13	1	20 A	Exist Load from Pnl "SBDC"	0 / 0			Exist Load from Pnl "EDU"	20 A	1	14
15	1	20 A	Spare		0 / 0		Exist Load from Pnl "EDU"	20 A	1	16
17	1	20 A	Spare			0 / 0	Exist Load from Pnl "EDU"	20 A	1	18
19	1	20 A	Spare	0 / 0			Exist Load from Pnl "EDU"	20 A	1	20
21	1	20 A	Spare		0 / 360		A110 Kitchen P.O.S	20 A	1	22
23	1	20 A	Spare			0 / 360	A109 Kitchen Storage...	20 A	1	24
25	1	20 A	Spare	0 / 0			Spare	20 A	1	26
27	1	20 A	Spare		0 / 0		Spare	20 A	1	28
29	1	20 A	Spare			0 / 0	Spare	20 A	1	30
31	1	20 A	Spare	0 / 0			Spare	20 A	1	32
33	1	20 A	Spare		0 / 0		Spare	20 A	1	34
35	1	20 A	Spare			0 / 0	Spare	20 A	1	36
37	1	20 A	Spare	0 / 0			SPD	30 A	3	38
39	1	20 A	Spare		0 / 0		--	--	--	40
41	1	20 A	Spare			0 / 0	--	--	--	42
				0 VA	360 VA	360 VA				
				0 A	3 A	3 A				
Load Classification										
Connected Load			Demand Factor			Estimated...				
Receptacle			720 VA			100.00%				
						720 VA				
						Total Conn. Load: 720 VA				
						Total Est. Demand: 720 VA				
						Total Conn. Current: 2 A				
						Total Est. Demand... 2 A				

Notes:

Provide Bolt-on Breakers, Full Rated Copper Buses, Equipment Ground Bars

Provide Leviton Cat # 32(208V)-DY3 Surge Protection Device (SPD) with Flush Mounted Enclosure and Dedicated 30A/3p Breaker/Feed or Provide Integrated Equivalent SPD by Equipment Manufacturer



Consultants:

Civil:

T&M Associates

74 West Broad Street, Suite 530  
Bethlehem, PA 18018  
(610)-625-2999

MEP:

SNYDER HOFFMAN

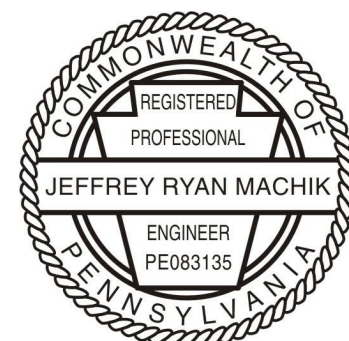
1005 West Lehigh Street  
Bethlehem, PA 18018  
(601) 694-8020

Structural Engineer

**SCHRADERGROUP**

153 East King Street, Suite 211-212  
Lancaster, PA 17602  
717.299.8965

Professional Seal:



Owner:  
**CHESTER UPLAND  
SCHOOL DISTRICT**  
232 W. 9th Street  
Chester, PA 19013

1350 EDMONT AVENUE  
RENOVATIONS

1350 EDMONT AVENUE  
CHESTER, PA 19013

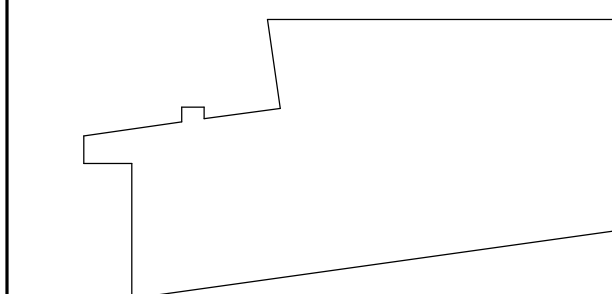
ISSUED FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	02/23/2023

DATE: 01/30/2023

SG PROJECT NUMBER: 22-023.1

Key Plan:



Drawing Title:

**SCHEDULES -  
ELECTRICAL**

Drawing Number:

**E701.PH2**

## Branch Panel: EMP3

Location: MECH 70

Supply From: Surface

Enclosure: Type 1

Modifications:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: Existing  
Mains Type: MCB  
Mains Rating: 100 A  
MCB Rating: 90 A

CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
1	3	40 A	Phase Converter	0 / 972			A110 Kitchen Reachin...	20 A	1	2
3	--	--	--		0 / 324		a110 Kitchen Milk Cooler	20 A	1	4
5	--	--	--			0 / 0	Rept	20 A	1	6
7	1	20 A	Lighting	462 / 624			A110 Kitchen Pastry Fridge	20 A	1	8
9	1	20 A	Lighting		681 / 0		Card Access	20 A	1	10
11	1	20 A	Lighting			205 / 0	Door Access Power Supply	20 A	1	12
13	1	20 A	Ext Lighting	0 / 0			Card Readers	20 A	1	14
15	1	20 A	Fire Dampers		590 / 0		Door Access Power Supply	20 A	1	16
17	1	20 A	Spare			0 / 500	Card Readers	20 A	1	18
19	1	20 A	Spare	0 / 0			Existing Load	30 A	1	20
21	1	20 A	Lighting		647 / 0		Existing Load	20 A	1	22
23	1	20 A	Lighting			400 / 0	Existing Load	20 A	1	24
				2058 VA	2242 VA	1105 VA				
				18 A	20 A	9 A				

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 5405 VA
				Total Est. Demand: 5405 VA
				Total Conn. Current: 15 A
				Total Est. Demand... 15 A

Notes:  
Existing Loads and Breakers Designated By Italic font.  
New Loads and Breakers Designated by Bold Font.  
Field Verify Existing Panel AIC rating and provide equivalent AIC Rating for All New Breakers. Provide New Typed Circuit Directory

## Branch Panel: EM2

Location:

Supply From: Surface

Enclosure: Type 1

Modifications:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: Existing  
Mains Type: MLO  
Mains Rating: 100 A  
MCB Rating: 90 A

CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
1	1	30 A	Rept 30A IG	0 / 0			Existing Load	30 A	1	2
3	1	20 A	Rept IG		0 / 0		Rept 30A IG	30 A	1	4
5	1	20 A	Rept IG 1st Flr Corrl Rm			0 / 0	Rept IG	20 A	1	6
7	1	20 A	Rept IG 1st Flr Corrl Rm	0 / 0			Rept IG	20 A	1	8
9	1	20 A	Existing Load		0 / 0		Ltg IT Rm	20 A	1	10
11	1	20 A	Existing Load			0 / 0	Rept UPS	20 A	2	12
13	1	20 A	Existing Load	0 / 0			Rept Data Rm 1st Flr	20 A	1	14
15	1	20 A	Existing Load		0 / 0		A/C 3-Ton	20 A	2	16
17	1	20 A	Existing Load			0 / 0	--	--	--	18
19	1	20 A	Spare	0 / 0			Spare	20 A	1	20
21	1	20 A	Spare		0 / 0		Spare	20 A	1	22
23	1	20 A	Spare			0 / 0	Spare	20 A	1	24
25	1	20 A	Spare	0 / 0			Spare	20 A	1	26
27	1	20 A	Spare		0 / 0		Spare	--	1	28
29	1	20 A	Spare			0 / 0	Spare	--	1	30
				0 VA	0 VA	0 VA				
				0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand... 0 A

Notes:  
Existing Loads and Breakers Designated By Italic font.  
New Loads and Breakers Designated by Bold Font.  
Field Verify Existing Panel AIC rating and provide equivalent AIC Rating for All New Breakers. Provide New Typed Circuit Directory

## Branch Panel: PP1

Location: ELEC 31

Supply From: Surface

Enclosure: Type 1

Modifications:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: Existing  
Mains Type: MLO  
Mains Rating: 400 A  
MCB Rating: 400 A

CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
1	3	30 A	VAV-1 EDU	0 / 0			VAV-4 EDU	30 A	3	2
3	--	--	--		0 / 0		--	--	--	4
5	--	--	--			0 / 0	--	--	--	6
7	3	30 A	VAV-2 EDU	0 / 0			VAV-5 EDU	30 A	3	8
9	--	--	--		0 / 0		--	--	--	10
11	--	--	--			0 / 0	--	--	--	12
13	3	30 A	VAV-3 EDU	0 / 0			VAV Mens Bathroom	30 A	3	14
15	--	--	--		0 / 0		--	--	--	16
17	--	--	--			0 / 0	--	--	--	18
19	2	20 A	BB Heat Stair by Main Lobby	0 / 0			AC-1 Elev Machine Rm	20 A	1	20
21	--	--	--		0 / 0		AC-2 1st Flr DATA Security Rm	20 A	1	22
23	2	30 A	Cab Heat East Corridor			0 / 0	VAV This Room	15 A	1	24
25	--	--	--	0 / 0			VAV-6 EDU	30 A	3	26
27	2	30 A	Cab Heat Main Vestibulr		0 / 0		--	--	--	28
29	--	--	--			0 / 0	--	--	--	30
31	2	20 A	BB Heat Main Lobby	0 / 0			VAV-7 EDU	30 A	3	32
33	--	--	--		0 / 0		--	--	--	34
35	2	20 A	BB Heat Main Lobby	0 / 0			--	--	--	36
37	--	--	--			0 / 0	VAV-8 EDU	40 A	3	38
39	2	20 A	BB Heat Main Lobby		0 / 0		--	--	--	40
41	--	--	--			0 / 0	--	--	--	42
				0 VA	0 VA	0 VA				
				0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand... 0 A

