




# Application for Plan Review

Reviewed for Fire Code Compliance  
 Leslie Jackson  
03/10/2025 10:03:22 AM

Application # \_\_\_\_\_ - \_\_\_\_\_

Date Received: \_\_\_\_\_ Received By: \_\_\_\_\_

Name of Project: ILC Dover  
\_\_\_\_\_

Physical Address of Project: 900 Edwards Brothers Drive  
\_\_\_\_\_

Lillington \_\_\_\_\_, NC 27546

Plans Submitted By: Barry L Whitt  
\_\_\_\_\_

Project Phone: ( 919 )- 632-0087

Contact Person/Address: 5995 Chapel Hill Road Suite 101  
\_\_\_\_\_

Raleigh, NC 27607  
\_\_\_\_\_

Contact Email: bwhitt@impactfireservices.com  
\_\_\_\_\_

Contact Phone: ( 919 )- 632 - 0087 ( 919 )- 469 - 8099

Contractor's Name/Info: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contractor's Phone: ( \_\_\_\_\_ )- \_\_\_\_\_ - \_\_\_\_\_

- Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.
- Status checks may be conducted on plan reviews by visiting the website <http://hteweb.harnett.org/Click2GovBP/Index.jsp> or by calling the Harnett County Central Permitting Office (910-893-7525, Option #2), or the Harnett County Fire Marshal's Office (910-893-7580).
- Approved plans must be picked up from the Central Permitting Office and all fees paid before any required inspections can be conducted.

**EXIST. FACP**

**FIRE-UTE ALARMS**  
by Honeywell

**MS-10UD-7 Battery Calculations**

Note 1: You can edit all current draws and are fully responsible for verifying these calculations.  
Note 2: You only need to make entries in the yellow cells.

Device Type	Primary Non-Alarm (Amps)		Primary Alarm (Amps)		Secondary Non-Alarm (Amps)	
	Qty	Current Draw	Qty	Current Draw	Qty	Current Draw
<b>1. System</b>						
Main Circuit Board	1	0.08500	1	0.17500	1	0.08500
4XTMF	0	0.00500	0	0.01100	0	0.00500
CAC-5X	0	0.00100	0	0.00100	0	0.00100
IPDACT	0	0.10000	0	0.30000	0	0.10000
<b>2. Annunciators</b>						
ANN-80	0	0.03700	0	0.04000	0	0.01500
ANN-RLY	0	0.01500	0	0.07500	0	0.01500
ANN-IO	0	0.03500	0	0.20000	0	0.03500
ANN-IO LEDs	0	0.00000	0	0.01000	0	0.00000
ANN-S/PG	0	0.04500	0	0.04500	0	0.04500
ANN-LED	1	0.02800	1	0.06800	1	0.02800
<b>3. Resettable Power</b>						
2-Wire Detector Heads	4	0.00000	4	0.00000	4	0.00000
4-Wire Detector Heads	6	0.00000	6	0.00000	6	0.00000
Power Super/Vision Relays	0	0.02500	0	0.02500	0	0.02500
<b>4. Notification Appliances</b>						
NAC #1	1	0.75100	1	0.75100		
NAC #2	1	0.50800	1	0.50800		
NAC #3	0	0.00000				
NAC #4	0	0.00000				
TB9 (Non)Resettable (Term 1+2)	0	0.00000	0	0.00000	0	0.00000
TB9 Resettable (Term 3+4)	0	0.00000	0	0.00000	0	0.00000
Sum each column for totals		<b>0.11300</b>		<b>1.50200</b>		<b>0.11300</b>

**MS-10UD-7 Secondary Battery Calculations**

Note: You can edit all current draws and are fully responsible for verifying these calculations. Only enter values in yellow cells.

Secondary Non-Alarm Load (Amps)	0.113 A	Required Standby Time	24 Hours	Required Alarm Time	5 Minutes	Secondary Alarm Load (Amps)	1.502 A	Standby and Alarm Load Subtotal	2.84 AH
		x		=				Derating Factor	x 1.2
								<b>Total Ampere Hours Required</b>	<b>3.41 AH</b>

**Battery Check**  
The batteries can be housed in the MS-10UD-7 cabinet.  
An external battery charger is not required for this system.

**Current Draw Check**  
NAC#1 current is within the limitations of the circuit.  
NAC#2 current is within the limitations of the circuit.  
NAC#3 current is within the limitations of the circuit.  
NAC#4 current is within the limitations of the circuit.  
TB9 (Non)Resettable Power (Terminals 1+2) is within the limitations of the circuit.  
TB9 Resettable Power (Terminals 3+4) is within the limitations of the circuit.  
The standby current is within the limitations of the panel.  
The alarm current is within output limitations of the panel.

