THINK LEARN BE MORE TOGETHER

POCATELLO/CHUBBUCK SCHOOL DISTRICT 25

LEARNING TODAY FOR THE POSSIBILITIES OF TOMORROW

Administration Offices
3115 Pole Line Road
Pocatello, Idaho

INVITATION TO BID

SPECIFICATIONS FOR

2025-26 FIRE ALARM REPLACEMENT AT
FRANKLIN MIDDLE SCHOOL

PROJECT NO.	SCHOOL	ADDRESS
1	Franklin Middle School	2271 E Terry St

BIDS WITH CONDITIONS WILL NOT BE ACCEPTED

BID OPENING

April 8, 2025
10:30 A.M.

POCATELLO/CHUBBUCK SCHOOL DISTRICT NO. 25
INVITATION TO BID

Sealed bids will be received at the Pocatello/Chubbuck School District No. 25 Business Office, Bannock County, Idaho at 3115 Pole Line Road, Pocatello, Idaho, 83201, until **10:30 AM, on April 8, 2025** for the following:

2025 Fire Alarm Replacement at Franklin Middle School

A **mandatory pre-bid conference** and walk-thru to review the projects will be held at the District Maintenance Shop, 185 E. Maple, Pocatello, Idaho, on **April 2, 2025 at 1:30 PM.**

Specifications or additional details, (including bid forms), may be secured at the Business Office, 3115 Pole Line Road, Pocatello, Idaho, 83201 or by calling (208) 235-3270. All bids must be on the forms furnished, all blank spaces filled, and signed with the name and address of the Bidder. No unqualified bids will be read.

Each bid shall be accompanied by a certified check, cashier's check, or a bidder's bond, (executed by a qualified surety company with the power to do business in the State of Idaho) in the sum of not less than five percent, (5%) of the total bid, made payable to School District No. 25, Bannock County, Pocatello, Idaho. This surety shall be forfeited by the bidder in the event of failure to enter into a contract. Personal or company checks will not be accepted. Compliance with Idaho Public Works Law is required.

The Board of Trustees reserves the right to reject any or all bids or to waive any informalities, or to accept the bid or bids deemed best for Pocatello/Chubbuck School District No. 25, Bannock County, Pocatello, Idaho.

Renae Johnson, Clerk
Pocatello/Chubbuck School District No. 25

Publish dates:

March 29, 2025
April 5, 2025

IDAHO STATE JOURNAL

INSTRUCTIONS TO BIDDERS

BIDS:

Sealed bids will be received on or before the time and date set forth under Invitation to Bid

The owner reserves the right to accept or reject any part or all bids.

Bidders submitting a bid on this work will be required to figure and furnish everything as called for by these specifications and the requirements of the Bid sheet.

All bids shall be in a sealed envelope addressed to the Pocatello/Chubbuck School District No. 25 Business Office, Bannock County, Idaho at 3115 Pole Line Road, Pocatello, Idaho. The following shall be written on the exterior of the envelope:

"BID FOR 2025 FIRE ALARM REPLACEMENT AT FRANKLIN MIDDLE SCHOOL
TO BE OPENED AT 10:30 AM MST on APRIL 8, 2025"

Bids not delivered by contractors at time of bid opening must be received in mail no later than 4:00 PM on April 7, 2025, the day before the bid opening.

EXAMINATION OF THE SITE AND DOCUMENTS: *Pre-Bid Walk through.*

Refer all questions to Mr. Brian Glenn, School Plant Facilities Coordinator, at (208)233-2604. Contact with other district staff, Board of Trustees, or Administration, will be by written permission only.

A **mandatory pre-bid conference and walk-thru** to review projects will be held at the District Maintenance Shop, 185 East Maple, Pocatello, Idaho, on April 2, 2025 at 1:30 pm.

The purpose of the pre-bid conferences is to:

1. Carefully examine the specifications.
2. Visit the worksite.
3. Be fully informed of existing conditions and limitations.
4. Include in the bid sums sufficient to cover all items required by the contract, which shall rely entirely upon your own examinations in making this proposal.

INTERPRETATIONS:

Should a bidder find discrepancies in, or omissions from the specifications, or be in doubt as to their meaning, he should at once notify the Owner, who will send written instructions or addenda to all bidders. The owner will not be responsible for oral interpretations. Questions received less than 48 hours before time for bid opening cannot be answered. All addenda issued during the time of bidding will be incorporated in the contract.

BID GUARANTEE:

As a guarantee, if awarded the contract, the bidder will execute same and furnish bond. Each bid will be accompanied by a Certified Check, Cashier's Check, or Bid Bond for not less than five percent (5%) of the base bid payable to Owner. NO PERSONAL OR COMPANY CHECKS WILL BE ACCEPTED.

OBJECTIONS:

Written objections to specifications or bid procedures must be received by the clerk, secretary, or other authorized official of the District at least one (1) business day before the date and time upon which bids are scheduled to be received, per Idaho Code Section 68-2806(c).

EVIDENCE OF QUALIFICATIONS:

Upon request of Owner, a bidder whose bid is under consideration for award of the contract shall submit, promptly, satisfactory evidence of his financial resources, his experiences, and the organization and equipment he has available for performance of the contract.

LAWS AND ORDINANCES:

The contractor hereby binds himself to protect and save harmless the owner from all damages arising from the violation of any and all Federal, State, County, City, and all other laws, rules, regulations, in the performance of the terms of the contract.

HOLD HARMLESS AGREEMENTS:

The District expects your work to conform to professional standards. The contractor is expected to hold the District harmless for all damages or claims arising out of the work performed by the contractor. The District will not agree to hold the contractor harmless for damages or claims.

