

# Fairfax Water

8570 Executive Park Avenue ~ Fairfax ~ Virginia ~ 22031

## Newington Fire Alarm System Replacement

Fairfax Water Authority Project No. 0650, Division 002

8001 Cinder Bed Road ~ Lorton ~ Virginia ~ 22079



PROJECT LOCATION MAP

SCALE: N/A

DRAWING INDEX		
SHT. NO.	DWG. NO.	DESCRIPTION
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FAIRFAX WATER PLANNING & ENGINEERING DIVISION	DESIGNED: FAE	SCALE	FAIRFAX WATER PLANNING & ENGINEERING DIVISION 8560 ARLINGTON BOULEVARD FAIRFAX, VA 22031		Newington Maintenance Facility	FILE NAME: -----		
	DRAWN: PAM					PROJECT: 0650	DIVISION: 002	DATE: 5-Jun-20
	CHECKED: CPT					NEWINGTON FIRE ALARM SYSTEM REPLACEMENT		DRAWING: G1
	NO. DATE REVISION					TITLE SHEET		SHEET: 1 of 7
					TAX MAP: 99-2			

# FIRE ALARM GENERAL NOTES

- SCOPE OF WORK INCLUDES PROVIDING A NEW ANALOG ADDRESSABLE FIRE ALARM AND VOICE EVACUATION FIRE ALARM SYSTEM THROUGHOUT THE BUILDING FOR THE RENOVATION OF THE FIRE ALARM SYSTEM. ALL ENGINEERING DESIGN WORK AND INSTALLATION SHALL CONFORM WITH THE VIRGINIA CONSTRUCTION CODE (VCC) 2015 EDITION, NFPA STANDARDS NOS. 70 (2014 EDITION), 72 (2013 EDITION), AND OTHER CODES AND STANDARDS INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. THE SCOPE INCLUDES BUT IS NOT LIMITED TO A NEW FIRE ALARM CONTROL PANEL/ MODULES/ POWER SUPPLIES/AMPLIFIERS, SPRINKLER SYSTEM SUPERVISION, MANUAL PULL STATIONS, SYSTEM SMOKE/HEAT DETECTORS, DUCT DETECTORS, HORN AND STROBES FOR OCCUPANT NOTIFICATION, WIRING, CONDUIT AND ALL OTHER ASSOCIATED LABOR, EQUIPMENT AND MATERIALS, SOFTWARE, AND PROGRAMMING WHETHER MENTIONED OR NOT, FOR A COMPLETE FIRE ALARM SYSTEM COMPLYING WITH THE APPLICABLE PROVISIONS OF THE CODES OF REFERENCE.
- SITE VERIFY THE LOCATION OF SMOKE AND FIRE RATED WALLS. ALL PENETRATIONS IN RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. ALL FLOOR PENETRATIONS SHALL BE FIRE STOPPED IN ACCORDANCE WITH PROJECT SPECIFICATIONS. ALL FLOORS SHALL BE CONSIDERED 2-HOUR RATED FLOORS, UNO.
- COORDINATE WALL AND CEILING DEVICE LOCATIONS WITH EXISTING CONDITIONS.
- FIELD VERIFY THE LOCATION OF DUCT SMOKE DETECTORS FOR MECHANICAL EQUIPMENT AND SMOKE DAMPERS. PROVIDE ADDRESSABLE INTERFACE AND ADDRESSABLE RELAYS AS NEEDED TO MONITOR DUCT SMOKE DETECTORS AND SHUT DOWN THE ASSOCIATED HVAC EQUIPMENT BY THE FIRE ALARM SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADDITIONAL DEVICES, POWER SUPPLY AND AMPLIFIER AS NECESSARY TO SUPPLY THE NOTIFICATION DEVICES TO COMPLY WITH APPLICABLE CODES, AND SPECIFICATIONS.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL SYSTEM COMPONENTS. CONTRACTOR(S) SHALL REPORT ANY DISCREPANCIES WITH THESE DRAWINGS OR CONFLICTS BETWEEN THE SPECIFICATIONS AND DRAWINGS TO THE OWNER'S ATTENTION IMMEDIATELY. THE CONTRACTOR(S) SHALL NOT PROCEED WITH ANY WORK, EXCEPT AT THEIR OWN RISK, UNTIL CLARIFICATIONS OF THE CONFLICTS ARE ISSUED TO THE CONTRACTOR(S) BY THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL CONFLICTS WITH LIGHTING FIXTURES, DIFFUSERS, GRILLS, DUCTS, STRUCTURAL MEMBERS, PIPING, AND OTHER OBSTRUCTIONS ENCOUNTERED.
- THE FIRE ALARM SYSTEM AND CONTROL PANEL SHALL BE NOTIFIER SYSTEM. THE FACP SHALL BE PRIMARILY MONITORED BY THE EXISTING DIGITAL ALARM COMMUNICATION TRANSMITTERS UTILIZING TELEPHONE LINES.
- ALL WIRING AND CIRCUITS SHALL BE PROVIDED IN ELECTRICAL METALLIC TUBING AND CONDUIT CONCEALED ABOVE THE CEILING OR BEHIND THE WALLS. MINIMUM TRADE SIZE 3/4 INCHES. NO CIRCUITS SHALL BE SUPPORTED FROM THE SPRINKLER PIPING OR DUCTWORK. ALL CONDUIT SHALL USE COMPRESSION TYPE CONNECTORS.
- PROVIDE THE FOLLOWING CIRCUITS:
