

PANEL INFORMATION				PANEL "12-LN2"										PANEL RATING & FEEDER					
MAIN TYPE: 225A MLO				NORMAL POWER										PANEL AMPACITY: 225 AMPS					
VOLTAGE: 120/208				NEW PANEL										PHASE CONDUCTORS: (3) #4/0 THWN					
MOUNTING: SURFACE														NEUTRAL: (1) #4 THWN					
AIC RATING: 10000														# OF SETS: (1 SET)					
ENCLOSURE TYPE: NEMA-1														SOURCE: "T-12-LN2"					
CKT	DESCRIPTION	CB AMPS	WIRE SIZE	LOAD IN VOLT AMPS (VA)					PHASE	LOAD IN VOLT AMPS (VA)					LG (125%)	WIRE SIZE	CB AMPS	DESCRIPTION	CKT
				LTG (125%)	RECEPT.	KITCHEN	HVAC	MISC		MISC	HVAC	KITCHEN	RECEPT.	LTG (125%)					
1	RECEPTACLES	20	#12		540				A					900	#12	20	RECEPTACLES	2	
3	EXTERIOR RECEPTACLES	20	#12		1080				B					900	#12	20	REFRIGERATOR	4	
5	RECEPTACLES	20	#12		720				C					1200	#12	20	COFFEE MAKER	6	
7	RECEPTACLES	20	#12		360				A					1200	#12	20	HUBBARD	8	
9	RECEPTACLES	20	#12		720				B					1080	#12	20	RECEPTACLES	10	
11	RECEPTACLES	20	#12		540				C					1080	#12	20	RECEPTACLES	12	
13	RECEPTACLES	20	#12		1080				A					900	#12	20	RECEPTACLES	14	
15	WATER SOFTENERS 12-WS-1 & 12-WS-2	20	#12						B						#8	40	12-ACCU-4 (CONDENSING UNIT)	16	
17	DOMESTIC WATER HEATER 12-WH-1	20	#12						C									18	
19	SPARE	20	#12						A									20	
21	12-ACCU-2 (CONDENSING UNIT)	30	#10						B						#10	30	12-FCCU-4 (FAN COIL UNIT)	22	
23									C						#12	20	BAS CONTROL PANEL	24	
25	12-FCCU-2 (FAN COIL UNIT)	20	#12						A									26	
27									B									28	
29	12-ACCU-3 (CONDENSING UNIT)	30	#10						C						#10	30	UPS SYSTEM	30	
31									A									32	
33	12-FCCU-3 (FAN COIL UNIT)	20	#12						B						#12	20	FUEL MONITORING SYSTEM	34	
35									C						#12	20	HAZARDOUS CONTROL PANEL	36	
37	SERVER RACK	20	#12						A						#12	20	PACS PANEL	38	
39	SPARE	20	#12						B						#12	20	WATER QUALITY MONITORING SYSTEM	40	
41	BOILER CONTROL PANEL (12-B-101)	20	#12						C						#12	20	RECEPTACLES	42	
43	BOILER CONTROL PANEL (12-B-102)	20	#12						A						#12	20	RECEPTACLES	44	
45	BOILER CONTROL PANEL (12-B-103)	20	#12						B						#12	20	RECEPTACLES	46	
47	DIGITAL DIALER CONTROL PANEL	20	#12						C						#12	20	RECEPTACLES	48	
49	EXTERIOR RECEPTACLES	20	#12		720				A						#12	20	RECEPTACLES	50	
51	EXTERIOR RECEPTACLES	20	#12		540				B						#12	20	BASS CONTROL PANEL	52	
53	BOILER CONTROL PANEL (12-B-104) (FUTURE)	20	#12						C						#12	20	12-B-101 & 12-B-102	54	
55	RECEPTACLES	20	#12		1080				A						#12	20	12-B-103 & 12-B-104	56	
57									B						#12	20	DEAERATOR 12-DA-001	58	
59	PDU (POWER DISTRIBUTION UNIT)	20	#12						C						#12	20	CONDENSATE STORAGE 12-CR-1	60	
61									A						#12	20	CONTROL ROOM PANEL 12-CP1	62	
63									B						#12	20	CONTROL ROOM PANEL 12-CP2	64	
65	PDU (POWER DISTRIBUTION UNIT)	20	#12						C						#12	20	BOILER FUEL OIL PUMP 12-FO-101	66	
67									A						#12	20	BOILER FUEL OIL PUMP 12-FO-102	68	
69									B						#12	20	EXHAUST FAN 12-EF-3	70	
71	12-ACCU-1 (CONDENSING UNIT)	30	#10						C						#12	20	OVERHEAD DOOR	72	
73	12-FCCU-1 (FAN COIL UNIT)	30	#10						A						#12	20	WELDER	74	
75									B						#12	20	NEW TUNNEL RECEPTACLES	76	
77	DRINKING FOUNTAIN	20	#12						C						#12	20	SPARE	78	
79	SPARE	20	#12						A									80	
81	SPARE	20	#12						B									82	
83	SPARE	20	#12						C						#10	30	SPD-12-LN2 (125KA)	84	
TOTAL LOADS				0	7380	0	13728	17064						20792	9252	0	9360	0	TOTAL LOADS

PANEL NOTES

LOAD CALCULATION (NEC 2023 - ARTICLE 220)			
LOAD TYPE	LOAD (kVA)	DEMAND %	DEMAND LOAD
LIGHTING	0.00	1.25	0.0 kW
RECEPTACLES	10.00	1.00	13.4 kW
RECEPTACLES > 10000	6.74	0.50	0.0 kW
KITCHEN EQUIPMENT	0.00	0.65	37.9 kW
MISC.	37.86	1.00	23.0 kW
HVAC	22.98	1.00	74.2 kW
TOTAL kW DEMAND			205.98 AMPS
TOTAL DEMAND AMPS		100%	

1 PANEL SCHEDULE "12-LN2" (NORMAL POWER - 120/208 VOLTS)  
SCALE NOT TO SCALE

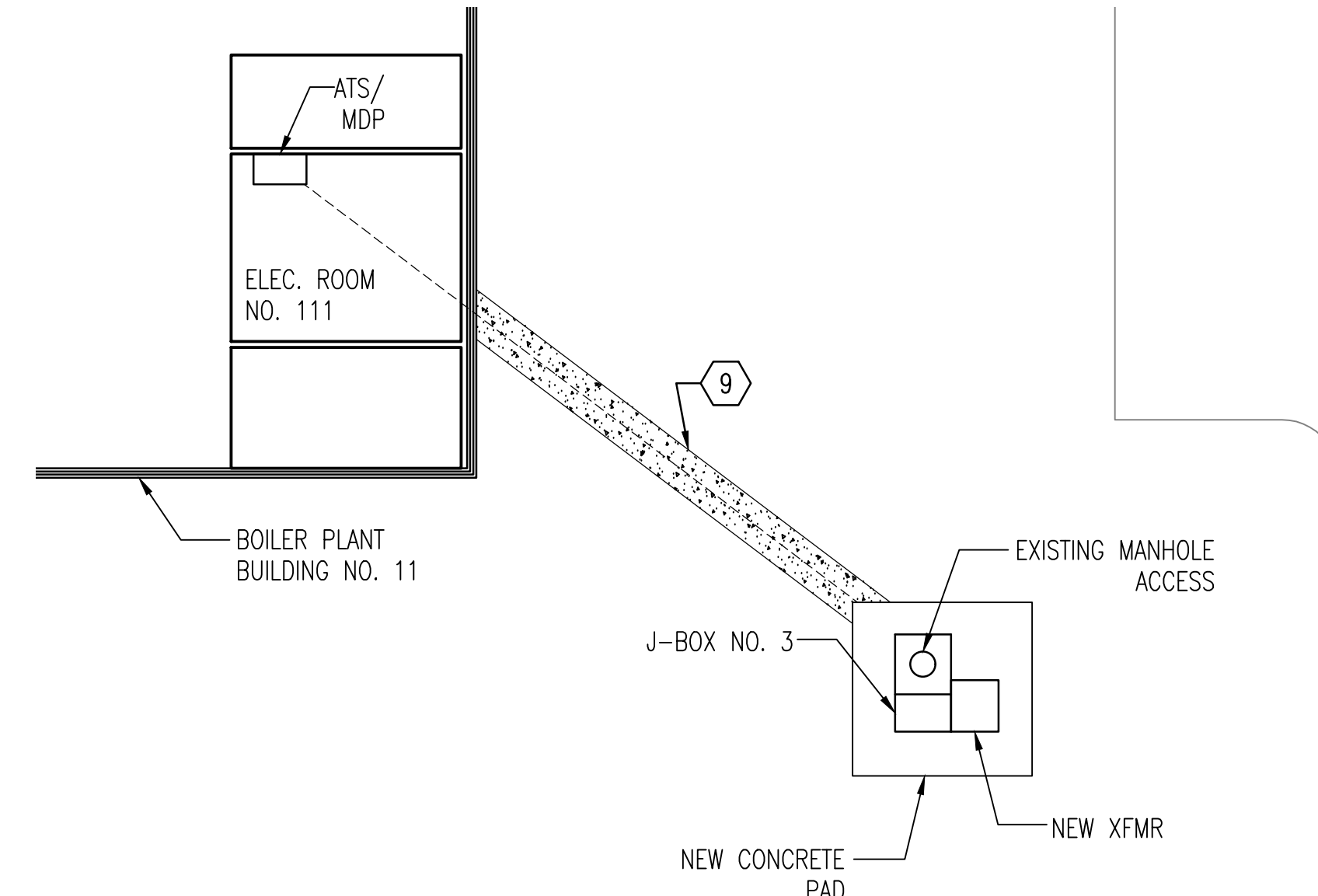
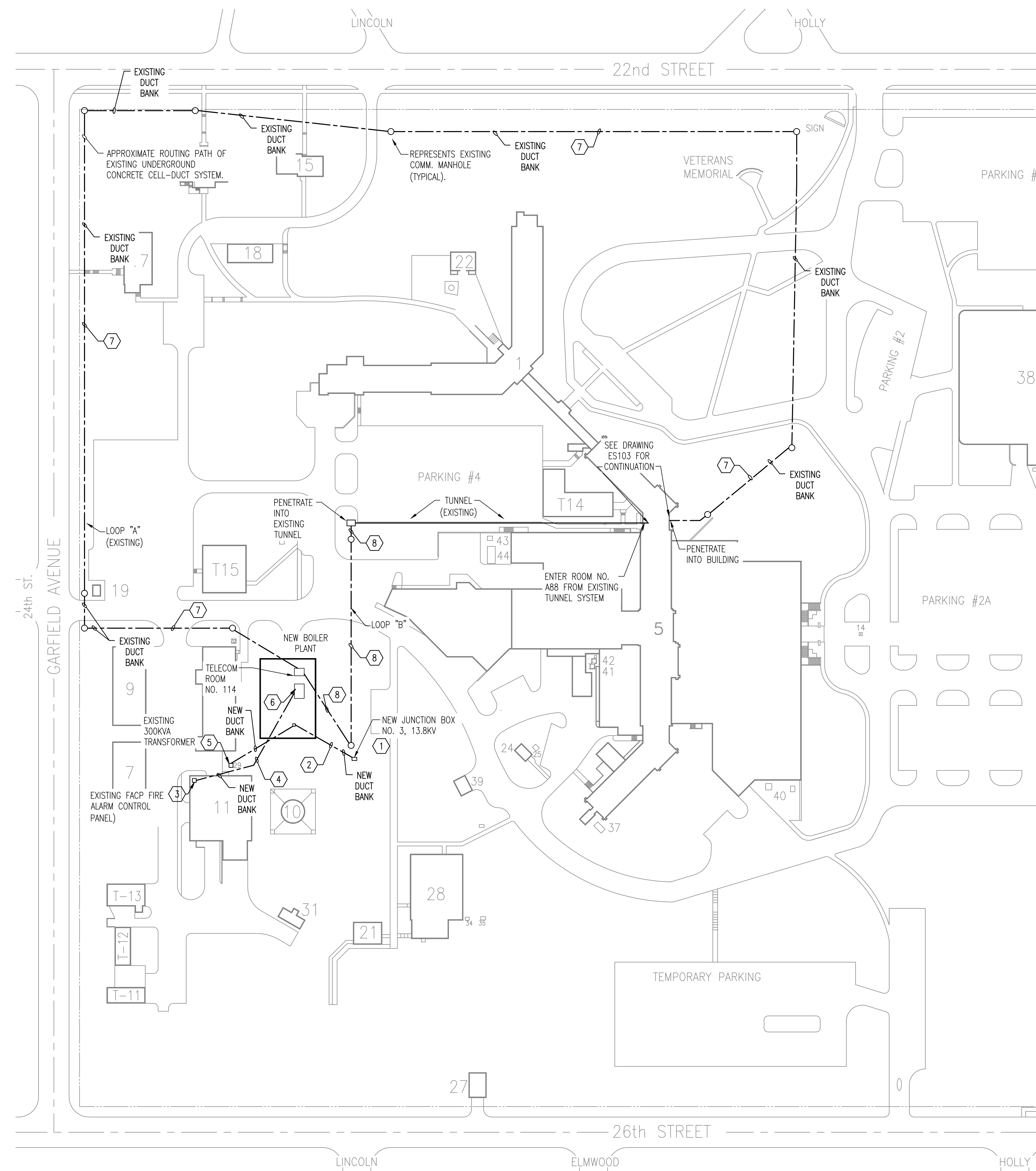
PANEL INFORMATION				PANEL "12-GEN"										PANEL RATING & FEEDER					
MAIN TYPE: 100A MLO				EMERGENCY LIFE SAFETY POWER										PANEL AMPACITY: 100 AMPS					
VOLTAGE: 120/208				NEW PANEL										PHASE CONDUCTORS: (3) #3 THWN					
MOUNTING: SURFACE														NEUTRAL: (1) #8 THWN					
AIC RATING: 10000 AIC														# OF SETS: (1 SET)					
ENCLOSURE TYPE: NEMA-1														SOURCE: SEE ONE-LINE DIAGRAM					
CKT	DESCRIPTION	CB	WIRE	LOAD IN VOLT AMPS (VA)					PHASE	LOAD IN VOLT AMPS (VA)					WIRE	CB	DESCRIPTION	CKT	
				LTG(125%)	RECEPT.	KITCHEN	HVAC	MISC		MISC	HVAC	KITCHEN	RECEPT.	LTG(125%)					WIRE
1	GENERATOR SUPPLY FUEL PUMP (2HP)	20	#12						A					900	#12	20	GENERATOR RETURN FUEL PUMP (2HP)	2	
3									B					900				4	
5									C					900				6	
7	GENERATOR LIGHTS AND RECEPTACLES	20	#12	100	360				A					1200	#12	20	12-FO-103 (GENERATOR FUEL OIL PUMP)	8	
9	BATTERY CHARGER	30	#10						B					1200	#12	20	12-FO-104 (GENERATOR FUEL OIL PUMP)	10	
11	SPARE	20	#12						C					100	#12	20	MOTORIZED DAMPERS	12	
13	SPARE	20	#12						A						#12	20	SPARE	14	
15	SPARE	20	#12						B						#12	20	SPARE	16	
17	SPARE	20	#12						C						#12	20	SPARE	18	
19	SPARE	20	#12						A						#12	20	SPARE	20	
21	SPARE	20	#12						B						#12	20	SPARE	22	
23	SPARE	20	#12						C						#12	20	SPARE	24	
TOTAL LOADS				100	360	0	0	4700						5200	0	0	0	0	TOTAL LOADS

PANEL NOTES  
A. PANELBOARDS SHALL BE FULLY RATED, SERIES RATED EQUIPMENT SHALL NOT BE PERMITTED.  
B. PANEL BUS SHALL BE COPPER, ALUMINUM BUS SHALL NOT BE PERMITTED.

LOAD CALCULATION (NEC 2023 - ARTICLE 220)			
LOAD TYPE	LOAD(kVA)	DEMAND %	DEMAND LOAD
LIGHTING	0.10	1.25	0.1 kW
RECEPTACLES	0.36	1.00	0.4 kW
RECEPTACLES > 10000	0.00	0.50	0.0 kW
KITCHEN EQUIPMENT	0.00	0.65	9.9 kW
MISC.	9.90	1.00	0.0 kW
HVAC	0.00	1.00	10.4 kW
TOTAL kW DEMAND			28.83 AMPS
TOTAL DEMAND AMPS		100%	

2 PANEL SCHEDULE "12-GEN" (EMERGENCY LIFE SAFETY BRANCH - 120/208 VOLTS)  
SCALE NOT TO SCALE

ADDENDUM 1 08-09-2024	CONSULTANT	ARCHITECT/ENGINEER OF RECORD <b>paradigm</b> Architecture   Engineering   Design-Build 9000 Weessex Place, Louisville, KY 40222 www.paradigmusa.com	STAMP TYLER M. MONTGOMERY LICENSE NO. 0047142 9/12/2024	Office of Construction and Facilities Management VA U.S. Department of Veterans Affairs	Drawing Title <b>PANEL SCHEDULES</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
Revisions:	Date:				Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number 12
							Issue Date 06/25/2024	Checked WLM
							Drawn KMB	Drawing Number EP604



2 ENLARGED PLAN XFMR AND JUNCTION BOX NO. 3  
SCALE 1/16" = 1'-0"

**OUTAGE PLAN NOTES:**

- THE REMOVAL AND REPLACEMENT OF EXISTING JUNCTION BOX NO. 3 SHALL BE PERFORMED ON OFF HOURS OF THE VAMC (SATURDAY OR SUNDAY).
- THE CONTRACTOR PERFORM DISCONNECTING, REMOVING AND REPLACING OF JUNCTION BOX NO. 3 IN ONE DAY, ONCE WORK HAS STARTED IT SHALL BE CONTINUOUS UNTIL NEW 13,800 VOLTS JUNCTION BOX IS INSTALLED AND FULLY OPERATIONAL.
- IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ALIGN VARIOUS TRADES IN ORDER TO COMPLETE WORK IN ONE DAY.
- IT SHALL NOT BE PERMISSIBLE TO PERFORM PARTIAL WORK OVER A SATURDAY AND SUNDAY, ALL WORK SHALL BE COMPLETED IN ONE DAY.

