

SOUTHERN UTAH UNIVERSITY VARIOUS BUILDINGS FIRE SPRINKLER PIPING/ALARM SYSTEM UPGRADES



State of Utah—Department of Administrative Services
**DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT**
4110 State Office Building/Salt Lake City, Utah 84114/(801)538-3018

DFCM PROJECT NO. 09114730

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SIGNATURES:		
DATE	NAME	POSITION



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**SOUTHERN UTAH
UNIVERSITY
VARIOUS BLDGS**
STATE PROPERTY NO:
**FIRE ALARM &
FIRE SPRINKLER
SYSTEM
UPGRADES**



MARK	DATE	DESCRIPTION

ISSUE:
DATE:
DFCM PROJECT NO: 09114730
PROJECT NO: 20090345
DRAWN BY: TNB
CHECKED BY: JDD
DESIGNED BY: JDD
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SHEET TITLE
**COVER SHEET
SHEET INDEX**

FE001
SHEET 1 OF 16

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E

D

C

B

A

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
FIRE SUPPRESSION PIPING	
SP	FIRE SPRINKLER LINE
(E)	EXISTING PIPE
(E)////	EXISTING PIPE TO BE REMOVED
SPRINKLER SYMBOLS	
○	SSU: K=5.6; BRASS; STANDARD RESPONSE AND COVERAGE
⊙	TYCO RAVEN INSTITUTIONAL PENDENT SPRINKLER; STANDARD COVERAGE; QUICK RESPONSE
⊙	EXISTING, RELOCATED SPRINKLER
●	PENDENT SPRINKLER
●	RECESSED SSP, QUICK RESPONSE
NOTE: CONTRACTOR SHALL PERFORM HEAD COUNT TO VERIFY NUMBER NEEDED FOR PROJECT.	

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
# SHEET	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
△	REVISION INDICATOR.
— —	BREAK, STRAIGHT.
∩	BREAK, ROUND.
MATCH LINE SEE XX/X-XXX	MATCH LINE INDICATOR.
-----	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
-----	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
—●—	NEW CONNECTION POINT TO EXISTING.
◇	HYDRAULIC CALCULATION NODE POINT

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
FIRE ALARM	
FSA	FIRE SYSTEM ANNUNCIATOR.
FCP	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
FPS	FIRE ALARM NOTIFICATION POWER SUPPLY.
FTR	FIRE ALARM TRANSDUCER OR TRANSMITTER.
HVA	SMOKE CONTROL PANEL.
C	AUTOMATIC DOOR CLOSERS: DOOR CLOSERS SHALL BE FURNISHED WITH DOOR HARDWARE AND CONNECTED TO BY FIRE ALARM INSTALLERS.
CM	CONTROL MODULE.
MM	MONITOR MODULE.
P	FIRE ALARM MANUAL PULL STATION.
R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
⊘	MAGNETIC DOOR HOLDER.
LA	FIRE SERVICE OR EMERGENCY TELEPHONE STATION, ACCESSIBLE.
LH	FIRE SERVICE OR EMERGENCY TELEPHONE STATION, HANDSET.
LJ	FIRE SERVICE OR EMERGENCY TELEPHONE STATION, JACK.
⊘	DETECTOR, SMOKE.
⊘A	DETECTOR, SMOKE WITH AUXILIARY CONTACT.
⊘BR	DETECTOR, SMOKE, BEAM RECEIVER.
⊘BT	DETECTOR, SMOKE, BEAM TRANSMITTER.
⊘E	DETECTOR, SMOKE, ELEVATOR RECALL DESIGNATION.
⊘G	DETECTOR, SMOKE WITH GUARD.
⊘R	DETECTOR, SMOKE, RESIDENTIAL.
⊘	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
⊘	DETECTOR, HEAT.
⊘	INDICATOR LAMP.
⊘	STROBE.
⊘75	STROBE. SUBSCRIPT INDICATES CANDELA RATING.
⊘WP	ALARM, HORN/SPEAKER, WEATHERPROOF.
⊘	ALARM, HORN/STROBE, ONE ASSEMBLY.
⊘75	ALARM, HORN/STROBE, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
⊘C	ALARM, CHIME/STROBE, ONE ASSEMBLY.
⊘G	ALARM, HORN/STROBE WITH GUARD, ONE ASSEMBLY.
⊘M	ALARM, MINI HORN/STROBE, ONE ASSEMBLY.
E	SPEAKER, EVACUATION.
⊘E	SPEAKER, EVACUATION, COMBINATION STROBE.
⊘	DETECTOR, FLOW SWITCH: FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
⊘	DETECTOR, TAMPERS WITH VALVE: TAMPERS SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
SD	SMOKE DAMPER.
FSD	FIRE AND SMOKE DAMPER.
B	BELL (GONG).
CO	DETECTOR, CARBON MONOXIDE.
⊘	DETECTOR, SMOKE/STROBE, RESIDENTIAL.
⊘75	ALARM, HORN/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
⊘75	ALARM, HORN, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
⊘75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.

GENERAL NOTES

- SCOPE OF WORK**
- HUNTER CONFERENCE CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM WITH A NEW ADDRESSABLE SYSTEM. A NEW FIRE ALARM PANEL AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
 - MULTIPURPOSE BUILDING: THIS PROJECT INCLUDES REUSING THE EXISTING, ADDRESSABLE FIRE ALARM PANEL AND ADDRESSABLE DEVICES AND REPLACING THE EXISTING CONVENTIONAL FIRE ALARM DEVICES WITH NEW ADDRESSABLE DEVICES, NEW CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
 - SHARWAN SMITH CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM IN THE OLD, EAST PORTION OF THE BUILDING WITH A NEW ADDRESSABLE SYSTEM. A NEW FIRE ALARM PANEL, AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES. ADDITIONALLY, FIRE SPRINKLERS SHALL BE ADDED, REPLACED, AND/OR RELOCATED AS OUTLINED IN THE DRAWINGS AND SPECIFICATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE EXISTING FIRE ALARM EQUIPMENT INCLUDING PANELS, CONDUIT, INITIATION DEVICES, NOTIFICATION APPLIANCES, WIRING, ETC. THAT IS NOT REUSED, DAMAGED SURFACES WHERE EQUIPMENT IS REMOVED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
 - PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
 - PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN, WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
 - PLANS ARE BASED UPON 2 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.50 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICES LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
 - PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
 - BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
 - RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 40% AREA FILL OF CONDUITS.
 - PROVIDE DUCT DETECTORS FOR SUPPLY AND RETURN AIR SYSTEMS OVER 2000 CFM. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.
 - PROVIDE ONE YEAR OFF SITE MONITORING INCLUDING ALL INTERFACE DEVICES AND MONITORING CHARGES. COORDINATE WITH BUILDING OWNER'S OFF SITE MONITORING COMPANY.
 - LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3" FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.
 - PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
 - ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.
 - ALL EQUIPMENT SHALL BE UL LISTED OR FM APPROVED FOR USE IN FIRE ALARM SYSTEMS.
 - EXISTING 120V POWER TO EXISTING FIRE ALARM PANEL MAY BE REUSED ASSUMING MINIMUM REQUIREMENTS OF NFPA 72 ARE MET.
 - EXISTING 120V POWER TO EXISTING POWER SUPPLIES MAY BE REUSED ASSUMING MINIMUM REQUIREMENTS OF NFPA 72 ARE MET. NEW POWER SUPPLIES SHALL BE PROVIDED WITH DEDICATED 120V 15SA CIRCUIT FROM NEAREST ELECTRICAL PANEL.
 - CONDUIT: ALL WIRING SHALL BE INSTALLED IN MINIMUM 1/2" CONDUIT. RIGID, FLEX, EMT, AND WREMOULD ARE ACCEPTABLE ASSUMING INSTALLATIONS MEET MINIMUM DFCM & SUJ STANDARD.



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VARIOUS BLDGS

STATE PROPERTY NO:

FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

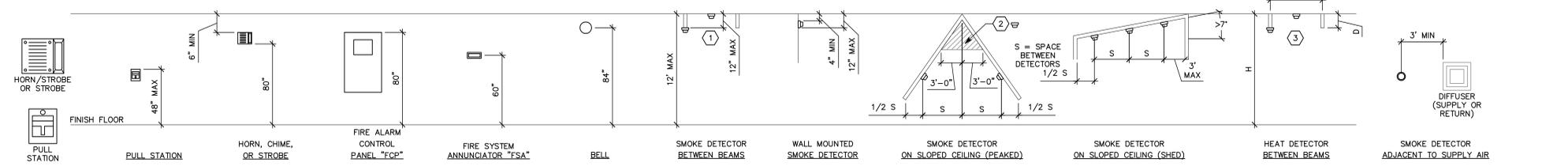
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ISSUE: DATE:
 PROJECT NO: 09114730
 DRAWN BY: TNB
 CHECKED BY: JDD
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SHEET TITLE
SYMBOLS LEGEND
GENERAL NOTES

FE002
 SHEET 2 OF 16

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- NOTES:
- LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY .5 PERPENDICULAR TO BEAM OR JOIST DIRECTION.) FOR OTHER CONDITIONS, REFER TO NFPA 72.
 - LOCATE SMOKE DETECTOR ANYWHERE IN SHADED AREA.
 - LOCATE AT BOTTOM OF BEAMS IF EITHER D/H < .1 OR W/H < .4; OTHERWISE, LOCATE IN BEAM POCKET.

(A1) FIRE ALARM MOUNTING DETAILS
 NTS

BID ALTERNATE #1

GENERAL SHEET NOTES

- BID ALTERNATE #1: PROVIDE A NEW FIRE ALARM NETWORK FOR CENTRAL MONITORING OF FIRE ALARM PANELS ON CAMPUS. PROVIDE NEW NETWORK HEAD-END WITH ALL EQUIPMENT AND SOFTWARE INCLUDING WORK STATION WITH DISPLAY UNIT IN HEAT PLANT LOCATION DICTATED BY OWNER.
- CAMPUS HAS AN EXISTING MULTI-MODE FIBER BACKBONE THAT SHALL BE USED AS MUCH AS POSSIBLE. FIBER HUBS ARE LOCATED IN FACILITIES BUILDING, ELECTRONIC LEARNING CENTER (ELC), AND SHARWAN SMITH CENTER. CONTRACTOR SHALL PROVIDE NECESSARY FIBER PAIRS FROM FACILITIES BUILDING HUB TO HEAT PLANT HEAD-END. FIBER PAIRS ARE EXISTING FROM HUNTER CONFERENCE CENTER TO ELC HUB AND FROM MULTIPURPOSE CENTER TO SHARWAN SMITH HUB. CONTRACTOR SHALL PROVIDE FIBER CONNECTIONS AT EACH HUB AS NECESSARY AND FIBER CONNECTIONS TO FIRE ALARM PANELS IN HUNTER CONFERENCE CENTER, SHARWAN SMITH CENTER AND MULTIPURPOSE CENTER.
- NEW FIBER SHALL BE INSTALLED IN CONDUIT (RIGID OR EMT) UNLESS APPROVED OTHERWISE BY OWNER AND ENGINEER. A THOROUGH INVESTIGATION BY CONTRACTOR SHALL BE MADE OF ALL EXISTING AND FIBER EQUIPMENT PRIOR TO BID.
- PROVIDE NETWORK CONNECTION HARDWARE FOR FIRE ALARM PANELS SPECIFIED IN THIS PROJECT (R. HAZE HUNTER CONFERENCE CENTER, SHARWAN SMITH CENTER, AND MULTIPURPOSE CENTER). COORDINATE INSTALLATION WITH FACILITY PERSONNEL TO MINIMIZE FIRE ALARM SYSTEM AND NETWORK HEAD-END DOWNTIME.