  - INTERCONNECTED RISER LOOP OR NETWORK (CLASS X)
  - INITIATING DEVICE CIRCUITS (CLASS B)
  - SIGNALING LINE CIRCUIT FOR EACH FLOOR (CLASS B)
  - SIGNALING LINE CIRCUIT FOR NETWORK (CLASS B)
  - NOTIFICATION APPLIANCES (CLASS B)
- PROVIDE ADDRESSABLE SIGNALING LINE CIRCUITS (SLC) TO MONITOR FIRE ALARM DEVICES, SPRINKLER SYSTEM WATER FLOW AND SUPERVISORY DEVICES. PROVIDE NEW ADDRESSABLE SLC TYPE CIRCUITS FOR NOTIFICATION APPLIANCES TO MONITOR AND CONTROL NOTIFICATION DEVICES. PROVIDE ALL EQUIPMENT, SOFTWARE, ACCESSORIES WHETHER MENTIONED OR NOT, INCLUDING SMOKE, AND HEAT SENSORS, ADDRESSABLE INTERFACE AND RELAY DEVICES, TERMINAL CABINETS, CONDUIT, WIRE, POWER SUPPLIES, JUNCTION BOXES, FASTENERS, HANGERS, ETC.
- PROVIDE REQUIRED REMOTE POWER SUPPLIES FOR NOTIFICATION CIRCUITS. ALL POWER SUPPLIES PANELS SHALL BE PROVIDED WITH AN ADJACENT SMOKE DETECTOR WITHIN 5 FT FROM THE PANEL.
- EACH REMOTE POWER SUPPLY SHALL BE SUPERVISED FOR POWER FAULT, GROUND FAULT, AND CIRCUIT FAULT.
- PULL STATIONS ARE TO BE DOUBLE-ACTION, INSTALLED WITH OPERATING LEVER MOUNTED AT 48" AFF AND WITHIN 5' OF THE EXITS.
- FIRE ALARM CONTRACTOR SHALL MAKE ALL ELECTRICAL CONNECTIONS TO THE SYSTEM OR EQUIPMENT SUPERVISED BY THE EXISTING FIRE ALARM SYSTEM INCLUDING WATERFLOW SWITCHES, TAMPER SWITCHES, EMERGENCY GENERATOR MONITORING, DUCT SMOKE DETECTORS, ELEVATOR RECALL AND POWER SHUTDOWN.
- AUDIBLE (HORNS) AND VISUAL (STROBES) NOTIFICATION DEVICES SHALL BE PROVIDED THROUGHOUT THE BUILDING IN ACCORDANCE WITH NFPA 72 AND ADA-AG REQUIREMENTS.
- ALL STROBES ARE RATED 15CD, UNO. INSTALL ALL NEW WALL MOUNTED STROBES WITH THE ENTIRE DEVICE BETWEEN 80"-96" AFF.
- AUDIBLE NOTIFICATION DEVICES (HORNS) SHALL BE PROVIDED THROUGHOUT THE HABITABLE SPACES TO ACHIEVE A MINIMUM OF 15 dBA ABOVE AVERAGE AMBIENT SOUND PRESSURE LEVEL (SPL) AND 5 DBA ABOVE AMBIENT PEAK SPL.
- CEILING MOUNTED FIRE ALARM DEVICES SHALL BE INSTALLED CENTER OF TILE IN AREAS WITH 2' X 2' SUSPENDED CEILING TILES. DEVICES SHALL BE INSTALLED IN QUARTER OR CENTER OF TILE IN AREAS WITH 2' X 4' SUSPENDED CEILING TILES.
- PROVIDE FIRE ALARM NOTIFICATION DEVICES WITH CLEAR LENS AND RED BASE MARKED "ALARM".
- MATERIALS AND EQUIPMENT SHALL BE NEW.
- ELECTRICAL CONTROL PANELS, EQUIPMENT, MATERIALS, AND DEVICES PROVIDED OR INSTALLED AS WORK OF THIS PROJECT SHALL BEAR UL LABEL, OR IF UL LABEL IS NOT AVAILABLE, THE ITEM SHALL BE TESTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION AND IN ACCORDANCE WITH NEC.
- ALL EQUIPMENT SHALL BE INSTALLED PER THE LISTING AND MANUFACTURERS INSTALLATION INSTRUCTIONS.
- ALL NECESSARY WALL AND FLOOR PENETRATIONS SHALL BE CORE-DRILLED. ALL PENETRATIONS IN WALLS, CEILING, AND FLOORS SHALL BE SEALED TO THE FULL THICKNESS OF THE PENETRATION WITH APPROVED FIRE STOPPING MATERIAL OF EQUAL. STAIRWAYS, SHAFT ENCLOSURES, AND FLOOR SLABS ARE TO BE CONSIDERED 2-HOUR FIRE RESISTIVE RATED CONSTRUCTION.
- SEE DETAIL SHEET FA5 FOR FIRE ALARM OPERATING SEQUENCE.
- PROVIDE FULL TESTING PER NFPA 72 AND PROVIDE A RECORD OF COMPLETION FORM AFTER THE SYSTEM IS COMPLETED AND TESTED, WITHOUT ADDITION TO THE CONTRACT SUM.
- SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EACH MATERIAL AND ITEM OF EQUIPMENT, INCLUDING RISER DIAGRAM AND PANEL DRAWINGS.
- EXISTING FIRE ALARM SYSTEM WILL BE REPLACED BY ZONES/CIRCUITS TO BE CONNECTED TO THE NEW FIRE ALARM CONTROL PANEL. OTHER ZONES/CIRCUITS OF THE SYSTEM NOT YET REPLACED MUST REMAIN OPERATIONAL UNTIL THEY HAVE BEEN REPLACED AND TESTED. PATCH AND PAINT WALLS AS NEEDED TO MATCH SURROUNDING SURFACES. VERIFY COLOR AND FINISH WITH OWNER.
- REUSE EXISTING CONDUIT WHERE FEASIBLE.