**NEW FAPB**

**FL-PS10 Battery Calculation**

**Secondary Power Source Requirements**

Device Type	Standby Current (amps)			Secondary Alarm Current (amps)		
	Qty	Current Draw	Total	Qty	Current Draw	Total
Main Circuit Board						
Choose EOLR used ↓						
4.7k	1	0.1560	0.1560	1	0.1850	0.1850
Main Circuit Board with ZNAC-PS Class A card	0	0.1490	0.0000	0	0.1590	0.0000
NAC / Output # 1	1	0.0000	0.0000	1	0.3880	0.3880
NAC / Output # 2	1	0.0000	0.0000	1	0.3130	0.3130
NAC / Output # 3	1	0.0000	0.0000	1	0.9720	0.9720
NAC / Output # 4	1	0.0000	0.0000	1	1.1300	1.1300
NAC / Output # 5	1	0.0000	0.0000	1	0.9720	0.9720
NAC / Output # 6	1	0.0000	0.0000	1	0.8130	0.8130
NAC / Output # 7	1	0.0000	0.0000	1	0.4860	0.4860
<b>Total Standby Load</b>		<b>0.1560</b>		<b>Total Alarm Load</b>		<b>5.2590</b>

**FL-PS10 Battery Calculation**

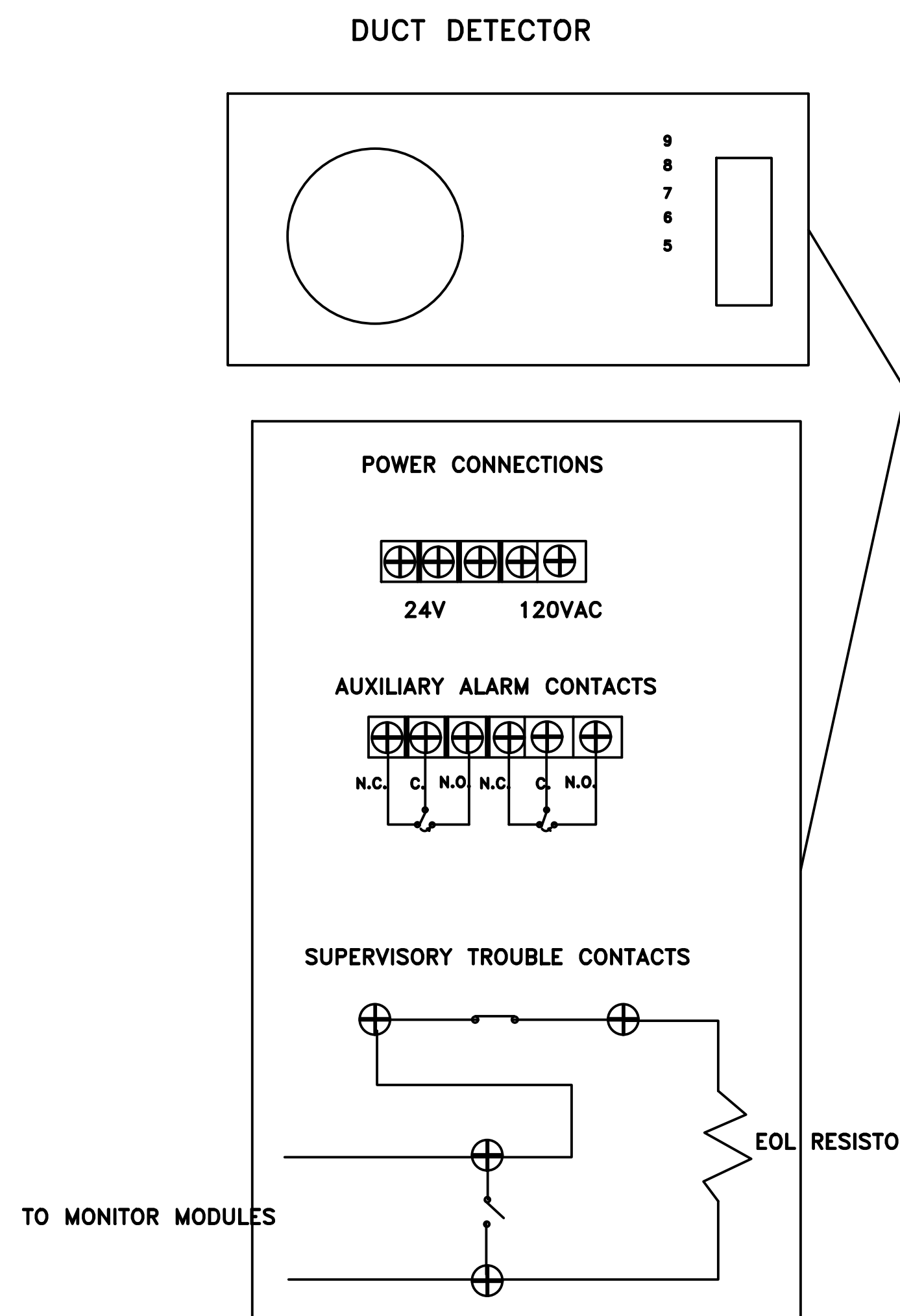
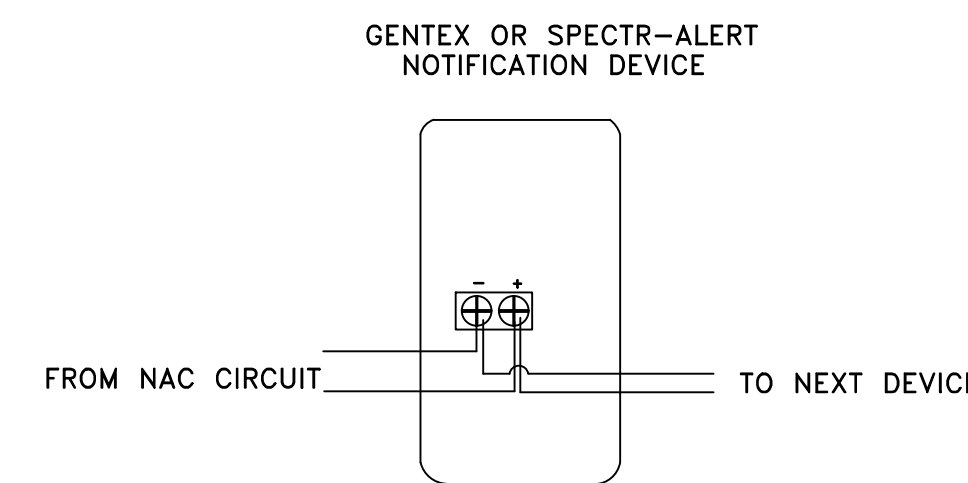
Note 1: You are fully responsible for verifying these calculations.  
Note 2: You only need to make entries in the yellow cells.