EQUIPMENT:

The contractor shall provide all labor, materials, tools, and equipment, etc. necessary for the complete and substantial execution of everything described in the specifications.

STORAGE OF MATERIALS:

The contractor shall make arrangement and coordinate with the Maintenance Department for delivery and storing of materials. Any damages of life or property caused by storage of materials on the above-indicated place shall be paid for by the contractor, who shall hold the owner harmless for any damages concerning the same.

SUPERVISION:

The supervision of this work will be done by Pocatello/Chubbuck School District No. 25 Maintenance Department.

INSPECTION OF WORK:

The representative of the owner shall at all times have access to the work wherever it is in preparation or progress and the contractor shall provide facilities for such access and for inspection.

EMPLOYMENT OF RESIDENTS OF IDAHO:

In compliance with Idaho Laws, Section 44-1001 and 44-1002 Idaho Code, the contractor "... must employ ninety-five percent (95%) bona fide Idaho residents as employees on any such contracts except where under such contracts fifty (50) or less persons are employed the contractor may employ ten percent (10%) nonresidents, provided however, in all cases such employers must give preference to the employment of bona fide Idaho residents in the performance of such work...."

CONTRACTOR'S LICENSE:

In compliance with Idaho Laws, the contractor must be registered with the State of Idaho, and hold the required ***Public Works Contractor's License*** before obtaining the contract documents and before submitting a bid for this work.

INSURANCE:

All contractors who provide goods or services to the District are required to provide the District with certificates of insurance for General Liability, Auto Liability, Workers Compensation, and Professional Liability if applicable.

The General Liability and/or Professional Liability certificate must name the District as an additional insured under the contractor's policy.

Certificates are to be provided to the District prior to any work commencing on District property. This would include the placement of any equipment or materials at the work site.

Minimum Insurance Limits

General Liability	$1,000,000 per occurrence $1,000,000 products and completed operations $1,000,000 annual aggregate
Auto Liability	$1,000,000 per occurrence
Workers Compensation	Statutory

PERFORMANCE BOND:

The successful bidder will be required to furnish a 100% performance bond when entering into the contract work, per Idaho Code Section 54-1926, "....conditioned upon the faithful performance of the contract in accordance with the plans, specifications and conditions thereof."

PAYMENT BOND:

The successful bidder will be required to furnish a 100% payment bond when entering into the contract work, per Idaho Code Section 54-1926, "solely for the protection of persons supplying labor or materials, or renting, leasing, or otherwise supplying equipment to the contractor or his subcontractors in the prosecution of the work provided for in such contract."

5% RETAINAGE:

The Owner will retain 5% of the Contractor's earned sum to ensure faithful performance. This 5% will be released to the Contractor upon receipt of tax release from State of Idaho.

OWNER/CONTRACTOR AGREEMENT:

The Agreement for the work will be written on a District provided Form of Agreement between Owner and Contractor where the basis of payment is a stipulated sum.

LIQUIDATED DAMAGES:

Contractor shall be required to pay Owner as liquidated damages the sum of $500 for each day, after the scheduled completion date, that the project is unfinished.

CHANGES IN THE WORK:

The owner, without invalidating the contract, may order extra work or make changes by altering, adding to, or deducting from the work; the contract sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract, except that any claim for extension of the time caused thereby shall be adjusted at the time of ordering such change.

The total allowance for combined overhead and profit for changes shall be included in the total cost to the owner and shall be based on the following schedule:

a) For the Contractor, 10% over cost;
b) For the Sub-Contractor, 15% over cost to be divided 10% for Sub-Contractor and 5% for Contractor; and
c) For any Sub-Subcontractor, 15% over cost to be divided 5% for Contractor, 5% for Sub-Contractor, and 5% for Sub-Subcontractor.

FORM WH5:

Per Idaho Code Section 54-1904A, within thirty (30) days of award of bid, the contractor shall file with the State Tax Commission a form WH-5, Public Works Contract Report.

WARRANTY:

Manufacturer shall warrant products, projects under normal use to be free from defects in materials and workmanship for a period of one year from date of installation and completion of project.

Warranty shall cover repair or replacement of areas determined defective upon inspection.

CLEAN UP:

The contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish from and about the building and all tools and surplus materials and shall leave his work clean. In case of dispute, the owner shall remove the rubbish and surplus materials and charge the cost to the contractor. At no time shall the School District Dumpsters be used to remove the Contractor's waste or garbage scraps.

IDAHO EMPLOYER ALCOHOL AND DRUG-FREE WORKPLACE ACT: Include with your bid sheet a contractor's affidavit pursuant to Idaho Code Section 72-1717.

BIDDER CERTIFICATION FORM: All bidders must complete and submit the Bidder Certification Form included with this bid request.

PAYMENTS:

Prices must remain firm as quoted by supplier until quantity awarded is received. Application for payment dated on or before the 25th of the month, shall be paid by the 15th of the following month. Application for payment dated after the 25th of the month, shall be paid within 30 days. Invoices must break down work by school and other District buildings, then totaled.

Delivery may be accepted any time, however, payment for the 2025-2026 fiscal year cannot be made until after July 1, 2025 when those funds have been released.

BID:

The following specifications are being used as a guideline. Alternate bids for equal carpet material will be considered upon District approval two weeks prior to the bid due date. Substitutions or major alterations must be indicated upon the proposal sheet at the time of the bid submission. Bids must be based upon conditions at the site and these specifications. Bids shall be submitted in accordance with the requirements shown on the bid form.

BID EVALUATION CRITERIA:

Contractor selection on this project will be evaluated based on the following:

1. Price.
2. Contractor reputation in providing quality materials, installation and service of work with current customers or past performance with Pocatello/Chubbuck School District 25. (Please list all jobs/contracts greater than $50,000 performed in the past two years if contractor has not performed one for the District in past 5 years).
3. Vendor ability to best match the listed criteria as specified.