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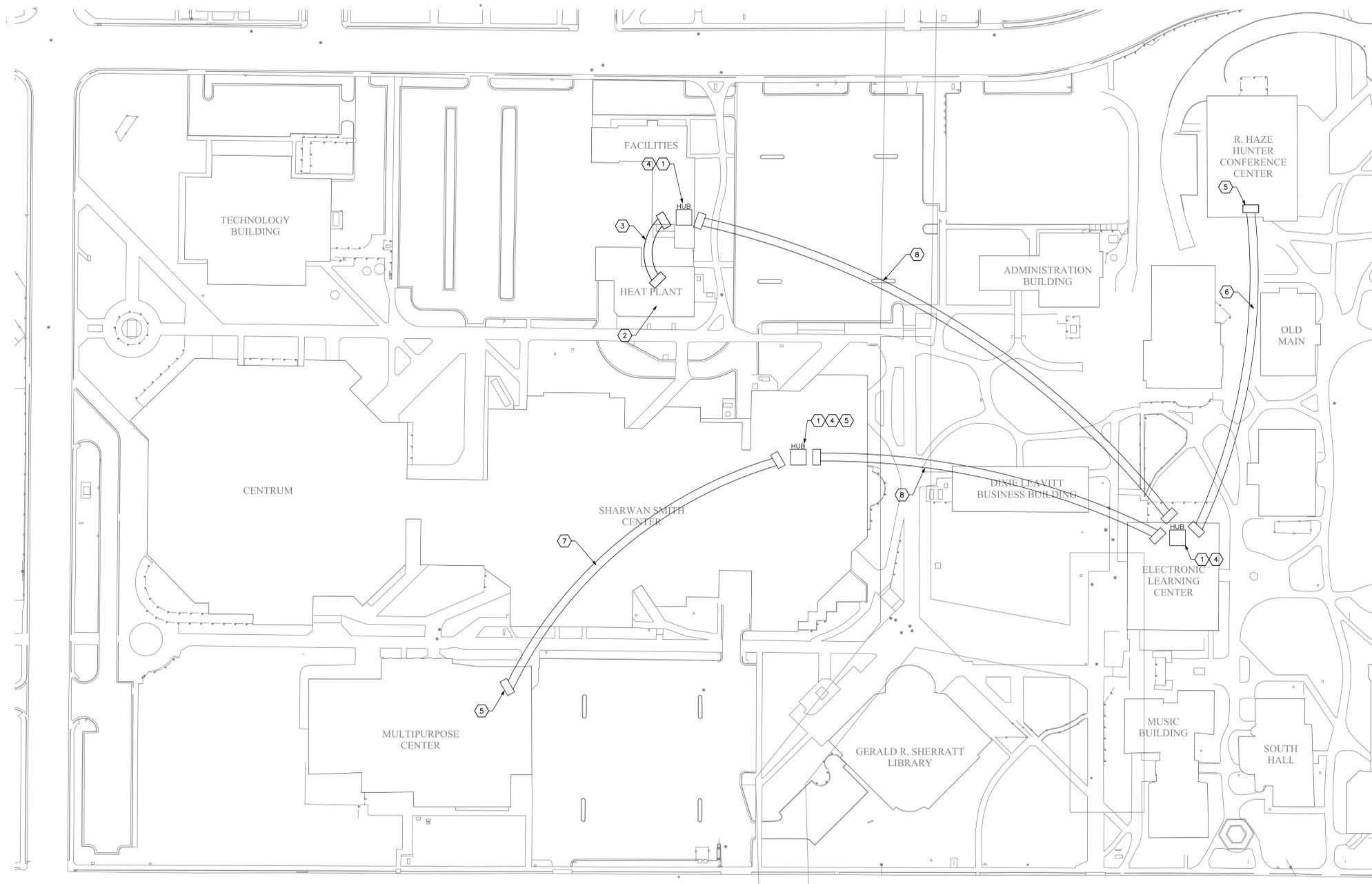
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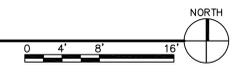
SHEET KEYNOTES

- EXISTING FIBER OPTIC BACKBONE HUB.
- NEW NETWORK INTERFACE EQUIPMENT IN HEAT PLANT. VERIFY EXACT LOCATION WITH FACILITIES.
- NEW FIBER OPTIC CABLING, TERMINATIONS, AND CONNECTIONS BETWEEN FACILITIES AND HEAT PLANT.
- PROVIDE PATCH CABLES, CONNECTIONS, AND TERMINATIONS BETWEEN FIBER AND HUB.
- PROVIDE FIBER OPTIC CABLE, CONNECTIONS, TERMINATIONS, CONDUIT AND ALL OTHER EQUIPMENT NECESSARY FROM BUILDING FIBER TERMINAL BOARD TO NEW FIRE ALARM PANEL.
- EXISTING FIBER FROM ELC TO HUNTER CONFERENCE CENTER.
- EXISTING FIBER FROM SHARWAN SMITH CENTER TO MULTIPURPOSE CENTER.
- EXISTING FIBER BACKBONE.

SOUTHERN UTAH UNIVERSITY VARIOUS BLDGS
STATE PROPERTY NO:
FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES



(A1) SOUTHERN UTAH UNIVERSITY FIRE ALARM NETWORK PLAN
SCALE: 1/60" = 1'-0"



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ISSUE:		
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SHEET TITLE
FIRE ALARM NETWORK

FE003
SHEET 3 OF 16

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GENERAL SHEET NOTES

- HUNTER CONFERENCE CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM WITH A NEW ADDRESSABLE SYSTEM, A NEW FIRE ALARM PANEL, AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING IN CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
- CODE ANALYSIS:
2006 INTERNATIONAL BUILDING CODE
2006 INTERNATIONAL FIRE CODE
2006 INTERNATIONAL MECHANICAL CODE
2008 NFPA 70
2007 NFPA 72
AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS
DFCM DESIGN REQUIREMENTS

THIS BUILDING IS CLASSIFIED AS A-2 (ASSEMBLY) AND B (BUSINESS) MIXED USE.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE EXISTING FIRE ALARM EQUIPMENT INCLUDING PANELS, CONDUIT, INITIATION DEVICES, NOTIFICATION APPLIANCES, WIRING, ETC. THAT IS NOT REUSED. ALL DEMO EQUIPMENT SHALL BE OFFERED TO UNIVERSITY FOR REUSE/SPARE PARTS PRIOR TO DISPOSAL. DAMAGED SURFACES WHERE EQUIPMENT IS REMOVED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
- PLANS ARE BASED UPON 300 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP (150 DETECTORS, 150 MODULES). OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
- PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.125 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
- PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
- BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
- ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRE SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS.
- REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW, ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
- LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.
- PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
- EXISTING MONITORING CAPABILITIES OF CALL CENTER IN HEAT PLANT SHALL BE MAINTAINED UNLESS A HIGHER LEVEL CAN BE ACHIEVED WITH NEW SYSTEM. TAMPER SWITCHES SHALL SEND A TROUBLE SIGNAL TO CALL CENTER REGARDLESS OF LOCAL PANEL SIGNAL.



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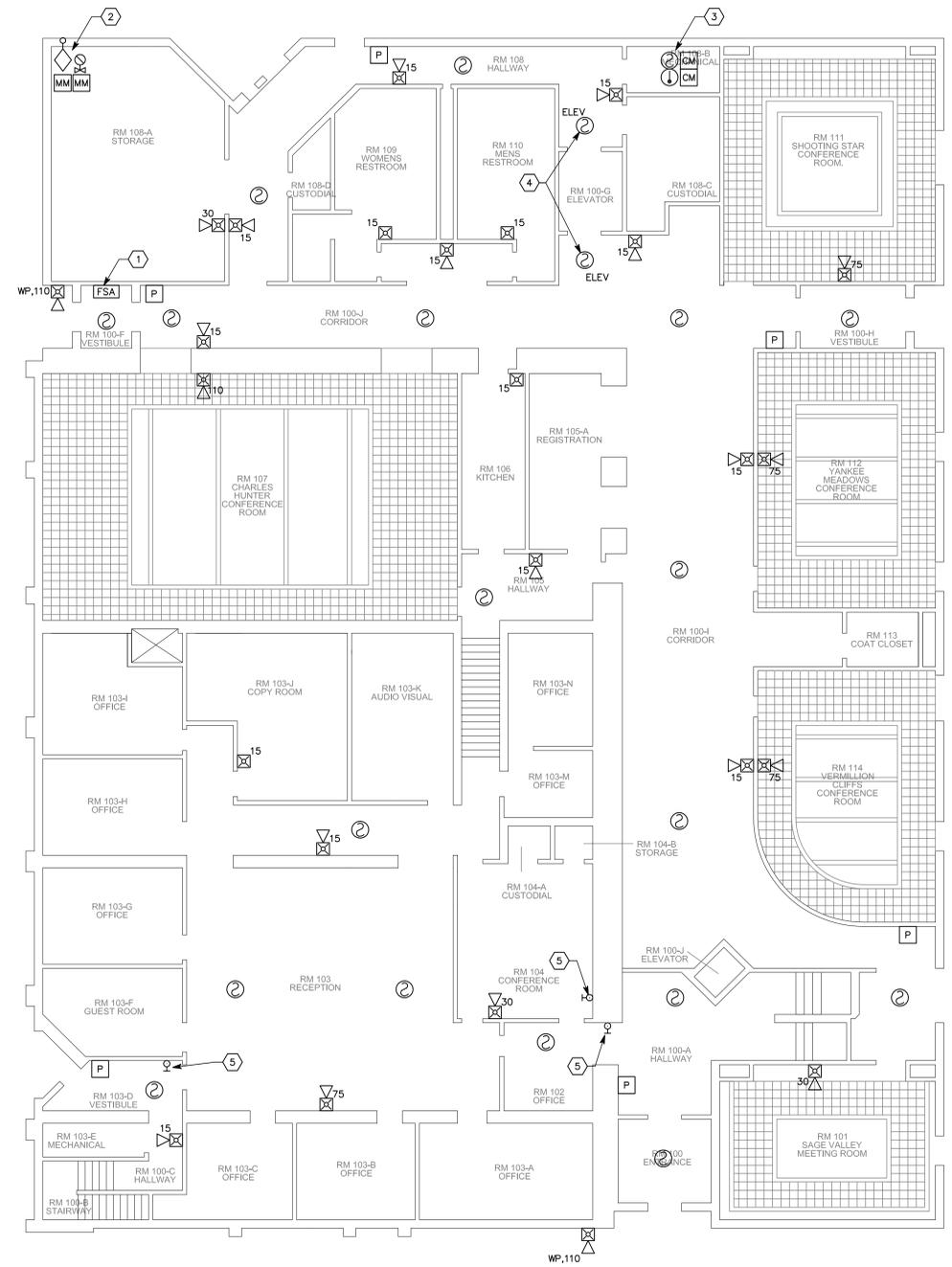
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SOUTHERN UTAH UNIVERSITY
VARIOUS BLDGS

STATE PROPERTY NO:

FIRE ALARM &
FIRE SPRINKLER
SYSTEM
UPGRADES



HUNTER CONFERENCE CENTER
FIRST LEVEL FIRE ALARM PLAN

(A1) SCALE: 1/8" = 1'-0"

○ SHEET KEYNOTES

- REPLACE EXISTING ANNUNCIATOR WITH NEW IN SAME LOCATION. REPAIR SURFACE AS NECESSARY.
- CONNECT EXISTING FLOW AND TAMPER SWITCHES TO NEW FIRE ALARM PANEL FOR MONITORING.
- SMOKE AND HEAT DETECTOR IN ELEVATOR EQUIPMENT ROOM. PROGRAM CONTROL MODULES FOR ALTERNATE LEVEL RECALL AND FIRE HAT OPERATION. COORDINATE WITH ELEVATOR CONTROLS.
- ELEVATOR LOBBY SMOKE DETECTORS. PROGRAM FOR ALTERNATE LEVEL RECALL UPON ACTIVATION.
- EXISTING DOOR HOLDER TO RELEASE ON FIRE ALARM SIGNAL. PROVIDE NECESSARY RELAYS AND POWER FOR PROPER OPERATION.

