

AF-100
Battery & Voltage Drop
Calculations

Project Name: DUNN COMM BLDG 1

Installed By:

Designed By: PYROCAD0

Date: 10/30/2025

Standby Hours: 24

Alarm Min: 5

Efficiency Factor: 20%

SLC Type: Class B

NAC Source Voltage: 20.4

Max Panel Current (amps): 5

Model #: AF-100

Panel ID: FACT

Location: LOBBY

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Addressable Fire Panel		Description		Standby (amps)	Alarm (amps)
Qty	Part #			Each	Each
1	AF-100	Analog Addressable FACT		0.130	0.220
				Panel Standby: 0.130	Panel Alarm: 0.220
				Total	Total
				0.130	0.220

P-LINK (HS-485)		Standby	Alarm
1	UD-2000 / UD-1000		
	DACT Card	0.016	0.023
	RA-6075/S	0.020	0.025
	HS-6000 (R/T)	0.020	0.050
	LED-16 (F)	0.025	0.025
	LED-16 (F)*	0.015	0.210
	CA-6075	0.012	0.044
	PSN-1000E	0.015	0.015
	PAD100-SLC-127	0.060	0.060
	NOHM-SLC-127**	0.060	0.060
	DC-6	0.020	0.020
	DC-6	0.020	0.270
	Relay Expander	0.025	0.035
	RLV-5	0.010	0.135
	DRV-50	0.025	0.025
	DRV-50	0.010	0.215
	FCB-1000	0.025	0.025
	FIB-1000	0.020	0.030
	MC-1000	0.010	0.010
	SPG-1000	0.040	0.040
	NCF-1000	0.050	0.050
	NCF-1000	0.055	0.055
	PSK-1000	0.018	0.019

