

McKISSICK FIRE ALARM REPLACEMENT

SC STATE PROJECT #H27-I851A

UNIVERSITY OF SOUTH CAROLINA

Columbia, South Carolina

DESIGN TEAM

OWNER

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743 GREENE STREET
COLUMBIA, SC 29208

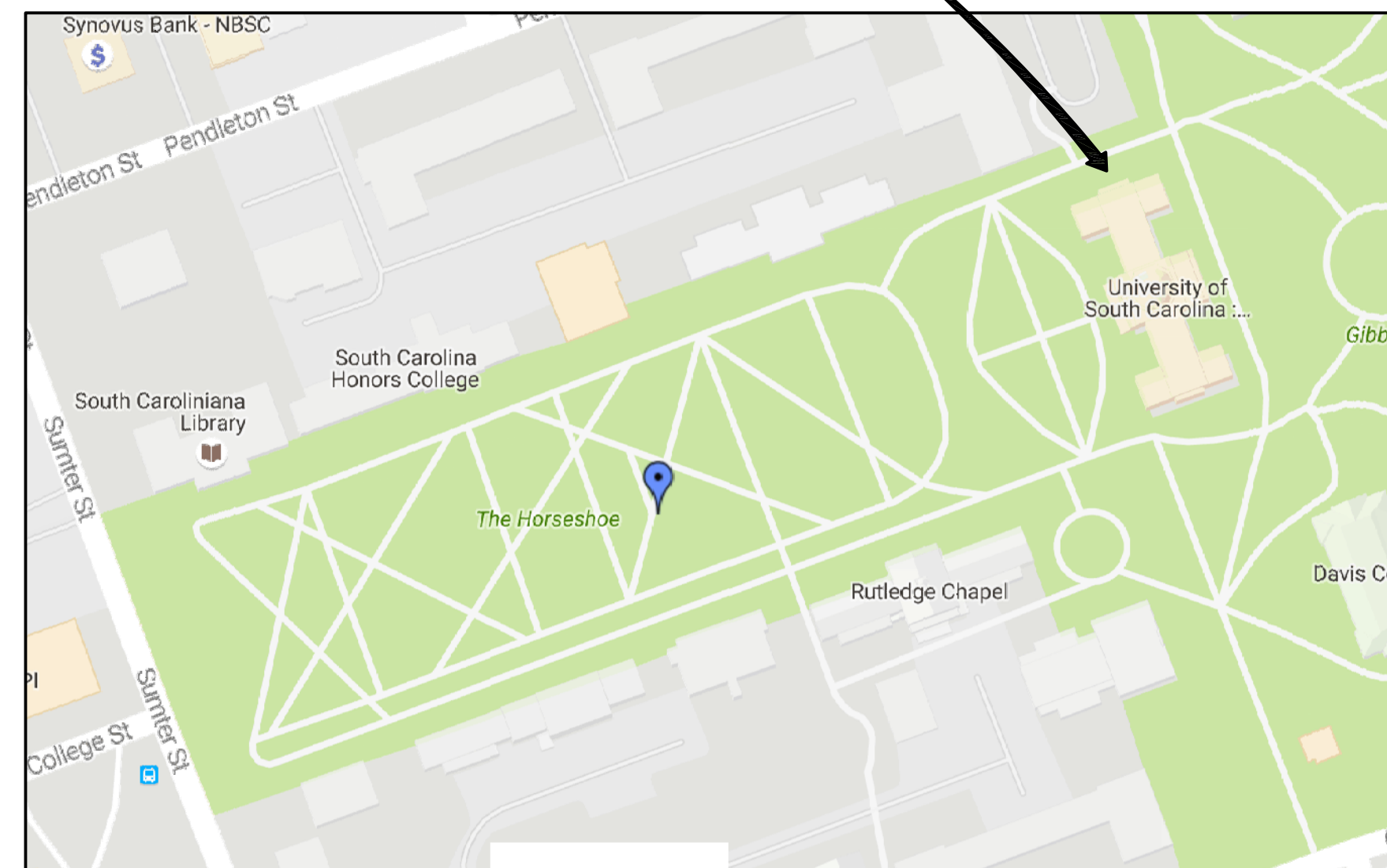
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JOSEPH W. LAND, P.E.

McKISSICK MUSEUM



VICINITY MAP

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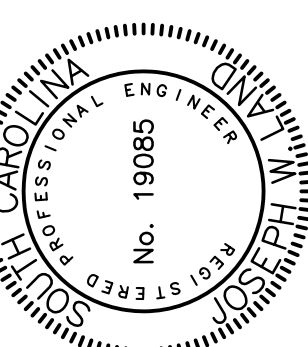
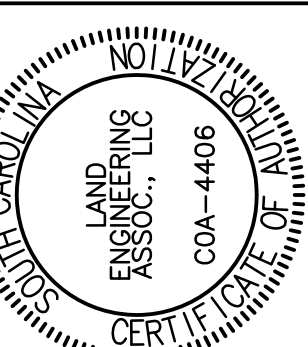
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State Project No. H27-I851A

OFFICE OF
FACILITIES MANAGEMENT
COLUMBIA, SC 29208

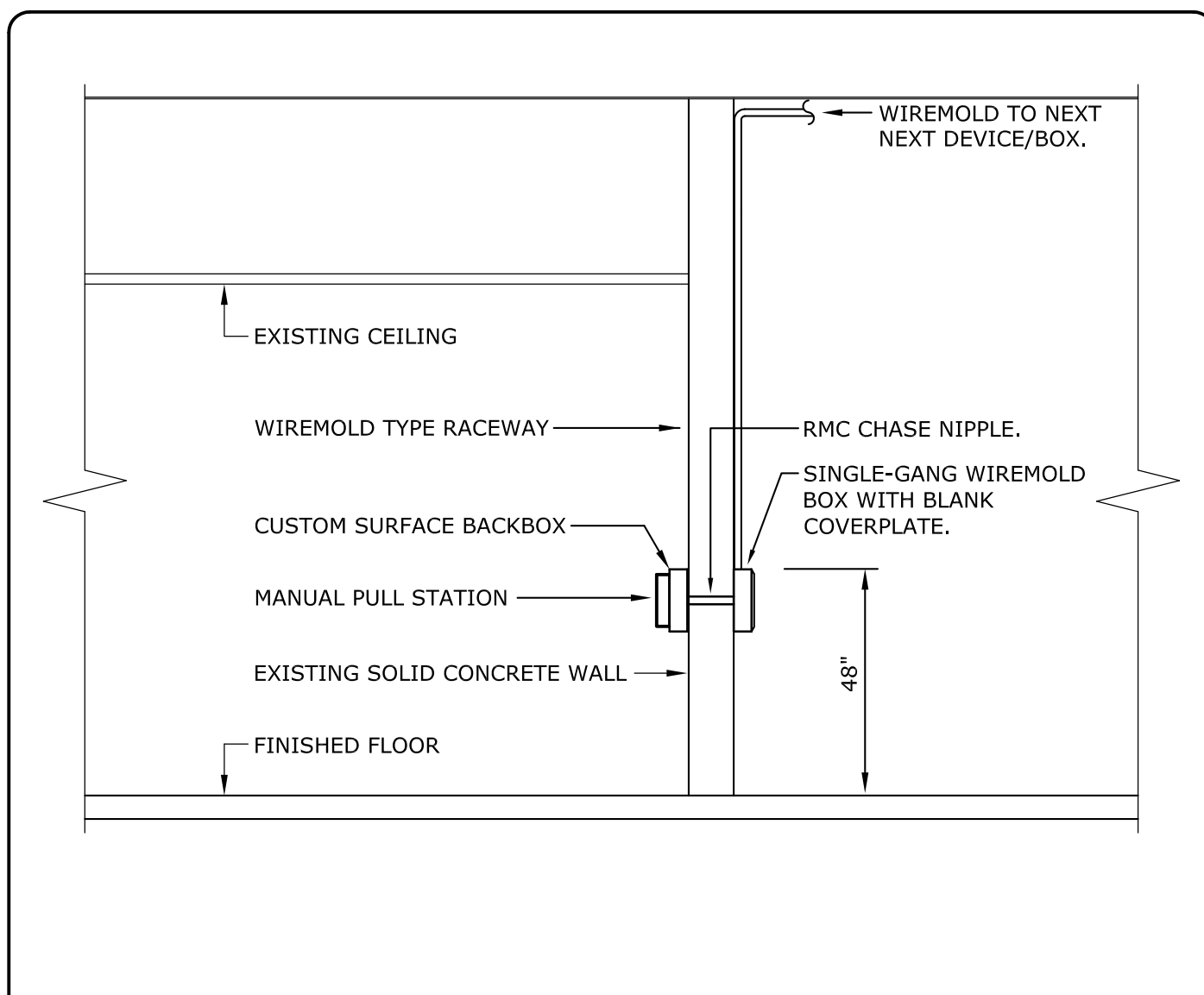
USC-2015-13
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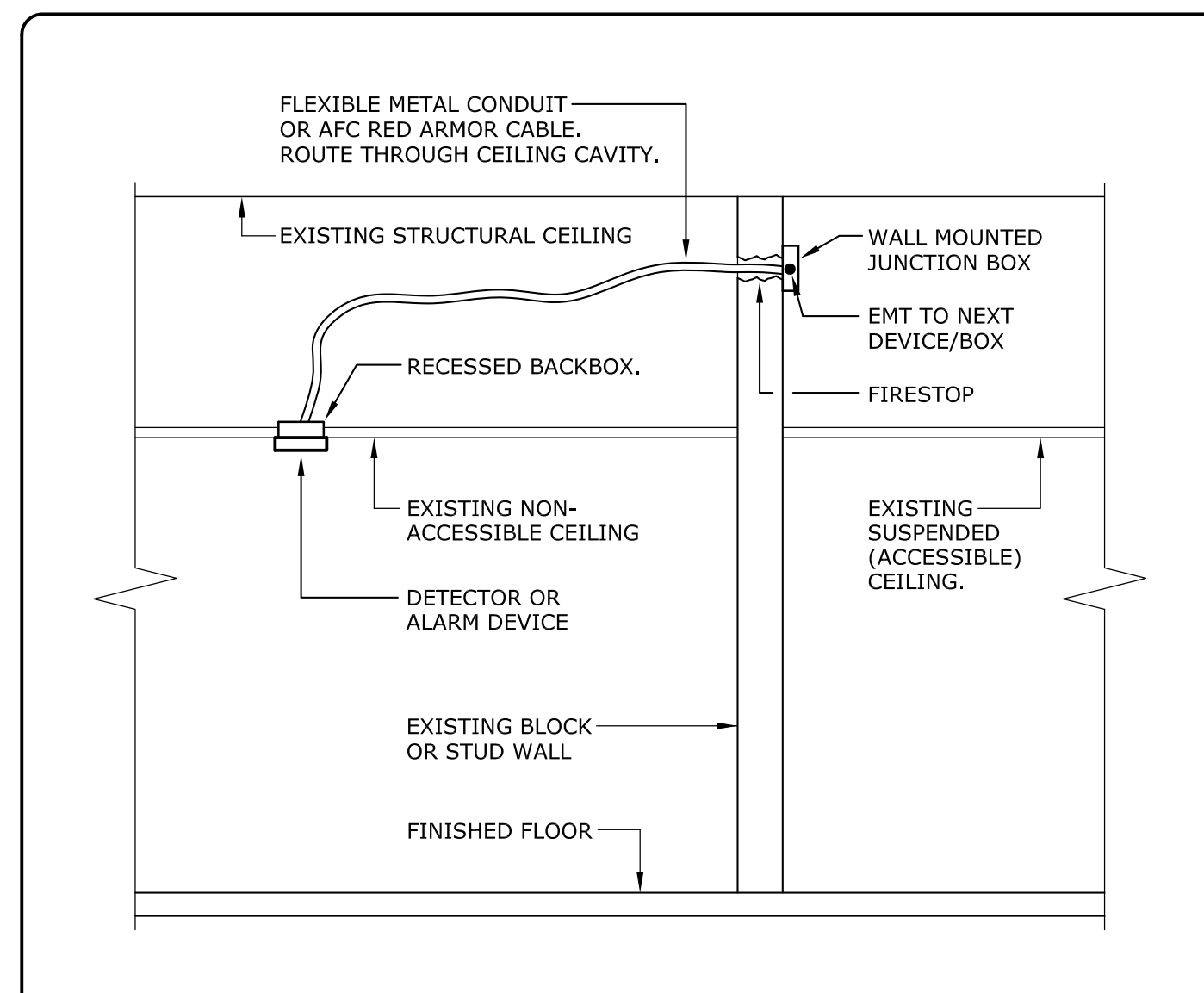
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PROJECT TITLE: McKISSICK FIRE ALARM REPLACEMENT
University of South Carolina

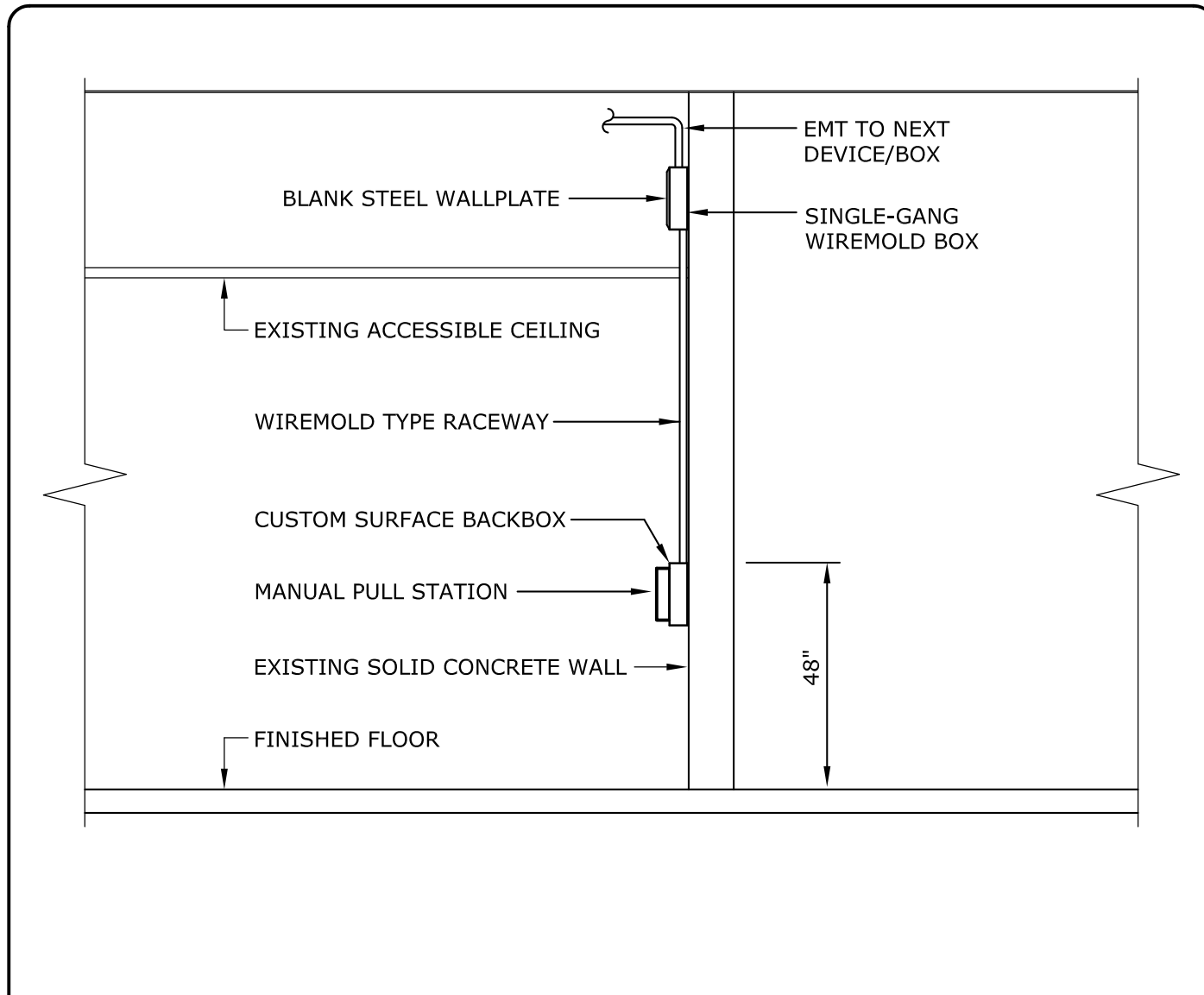
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1 OF 15
SHEET IN SET: 1 OF 15