The contract will be awarded to the lowest responsive and responsible bidder or bid/offer most advantageous to the District with price and other factors considered.

BASIS OF PAYMENT

The accepted quantity of this item will be paid for at the contract price per unit completed as called for on the proposal sheet, which price shall be full compensation for the furnishing of all materials, labor, equipment, tools, or any other work necessary to complete this item in conformance with the plans and these specifications or as directed by the School Plant Coordinator.

DELIVERY AND START OF WORK:

Work can begin as soon as possible after June 2, 2025 and be completed no later than August 8, 2025.

REQUIREMENTS FOR REPLACEMENT OF FIRE ALARM SYSTEM:

FRANKLIN MIDDLE SCHOOL

SCOPE OF WORK - This work is to replace the existing fire alarm system with a new updated fire alarm system and shall include the following:

A. Removal and disposal of all existing fire alarm system components.
B. Installation of new Potter fire alarm control panel and components as per drawings to meet current code requirements.
C. Installation of all new low voltage wiring and necessary piping to connect new components as shown on drawings.
D. All high voltage electrical and necessary piping for a fully functional fire alarm system.
E. All testing as required by local fire authority.
F. Repair of building areas affected by project to original pre-project condition.
G. Costs for all permits and inspections.

GENERAL NOTES THAT APPLY TO ALL OF THE ABOVE BID ITEMS:

1. Contractor will submit equipment, materials and/or design submittals to the District for approval prior to ordering equipment.

2. New installation shall meet all Federal, state and local code requirements. The contractor will be responsible for obtaining any required permits and/or jurisdictional approvals. The contractor is responsible for providing any and all drawings and specifications that are required by governmental agencies. The contractor will be required to provide proof of final approval from all governmental agencies having jurisdiction over this work once the installation is complete.

3. 3. Contractor is responsible for verifying existing electrical loads and notifying the District if electrical service modifications might be required. The Contractor is responsible for making all electrical connections necessary unless directed differently in individual item descriptions.

4. The Contractor is responsible for providing any changes or modifications required to the building (drywall, painting, roofing, insulation, etc.) so as to provide a complete, finished product.

5. Contractor will provide industry standard warrantee for this application.

6. Contractor will provide operation and maintenance training of O&M personnel once the installation is complete. Completed operation & maintenance manuals are to be turned into the District Maintenance Department.

BID PROPOSAL

2026 FIRE ALARM REPLACEMENT
AT FRANKLIN MIDDLE SCHOOL

Board of Trustees
Pocatello/Chubbuck School District No. 25
3115 Pole Line Road
Pocatello, ID 83201-6119

Date: _____

_____
Company Name

We, the undersigned Bidder agrees, if this bid is accepted, to enter into an agreement with Owner to furnish all labor, materials, tools, and equipment to complete work called for by these specifications in connection with the 2025 Fire Alarm Replacement at Franklin Middle School.

The District will award the Fire Alarm Replacement bid by project(s) number to the vendor with the lowest responsible bid.

We further acknowledge Addendum(s) received, if applicable. No. _____, dated _____.

PROJECT	**AMOUNT**
No. 1 – Franklin Middle School	$_____

Work can begin **June 2, 2025 and be completed no later than August 8, 2025.**

The Board of Trustees reserves the right to reject any/or all bids or to waive any informalities, or to accept the bid or bids deemed best for Pocatello/Chubbuck School District No. 25, Bannock County, Pocatello, Idaho.

Respectfully submitted,

- Attached, if applicable, is a listing of sub-contractor's names and addresses for this project.
- Attached is our Affidavit of Alcohol and Drug-Free Worksite, as pursuant to Idaho Code 72-1717.
- Attached is Bidder Certification Form.

_____	_____
Company Name	Authorized Signature / Date
_____	_____
Address	Title
_____	_____
City, State, Zip	Public Works License Number
_____	_____
Phone / Fax Number	Worker's Comp & Liability Insurance Exp. Date
_____	
Email, if applicable	

CONTRACTOR'S AFFIDAVIT
CONCERNING ALCOHOL AND DRUG-FREE WORKPLACE

STATE OF _____

COUNTY OF _____

Pursuant to the Idaho Code, Section 72-1717, I, the undersigned, being duly sworn, depose and certify that named contractor is in compliance with the provisions of Idaho Code section 72-1717; that named contractor provides a drug-free workplace program that complies with the provisions of Idaho Code, title 72, chapter 17 and will maintain such program throughout the life of a state construction contract and that named contractor shall subcontract work only to subcontractors meeting the requirements of Idaho Code, section 72-1717(1)(a).

_____ _____

Name Authorized Signature / Date

Subscribed and sworn to before me this _____ day of _____, 2025.

Commission expires:

_____

NOTARY PUBLIC, residing at

_____

BIDDER CERTIFICATION FORM

1. **Debarment and Suspension** – In submitting this bid proposal, we hereby certify that we have not been suspended or in any way excluded from Federal procurement actions by any Federal Agency. We fully understand that if information contrary to this certification subsequently becomes available, such evidence may be grounds for non-award or nullification of a bid contract.

2. **Anti-Collusion** – In submitting this bid proposal, we hereby certify this proposal was developed and prepared without any collusion with any competing bidder or District employee. The content of this proposal has not been disclosed to any competing or potentially competing bidder prior to the proposal due date and time. Furthermore, no action to persuade any person, partnership or corporation to submit or withhold a bid has been made.

3. **Anti-Lobbying** – In submitting this bid proposal, we hereby certify that to the best of our knowledge and belief, no appropriated Federal funds have been paid or will be paid by or on behalf of person associated with this proposal to any person for influencing or attempting to influence and officer or employee of any agency, a member of Congress, an office or employee of Congress or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement.