****REQUIRED IF USING NOHM PROTOCOL SLC DEVICES**

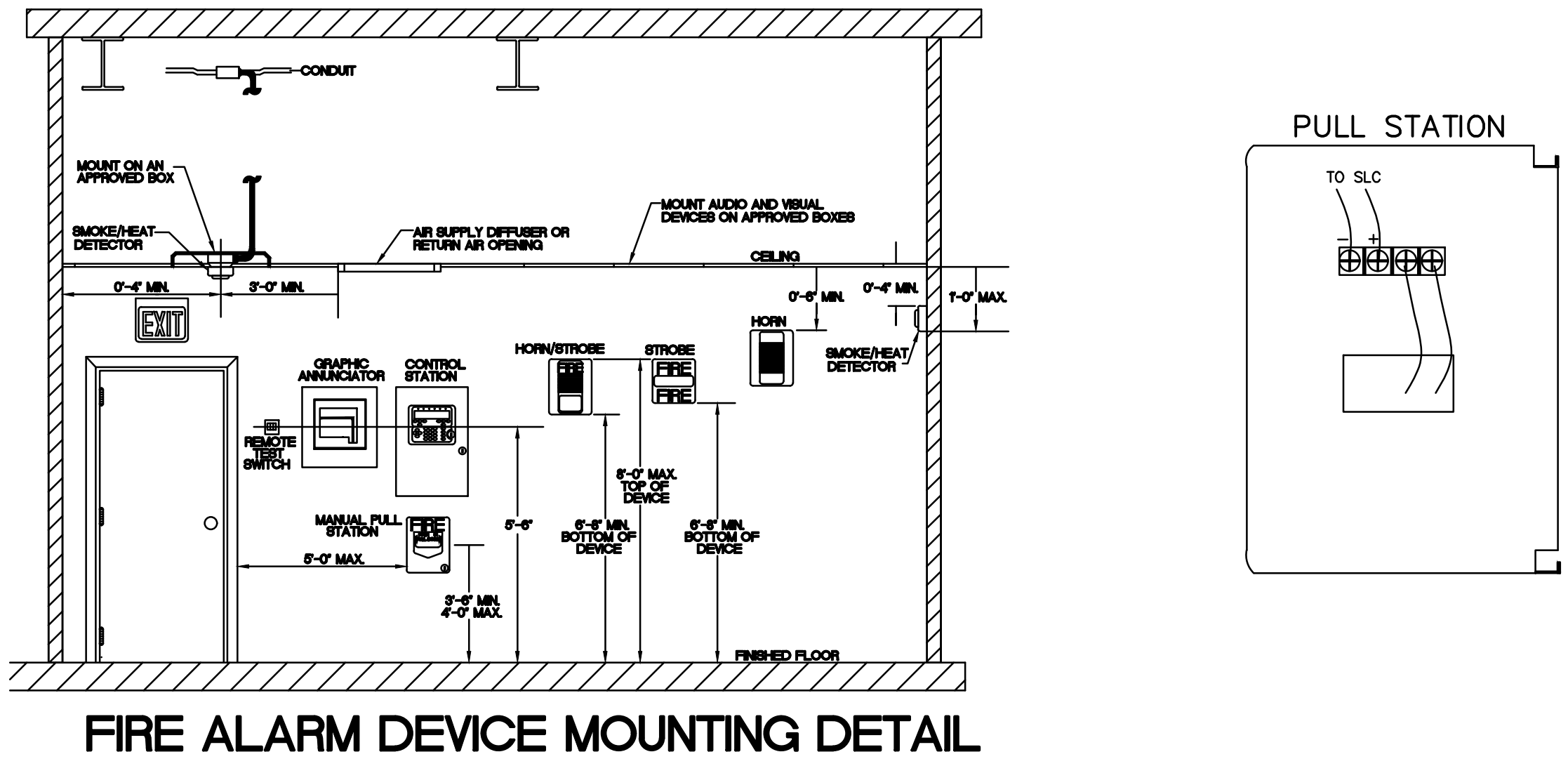
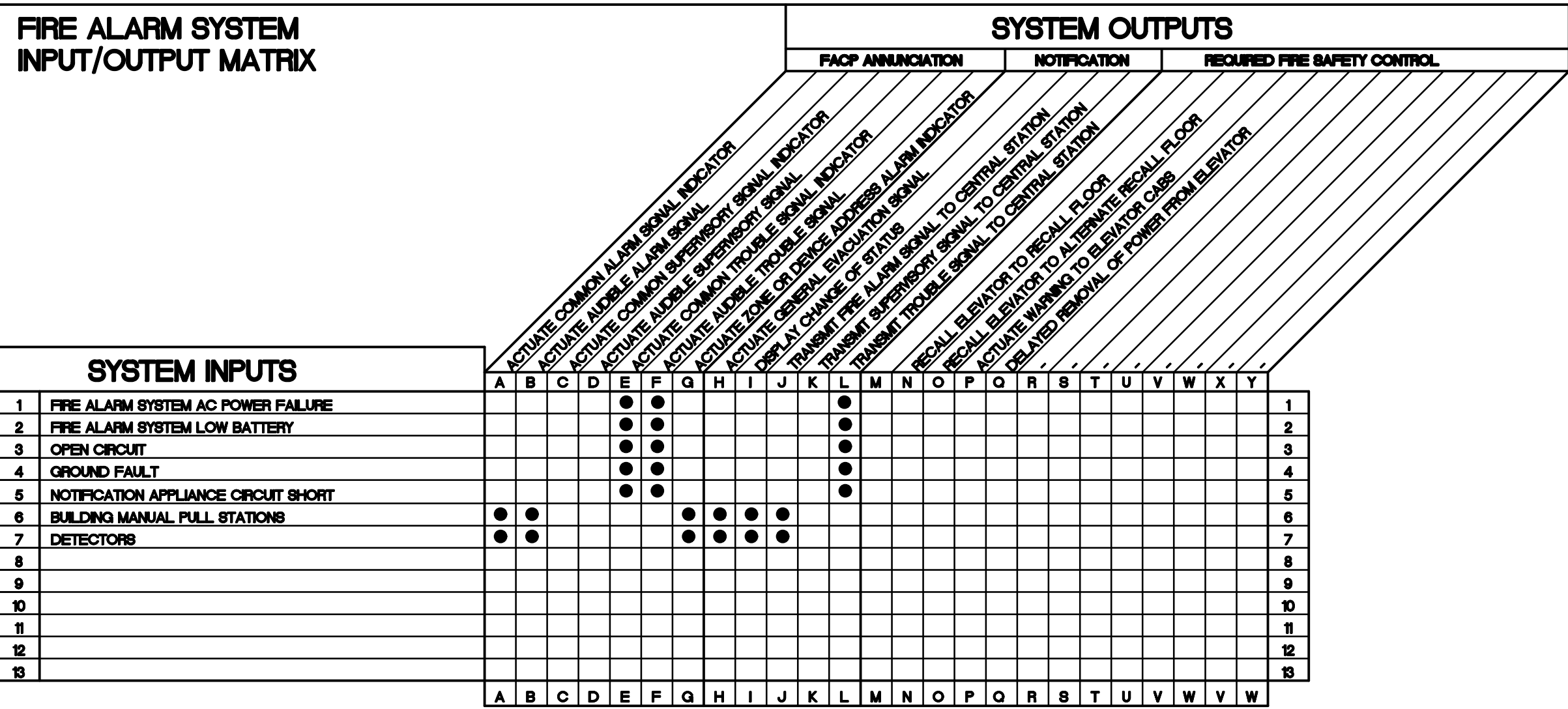
(Maximum current draw on P-LINK limited to 2.0 amps)