**Calculation in Total Sheet**

Required Standby Time in Hours			
Standby Load Current (Amps)	0.1560 Amps	24 Hours	3.744 AH
Required Alarm Time in Hours			
Alarm Load Current (Amps)	5.2590 Amps	0.25	1.315 AH
<b>Total Current Load</b>			<b>5.06 AH</b>
*Multiply by the Derating Factor			1.2
<b>Total Ampere Hours Required</b>			<b>6.07 AH</b>

**Recommended Batteries:** BAT-1270 - 7AH Batteries

\* Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

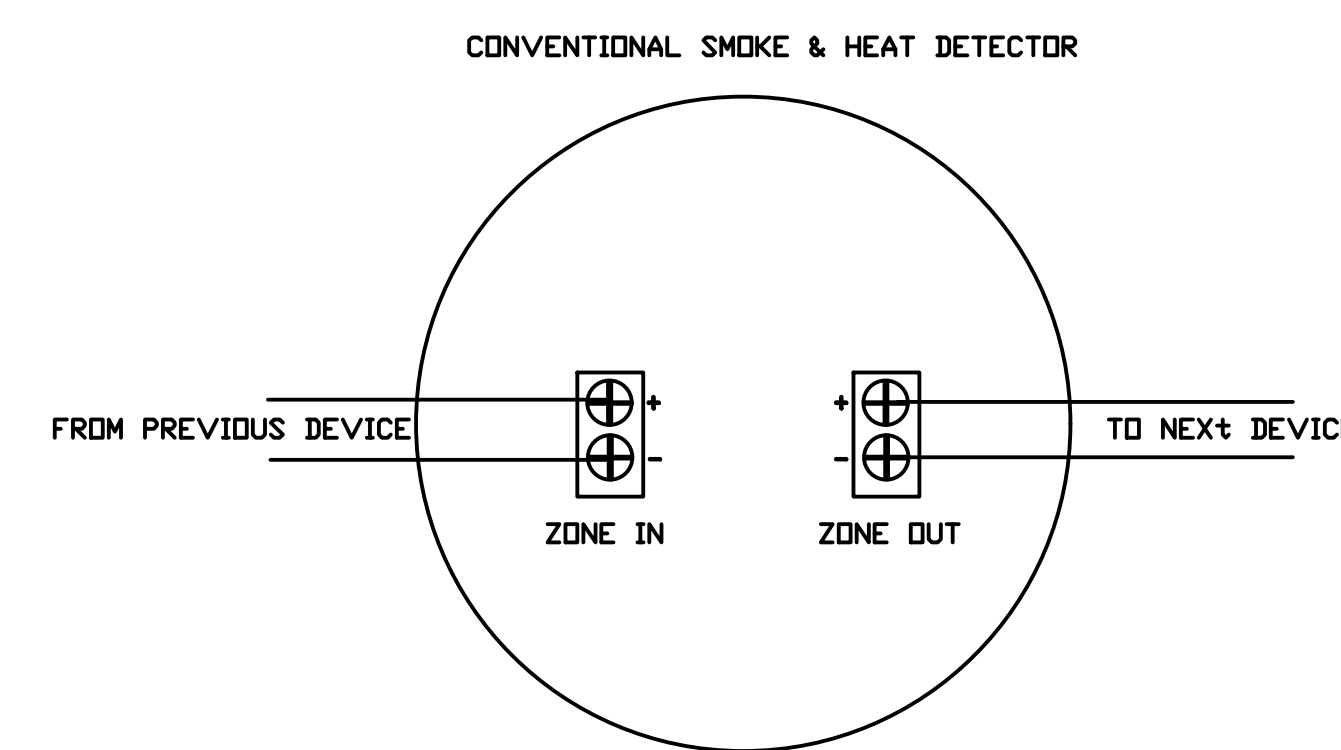


**LEGEND**

- [FACP] FIRE ALARM CONTROL PANEL
- [FAPB] FIRE ALARM POWER BOOSTER
- (DD) DUCT DETECTOR
- [F] HORN/STROBE WALL MOUNTED
- [S] STROBE WALL MOUNTED
- [RTS] REMOTE TEST SWITCH
- cd CANDELA RATING
- EOL END OF LINE RESISTOR
- (SD) SMOKE DETECTOR
- [F] HORN/STROBE CEILING MOUNTED

**WIRE LEGEND**

CODE	FUNCTION	DESCRIPTION
NAC	NOTIFICATION APPLIANCE CIRCUIT	1 - #14/2 FPL CABLE
ZONE	ZONE CIRCUIT	1 - #16/2 FPL CABLE
RTS	RTS CIRCUIT	1 - #16/2 FPL CABLE