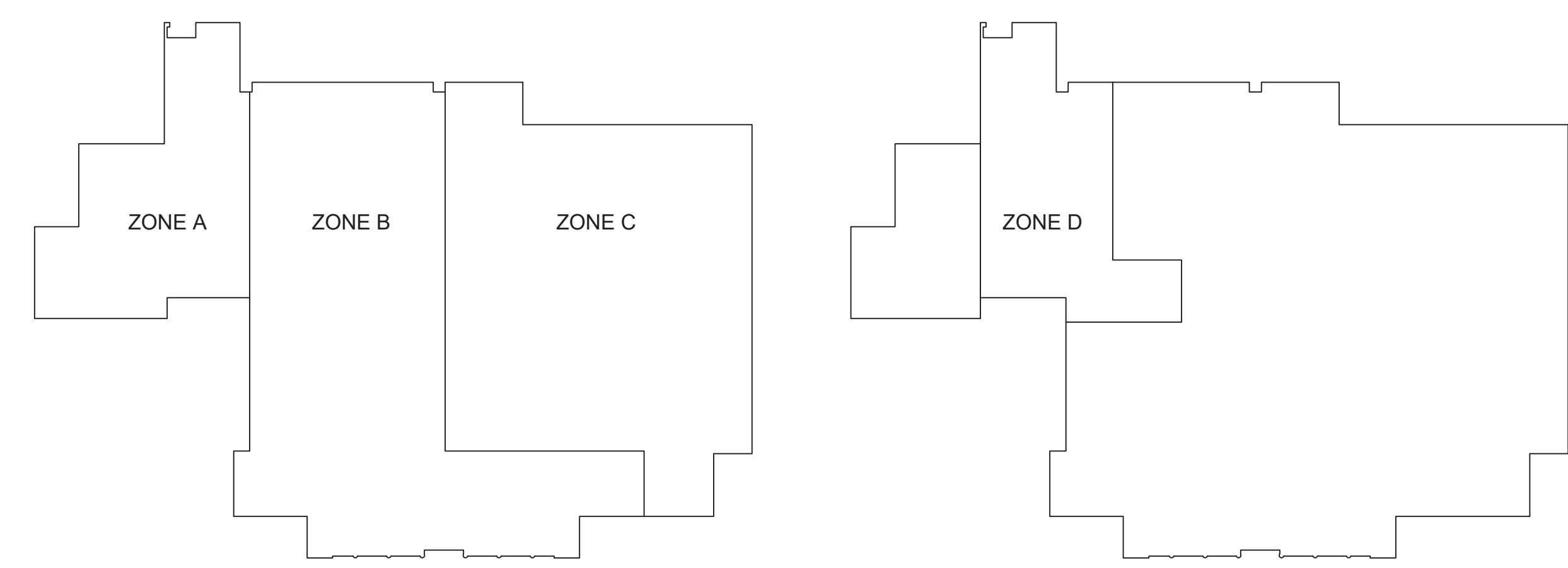
# LEGEND

- PULL STATION
- DUCT DETECTOR
- SMOKE DETECTOR
- HEAT DETECTOR
- HORN / STROBE
- STROBE - WALL MOUNT
- ADDRESSABLE INTERFACE
- ADDRESSABLE RELAY
- FLOW SWITCH
- TAMPER SWITCH
- REMOTE LED FOR DUCT SMOKE DETECTOR
- FLOOR CONTROL ASSEMBLY
- FIRE ALARM ANNUNCIATOR
- FIRE ALARM CONTROL PANEL
- FIRE ALARM TERMINAL CABINET
- DIGITAL ALARM COMMUNICATOR TRANSMITTER
- BATTERY CABINET
- EXISTING DEVICE TO BE DEMOLISHED, UNO
- EXISTING DEVICE TO REMAIN - R = EXISTING TO REMAIN
- NEW DEVICE
- KEYNOTE

# ABBREVIATIONS

- A AMP
- ABV ABOVE
- A/E ARCHITECT/ENGINEER (OF RECORD)
- ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
- A/S AUTOMATIC SPRINKLER
- AWG AMERICAN WIRE GAGE
- BLDG BUILDING
- BOB BOTTOM OF BEAM
- BOJ BOTTOM OF JOIST
- C CEILING
- CD CANDELA
- CLO CLOSET
- CMU CONCRETE MASONRY UNIT
- COM COMMUNICATIONS
- CONT CONTINUED
- CORR CORRIDOR
- DS DRY SPRINKLER
- E EXISTING DEVICE
- EC EXTENDED COVERAGE SPRINKLER
- ELEC ELECTRIC
- EOLR END OF LINE RESISTOR
- ETC ELEVATOR TERMINAL CABINET
- EXIST EXISTING
- FACP FIRE ALARM CONTROL PANEL
- FDC FIRE DEPARTMENT CONNECTION
- GPM GALLONS PER MINUTE
- HVAC HEATING VENTILATION AND AIR CONDITIONING
- IN INCH
- J.C. JANITOR'S CLOSET
- LAT LAY-IN ACOUSTICAL TILE
- LED LIGHT EMITTING DIODE
- MACH MACHINE
- MECH MECHANICAL ROOM
- MI MINERAL INSULATED
- MNS MASS NOTIFICATION SYSTEM
- MPS MANUAL PULL STATION
- NAC NOTIFICATION APPLIANCE CIRCUIT
- NFPA NATIONAL FIRE PROTECTION ASSOCIATION
- NO. NUMBER
- NOS. NUMBERS
- NPT NATIONAL PIPE THREAD
- NTS NOT TO SCALE
- OPG OPENING
- OS&Y OUTSIDE STEM AND YOKE
- P PHASE
- P.C. PIPE SHAFT
- PSI POUNDS PER SQUARE INCH
- QR QUICK RESPONSE
- RM ROOM
- SPKLR SPRINKLER
- SSU STANDARD SPRAY UPRIGHT
- STDP STANDPIPE
- SF SQUARE FOOT
- SPD SURGE PROTECTION DEVICE
- STO STORAGE
- TC TERMINAL CABINET
- TOJ TOP OF JOIST
- UNO UNLESS NOTED OTHERWISE
- VAC VOLTS ALTERNATING CURRENT
- WP WEATHER PROOF
- W/ WITH