Notes:  
Existing Loads and Breakers Designated By Italic font.  
New Loads and Breakers Designated by Bold Font.  
Field Verify Existing Panel AIC rating and provide equivalent AIC Rating for All New Breakers. Provide New Typed Circuit Directory

## Branch Panel: IROKO 1

Location: Room C201.21

Supply From: Recessed

Enclosure: Type 1

Modifications:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: Existing  
Mains Type: MCB  
Mains Rating: 225 A  
MCB Rating: 90 A

CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
3	--	--	--	0 / 0			HVAC	50 A	3	2
5	2	50 A	HVAC		0 / 0		--	--	--	4
7	--	--	--			0 / 0	--	--	--	6
9	2	20 A	Mini-Split IT Rm	0 / 0			Repts	20 A	1	8
11	--	--	--		0 / 0		Repts	20 A	1	10
13	1	20 A	Pump	0 / 0			Repts	20 A	1	12
15	3	100 A	IROKO 2		0 / 0		Refrigerator	20 A	1	14
17	--	--	--			0 / 0	Repts	20 A	1	16
19	--	--	--	0 / 0			Repts	20 A	1	18
21	1	20 A	Rept Mail Rm		0 / 0		Repts Mail Rm	20 A	1	20
23	1	20 A	Dishwasher			0 / 0	Repts	20 A	1	22
25	1	20 A	Rept IT Rm +72"	0 / 0			Repts	20 A	1	24
27	1	20 A	Existing Load		0 / 0		Ltg	20 A	1	26
29	1	20 A	Existing Load			0 / 0	Ltg	20 A	1	28
31	1	20 A	Existing Load	0 / 0			Ltg	20 A	1	30
33	1	20 A	Rept		0 / 0		Ltg	20 A	1	32
35	1	20 A	Rept IT Rm			0 / 0	Ltg	20 A	1	34
37	1	20 A	Rept IT Rm	0 / 0			Ltg	20 A	1	36
39	1	20 A	Rept IT Rm +72"		0 / 0		Ltg	20 A	1	38
41	1	20 A	Microwave			0 / 0	Ltg	20 A	1	40
				0 VA	0 VA	0 VA				
				0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand... 0 A

Notes:  
Existing Loads and Breakers Designated By Italic font.  
New Loads and Breakers Designated by Bold Font.  
Field Verify Existing Panel AIC rating and provide equivalent AIC Rating for All New Breakers. Provide New Typed Circuit Directory

## Branch Panel: EDPA (EDP2)

Location: ELEC 31

Supply From: Surface

Enclosure: Type 1

Modifications:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating: Existing  
Mains Type: MLO  
Mains Rating: 225 A  
MCB Rating: 0 A

CKT	Poles	Trip	Circuit Description	Phase A (VA)	Phase B (VA)	Phase C (VA)	Circuit Description	Trip	Poles	CKT
1	1	20 A	Rept Elev Machine Rm	0 / 0			Rept Suite 2500	20 A	1	2
3	1	20 A	Security Panel Main Vestibule		0 / 0		Lts Outside Building & Lobby	20 A	1	4
5	1	20 A	Elevator Signal Circuit			0 / 0	Lts East Corridor & Outside	20 A	1	6
7	1	20 A	Security Doors IROKO	0 / 0			Lts 2nd Flr Lobby	20 A	1	8
9	1	20 A	NAVMAR 2nd Flr		0 / 0		Building Exit Signs	20 A	1	10
11	1	20 A	Rept Elect Rm 1st Flr			0 / 0	Rept 2nd Flr Elect Rm	20 A	1	12
13	1	20 A	Rept Data Rm 1st Flr	0 / 0			Rept Wiener Rm	20 A	1	14
15	1	20 A	Security Panel Telecom RM		0 / 0		Rept Wiener Rm	20 A	1	16
17	1	20 A	Lts 2nd Floor South			0 / 0	Rept Wiener Rm	20 A	1	18
19	1	20 A	Ltg 1st Flr NAVMAR	0 / 0			Ltg 2nd Flr NAVMAR	20 A	1	20
21	1	--	Space		0 / 0		Space	--	1	22
23	1	--	Space			0 / 0	Space	--	1	24
				0 VA	0 VA	0 VA				
				0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated...	Panel
---------------------	----------------	---------------	--------------	-------