P-LINK Standby: 0.016 **P-LINK Alarm:** 0.023

***Only enter quantity if P-LINK power is being used to power devices**

SLC Devices		Standby	Alarm
AF-C / ABC / IPA Series - PAD100/200			
2	PAD-PD	0.000000	0.000000
8	PAD-PHD	0.000000	0.000000
2	PAD-CD	0.000030	0.000060
2	PAD-AD	0.000000	0.000000
2	PAD-ND	0.000000	0.000000
7	PAD-PHD	0.000000	0.000000
7	PAD-DSTS	0.010000	0.015000
2	PAD-DCT	0.000000	0.000000
7	PAD-DUCT*	0.000050	0.000000
4	PAD100-PSA/PDSA	0.000020	0.000000
	Micro Input Module	0.000000	0.000000
	PAD100-SM	0.000040	0.000040
	Dual Input Module	0.000040	0.000040
	PAD100-IRM	0.000040	0.000040
	PAD100-DIRO	0.000040	0.000040
	PAD100-TDI	0.000040	0.000040
	PAD100-2NA	0.000040	0.000040
	PAD100-INM	0.000020	0.000000
	Notifier Appliance Circuit	0.000010	0.000010
	Speaker Module	0.000010	0.000010
	PAD100-ILM	0.000010	0.000010
	LED Module	0.000040	0.000040
	Addressable LED w/ Key Switch	0.000010	0.000010
	PAD100-SB***	0.000020	0.000020
	PAD100-LH***	0.000020	0.000020
	PAD100-IR*	0.000010	0.000010
	PAD100-IB	0.000010	0.000010