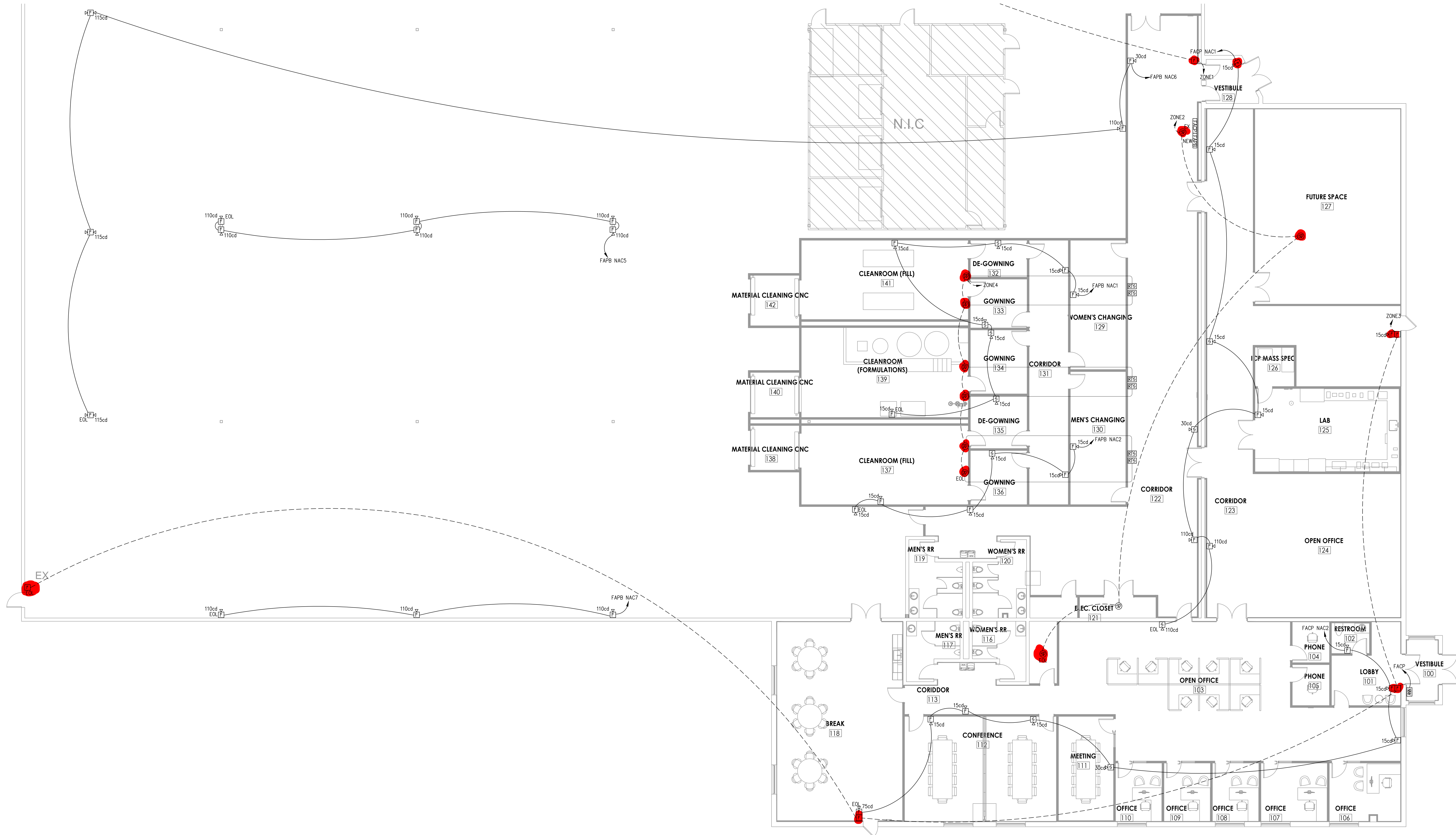


**NOTES**

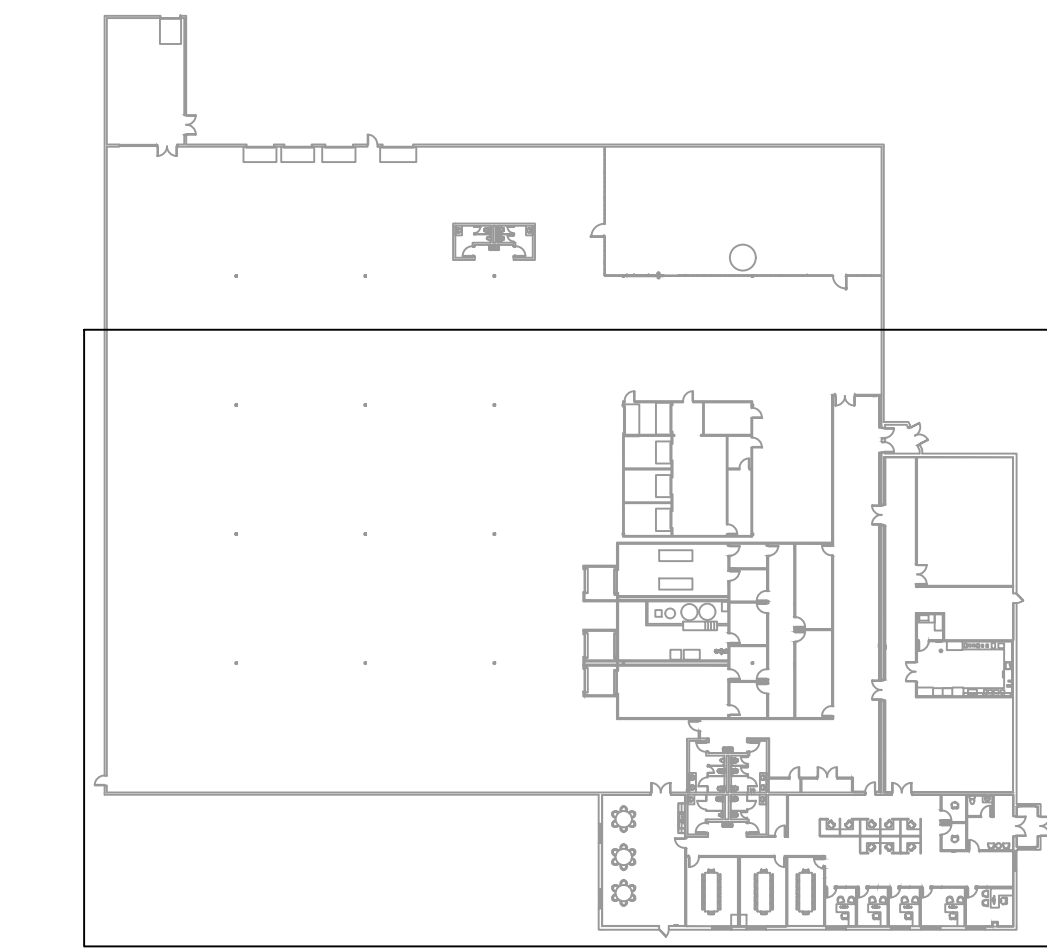
- ALL NOTIFICATION DEVICES MEET THE MINIMUM REQUIREMENT FOR DECIBAL LEVELS AT 85db.
- VOLTAGE DROP CALCULATIONS ARE BASED ON 20.4 VOLTS AS THE LOWEST NAMEPLATE OPERATING VOLTAGE.
- BATTERY CALCULATIONS REFLECT TOTAL CONNECTED LOADS.