## **SECTION 28 3111 - BUILDING INTRUSION DETECTION (*Addendum 2*)**

### **PART 1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Intrusion detection system requirements.
- B. Alarm control unit.
- C. Keypads.
- D. Initiating devices.
- E. Alarm notification appliances.
- F. Accessories.

#### **1.2 RELATED REQUIREMENTS**

- A. Section 07 8400 - Firestopping.
- B. Section 08 7100 - Door Hardware: Electrically operated locks and door holder devices to be monitored and controlled by intrusion detection system.
- C. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- D. Section 26 0533.13 - Conduit for Electrical Systems.
- E. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.
- F. Section 28 1000 - Access Control: For interface with intrusion detection system.
- G. Section 28 2000 - Video Surveillance: For interface with intrusion detection system.

#### **1.3 REFERENCE STANDARDS**

- A. 47 CFR 15 - Radio Frequency Devices; current edition.
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 365 - Police Station Connected Burglar Alarm Units and Systems; Current Edition, Including All Revisions.



- E. UL 609 - Local Burglar Alarm Units and Systems; Current Edition, Including All Revisions.
- F. UL 634 - Connectors and Switches for Use with Burglar-Alarm Systems; Current Edition, Including All Revisions.
- G. UL 636 - Holdup Alarm Units and Systems; Current Edition, Including All Revisions.
- H. UL 639 - Intrusion-Detection Units; Current Edition, Including All Revisions.
- I. UL 1076 - Proprietary Burglar Alarm Units and Systems; Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate compatibility of devices for the installed locations with work provided under other sections or by others.
  - 2. Coordinate the placement of sensors and keypads with millwork, furniture, equipment, etc. installed under other sections or by others.
  - 3. Coordinate the work with other installers to provide communication lines required for alarm control unit connection to central station.
  - 4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Preinstallation Meeting: Conduct meeting with facility representative and other related equipment manufacturers to discuss intrusion detection system interface requirements.
- C. Sequencing:
  - 1. Do not install sensors and keypads until final surface finishes and painting are complete.

#### 1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each system component. Include ratings, configurations, standard wiring diagrams, dimensions, finishes, service condition requirements, and installed features.
- C. Shop Drawings: Include plan views indicating locations of system components and proposed size, type, and routing of conduits and/or cables. Include system interconnection schematic diagrams. Include requirements for interface with other systems.
- D. Certify that proposed system design and components meet or exceed specified requirements.

- E. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and operation of product.
- F. Field quality control test reports.
- G. Operation and Maintenance Data: Include detailed information on system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.
- H. Project Record Documents: Record actual locations of system components and installed wiring arrangements and routing.
- I. Software: One copy of software not resident in read-only memory.
- J. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 6000 - Product Requirements, for additional provisions.
  - 2. Extra Fuses: Two for each type and size installed.
  - 3. Extra Initiating Devices: One for each type installed.

#### 1.6 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- D. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience with intrusion detection systems of similar size, type, and complexity and providing contract maintenance service as a regular part of their business; authorized representative of control unit manufacturer.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
- B. Store products in manufacturer's unopened packaging, keep dry and protect from damage until ready for installation.

#### 1.8 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.



## 1.9 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide minimum two year manufacturer warranty covering repair or replacement due to defective materials or workmanship.