# EXISTING FIRE ALARM ZONES



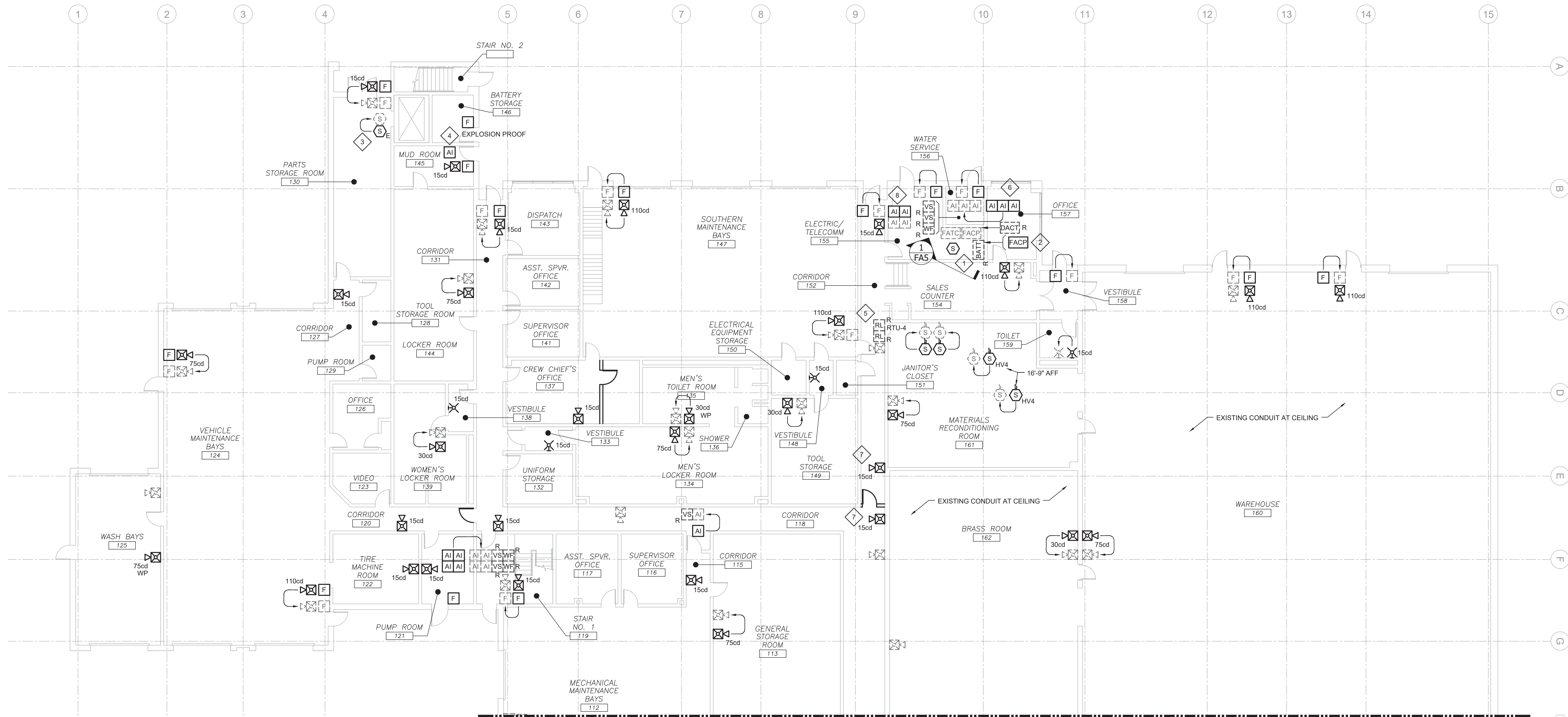
FIRST FLOOR

SECOND FLOOR

NOTE: EXISTING FIRE ALARM ZONES PER AS-BUILT DRAWINGS, TO BE FIELD VERIFIED. SHOWN FOR REFERENCE ONLY.



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	DRAWN: PAM				PROJECT: 0650	DIVISION: 002	DATE: 5-Jun-20
	CHECKED: FAE				NEWINGTON FIRE ALARM SYSTEM REPLACEMENT GENERAL NOTES, LEGEND & ABBREVIATIONS		DRAWING: G2
	NO. DATE REVISION				TAX MAP: 99-2	SHEET: 2 of 7	

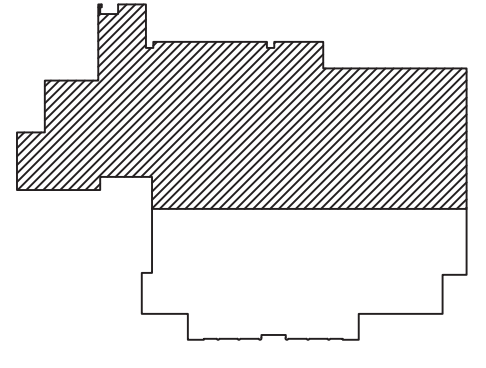


**1** FIRST FLOOR NEW WORK FIRE ALARM PLAN - PART A  
 FA2 3/32"=1'-0"

**KEY NOTES**

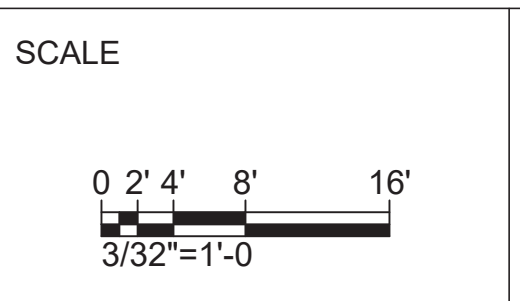
1. EXISTING DACT TO REMAIN.
2. PROVIDE NEW FIRE ALARM CONTROL PANEL, TO BE LOCATED ABOVE EXISTING BATTERY CABINET.
3. LOCATE SMOKE DETECTOR NO MORE THAN 12" FROM CEILING.
4. PROVIDE ADDRESSABLE INTERFACE TO MONITOR MANUAL PULL STATION INSIDE THE BATTERY ROOM.
5. EXISTING REMOTE LED FOR DUCT SMOKE DETECTOR TO REMAIN.
6. PROVIDE NEW ADDRESSABLE INTERFACES TO CONNECT WATER FLOW AND TAMPER SWITCHES TO THE NEW FACP AT THE BEGINNING OF THE RENOVATION, TO BE ACTIVE DURING THE ENTIRE RENOVATION.
7. PROVIDE TEMPORARY HORN/STROBES IN MAIN CORRIDOR TO BE IN SERVICE DURING ENTIRE FIRE ALARM RENOVATION.
8. PROVIDE ADDRESSABLE INTERFACES TO MONITOR GENERATOR RUN AND FAULT

**KEY PLAN**



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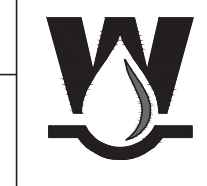


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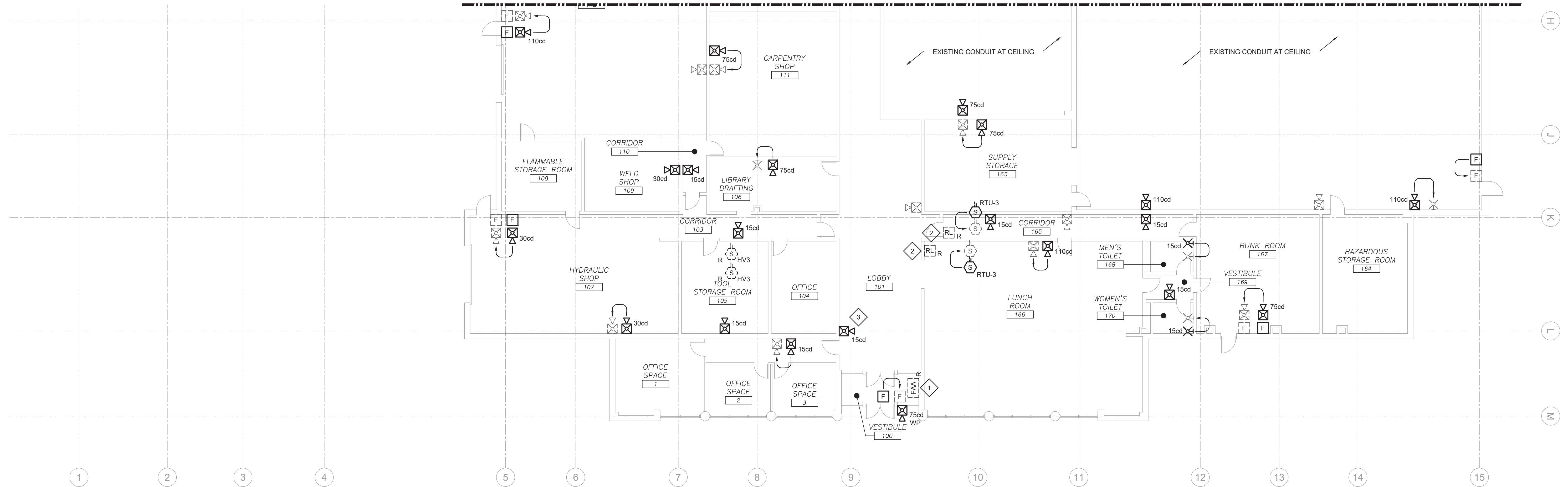