4. **National Sexual Offender Registry** – In submitting this bid proposal, you certify to the District that your company will prohibit any persons in your employ who are registered or required to register under the Idaho Sex Offender Registration Act from participation in company business with the District if such participation would require them to be present on school property. You certify further that you have cross checked such employees against the National Sex Offender Registry found at the following web link: http://www.nsopr.gov/

Signed: _____ Date: _____

Name & Title: _____

Company: _____ Phone: _____

Address: _____

City/State/Zip: _____

FIRE ALARM SYMBOL LEGEND

NOTE: ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT

SYMBOL	DESCRIPTION	MANUF. & PART #	MOUNTING	MOUNT IN	QTY
FACP	FIRE ALARM CONTROL PANEL	POTTER – AFC–1000V	WALL – TOP @ 66"	CABINET INCLUDED	1
FPS	FIRE ALARM POWER SUPPLY	POTTER – PSN1000	WALL – TOP @ 66"	CABINET INCLUDED	2
AMP1	VOICE AMPLIFIER PANEL	POTTER – SCA–5070	WALL – TOP @ 66"	CABINET INCLUDED	1
APS	AUXILIARY POWER SUPPLY	EXISTING	WALL – TOP @ 66"	BY OTHERS	1
COM	FIRE ALARM COMMUNICATOR	NAPCO – SLE–MAX2–FIRE	WALL – TOP @ 66"	CABINET INCLUDED	1
DOC	DOCUMENT BOX	SPACE AGE ELEC. – SSU00691	WALL – TOP @ 66"	CABINET INCLUDED	1
LOC	LOCAL OPERATORS CONSOLE	POTTER – LOC–1000	WALL – TOP @ 66"	CABINET INCLUDED	1
(S)	SMOKE DETECTOR	POTTER – PAD300–PD	CEILING	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	73
(H)	HEAT DETECTOR	POTTER – PAD300–HD	CEILING	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	120
MM	MONITOR MODULE	POTTER – PAD100–SIM	FIELD VERIFY	4 SQ. DEEP – MOUNTED FLUSH	9
RM	RELAY MODULE	POTTER – PAD100–RM	FIELD VERIFY	4 SQ. DEEP – MOUNTED FLUSH	19
P	PULL STATION	POTTER – PAD100–PSSA	WALL @ 48"	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	13
VS	SPRINKLER VALVE TAMPER	FIELD VERIFY	BY OTHERS	INSTALLED BY OTHERS	2
WF	SPRINKLER WATERFLOW	FIELD VERIFY	BY OTHERS	INSTALLED BY OTHERS	2
DH	DOOR HOLDER	EXISTING	BY OTHERS	INSTALLED BY OTHERS	E
DD	DUCT SMOKE DETECTOR	POTTER – PAD300–DUCTR	INDICATED DUCT	DUCT DETECTOR HOUSING	13
CO	CARBON MONOXIDE DETECTOR	SYSTEM SENSOR – C01224TR	CEILING	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	16
	MINI MONITOR MODULE	POTTER – PAD100–MIM	CEILING	IN CO BACKBOX	16
	HORN / STROBE	SYSTEM SENSOR – P2R(W)L	WALL 80"–96"	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	3
SS	WALL MOUNT SPEAKER / STROBE	SYSTEM SENSOR – SPSRL	WALL 80"–96"	4 SQ. DEEP W/ SINGLE GANG MUD RING – MOUNTED FLUSH	110

ABBREVIATION	DESCRIPTION
E	EXISTING
G	WITH GUARD
P	PENDENT MOUNT
R	RESIDENTIAL (110V)
S	SOUNDER BASE
WP	WEATHERPROOF
EOL	END OF LINE RESISTOR
EOLR	END OF LINE RELAY

ABBREVIATION	DESCRIPTION
AWG	AMERICAN WIRE GAUGE
TWP	TWISTED PAIR
TWSP	TWISTED SHIELDED PAIR
FPLP	FIRE POWER LIMITED PLENUM
FPLR	FIRE POWER LIMITED RISER

(2) ← DEVICE ADDRESS → [P]
L1S001 OR M01
(L – DENOTES LOOP #)
(S or M – DENOTES SENSOR OR MODULE #)

1–#16/2 TWP
WIRE TYPE ABBREVIATED
CONDUCTOR COUNT
WIRE SIZE
OF CABLES (IF OMITTED ONLY 1 CABLE NEEDED)