AFC / ABC / IPA Series - P3AD00				
P3AD300-PO	Analogue Photo Smoke	0.000300	0.000300	0.000300
P3AD300-PO-I	Analogue Photo Smoke W/ Isolator	0.000300	0.000300	0.000300
P3AD300-PHD	Analogue Photo Smoke/Heat	0.000300	0.000300	0.000300
P3AD300-PHD-I	Analogue Photo Smoke/Heat/Isolator	0.000300	0.000300	0.000300
P3AD300-HD	Analogue Fixed Temp Heat	0.000300	0.000300	0.000300
P3AD300-HD-I	Analogue Fixed Temp Heat W/ Isolator	0.000300	0.000300	0.000300
P3AD300-CD	Analogue CO Detector	0.000300	0.000300	0.000300
P3AD300-CD-I	Analogue CO Detector W/Isolator	0.000300	0.000300	0.000300
P3AD300-PCD	Analogue Smoke/CO Detector	0.000300	0.000300	0.000300
P3AD300-PCD-I	Analogue Smoke/CO Detector W/Isolator	0.000300	0.000300	0.000300
P3AD300-PHCD	Analogue Smoke/Heat/CO Detector	0.000300	0.000300	0.000300
P3AD300-PHCD-I	Analogue Smoke/Heat/CO Detector W/ Isolator	0.000300	0.000300	0.000300
P3AD300-DD	Addressable Dual Detector	0.000300	0.000300	0.000300
P3AD300-SB**	Addressable Sounder Base	0.000200	0.000200	0.000200
P3AD300-LISB**	Addressable Low Frequency Sounder Base	0.000200	0.000200	0.000200
P3AD300-RB*	Addressable Relay Base	0.000150	0.000150	0.000150
P3AD300-IB	Addressable Isolator Base	0.000150	0.000150	0.000150
PFC-6000 / P Series				
PSA	Analogue Photo Smoke	0.000325	0.000325	0.000325
PSHA	Analogue Photo Smoke/Heat	0.000325	0.000325	0.000325
PIA	Analogue Rate of Rise Heat	0.000325	0.000325	0.000325
PIHA	Analogue Fixed Temp Heat	0.000325	0.000325	0.000325
DOA	Addressable Dust Detector	0.000325	0.000325	0.000325
APS-APS/PS-DA	Addressable Pull Station (Single/Dual Action)	0.000325	0.000325	0.000325
MCMI	Mini Contact Input Module	0.000325	0.000325	0.000325
SCM-4	Single Contact Input Module	0.000325	0.001000	0.001000
DCM-4	Dual Contact Input Module	0.000325	0.001000	0.001000
TRM-4	Twin Relay Output Module	0.000325	0.001000	0.001000
CCM-4*	Conventional Zone Input Mod	0.000325	0.001000	0.001000
MONM-4*	Monitored Output Module	0.000325	0.001000	0.001000
AIB**	Detector Base w/Relay	0.000325	0.000325	0.000325
AIB*	Detector Base w/Sounder	0.000325	0.000325	0.000325
SC**	Short Circuit Isolator (Class A)	0.000325	0.002340	0.002340
AIB**	Detector Base w/Isolator (Class A)	0.000325	0.000325	0.000325
(IM/IB/SC/AIB Class B **)	Current Draw from Install Manual			
SLC Loop Alarm LED Current				
		0.000000	0.000000	0.036000
* Requires Aux Power (Configure Below)				
** Requires Aux Sounder Base Power (Configure Below)				
SLC Standby:		0.006500	SLC Alarm:	0.042500
NAC Circuits (see NAC Configuration below)				
Ckt	Description	Standby (amps)		Alarm (amps)
		Total		Total
1		0.000000		0.527000
2		0.000000		0.773000
NAC Standby:		0.000000	NAC Alarm:	1.300000
I/O Circuits (see I/O Configuration below)				
Ckt	Use	Standby (amps)		Alarm (amps)
		Total		Total
1		0.000000		0.000000
2		0.000000		0.000000
I/O Standby:		0.000000	I/O Alarm:	0.000000
Battery Calculation Summary				
		Standby (amps)		Alarm (amps)
Panel Current:		0.120000		0.220000
P-Link Current:		0.016000		0.023000
SLC Device Current:		0.000000		0.042500
NAC Circuit Current:		0.000000		1.300000
I/O Circuit Current:		0.000000		0.000000
SLC Loop Type:		Class II		
Total Standby:		0.136000	Total Alarm:	1.587500
Device Address Used		24	Alarm Mins:	5
Device Address Available:		100	Alt Required:	0.14
Total Combined Standby & Alarm Amp/Hours Required:				3.80
Efficiency Factor:				20%
Required Battery Amp/Hours:				4.56
Battery Amp/Hours Provided:				2.72AH
Note: The cabinet will house two 8 AH or 18 AH batteries. The charging circuit is rated for up to two 55 AH batteries.				



GENTEX OR SPECTRA-ALERT
NOTIFICATION DEVICE

FROM NAC CIRCUIT

TO NEXT DEVICE

SLC CIRCUIT

SLC LOOP IN

SLC LOOP OUT

TO NEXT DEVICE

FIRE ALARM SYSTEM IS BEING INSTALLED PER CUSTOMER REQUEST. DESIGN & INSTALLATION SHALL BE PER NC FIRE CODE AND NFPA72.