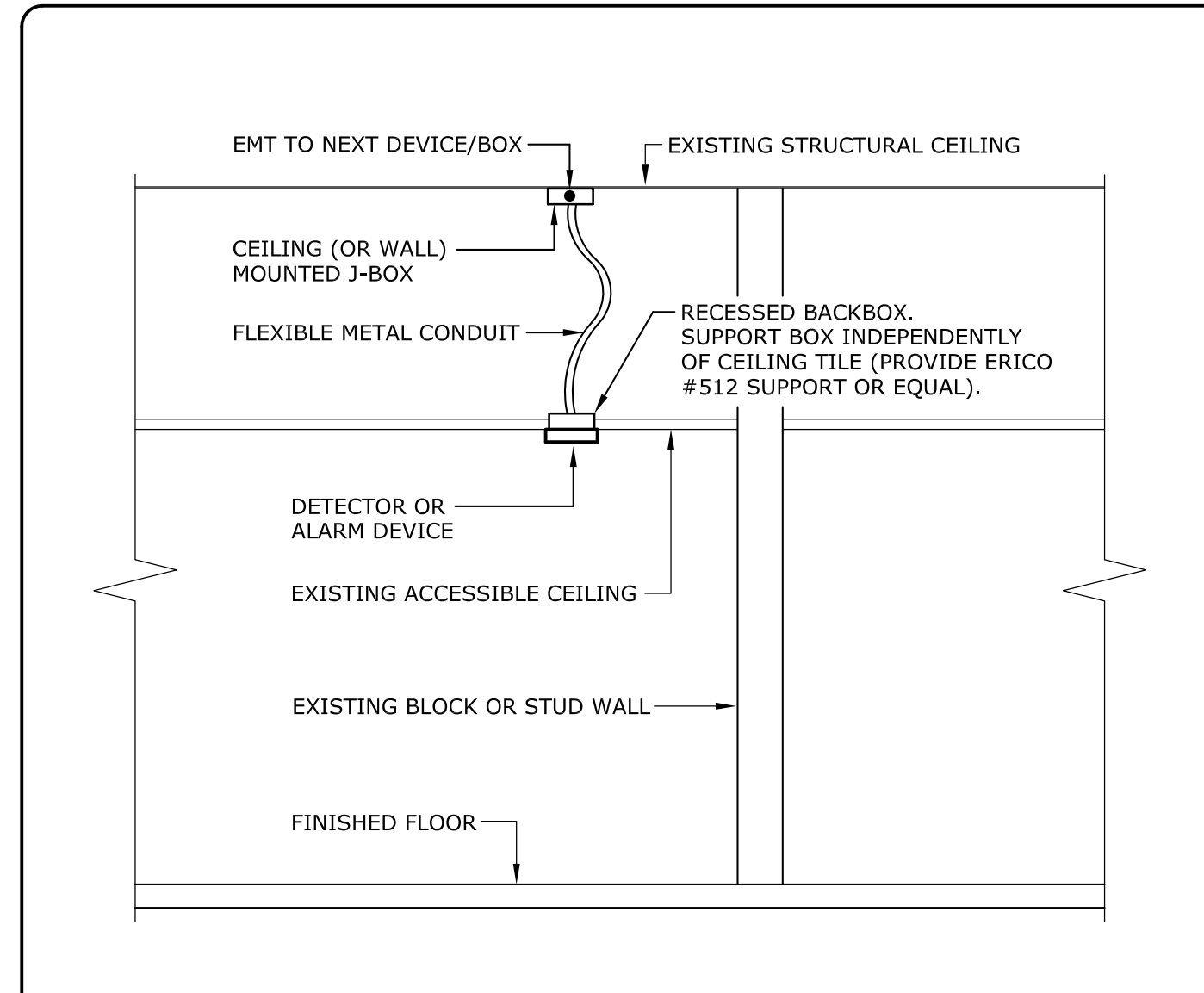
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E-1 NOT TO SCALE



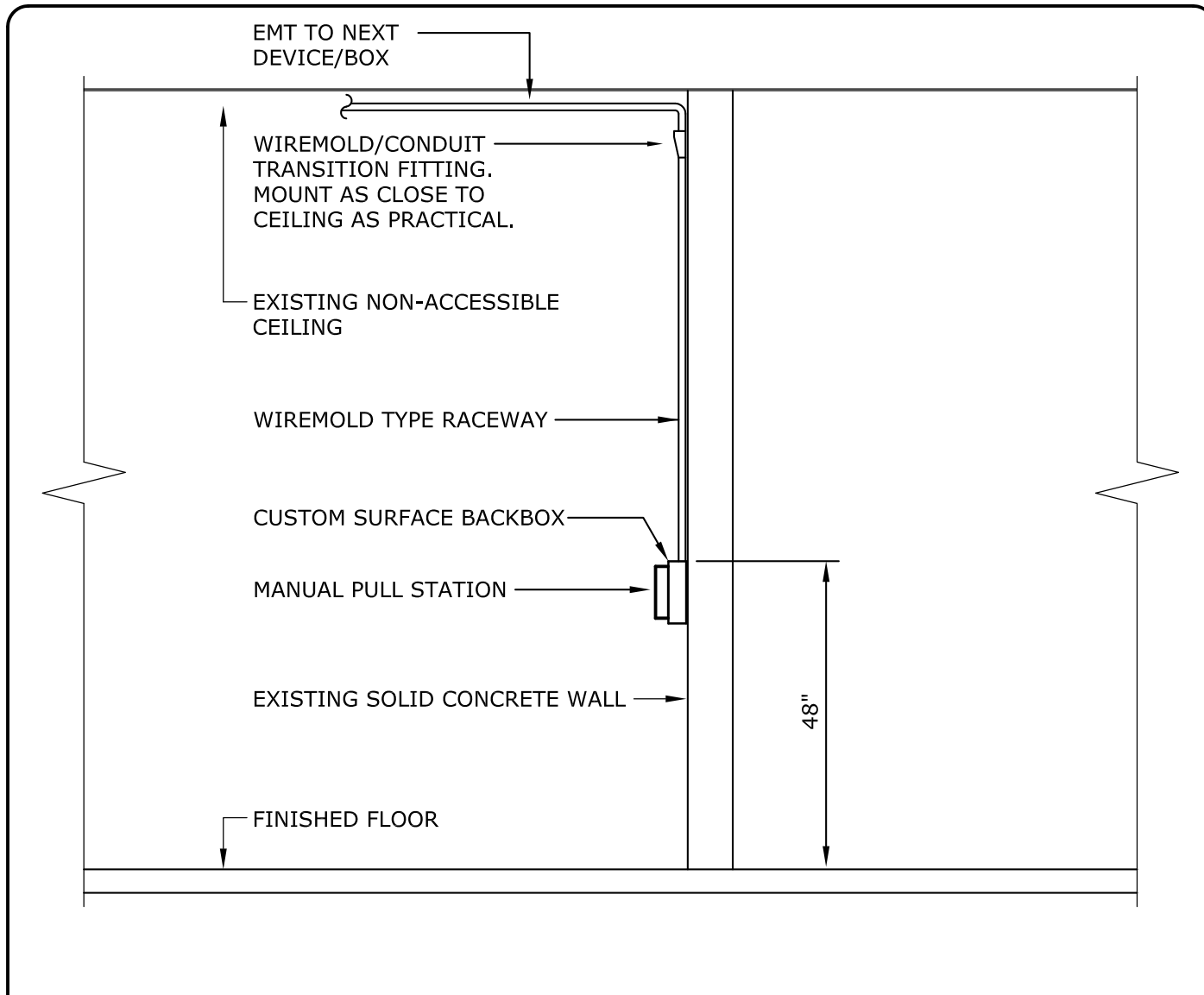
4 TYPICAL INSTALLATION DETAIL: CEILING DETECTORS & ALARM DEVICES
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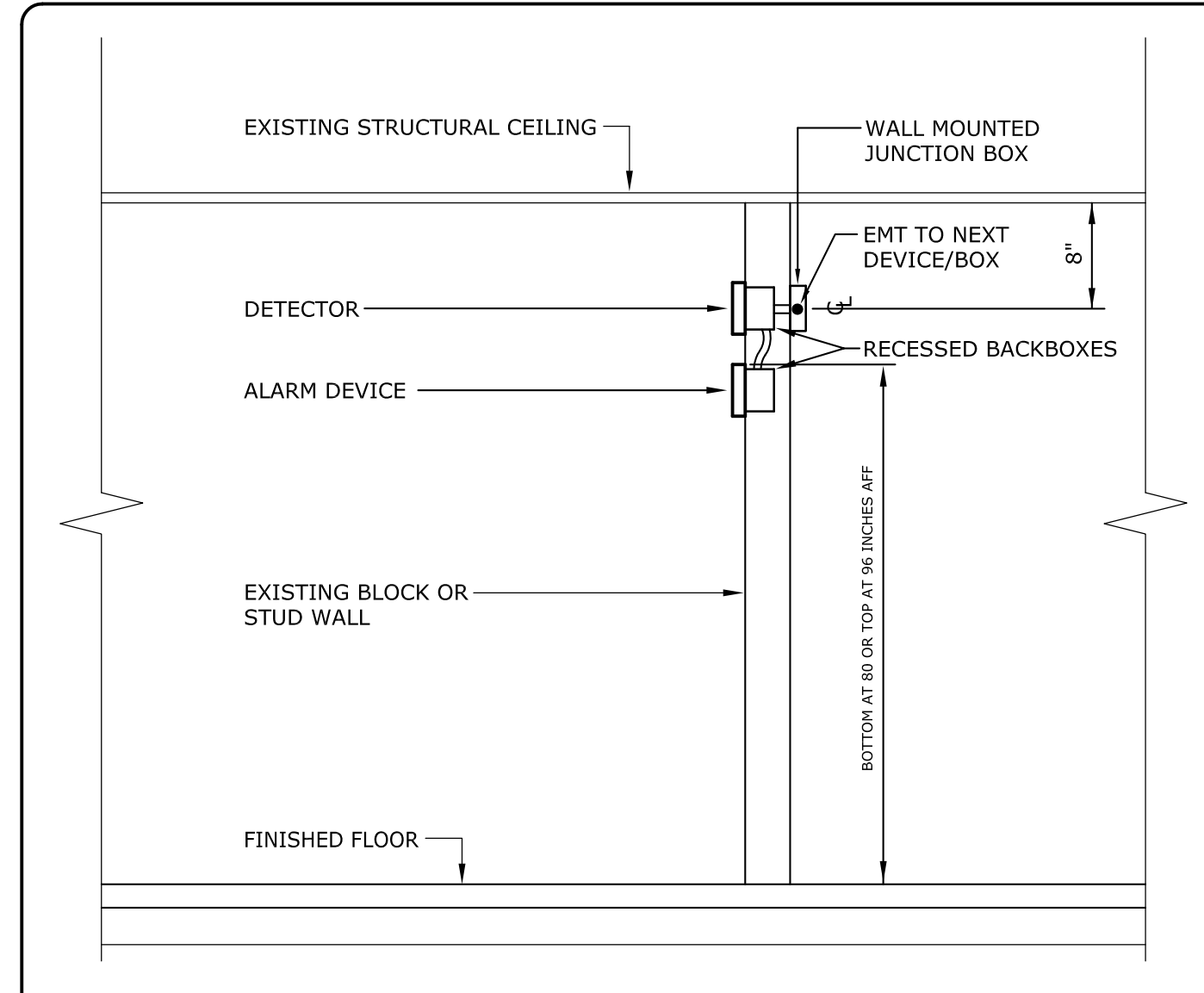
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5 TYPICAL INSTALLATION DETAIL: CEILING DETECTORS & ALARM DEVICES
E-1 NOT TO SCALE