Newington Maintenance Facility  
**NEWINGTON FIRE ALARM SYSTEM REPLACEMENT  
 FIRST FLOOR NEW WORK PLAN - PART A**

FILE NAME:	-----		
PROJECT	DIVISION	DATE:	5-Jun-20
0650	002	DRAWING	FA1
TAX MAP:	99-2	SHEET	3 of 7



MATCH LINE - SHEET FA2

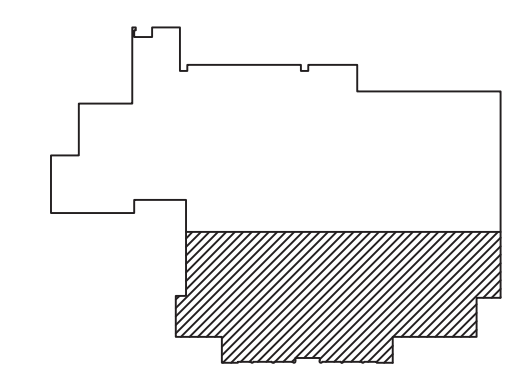


**1** FIRST FLOOR NEW WORK FIRE ALARM PLAN - PART B  
 FA3 3/32"=1'-0"

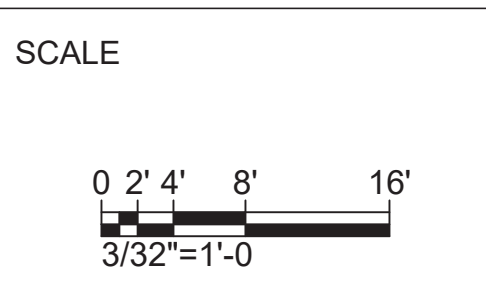
**KEY NOTES**

- EXISTING FAA TO REMAIN. CONNECT TO THE NEW FIRE ALARM CONTROL PANEL RIGHT BEFORE NEW FIRE ALARM SYSTEM ACCEPTANCE TESTING.
- EXISTING REMOTE LED FOR DUCT SMOKE DETECTOR TO REMAIN.
- PROVIDE TEMPORARY HORN/STROBES IN MAIN CORRIDOR TO BE IN SERVICE DURING ENTIRE FIRE ALARM RENOVATION.