Pyrocadd



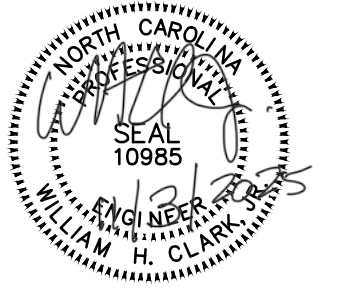
**THE
PYROCADD
COMPANY**

A FIRE SYSTEM DESIGN FIRM

A NICET CERTIFIED COMPANY

PO BOX 1833
SHALLOTTE, NC 28470
910-575-3131
dave@pyrocadd.com
WWW.PYROCADD.COM

WILLIAM H. CLARK, JR., PE
4732 PORCHAVEN LN, APEX, NC 27539
PHONE: 919-740-3626 WHCLARK2001@GMAIL.COM



NEW FIRE ALARM SYSTEM FOR:

DUNN COMMERCE PARK-BUILDING 1
611 SPRING BRANCH ROAD
DUNN, NC

PROJECT NO: 05 311 00

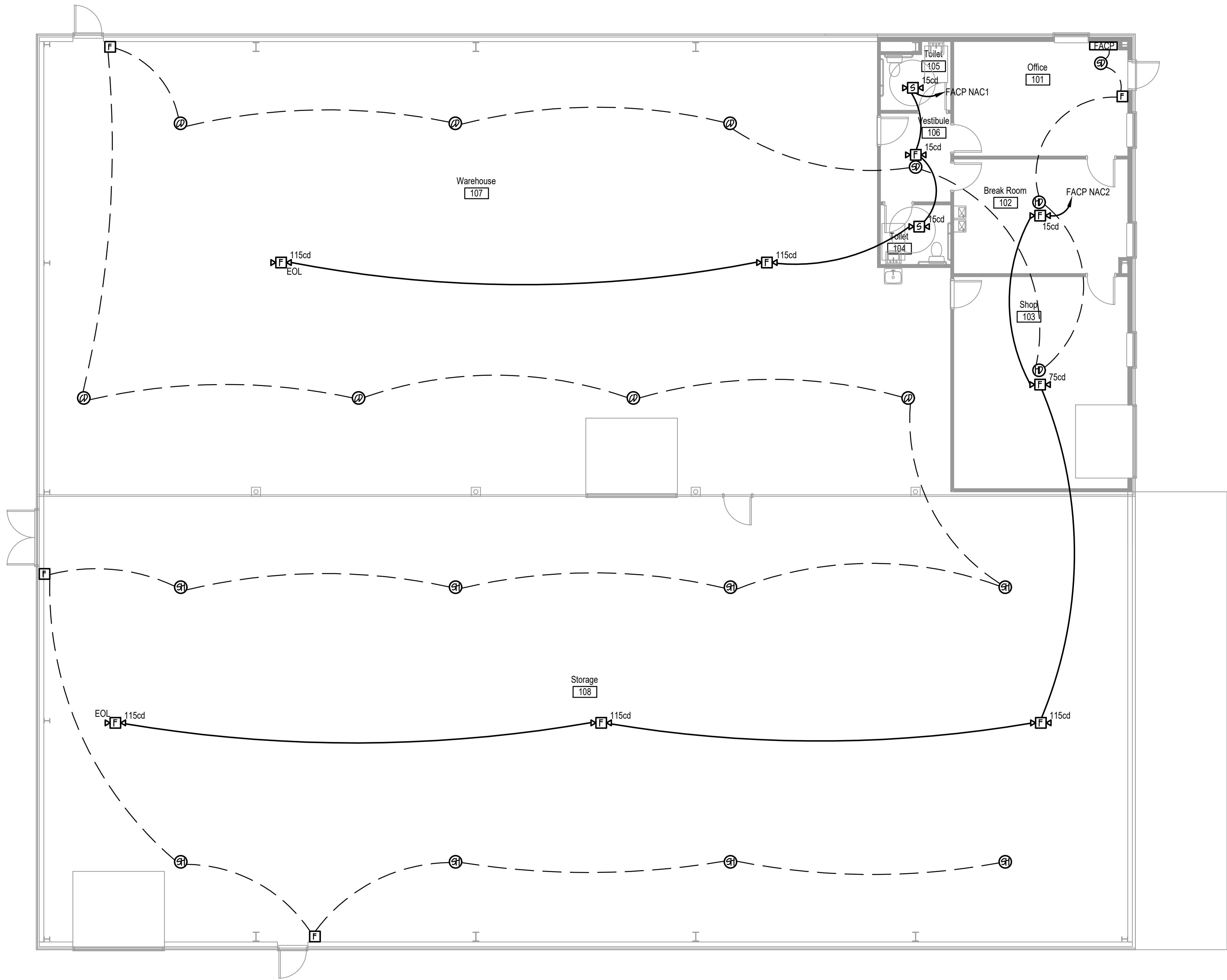
DATE: 10/30/25

CAD DWG FILE: FA1.dwg

DRWN BY: **DWR** CHKD BY: **WHC**

FIRE ALARM PLAN

FA1



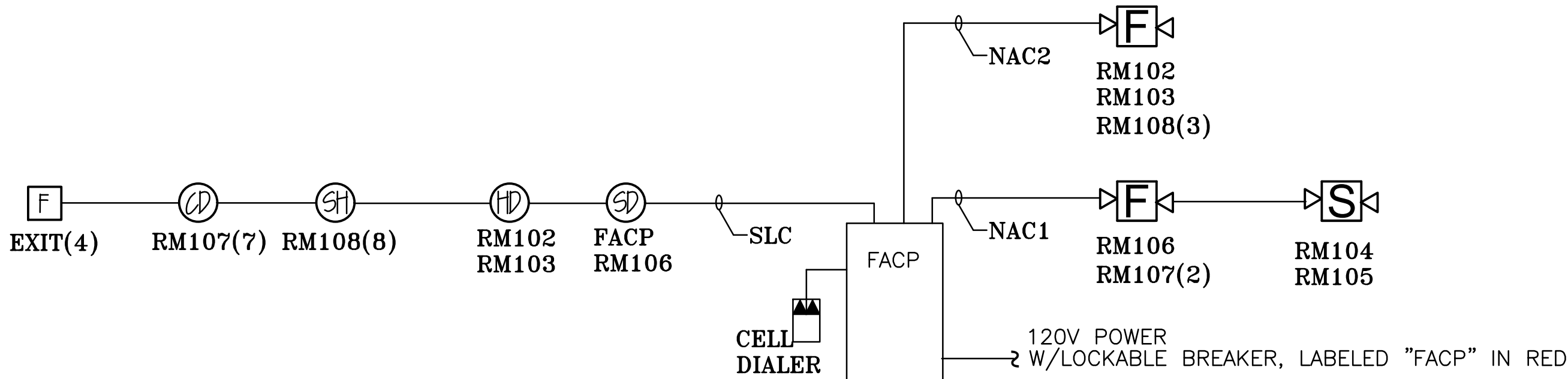
1
FA2
FIRE ALARM FLOOR PLAN
1/8"=1'0"

LEGEND

- FACP FIRE ALARM CONTROL PANEL
F PULL STATION
SD SMOKE DETECTOR
CD COMBINATION DETECTOR (SMOKE/HEAT/CO)
SHD SMOKE/HEAT DETECTOR
HD HEAT DETECTOR
Horn/Strobe Ceiling Mounted