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SHEET TITLE
HUNTER CONFERENCE CENTER - FIRST FLOOR
FIRE ALARM PLAN

HC-FA1
SHEET 4 OF 16

GENERAL SHEET NOTES

- HUNTER CONFERENCE CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM WITH A NEW ADDRESSABLE SYSTEM. A NEW FIRE ALARM PANEL, AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING IN CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
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- PLANS ARE BASED UPON 300 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP (150 DETECTORS, 150 MODULES). OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
- PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.125 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
- PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
- BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
- ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRE SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS.
- REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW, ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
- LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.
- PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
- EXISTING MONITORING CAPABILITIES OF CALL CENTER IN HEAT PLANT SHALL BE MAINTAINED UNLESS A HIGHER LEVEL CAN BE ACHIEVED WITH NEW SYSTEM. TAMPER SWITCHES SHALL SEND A TROUBLE SIGNAL TO CALL CENTER REGARDLESS OF LOCAL PANEL SIGNAL.



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STATE PROPERTY NO:

FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

MARK	DATE	DESCRIPTION
5		
4		
3		
2		
1		

SHEET KEYNOTES

- REPLACE EXISTING FIRE ALARM PANEL WITH NEW ADDRESSABLE PANEL. REUSE EXISTING WIRING AND CONDUIT IF POSSIBLE.
- ELEVATOR LOBBY SMOKE DETECTORS. PROGRAM FOR PRIMARY LEVEL RECALL UPON ACTIVATION.
- SMOKE DETECTOR AT TOP OF ELEVATOR SHAFT. PROGRAM CONTROL MODULES FOR PRIMARY LEVEL RECALL AND FIRE HAT OPERATION. COORDINATE WITH ELEVATOR CONTROLS. PROVIDE RELAY TO OPEN SHAFT DAMPER ON ALARM.
- REPLACE EXISTING DUCT SMOKE DETECTOR WITH NEW DETECTOR. PROGRAM AS GENERAL FIRE ALARM SIGNAL AND TO STOP ALL AIR HANDLERS UPON ACTIVATION.
- PROVIDE REMOTE POWER SUPPLY FOR ADDITIONAL NAC CIRCUITS AND CONTROL AND MONITORING BY FPC.

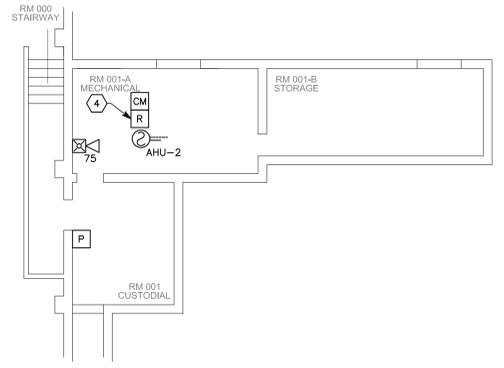
ISSUE: DATE:

DFCM PROJECT NO: 09114730
PROJECT NO: 20090345
DRAWN BY: TNB
CHECKED BY: JDD
DESIGNED BY: JDD
RECORD DRAWING DATE:

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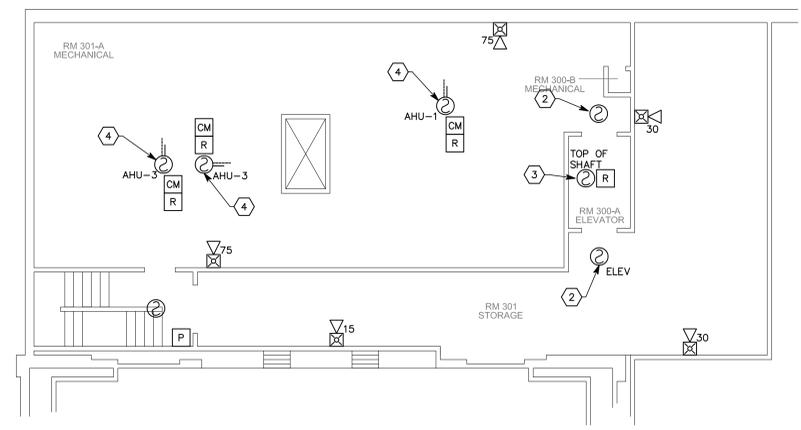
SHEET TITLE
HUNTER CONFERENCE CENTER - BASEMENT & THIRD FLOOR FIRE ALARM PLAN

HC-FA3
SHEET 6 OF 16



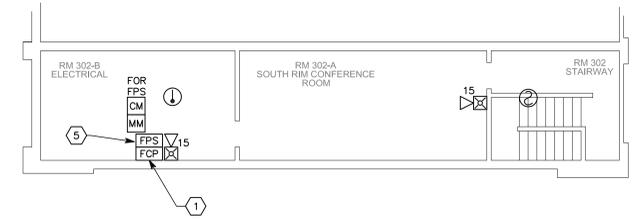
HUNTER CONFERENCE CENTER
BASEMENT LEVEL FIRE ALARM PLAN

D1 SCALE: 1/8" = 1'-0"



HUNTER CONFERENCE CENTER
THIRD LEVEL FIRE ALARM PLAN (NORTH)

B1 SCALE: 1/8" = 1'-0"



HUNTER CONFERENCE CENTER
THIRD LEVEL FIRE ALARM PLAN (SOUTH)

A1 SCALE: 1/8" = 1'-0"

FIRE ALARM INPUT/OUTPUT MATRIX		OUTPUT ACTION							NOTES
		GENERAL ALARM (NOTIFICATION APPLIANCE OPERATION)	DOOR HOLDER RELEASE	ALARM SIGNAL AT FCP	SUPERVISORY SIGNAL TO FCP	TROUBLE SIGNAL TO FCP	SIGNAL AIR HANDLER SHUTDOWN	ELEVATOR RECALL TO PRIMARY LEVEL	
INPUT ACTION	ZONE								
1	WATER FLOW SWITCH ACTIVATION	●	●	●					
2	VALVE TAMPER SWITCH ACTIVATION				●*				
3	PULL STATION ACTIVATION	●	●	●					
4	HEAT OR SMOKE DETECTOR ACTIVATION	●	●	●		●			
5	DUCT SMOKE DETECTOR ACTIVATION	●	●	●		●			
6	COOKING HOOD ACTIVATION	●	●	●					
7	ELEV. LOBBY SMOKE DET. - FIRST FLOOR	●	●	●		●	●		
8	ELEV. LOBBY SMOKE DET. - SECOND FLOOR	●	●	●		●	●		
9	ELEV. LOBBY SMOKE DET. - THIRD FLOOR	●	●	●		●	●		
10	ELEV. SHAFT SMOKE OR HEAT DETECTION	●	●	●		●	●		
11	ELEV. EQUIP. ROOM SMOKE OR HEAT DETECTION	●	●	●		●	●		
12	REMOTE POWER SUPPLY TROUBLE					●			
13	CIRCUIT TROUBLE					●			
14	AC POWER LOSS				●				
15	LOW BATTERY POWER					●			
16	SYSTEM TROUBLE					●			
17									

* TAMPER SWITCH ACTIVATION SHALL TRANSMIT A TROUBLE SIGNAL TO THE CALL CENTER IN THE HEAT PLANT

WIRING SCHEDULE				
FUNCTION	< 500'	< 1000'	1000'-3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
HORN STROBES	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER SPEAKERS	#12 THWN	#10 THWN	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE					
SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE	
☒	15	15 CD	20'x20'	.075A	20
☒	15	15 CD	20'x20'	.085A	17
☒	30	30 CD	30'x30'	.135A	11
☒	75	75 CD	40'x40'	.200A	7
☒	110	110 CD	50'x50'	.225A	6

ADDRESSABLE LOOP LEGEND	
INITIATING LOOP	DESCRIPTION
FA-1	BUILDING LOOP: 150 MAX DETECTORS, 150 MAX MODULES

NOTE: ALL CIRCUITS CLASS A, STYLE 6
NOTE: CIRCUITS SHOWN ARE EXAMPLES ONLY, CONTRACTOR SHALL PROVIDE ADDITIONAL LOOPS PER FIELD CONDITIONS

INDICATING LOOP LEGEND	
INDICATING LOOP	DESCRIPTION
FI-1	FIRST FLOOR
FI-2	SECOND FLOOR
FI-3	THIRD FLOOR
FI-4	
FI-5	

NOTE: ALL CIRCUITS CLASS A, STYLE Z
NOTE: CIRCUITS SHOWN ARE EXAMPLES ONLY, CONTRACTOR SHALL DETERMINE LOOPS PER FIELD CONDITIONS

- ### GENERAL SHEET NOTES
- HUNTER CONFERENCE CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM WITH A NEW ADDRESSABLE SYSTEM. A NEW FIRE ALARM PANEL, AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING IN CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
 - CODE ANALYSIS:
2006 INTERNATIONAL BUILDING CODE
2006 INTERNATIONAL FIRE CODE
2006 INTERNATIONAL MECHANICAL CODE
2008 NFPA 70
2007 NFPA 72
AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS
DFCM DESIGN REQUIREMENTS

THIS BUILDING IS CLASSIFIED AS A-2 (ASSEMBLY) AND B (BUSINESS) MIXED USE.
 - THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE EXISTING FIRE ALARM EQUIPMENT INCLUDING PANELS, CONDUIT, INITIATION DEVICES, NOTIFICATION APPLIANCES, WIRING, ETC. THAT IS NOT REUSED. ALL DEMO EQUIPMENT SHALL BE OFFERED TO UNIVERSITY FOR REUSE/SPARE PARTS PRIOR TO DISPOSAL. DAMAGED SURFACES WHERE EQUIPMENT IS REMOVED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
 - PLANS ARE BASED UPON 300 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP (150 DETECTORS, 150 MODULES). OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
 - PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
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 - REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
 - LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.
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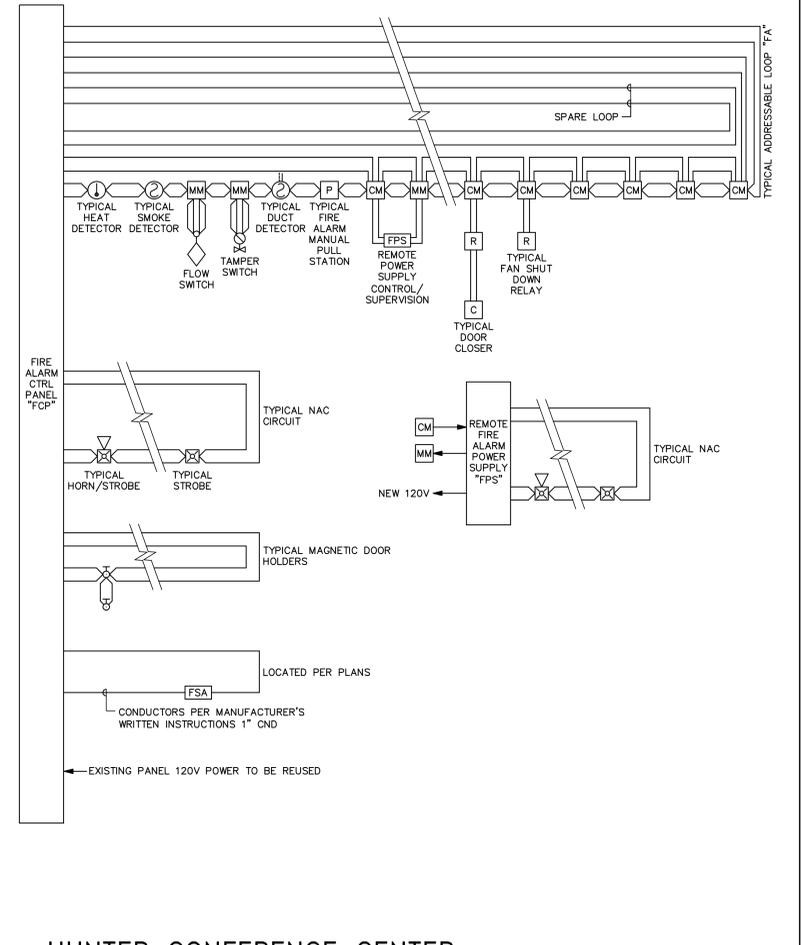
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STATE OF UTAH
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Jeffrey D. DuBois