## PART 2 PRODUCTS

### 2.1 INTRUSION DETECTION SYSTEM REQUIREMENTS

- A. Provide new intrusion detection system consisting of all required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.
- B. Alarm Control Unit: New addressable alarm control panel located In Existing Telecommunications room 30. Provide a dedicated circuit with 20A/1p breaker (with breaker lock in Panel "EDPA (EDP2)" to feed the systeml. .
- C. Combination fire/intrusion systems are not permitted.
- D. Keypads: Located On the wall behind the security desk in Main Lobby A001. Provide a second Keypad in the second floor Administration area. Field Verify exact locations with the architect.
- E. Initiating Device Requirements:
  - 1. Protected Premises: Entire building as indicated.
  - 2. Provide magnetic contacts to monitor opened/closed position for:
    - a. All Perimeter doors
    - b. Designated interior doors. **Provide Contacts on Telecommunication Closet housing the control system panel, Provide Contacts on the two sets of existing double doors to the second floor Administration Area and (2) existing-single doors into the administration area.**
    - c. All roof access doors and hatches.
    - d. All overhead doors.
  - 3. Provide motion detectors to detect intruder As shown on the drawings. **Include (4) motion detectors to be field located int he second floor Administration area.**
- F. Alarm Notification and Reporting Requirements:
  - 1. Activate alarm notification at alarm control unit and associated keypads/annunciators with appropriate zone information displayed.
  - 2. Activate local notification appliances.
    - a. Interior: Provide siren located **Provide (3) evenly spaced alarms in the first floor corridors and (3) evenly spaced in the second floor corridors..**

3. Transmit alarm report to Owner's proprietary central supervising station.
  - a. Primary Communication Means: Digital cellular communications.
- G. Interface with Other Systems:
  1. Provide products compatible with other systems requiring interface with intrusion detection system.
  2. Interface with access control system as specified in Section 28 1000.
  3. Interface with video surveillance system as specified in Section 28 2000.
    - a. Capable of activating video surveillance system and controlling camera inputs/video outputs for selected intrusion detection system events.
- H. Provide products listed, classified, and labeled as suitable for the purpose intended.
  1. Local Alarm Units and Systems: Listed and labeled as complying with UL 609.
  2. Proprietary Alarm Units and Systems: Listed and labeled as complying with UL 1076.
- I. Electromagnetic Interference/Radio Frequency Interference (EMI/RFI) Limits: Comply with FCC requirements of 47 CFR 15, for Class B, consumer application.

## 2.2 ALARM CONTROL UNIT

- A. Manufacturers:
  1. Addressable Alarm Control Panel:
    - a. Bosch Security Systems: [www.boschsecurity.us/#sle](http://www.boschsecurity.us/#sle).
    - b. Honeywell International, Inc: [www.security.honeywell.com/#sle](http://www.security.honeywell.com/#sle).
    - c. or Equal..
  2. Substitutions: See Section 01 6000 - Product Requirements.
- B. Alarm Control Panel: Modular construction.
  1. Enclosure: Lockable; provide tamper protection.
  2. Power Supply:
    - a. Primary Power: 120 VAC; provide suitable transformer/power supply; supervised for loss of AC power.
    - b. Secondary Power: Standby battery; provide suitable capacity for minimum standby time required by listing requirements, applicable codes, and authority having jurisdiction, but not less than four hours; provide suitable battery charger; supervised for low battery condition; protected from accidental reversal of battery leads.
- C. Alarm Initiating Circuits: Supervised.
  1. Hardwired Zones: Supports both normally closed and normally open conventional (non-addressable) initiating devices.
  2. Addressable Zones: Supports addressable initiating devices and modules using multiplexed polling loops.
  3. Wireless Zones: Supports wireless devices using wireless receivers and repeaters.



- D. Alarm Notification Circuits: Supervised.
- E. Communications Interfaces: Supervised.
  - 1. Supports system reporting to central station receivers via integral interface or accessory interface modules using:
    - a. Digital cellular network.
- F. Keypads: Supervised.
- G. Peripheral Devices: Supervised; provide tamper protection.
- H. Output Relays:
  - 1. Relay Modules: Form C relays (normally open and normally closed); provide tamper protection.
  - 2. Programmable to respond to system events, according to defined scheduling, or by manual activation from keypad.
- I. User Codes:
  - 1. Each user code to be individually assignable to any defined authority level for configurable access to system features and functions.
- J. Partitions:
  - 1. Each partition to operate independently with individually programmable annunciation, control, and reporting functions.
  - 2. Each zone to be individually assignable to any partition.
  - 3. Each keypad to be individually assignable to any partition.
  - 4. Each output relay to be individually assignable to any partition.
  - 5. Each user code to be individually assignable to any partition.
- K. Event Log:
  - 1. Stores system events including time, date, partition, zone, and user code where applicable.
  - 2. Supports viewing of event log on keypads.
- L. Features:
  - 1. Supports force arming.
  - 2. Supports cross zoning.
  - 3. Supports walk test mode.
  - 4. Supports user interface via:
    - a. Web browser.