STROBE CANDELA
15 30

OPERATIONS MATRIX

FIRE ALARM INPUT	FIRE ALARM OUTPUT	DISPLAY DESCRIPTIVE TEXT AT FACP AND/OR ANNUNCIATOR	ACTIVATE ALARM INDICATOR AT FACP	ACTIVATE AUDIBLE ALARM AT FACP	ACTIVATE SUPERVISORY INDICATOR AT FACP	ACTIVATE AUDIBLE SUPERVISORY SIGNAL AT FACP	ACTIVATE TROUBLE INDICATOR AT FACP	ACTIVATE AUDIBLE TROUBLE INDICATOR AT FACP	TRANSMIT WATERFLOW SIGNAL	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL	ACTIVATE ALTERNATE ELEVATOR RECALL	ACTIVATE PRIMARY RECALL	ACTIVATE ELEVATOR SHUNT	ACTIVATE FIREMAN'S HAT	ACTIVATE NOTIFICATION APPLIANCES	RELEASE MAGNETICALLY HELD SMOKE DOORS	SHUTDOWN AIR HANDLERS IN EXCESS OF 2,000 CFM	ACTIVATE CARBON MONOXIDE SOUNDER
SMOKE DETECTORS	●	●	●	●						●							●	●	●	
HEAT DETECTORS	●	●	●	●						●							●	●	●	
PULL STATIONS	●	●	●	●						●							●	●	●	
PRIMARY RECALL FLR, ELEV LOBBY SMOKE DET	●	●	●	●						●			●				●	●	●	
ALTERNATE RECALL FLR, ELEV LOBBY SMOKE DET	●	●	●	●						●				●			●	●	●	
TOP OF ELEV SHAFT SMOKE DET	●	●	●	●						●				●		●	●	●	●	
ELEVATOR EQUIPMENT ROOM SMOKE DET	●	●	●	●						●				●		●	●	●	●	
ELEVATOR EQUIPMENT ROOM HEAT DET	●	●	●	●						●					●		●	●	●	
TOP OF ELEV SHAFT HEAT DET	●	●	●	●						●					●		●	●	●	
WATERFLOW SWITCHES	●	●	●	●				●									●	●	●	
VALVE SUPERVISORY SWITCHES	●			●	●						●									
DUCT DETECTORS	●			●	●						●								●	
CARBON MONOXIDE DETECTOR	●			●	●						●									●
FIRE ALARM AC POWER FAIL	●					●	●					●								
FIRE ALARM LOW BATTERY	●					●	●					●								
OPEN CIRCUIT	●					●	●					●								
GROUND FAULT	●					●	●					●								
NAC SHORT CIRCUIT	●					●	●					●								
LOSS OF AC TO BUILDING	●					●	●					●						●		

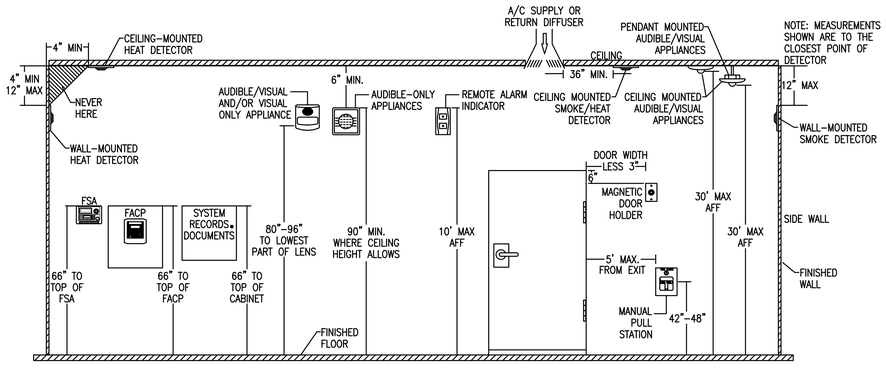
GENERAL NOTES:

1. SCOPE OF WORK: THIS PROJECT SHALL INCLUDE THE REPLACEMENT OF AN EXISTING FIRE ALARM SYSTEM AND THE INSTALLATION OF A NEW ADDRESSABLE FIRE ALARM SYSTEM WITH OCCUPANT VOICE EVACUATION NOTIFICATION THROUGHOUT.
2. THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
3. INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
4. WIRING DEPICTED ON THESE PLANS IS SCHEMATIC – ACTUAL WIRE LOCATIONS MAY DIFFER FROM THESE PLANS. WIRING SHALL BE PERFORMED AS ACTUAL BUILDING CONSTRUCTION CONDITIONS ALLOW AND TO MINIMIZE PENETRATIONS THROUGH AREA SEPARATION WALLS AND FIRE WALLS. THE USE OF A RACEWAY IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RACEWAY.
5. FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE–RATED CONSTRUCTION.
6. POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT. THE LOCATION OF THE BRANCH CIRCUIT BREAKER SHALL BE PERMANENTLY IDENTIFIED AT THE CONTROL UNIT, MECHANICALLY PROTECTED, ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND SHALL BE RED AND LABELED "FIRE ALARM CIRCUIT CONTROL" IN ACCORDANCE WITH NFPA 72. ELECTRICAL CONTRACTOR SHALL PERFORM LOAD CALCULATIONS TO DETERMINE SIZE OF WIRING AND BREAKERS FOR ALL FIRE ALARM AC BRANCH CIRCUITS BASED ON THE INFORMATION PROVIDED IN THE BATTERY CALCULATIONS FOR THE FIRE ALARM EQUIPMENT.
7. POWER–LIMITED AND NONPOWER–LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINET. ALL POWER–LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER–LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER–LIMITED AND NONPOWER–LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
8. WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
9. WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
10. ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. CABLES USED IN VERTICAL RUNS SHALL BE TYPE FPLP OR FPLR. CABLE SPLICES OR TERMINATIONS SHALL BE MADE IN LISTED FITTINGS, BOXES, ENCLOSURES, FIRE ALARM DEVICES, OR UTILIZATION EQUIPMENT. WHERE INSTALLED EXPOSED, CABLES SHALL BE ADEQUATELY SUPPORTED AND INSTALLED IN SUCH A WAY THAT MAXIMUM PROTECTION AGAINST PHYSICAL DAMAGE IS AFFORDED BY BUILDING CONSTRUCTION. WHERE LOCATED WITHIN 7 FT OF THE FLOOR, CABLES SHALL BE SECURELY FASTENED IN AN APPROVED MANNER AT INTERVALS OF NOT MORE THAN 18 IN.
11. SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN–UP IS COMPLETED AND FINAL.
12. LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS. WALL–MOUNTED SMOKE DETECTORS SHALL BE LOCATED A MAXIMUM OF 12" FROM CEILING.
13. PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI–SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
14. VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
15. UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION AND PROGRAMMING, THE INSTALLING CONTRACTOR SHALL PERFORM FINAL TESTING OF THE ENTIRE SYSTEM, PER ALL APPLICABLE CODES, AND SHALL COORDINATE AND PERFORM A FINAL FIRE ALARM SYSTEM INSPECTION.
16. PROVIDE OFF–SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.6.6 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
17. INSTALLING CONTRACTOR SHALL, PHYSICALLY, LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WHEN WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START–UP AND TESTING.
18. ROOMS CONTAINING CONTROLS FOR AIR–CONDITIONING SYSTEMS, SPRINKLER RISERS AND VALVES OR OTHER FIRE DETECTION, SUPPRESSION OR CONTROL ELEMENTS SHALL BE IDENTIFIED WITH PERMANENTLY MOUNTED SIGNS WITH LETTERING NOT LESS THAN 2 INCHES TALL WITH A PRINCIPAL STROKE OF NOT LESS THAN 3/8 INCH. LETTERS SHALL CONTRAST WITH BACKGROUND.