3 INSTALLATION DETAIL: PULL STATION
E-1 NOT TO SCALE



6 TYPICAL INSTALLATION DETAIL: DETECTOR & ALARM DEVICE
E-1 NOT TO SCALE

GENERAL CONSTRUCTION NOTES

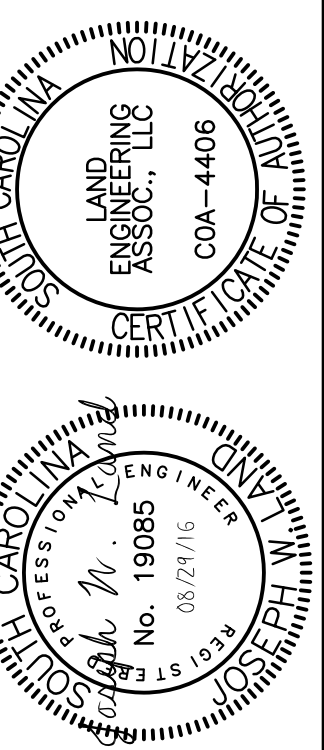
- PROVIDE ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
INTERNATIONAL EXISTING BUILDING CODE 2015 EDITION
INTERNATIONAL FIRE CODE 2015 EDITION
NFPA 70 - NATIONAL ELECTRICAL CODE 2014 EDITION
NFPA 72 - NATIONAL FIRE ALARM CODE 2013 EDITION
ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES LATEST EDITION
 - PROVIDE RACEWAY AND WIRING TO ALL EQUIPMENT, DEVICES AND APPLIANCES INDICATED ON THE CONTRACT DRAWINGS. THE DRAWINGS INDICATE PARTIAL RACEWAY AND WIRING REQUIREMENTS TO HELP CLARIFY DESIGN INTENT. WHERE RACEWAY AND/OR WIRING IS NOT INDICATED FOR EQUIPMENT, DEVICES OR APPLIANCES THE ARRANGEMENT, GROUPING, AND ROUTING SHALL BE PROVIDED IN ACCORDANCE WITH THE 2014 EDITION OF THE NATIONAL ELECTRICAL CODE AND THE 2013 EDITION OF THE NATIONAL FIRE ALARM CODE.
 - ALL CONDUIT PENETRATIONS THROUGH WALLS AND CEILINGS SHALL BE 2-HOUR FIRESTOPPED IN ACCORDANCE WITH THE FIRESTOP DETAILS SHOWN ON DRAWING E-2.
 - RACEWAYS SHALL BE EMT, RED IN COLOR, AND WITH COMPRESSION TYPE FITTINGS UNLESS NOTED OR DETAILED OTHERWISE. SIZE RACEWAYS FOR MAXIMUM OF 40% FILL PER THE NATIONAL ELECTRICAL CODE. CONCEAL RACEWAYS IN WALLS AND ABOVE DROP CEILINGS WHERE APPLICABLE. RACEWAYS MAY BE MOUNTED EXPOSED ON WALLS AND CEILINGS WHERE WALLS AND/OR CEILINGS ARE NOT ACCESSIBLE FOR CONCEALMENT.
 - CUT-IN BACKBOXES OF DETECTION DEVICES AND NOTIFICATION APPLIANCES INTO EXISTING WALLS, CEILINGS, AND MOLDINGS IN ORDER TO ACHIEVE A SEMI-FLUSH INSTALLATION. PROVIDE THE DEVICE MANUFACTURER'S CUSTOM SURFACE BACKBOX FOR NOTIFICATION DEVICES (AUDIBLE-ONLY, VISIBLE-ONLY AND COMBINATION SPEAKER/STROBES), FOR DETECTORS, AND FOR PULL STATIONS WHERE THEY CANNOT BE SEMI-FLUSH MOUNTED IN WALLS OR CEILINGS (WHERE CONCRETE IS ENCOUNTERED). PROVIDE WIREMOLD #700 RACEWAY AND #700 ENTRANCE END FITTINGS TO ADAPT THE BACKBOX'S RACEWAY NOCK-OUTS TO THE #700 SURFACE RACEWAY WHERE WIREMOLD IS INDICATED TO BE PROVIDED ON PLAN OR SHOWN IN INSTALLATION DETAILS ON THIS DRAWING.
 - PROVIDE FIRE ALARM SYSTEM CABLES/WIRING AS RECOMMENDED BY THE FIRE ALARM SYSTEM MANUFACTURER. CABLES/WIRES SHALL BE SIZED TO ACCOMMODATE VOLTAGE DROP.
 - SPLICING: CONNECT CONDUCTORS ASSOCIATED WITH THE FIRE ALARM SYSTEM THAT ARE TERMINATED, SPLICED, OR INTERRUPTED TO TERMINAL BLOCKS. MARK EACH TERMINAL IN ACCORDANCE WITH THE WIRING DIAGRAMS OF THE SYSTEM. MAKE ALL CONNECTIONS WITH APPROVED CRIMP-ON TERMINAL SPADE LUGS, PRESSURE-TYPE TERMINAL BLOCKS, OR PLUG CONNECTORS. SOLDER AND/OR WIRE NUTS SHALL NOT BE USED. PROVIDE GREENLITE CABLE ACCESSORY CORPORATION (GTB-SERIES, BREAKOFF TYPE TERMINAL BLOCKS OR PRIOR APPROVED EQUAL (PHONE: 626-575-6263).
 - INSTALL SMOKE AND HEAT DETECTORS IN ACCORDANCE WITH THEIR U.L. LISTED SPACINGS AND IN ACCORDANCE WITH NFPA 72.
 - COORDINATE AND PERFORM TESTING OF FIRE ALARM AND FIRE REPORTING SYSTEMS WITH USC'S SUPERVISING MONITORING STATION AS REQUIRED BY THE UNIVERSITY.
 - COORDINATE ALL REQUIRED OUTAGES TO EXISTING ELECTRICAL SERVICES AND THE EXISTING FIRE ALARM SYSTEM WITH DENNIS GALLAGHER OF USC MAINTENANCE (PHONE NUMBER 917-0340) AND TODD GRIFFIN OF USC HEALTH & SAFETY (PHONE NUMBER 212-8775).
 - INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH EXISTING DUCTS, PIPES, FIXTURES, STRUCTURAL MEMBERS, OR OTHER EXISTING BUILDING COMPONENTS. RACEWAY, EQUIPMENT, DEVICE AND APPLIANCE LOCATIONS INDICATED ON PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL LOCATE EQUIPMENT, DEVICES AND APPLIANCES SO AS NOT TO INTERFERE WITH EXISTING CEILING AND WALL MOUNTED EQUIPMENT, FIXTURES, AND DEVICES. MAINTAIN U.L. LISTED SPACINGS FOR FIRE ALARM SYSTEM DETECTION DEVICES AND NOTIFICATION APPLIANCES WHEN DETERMINING THEIR EXACT MOUNTING LOCATION. RACEWAY ROUTINGS SHOWN ON PLANS ARE TO BE USED TO DEVELOP SHOP DRAWINGS FOR FIRE ALARM SYSTEM CABLING REQUIREMENTS. RECORD DRAWINGS SHALL INDICATE ACTUAL RACEWAY ROUTINGS, INCLUDING RISER CONDUIT ROUTINGS.
 - CUTTING, DRILLING, AND PATCHING: PROVIDE CHASES, SLOTS, AND OPENINGS IN EXISTING BUILDING COMPONENTS TO ALLOW FOR ELECTRICAL INSTALLATIONS. PERFORM CUTTING, DRILLING, FITTING, AND PATCHING REQUIRED TO:
 - INSTALL EQUIPMENT, DETECTION DEVICES, NOTIFICATION APPLIANCES, MATERIALS, AND RACEWAYS IN EXISTING STRUCTURES.
 - REMOVE AND REPLACE DEFECTIVE WORK THAT DOES NOT CONFORM TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 - UPON WRITTEN INSTRUCTIONS FROM THE ARCHITECT/ENGINEER, UNCOVER AND RESTORE WORK TO PROVIDE FOR ARCHITECT/ENGINEER OBSERVATION OF CONCEALED WORK.
- PROTECT EXISTING STRUCTURES, FURNISHINGS, FINISHES, MECHANICAL SYSTEMS, AND ELECTRICAL SYSTEMS WHILE PERFORMING CUTTING, DRILLING, FITTING, AND PATCHING.
- PATCH AND PAINT EXISTING SURFACES AND BUILDING COMPONENTS DAMAGED BY CUTTING AND DRILLING USING NEW MATERIALS THAT MATCH EXISTING MATERIALS. PATCHING AND PAINTING SHALL BE PERFORMED BY EXPERIENCED INSTALLERS. COORDINATE WITH THE OWNER TO VERIFY THE MANUFACTURER, TYPE, AND COLOR OF PAINT TO BE USED. APPLY TWO COATS OF PAINT TO EACH AREA THAT REQUIRES PATCHING/PAINTING.
- PATCH AND PAINT EXISTING SURFACES AND BUILDING COMPONENTS EXPOSED BY THE REMOVAL OF EXISTING EQUIPMENT, DEVICES, AND RACEWAYS USING NEW MATERIALS THAT MATCH EXISTING MATERIALS (NOTE THAT WHERE SURFACE MOUNTED RACEWAYS ARE REMOVED THAT THE EXISTING SURFACES BEHIND THE RACEWAYS SHALL BE PAINTED/REPAINTED. PATCHING AND PAINTING SHALL BE PERFORMED BY EXPERIENCED INSTALLERS. COORDINATE WITH THE OWNER TO VERIFY THE MANUFACTURER, TYPE, AND COLOR OF PAINT TO BE USED. APPLY TWO COATS OF PAINT TO EACH AREA THAT REQUIRES PATCHING AND/OR PAINTING.

GENERAL DEMOLITION NOTES

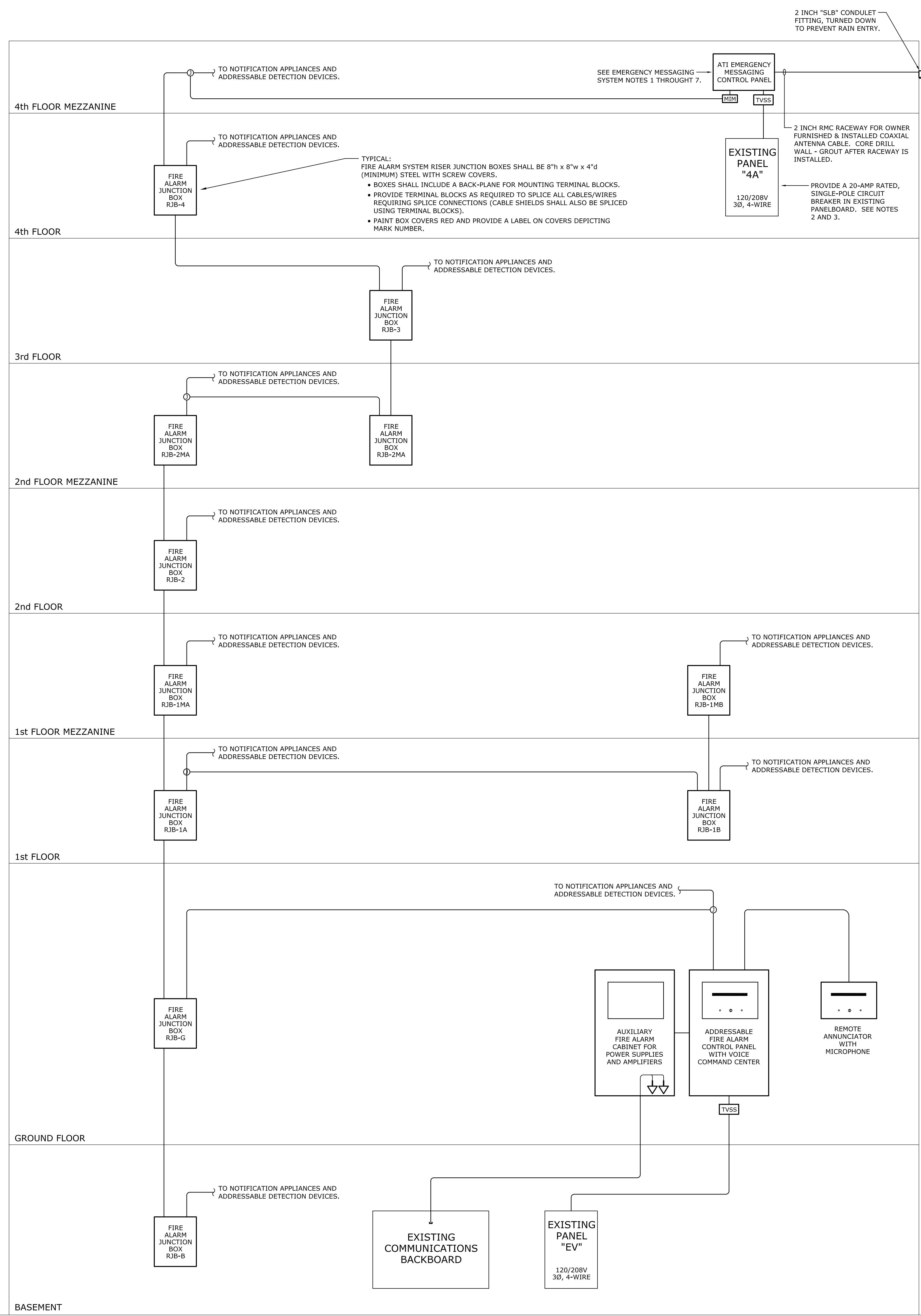
- THE NEW FIRE ALARM SYSTEM SHALL BE FULLY INSTALLED AND TESTED PRIOR TO DEMOLITION OF THE EXISTING FIRE ALARM SYSTEM.
- REMOVE ALL EXISTING FIRE ALARM SYSTEM EQUIPMENT, DEVICES, AND ALL ASSOCIATED RACEWAYS AND WIRING - CONTRACTOR SHALL TURN OVER EXISTING FIRE ALARM SYSTEM PANELS, DETECTION DEVICES, AND NOTIFICATION DEVICES TO THE USC FIRE MARSHAL (TODD GRIFFIN). INTENT OF THIS CONTRACT IS FOR THE CONTRACTOR TO DEMOLISH ALL EXISTING FIRE ALARM SYSTEM COMPONENTS AND ALL ASSOCIATED RACEWAYS AND WIRING SYSTEMS IN AND ON THE BUILDING, UNLESS SPECIFICALLY NOTED OTHERWISE.
- THE CONTRACTOR SHALL VISIT THE SITE/BUILDING TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND SHALL INCLUDE ALL WORK REQUIRED FOR COMPLETE DEMOLITION IN HIS BID.
- ALL HOLDS AND SURFACES EXPOSED BY THE REMOVAL OF EXISTING EQUIPMENT, DEVICES, APPLIANCES, AND RACEWAYS SHALL BE PATCHED AND PAINTED TO MATCH SURROUNDING FINISHES. SEE GENERAL CONSTRUCTION NOTE 12 ON THIS DRAWING.
- SEE DEMOLITION LEGEND ON DRAWING E-9.