SOUTHERN UTAH UNIVERSITY
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FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES



HUNTER CONFERENCE CENTER ADDRESSABLE FIRE ALARM RISER
NO SCALE

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GENERAL SHEET NOTES

- MULTIPURPOSE BUILDING: THIS PROJECT INCLUDES REUSING THE EXISTING ADDRESSABLE FIRE ALARM PANEL AND ADDRESSABLE DEVICES WITH NEW ADDRESSABLE DEVICES, NEW CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. EXISTING WIRING IN CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
- CODE ANALYSIS:
2006 INTERNATIONAL BUILDING CODE
2006 INTERNATIONAL FIRE CODE
2006 INTERNATIONAL MECHANICAL CODE
2008 NFPA 70
2007 NFPA 72
AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS
DFCM DESIGN REQUIREMENTS
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GENERAL SHEET NOTES

- FOR REUSE/SPARE PARTS PRIOR TO DISPOSAL. DAMAGED SURFACES WHERE EQUIPMENT IS REMOVED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
- PLANS ARE BASED UPON 300 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP (150 DETECTORS, 150 MODULES). OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
- PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN, WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC. NOT TO EXCEED 75% (1.125 AMPS AVAILABLE). POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING

GENERAL SHEET NOTES

CONFIGURATION.

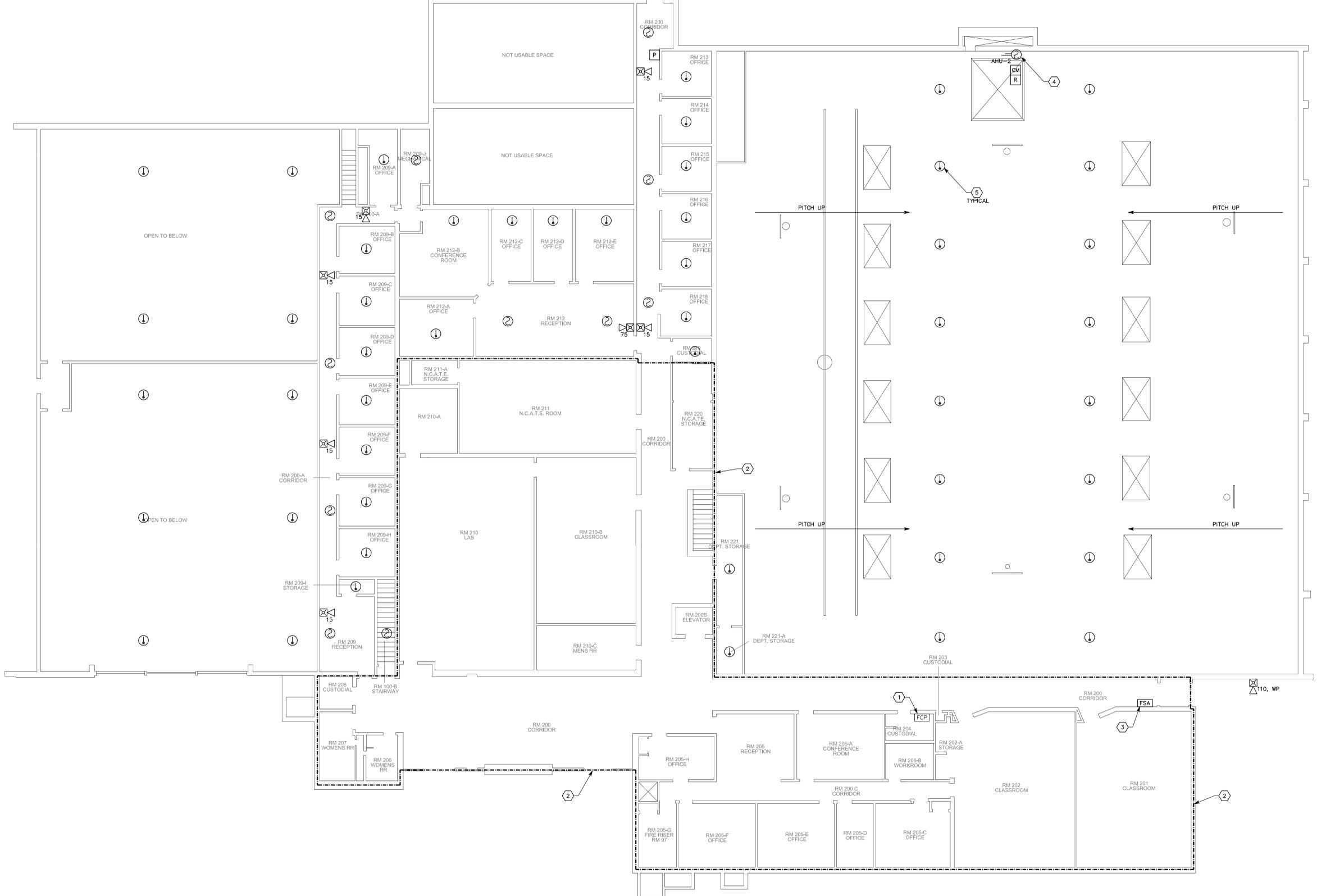
- BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
- ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRING SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS. CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. SURFACE MOUNTING IS ACCEPTABLE IN GYM, MECHANICAL AREAS, AND DANCE LAB.
- REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
- LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.

GENERAL SHEET NOTES

- PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
- EXISTING MONITORING CAPABILITIES OF CALL CENTER IN HEAT PLANT SHALL BE MAINTAINED UNLESS A HIGHER LEVEL CAN BE ACHIEVED WITH NEW SYSTEM. TAMPER SWITCHES SHALL SEND A TROUBLE SIGNAL TO CALL CENTER REGARDLESS OF LOCAL PANEL SIGNAL.
- CONTRACTOR SHALL VERIFY ALL PULL STATIONS ARE AT CORRECT HEIGHT AND MODIFY IF NECESSARY.

SHEET KEYNOTES

- EXISTING FIRE ALARM CONTROL PANEL TO REMAIN. EXPAND SIGNALING LINE CIRCUIT(S) AND NOTIFICATION APPLIANCE CIRCUITS FOR REMODEL WORK.
- OUTLINE OF EXISTING ADDRESSABLE SYSTEM (INITIATION AND NOTIFICATION DEVICES) TO REMAIN.
- NEW FIRE ALARM ANNUNCIATOR. CONNECT TO EXISTING FIRE ALARM PANEL.
- NEW DUCT SMOKE DETECTOR ON RETURN PLENUM DUCTWORK ABOVE GYM.
- HEAT DETECTORS LOCATED IN BEAM POCKETS NEAR PEAK. PROVIDE GUARD TO PREVENT DAMAGE.



(A1) MULTIPURPOSE BUILDING SECOND FLOOR FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

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FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

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DFCM PROJECT NO: 09114730
PROJECT NO: 20090345
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DESIGNED BY: JDD
RECORD DRAWING DATE: _____

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SHEET TITLE
MULTIPURPOSE BUILDING - SECOND FLOOR FIRE ALARM PLAN

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GENERAL SHEET NOTES

- MULTIPURPOSE BUILDING: THIS PROJECT INCLUDES REUSING THE EXISTING ADDRESSABLE FIRE ALARM PANEL AND ADDRESSABLE DEVICES WITH NEW ADDRESSABLE DEVICES, NEW CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. EXISTING WIRING IN CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
- CODE ANALYSIS:
2006 INTERNATIONAL BUILDING CODE
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GENERAL SHEET NOTES

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- PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN, WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.125 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING

GENERAL SHEET NOTES

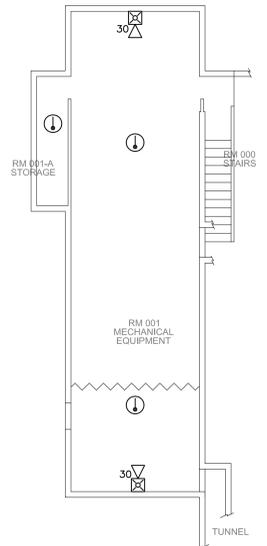
- CONFIGURATION.
- BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
- ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRING SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS. CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. SURFACE MOUNTING IS ACCEPTABLE IN GYM, MECHANICAL AREAS, AND DANCE LBS.
- REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
- LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.

GENERAL SHEET NOTES

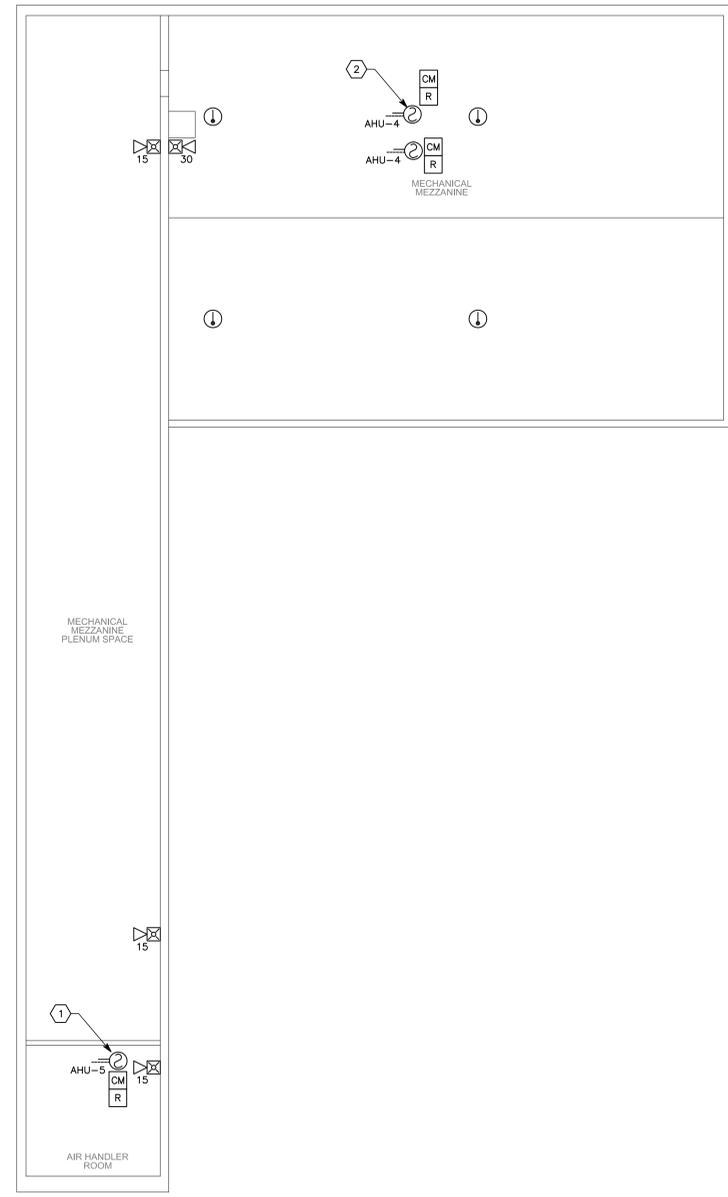
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- CONTRACTOR SHALL VERIFY ALL PULL STATIONS ARE AT CORRECT HEIGHT AND MODIFY IF NECESSARY.