- GENERAL NOTES**
- THIS DRAWING IS BASED ON SITE PLANS PROVIDED BY OTHERS, AND MAY NOT SHOW EXACT LOCATION OF EXISTING EQUIPMENT, UTILITIES ETC. CONTRACTOR SHALL FIELD INVESTIGATE AND CONFIRM/VERIFY CONDITIONS. THIS DRAWING PROVIDED FOR ORIENTATION AND INFORMATIONAL PURPOSES - DO NOT SCALE.
  - ALL EXISTING UNDERGROUND UTILITIES SHALL BE PROTECTED DURING CONSTRUCTION UNLESS NOTED OTHERWISE.
  - ALL EXISTING DISTURBED GROUND, ASPHALT, SIDEWALKS, CURBS AND GUTTERS ETC. SHALL BE REPAIRED TO MATCH EXISTING. CONTRACTOR SHALL RE-GRADE, RE-FEED/BRING ALL AREAS TO PRESENT "LIKE NEW" CONDITION UPON COMPLETION OF PROJECT.
  - ALL UNDERGROUND CONDUIT SYSTEMS SHALL BE ROUTED WITHIN CONCRETE CELL-DUCT SYSTEM PER DETAIL 1/E-501.
  - PRIOR TO BEGINNING EXTERIOR DIGGING/TRENCHING THE CONTRACTOR SHALL PERFORM GPR (GROUND PENETRATING RADAR) OF THE PROPOSED AREA PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL AVOID ANY EXISTING UTILITIES OR OBSTRUCTIONS WHEN INSTALLING UNDERGROUND INSTALLATION.
  - SEE DRAWING E-903 FOR EXISTING NORTH AND SOUTH TUNNEL SYSTEM.

- KEY NOTES**
- THE CONTRACTOR SHALL PROVIDE NEW JUNCTION BOX AT SAME LOCATION AS EXISTING, NEW JUNCTION BOX SHALL HAVE 5-TERMINAL CONNECTION POINTS, 13,800 VOLT, 3-PHASE, 200 AMP RATED, REFER TO DETAIL 3, 4, AND 5/EP504 FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE NEW CONCRETE PAD AS REQUIRED FOR INSTALLATION OF MEDIUM VOLTAGE JUNCTION BOX.
  - THE CONTRACTOR SHALL ROUTE (2) NEW 15KV CABLING UNDERGROUND FROM NEW JUNCTION BOX NO. 4 TO MEDIUM VOLTAGE TRANSFORMER "T-12", THE TWO 13,800 VOLT LOOPS SHALL BE CONSIDERED LOOP "A" AND LOOP "B", THE UNDERGROUND LOOPS SHALL BE ROUTED IN CONCRETE CELL-DUCT, REFER TO DETAIL 1/E-501 FOR ADDITIONAL INFORMATION.
  - APPROXIMATE LOCATION OF EXISTING FIRE ALARM CONTROL PANEL LOCATED WITHIN THE EXISTING BOILER PLANT, THE CONTRACTOR SHALL MAKE CONNECTION TO EXISTING FACP AND ROUTE NEW FIRE ALARM CABLING FROM EXISTING FACP TO NEW FACP LOCATED WITHIN THE NEW BOILER PLANT. THE FIRE ALARM CABLING SHALL BE INSTALLED WITHIN CONCRETE CELL-DUCT SYSTEM, REFER TO DETAIL 1/E-501 FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL INCLUDE IN BID NUMBER ALL ASSOCIATED COST OF PROGRAMMING THE EXISTING FACP TO ACCOMMODATE NEW FIRE ALARM PANEL LOCATED IN THE NEW BOILER PLANT. REFER TO DRAWING ES102 FOR EXACT LOCATION OF EXISTING FACP WITHIN EXISTING BOILER PLANT.
  - ROUTE NEW FIRE ALARM CABLING WITHIN CONCRETE CELL-DUCT SYSTEM, PROVIDE PULL STRINGS WITHIN THE CELL-DUCT SYSTEM, REFER TO DETAIL 1/E-501 FOR ADDITIONAL INFORMATION.
  - APPROXIMATE LOCATION OF EXISTING 300KVA TRANSFORMER FEEDING THE EXISTING BOILER PLANT, SHOWN FOR REFERENCE ONLY.
  - NEW FACP (FIRE ALARM CONTROL PANEL LOCATED IN BREAK ROOM NO. 101 OF NEW BOILER PLANT), REFER TO DRAWING FA101 FOR EXACT LOCATION.
  - APPROXIMATE ROUTING PATH FOR LOW VOLTAGE TELE-COMMUNICATIONS LOOP "A", THE CONTRACTOR SHALL PROVIDE THE FOLLOWING WITHIN THE EXISTING CONCRETE CELL-DUCT SYSTEM: (1) 24 STRAND OM4 FIBER CABLE, (1) 24 STRAND OS2 FIBER CABLE, (1) 25 PAIR COPPER BACKBONE CABLE, (1) RG-11 COAXIAL CABLE FOR THE PERIMETER BUILDINGS, PROVIDE A TOTAL OF (8) 24 STRAND OM4 CABLE, (8) 24 STRAND OS2 FIBER, (8) 25 PAIR COPPER BACKBONE CABLES, (8) RG-11 COAXIAL CABLES IN (4) 4" CONDUITS IN CONCRETE CELL-DUCT DUCT-BANK. ROUTED FROM INDICATED TO PERIMETER DUCT-BANK, REFER TO DETAIL 3/EP501 FOR ADDITIONAL INFORMATION.
  - APPROXIMATE ROUTING PATH FOR LOW VOLTAGE TELE-COMMUNICATIONS LOOP "B", THE CONTRACTOR SHALL PROVIDE THE FOLLOWING WITHIN EXISTING CELL-DUCT SYSTEM: (1) 24 STRAND OM4 FIBER CABLE, (1) 24 STRAND OS2 FIBER CABLE, PROVIDE A TOTAL OF (8) 24 STRAND OM4 CABLE, (8) 24 STRAND OS2 FIBER, (8) RG-11 COAXIAL CABLES IN (4) 4" CONDUITS IN CONCRETE CELL-DUCT DUCT-BANK. ROUTED FROM NEW BOILER PLANT TO PERIMETER BUILDINGS, PROVIDE A TOTAL OF (8) 24 STRAND OM4 CABLE, (8) 24 STRAND OS2 FIBER, (8) RG-11 COAXIAL CABLES IN (4) 4" CONDUITS IN CONCRETE CELL-DUCT DUCT-BANK. ROUTED FROM INDICATED TO PERIMETER DUCT-BANK, REFER TO DETAIL 3/EP501 FOR ADDITIONAL INFORMATION.
  - THE CONTRACTOR SHALL ROUTE CABLING FROM NEW TRANSFORMER TO ATS/MDP LOCATED IN ELECTRICAL ROOM NO. 111, ROUTE NEW CONDUIT AND FEEDER CONDUCTORS WITHIN CONCRETE CELL DUCT SYSTEM, REFER TO DETAIL 1/E-501 FOR ADDITIONAL INFORMATION.

1 ELECTRICAL - SITE PLAN  
SCALE 1/64" = 1'-0"

ADDENDUM 1 08-09-2024 CONSULTANT ARCHITECT/ENGINEER OF RECORD <b>paradigm</b> Architecture   Engineering   Design-Build 9000 Weesevex Place, Louisville, KY 40222 www.paradigmusa.com 9/12/2024 U.S. Department of Veterans Affairs	Drawing Title <b>ELECTRICAL - SITE PLAN</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
	Approved: Project Director	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Fully Sprinklered <b>FULLY SPRINKLERED</b>	Issue Date 06/25/2024
Revisions:	Date:	Checked WLM	Drawn KMB	Drawing Number <b>ES101</b>

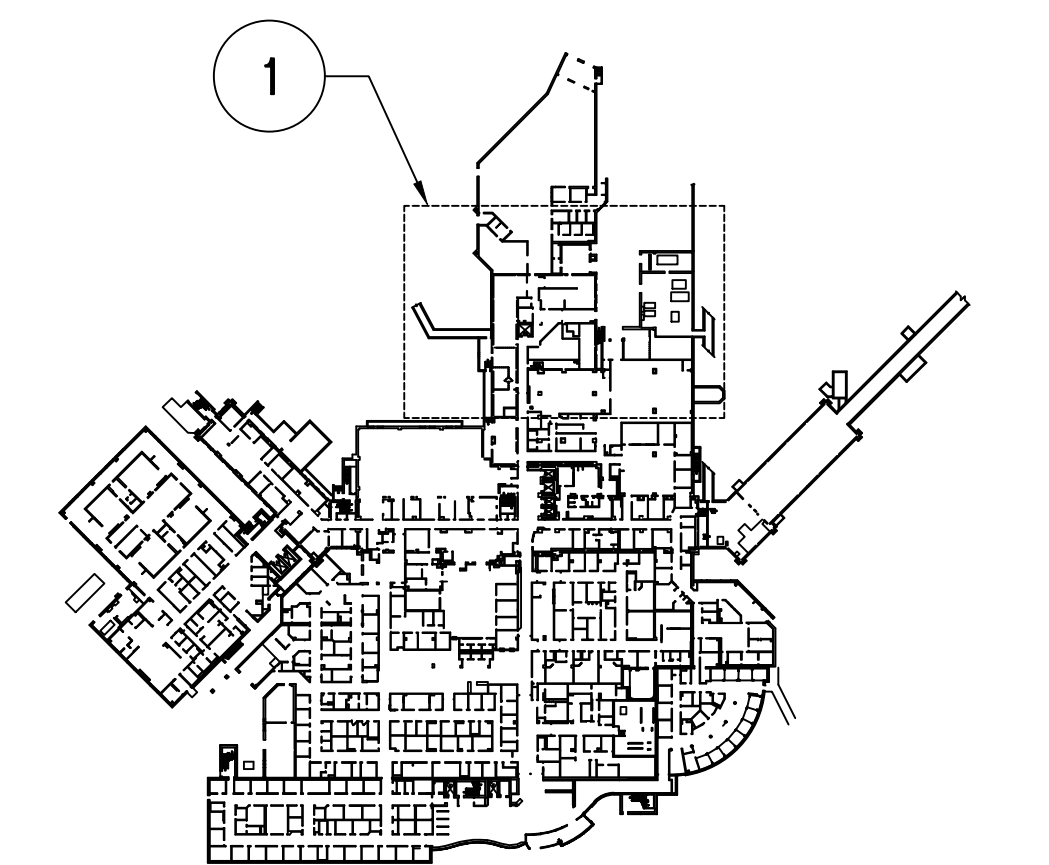
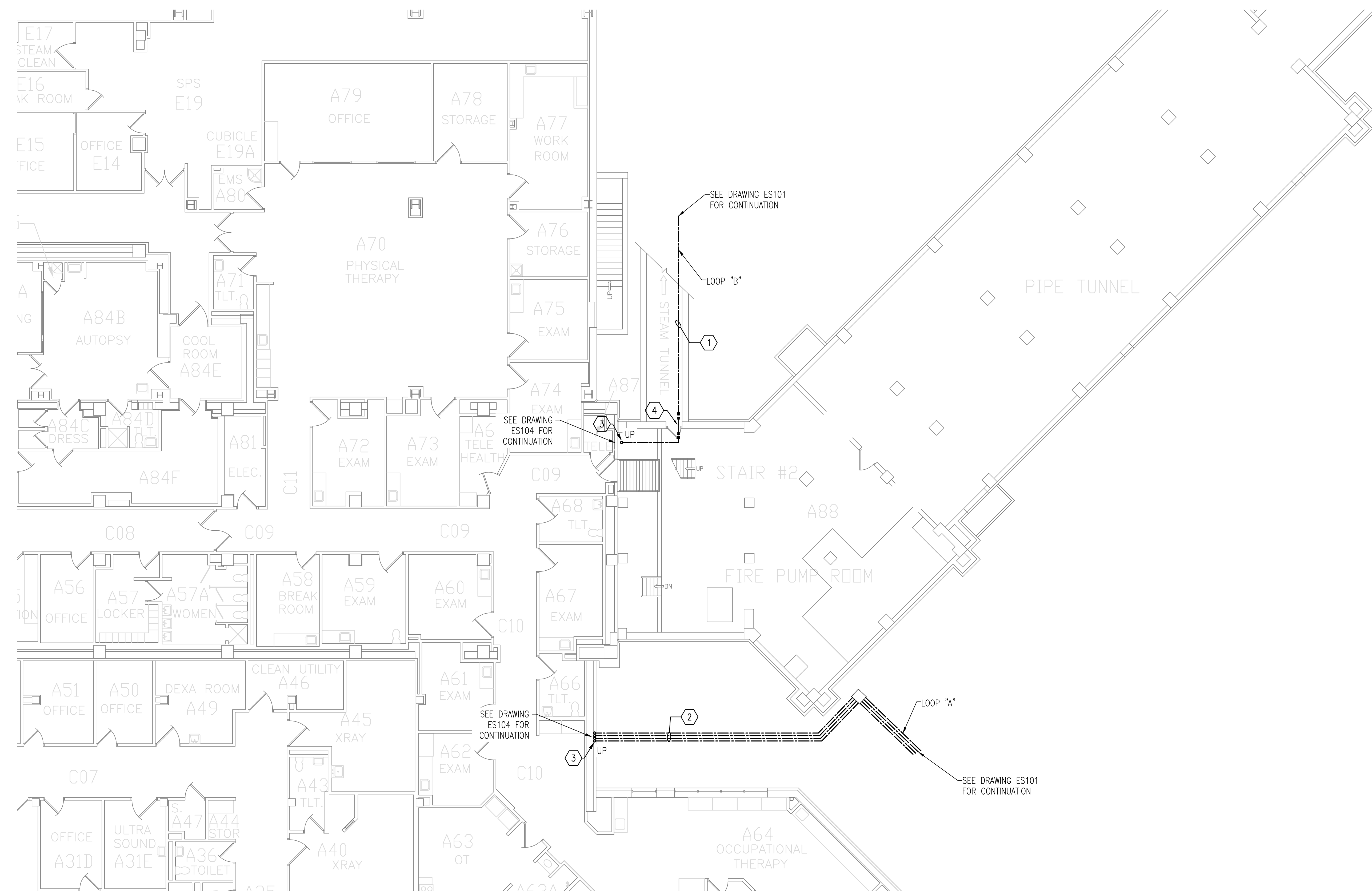


**GENERAL NOTES**

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- B. ALL EXISTING UNDERGROUND UTILITIES SHALL BE PROTECTED DURING CONSTRUCTION UNLESS NOTED OTHERWISE.
- C. ALL EXISTING DISTURBED GROUND, ASPHALT, SIDEWALKS, CURBS AND GUTTERS ETC. SHALL BE REPAIRED TO MATCH EXISTING. CONTRACTOR SHALL RE-GRADE, RE-FEED/BRING ALL AREAS TO PRESENT "LIKE NEW" CONDITION UPON COMPLETION OF PROJECT.
- D. ALL UNDERGROUND CONDUIT SYSTEMS SHALL BE ROUTED WITHIN CONCRETE CELL-DUCT SYSTEM PER DETAIL 3/EP501.
- E. PRIOR TO BEGINNING EXTERIOR DIGGING/TRENCHING THE CONTRACTOR SHALL PERFORM GPR (GROUND PENETRATING RADAR) OF THE PROPOSED AREA PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL AVOID ANY EXISTING UTILITIES OR OBSTRUCTIONS WHEN INSTALLING UNDERGROUND INSTALLATION.
- F. CONTRACTOR SHALL SEAL ANY OPENINGS MADE DURING CONSTRUCTION.

**KEY NOTES**

- 1. APPROXIMATE ROUTING PATH FOR LOW VOLTAGE TELE-COMMUNICATIONS LOOP "B". THE CONTRACTOR SHALL ROUTE CABLING IN (4) 4" CONDUITS ALONG TUNNEL WALL EXITING IN ROOM NO. A88 AND CONTINUING ALONG CEILING TO EXISTING PATH THAT GOES UP TO THE FIRST FLOOR LANDING IN ROOM NO. A149.
- 2. APPROXIMATE ROUTING PATH FOR LOW VOLTAGE TELE-COMMUNICATIONS LOOP "A". THE CONTRACTOR SHALL ROUTE ALL CABLING IN (4) 4" CONDUITS FROM BUILDING PENETRATION, ALONG CEILING OVER TO THE EXISTING PATH THAT GOES UP TO THE FIRST FLOOR LANDING IN ROOM NO. A149.
- 3. CONTRACTOR SHALL FOLLOW THE EXISTING PATH AND ROUTE CONDUIT FROM GROUND FLOOR UP TO FIRST FLOOR LANDING IN ROOM NO. A149.
- 4. THE CONTRACTOR SHALL PROVIDE A 4-INCH UL FIRE RATED CONDUIT MOUNTED ABOVE THE ACCESSIBLE CEILING SPACE, PROVIDE PULL STRINGS WITHIN THE CONDUIT SYSTEM, REFER TO DETAIL 3/ET501 FOR ADDITIONAL INFORMATION.