**VOLTAGE DROP**

	DISTANCE ONE WAY	LOAD-AMPS	VOLTAGE DROP
FACP			
NAC 1	160'	0.751	2.97%
NAC 2	300'	0.508	3.77%
FAPB			
	DISTANCE ONE WAY	LOAD-AMPS	VOLTAGE DROP
NAC 1	160'	0.388	1.53%
NAC 2	140'	0.313	1.08%
NAC 3	320'	0.972	7.68%
NAC 4	320'	1.13	8.93%
NAC 5	220'	0.972	5.28%
NAC 6	340'	0.813	6.84%
NAC 7	350'	0.486	4.20%



**1**  
**FA2** 1/8"=1'0" **PARTIAL FLOOR PLAN**

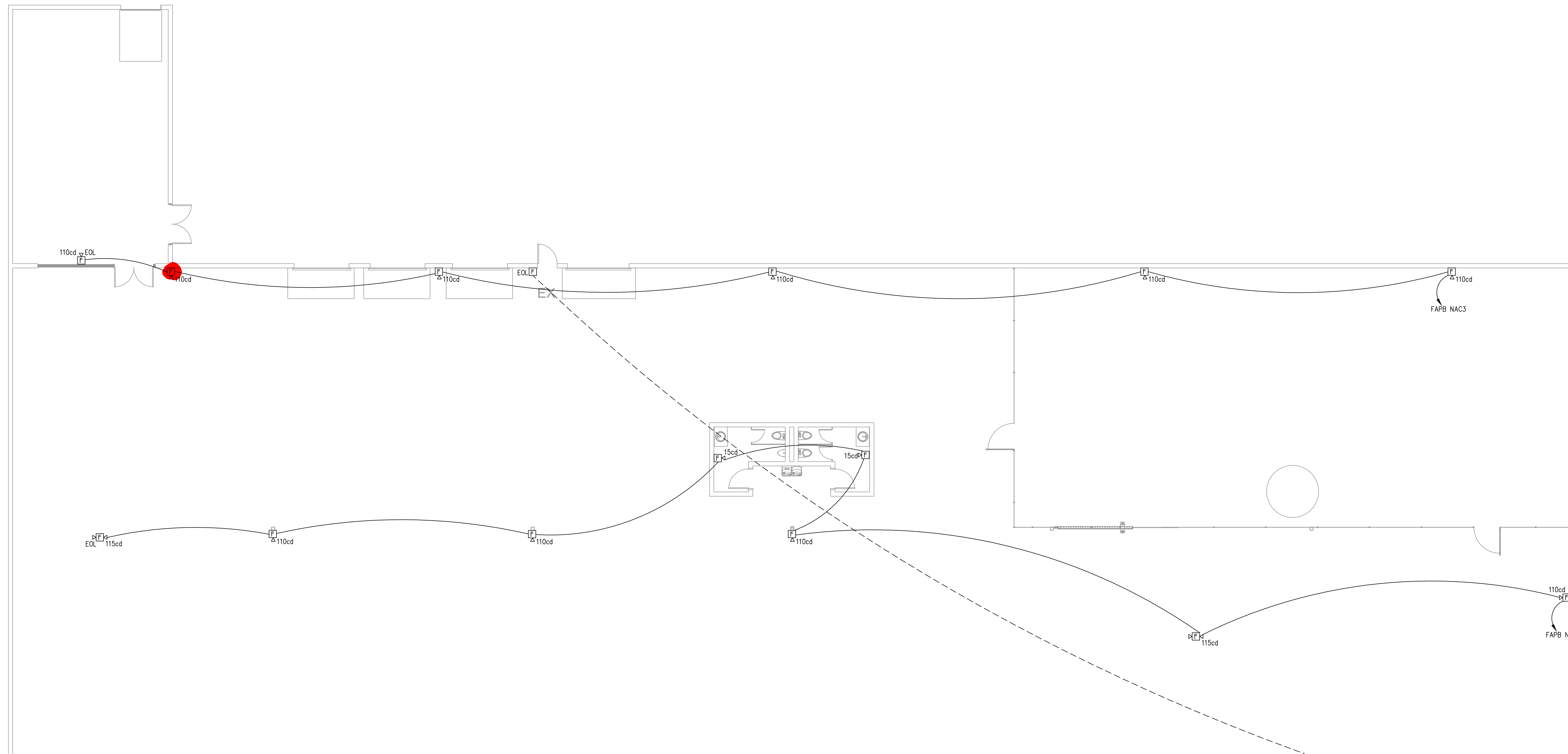


**KEY PLAN**

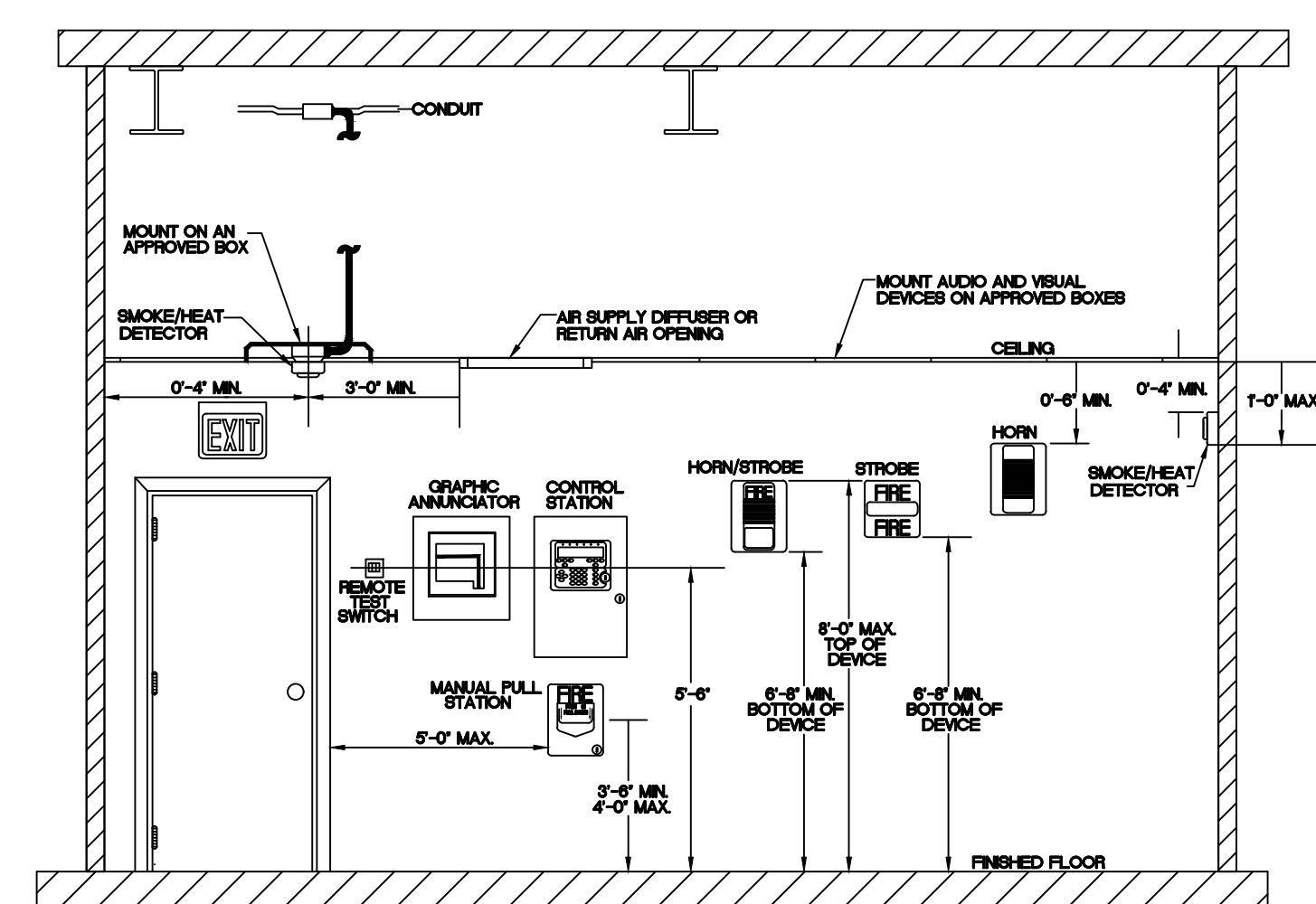
PROJECT NO:  
DATE: 24-126-06  
CAD DWG FILE: 12/16/24  
DRWN BY: DWRCHKD BY: WHC