ELECTRICAL LEGEND

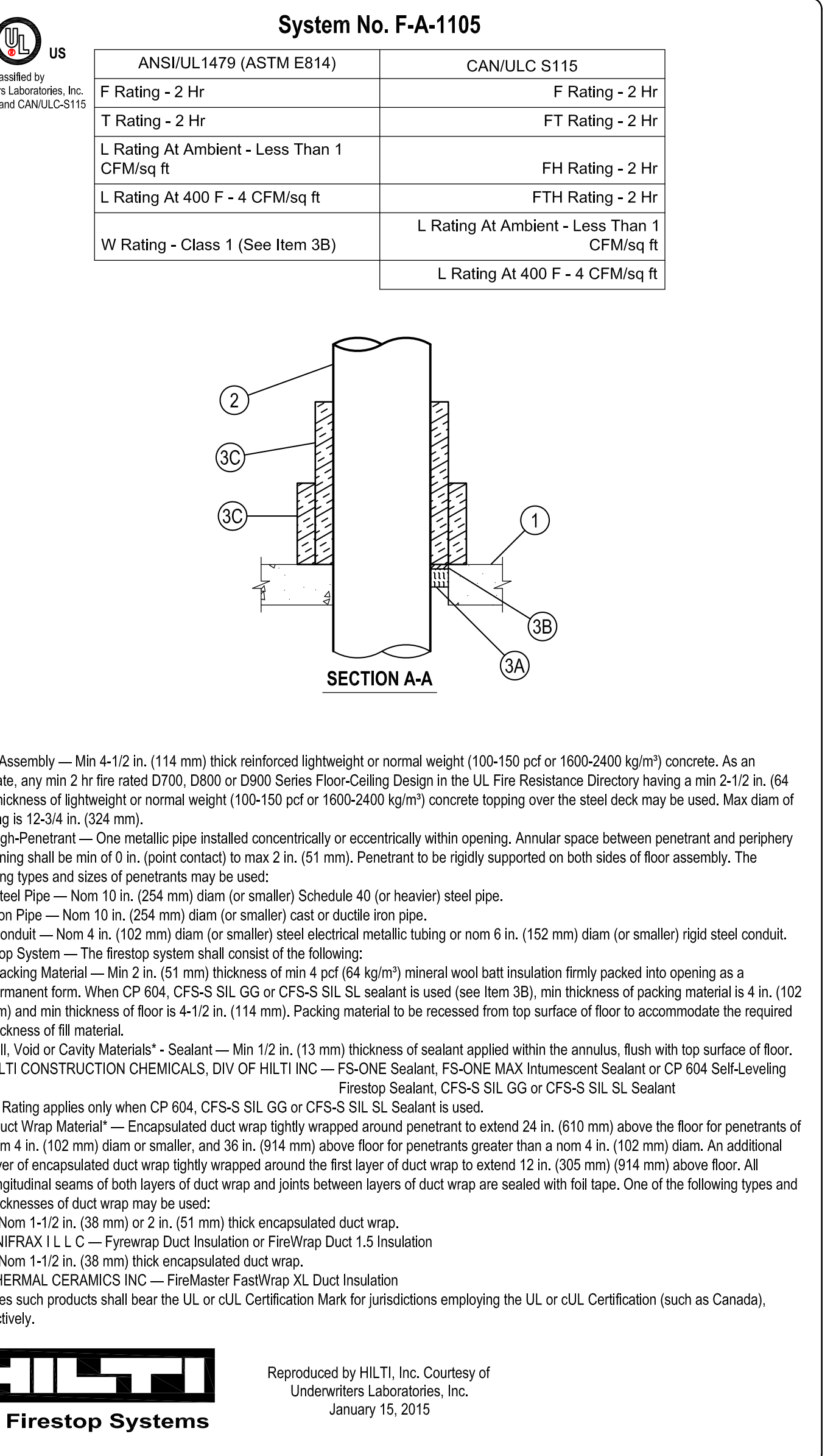
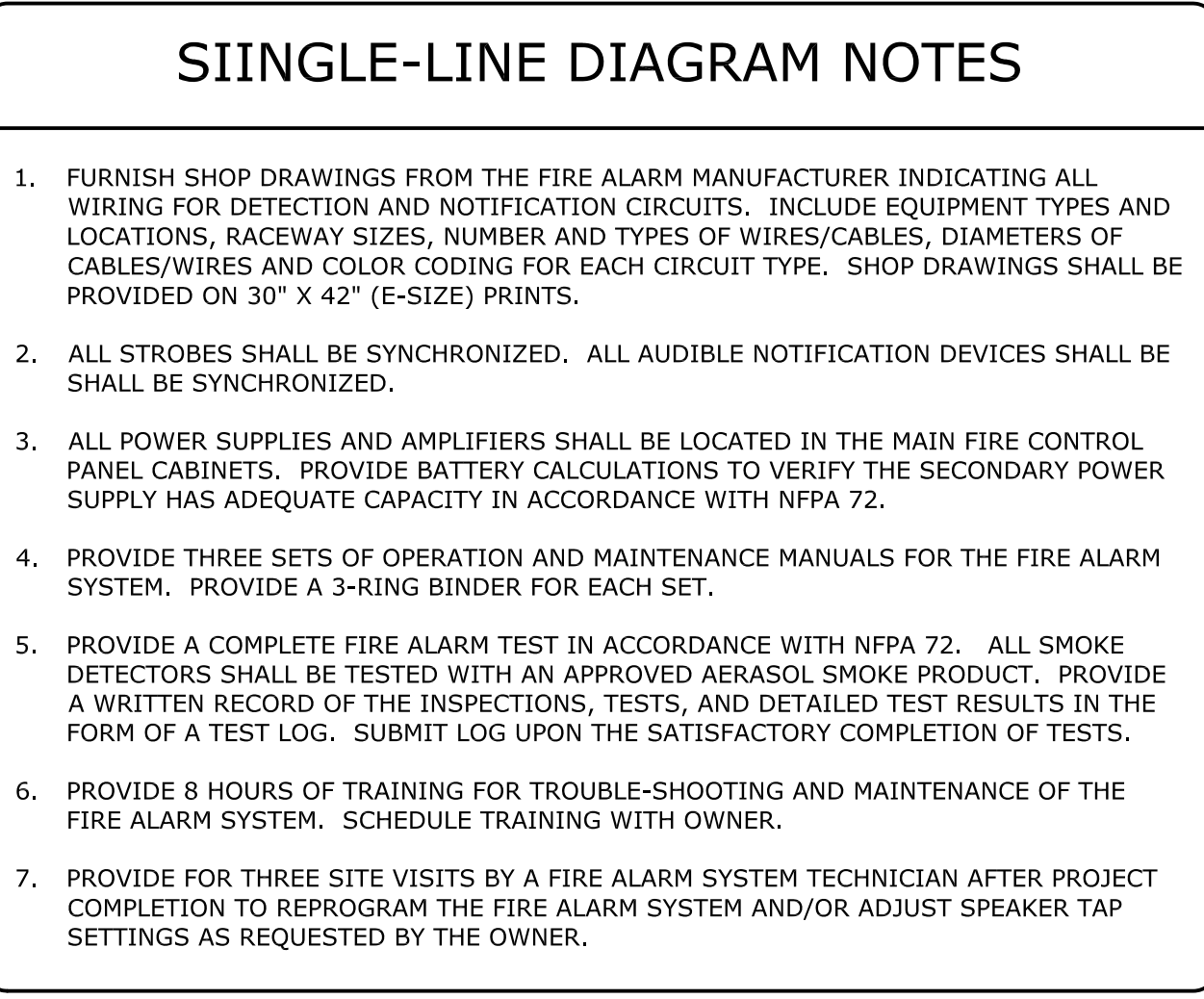
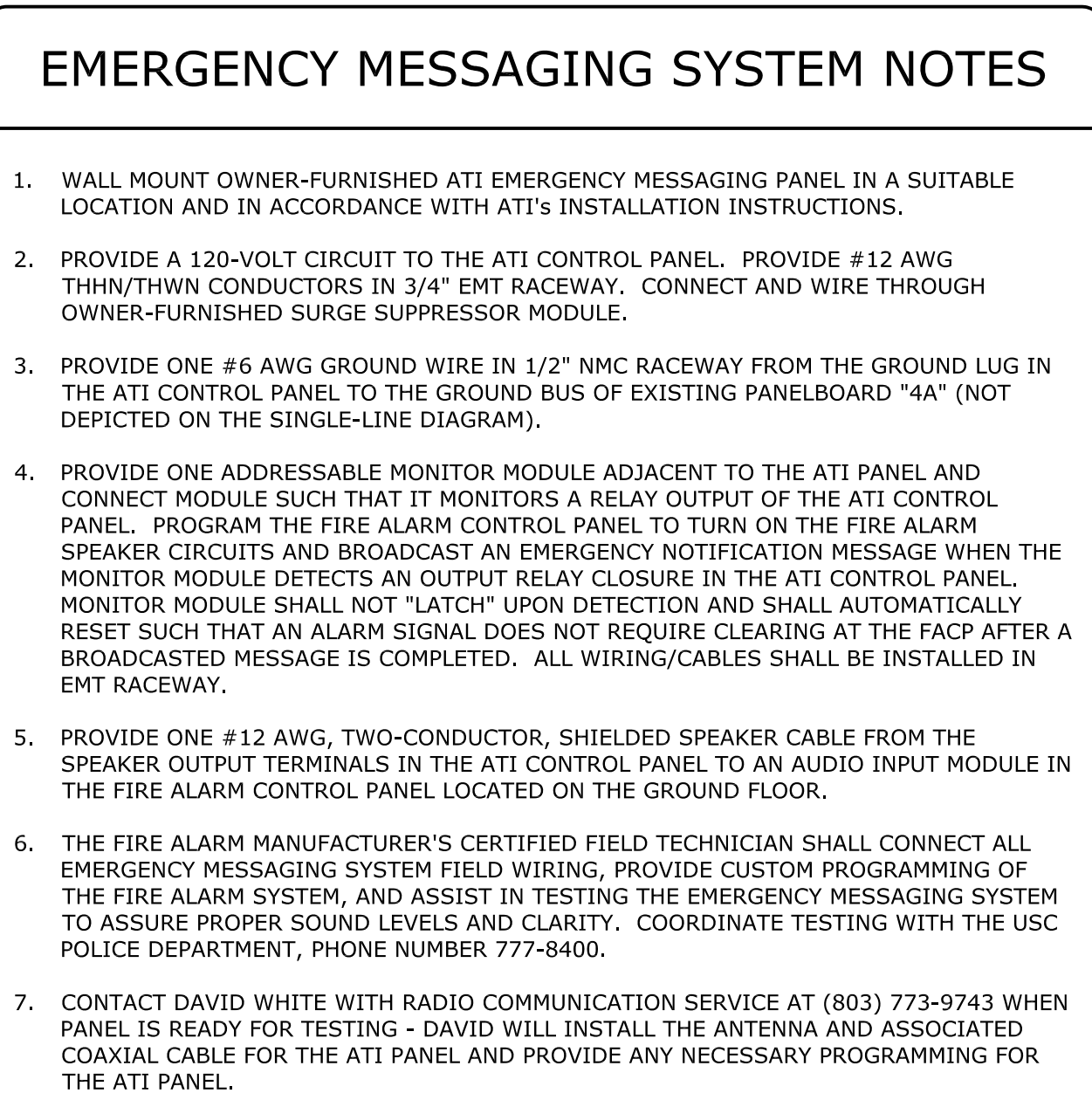
	SURFACE MOUNTED ELECTRICAL PANELBOARD (EXISTING).
	SURFACE MOUNTED CONTROL PANEL, TYPE AS NOTED ON PLAN.
	FLUSH MOUNTED CONTROL PANEL, TYPE AS NOTED ON PLAN.
	RJ-31X COMMUNICATIONS PHONE JACK. MOUNT IN FIRE ALARM CABINET.
	FIRE ALARM SYSTEM ADDRESSABLE MONITOR INTERFACE MODULE WITH CLASS "B" TYPE MONITOR WIRING IN ACCORDANCE WITH NFPA 72. MOUNT MODULE IN A STEEL NEMA-1 ENCLOSURE.
	FIRE ALARM SYSTEM ADDRESSABLE RELAY INTERFACE CONTROL MODULE. MOUNT MODULE IN A STEEL NEMA-1 ENCLOSURE.
	ADDRESSABLE FIRE ALARM MANUAL PULL STATION. INSTALL STATION IN ACCORDANCE WITH DETAILS 1, 2, OR 3 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE DETECTOR MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	ADDRESSABLE FIRE ALARM MANUAL PULL STATION - SAME AS DESCRIBED ABOVE EXCEPT STATION AND BACKBOX SHALL BE WEATHERPROOF TYPE.
	ADDRESSABLE PHOTO-ELECTRIC SMOKE DETECTOR, CEILING MOUNTED. INSTALL STATION IN ACCORDANCE WITH DETAILS 4 OR 5 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE DETECTOR MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	ADDRESSABLE PHOTO-ELECTRIC SMOKE DETECTOR, WALL MOUNTED. INSTALL STATION IN ACCORDANCE WITH DETAIL 6 ON THIS DRAWING. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE DETECTOR MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	ADDRESSABLE 135 DEGREE HEAT DETECTOR, FIXED TEMPERATURE ONLY. INSTALL DETECTOR IN ACCORDANCE WITH DETAILS 4 OR 5 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE DETECTOR MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	CONVENTIONAL 135 DEGREE HEAT DETECTOR, FIXED TEMPERATURE ONLY. INSTALL STATION IN ACCORDANCE WITH DETAILS 4 OR 5 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE DETECTOR MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	CONVENTIONAL 200 DEGREE HEAT DETECTOR, FIXED TEMPERATURE ONLY. INSTALL STATION IN ACCORDANCE WITH DETAILS 4 OR 5 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE DETECTOR MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	ADDRESSABLE PHOTO-ELECTRIC DUCT-TYPE SMOKE DETECTOR WITH SAMPLING TUBE. DETECTOR SHALL BE PROPERLY RATED FOR AIR FLOW IN DUCT SYSTEM. MOUNT TO DUCTWORK AND PROVIDE CUSTOM CONTROL WIRING TO SHUTDOWN AIR HANDLING UNIT FAN AND ASSOCIATED DUCT HEATERS (WHERE APPLICABLE). MODIFY EXISTING DUCT INSULATION AS REQUIRED TO INSTALL DETECTOR. PROVIDE DETECTOR MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	ADDRESSABLE PHOTO-ELECTRIC DUCT-TYPE SMOKE DETECTOR, SAME AS DESCRIBED ABOVE EXCEPT DETECTOR SHALL HAVE A WEATHER-PROOF ENCLOSURE.
	REMOTE TEST AND INDICATING STATION FOR DUCT-TYPE SMOKE DETECTORS. WALL MOUNT STATION AT 60 INCHES ABOVE FINISHED FLOOR.
	AUDIBLE (SPEAKER) NOTIFICATION APPLIANCE, CEILING MOUNTED. INSTALL APPLIANCE IN ACCORDANCE WITH DETAILS 4 OR 5 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	AUDIBLE (SPEAKER) NOTIFICATION APPLIANCE, WALL MOUNTED. INSTALL APPLIANCE IN ACCORDANCE WITH DETAIL 6 ON THIS DRAWING. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED.
	VISIBLE (STROBE) NOTIFICATION APPLIANCE, CEILING MOUNTED. INSTALL APPLIANCE IN ACCORDANCE WITH DETAILS 4 OR 5 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED. PROVIDE APPLIANCE WITH STROBE CANDELA RATING NOTED ON PLAN.
	VISIBLE (STROBE) NOTIFICATION APPLIANCE, WALL MOUNTED. INSTALL APPLIANCE IN ACCORDANCE WITH DETAIL 6 ON THIS DRAWING. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED. PROVIDE APPLIANCE WITH STROBE CANDELA RATING NOTED ON PLAN.
	COMBINATION AUDIBLE/VISIBLE (SPEAKER & STROBE) NOTIFICATION APPLIANCE, CEILING MOUNTED. INSTALL APPLIANCE IN ACCORDANCE WITH DETAILS 4 OR 5 ON THIS DRAWING, AS APPLICABLE TO BUILDING CONDITIONS. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED. PROVIDE APPLIANCE WITH STROBE CANDELA RATING NOTED ON PLAN.
	COMBINATION AUDIBLE/VISIBLE (SPEAKER & STROBE) NOTIFICATION APPLIANCE, SAME AS DESCRIBED ABOVE EXCEPT DEVICE SHALL BE WALL MOUNT TYPE. INSTALL APPLIANCE IN ACCORDANCE WITH DETAIL 6 ON THIS DRAWING. SEE GENERAL CONSTRUCTION NOTE 5 ON THIS DRAWING. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE CONCRETE IS ENCOUNTERED. PROVIDE APPLIANCE WITH STROBE CANDELA RATING NOTED ON PLAN.
	COMBINATION AUDIBLE/VISIBLE (SPEAKER & STROBE) NOTIFICATION APPLIANCE, SAME AS WALL-MOUNT TYPE DESCRIBED ABOVE EXCEPT DEVICE SHALL BE WEATHERPROOF. PROVIDE A CUSTOM, GASKETED CAST-METAL BACKBOX TO SURFACE MOUNT APPLIANCE ON WALL.
	STEEL JUNCTION BOX WITH COVER, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. MOUNT ABOVE ACCESSIBLE CEILINGS WHERE APPLICABLE. FLUSH MOUNT IN NON-ACCESSIBLE CEILINGS WHERE APPLICABLE.
	STEEL WIREMOLD BOX WITH BLANK COVER, SURFACE MOUNTED ON CEILING.
	STEEL JUNCTION BOX WITH COVER, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, WALL MOUNTED.
	STEEL WIREMOLD BOX WITH BLANK COVER, SURFACE MOUNTED ON WALL.
	EMT RACEWAY WITH COMPRESSION TYPE FITTINGS, RED IN COLOR. INSTALL RACEWAYS CONCEALED IN WALLS AND ABOVE CEILINGS, AS APPLICABLE. INSTALL HORIZONTAL RACEWAYS TIGHT TO STRUCTURAL CEILINGS. RACEWAYS MAY BE INSTALLED EXPOSED ON WALLS AND CEILINGS IN EQUIPMENT ROOMS AND IN ROOMS WHERE CEILINGS ARE NOT ACCESSIBLE.
	WIREMOLD SURFACE METAL RACEWAY. PROVIDE ALL TRANSITION FITTINGS REQUIRED FOR HORIZONTAL AND VERTICAL TRANSITIONS AND AS REQUIRED TO PROPERLY INTERFACE WITH FIRE ALARM DEVICE BACKBOXES.