1 BUILDING 5 GROUND FLOOR - LOOP 'A' AND 'B'  
SCALE 1/8" = 1'-0"

KEY PLAN - GROUND FLOOR  
NOT TO SCALE

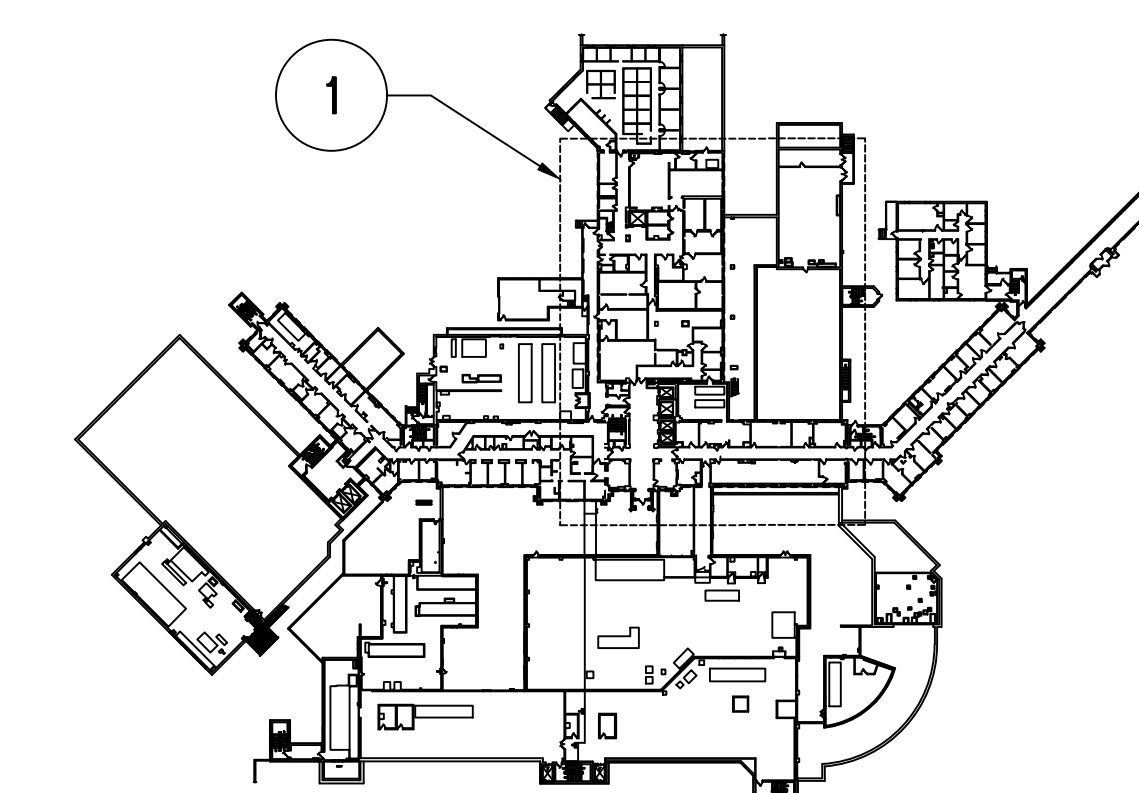
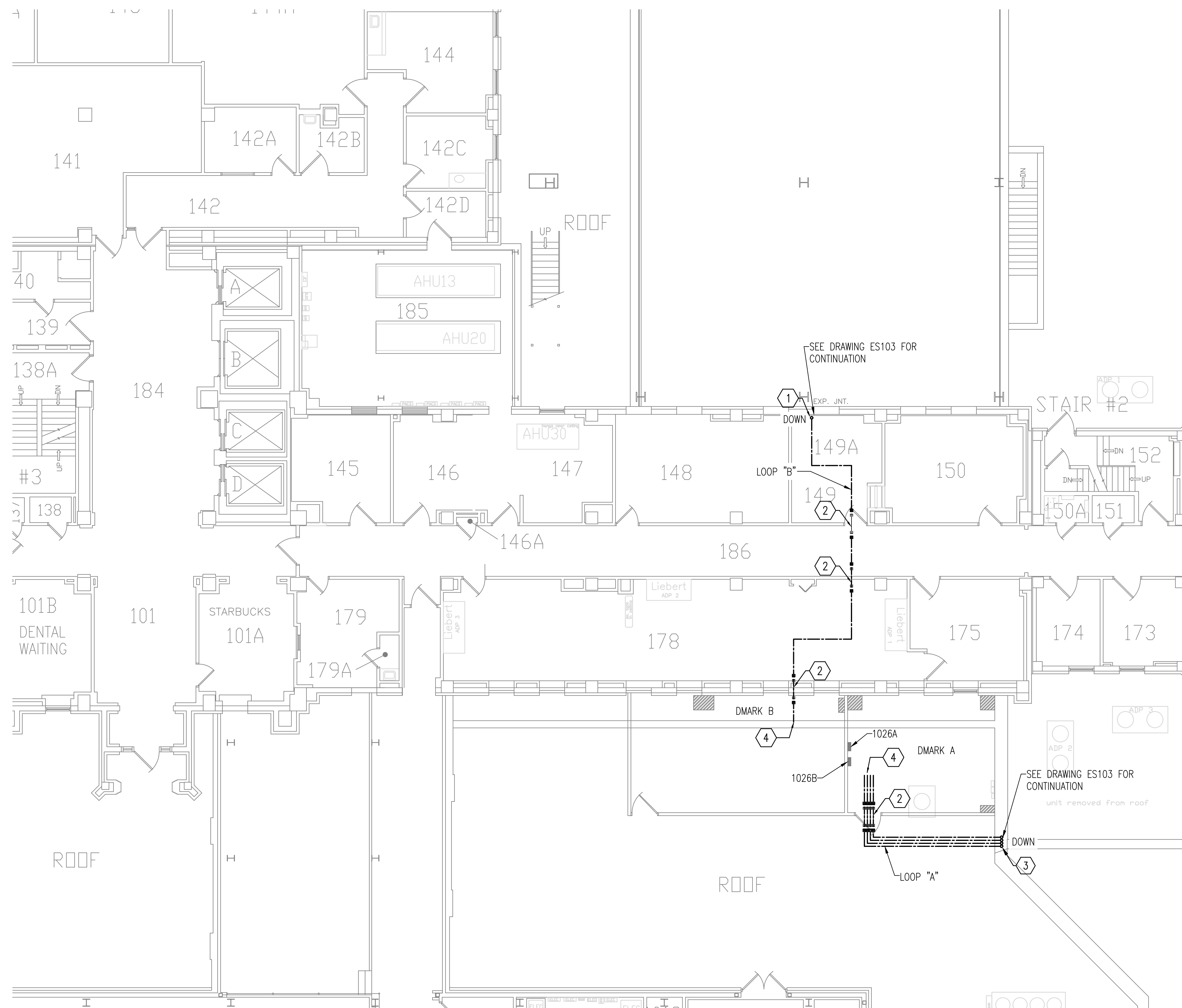
		CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title <b>BUILDING 5 GROUND FLOOR - LOOP 'A' AND 'B'</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
Revisions:	Date:		 Architecture   Engineering   Design-Build 9000 Wesley Place, Louisville, KY 40222 www.paradigmusa.com			Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number <b>12</b>
								Issue Date 06/25/2024	Checked WLM
								Drawn KMB	Drawing Number <b>ES103</b>

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- E. PRIOR TO BEGINNING EXTERIOR DIGGING/TRENCHING THE CONTRACTOR SHALL PERFORM GPR (GROUND PENETRATING RADAR) OF THE PROPOSED AREA PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL AVOID ANY EXISTING UTILITIES OR OBSTRUCTIONS WHEN INSTALLING UNDERGROUND INSTALLATION.
- F. CONTRACTOR SHALL SEAL ANY OPENINGS MADE DURING CONSTRUCTION.

**KEY NOTES**

- 1. APPROXIMATE ROUTING PATH FOR LOW VOLTAGE TELE-COMMUNICATIONS LOOP "B", THE CONTRACTOR SHALL PROVIDE A 4-INCH CONDUIT WITHIN THE ACCESSIBLE CEILING SPACE AND ROUTE OVER TO IT ROOM 178.
- 2. THE CONTRACTOR SHALL PROVIDE A 4-INCH UL FIRE RATED CONDUIT MOUNTED ABOVE THE ACCESSIBLE CEILING SPACE, PROVIDE PULL STRINGS WITHIN THE CONDUIT SYSTEM, REFER TO DETAIL 3/ET501 FOR ADDITIONAL INFORMATION.
- 3. APPROXIMATE ROUTING PATH FOR LOW VOLTAGE TELE-COMMUNICATIONS LOOP "A", THE CONTRACTOR SHALL PROVIDE A 4-INCH CONDUIT WITHIN THE ACCESSIBLE CEILING SPACE AND ROUTE OVER TO IT ROOM 178.
- 4. THE CONTRACTOR SHALL LEAVE 50' SLACK AT SERVER ROOM LANDING POINT FOR FUTURE EHRM EXPANSION.



**1 BUILDING 5 FIRST FLOOR - LOOP 'A' AND 'B'**  
SCALE 1/8" = 1'-0"

**KEY PLAN - FIRST FLOOR**  
NOT TO SCALE

Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

**paradigm**  
Architecture | Engineering | Design-Build  
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STAMP

STATE OF LOUISIANA  
TYLER M. MONTGOMERY  
LICENSE NO. 0047142  
9/12/2024

Office of Construction and Facilities Management  
VA U.S. Department of Veterans Affairs

Drawing Title  
**BUILDING 5 FIRST FLOOR - LOOP 'A' AND 'B'**

Approved: Project Director

Phase  
100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title  
SIOUX FALLS BOILER PLANT

Location  
VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105

Issue Date  
06/25/2024

Checked  
WLM

Drawn  
KMB

Project Number  
438-22-900

Building Number  
12

Drawing Number  
**ES104**

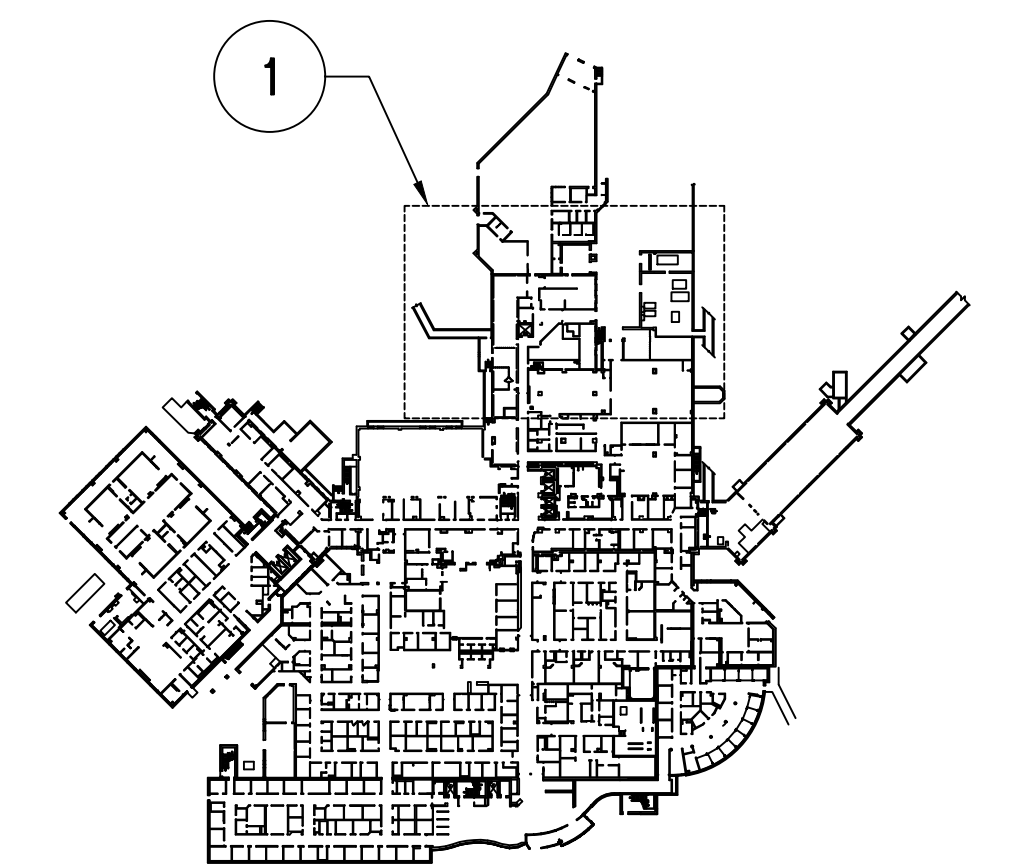
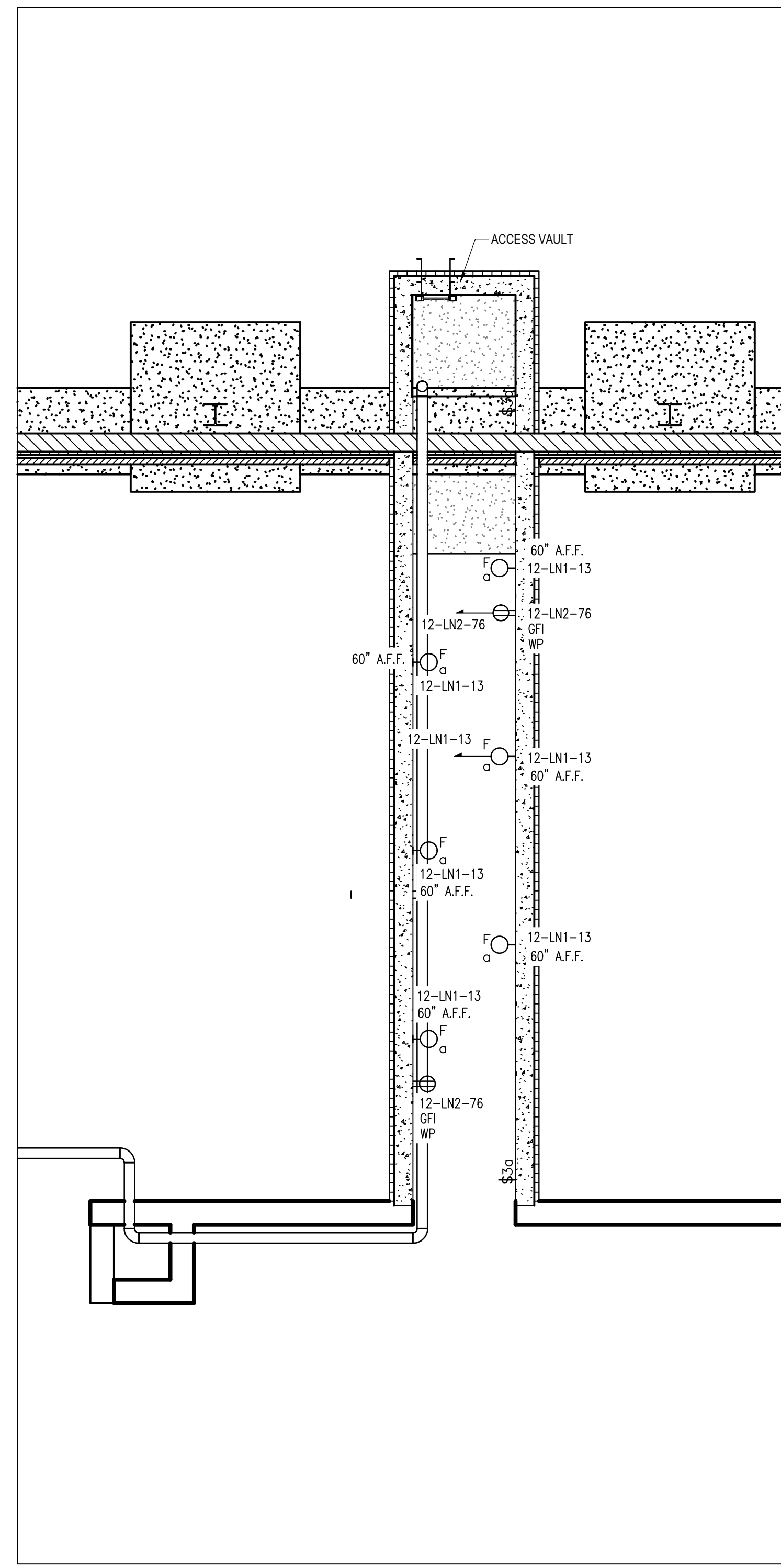
A  
B  
C  
D  
E  
F

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- E. PRIOR TO BEGINNING EXTERIOR DIGGING/TRENCHING THE CONTRACTOR SHALL PERFORM GPR (GROUND PENETRATING RADAR) OF THE PROPOSED AREA PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL AVOID ANY EXISTING UTILITIES OR OBSTRUCTIONS WHEN INSTALLING UNDERGROUND INSTALLATION.
- F. CONTRACTOR SHALL SEAL ANY OPENINGS MADE DURING CONSTRUCTION.

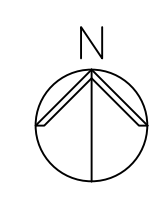
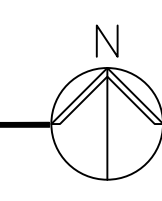
**KEY NOTES** ◻

- 1. XXXXX



**1 NEW TUNNEL PLAN**  
SCALE 3/16" = 1'-0"

**KEY PLAN - GROUND FLOOR**  
NOT TO SCALE



		CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title <b>NEW TUNNEL PLAN</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
			 Architecture   Engineering   Design-Build 9000 Wesssex Place, Louisville, KY 40222 www.paradigmusa.com		U.S. Department of Veterans Affairs	Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number <b>12</b>
								Issue Date 06/25/2024	Drawing Number <b>ES105</b>
								Checked WLM	Drawn KMB

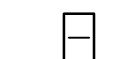


**SITE PLAN GENERAL NOTES**

- A. THIS DRAWING IS BASED ON SITE PLANS PROVIDED BY OTHERS, AND MAY NOT SHOW EXACT LOCATION OF EXISTING EQUIPMENT, UTILITIES, ETC. CONTRACTOR SHALL FIELD INVESTIGATE AND CONFIRM/VERIFY EXISTING CONDITIONS. THIS DRAWING PROVIDED FOR ORIENTATION AND INFORMATIONAL PURPOSES – DO NOT SCALE.
- B. THE ROUTING PATH OF UNDERGROUND CONDUITS AND CONCRETE CELL-DUCT SYSTEMS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE EXACT ROUTING PATHS WITH OTHER TRADES.
- C. THE CONTRACTOR SHALL PERFORM GPR (GROUND PENETRATING RADAR) AT SITE PRIOR TO DIGGING.
- D. ALL CAMERAS SHALL BE 360 DEGREE OF COVERAGE.
- E. THE CONTRACTOR SHALL INCLUDE PULL STRINGS WITHIN CONDUIT SYSTEM.
- F. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE INTERCOM SYSTEM AND ALL ACCESSORIES REQUIRED FOR A COMPLETE SYSTEM.






**SECURITY GATE PLAN KEY NOTES**

- 1. PROVIDE 1 1/2" RIGID STEEL CONDUIT BURIED UNDERGROUND WITH PULL STRINGS.
- 2. PROVIDE 3/4" RIGID STEEL CONDUIT BURIED UNDERGROUND WITH PULL STRINGS.
- 3. PROVIDE 120 VOLT POWER TO MOTORIZED GATE, ROUTE 3/4" RIGID STEEL CONDUIT UNDERGROUND TO PANEL AS INDICATED.
- 4. THE CONTRACTOR SHALL ROUTE 3/4" RIGID STEEL CONDUIT UNDERGROUND FROM SECURITY GATE TO PANEL AS INDICATED.
- 5. PROVIDE 1 1/4" STAINLESS STEEL "LB" MOUNTED ON SIDE OF BUILDING.
- 6. MOUNT ALONG CEILING TO DESIGNATED LOCATION AS INDICATED.
- 7. THE CONTRACTOR SHALL ROUTE CATEGORY 6a CABLING FOR CAMERA WITHIN CONDUIT SYSTEM.