*[Signature]*  
**KEY PLAN**



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NO.	DATE	REVISION	

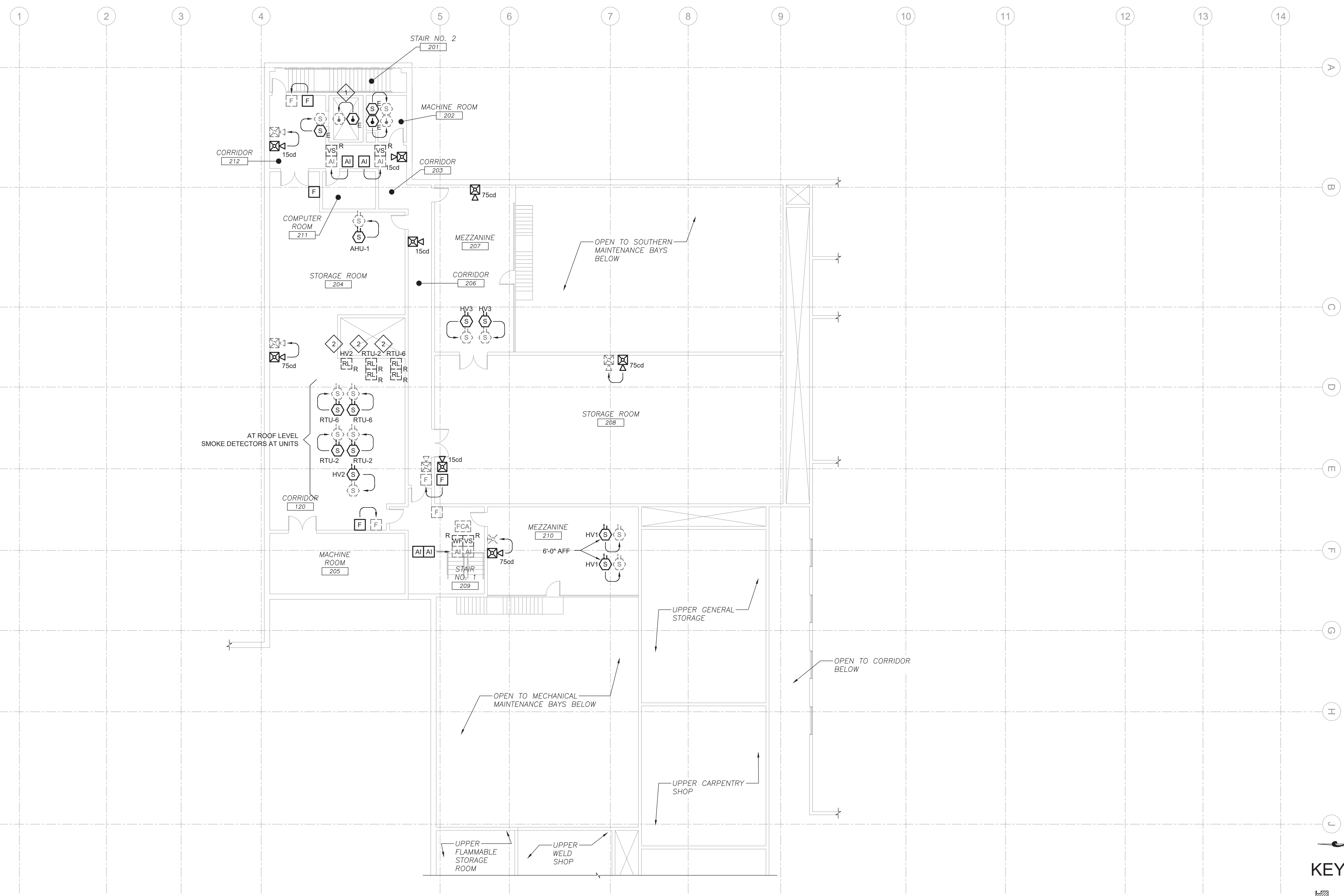


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Newington Maintenance Facility		FILE NAME: -----
NEWINGTON FIRE ALARM SYSTEM REPLACEMENT FIRST FLOOR NEW WORK PLAN - PART B		PROJECT: 0650
		DIVISION: 002
		DATE: 5-Jun-20
		DRAWING: FA2
		SHEET: 4 of 7
		TAX MAP: 99-2



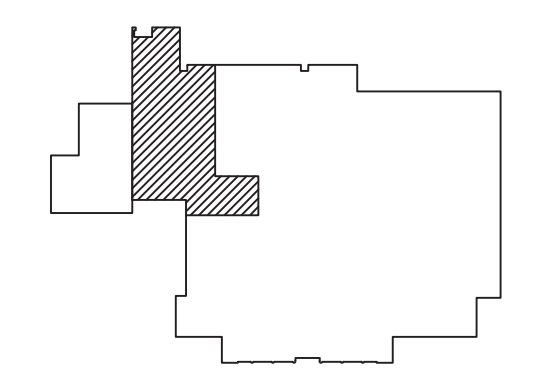


1  
FA4 SECOND FLOOR NEW WORK FIRE ALARM PLAN - PARTIAL  
3/32"=1'-0"

**KEY NOTES**

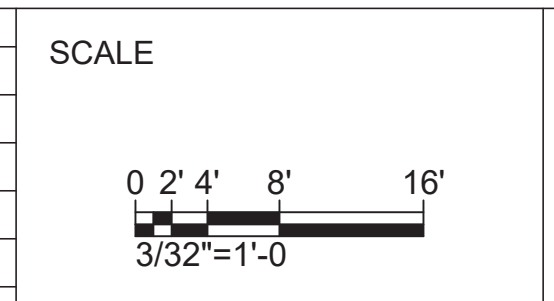
1. REPLACE EXISTING HEAT DETECTOR NEAR SPRINKLER FOR ELEVATOR SHUNT TRIP ACTIVATION.
2. EXISTING REMOTE LED FOR DUCT SMOKE DETECTOR TO REMAIN.

**KEY PLAN**



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NO.	DATE	REVISION



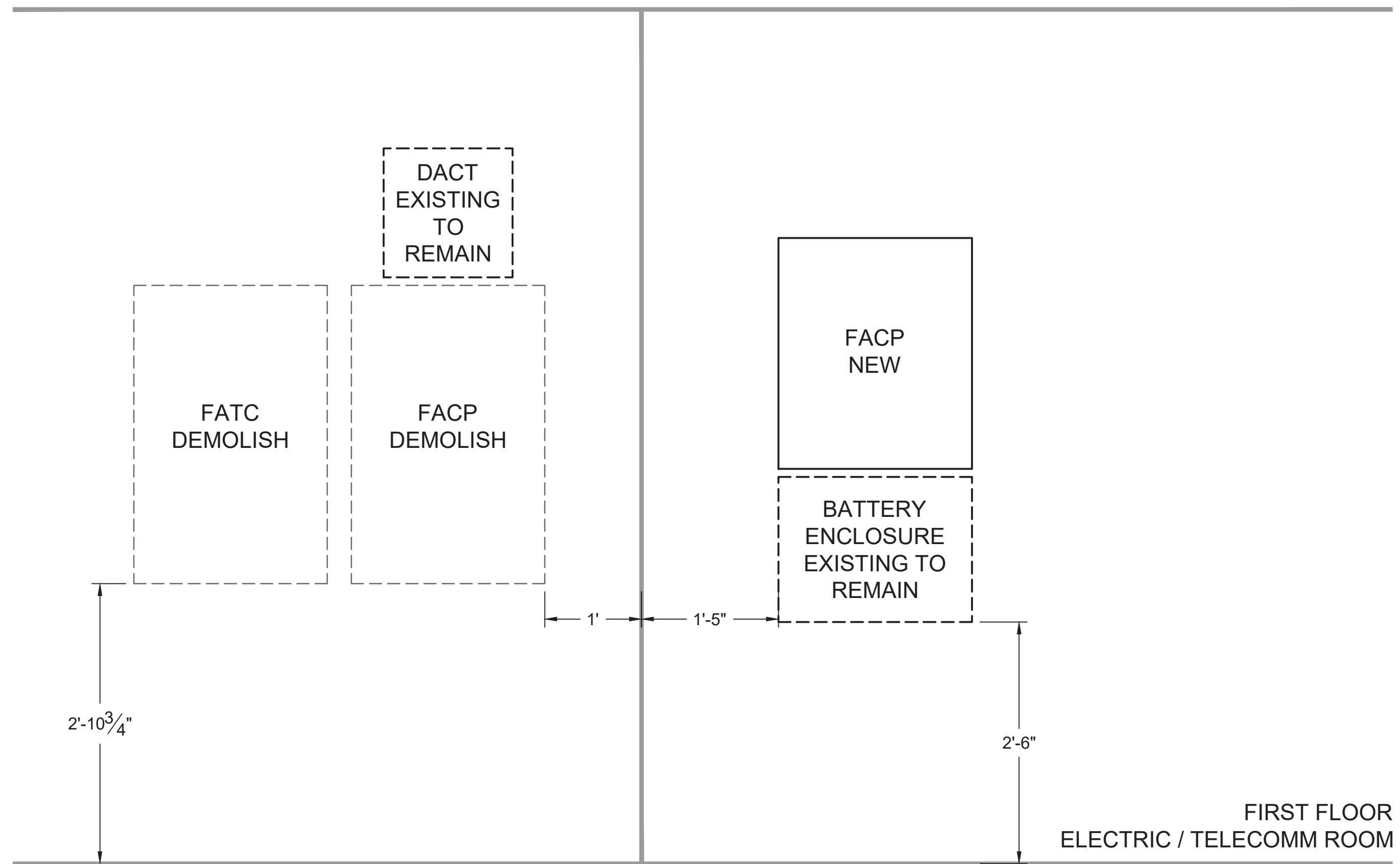
FAIRFAX WATER  
PLANNING & ENGINEERING DIVISION  
8560 ARLINGTON BOULEVARD  
FAIRFAX, VA 22031