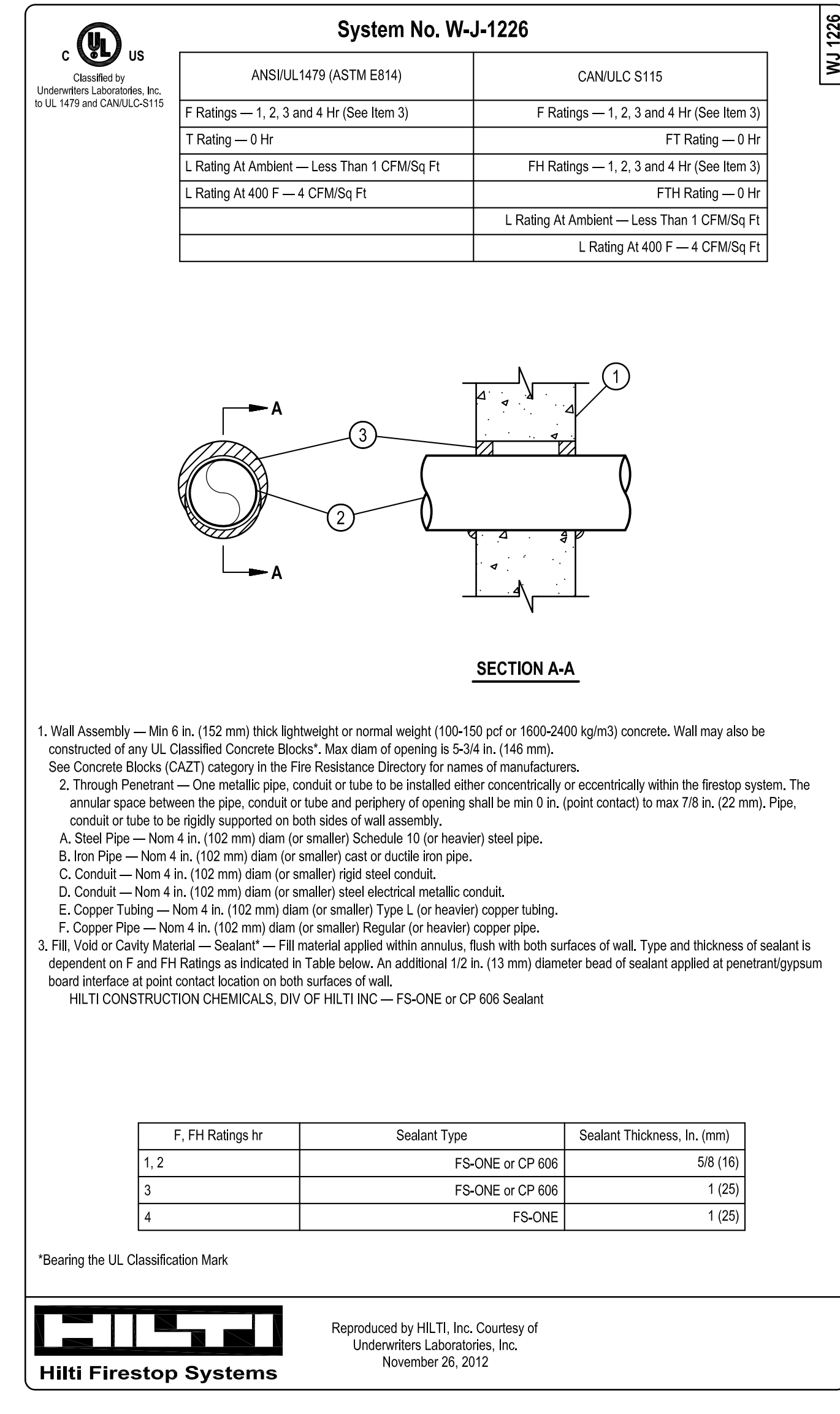
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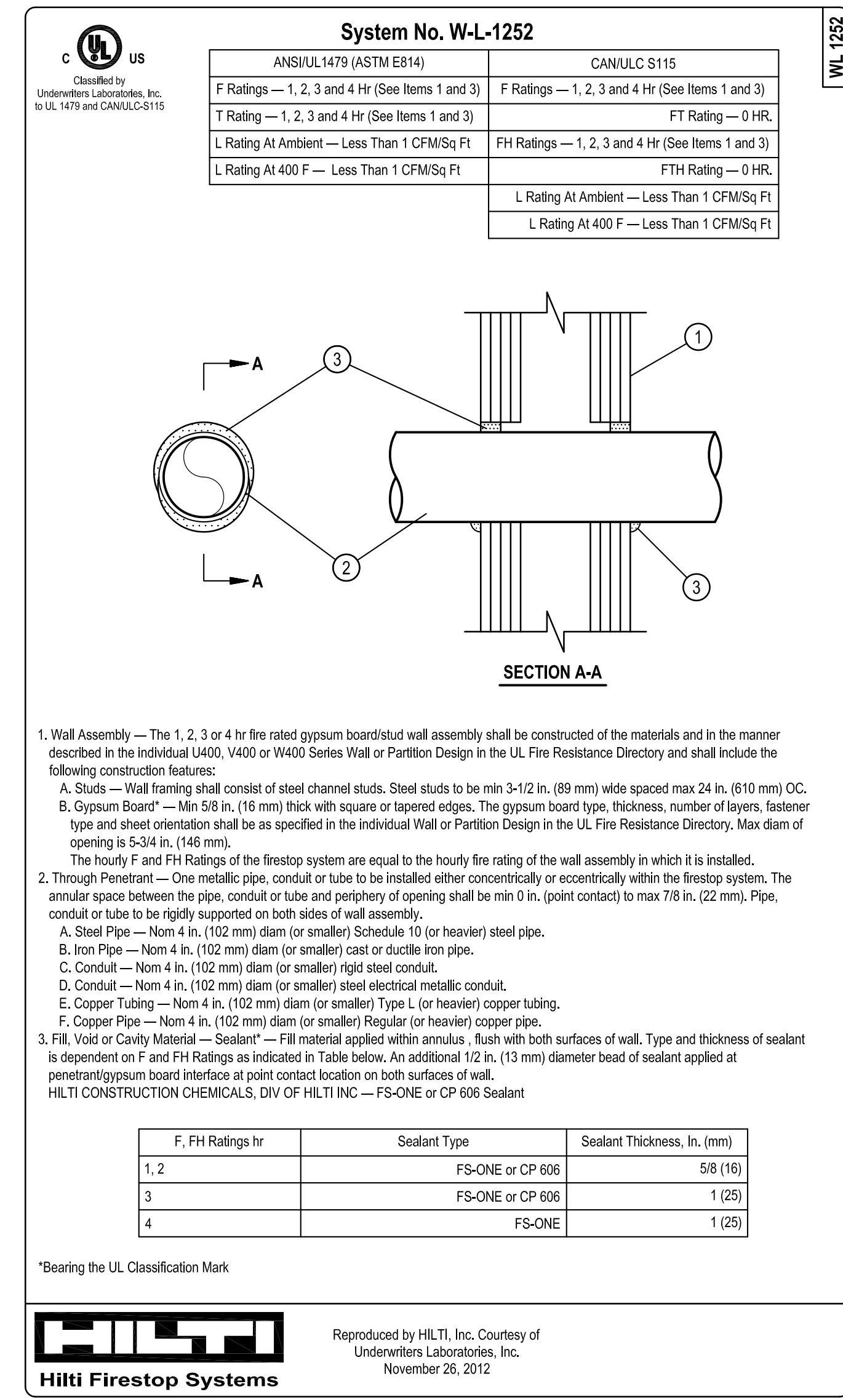
1 FIRE ALARM SYSTEM SINGLE-LINE DIAGRAM
E-2 NOT TO SCALE



2 FIRESTOP DETAIL - FLOOR/RISER
E-2 NOT TO SCALE



4 FIRESTOP DETAIL - CONCRETE
E-2 NOT TO SCALE



3 FIRESTOP DETAIL - STUD WALLS
E-2 NOT TO SCALE

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CERTIFIED PROFESSIONAL ENGINEER
No. 19005
08/27/16
SC 04-4406

SEAL: **HILTI**
HilTI Firestop Systems
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 26, 2012

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PROJECT TITLE: **McKISSICK FIRE ALARM REPLACEMENT**
State Project No. H27-1851A

University of South Carolina

SHEET: **E-2**
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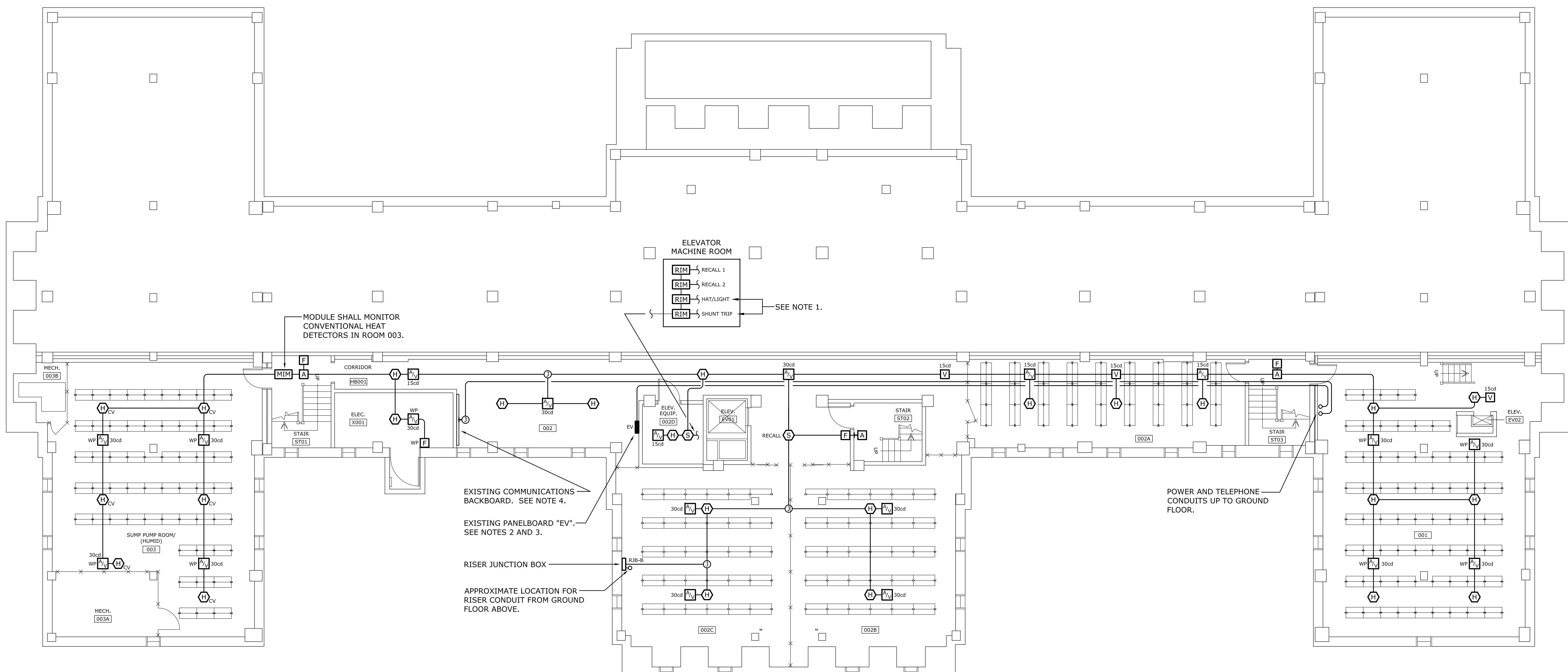
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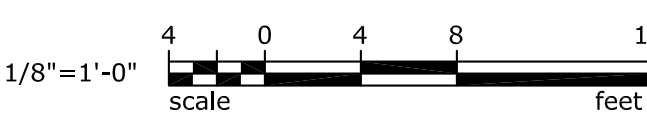
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4 OF 15
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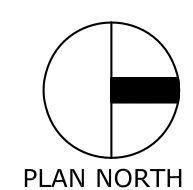
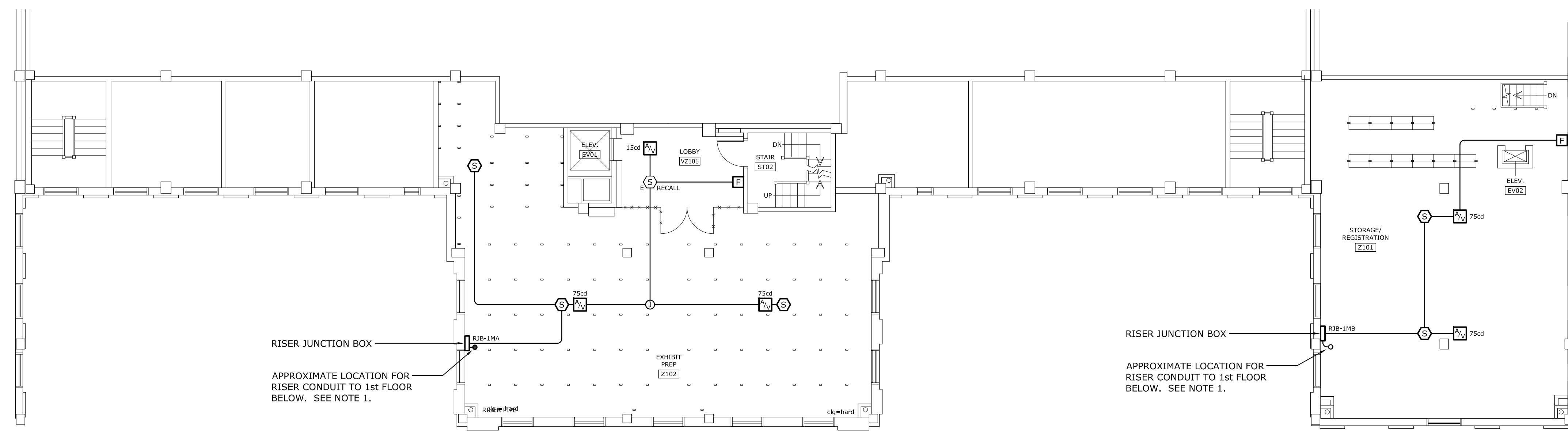
- ELEVATOR: THE EXISTING ELEVATOR AND ASSOCIATED CONTROLLER DO NOT CURRENTLY HAVE PROVISIONS FOR CONNECTION OF HAT/LIGHT INDICATOR IN ELEVATOR CAB AND SHUNT-TRIP FOR POWER DISCONNECT. THESE FEATURES WILL BE ADDED UNDER A FUTURE PROJECT. PROVIDE PROGRAMMING FOR ELEVATOR RECALL IN ACCORDANCE WITH ANSI 17.1 AND LTR REQUIREMENTS.
- PROVIDE 120 VOLT, 20-AMP RATED CIRCUITS FROM PANELBOARD "EV" TO NEW FIRE ALARM CONTROL PANELS ON THE GROUND FLOOR (NUMBER OF CIRCUITS AS DETERMINED BY THE FIRE ALARM SYSTEM MANUFACTURER). CIRCUITS SHALL BE TWO #12 AWG THHN COPPER CONDUCTORS WITH ONE GREEN INSULATED #12 AWG COPPER GROUND WIRE (CIRCUITS SHALL HAVE DEDICATED NEUTRAL AND GROUND CONDUCTORS). CIRCUITS SHALL BE PROVIDED IN EMT RACEWAY WITH COMPRESSION FITTINGS; 3/4" MINIMUM SIZE.
- EXISTING PANELBOARD IS A SQUARE-D #NQ0D430L225. PROVIDE 20-AMP RATED, SINGLE-POLE CIRCUIT BREAKERS IN BLANK SPACES OF PANELBOARD - NUMBER AS DETERMINED BY THE FIRE ALARM SYSTEM MANUFACTURER. UPDATE LOAD SCHEDULE TO REFLECT ADDED LOADS. PAINT CIRCUIT BREAKER HANDLES "RED".
- PROVIDE ONE 1" EMT RACEWAY WITH TWO CATEGORY-6 DATA COMMUNICATIONS CABLES FROM EXISTING COMMUNICATIONS BACKBOARD TO FIRE ALARM PANELS ON THE GROUND FLOOR. TERMINATE CABLES TO RJ-31X JACKS AT THE FIRE ALARM PANEL. TERMINATE CABLES TO THE COMMUNICATIONS BACKBOARD INFRASTRUCTURE AS DIRECTED BY USC/OWNER.



1 BASEMENT FIRE ALARM RENOVATION PLAN
SCALE: 1/8" = 1'-0"



State Project No. H27-1851A



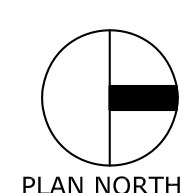
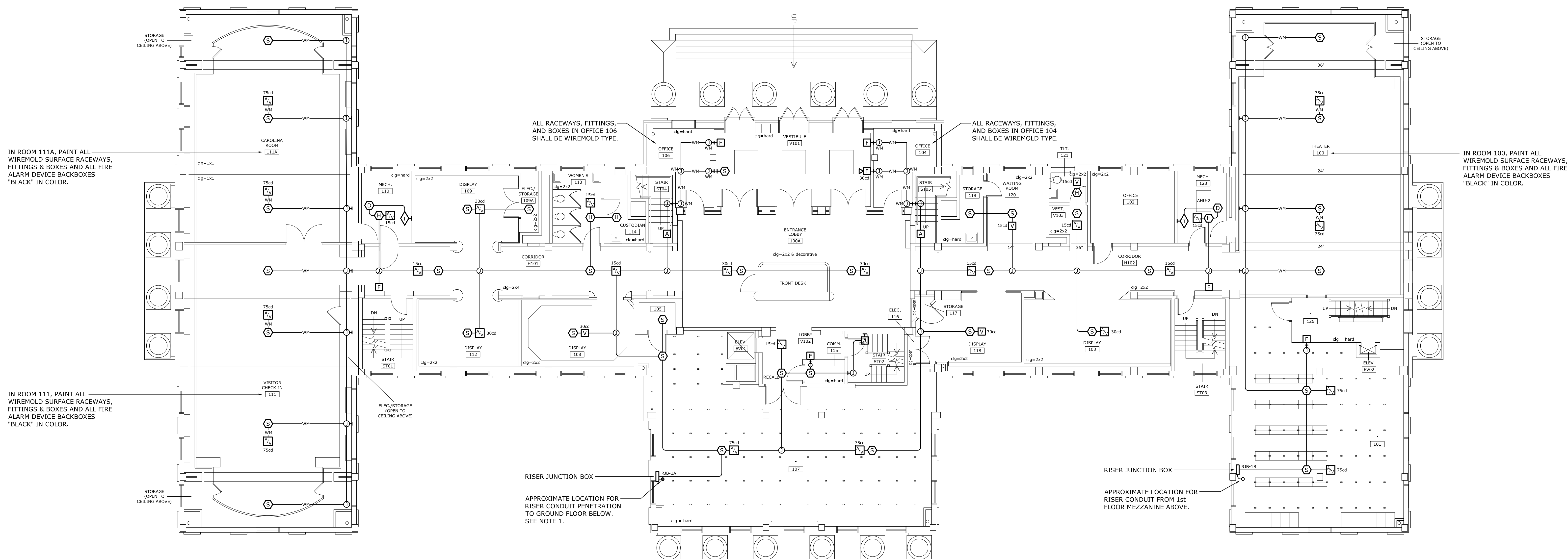
2
E-5

FIRST FLOOR MEZZANINE FIRE ALARM RENOVATION PLAN

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

NOTES

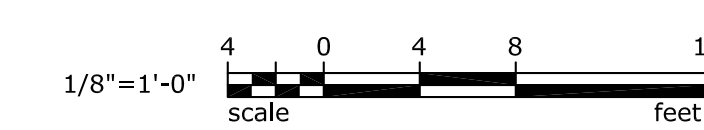
1. PROCURE THE SERVICES OF PENHALL TECHNOLOGIES TO LOCATE AN AREA ON THE FLOOR WHERE HAMMER- OR CORE-DRILLING CAN BE PERFORMED WITHOUT CUTTING INTO EXISTING PIPES, CONDUITS AND REBAR IN ORDER TO INSTALL ALL RISER RACEWAYS. METHOD USED MAY EITHER BE GROUND PENETRATING RADAR (GPR) OR X-RAY, AS RECOMMENDED BY PENHALL. PENHALL CAN BE CONTACTED AT (803) 349-3259, AND IS LOCATED AT 2208 MEMORIAL DRIVE - CAYCE, SOUTH CAROLINA, 29033. PERFORM HAMMER- OR CORE-DRILLING WHERE DIRECTED BY PENHALL - IF CORE DRILLING IS UTILIZED, IT SHALL BE PERFORMED WITH A DRY BORING METHOD.