PROJECT CODE ANALYSIS:

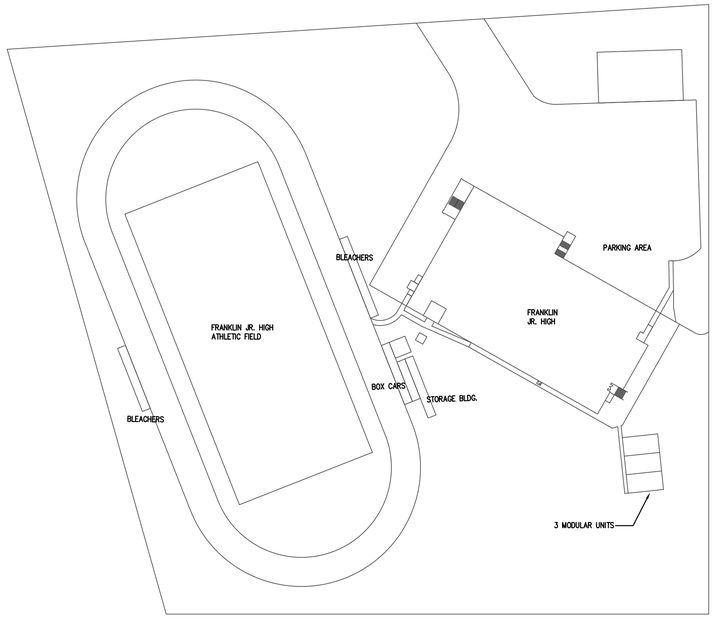
BUILDING INFORMATION:

A) OCCUPANCY CLASSIFICATION(S): GROUP E
B) OCCUPANCY LOAD(S): 4,596
C) SPRINKLERS: YES
D) CONSTRUCTION TYPE: II–B
E) BUILDING HEIGHT: THREE STORIES
F) PROJECT SQUARE FOOTAGE: 91,928.18 SF
G) APPLICABLE CODES:
2018 INTERNATIONAL FIRE CODE
2019 NFPA 72
H) CIRCUIT CLASSIFICATION: POWER LIMITED



FIRE ALARM DEVICE MOUNTING HEIGHTS

SCALE: NOT TO SCALE



SCHOOL MAP

SCALE: 1/8"=1'–0"

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/25/24
1	ADDED CO PADS AND ALTERED DEVICES	1/21/25

StateFire
2550 SOUTH WEST TEMPLE
SALT LAKE CITY, UTAH 84115
TOLL FREE: 800–523–4300
OFFICE: 801–288–2100

FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
POCATELLO, ID 83201
FIRE ALARM PLAN NOTES AND DETAILS

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'–0"

shop drawings created by
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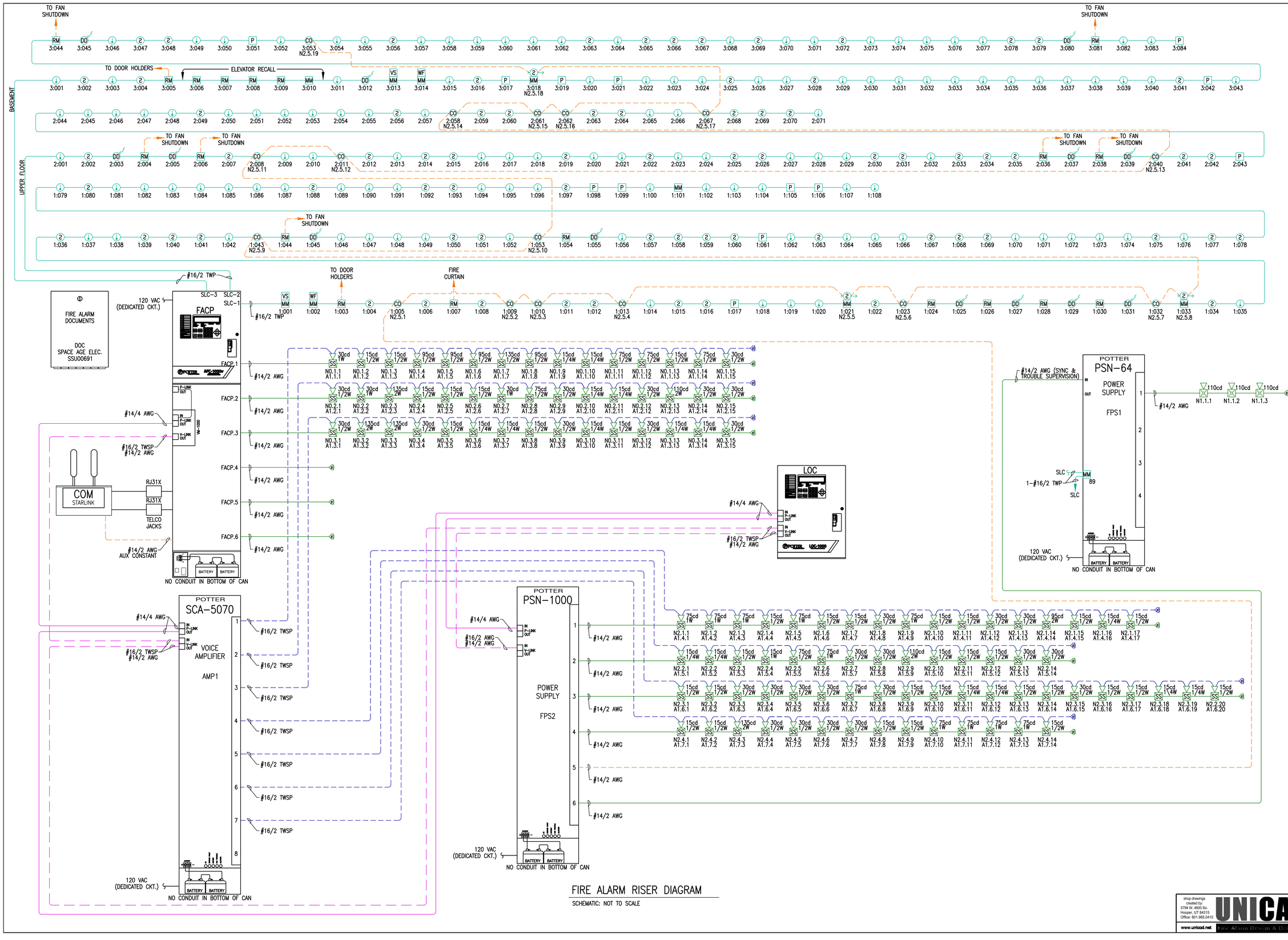
Fire Alarm Design & Drafting Services