○SHEET KEYNOTES

- MOUNT DUCT SMOKE DETECTOR ON SUPPLY DUCTWORK OF AHU-5 IN AIR HANDLER ROOM.
- MOUNT DUCT SMOKE DETECTOR(S) ON RETURN DUCTWORK OF AHU-4.



(A1) MULTIPURPOSE BUILDING BASEMENT FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"



(A3) MULTIPURPOSE BUILDING MECHANICAL MEZZANINE FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"



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CONSULTANTS



SOUTHERN UTAH UNIVERSITY VARIOUS BLDGS
STATE PROPERTY NO:
FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

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PROJECT NO: 20090345
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DESIGNED BY: JDD
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SHEET TITLE
MULTIPURPOSE BUILDING - BASEMENT & MECHANICAL MEZZANINE FIRE ALARM PLAN

MB-FA3
SHEET 10 OF 16

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GENERAL SHEET NOTES

- MULTIPURPOSE BUILDING: THIS PROJECT INCLUDES REUSING THE EXISTING, ADDRESSABLE FIRE ALARM PANEL AND ADDRESSABLE DEVICES WITH NEW, ADDRESSABLE DEVICES. NEW CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. EXISTING WIRING IN CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES.
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2006 INTERNATIONAL FIRE CODE
2006 INTERNATIONAL MECHANICAL CODE
2008 NFPA 70
2007 NFPA 72
AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS
DFCM DESIGN REQUIREMENTS
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE EXISTING FIRE ALARM EQUIPMENT INCLUDING PANELS, CONDUIT, INITIATION DEVICES, NOTIFICATION APPLIANCES, WIRING, ETC. THAT IS NOT REUSED. ALL DEMO EQUIPMENT SHALL BE OFFERED TO UNIVERSITY

GENERAL SHEET NOTES

- FOR REUSE/SPARE PARTS PRIOR TO DISPOSAL, DAMAGED SURFACES WHERE EQUIPMENT IS REMOVED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
- PLANS ARE BASED UPON 300 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP (150 DETECTORS, 150 MODULES). OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
- PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN, WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.125 AMPS AVAILABLE). POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING

GENERAL SHEET NOTES

- CONFIGURATION.
- BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
- ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRING SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS. CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. SURFACE MOUNTING IS ACCEPTABLE IN GYM, MECHANICAL AREAS, AND DANCE LAB.
- REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW, ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
- LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.

GENERAL SHEET NOTES

- PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
- EXISTING MONITORING CAPABILITIES OF CALL CENTER IN HEAT PLANT SHALL BE MAINTAINED UNLESS A HIGHER LEVEL CAN BE ACHIEVED WITH NEW SYSTEM. TAMPERS SWITCHES SHALL SEND A TROUBLE SIGNAL TO CALL CENTER REGARDLESS OF LOCAL PANEL SIGNAL.
- CONTRACTOR SHALL VERIFY ALL PULL STATIONS ARE AT CORRECT HEIGHT AND MODIFY IF NECESSARY.



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SOUTHERN UTAH UNIVERSITY
VARIOUS BLDGS
STATE PROPERTY NO:

FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

FIRE ALARM INPUT/OUTPUT MATRIX		OUTPUT ACTION						NOTES
ZONE		GENERAL ALARM (ACTIVATION APPLIANCE OPERATION)	DOOR HOLDER RELEASE	ALARM SIGNAL AT FCP	SUPERVISOR SIGNAL TO FCP	TROUBLE SIGNAL TO FCP	GLOBAL AIR HANDLER SHUTDOWN	
1	WATER FLOW SWITCH ACTIVATION	●	●	●			●	
2	VALVE TAMPER SWITCH ACTIVATION				●*			
3	PULL STATION ACTIVATION	●	●	●			●	
4	HEAT OR SMOKE DETECTOR ACTIVATION	●	●	●			●	
5	DUCT SMOKE DETECTOR	●	●	●			●	
6	REMOTE POWER SUPPLY TROUBLE						●	
7	CIRCUIT TROUBLE						●	
8	AC POWER LOSS				●			
9	LOW BATTERY POWER						●	
10	SYSTEM TROUBLE						●	
11								
12								
13								

NOTE: EXISTING ELEVATOR FUNCTIONS TO BE MAINTAINED.
* TAMPER SWITCH ACTIVATION SHALL TRANSMIT A TROUBLE SIGNAL TO THE CALL CENTER IN THE HEAT PLANT

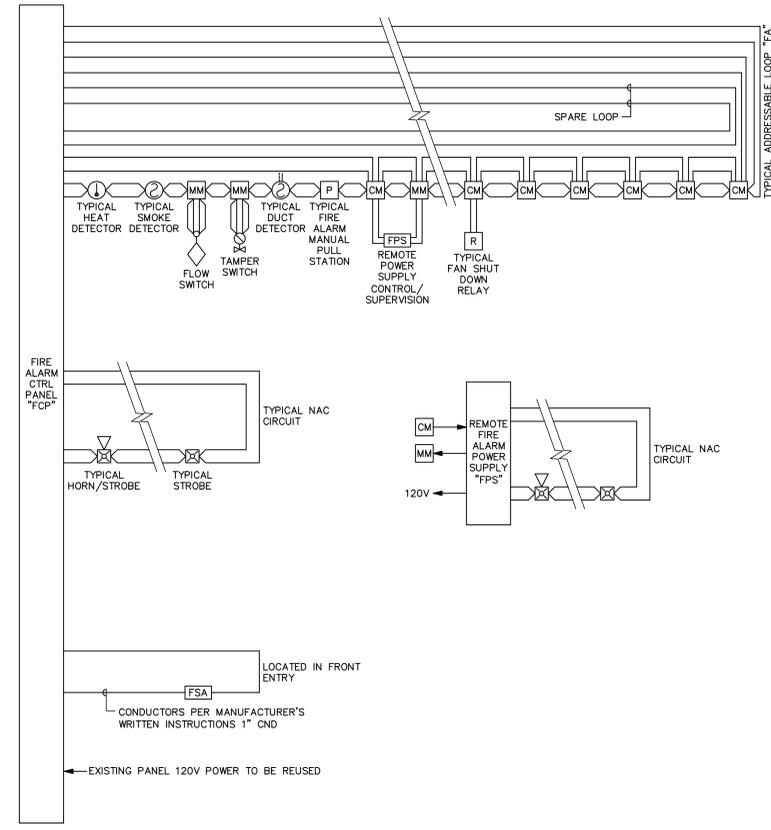
WIRING SCHEDULE				
FUNCTION	< 500'	< 1000'	1000'-3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER	#12 THWN	#10 THWN		
SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE					
SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE	
☒	15	15 CD	20'x20'	.075A	20
☒	15	15 CD	20'x20'	.085A	17
☒	30	30 CD	30'x30'	.135A	11
☒	75	75 CD	40'x40'	.200A	7
☒	110	110 CD	50'x50'	.225A	6

ADDRESSABLE LOOP LEGEND	
INITIATING LOOP	DESCRIPTION
FA-1	BUILDING LOOP: 150 MAX DETECTORS, 150 MAX MODULES

INDICATING LOOP LEGEND	
INDICATING LOOP	DESCRIPTION
FI-1	FIRST FLOOR
FI-2	SECOND FLOOR
FI-3	MECHANICAL MEZZANINE
FI-4	
FI-5	

NOTE: ALL CIRCUITS CLASS A, STYLE 6
NOTE: CIRCUITS SHOWN ARE EXAMPLES ONLY, CONTRACTOR SHALL PROVIDE ADDITIONAL LOOPS PER FIELD CONDITIONS



MULTIPURPOSE BUILDING ADDRESSABLE FIRE ALARM RISER

A1 NO SCALE

File Name: P:\2009\20090345\Drawings\Sheet\MB-FA4.dwg Last Plotted: 2009/12/02 @ 11:46 AM By: bwx

GENERAL SHEET NOTES

1. SHARWAN SMITH CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM IN THE OLD, EAST PORTION OF THE BUILDING WITH A NEW ADDRESSABLE SYSTEM, A NEW FIRE ALARM PANEL, AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES. ADDITIONALLY, FIRE SPRINKLERS SHALL BE ADDED, REPLACED, AND/OR RELOCATED AS OUTLINED IN THE DRAWINGS AND SPECIFICATIONS.
2. CODE ANALYSIS:
2006 INTERNATIONAL BUILDING CODE
2006 INTERNATIONAL FIRE CODE
2006 INTERNATIONAL MECHANICAL CODE
2008 NFPA 70
2007 NFPA 72
2006 NFPA 101 CHAPTER 23 FOR EXISTING DETENTION AND CORRECTIONAL OCCUPANCIES
AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS
DFCM DESIGN REQUIREMENTS

THIS BUILDING IS CLASSIFIED AS BUSINESS GROUP B.
3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE EXISTING FIRE ALARM EQUIPMENT INCLUDING PANELS, CONDUIT, INITIATION DEVICES, NOTIFICATION APPLIANCES, WIRING, ETC. THAT IS NOT REUSED. ALL DEMO EQUIPMENT SHALL BE OFFERED TO UNIVERSITY FOR REUSE/SPARE PARTS PRIOR TO DISPOSAL. DAMAGED SURFACES WHERE EQUIPMENT IS REMOVED SHALL BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS.
4. PLANS ARE BASED UPON 300 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP (150 DETECTORS, 150 MODULES). OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
5. PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
6. PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC, NOT TO EXCEED 75% (1125 AMPS AVAILABLE). POWER SUPPLY CAPACITY PER NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
7. PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
8. BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
9. RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
10. ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRE SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS.
11. REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
12. LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.
13. PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
14. EXISTING MONITORING CAPABILITIES OF CALL CENTER IN HEAT PLANT SHALL BE MAINTAINED UNLESS A HIGHER LEVEL CAN BE ACHIEVED WITH NEW SYSTEM. TAMPER SWITCHES SHALL SEND A TROUBLE SIGNAL TO CALL CENTER REGARDLESS OF LOCAL PANEL SIGNAL.