1
E-5

FIRST FLOOR FIRE ALARM RENOVATION PLAN

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

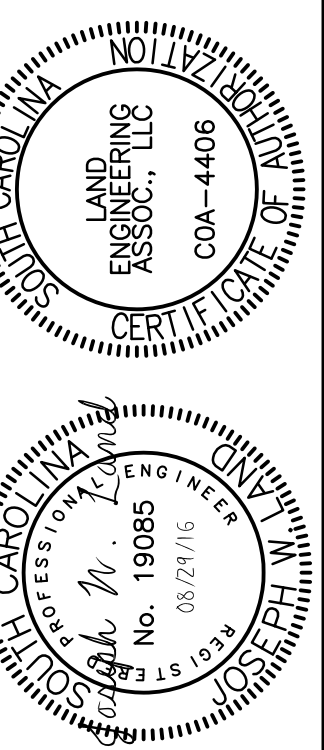


State Project No. H27-1851A

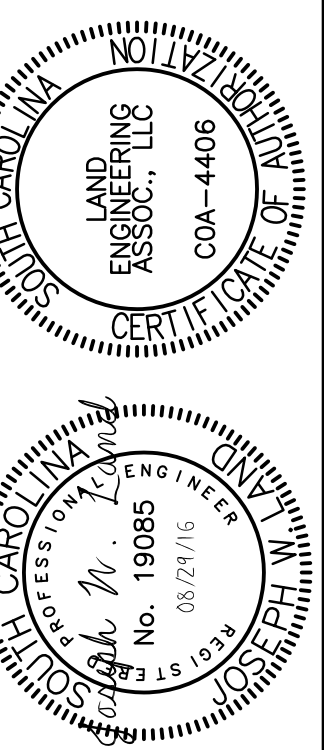
PROJECT TITLE:	McKISSICK FIRE ALARM REPLACEMENT
SHEET:	E-5
CHECKED BY:	JWL
DATE:	29AUG16
DRAWN BY:	KJU
DATE:	
ORIG. BY:	
DATE:	
DESCRIPTION:	
BUILDING:	015
REV:	

OFFICE OF
FACILITIES MANAGEMENT
COLUMBIA, SC 29208

48C-2015-13
LEA LAND ENGINEERING ASSOCIATES, LLC
262 SANDHURST ROAD, SUITE 101
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Joe.Land.LEA@scrr.com



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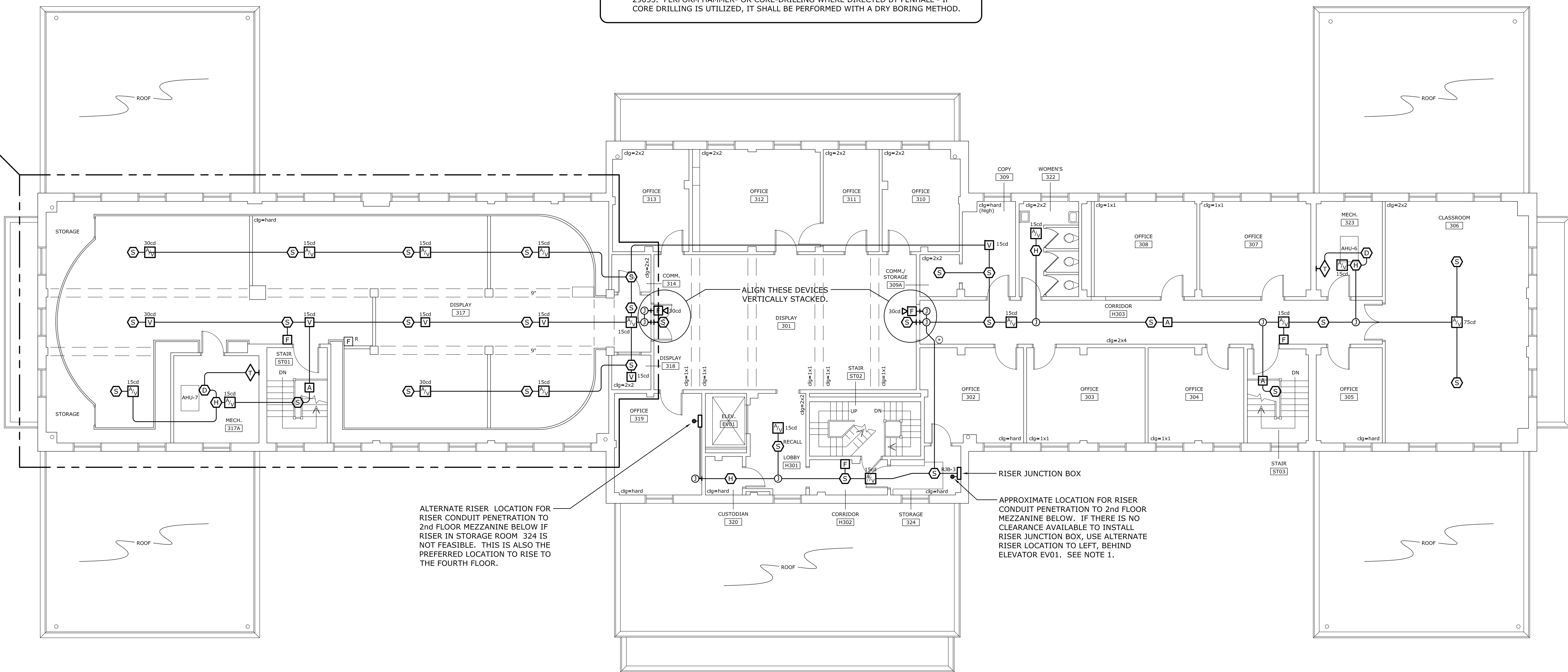
REV.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
015	29 AUG 16		KUJ	JWL

State Project No. H27-1851A

NOTES

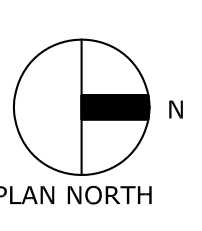
1. PROCURE THE SERVICES OF PENHALL TECHNOLOGIES TO LOCATE AN AREA ON THE FLOOR WHERE HAMMER- OR CORE-DRILLING CAN BE PERFORMED WITHOUT CUTTING INTO EXISTING PIPES, CONDUITS AND REBAR IN ORDER TO INSTALL ALL RISER RACEWAYS. METHOD USED MAY EITHER BE GROUND PENETRATING RADAR (GPR) OR X-RAY, AS RECOMMENDED BY PENHALL. PENHALL CAN BE CONTACTED AT (803) 349-3259, AND IS LOCATED AT 2208 MEMORIAL DRIVE - CAYCE, SOUTH CAROLINA, 29033. PERFORM HAMMER- OR CORE-DRILLING WHERE DIRECTED BY PENHALL. IF CORE DRILLING IS UTILIZED, IT SHALL BE PERFORMED WITH A DRY BORING METHOD.

IN THIS AREA, PAINT ALL EXPOSED RACEWAYS, FITTINGS & BOXES AND ALL FIRE ALARM DEVICE BACKBOXES "BLACK" IN COLOR.

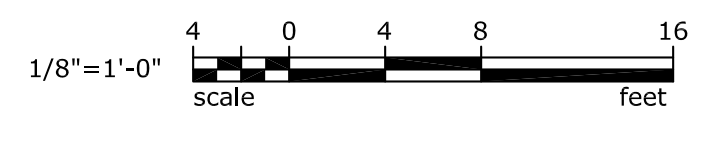


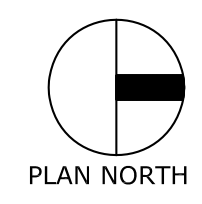
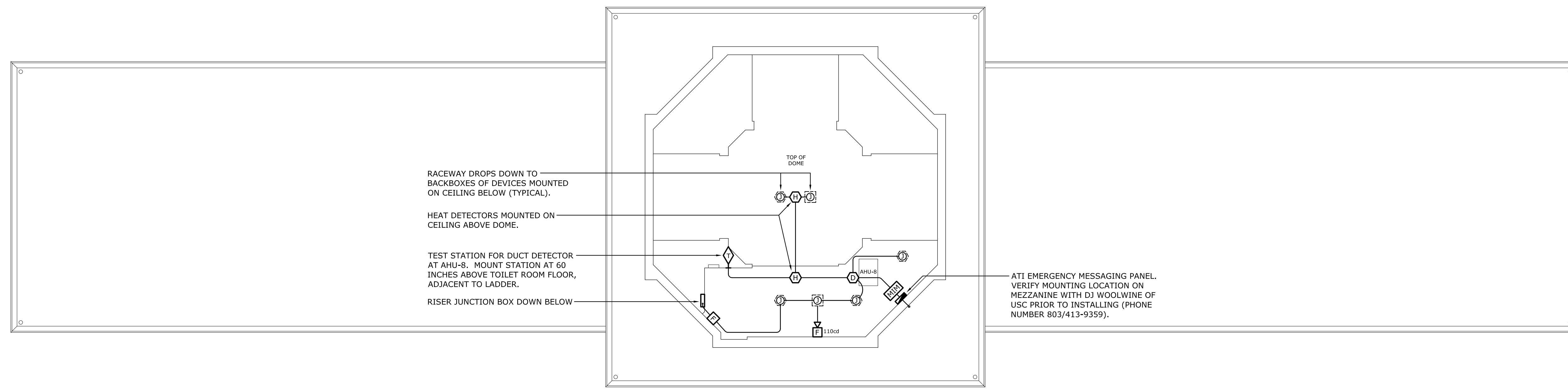
ALTERNATE RISER LOCATION FOR RISER CONDUIT PENETRATION TO 2ND FLOOR MEZZANINE BELOW IF RISER IN STORAGE ROOM 324 IS NOT FEASIBLE. THIS IS ALSO THE PREFERRED LOCATION TO RISE TO THE FOURTH FLOOR.

APPROXIMATE LOCATION FOR RISER CONDUIT PENETRATION TO 2ND FLOOR MEZZANINE BELOW. IF THERE IS NO CLEARANCE AVAILABLE TO INSTALL RISER JUNCTION BOX, USE ALTERNATE RISER LOCATION TO LEFT, BEHIND ELEVATOR EV01. SEE NOTE 1.



1 THIRD FLOOR FIRE ALARM RENOVATION PLAN
E-7 SCALE: 1/8" = 1'-0"





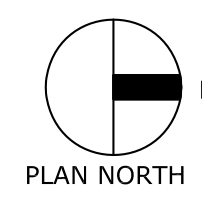
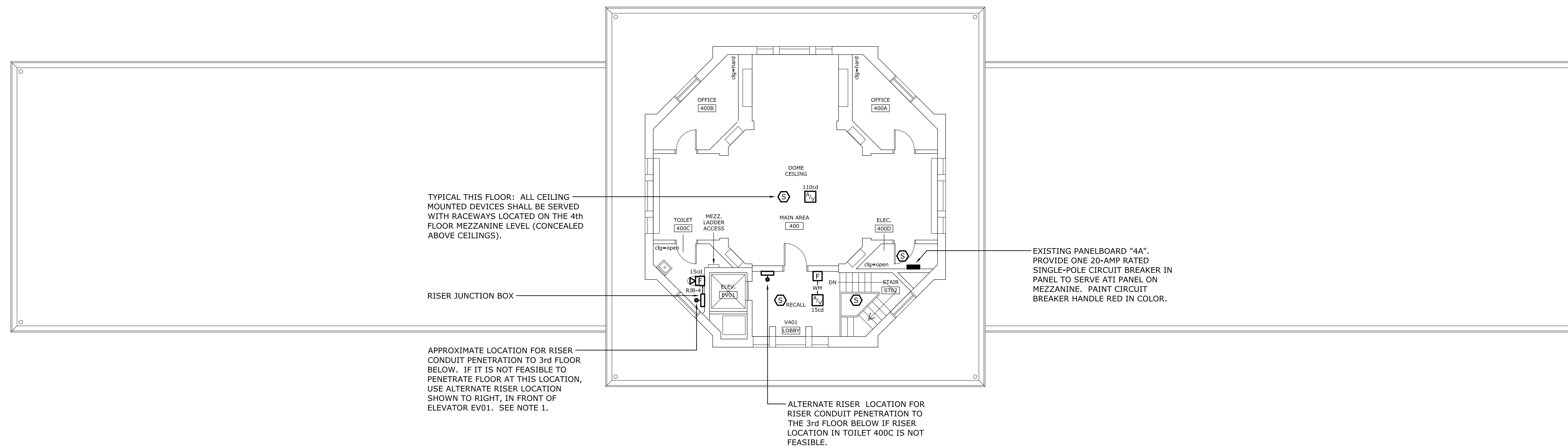
2
E-8

FOURTH FLOOR MEZZANINE FIRE ALARM RENOVATION PLAN

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

NOTES

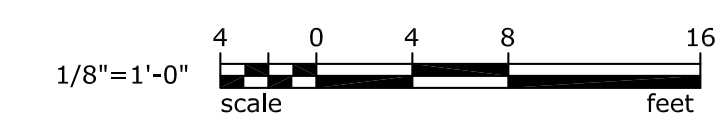
1. PROCURE THE SERVICES OF PENHALL TECHNOLOGIES TO LOCATE AN AREA ON THE FLOOR WHERE HAMMER- OR CORE-DRILLING CAN BE PERFORMED WITHOUT CUTTING INTO EXISTING PIPES, CONDUITS AND REBAR IN ORDER TO INSTALL ALL RISER RACEWAYS. METHOD USED MAY EITHER BE GROUND PENETRATING RADAR (GPR) OR X-RAY, AS RECOMMENDED BY PENHALL. PENHALL CAN BE CONTACTED AT (803) 349-3259, AND IS LOCATED AT 2208 MEMORIAL DRIVE - CAYCE, SOUTH CAROLINA, 29033. PERFORM HAMMER- OR CORE-DRILLING WHERE DIRECTED BY PENHALL - IF CORE DRILLING IS UTILIZED, IT SHALL BE PERFORMED WITH A DRY BORING METHOD.