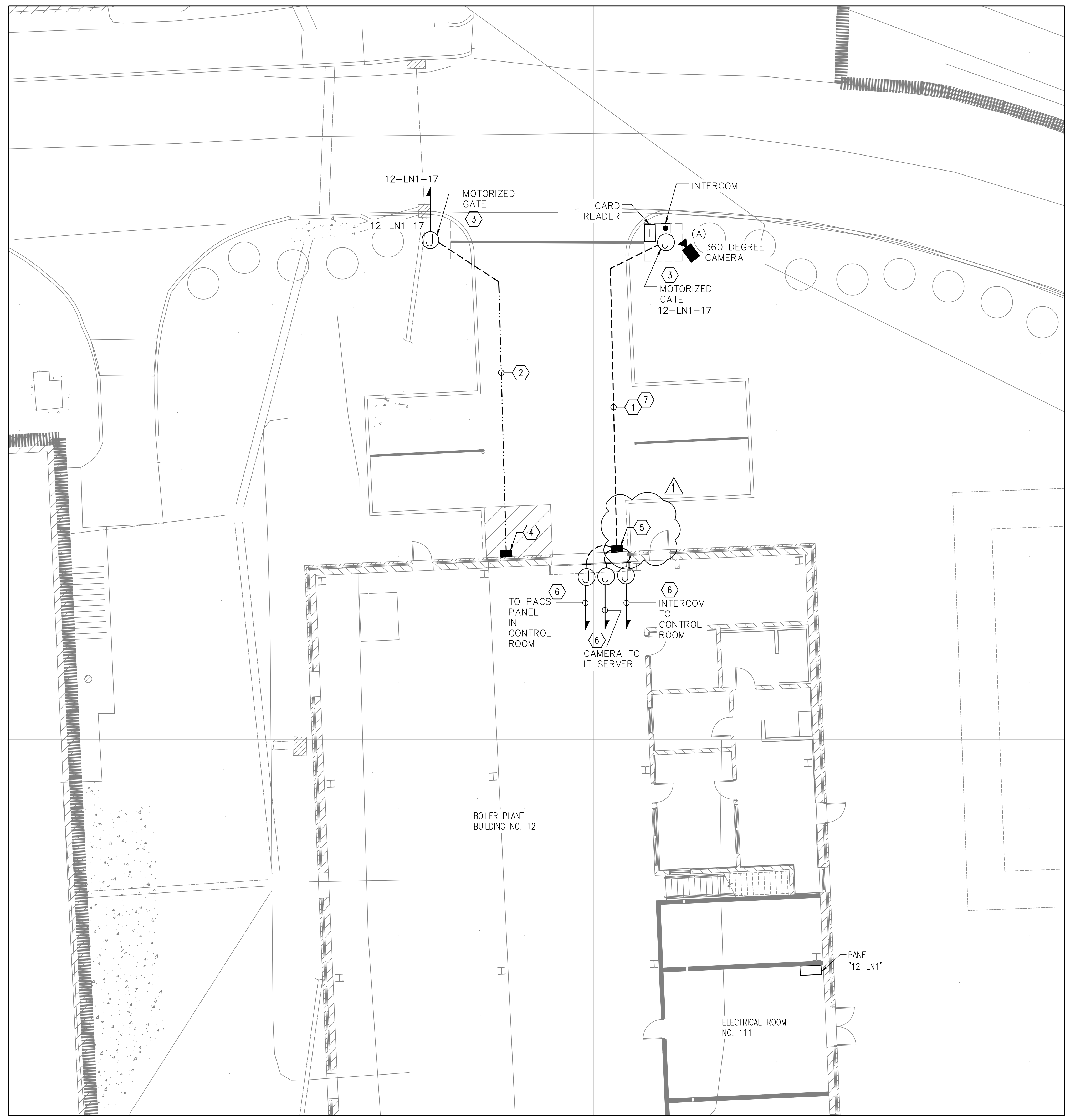
**SYSTEMS LEGEND**

-  CARD ACCESS READER
-  DOOR CONTACT INTRUSION DETECTION SYSTEM.
-  INTERCOM

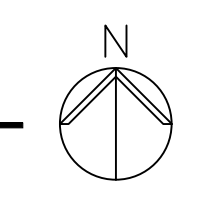
NOTE: WIRING SHALL BE IN EMT (ELECTRICAL METALLIC TUBING)

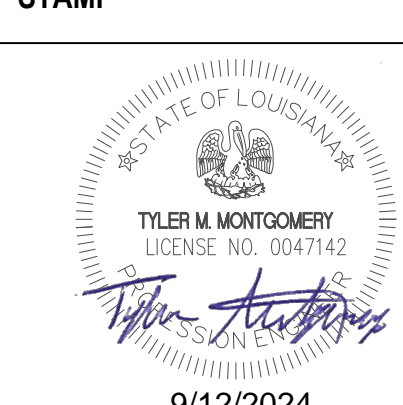
SYMBOL	MANUFACTURER AND MODEL NUMBER	COVERAGE
(A) 	CAMERA MANUFACTURED BY AXIS, MODEL NO. Q6100-E AND Q6135-LE.	360°
(B) 	CAMERA MANUFACTURED BY AXIS, MODEL NO. 1P3719-PLV AND M3048-PLVE.	360°
(C) 	CAMERA MANUFACTURED BY AXIS, MODEL NO. 1P3719-PLV.	360°
(D) 	CAMERA MANUFACTURED BY AXIS, MODEL NO. P3265-LVE.	360°
(E) 	CAMERA MANUFACTURED BY AXIS, MODEL NO. M3058-PLVE.	360°

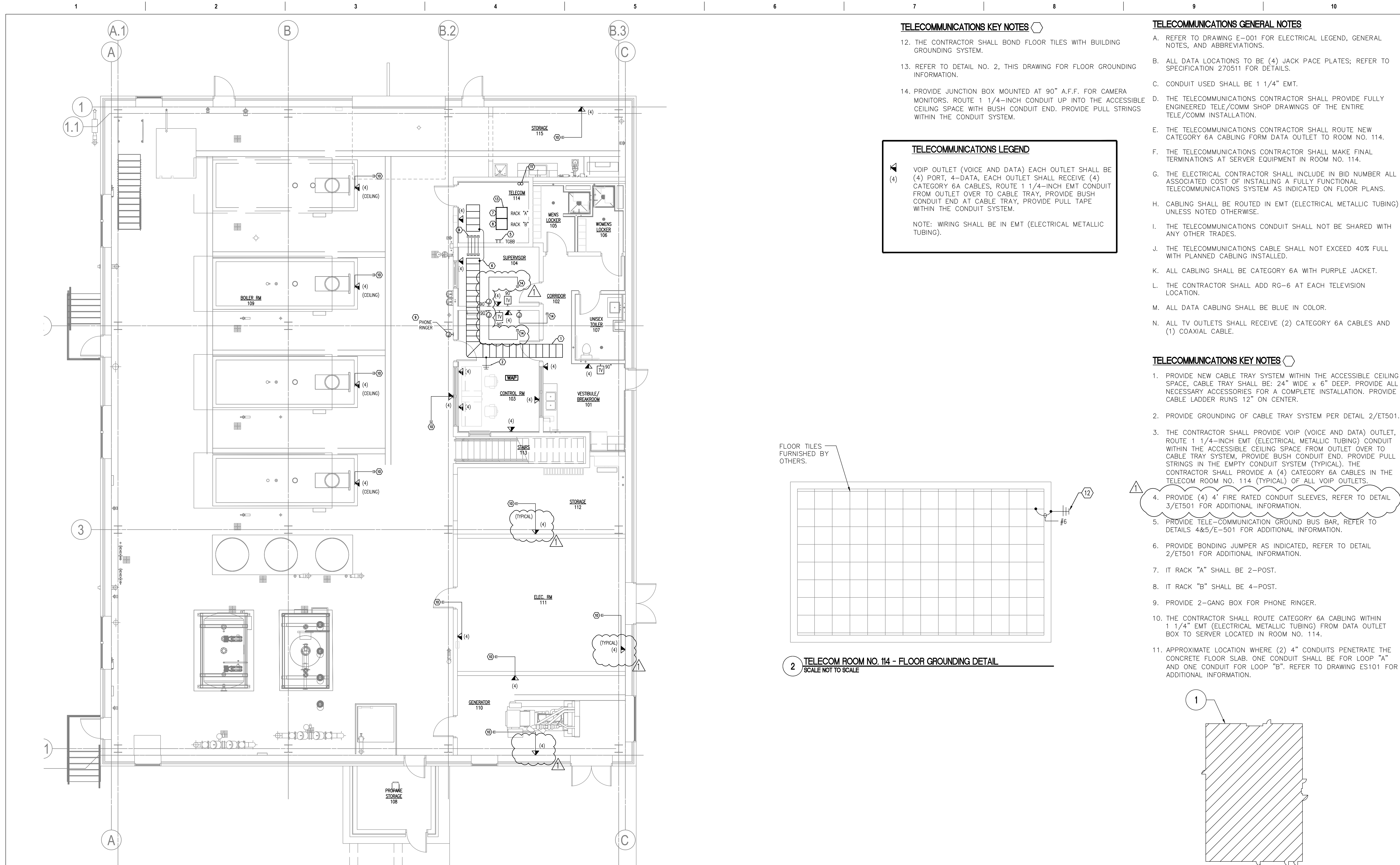
**2 CAMERA LEGEND**  
NOT TO SCALE



**1 ELECTRICAL - SECURITY GATE PLAN**  
SCALE 1/8" = 1'-0"



ADDENDUM 1 08-09-2024 CONSULTANT Revisions: Date:	ARCHITECT/ENGINEER OF RECORD <b>paradigm</b> Architecture   Engineering   Design-Build 9000 Wesley Place, Louisville, KY 40222 www.paradigmusa.com	STAMP 	Office of Construction and Facilities Management VA U.S. Department of Veterans Affairs	Drawing Title ELECTRICAL - SECURITY GATE PLAN	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
				Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number 12
				Issue Date 06/25/2024	Checked WLM	Drawn KMB	Drawing Number ES106



**TELECOMMUNICATIONS KEY NOTES**

- 12. THE CONTRACTOR SHALL BOND FLOOR TILES WITH BUILDING GROUNDING SYSTEM.
- 13. REFER TO DETAIL NO. 2, THIS DRAWING FOR FLOOR GROUNDING INFORMATION.
- 14. PROVIDE JUNCTION BOX MOUNTED AT 90" A.F.F. FOR CAMERA MONITORS. ROUTE 1 1/4-INCH CONDUIT UP INTO THE ACCESSIBLE CEILING SPACE WITH BUSH CONDUIT END. PROVIDE PULL STRINGS WITHIN THE CONDUIT SYSTEM.

**TELECOMMUNICATIONS LEGEND**

(4) VOIP OUTLET (VOICE AND DATA) EACH OUTLET SHALL BE (4) PORT, 4-DATA, EACH OUTLET SHALL RECEIVE (4) CATEGORY 6A CABLES, ROUTE 1 1/4-INCH EMT CONDUIT FROM OUTLET OVER TO CABLE TRAY, PROVIDE BUSH CONDUIT END AT CABLE TRAY, PROVIDE PULL TAPE WITHIN THE CONDUIT SYSTEM.

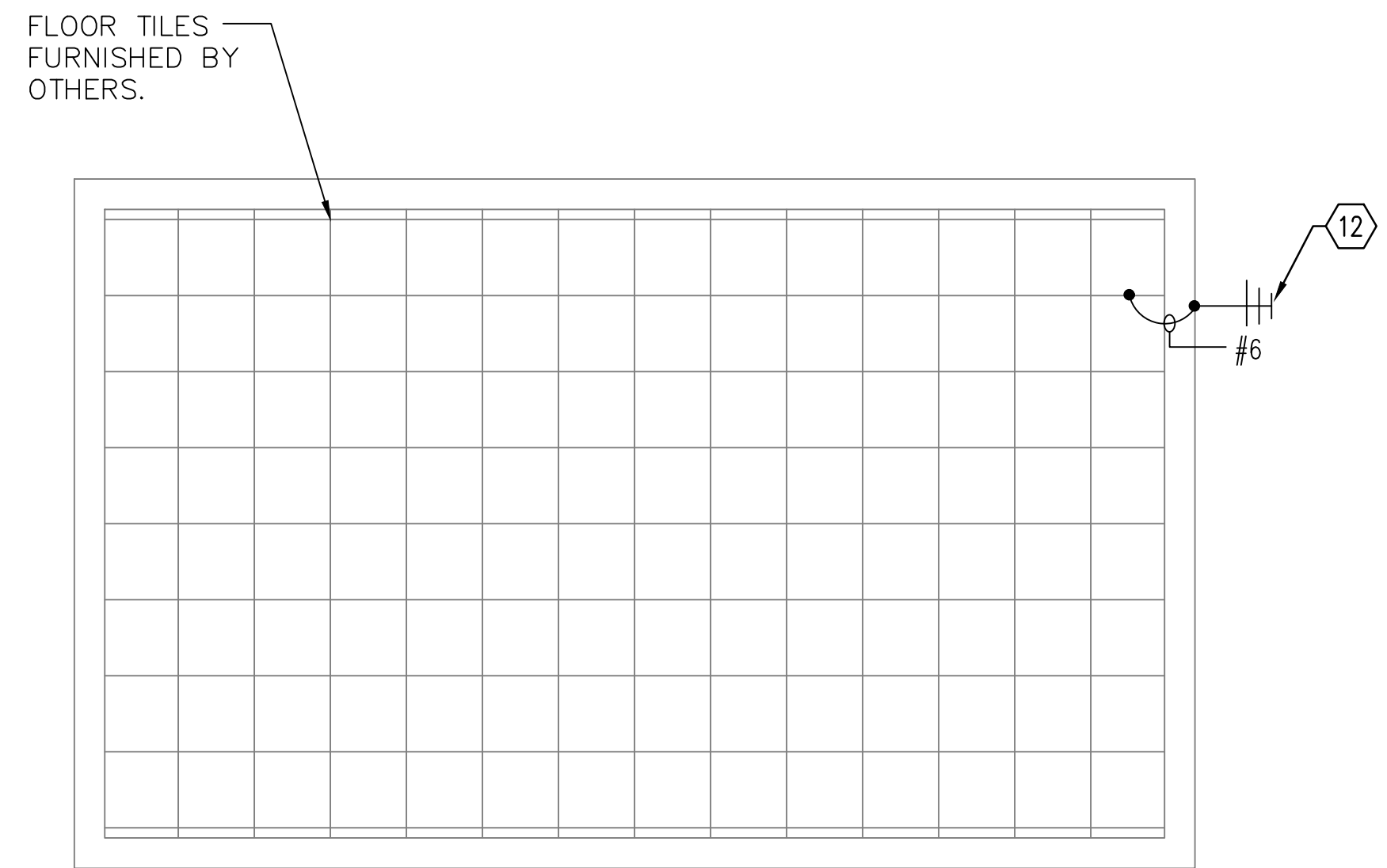
NOTE: WIRING SHALL BE IN EMT (ELECTRICAL METALLIC TUBING).

**TELECOMMUNICATIONS GENERAL NOTES**

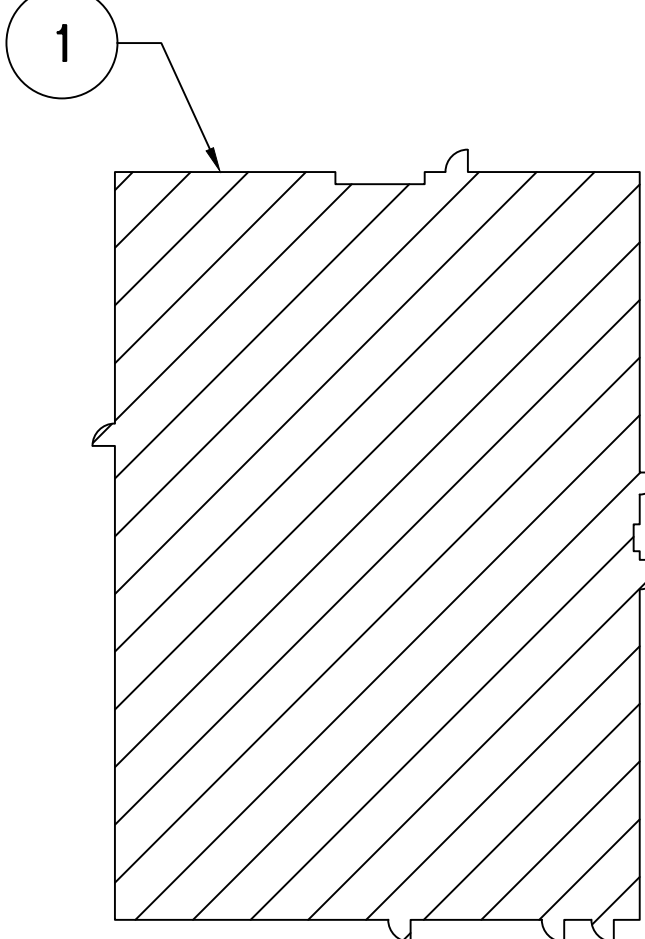
- A. REFER TO DRAWING E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS.
- B. ALL DATA LOCATIONS TO BE (4) JACK PACE PLATES; REFER TO SPECIFICATION 270511 FOR DETAILS.
- C. CONDUIT USED SHALL BE 1 1/4" EMT.
- D. THE TELECOMMUNICATIONS CONTRACTOR SHALL PROVIDE FULLY ENGINEERED TELE/COMM SHOP DRAWINGS OF THE ENTIRE TELE/COMM INSTALLATION.
- E. THE TELECOMMUNICATIONS CONTRACTOR SHALL ROUTE NEW CATEGORY 6A CABLING FROM DATA OUTLET TO ROOM NO. 114.
- F. THE TELECOMMUNICATIONS CONTRACTOR SHALL MAKE FINAL TERMINATIONS AT SERVER EQUIPMENT IN ROOM NO. 114.
- G. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN BID NUMBER ALL ASSOCIATED COST OF INSTALLING A FULLY FUNCTIONAL TELECOMMUNICATIONS SYSTEM AS INDICATED ON FLOOR PLANS.
- H. CABLING SHALL BE ROUTED IN EMT (ELECTRICAL METALLIC TUBING) UNLESS NOTED OTHERWISE.
- I. THE TELECOMMUNICATIONS CONDUIT SHALL NOT BE SHARED WITH ANY OTHER TRADES.
- J. THE TELECOMMUNICATIONS CABLE SHALL NOT EXCEED 40% FULL WITH PLANNED CABLING INSTALLED.
- K. ALL CABLING SHALL BE CATEGORY 6A WITH PURPLE JACKET.
- L. THE CONTRACTOR SHALL ADD RG-6 AT EACH TELEVISION LOCATION.
- M. ALL DATA CABLING SHALL BE BLUE IN COLOR.
- N. ALL TV OUTLETS SHALL RECEIVE (2) CATEGORY 6A CABLES AND (1) COAXIAL CABLE.