FA-1



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OFFICE: 801-288-2100

FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
POCATELLO, ID 83201
FIRE ALARM PLAN RISER DIAGRAM

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'-0"

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FA-2

A0.1 dB Loss Calculation

Audio Voltage (Vrms)	70
Wire Gauge	16
Wire Resistance (ohms/ft)	0.00948
Speaker Load (watts)	8
Distance (feet)	646
dB Loss	**−0.086**
Percent dB Loss	**2.1%**

*Resistance values are doubled to account for two conductors (NFPA 70 2017 Ch.9 Table 8, uncoated, single strand, copper)

A0.2 E dB Loss Calculation

Audio Voltage (Vrms)	70
Wire Gauge	16
Wire Resistance (ohms/ft)	0.00948
Speaker Load (watts)	11
Distance (feet)	527
dB Loss	**−0.096**
Percent dB Loss	**2.4%**

*Resistance values are doubled to account for two conductors (NFPA 70 2017 Ch.9 Table 8, uncoated, single strand, copper)

A0.3 dB Loss Calculation

Audio Voltage (Vrms)	70
Wire Gauge	16
Wire Resistance (ohms/ft)	0.00948
Speaker Load (watts)	9.25
Distance (feet)	624
dB Loss	**−0.096**
Percent dB Loss	**2.4%**

*Resistance values are doubled to account for two conductors (NFPA 70 2017 Ch.9 Table 8, uncoated, single strand, copper)

A0.4 dB Loss Calculation

Audio Voltage (Vrms)	70
Wire Gauge	16
Wire Resistance (ohms/ft)	0.00948
Speaker Load (watts)	10.5
Distance (feet)	522
dB Loss	**−0.091**
Percent dB Loss	**2.3%**

*Resistance values are doubled to account for two conductors (NFPA 70 2017 Ch.9 Table 8, uncoated, single strand, copper)

A0.5 dB Loss Calculation

Audio Voltage (Vrms)	70
Wire Gauge	16
Wire Resistance (ohms/ft)	0.00948
Speaker Load (watts)	9
Distance (feet)	438
dB Loss	**−0.066**
Percent dB Loss	**1.6%**

*Resistance values are doubled to account for two conductors (NFPA 70 2017 Ch.9 Table 8, uncoated, single strand, copper)

A0.6 dB Loss Calculation

Audio Voltage (Vrms)	70
Wire Gauge	16
Wire Resistance (ohms/ft)	0.00948
Speaker Load (watts)	9.5
Distance (feet)	593
dB Loss	**−0.094**
Percent dB Loss	**2.3%**

*Resistance values are doubled to account for two conductors (NFPA 70 2017 Ch.9 Table 8, uncoated, single strand, copper)

A0.7 dB Loss Calculation

Audio Voltage (Vrms)	70
Wire Gauge	16
Wire Resistance (ohms/ft)	0.00948
Speaker Load (watts)	10.5
Distance (feet)	497
dB Loss	**−0.087**
Percent dB Loss	**2.2%**

*Resistance values are doubled to account for two conductors (NFPA 70 2017 Ch.9 Table 8, uncoated, single strand, copper)

AMP Battery Calculation

12-18-24

PROJECT NAME: FRANKLIN MIDDLE SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 2.08 Amps @ 120V

Maximum NAC Output

Panel Max: 6.50 Amps
Circuit Max: 3.00 Amps

Regulated Load in Standby

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
AMP MAINBOARD	SCA-5070	1	X	0.058000	=	0.058000
TOTAL STANDBY LOAD						0.058000

Regulated Load in ALARM

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
AMP MAINBOARD	SCA-5070	1	X	0.608000	=	0.608000
TOTAL ALARM LOAD						0.608000