**FIRE  
ALARM  
PLAN**

**FA2**

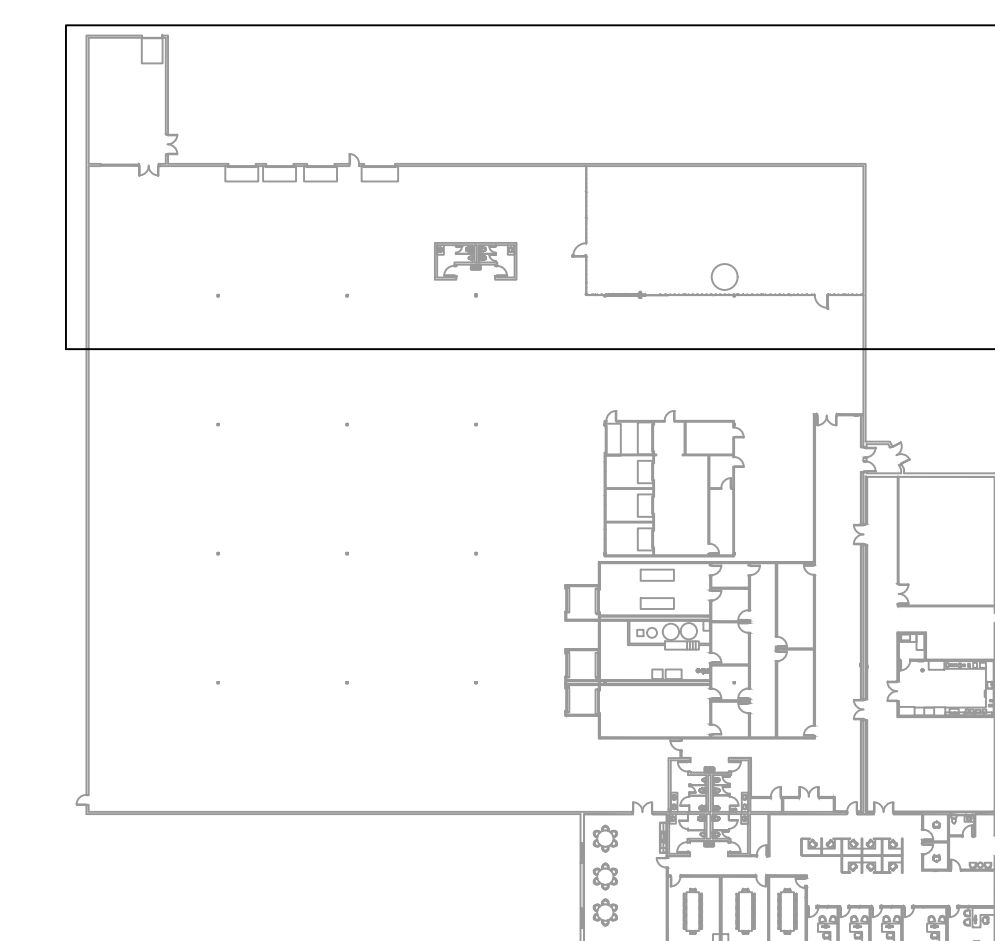


**1**  
**FA3** 1/8"=1'0"  
**PARTIAL FLOOR PLAN**



**FIRE ALARM DEVICE MOUNTING DETAIL**

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX		SYSTEM OUTPUTS																				
		FACP ANNUNCIATION					NOTIFICATION					REQUIRED FIRE SAFETY CONTROL										
SYSTEM INPUTS		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	FIRE ALARM SYSTEM AC POWER FAILURE																					
2	FIRE ALARM SYSTEM LOW BATTERY																					
3	OPEN CIRCUIT																					
4	GROUND FAULT																					
5	NOTIFICATION APPLIANCE CIRCUIT SHORT																					
6	BUILDING MANUAL PULL STATIONS																					
7	SMOKE & HEAT DETECTORS																					
8	DUCT DETECTORS																					



**KEY PLAN**

New Fire Alarm System for:  
**ILC DOVER LILLINGTON ALTERATIONS**  
 900 EDWARDS BROTHERS DRIVE  
 LILLINGTON, NC

PROJECT NO:  
 DATE: 24-126-06  
 CAD DWG FILE: 12/16/24  
 DRWN BY: DWRCHKD BY: WHC

**FIRE ALARM PLAN**

**FA3**