**TELECOMMUNICATIONS KEY NOTES**

- 1. PROVIDE NEW CABLE TRAY SYSTEM WITHIN THE ACCESSIBLE CEILING SPACE, CABLE TRAY SHALL BE: 24" WIDE x 6" DEEP. PROVIDE ALL NECESSARY ACCESSORIES FOR A COMPLETE INSTALLATION. PROVIDE CABLE LADDER RUNS 12" ON CENTER.
- 2. PROVIDE GROUNDING OF CABLE TRAY SYSTEM PER DETAIL 2/ET501.
- 3. THE CONTRACTOR SHALL PROVIDE VOIP (VOICE AND DATA) OUTLET, ROUTE 1 1/4-INCH EMT (ELECTRICAL METALLIC TUBING) CONDUIT WITHIN THE ACCESSIBLE CEILING SPACE FROM OUTLET OVER TO CABLE TRAY SYSTEM, PROVIDE BUSH CONDUIT END. PROVIDE PULL STRINGS IN THE EMPTY CONDUIT SYSTEM (TYPICAL). THE CONTRACTOR SHALL PROVIDE A (4) CATEGORY 6A CABLES IN THE TELECOM ROOM NO. 114 (TYPICAL) OF ALL VOIP OUTLETS.
- 4. PROVIDE (4) 4' FIRE RATED CONDUIT SLEEVES, REFER TO DETAIL 3/ET501 FOR ADDITIONAL INFORMATION.
- 5. PROVIDE TELE-COMMUNICATION GROUND BUS BAR, REFER TO DETAILS 4&5/E-501 FOR ADDITIONAL INFORMATION.
- 6. PROVIDE BONDING JUMPER AS INDICATED, REFER TO DETAIL 2/ET501 FOR ADDITIONAL INFORMATION.
- 7. IT RACK "A" SHALL BE 2-POST.
- 8. IT RACK "B" SHALL BE 4-POST.
- 9. PROVIDE 2-GANG BOX FOR PHONE RINGER.
- 10. THE CONTRACTOR SHALL ROUTE CATEGORY 6A CABLING WITHIN 1 1/4" EMT (ELECTRICAL METALLIC TUBING) FROM DATA OUTLET BOX TO SERVER LOCATED IN ROOM NO. 114.
- 11. APPROXIMATE LOCATION WHERE (2) 4" CONDUITS PENETRATE THE CONCRETE FLOOR SLAB. ONE CONDUIT SHALL BE FOR LOOP "A" AND ONE CONDUIT FOR LOOP "B". REFER TO DRAWING ES101 FOR ADDITIONAL INFORMATION.



**2 TELECOM ROOM NO. 114 - FLOOR GROUNDING DETAIL**  
SCALE NOT TO SCALE



**KEY PLAN - FIRST FLOOR**  
NOT TO SCALE

**1 TELECOMMUNICATIONS PLAN - FIRST FLOOR**  
SCALE 3/16" = 1'-0"

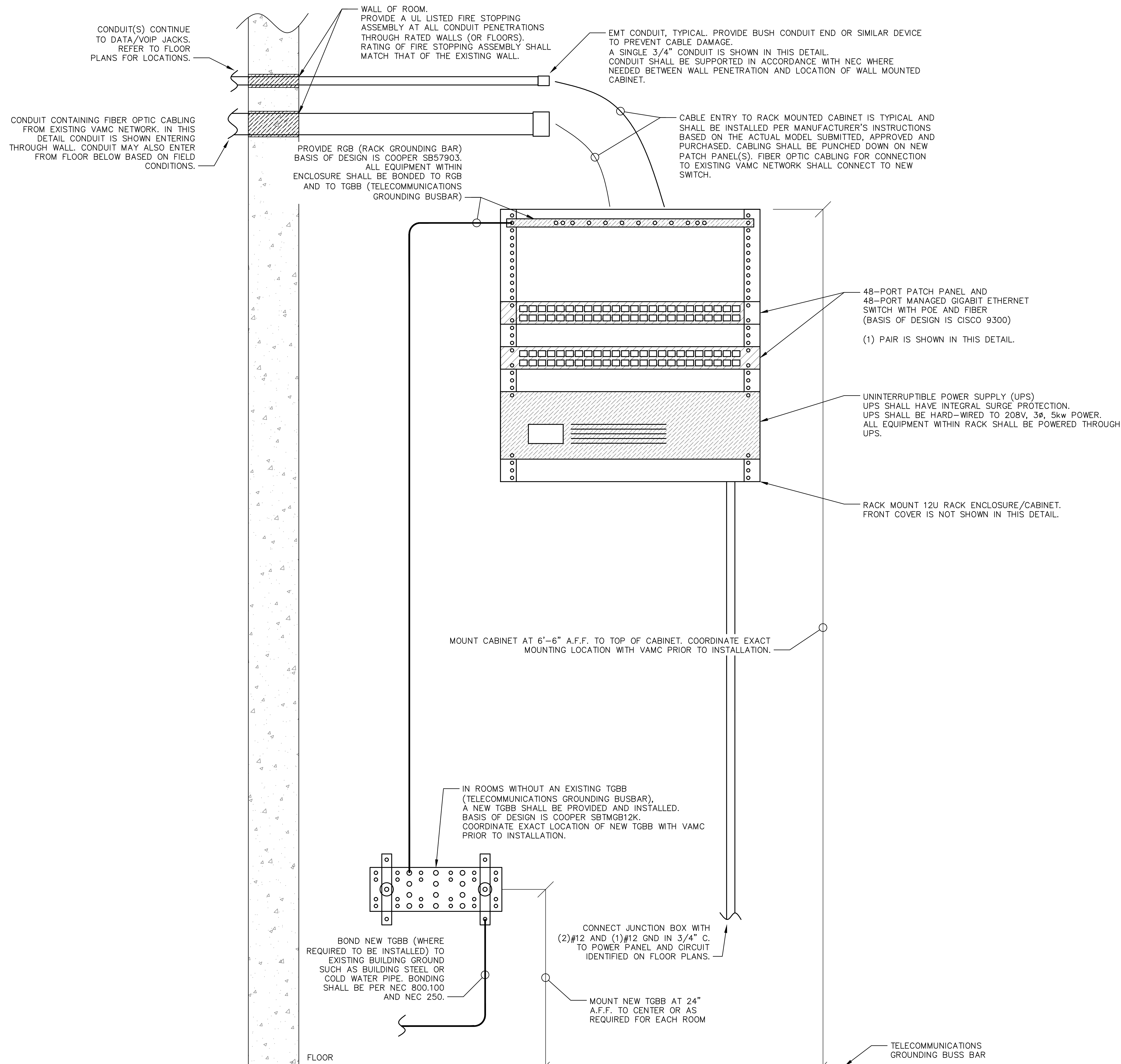
ADDENDUM 1 08-09-2024 CONSULTANT	ARCHITECT/ENGINEER OF RECORD <b>paradigm</b> Architecture   Engineering   Design-Build 9000 Wesley Place, Louisville, KY 40222 www.paradigmusa.com	STAMP TYLER M. MONTGOMERY LICENSE NO. 0047142 9/12/2024	Office of Construction and Facilities Management VA U.S. Department of Veterans Affairs	Drawing Title <b>TELECOMMUNICATIONS PLAN FIRST FLOOR</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
				Approved: Project Director	Fully Sprinklered	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number <b>12</b>
Revisions:	Date:			Issue Date 06/25/2024	Checked WLM	Drawn KMB	Drawing Number <b>ET101</b>





**GENERAL ELECTRICAL TELECOMMUNICATIONS PLAN NOTES**

- A. REFER TO DRAWING E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS.
- B. ALL CABLE TRAYS TO BE 12" WIDE UNLESS NOTED OTHERWISE.
- C. TELECOMMUNICATIONS TERMINATIONS SHALL BE MADE BY VA IRM (INFORMATION RESOURCES MANAGER)
- D. SEE DRAWING ET101 FOR ROUTING OF CABLE TRAY SYSTEM.
- E. PATCH PANEL SHALL BE ANGLED TYPE.
- F. THE UPS SYSTEM SHALL BE RACK MOUNTED.
- G. THE LOCATION OF THE UPS WITHIN THE RACK IS DIAGRAMMATIC ONLY, THE UPS SHALL BE MOUNTED IN BOTTOM OF IT RACK.



**1** DIGITAL TELECOMMUNICATIONS WIRING DIAGRAM (TYPICAL OF IT CLOSET ROOM NO. 114)  
NO SCALE

Revisions:	Date:	CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title	Phase	Project Title	Project Number
			<b>paradigm</b> Architecture   Engineering   Design-Build 9000 Weissex Place, Louisville, KY 40222 www.paradigmusa.com		U.S. Department of Veterans Affairs	TELECOMMUNICATIONS DETAILS	100% CONSTRUCTION DOCUMENTS	SIoux FALLS BOILER PLANT	438-22-900
						Approved: Project Director	FULLY SPRINKLERED	Location	Building Number
								VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	12
								Issue Date	Checked
								06/25/2024	WLM
								Drawn	Drawing Number
								KMB	ET502





**FIRE ALARM LEGEND**  
(NOT ALL SYMBOLS WILL APPLY TO THIS WORK)

<p><b>F</b> FIRE ALARM PULL STATION. MOUNTED 48" AFF TO CENTERLINE OF STATION.</p> <p><b>15</b> <b>F</b> HORN/SPEAKER ALARM. COMBINATION SPEAKER WITH ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. 'WP' INDICATES WEATHERPROOF UNIT. DEVICE SHALL BE DUAL COIL AND SHALL FUNCTION AS A FIRE ALARM DEVICE AND A PUBLIC ADDRESS DEVICE.</p> <p><b>15</b> <b>F</b> VISUAL ALARM. ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. REFER TO SPECIAL REQUIREMENTS IN SLEEPING AREAS. 'NS' INDICATES NON-SUPERVISED 120 VOLT REMOTE VISUAL SIGNAL, 177 CANDELA, CONNECTED TO NON-SUPERVISED SMOKE DETECTOR.</p> <p><b>H</b> DETECTOR; LETTER INDICATES AS FOLLOWS:          BLANK = PHOTOELECTRIC SMOKE DETECTOR          H = HEAT SMOKE          I = IONIZATION SMOKE          IH = IONIZATION AND HEAT SMOKE          IP = IONIZATION AND PHOTOELECTRIC SMOKE          PH = PHOTOELECTRIC AND HEAT SMOKE          IPH = IONIZATION, PHOTOELECTRIC, AND HEAT</p> <p><b>S</b> DUCT MOUNTED SMOKE DETECTOR WITH REMOTE TEST AND RESET STATION. FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR.          'S' INDICATES LOCATED IN SUPPLY AIR DUCT          'R' INDICATES LOCATED IN RETURN AIR DUCT</p> <p><b>TS</b> REMOTE TEST STATION WITH RESET FOR DUCT SMOKE DETECTOR</p> <p><b>DH</b> ELECTROMAGNETIC TYPE DOOR HOLDER RELEASE</p> <p><b>SFS</b> SPRINKLER FLOW SWITCH</p> <p><b>STS</b> SPRINKLER TAMPER SWITCH</p>	<p><b>F</b> FIRE ALARM PULL STATION. MOUNTED 48" AFF TO CENTERLINE OF STATION.</p> <p><b>15</b> <b>F</b> AUDIO/VISUAL ALARM. COMBINATION SPEAKER WITH ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. 'WP' INDICATES WEATHERPROOF UNIT.</p> <p><b>15</b> <b>F</b> VISUAL ALARM. ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. REFER TO SPECIAL REQUIREMENTS IN SLEEPING AREAS. 'NS' INDICATES NON-SUPERVISED 120 VOLT REMOTE VISUAL SIGNAL, 177 CANDELA, CONNECTED TO NON-SUPERVISED SMOKE DETECTOR.</p> <p><b>SFS</b> SPRINKLER FLOW SWITCH</p> <p><b>STS</b> SPRINKLER TAMPER SWITCH</p> <p><b>MM</b> MONITOR MODULE</p> <p><b>S</b> SMOKE DETECTOR</p> <p><b>DH</b> DOOR HOLDER</p> <p><b>S</b> DUCT SMOKE DETECTOR;          'S' INDICATES LOCATED IN SUPPLY PLENUM          'R' INDICATES LOCATED IN RETURN PLENUM</p> <p><b>T</b> TEST STATION FOR DUCT SMOKE DETECTOR</p> <p><b>BFP</b> BACK FLOW PREVENTOR</p>
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**FIRE ALARM LEGEND**  
(NOT ALL SYMBOLS WILL APPLY TO THIS WORK)

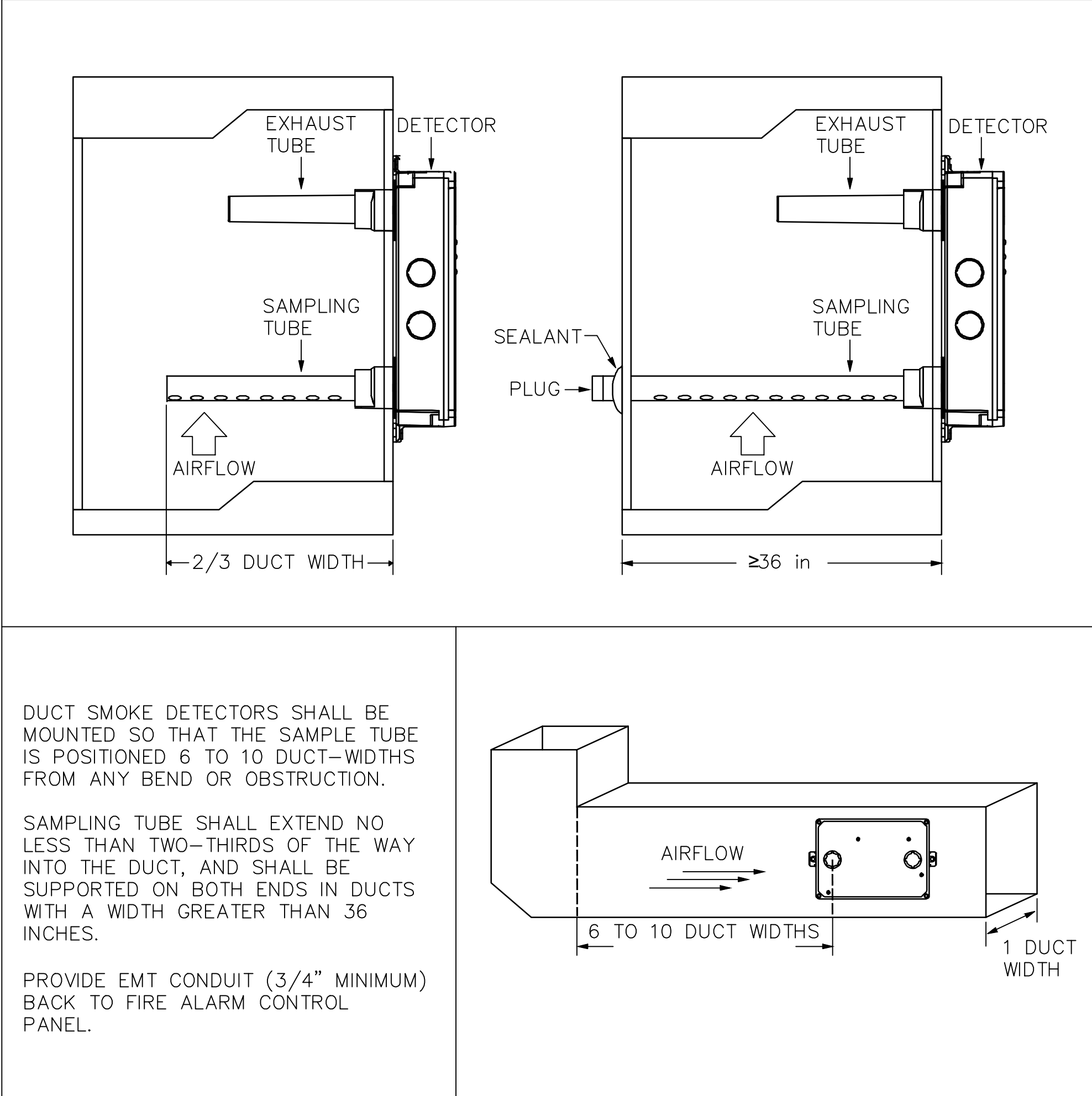
<p><b>F</b> FIRE ALARM PULL STATION. MOUNTED 48" AFF TO CENTERLINE OF STATION.</p> <p><b>15</b> <b>F</b> AUDIO/VISUAL ALARM. COMBINATION SPEAKER WITH ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. 'WP' INDICATES WEATHERPROOF UNIT.</p> <p><b>15</b> <b>F</b> VISUAL ALARM. ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. REFER TO SPECIAL REQUIREMENTS IN SLEEPING AREAS. 'NS' INDICATES NON-SUPERVISED 120 VOLT REMOTE VISUAL SIGNAL, 177 CANDELA, CONNECTED TO NON-SUPERVISED SMOKE DETECTOR.</p> <p><b>SFS</b> SPRINKLER FLOW SWITCH</p> <p><b>STS</b> SPRINKLER TAMPER SWITCH</p> <p><b>MM</b> MONITOR MODULE</p> <p><b>S</b> SMOKE DETECTOR</p> <p><b>DH</b> DOOR HOLDER</p> <p><b>S</b> DUCT SMOKE DETECTOR;          'S' INDICATES LOCATED IN SUPPLY PLENUM          'R' INDICATES LOCATED IN RETURN PLENUM</p> <p><b>T</b> TEST STATION FOR DUCT SMOKE DETECTOR</p> <p><b>BFP</b> BACK FLOW PREVENTOR</p>	<p><b>F</b> FIRE ALARM PULL STATION. MOUNTED 48" AFF TO CENTERLINE OF STATION.</p> <p><b>15</b> <b>F</b> AUDIO/VISUAL ALARM. COMBINATION SPEAKER WITH ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. 'WP' INDICATES WEATHERPROOF UNIT.</p> <p><b>15</b> <b>F</b> VISUAL ALARM. ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. REFER TO SPECIAL REQUIREMENTS IN SLEEPING AREAS. 'NS' INDICATES NON-SUPERVISED 120 VOLT REMOTE VISUAL SIGNAL, 177 CANDELA, CONNECTED TO NON-SUPERVISED SMOKE DETECTOR.</p> <p><b>SFS</b> SPRINKLER FLOW SWITCH</p> <p><b>STS</b> SPRINKLER TAMPER SWITCH</p> <p><b>MM</b> MONITOR MODULE</p> <p><b>S</b> SMOKE DETECTOR</p> <p><b>DH</b> DOOR HOLDER</p> <p><b>S</b> DUCT SMOKE DETECTOR;          'S' INDICATES LOCATED IN SUPPLY PLENUM          'R' INDICATES LOCATED IN RETURN PLENUM</p> <p><b>T</b> TEST STATION FOR DUCT SMOKE DETECTOR</p> <p><b>BFP</b> BACK FLOW PREVENTOR</p>
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**ABBREVIATIONS**  
(NOT ALL ABBREVIATIONS WILL APPLY TO THIS WORK)