1
E-8

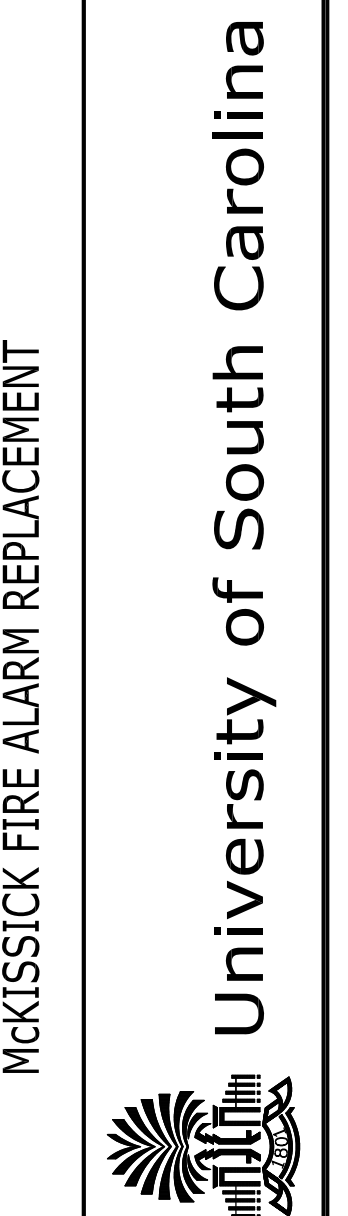
FOURTH FLOOR FIRE ALARM RENOVATION PLAN

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



State Project No. H27-1851A

PROJECT TITLE: MCKISSICK FIRE ALARM REPLACEMENT



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SHEET:

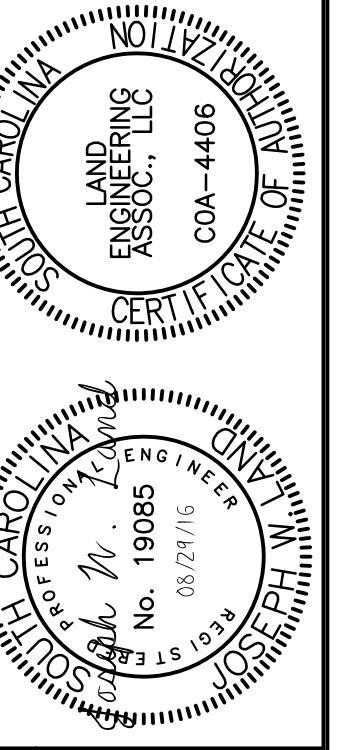
F-8

9 OF 15

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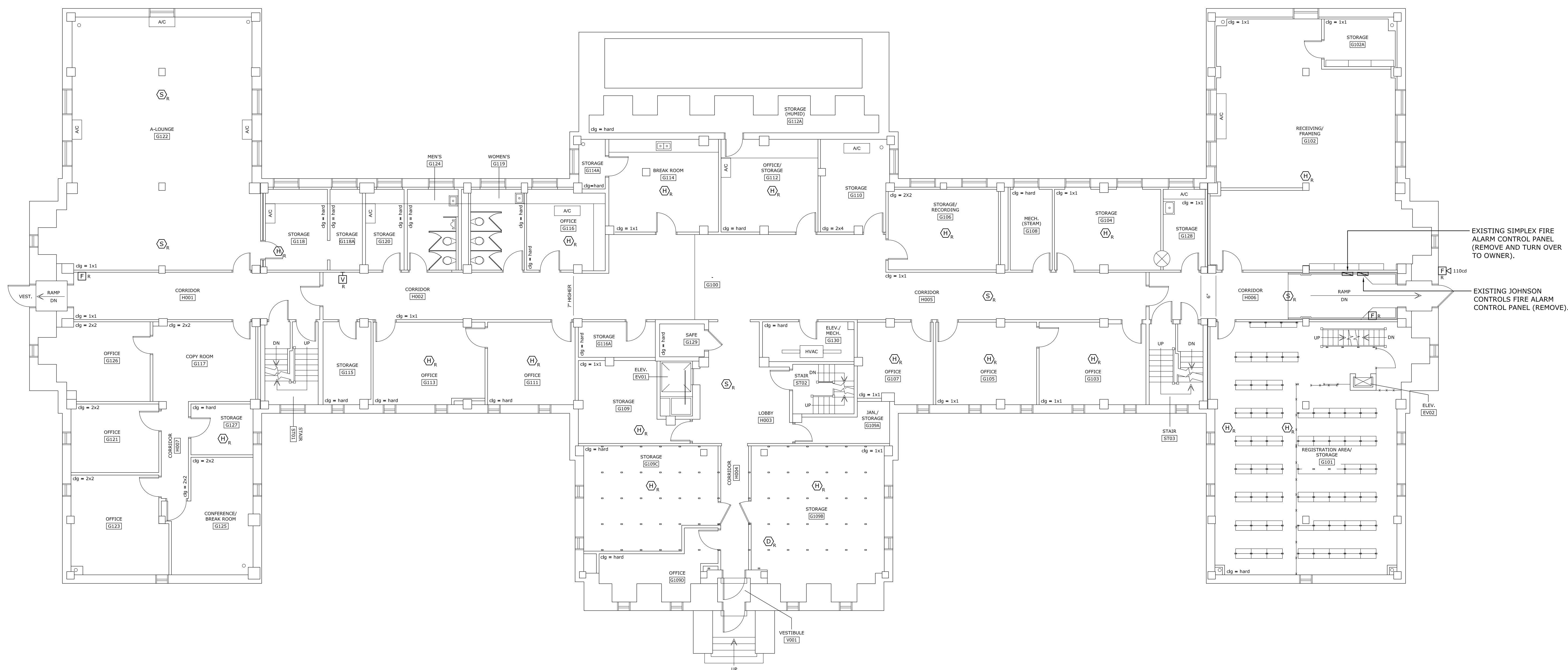
9 OF 15

BUILDING:	DATE:	DRAWN BY:	CHECKED BY:
015	29AUG16	KJL	JWL
REV.	DESCRIPTION	DATE	ORIG. BY



LEA LAND ENGINEERING ASSOCIATES, LLC
 262 SANDHURST ROAD, SUITE 101
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 COLUMBIA, SC 29208



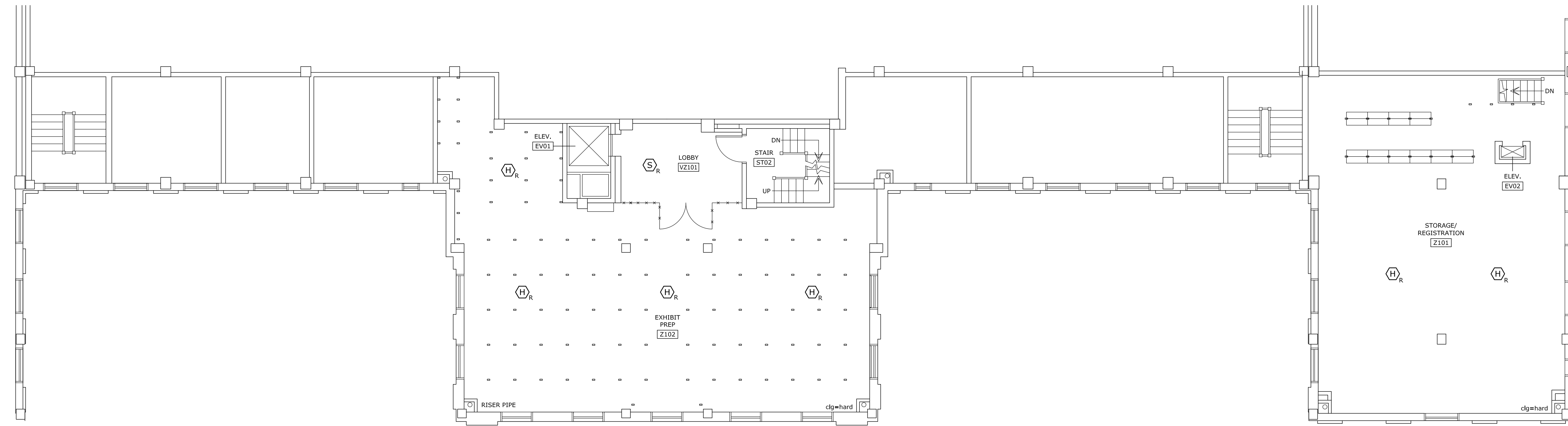
1 GROUND FLOOR FIRE ALARM DEMOLITION PLAN
 SCALE: 1/8" = 1'-0"

EXISTING SIMPLEX FIRE ALARM CONTROL PANEL (REMOVE AND TURN OVER TO OWNER).
 EXISTING JOHNSON CONTROLS FIRE ALARM CONTROL PANEL (REMOVE).

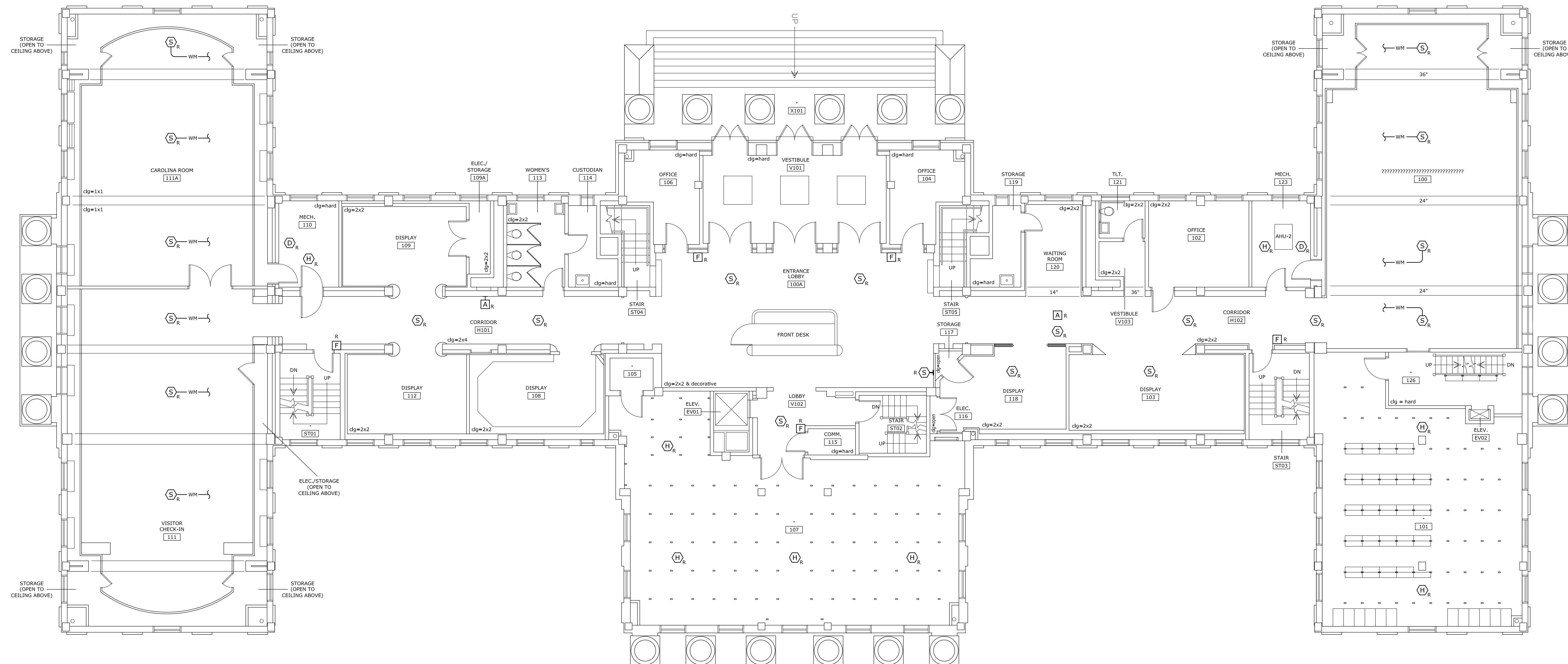
State Project No. H27-1851A

		OFFICE OF FACILITIES MANAGEMENT COLUMBIA, SC 29208	
		L&A ENGINEERING ASSOCIATES, LLC 262 SANDHURST ROAD, SUITE 101 COLUMBIA, SC 29204 (803) 528-1437 Joe.Land.LEA@scrr.com	
PROJECT TITLE: McKISSICK FIRE ALARM REPLACEMENT	BUILDING: 015	CHECKED BY: JWL	US2-2015-13
SHEET: E-10	REV.	DRAWN BY: KJU	LAND ENGINEERING ASSOCIATES, LLC 262 SANDHURST ROAD, SUITE 101 COLUMBIA, SC 29204 (803) 528-1437 Joe.Land.LEA@scrr.com
11 OF 15	DATE: 29AUG16	DATE: 08/27/16	No. 19005
SHEET IN SET: 11 OF 15	DESCRIPTION	ORIG. BY	COA-4406
PROJECT TITLE: McKISSICK FIRE ALARM REPLACEMENT	DATE: 29AUG16	DATE: 08/27/16	No. 19005
SHEET: E-10	REV.	DRAWN BY: KJU	ORIG. BY
11 OF 15	DESCRIPTION	DATE: 08/27/16	No. 19005
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University of South Carolina

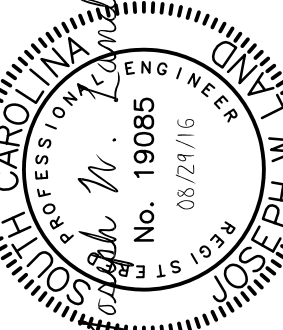
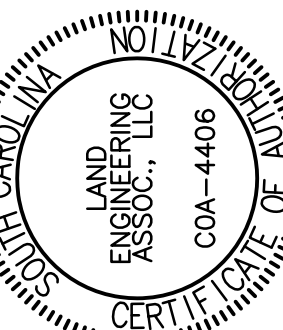