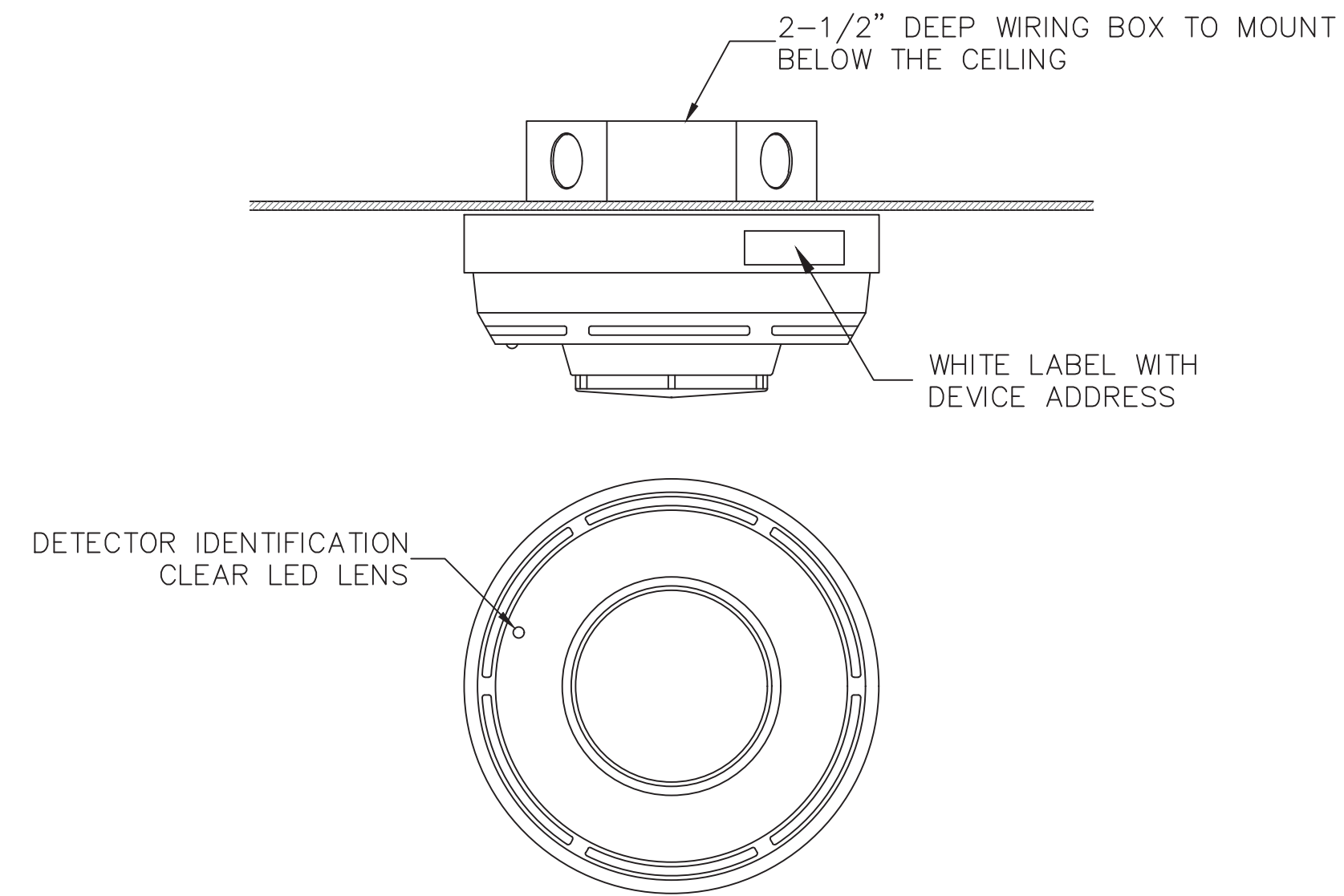
Newington Maintenance Facility  
NEWINGTON FIRE ALARM SYSTEM REPLACEMENT  
SECOND FLOOR NEW WORK PLAN