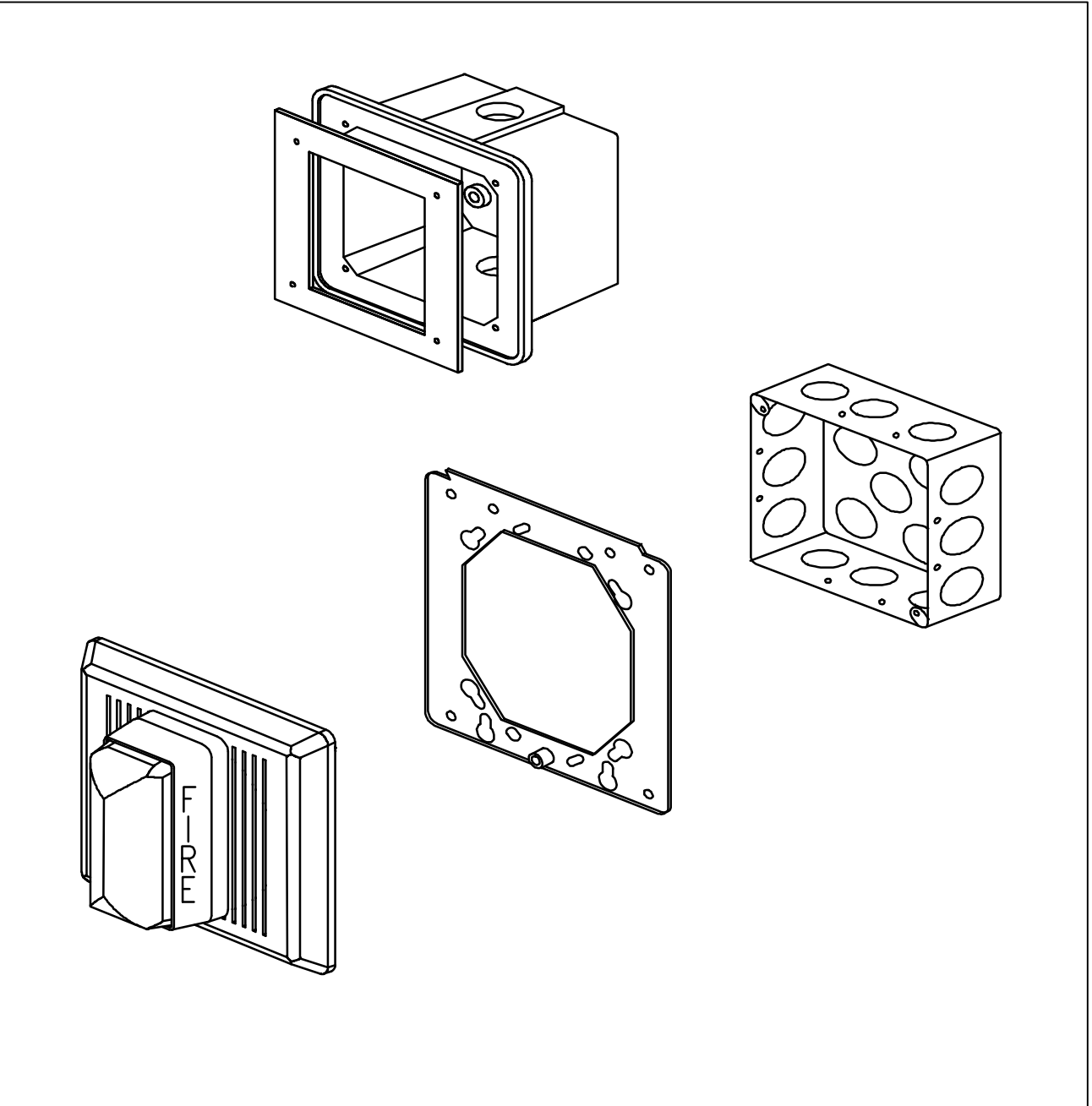
<p>A AMP</p> <p>AC ALTERNATING CURRENT</p> <p>ADA AMERICANS WITH DISABILITIES ACT</p> <p>AFF ABOVE FINISHED FLOOR</p> <p>AFG ABOVE FINISHED GRADE</p> <p>AWG AMERICAN WIRE GAUGE</p> <p>BLDG BUILDING</p> <p>C CONDUIT</p> <p>cd CANDELA RATING</p> <p>CLG CEILING</p> <p>CH CHANNEL</p> <p>CKT CIRCUIT</p> <p>CL CENTERLINE</p> <p>CMU CONCRETE MASONRY UNIT</p> <p>CONC CONCRETE</p> <p>CONT'D CONTINUED</p> <p>COR CONTRACTING OFFICER'S REPRESENTATIVE</p> <p>CU COPPER</p> <p>CUH CABINET UNIT HEATER</p> <p>DC DIRECT CURRENT</p> <p>DW DISH WASHER</p> <p>EC ELECTRICAL CONTRACTOR</p> <p>EF EXHAUST FAN</p> <p>EGC EQUIPMENT GROUNDING CONDUCTOR</p> <p>EOL END OF LINE</p> <p>EUH ELECTRIC UNIT HEATER</p> <p>EWC ELECTRIC WATER COOLER</p> <p>FACP FIRE ALARM CONTROL PANEL</p> <p>GD GARBAGE DISPOSAL</p> <p>GEC GROUNDING ELECTRODE CONDUCTOR</p> <p>GFI GROUND FAULT INTERRUPTER</p> <p>GND GROUND</p> <p>HP HORSEPOWER</p> <p>HZ HERTZ</p> <p>JB JUNCTION BOX</p> <p>KCMIL THOUSAND CIRCULAR MIL</p> <p>KV THOUSAND VOLTS (KILOVOLT)</p> <p>KVA THOUSAND VOLT-AMPS</p> <p>KW THOUSAND WATTS (KILOWATT)</p> <p>LED LIGHT EMITTING DIODE</p> <p>LTG LIGHTING</p> <p>MCC MOTOR CONTROL CENTER</p> <p>MCCB MOLDED CASE CIRCUIT BREAKER</p> <p>MCB MAIN CIRCUIT BREAKER</p> <p>MH MANHOLE</p> <p>MIC MICROWAVE OR MICROPHONE</p>	<p>NC NORMALLY CLOSED OR NURSE CALL</p> <p>NEC NATIONAL ELECTRICAL CODE</p> <p>NFPA NATIONAL FIRE PROTECTION ASSOCIATION</p> <p>NO NORMALLY OPEN</p> <p>NUMBER NUMBER</p> <p>PA PUBLIC ADDRESS</p> <p>PB PUSH BUTTON</p> <p>PNL PANEL</p> <p>PVC POLYVINYL CHLORIDE</p> <p>REF REFRIGERATOR</p> <p>RSC RIGID STEEL CONDUIT</p> <p>RTU ROOF TOP UNIT</p> <p>SF SUPPLY FAN</p> <p>SS SOLID STATE</p> <p>SWBD1 SWITCHBOARD, NUMBER AS INDICATED</p> <p>TYP TYPICAL</p> <p>TV TELEVISION</p> <p>UG UNDERGROUND</p> <p>UL UNDERWRITERS LABORATORIES</p> <p>UPS UNINTERRUPTIBLE POWER SUPPLY</p> <p>V VOLT</p> <p>VA DEPARTMENT OF VETERAN AFFAIRS</p> <p>VA VOLT-AMPERE</p> <p>VAMC VA MEDICAL CENTER</p> <p>VOIP VOICE OVER INTERNET PROTOCOL</p> <p>W WATT</p> <p>W/ WITH</p> <p>WP WEATHERPROOF</p> <p>WRG WIRING</p> <p>XFMR TRANSFORMER</p> <p>XP EXPLOSION-PROOF</p> <p>(R) LOCATION OF RELOCATED DEVICE OR EQUIPMENT</p> <p>(RR) REMOVE AND RELOCATE EXISTING DEVICE OR EQUIPMENT</p> <p>(RX) REMOVE EXISTING DEVICE OR EQUIPMENT</p> <p>(X) EXISTING DEVICE OR EQUIPMENT TO REMAIN</p> <p>(XR) EXISTING DEVICE OR EQUIPMENT TO BE REMOVED AND REPLACED AT SAME LOCATION</p>
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**GENERAL NOTES**

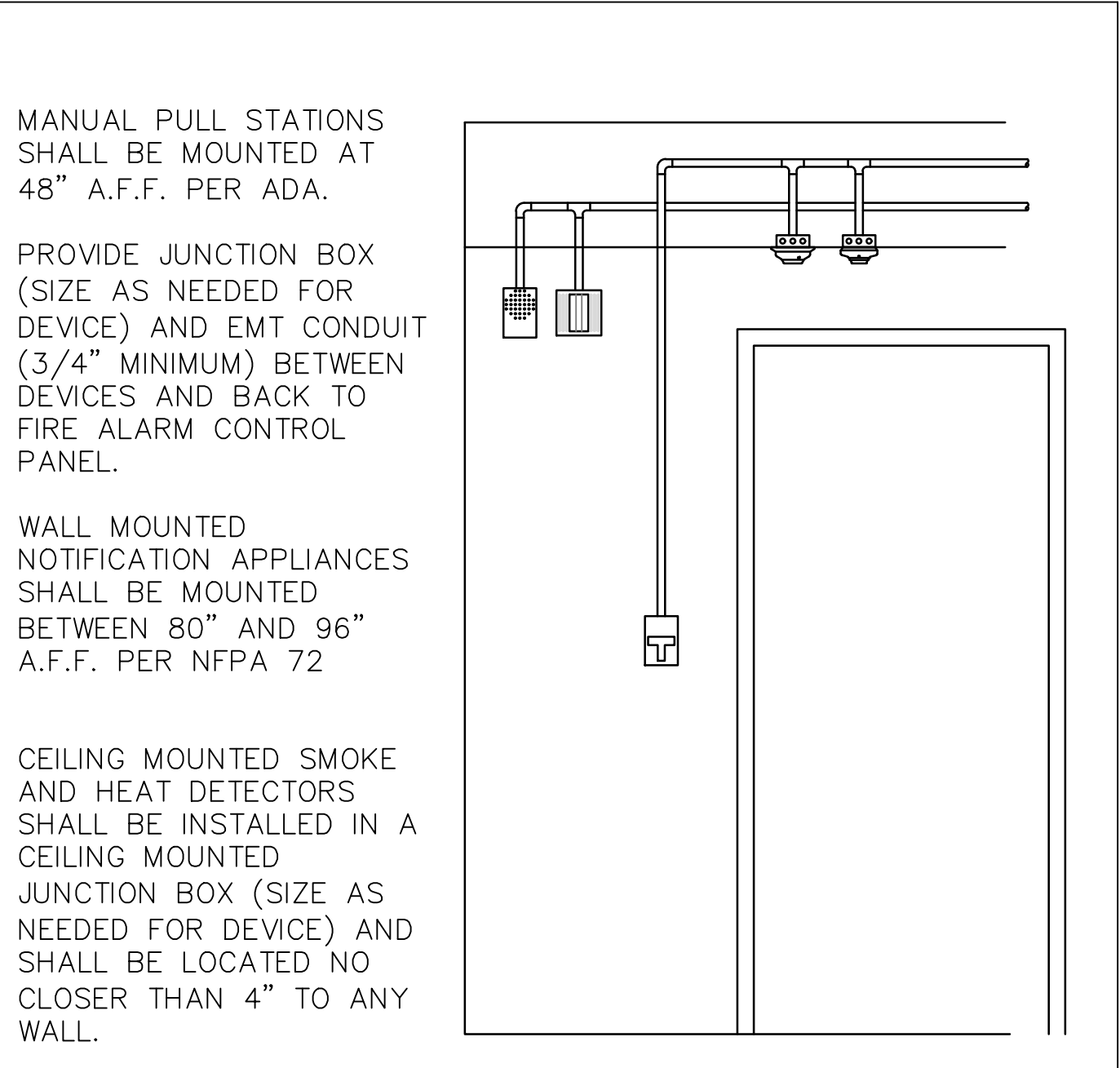
- A. NOT ALL SYMBOLS INDICATED IN THE LEGEND, OR LISTED ABBREVIATIONS, APPEAR ON THE DRAWINGS. COORDINATE WORK ACCORDINGLY. COMPLY WITH SPECIFICATIONS AND NOTES BELOW AS APPLICABLE.
- B. ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN FIRE AND/OR SMOKE RATING FOR THE SEPARATION. REFER TO SPECIFICATIONS.
- C. ALL CONDUITS, ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.
- D. PROVIDE WIRE MARKERS TO IDENTIFY CABLES FOR ALL SYSTEMS AT THE ORIGIN, PULL BOXES, AND TERMINATION POINTS. LABELS SHALL BE SELF ADHESIVE OR HEAT SHRINK TYPE. REFER TO SPECIFICATIONS.
- E. SOME WORK UNDER THIS CONTRACT WILL REQUIRE WORK DUTIES TO BE PERFORMED AFTER NORMAL WORKING HOURS; DETERMINATION OF SPECIFIC WORK DUTIES TO BE PERFORMED AFTER HOURS MUST BE MADE BY VA STAFF AT THEIR CONVENIENCE. POSSIBLE WORK REQUIRING AFTER HOURS APPROVAL INCLUDES: POWER OUTAGES AND DISRUPTION OF SERVICES, EXTREME NOISE AND/OR VIBRATION, CUTTING AND PATCHING OF CONCRETE, AND DELIVERIES OF EQUIPMENT.
- F. CARE SHOULD BE TAKEN BY ALL CONTRACTORS TO AVOID DAMAGING OR DISTURBING EXISTING CONSTRUCTION AND FINISHES. CONTRACTORS SHALL BE RESPONSIBLE FOR MAKING ANY REPAIRS NECESSARY TO RECTIFY DAMAGE AND RESTORE EXISTING CONSTRUCTION AND FINISHES TO UNDAMAGED STATE UPON COMPLETION OF WORK AT NO EXPENSE TO THE VA. REPAIR OR REPLACE AND REFINISH, TO THE SATISFACTION OF THE VA, ANY CEILING, FLOOR, OR WALL SURFACES OR STRUCTURES THAT MAY BE DAMAGED IN THE PROCESS OF WORK.
- G. REFER TO SHEET FA001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES.
- H. PROVIDE NEW FIRE ALARM SYSTEM AS INDICATED, REFER TO FLOOR PLAN FOR LOCATIONS OF DEVICES. REFER TO FIRE ALARM MATRIX SUMMARY FOR ADDITIONAL INFORMATION.
- I. PROVIDE SUFFICIENT COMMUNICATION LOOP CIRCUITS TO SERVE MAXIMUM NUMBER OF ADDRESSES RECOMMENDED BY FIRE ALARM SYSTEM MANUFACTURER PLAN AN ADDITIONAL 50%.
- J. REFER TO FIRE ALARM PLANS FOR LOCATIONS.
- K. NOT ALL SYMBOLS INDICATED IN THE LEGEND, OR LISTED ABBREVIATIONS, APPEAR ON THE DRAWINGS. COORDINATE WORK ACCORDINGLY. COMPLY WITH SPECIFICATIONS AND NOTES BELOW AS APPLICABLE.
- L. DASHED SYMBOLS INDICATE ITEMS THAT ARE BEING COMPLETELY REMOVED.
- M. ALL DEMOLITION WORK SHALL COMPLY WITH MEDICAL CENTER REQUIREMENTS AND PROCEDURES.
- N. UNLESS NOTED, OR OTHERWISE SHOWN OR SPECIFIED, ALL MATERIALS AND EQUIPMENT REMOVED OR DEMOLISHED (EXCEPT THAT WHICH IS TO BE SALVAGED OR RELOCATED) AS DIRECTED BY DRAWINGS AND SPECIFICATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF LEGALLY.
- O. NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM MANUFACTURED BY NOTIFIER.