## 2.3 KEYPADS

- A. Manufacturer: Same as manufacturer of alarm control unit.
- B. Provides interface to alarm control unit for system control and remote annunciation.
- C. Provides visual notification of system status and zone information.

- D. Provides audible notification to indicate system status, entry/exit delay, and alarm situations; provide separate distinguishable sounds for alarm and trouble conditions.
- E. Keypad Type: Only LCD or graphic touch screen keypads are acceptable. Do not use LED keypads.
- F. Graphic Touch Screen Keypads: Displays system status and zone information using plain English on graphic display; touch screen interface.
- G. LCD Keypads: Displays system status and zone information using plain English on alphanumeric display; illuminated keys.
- H. Keypad Color: To be selected by Architect from manufacturer's available standard colors.

## 2.4 INITIATING DEVICES

- A. Manufacturers: Same as manufacturer of alarm control units where possible.
- B. General Requirements:
  - 1. Provide devices suitable for intended application and location to be installed.
  - 2. Outdoor Units: Weather resistant, suitable for outdoor use.
  - 3. Addressable Systems:
    - a. Addressable Devices: Individually identifiable by control unit.
    - b. Provide suitable addressable modules for connection to conventional (non-addressable) devices and other components that provide a dry closure output.
- C. Contacts:
  - 1. Hardwired.
  - 2. Listed and labeled as complying with UL 634.
  - 3. Magnetic Contacts: Encapsulated reed switch(es) and separate magnet; designed to monitor opened/closed position of doors or windows.
    - a. Use standard security contacts (not balanced magnetic type) unless otherwise indicated.
- D. Motion Detectors:
  - 1. Hardwired.
  - 2. Listed and labeled as complying with UL 639.
  - 3. Passive Infrared (PIR) Motion Detectors: Designed to detect intruder by sensing movement of thermal energy between zones.

## 2.5 ALARM NOTIFICATION APPLIANCES

- A. Manufacturers: Same as manufacturer of alarm control units where possible.
- B. Provide alarm notification appliances suitable for connection to control unit outputs.

- C. Sirens: Speaker with self-contained siren driver.
  - 1. Provide tamper switches for outdoor units.

## 2.6 ACCESSORIES

- A. Provide components as indicated or as required for connection of alarm control unit to devices and other systems indicated.
- B. Provide cables as indicated or as required for connections between system components.
- C. Provide end-of-line resistors (EOLR) as required for supervision of hardwired zones.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that ratings and configurations of system components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive system components.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to system.
- E. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship).
- B. Install products in accordance with manufacturer's instructions.
- C. Wiring Method: Unless otherwise indicated, use cables (not in conduit).
  - 1. Use listed plenum rated cables in spaces used for environmental air.
  - 2. Install wiring in conduit where required for rough-in, where required by authority having jurisdiction, and where exposed to damage.
  - 3. Conduit: Comply with Section 26 0533.13.
  - 4. Conceal all cables unless specifically indicated to be exposed.
  - 5. Route exposed cables parallel or perpendicular to building structural members and surfaces.
- D. Provide grounding and bonding in accordance with Section 26 0526.



- E. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
- F. Identify system wiring and components in accordance with Section 26 0553.

### 3.3 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Prepare and start system in accordance with manufacturer's instructions.
- C. Inspection and testing to include, at a minimum:
  - 1. Test each initiating device for proper response by alarm control unit.
  - 2. Test for proper operation of alarm notification appliances.
  - 3. Test for proper operation of output relays.
  - 4. Test for proper operation of communication interfaces and central station reporting.
  - 5. Test for proper interface with other systems.
- D. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.
- E. Submit detailed reports indicating inspection and testing results and corrective actions taken.

### 3.4 ADJUSTING

- A. Program system parameters according to requirements of Owner.

### 3.5 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

### 3.6 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.
- B. See Section 01 7900 - Demonstration and Training, for additional requirements.
- C. Demonstration: Demonstrate proper operation of system to Owner, and correct deficiencies or make adjustments as directed.
- D. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
  - 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.

2. Provide minimum of four hours of training.
3. Instructor: Manufacturer's authorized representative.
4. Location: At project site.

### 3.7 PROTECTION

- A. Protect installed system components from subsequent construction operations.

### END OF SECTION