2 FIRST FLOOR MEZZANINE FIRE ALARM DEMOLITION PLAN
 SCALE: 1/8" = 1'-0"

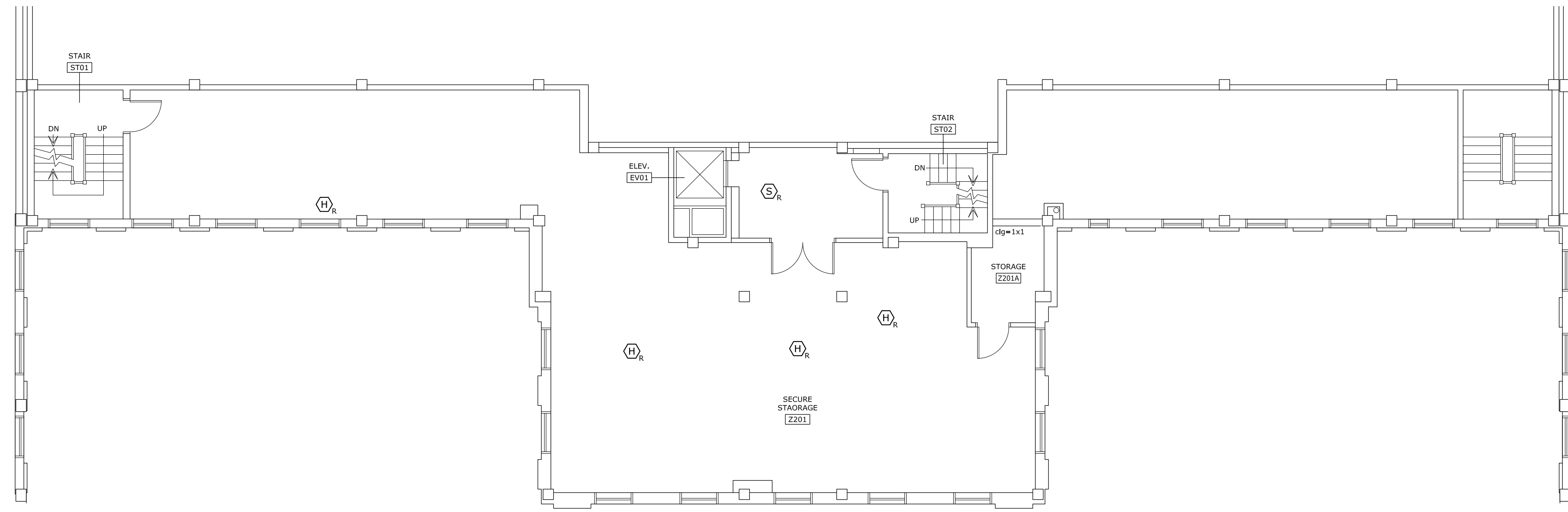


1 FIRST FLOOR FIRE ALARM DEMOLITION PLAN
 SCALE: 1/8" = 1'-0"

State Project No. H27-1851A

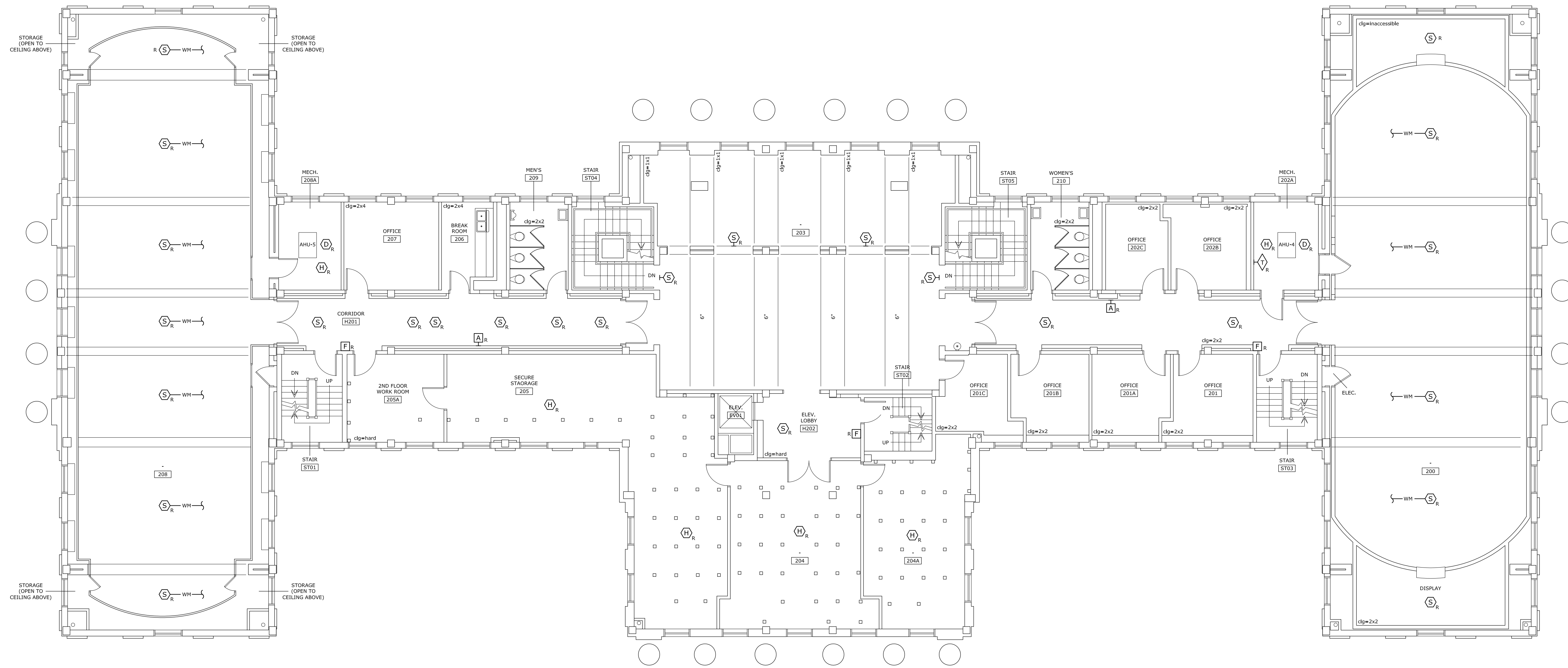


CHECKED BY:	JWL	DATE:	29 AUG 16
DRAWN BY:	KJU	DATE:	
ORIG. BY:		DATE:	
REV.		DESCRIPTION	



PLAN NORTH

2 SECOND FLOOR MEZZANINE FIRE ALARM DEMOLITION PLAN
 E-12 SCALE: 1/8" = 1'-0"



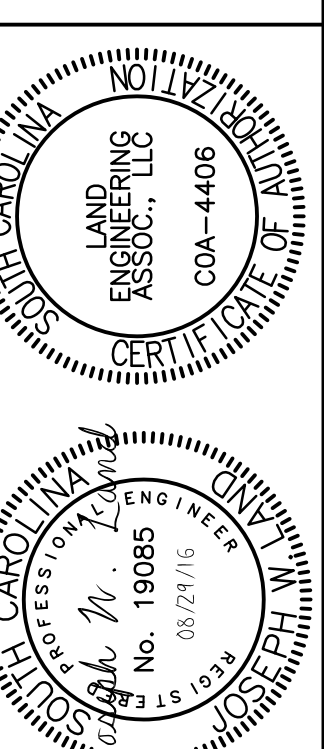
PLAN NORTH

1 SECOND FLOOR FIRE ALARM DEMOLITION PLAN
 E-12 SCALE: 1/8" = 1'-0"

State Project No. H27-1851A

OFFICE OF
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 COLUMBIA, SC 29208

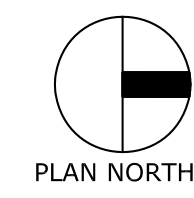
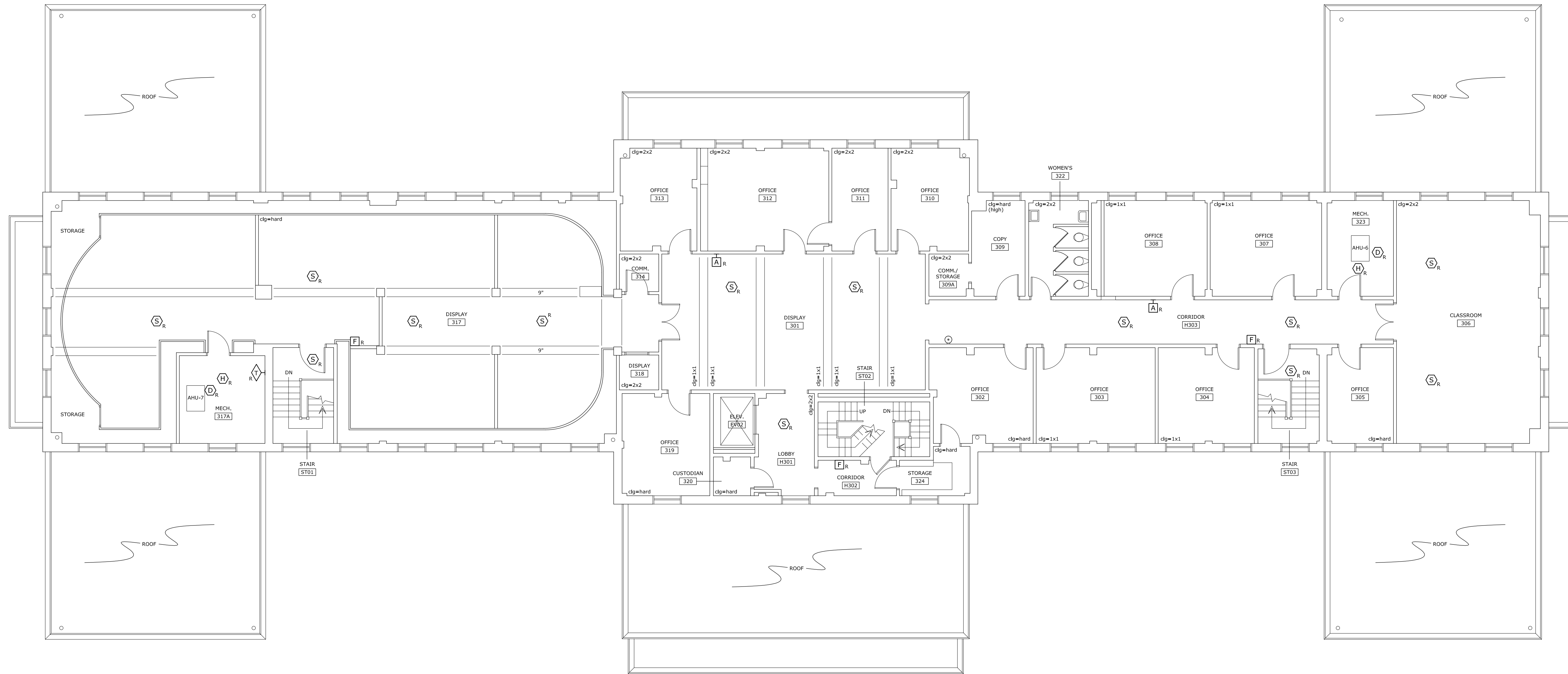
LEA LAND ENGINEERING ASSOCIATES, LLC
 262 SANDHURST ROAD, SUITE 101
 COLUMBIA, SC 29204
 (803) 528-1437
 Joe.Land.LEA@scrr.com



REV.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY:
015	29AUG16		JWL	KJU

PROJECT TITLE: MCKISSICK FIRE ALARM REPLACEMENT

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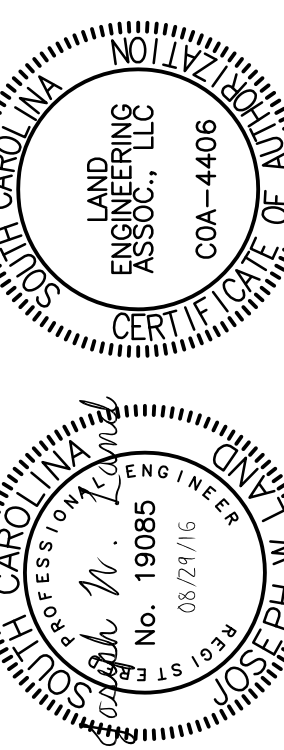
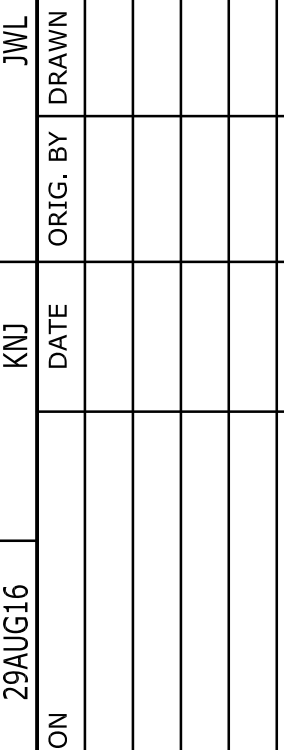


1
E-13

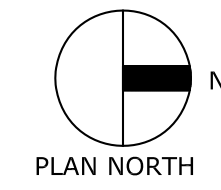
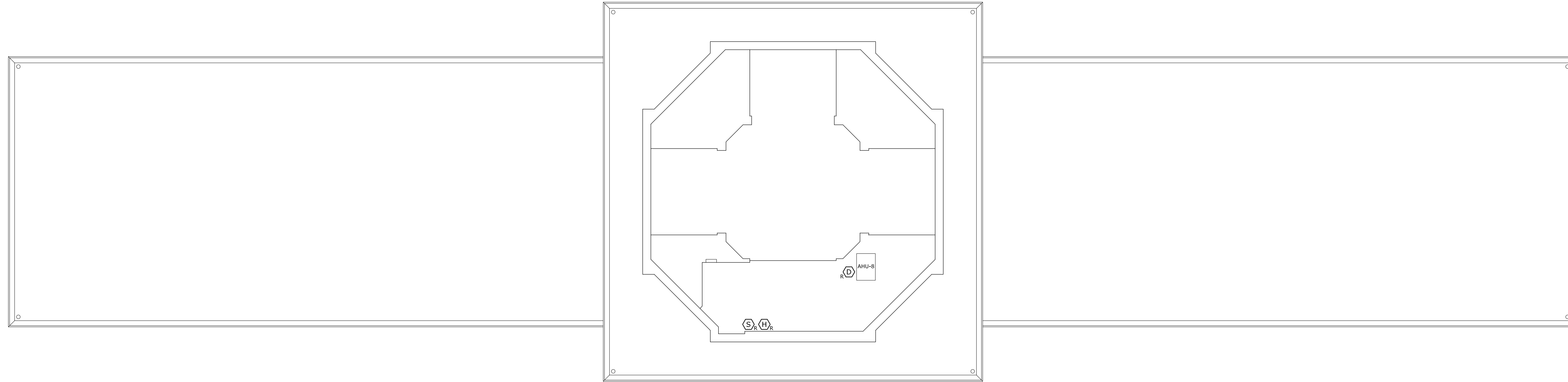
THIRD FLOOR FIRE ALARM DEMOLITION PLAN

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

State Project No. H27-1851A

	<p>OFFICE OF FACILITIES MANAGEMENT COLUMBIA, SC 29208</p>	<p>USC-2015-13</p>	<p>LAND ENGINEERING ASSOCIATES, LLC 262 SANDHURST ROAD, SUITE 101 COLUMBIA, SC 29204 (803) 528-1437 Joe.Land.LEA@scrr.com</p>
			
			
<p>PROJECT TITLE: McKISSICK FIRE ALARM REPLACEMENT</p>	<p>CHECKED BY: JWL</p>		
<p>SHEET: E-13</p>	<p>DATE: 29 AUG 16</p>	<p>DRAWN BY: KJL</p>	<p>ORIG. BY: DRAWN BY</p>
<p>14 OF 15</p>	<p>DESCRIPTION</p>	<p>DATE</p>	<p>DATE</p>
<p>14 OF 15</p>			

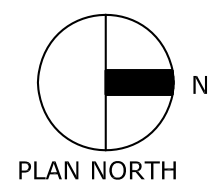
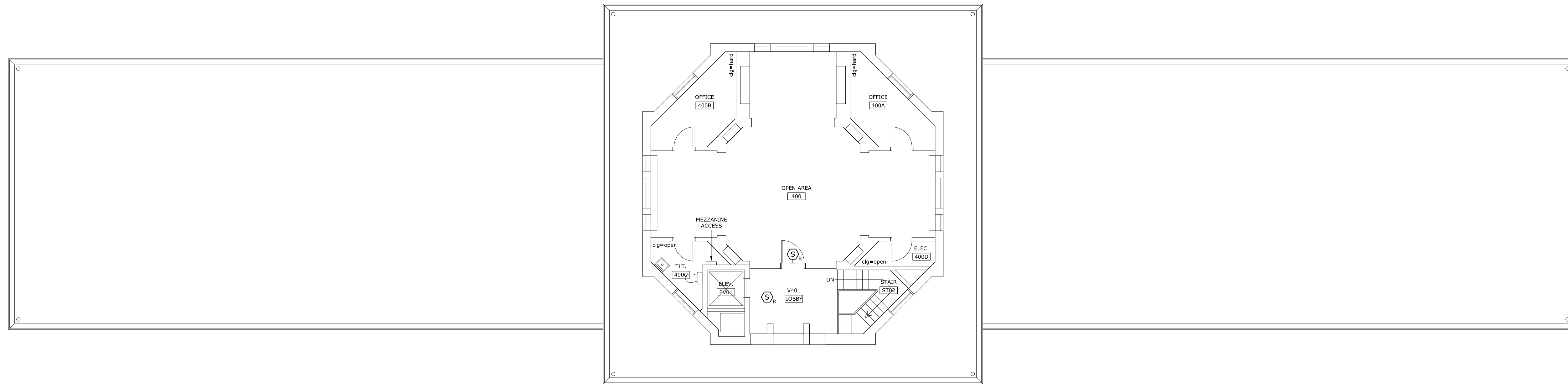
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2
E-14

FOURTH FLOOR MEZZANINE FIRE ALARM DEMOLITION PLAN

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



1
E-14

FOURTH FLOOR FIRE ALARM DEMOLITION PLAN

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

State Project No. H27-1851A

	<p>LAND ENGINEERING ASSOCIATES, LLC 262 SANDHURST ROAD, SUITE 101 COLUMBIA, SC 29208 (803) 528-1437 Joe.Land.LEA@scrr.com</p>	<p>OFFICE OF FACILITIES MANAGEMENT COLUMBIA, SC 29208</p>
<p>PROJECT TITLE: McKISSICK FIRE ALARM REPLACEMENT</p>	<p>BUILDING: 015</p>	<p>CHECKED BY: JWL</p>
<p>SHEET: E-14</p>	<p>DATE: 29AUG16</p>	<p>DATE</p>
<p>SHEET IN SET: 15 OF 15</p>	<p>DESCRIPTION</p>	<p>ORIG. BY</p>
<p>15 OF 15</p>	<p>REV.</p>	<p>DATE</p>
<p>UNIVERSITY OF SOUTH CAROLINA</p>		