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STATE PROPERTY NO:

FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

5		
4		
3		
2		
1		

MARK	DATE	DESCRIPTION

SHEET KEYNOTES

1. PROVIDE DUCT SMOKE DETECTOR WITH CONTROL MODULE AND RELAY FOR LOCAL AND GLOBAL FAN SHUTDOWN.
2. EXISTING DOOR HOLDERS TO REMAIN. MAINTAIN EXISTING POWER AND CONTROL. PROVIDE NEW INTERCONNECTION RELAYS AND POWER IF NECESSARY.
3. EXISTING DOOR HOLDERS (2 SHOWN THIS SHEET) BETWEEN FIRE ZONES TO REMAIN. MAINTAIN EXISTING POWER AND CONTROL. DOORS SHALL RELEASE UPON GENERAL ALARM IN EITHER ZONE.
4. SMOKE DETECTORS WITH 'U' DESIGNATION INDICATE DETECTORS IN HIGH CEILING AREA.

ISSUE: DATE:

DFCM PROJECT NO: 09114730

PROJECT NO: 20090345

DRAWN BY: TNB

CHECKED BY: JDD

DESIGNED BY: JDD

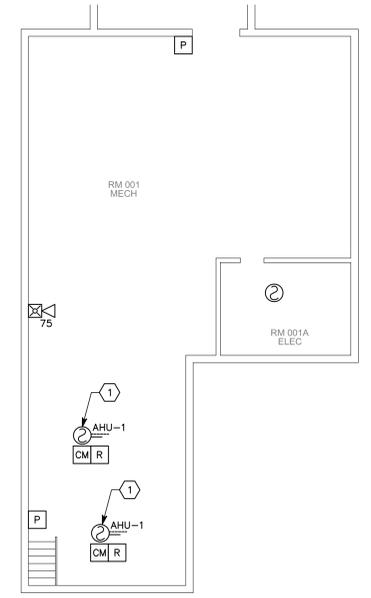
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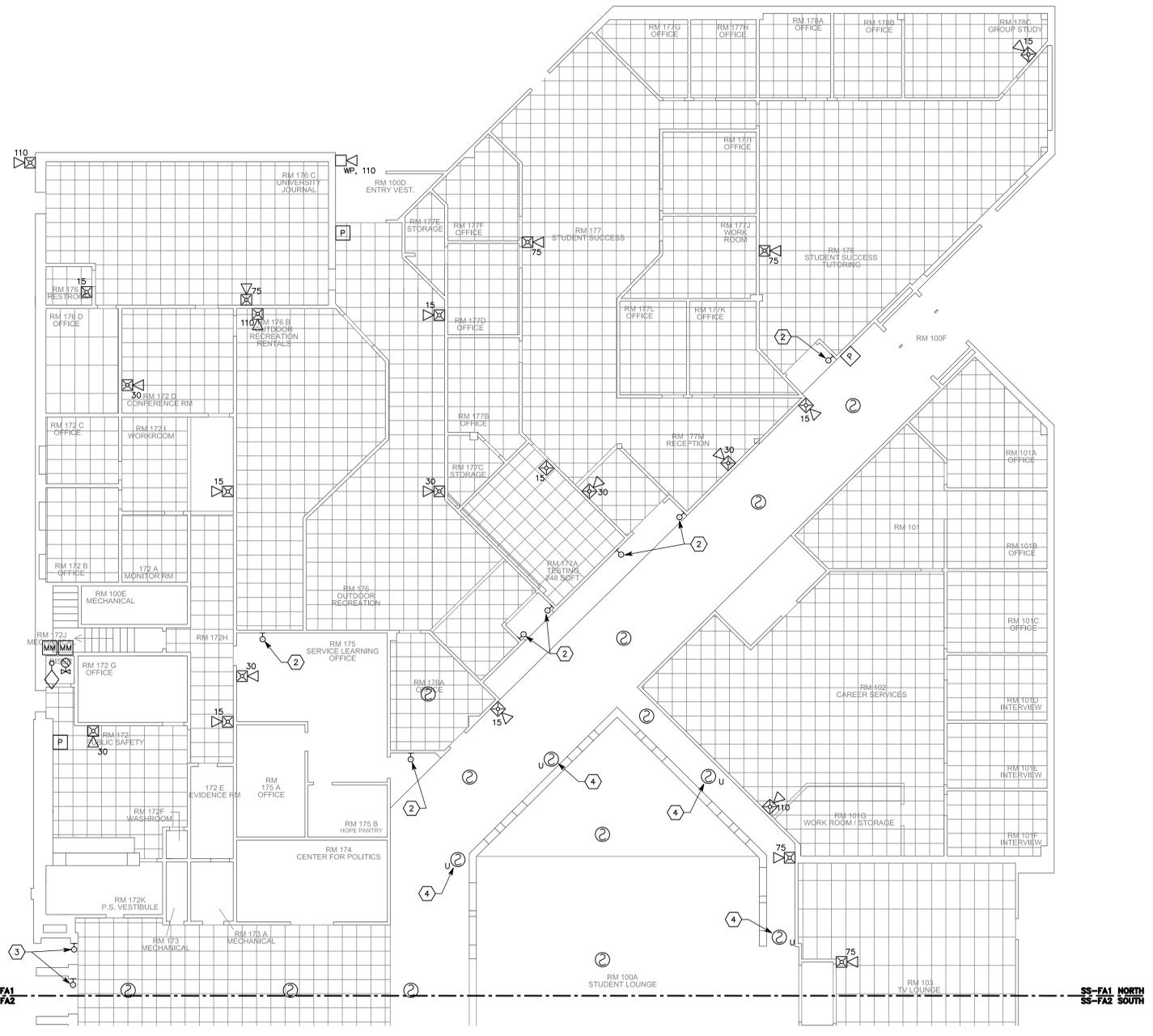
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SHEET TITLE
SHARWAN SMITH CENTER NORTH - FIRE ALARM PLAN

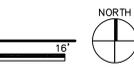
SS-FA1
SHEET 12 OF 16



(D1) SHARWAN SMITH CENTER BASEMENT - FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

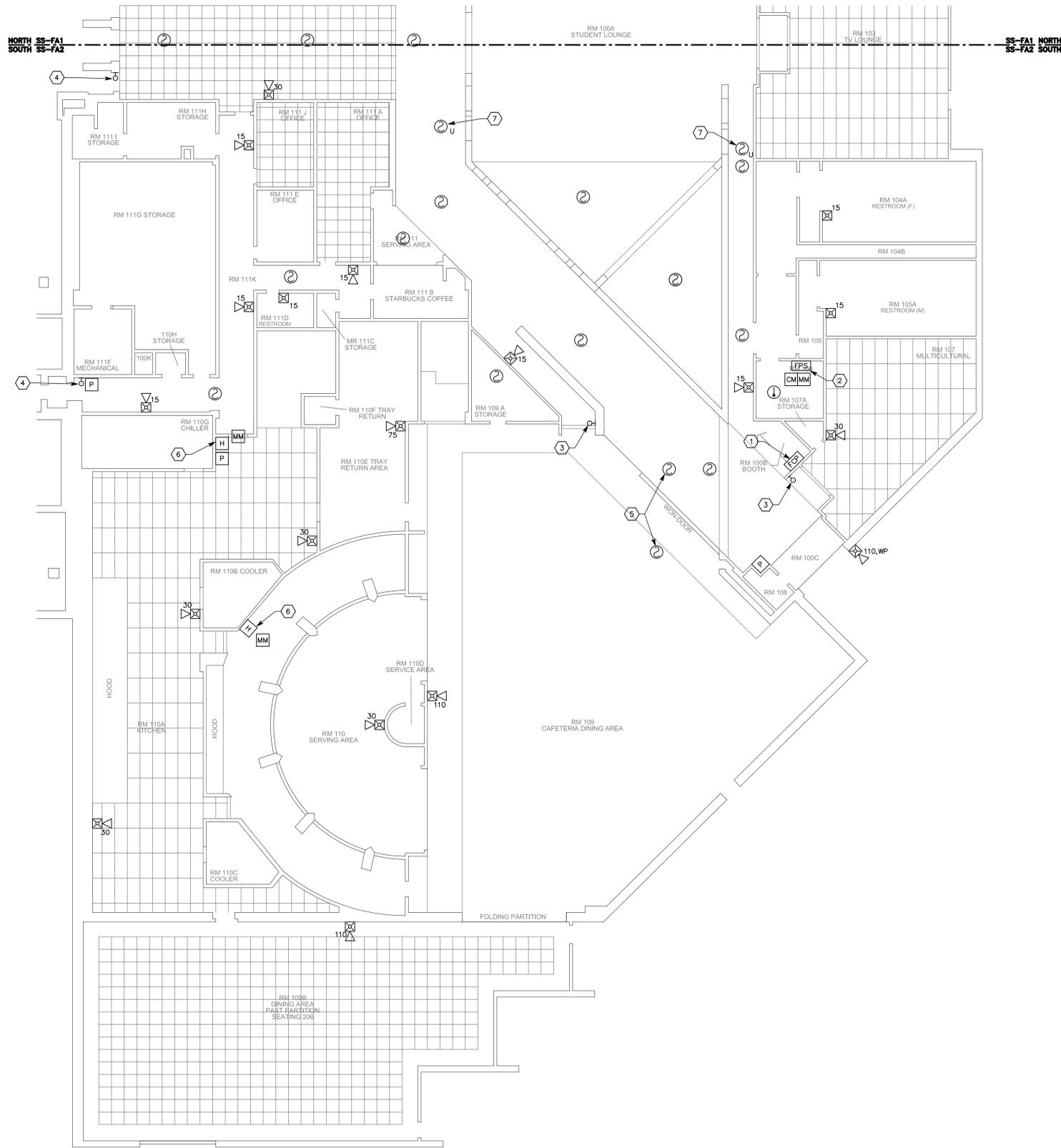


NORTH SS-FA1
SOUTH SS-FA2



(A1) SHARWAN SMITH CENTER (NORTH) - FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

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GENERAL SHEET NOTES

- SHARWAN SMITH CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM IN THE OLD, EAST PORTION OF THE BUILDING WITH A NEW ADDRESSABLE SYSTEM, A NEW FIRE ALARM PANEL, AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES. ADDITIONALLY, FIRE SPRINKLERS SHALL BE ADDED, REPLACED, AND/OR RELOCATED AS OUTLINED IN THE DRAWINGS AND SPECIFICATIONS.
- CODE ANALYSIS:
 2006 INTERNATIONAL BUILDING CODE
 2006 INTERNATIONAL MECHANICAL CODE
 2008 NFPA 70
 2007 NFPA 72
 2006 NFPA 101 CHAPTER 23 FOR EXISTING DETENTION AND CORRECTIONAL OCCUPANCIES
 AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS
 DFCM DESIGN REQUIREMENTS

 THIS BUILDING IS CLASSIFIED AS BUSINESS GROUP B.
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- PLANS ARE BASED UPON 300 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP (150 DETECTORS, 150 MODULES). OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
- PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC, NOT TO EXCEED 75% (1,125 AMPS AVAILABLE). POWER SUPPLY CAPACITY PER NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
- PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
- BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
- ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRE SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS.
- REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
- LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.
- PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
- EXISTING MONITORING CAPABILITIES OF CALL CENTER IN HEAT PLANT SHALL BE MAINTAINED UNLESS A HIGHER LEVEL CAN BE ACHIEVED WITH NEW SYSTEM. TAMPER SWITCHES SHALL SEND A TROUBLE SIGNAL TO CALL CENTER REGARDLESS OF LOCAL PANEL SIGNAL.