**1 DUCT SMOKE DETECTOR INSTALLATION DETAIL**  
NOT TO SCALE



**2 HORN / STROBE MOUNTING DETAIL**  
NOT TO SCALE

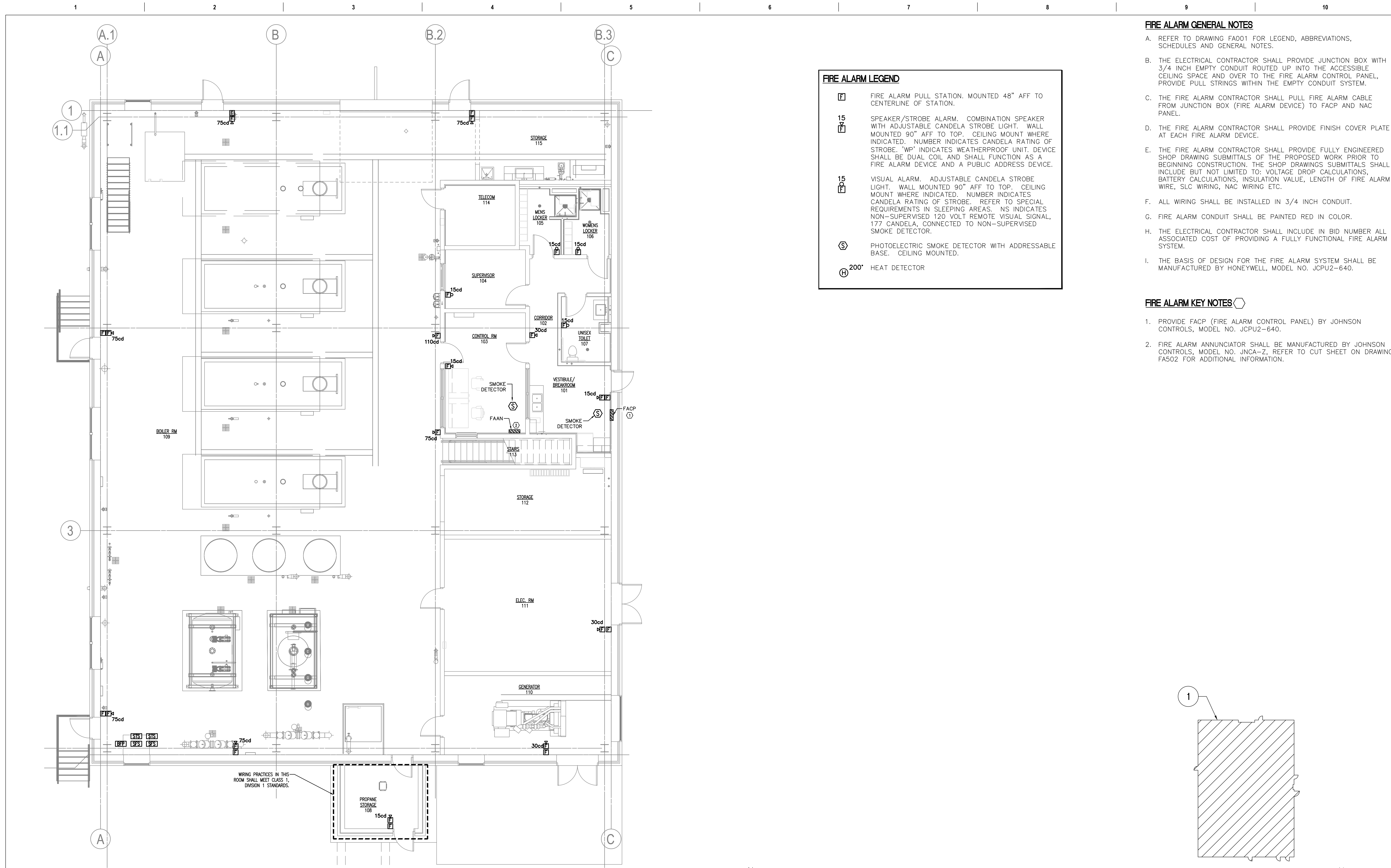


**3 FIRE ALARM DEVICE MOUNTING DETAIL**  
NOT TO SCALE

**LIFE SAFETY LINETYPES**  
(NOTE: NOT ALL LINETYPES WILL APPLY TO THIS WORK)

	FIRE RESISTIVE RATED LINE, 1 HOUR
	FIRE RESISTIVE RATED LINE, 2 HOUR
	FIRE-RATED, SMOKE BARRIER LINE, 1 HOUR
	FIRE-RATED, SMOKE BARRIER LINE, 2 HOUR
	FIRE-RATED, SMOKE BARRIER LINE, 30 MIN
	NON-RATED, SUITE LINE, (SMOKE RESISTIVE)
	NON-RATED SMOKE RESISTIVE

<p>Revisions:</p> <p>Date:</p>	<p>CONSULTANT</p>	<p>ARCHITECT/ENGINEER OF RECORD</p> <p><b>paradigm</b></p> <p>Architecture   Engineering   Design-Build</p> <p>9000 Westex Place, Louisville, KY 40222 www.paradigmusa.com</p>	<p>STAMP</p> <p>STATE OF LOUISIANA</p> <p>TYLER M. MONROEMERY</p> <p>LICENSE NO. 3047142</p> <p>9/12/2024</p>	<p>Office of Construction and Facilities Management</p> <p>VA U.S. Department of Veterans Affairs</p>	<p>Drawing Title</p> <p align="center"><b>FIRE ALARM LEGEND, GENERAL NOTES AND ABBREVIATIONS</b></p> <p>Approved: Project Director</p>	<p>Phase</p> <p>100% CONSTRUCTION DOCUMENTS</p>	<p>Project Title</p> <p>SIoux FALLS BOILER PLANT</p>	<p>Project Number</p> <p>438-22-900</p> <p>Building Number</p> <p>12</p> <p>Drawing Number</p> <p>FA001</p>	
						<p>FULLY SPRINKLERED</p>	<p>Location</p> <p>VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105</p> <p>Issue Date</p> <p>06/25/2024</p>	<p>Checked</p> <p>WLM</p>	<p>Drawn</p> <p>KMB</p>



**FIRE ALARM LEGEND**

	FIRE ALARM PULL STATION. MOUNTED 48" AFF TO CENTERLINE OF STATION.
	SPEAKER/STROBE ALARM. COMBINATION SPEAKER WITH ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. 'WP' INDICATES WEATHERPROOF UNIT. DEVICE SHALL BE DUAL COIL AND SHALL FUNCTION AS A FIRE ALARM DEVICE AND A PUBLIC ADDRESS DEVICE.
	VISUAL ALARM. ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. REFER TO SPECIAL REQUIREMENTS IN SLEEPING AREAS. NS INDICATES NON-SUPERVISED 120-VOLT REMOTE VISUAL SIGNAL, 177 CANDELA, CONNECTED TO NON-SUPERVISED SMOKE DETECTOR.
	PHOTOELECTRIC SMOKE DETECTOR WITH ADDRESSABLE BASE. CEILING MOUNTED.
	200° HEAT DETECTOR

**FIRE ALARM GENERAL NOTES**

- REFER TO DRAWING FA001 FOR LEGEND, ABBREVIATIONS, SCHEDULES AND GENERAL NOTES.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOX WITH 3/4 INCH EMPTY CONDUIT ROUTED UP INTO THE ACCESSIBLE CEILING SPACE AND OVER TO THE FIRE ALARM CONTROL PANEL, PROVIDE PULL STRINGS WITHIN THE EMPTY CONDUIT SYSTEM.
- THE FIRE ALARM CONTRACTOR SHALL PULL FIRE ALARM CABLE FROM JUNCTION BOX (FIRE ALARM DEVICE) TO FACP AND NAC PANEL.
- THE FIRE ALARM CONTRACTOR SHALL PROVIDE FINISH COVER PLATE AT EACH FIRE ALARM DEVICE.
- THE FIRE ALARM CONTRACTOR SHALL PROVIDE FULLY ENGINEERED SHOP DRAWING SUBMITTALS OF THE PROPOSED WORK PRIOR TO BEGINNING CONSTRUCTION. THE SHOP DRAWINGS SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO: VOLTAGE DROP CALCULATIONS, BATTERY CALCULATIONS, INSULATION VALUE, LENGTH OF FIRE ALARM WIRE, SLC WIRING, NAC WIRING ETC.
- ALL WIRING SHALL BE INSTALLED IN 3/4 INCH CONDUIT.
- FIRE ALARM CONDUIT SHALL BE PAINTED RED IN COLOR.
- THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN BID NUMBER ALL ASSOCIATED COST OF PROVIDING A FULLY FUNCTIONAL FIRE ALARM SYSTEM.
- THE BASIS OF DESIGN FOR THE FIRE ALARM SYSTEM SHALL BE MANUFACTURED BY HONEYWELL, MODEL NO. JCPU2-640.

**FIRE ALARM KEY NOTES**

- PROVIDE FACP (FIRE ALARM CONTROL PANEL) BY JOHNSON CONTROLS, MODEL NO. JCPU2-640.
- FIRE ALARM ANNUNCIATOR SHALL BE MANUFACTURED BY JOHNSON CONTROLS, MODEL NO. JNCA-Z. REFER TO CUT SHEET ON DRAWING FA502 FOR ADDITIONAL INFORMATION.

**1 FIRE ALARM PLAN - FIRST FLOOR**  
SCALE 3/16" = 1'-0"

**KEY PLAN - FIRST FLOOR**  
NOT TO SCALE

Revisions: Date:	CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title <b>FIRE ALARM PLAN FIRST FLOOR</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
		 Architecture   Engineering   Design-Build 9000 Weissex Place, Louisville, KY 40222 www.paradigmusa.com		U.S. Department of Veterans Affairs	Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number 12
							Issue Date 06/25/2024	Drawing Number <b>FA101</b>
							Checked WLM	Drawn KMB

**FIRE ALARM GENERAL NOTES**

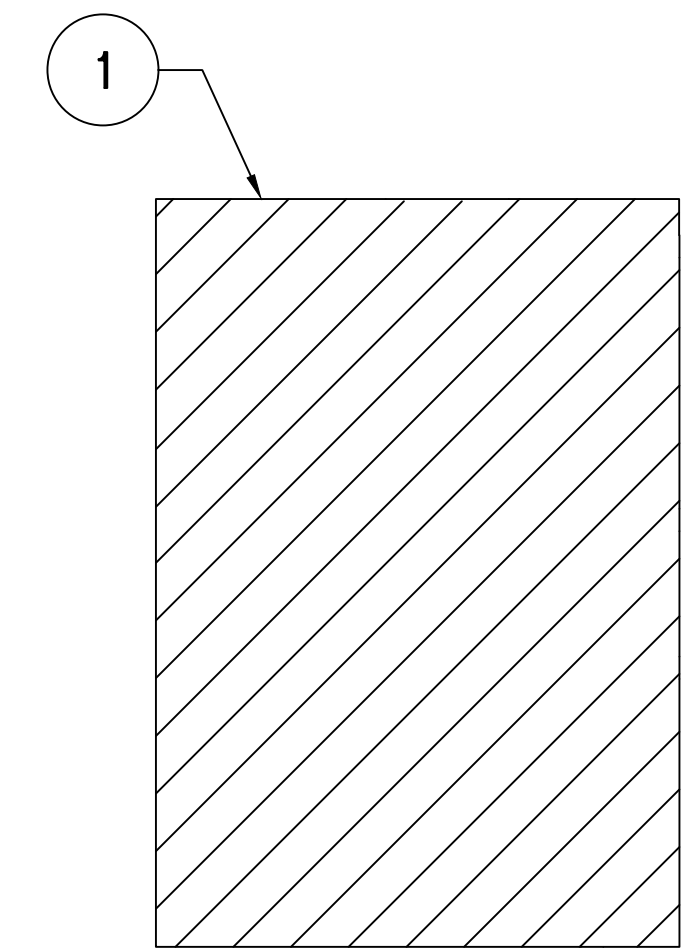
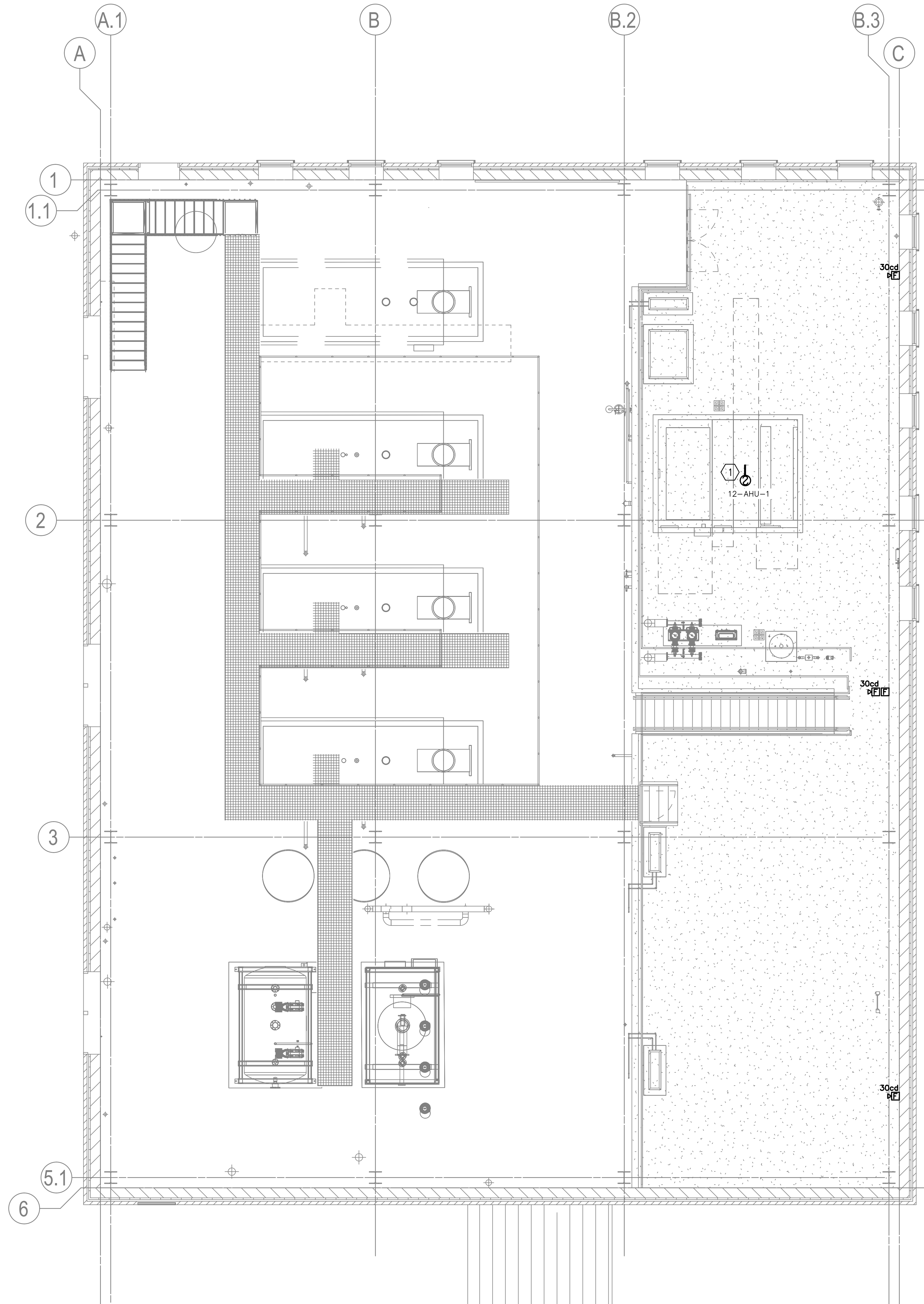
- A. REFER TO DRAWING FA001 FOR LEGEND, ABBREVIATIONS, SCHEDULES AND GENERAL NOTES.
- B. THE ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOX WITH 3/4 INCH EMPTY CONDUIT ROUTED UP INTO THE ACCESSIBLE CEILING SPACE AND OVER TO THE FIRE ALARM CONTROL PANEL, PROVIDE PULL STRINGS WITHIN THE EMPTY CONDUIT SYSTEM.
- C. THE FIRE ALARM CONTRACTOR SHALL PULL FIRE ALARM CABLE FROM JUNCTION BOX (FIRE ALARM DEVICE) TO FACP AND NAC PANEL.
- D. THE FIRE ALARM CONTRACTOR SHALL PROVIDE FINISH COVER PLATE AT EACH FIRE ALARM DEVICE.
- E. THE FIRE ALARM CONTRACTOR SHALL PROVIDE FULLY ENGINEERED SHOP DRAWING SUBMITTALS OF THE PROPOSED WORK PRIOR TO BEGINNING CONSTRUCTION. THE SHOP DRAWINGS SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO: VOLTAGE DROP CALCULATIONS, BATTERY CALCULATIONS, INSULATION VALUE, LENGTH OF FIRE ALARM WIRE, SLC WIRING, NAC WIRING ETC.
- F. ALL CONDUIT SHALL BE ROUTED IN 3/4 INCH CONDUIT.
- G. FIRE ALARM CONDUIT SHALL BE PAINTED RED IN COLOR.
- H. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN BID NUMBER ALL ASSOCIATED COST OF PROVIDING A FULLY FUNCTIONAL FIRE ALARM SYSTEM.
- I. NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM MANUFACTURED BY NOTIFIER.

**ELECTRICAL POWER KEY NOTES**

- 1. PROVIDE DUCT SMOKE DETECTOR AT AIR HANDLING UNIT.

**FIRE ALARM LEGEND**

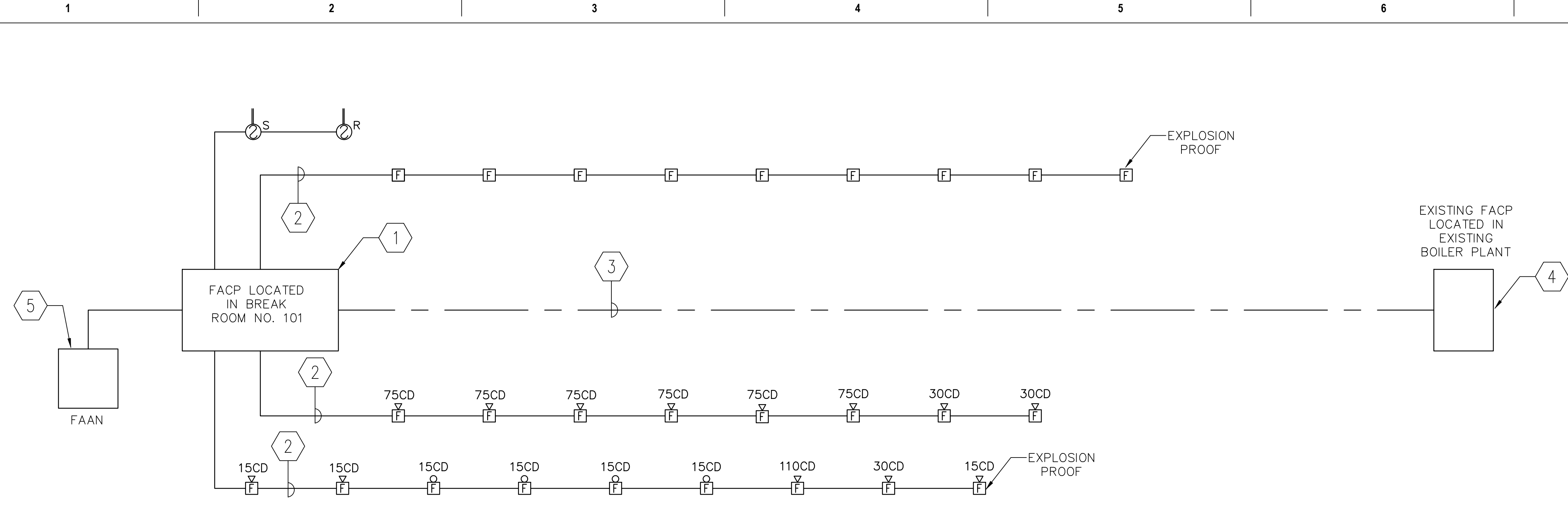
- FIRE ALARM PULL STATION. MOUNTED 48" AFF TO CENTERLINE OF STATION.
- HORN/SPEAKER ALARM. COMBINATION SPEAKER WITH ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. 'WP' INDICATES WEATHERPROOF UNIT. DEVICE SHALL BE DUAL COIL AND SHALL FUNCTION AS A FIRE ALARM DEVICE AND A PUBLIC ADDRESS DEVICE.
- VISUAL ALARM. ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. REFER TO SPECIAL REQUIREMENTS IN SLEEPING AREAS. 'NS' INDICATES NON-SUPERVISED 120-VOLT REMOTE VISUAL SIGNAL, 177 CANDELA, CONNECTED TO NON-SUPERVISED SMOKE DETECTOR.
- DETECTOR; LETTER INDICATES AS FOLLOWS:  
BLANK = PHOTOELECTRIC SMOKE DETECTOR  
H = HEAT SMOKE  
I = IONIZATION SMOKE  
IH = IONIZATION AND HEAT SMOKE  
IP = IONIZATION AND PHOTOELECTRIC SMOKE  
PH = PHOTOELECTRIC AND HEAT SMOKE  
IPH = IONIZATION, PHOTOELECTRIC, AND HEAT
- DUCT MOUNTED SMOKE DETECTOR WITH REMOTE TEST AND RESET STATION. FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR.  
'S' INDICATES LOCATED IN SUPPLY AIR DUCT  
'R' INDICATES LOCATED IN RETURN AIR DUCT
- REMOTE TEST STATION WITH RESET FOR DUCT SMOKE DETECTOR
- ELECTROMAGNETIC TYPE DOOR HOLDER RELEASE
- SPRINKLER FLOW SWITCH
- SPRINKLER TAMPER SWITCH
- 200' HEAT DETECTOR