FILE NAME:	-----		
PROJECT	DIVISION	DATE:	5-Jun-20
0650	002	DRAWING	FA3
TAX MAP:	99-2	SHEET	5 of 7

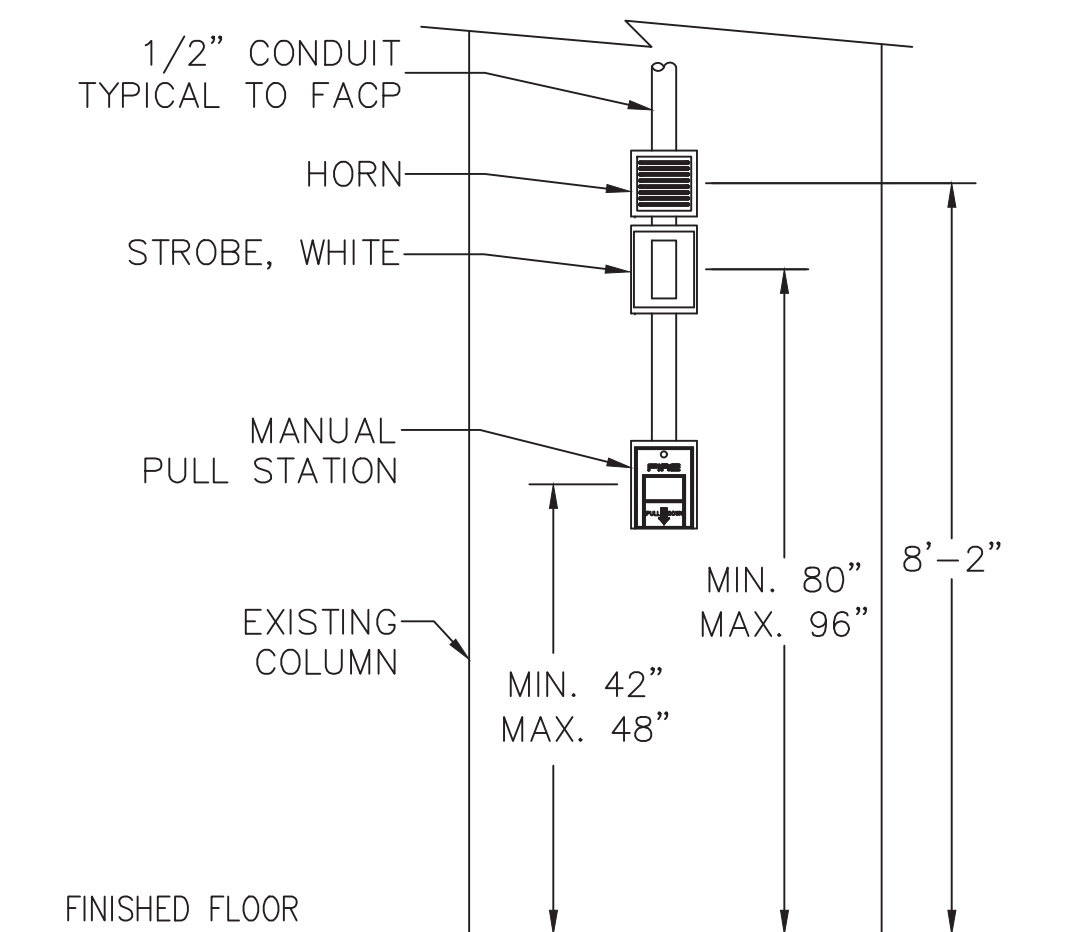




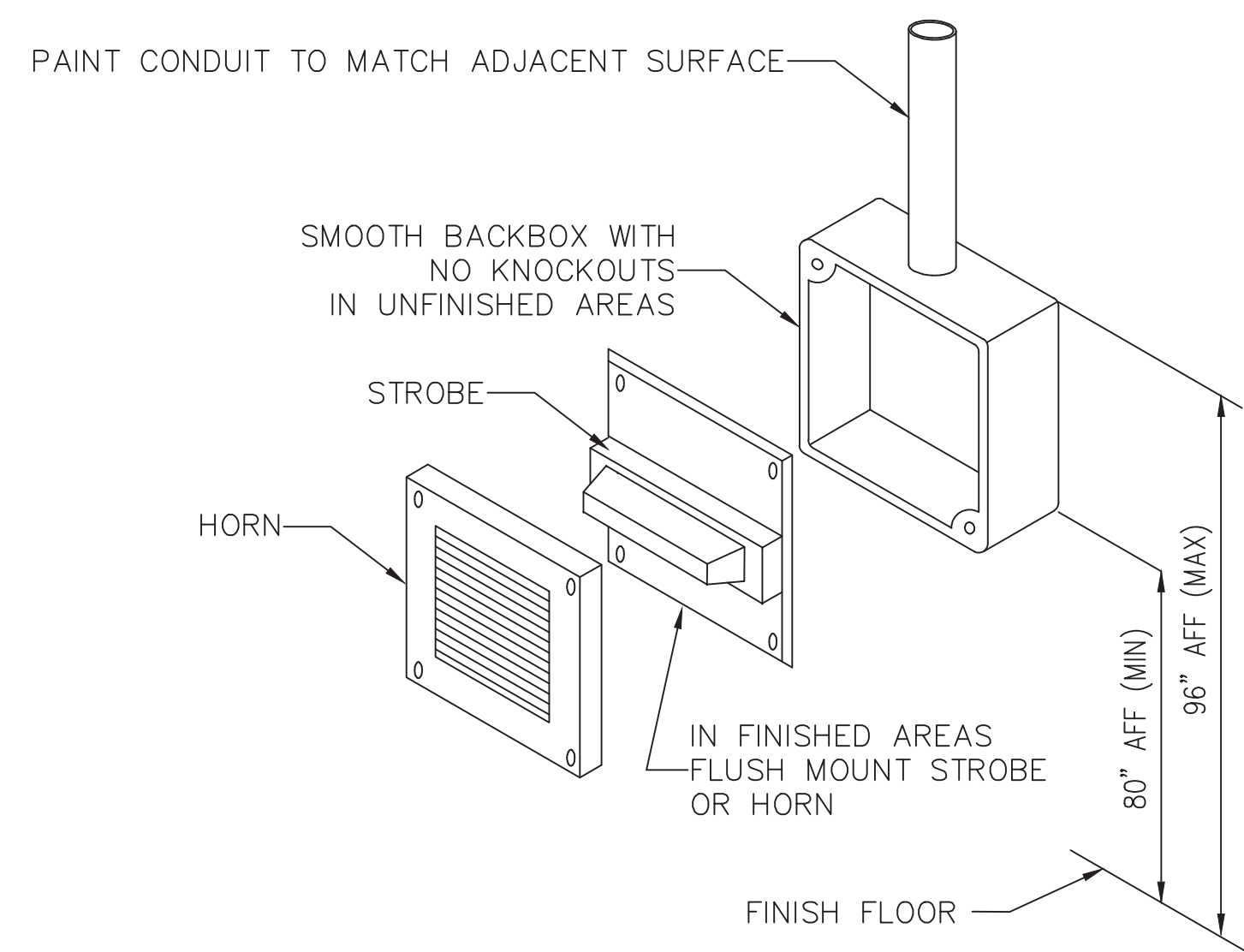
1 ELECTRIC / TELECOMM ROOM  
FA5



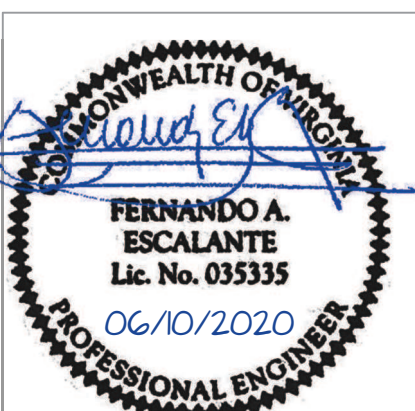
2 SMOKE DETECTOR  
FA5



3 PULL STATION & HORN / STROBE MOUNTING DETAIL  
FA5



4 HORN/STROBE, MALL-MOUNTED  
FA5



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	DRAWN: PAM					PROJECT: 0650	DIVISION: 002	DATE: 5-Jun-20
	CHECKED: FAE					DRAWING: FA4		
						TAX MAP: 99-2	SHEET: 6 of 7	