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 STATE PROPERTY NO:
FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

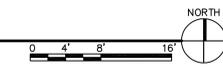
MARK	DATE	DESCRIPTION
5		
4		
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SHEET KEYNOTES

- NEW FIRE ALARM PANEL TO REPLACE EXISTING PANEL IN SAME LOCATION.
- PROVIDE REMOTE POWER SUPPLY FOR ADDITIONAL NAC CIRCUITS AND CONTROL AND MONITORING BY FPC.
- EXISTING DOOR HOLDERS TO REMAIN. MAINTAIN EXISTING POWER AND CONTROL. PROVIDE NEW INTERCONNECTION RELAYS AND POWER IF NECESSARY.
- EXISTING DOOR HOLDERS (2 SHOWN THIS SHEET) BETWEEN FIRE ZONES TO REMAIN. MAINTAIN EXISTING POWER AND CONTROL. DOORS BETWEEN FIRE ZONES SHALL RELEASE UPON GENERAL ALARM IN EITHER ZONE.
- SMOKE DETECTORS WITH RELAY FOR WON-DOOR CLOSURE. MAINTAIN PROGRAMMING AND FUNCTION AS EXISTING.
- MONITOR EXISTING COOKING HOOD SUPPRESSION SYSTEM.
- SMOKE DETECTORS WITH 'U' DESIGNATION INDICATE DETECTORS IN HIGH CEILING AREA.

ISSUE:	DATE:
DFCM PROJECT NO:	09114730
PROJECT NO:	20090345
DRAWN BY:	TNB
CHECKED BY:	JDD
DESIGNED BY:	JDD
RECORD DRAWING DATE:	
SIGNATURE:	
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SHEET TITLE	
SHARWAN SMITH CENTER SOUTH - FIRE ALARM PLAN	

(A1) SHARWAN SMITH CENTER (SOUTH) - FIRE ALARM PLAN
 SCALE: 1/8" = 1'-0"



FIRE ALARM INPUT/OUTPUT MATRIX		OUTPUT ACTION						NOTES
		GENERAL ALARM (NOTIFICATION APPLIANCE OPERATION)	DOOR HOLDER RELEASE	ALARM SIGNAL AT FCP	SUPERVISOR SIGNAL TO FCP	TROUBLE SIGNAL TO FCP	GLOBAL AIR HANDLER SHUTDOWN	
ZONE		1						
1	WATER FLOW SWITCH ACTIVATION	●	●	●				
2	VALVE TAMPER SWITCH ACTIVATION				●*			
3	PULL STATION ACTIVATION	●	●	●				
4	HEAT OR SMOKE DETECTOR ACTIVATION	●	●	●				
5	DUCT SMOKE DETECTOR	●	●	●				
6	REMOTE POWER SUPPLY TROUBLE					●		
7	CIRCUIT TROUBLE					●		
8	AC POWER LOSS				●			
9	LOW BATTERY POWER					●		
10	SYSTEM TROUBLE					●		
11								
12								
13								

* TAMPER SWITCH ACTIVATION SHALL TRANSMIT A TROUBLE SIGNAL TO THE CALL CENTER IN THE HEAT PLANT

WIRING SCHEDULE				
FUNCTION	< 500'	< 1000'	1000'-3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE				
SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
☒	15	15 CD	20'x20'	.075A
☒	15	15 CD	20'x20'	.085A
☒	30	30 CD	30'x30'	.135A
☒	75	75 CD	40'x40'	.200A
☒	110	110 CD	50'x50'	.225A

ADDRESSABLE LOOP LEGEND	
INITIATING LOOP	DESCRIPTION
FA-1	BUILDING LOOP: 150 MAX DETECTORS, 150 MAX MODULES

INDICATING LOOP LEGEND	
INDICATING LOOP	DESCRIPTION
FI-1	NORTH
FI-2	SOUTH
FI-3	BASEMENT
FI-4	
FI-5	

NOTE: ALL CIRCUITS CLASS A, STYLE Z
NOTE: CIRCUITS SHOWN ARE EXAMPLES ONLY, CONTRACTOR SHALL DETERMINE LOOPS PER FIELD CONDITIONS

- ### GENERAL SHEET NOTES
- SHARWAN SMITH CENTER: THIS PROJECT INCLUDES REPLACING THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM IN THE OLD, EAST PORTION OF THE BUILDING WITH A NEW ADDRESSABLE SYSTEM. A NEW FIRE ALARM PANEL, AND OTHER CONTROL EQUIPMENT, INITIATION AND NOTIFICATION DEVICES, CONDUIT, WIRING, AND ALL OTHER ACCESSORIES OR EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL BE INCLUDED. EXISTING WIRING AND CONDUIT MAY BE REUSED TO SUPPORT THE NEW SYSTEM AND EQUIPMENT WHERE POSSIBLE. NEW WIRING AND CONDUIT SHALL BE PROVIDED IN ALL OTHER INSTANCES. ADDITIONALLY, FIRE SPRINKLERS SHALL BE ADDED, REPLACED, AND/OR RELOCATED AS OUTLINED IN THE DRAWINGS AND SPECIFICATIONS.
 - CODE ANALYSIS:
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AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS
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 - PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
 - PLANS ARE BASED UPON 1.5 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.125 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
 - PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
 - BATTERY CAPACITY FOR THE FIRE ALARM PANEL AND REMOTE POWER SUPPLIES SHALL BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
 - RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 20% AREA FILL OF CONDUITS TO LEAVE ROOM FOR FUTURE EXPANSION.
 - ALL WIRING SHALL BE RUN IN CONDUIT OR WIRE MOLD. EXISTING WIRE SHALL BE REMOVED OR INSTALLED IN CONDUIT. NEW CONDUIT SHALL BE MINIMUM 3/4" DIAMETER WITH INSULATED STEEL THROAT FITTINGS.
 - REPLACE EXISTING DUCT DETECTORS OR PROVIDE NEW, ADDRESSABLE DEVICES. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS. DUCT SMOKE DETECTORS SHALL INITIATE A GENERAL BUILDING ALARM AND SHUT DOWN ALL AIR HANDLING EQUIPMENT.
 - LOCATE SMOKE AND HEAT DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS. EXISTING DEVICE LOCATIONS SHALL NOT BE REUSED IF NOT MEETING THIS REQUIREMENT.
 - PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
 - EXISTING MONITORING CAPABILITIES OF CALL CENTER IN HEAT PLANT SHALL BE MAINTAINED UNLESS A HIGHER LEVEL CAN BE ACHIEVED WITH NEW SYSTEM. TAMPER SWITCHES SHALL SEND A TROUBLE SIGNAL TO CALL CENTER REGARDLESS OF LOCAL PANEL SIGNAL.



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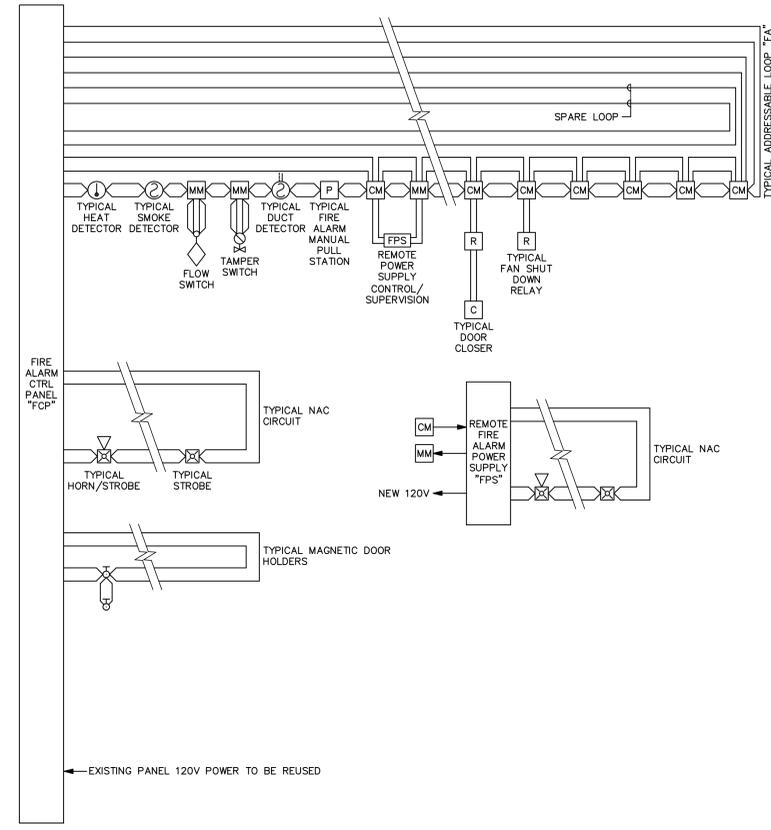
CONSULTANTS



SOUTHERN UTAH UNIVERSITY
VARIOUS BLDGS
STATE PROPERTY NO:
FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

MARK	DATE	DESCRIPTION
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ISSUE:
DATE:
DFCM PROJECT NO: 09114730
PROJECT NO: 20090345
DRAWN BY: TNB
CHECKED BY: JDD
DESIGNED BY: JDD
RECORD DRAWING DATE:
SIGNATURE:
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SHEET TITLE
SHARWAN SMITH CENTER - FIRE ALARM NOTES, RISER, & DETAILS
SS-FA3
SHEET 14 OF 16



SHARWAN SMITH CENTER ADDRESSABLE FIRE ALARM RISER
NO SCALE

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SYMBOL LEGEND		
SYMBOL	DESCRIPTION	COUNT
FIRE SPRINKLER SYMBOLS		
	NEW SSU ON SPRIG, K=5.6, BRASS; STANDARD RESPONSE AND COVERAGE	1
	NEW RECESSED PENDENT WITH NEW RECUT DROP TO REPLACE EXISTING; STANDARD COVERAGE; QUICK RESPONSE	116
	NEW RECESSED PENDENT ON NEW DROP; STANDARD COVERAGE; QUICK RESPONSE	9
	RELOCATE NEW RECESSED PENDENT AND NEW DROP FROM EXISTING OUTLET; STANDARD COVERAGE; QUICK RESPONSE	-