**1 ELECTRICAL POWER PLAN - MEZZANINE**  
SCALE 3/16" = 1'-0"

**KEY PLAN - MEZZANINE**  
NOT TO SCALE

Revisions: Date:	CONSULTANT	ARCHITECT/ENGINEER OF RECORD  Architecture   Engineering   Design-Build 9000 Wesley Place, Louisville, KY 40222 www.paradigmusa.com	STAMP 	Office of Construction and Facilities Management U.S. Department of Veterans Affairs	Drawing Title <b>FIRE ALARM PLAN                  MEZZANINE</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
					Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number 12
					Issue Date 06/25/2024	Checked WLM	Drawn KMB	Drawing Number <b>FA102</b>



1 PARTIAL FIRE ALARM RISER DIAGRAM  
SCALE: NOT TO SCALE

- FIRE ALARM RISER DIAGRAM GENERAL NOTES:**
- REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS.
  - THE FIRE ALARM CONTRACTOR SHALL PAINT NEW AND EXISTING FIRE ALARM CONDUIT RED IN COLOR.
  - ALL NEW CONDUITS INSTALLED INSIDE SHALL BE EMT (ELECTRICAL METALLIC TUBING).
  - THE FIRE ALARM CONTRACTOR SHALL PROVIDE CUTTING AND PATCHING ON ALL WALL OR CEILING OPENINGS.
  - THE ROUTING PATH OF FIRE ALARM CIRCUITS AND GROUPING OF FIRE ALARM DEVICES ON EACH FIRE ALARM CIRCUIT ARE DIAGRAMMATIC ONLY. THE CONTRACTOR SHALL ROUTE AND GROUP FIRE ALARM DEVICES IN THE MOST EFFICIENT MANNER. THE CONTRACTOR SHALL SUBMIT FIRE ALARM SHOP DRAWING OF THE FIRE ALARM SYSTEM PRIOR TO BEGINNING CONSTRUCTION.
  - THE FIRE ALARM INSTALLATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING BUT NOT LIMITED TO: NEW FIRE ALARM DEVICES, JUNCTION BOX, CONDUIT, FIRE ALARM CABLING ETC. THE PROGRAMMING OF THE FIRE ALARM SYSTEM SHALL BE BY: NORTHEAST INTEGRATED SYSTEMS.

- FIRE ALARM RISER KEYED NOTES:**
- NEW FACP (FIRE ALARM CONTROL PANEL) . LOCATED IN BREAK ROOM NO. 101, THE CONTRACTOR SHALL ROUTE NEW FIRE ALARM CABLING FROM FIRE ALARM DEVICE TO NEW FACP AND NAC PANEL AS INDICATED. THE CONTRACTOR SHALL INCLUDE IN BID NUMBER ALL ASSOCIATED COST OF PROGRAMMING NEW FIRE ALARM DEVICES ONTO THE EXISTING SYSTEM.
  - THE CONTRACTOR SHALL PROVIDE FIRE ALARM CIRCUITING PER MANUFACTURER RECOMMENDATIONS (TYPICAL).
  - THE CONTRACTOR SHALL ROUTE NEW COPPER FIRE ALARM CONDUCTORS UNDERGROUND FROM EXISTING BOILER PLANT FAC TO NEW FACP LOCATED IN NEW BOILER PLANT.
  - THE FIRE ALARM CONTRACTOR SHALL CONNECT COPPER FIRE ALARM CABLING TO EXISTING FACP LOCATED IN EXISTING BOILER PLANT.
  - PROVIDE FIRE ALARM ANNUNCIATOR AS INDICATED.

INPUT DEVICE	OUTPUT	1. SOUND GENERAL BUILDING ALARM FOR OTHER AND NON HIGH RISE (NON HEALTH CARE). SEE SECTION 7.2.1	2. NOTIFY NECESSARY STAFF FOR RESPONSE FOR HEALTH CARE, HEALTH CARE** AND HIGH RISE BUILDINGS ONLY (ALARM SIGNAL MAY BE DIFFERENT ON DIFFERENT FLOORS).	3. NOTIFY FIRE DEPARTMENT	4. INITIATE SUPERVISORY SIGNAL TO A 24-HOUR MANNED POINT FOR IMMEDIATE RESPONSE	5. CLOSE ASSOCIATED SMOKE BARRIER DOORS ON THE FLOOR.	6. CLOSE DAMPERS ON FAN	7. SHUT DOWN AIR HANDLER	8. RECALL ELEVATOR	9. INITIATE ELEVATOR SHUT DOWN AND DISCONNECT ELEVATOR POWER.	10. OPEN**+LOCKED EGRESS DOORS ON FLOOR OF FIRE ORIGIN.	11. DISCONNECT FUEL SOURCE FROM COOKING EQUIPMENT.	12. NOT APPLICABLE
DUCT SMOKE DETECTOR					X <sup>b</sup>			X <sup>g</sup>					
AREA SMOKE DETECTOR		X	X	X							X		
DOOR RELEASE SMOKE DETECTOR													X
ELEVATOR SMOKE DETECTOR													X
MANUAL PULL STATION		X	X	X							X		
ELEVATOR MACHINE ROOM HEAT DETECTOR													X
GENERATOR ROOM HEAT DETECTOR		X	X	X									
SPRINKLER WATER FLOW / PRESSURE SWITCH		X	X	X		X					X		
WATER CONTROL VALVE TAMPER					X								
FIRE PUMP (ANY CONDITION REQUIRED BY NFPA)													X
HIGH / LOW PRESSURE DRY-PIPE SPRINKLER SYSTEM					X								
KITCHEN HOOD SUPPRESSION SYSTEM													X
GAS EXTINGUISHING SYSTEMS													X
DRY PIPE VALVE ROOM TEMPERATURE ALARM													X
DEDICATED FIRE WATER STORAGE TANK LOW LEVEL													X
DEDICATED FIRE WATER STORAGE TANK LOW TEMPERATURE													X

A-DO NOT PROVIDE DUCT DETECTORS IN DEDICATED (100%) EXHAUST FANS, THEY SHOULD CONTINUE TO RUN.  
 B-THE FACILITY IS PERMITTED TO SOUND THE GENERAL ALARM OR NOTIFY NECESSARY STAFF IN LIEU OF INITIATING A SUPERVISORY SIGNAL TO BE CONSISTENT WITH THE OPERATION OF EXISTING SYSTEMS.

NOTE: FACP FOR BUILDING NO. 12 MUST ANNUNCIATE TO MONITORING COMPANY AUTO-DIALER IS LOCATED IN BUILDING NO. 5 ROOM NO. E23.

2 INPUT/OUTPUT MATRIX DETAIL  
SCALE: NOT TO SCALE

Revisions: Date:	CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title	Phase	Project Title	Project Number
		 Architecture   Engineering   Design-Build 9000 Westex Place, Louisville, KY 40222 www.paradigmusa.com		U.S. Department of Veterans Affairs	FIRE ALARM DETAILS	100% CONSTRUCTION DOCUMENTS	SIoux FALLS BOILER PLANT	438-22-900
					Approved: Project Director	FULLY SPRINKLERED	Location	Building Number
							VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	12
							Issue Date	Checked
							06/25/2024	WLM
							Drawn	Drawing Number
							KMB	FA501




- FIRE ALARM RISER DIAGRAM GENERAL NOTES:**
- A. REFER TO SHEET E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS.
  - B. THE FIRE ALARM CONTRACTOR SHALL PAINT NEW AND EXISTING FIRE ALARM CONDUIT RED IN COLOR.
  - C. ALL NEW CONDUITS INSTALLED INSIDE SHALL BE EMT (ELECTRICAL METALLIC TUBING).
  - D. THE FIRE ALARM CONTRACTOR SHALL PROVIDE CUTTING AND PATCHING ON ALL WALL OR CEILING OPENINGS.
  - E. THE ROUTING PATH OF FIRE ALARM CIRCUITS AND GROUPING OF FIRE ALARM DEVICES ON EACH FIRE ALARM CIRCUIT ARE DIAGRAMMATIC ONLY. THE CONTRACTOR SHALL ROUTE AND GROUP FIRE ALARM DEVICES IN THE MOST EFFICIENT MANNER, THE CONTRACTOR SHALL SUBMIT FIRE ALARM SHOP DRAWING OF THE FIRE ALARM SYSTEM PRIOR TO BEGINNING CONSTRUCTION.
  - F. THE FIRE ALARM INSTALLATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING BUT NOT LIMITED TO: NEW FIRE ALARM DEVICES, JUNCTION BOX, CONDUIT, FIRE ALARM CABLING ETC. THE PROGRAMMING OF THE FIRE ALARM SYSTEM SHALL BE BY: NORTHEAST INTEGRATED SYSTEMS.

**1 EXPLOSION PROOF PULL STATION**  
NOT TO SCALE

**2 EXPLOSION PROOF SPEAKER STROBE**  
NOT TO SCALE

JCI-7047-A

**JNCA-2**  
Network Control Annunciator



**General**

The JNCA-2 is a second-generation Network Control Annunciator for the **NOTI-FIRE-NET™** network, compatible for use with nodes such as the IFC2-3030, IFC2-3030, and IFC640 fire alarm control panels, as well as first generation JNCA Network Control Annunciators. Additionally, the JNCA-2 may be configured with JNVC Series products (JNVC, JNVC-EM, JNVC-EMF, and JNVC-EMSF) to create one or more Digital Audio Command Centers on **NOTI-FIRE-NET**. The JNCA-2 provides system control and display capabilities for all, or for selected network nodes.

The JNCA-2 display consists of a 640-character backlit LCD display and a control interface consisting of "soft" keys used to navigate screen menus, "hard" keys with fixed control functions, and a QWERTY keypad.

When connected to one or more networked panels the JNCA-2 provides network control and status/history display capabilities. It may also be configured as the Primary Display for displayless nodes on the network.

**Hardware Features**

- Full supervision of all inputs and network integrity.
- Enhanced-format 640-character LCD display with backlighting.
- ACS bus for LED or graphic annunciators (EIA-485).
- Optically isolated printer interface (EIA-232).
- 11 LED status indicators: Power, Controls Active, Fire Alarm, Pre-Alarm, Security, Alert, Supervisory, Trouble, Signal, Silence, CPU Failure, Reset Disabled, Other Event.
- Alphanumeric QWERTY rubber keypad.
- Four status relays: Alarm, Trouble, Supervisory, Security (Form-C).
- Nonvolatile real-time clock can be synchronized with network by master node.
- Optional Security Keypad enable Keypad functions.
- Optional Security Tamper switch.
- Supports up to 32 remote ACS annunciators and modules.
- Requires 24 VDC, and a network connection.

**Function Features**

- Individual Enable/Disable or Group Enable/Disable local for networked compatible panels.
- Control ON/OFF networked compatible panel control points.
- Read Status networked compatible panel points and zones.
- Network paging control, HVAC control.
- Network-wide Acknowledge, Silence, Reset.
- Lamp Test (local to JNCA-2).
- History Buffer (1000 Alarm events, 4000 System events).
- Print JNCA-2 programming and history reports.
- Report status of networked panels and their respective field devices to a central station via a single UDACT.
- One Master level, nine User level passwords. The Master can assign each user access levels (programming, alter status).
- Interactive Summary Event Count display, event handling package.
- Online programming and alter-status programs.
- Intuitive user guidance program including interactive soft keys.

**JNCA-2 Indicators and Controls**

**LED INDICATORS**

- Power (green) illuminates when 24 VDC power is applied; LED goes out if power is removed and JNCA-2 is using a battery.
- **CONTROLS ACTIVE** (green) illuminates to indicate that the JNCA-2 control functions are active.
- **FIRE ALARM** (red) illuminates when at least one fire alarm event exists; flashes when any of these events remain unacknowledged.
- **PRE-ALARM** (red) illuminates when at least one pre-alarm event exists; flashes when any of these events remain unacknowledged.
- **SECURITY** (blue) illuminates when at least one security event exists; flashes when any of these events remain unacknowledged.
- **STATUS THROTTLED** (yellow) illuminates when at least one trouble event exists; flashes when any of these events remain unacknowledged.

**Enhanced Read Status/Alter Status displays.**  
New history filters for report displaying and printing: All Events, Only Alarms, Only Troubles, Only Supervisory, Only Security, Time Interval, Point Range.

- Fully programmable node-mapping subsystem.
- Advanced Basic Walk-Test program.
- Timer control for Auto Silence, AC Fail Delay.
- Meets Canadian ILLC display requirements.
- Environmental adjustment controls to maximize LCD legibility.
- Meets NFPA requirements for Firefighter Smoke Control Station (FSCS) and HVAC.

**Network options:**

- High-speed network for up to 200 nodes (IFC2-3030, IFC2-640, IFC-303, IFC-3030, IFC-200, IFC-300/400, IFC-1010, IFC-2020, JNVC-EM, IFI, IFW, JNCA or JNCA-2 Network Annunciators). Up to 54 nodes when DVC is used in network paging.
- Standard network for up to 103 nodes (IFC-640, IFC2-640, IFC-303, IFC-3030, IFC-200, IFC-300/400, IFC-1010, IFC-2020, JNVC-EM, IFI, IFW, JNCA or JNCA-2 Network Annunciators). Up to 54 nodes when DVC is used in network paging.

**6.0 amp switch mode power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensus, Whistle, or Genter strobe synchronization.**

- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFlash™ Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Optional universal 636-point DACT.
- 80-character remote annunciators (up to 32).
- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with tally.
- Autoprogramming and Walk Test reports.

JCI-7047-A 11/30/07 — Page 1 of 2

JCI-7111-D

**IFC2-640**  
Fire Alarm Control Panel



**General**

In stand-alone or network configurations, the IFC2-640 meets virtually every application requirement.

Designed with modularity and for ease of system planning, the IFC2-640 can be configured with just a few devices for small building applications, or for a large campus or high-rise application. Simply add additional peripheral equipment to suit the application.

The FireWatch Series internet monitoring modules IPDACT-2 and IPDACT-2UD permit monitoring of alarm signals over the Internet, saving the monthly cost of two dedicated business telephone lines. Although not required, the secondary telephone line may be retained providing backup communication over the public switched telephone line.

*NOTE: Unless called out with a version-specific "E" at the end of the part number, "IFC2-640" refers to models IFC2-640 and IFC2-640E. Similarly, "JCPUS-640" refers to models JCPUS-640 and JCPUS-640E.*

**Features**

- Listed to UL Standard 864, 9th edition.
- One, expandable to two, isolated Intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Up to 159 detectors (any mix of ion, photo, thermal, or multi-sensor) and 159 modules (Addressable full stations, normally open contact devices, two-wire smoke, notification, or relay) per SLC. 318 devices per loop/636 per FACP or network node.
- Standard 80-character display, 640-character large display, or display-less (a node on a network).
- Network options:
  - High-speed network for up to 200 nodes (IFC2-3030, IFC2-640, IFC-303, JNCA-2, JNVC, IFI, IFW, IFC-3030, IFC-640, and JNCA).
  - Standard network for up to 103 nodes (IFC-640, IFC2-640, IFC-303, IFC-3030, IFC-200, IFC-300/400, IFC-1010, IFC-2020, JNVC-EM, IFI, IFW, JNCA or JNCA-2 Network Annunciators). Up to 54 nodes when DVC is used in network paging.
- 6.0 amp switch mode power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensus, Whistle, or Genter strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFlash™ Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Optional universal 636-point DACT.
- 80-character remote annunciators (up to 32).
- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with tally.
- Autoprogramming and Walk Test reports.

**IFC2-640 with DVC Audio Option**

- Privileged/Positive Alarm Sequence (PAS).
- Silence Inhibit and Auto Silence timer options.
- March time/temporal/California two-stage coding/strobe synchronization.
- Field-programmable on panel or on PC, with VeriFlash Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 - 200 amp hour batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Surface Mount Technology (SMT) electronics.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.
- Support for SCS Series smoke control system in HVAC nodes.

**JNCA-2 AS PRIMARY DISPLAY**

- Backlit, 640-character display.
- Supports SCS Series smoke control system in FSCS mode when SCS is connected to the JNCA-2 used as primary display.
- Printer and CRT EIA-232 ports.
- EIA-485 annunciator and terminal mode ports.
- Alarm, Trouble, Supervisory, and Security relays.


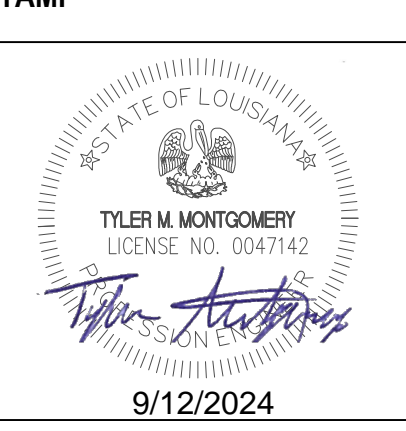

**FLASHCAB™ INTELLIGENT FEATURES**

- Poll up to 318 devices in less than two seconds.
- Activate up to 159 outputs in less than five seconds.
- Multicolor LEDa link device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — nine levels.
- Pre-alarm intelligent sensing — nine levels.

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**3 FIRE ALARM ANNUNCIATOR PANEL (FAAN)**  
NOT TO SCALE

**4 FIRE ALARM CONTROL PANEL (FACP)**  
NOT TO SCALE

	CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title <b>FIRE ALARM DETAILS</b>	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
		 Architecture   Engineering   Design-Build 9000 Weesax Place, Louisville, KY 40222 www.paradigmusa.com	 TYLER M. MONTGOMERY LICENSE NO. 0047142 9/12/2024	 U.S. Department of Veterans Affairs	Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number <b>12</b>
							Issue Date 06/25/2024	Drawing Number <b>FA502</b>
	Revisions:	Date:					Checked WLM	Drawn KMB