Strobe Ceiling Mounted
cd CANDELA RATING
EOL END OF LINE RESISTOR

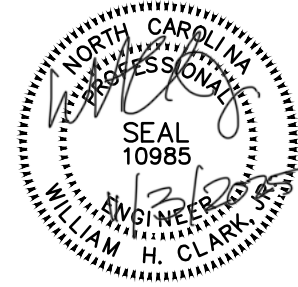
WIRE LEGEND

NAC	NOTIFICATION APPLIANCE CIRCUIT	1 - #14/2 FPL CABLE
SLC	ADDRESSABLE SLC CIRCUIT	1 - #18/2 FPL CABLE



2
FA2
RISER DIAGRAM
NTS

Pyrocadd
THE
PYROCADD
COMPANY
A FIRE SYSTEM DESIGN FIRM
A NICET CERTIFIED COMPANY
PO BOX 1833
SHALLOTTE, NC 28470
910-575-3131
dave@pyrocadd.com
WWW.PYROCADD.COM



This drawing and the design shown are the property of DDC.
The reproduction, copying or other use of this drawing without
their written consent is prohibited.
© 2025
William H. Clark, Jr., PE

NEW FIRE ALARM SYSTEM FOR:

DUNN COMMERCE PARK-BUILDING 1
611 SPRING BRANCH ROAD
DUNN, NC

PROJECT NO: 25-311-02
DATE: 10/30/25
CAD DWG FILE: FA1.dwg
DRWN BY: DWR CHKD BY: WHC

FIRE ALARM
PLAN

FA2