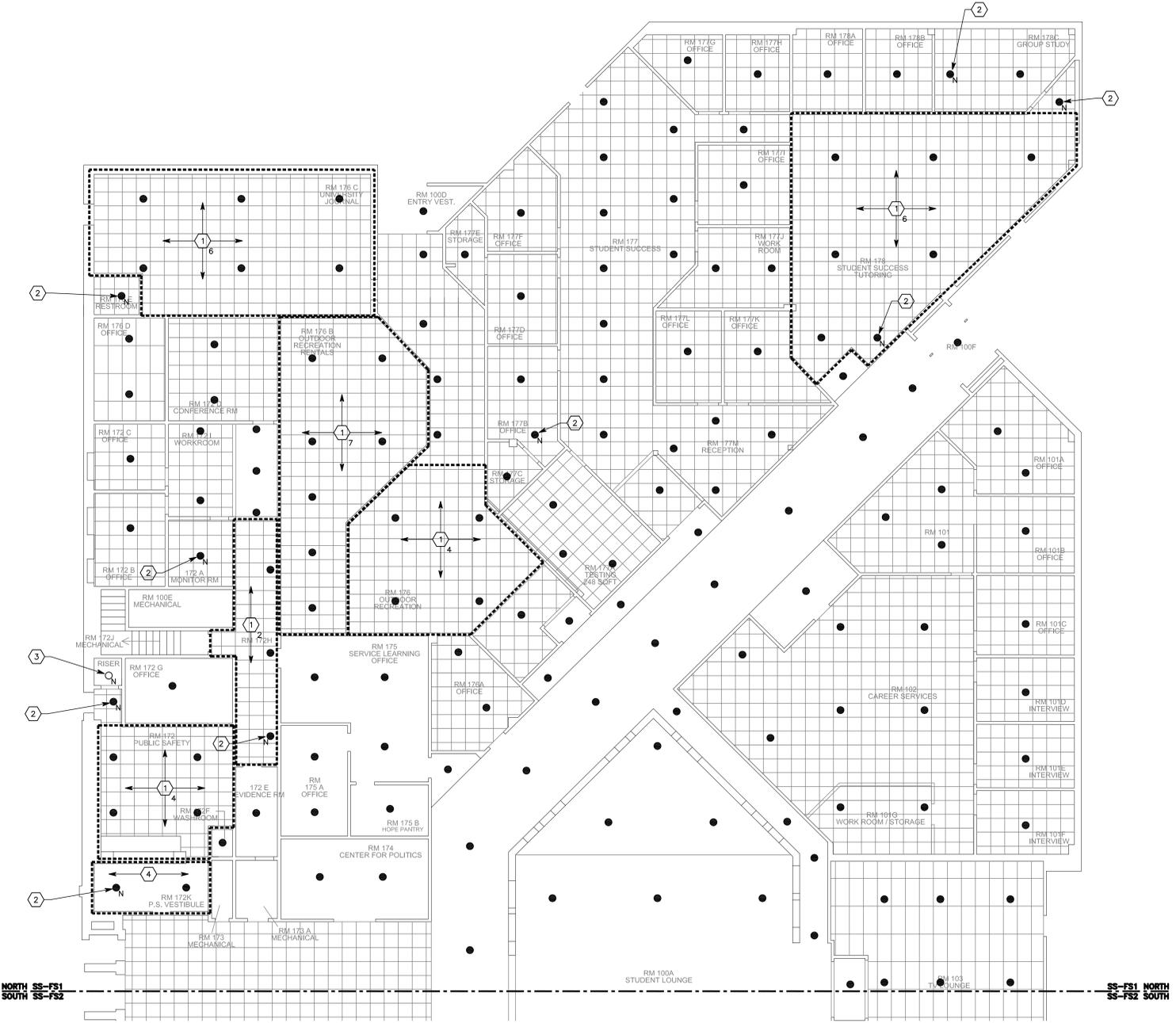
NOTE: CONTRACTOR SHALL PERFORM HEAD COUNT TO VERIFY NUMBER NEEDED FOR PROJECT.

GENERAL SHEET NOTES

- SHARWAN SMITH SCOPE OF WORK, FIRE SPRINKLER SYSTEM:
REPLACE EXISTING SPRINKLERS IN CURRENT LOCATION WITH RE-CUT DROP, RELOCATE SPRINKLERS AND ARMED/DROPS, AND/OR PROVIDE NEW SPRINKLERS AS SHOWN ON DRAWINGS. NEW SPRINKLERS SHALL BE RECESSED PENDENTS, QUICK RESPONSE, K-5.6 OR AS SHOWN ON DRAWINGS. EXISTING OVERSIZED PENETRATIONS THAT ARE REUSED SHALL EMPLOY COVERPLATE EXTENSIONS TO HIDE HOLES.
- SPRINKLER LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND SHOW ON AS-BUILTS.
- NEW EQUIPMENT SHALL BE UL LISTED OR FM APPROVED FOR USE IN FIRE PROTECTION SYSTEMS.
- EXISTING PENETRATIONS NOT REUSED SHALL BE PATCHED AND PAINTED TO THE SATISFACTION OF THE OWNER.

SHEET KEYNOTES

- REMOVE EXISTING SPRINKLERS AND DROPS. RESPACE SPRINKLERS TO ALLEVIATE OVERSPACING. PROVIDE NEW RECESSED SPRINKLERS, DROPS, AND HANGERS. SUBSCRIPT INDICATES NUMBER OF SPRINKLERS IN AREA TO MODIFY.
- PROVIDE NEW RECESSED SPRINKLER.
- PROVIDE NEW UPRIGHT SPRINKLER ABOVE RISER.
- PROVIDE NEW SPRINKLERS AND DROPS THIS AREA. RESPACE SPRINKLERS AS NECESSARY TO ALLEVIATE OVERSPACING OR OBSTRUCTIONS.



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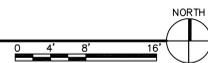
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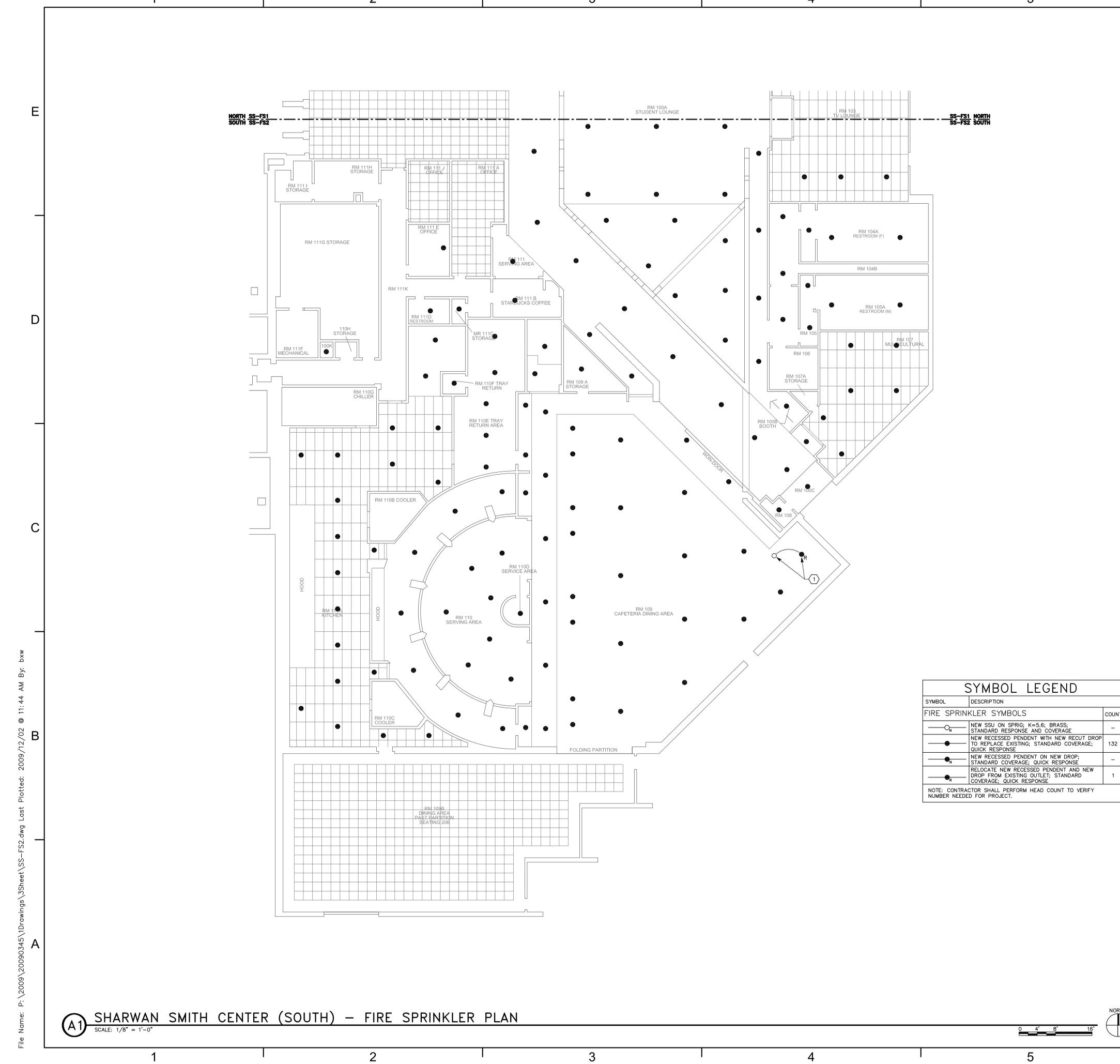
SHEET TITLE
SHARWAN SMITH CENTER (NORTH) - FIRE SPRINKLER PLAN

SS-FS1
SHEET 15 OF 16

(A1) SHARWAN SMITH CENTER (NORTH) - FIRE SPRINKLER PLAN
SCALE: 1/8" = 1'-0"



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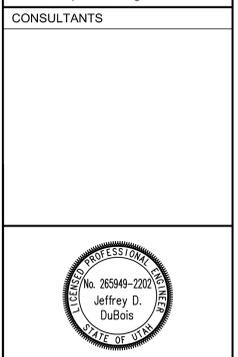


GENERAL SHEET NOTES

- SHARWAN SMITH SCOPE OF WORK, FIRE SPRINKLER SYSTEM:
 REPLACE EXISTING SPRINKLERS IN CURRENT LOCATION WITH RE-CUT DROP, RELOCATE SPRINKLERS AND ARMERS/DROPS, AND/OR PROVIDE NEW SPRINKLERS AS SHOWN ON DRAWINGS. NEW SPRINKLERS SHALL BE RECESSED PENDENTS, QUICK RESPONSE, K=5.6 OR AS SHOWN ON DRAWINGS. EXISTING OVERSIZED CEILING PENETRATIONS THAT ARE REUSED SHALL EMPLOY COVERPLATE EXTENSIONS TO HIDE HOLES.
- SPRINKLER LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND SHOW ON AS-BUILTS.
- NEW EQUIPMENT SHALL BE UL LISTED OR FM APPROVED FOR USE IN FIRE PROTECTION SYSTEMS.
- EXISTING PENETRATIONS NOT REUSED SHALL BE PATCHED AND PAINTED TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL ADD 10 NEW SPRINKLERS AND DROPS TO BID TO ACCOUNT FOR POSSIBLE ADDITIONS DURING PROJECT.

SHEET KEYNOTES

- RELOCATE EXISTING SPRINKLER IN NEW GENERAL LOCATION TO ALLEVIATE OVERSPACING. PROVIDE NEW RECESSED SPRINKLER AND ARMER FROM EXISTING OUTLET.



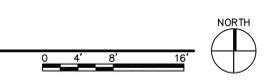
SOUTHERN UTAH UNIVERSITY
VARIOUS BLDGS
 STATE PROPERTY NO:
FIRE ALARM & FIRE SPRINKLER SYSTEM UPGRADES

SYMBOL LEGEND

SYMBOL	DESCRIPTION	COUNT
FIRE SPRINKLER SYMBOLS		
	NEW SSU ON SPRIG; K=5.6; BRASS; STANDARD RESPONSE AND COVERAGE	-
	NEW RECESSED PENDENT WITH NEW RECURT DROP TO REPLACE EXISTING; STANDARD COVERAGE; QUICK RESPONSE	132
	NEW RECESSED PENDENT ON NEW DROP; STANDARD COVERAGE; QUICK RESPONSE	-
	RELOCATE NEW RECESSED PENDENT AND NEW DROP FROM EXISTING OUTLET; STANDARD COVERAGE; QUICK RESPONSE	1

NOTE: CONTRACTOR SHALL PERFORM HEAD COUNT TO VERIFY NUMBER NEEDED FOR PROJECT.

(A1) SHARWAN SMITH CENTER (SOUTH) - FIRE SPRINKLER PLAN
 SCALE: 1/8" = 1'-0"



MARK	DATE	DESCRIPTION
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 DFCM PROJECT NO: 09114730
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 SIGNATURE:
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 SHEET TITLE
SHARWAN SMITH CENTER (SOUTH) - FIRE SPRINKLER PLAN
SS-FS2
 SHEET 16 OF 16

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