Battery Requirements

Standby Load Current (Amps)	0.058000	X	Required Standby Time in Hours 24.00000	=	1.392000
Alarm Load Current (Amps)	0.608000	X	Required Alarm Time in Hours 0.250000	=	0.152000
Total Ampere Hours (before derating factor)					1.544000
Derating Factor				X	1.2
TOTAL AMPERE HOURS REQUIRED				=	1.852800
BATTERIES TO BE PROVIDED (2 – 12v)					**7 AH**

FACP Battery Calculation

1/22/2025

PROJECT NAME: FRANKLIN MIDDLE SCHOOL
Required Standby Time: 24 Hours
Required Alarm Time: 15 Minutes
System Manufacturer: Potter

AC Branch Current

AC Branch Current: 2.08 Amps @ 120V

Maximum NAC Output

Panel Max: 6.50 Amps
Circuit Max: 3.00 Amps

Regulated Load in Standby

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
FACP MAINBOARD	AFC-1000V	1	X	0.130000	=	0.130000
SLC CARD	PAD100-SLCE-127	2	X	0.060000	=	0.120000
COMMUNICATOR	SLE-MAX2-FIRE	1	X	0.085000	=	0.085000
SMOKE DETECTOR	PAD300-PD	73	X	0.000300	=	0.021900
HEAT DETECTOR	PAD300-HD	120	X	0.000300	=	0.036000
MINI MONITOR MODULE	PAD100-MIM	16	X	0.000200	=	0.003200
DUCT SMOKE DETECTOR	PAD300-DUCTR	13	X	0.000500	=	0.006500
MONITOR MODULE	PAD100-SIM	9	X	0.000240	=	0.002160
RELAY MODULE	PAD100-RM	19	X	0.000240	=	0.004560
PULL STATION	PAD100-PSSA	13	X	0.000200	=	0.002600
BEAM DETECTOR	OSID-R	3	X	0.011000	=	0.033000
TOTAL STANDBY LOAD						0.444920

Regulated Load in ALARM

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
FACP MAINBOARD	AFC-1000V	1	X	0.220000	=	0.220000
SLC CARD	PAD100-SLCE-127	2	X	0.060000	=	0.120000
COMMUNICATOR	SLE-MAX2-FIRE	1	X	0.325000	=	0.325000
SMOKE DETECTOR	PAD300-PD	73	X	0.000300	=	0.021900
HEAT DETECTOR	PAD300-HD	120	X	0.000300	=	0.036000
MINI MONITOR MODULE	PAD100-MIM	16	X	0.000200	=	0.003200
DUCT SMOKE DETECTOR	PAD300-DUCTR	13	X	0.000500	=	0.006500
MONITOR MODULE	PAD100-SIM	9	X	0.000240	=	0.002160
RELAY MODULE	PAD100-RM	19	X	0.000240	=	0.004560
PULL STATION	PAD100-PSSA	13	X	0.000200	=	0.002600
FACP.1 (See Voltage Drop Calculations)				0.789000	=	0.789000
FACP.2 (See Voltage Drop Calculations)				0.504000	=	0.504000
FACP.3 (See Voltage Drop Calculations)				0.464000	=	0.464000
FACP.4 (See Voltage Drop Calculations)				0.000000	=	0.000000
FACP.5 (See Voltage Drop Calculations)				0.000000	=	0.000000
FACP.6 (See Voltage Drop Calculations)				0.000000	=	0.000000
TOTAL ALARM LOAD						2.498920

Battery Requirements

Standby Load Current (Amps)	0.444920	X	Required Standby Time in Hours 24.00000	=	10.678080
Alarm Load Current (Amps)	2.498920	X	Required Alarm Time in Hours 0.250000	=	0.624730
Total Ampere Hours (before derating factor)					11.302810
Derating Factor				X	1.2
TOTAL AMPERE HOURS REQUIRED				=	13.563372
BATTERIES TO BE PROVIDED (2 – 12v)					**18 AH**

Point to Point NAC Voltage Drop Calculation

Date: 12/9/2024
Project Name: FRANKLIN MIDDLE SCHOOL
Circuit Number: FPS0.1

		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	40 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07

Max Output Current: 3.00 amps — Speaker ID: A0.1.
Total Circuit Current: 0.789 amps — NAC ID: N0.1.
Spare Current Capacity: 20%
End of Line Voltage: 18.64 volts
Notification Appliance Manufacturer: System Sensor

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
A0.1.1	N0.1.1	SPSRLED 30	1	0.022	40	20.21	0.194	0.95%
A0.1.2	N0.1.2	SPSRLED 15	1/2	0.018	32	20.06	0.344	1.69%
A0.1.3	N0.1.3	SPSRLED 15	1/2	0.018	33	19.90	0.496	2.43%
A0.1.4	N0.1.4	SPSRLED 110	1/2	0.085	48	19.69	0.712	3.49%
A0.1.5	N0.1.5	SPSRLED 110	1/2	0.085	49	19.49	0.906	4.44%
A0.1.6	N0.1.6	SPSRLED 110	1/2	0.085	100	19.15	1.250	6.13%
A0.1.7	N0.1.7	SPSRLED 135	1/2	0.105	42	19.03	1.373	6.73%
A0.1.8	N0.1.8	SPSRLED 110	1/4	0.085	31	18.96	1.444	7.08%
A0.1.9	N0.1.9	SPSRLED 15	1/4	0.018	20	18.92	1.479	7.25%
A0.1.10	N0.1.10	SPSRLED 15	1/2	0.018	74	18.80	1.601	7.85%
A0.1.11	N0.1.11	SPSRLED 75	1/2	0.070	40	18.74	1.662	8.15%
A0.1.12	N0.1.12	SPSRLED 75	1/2	0.070	47	18.69	1.714	8.40%
A0.1.13	N0.1.13	SPSRLED 15	1/2	0.018	13	18.68	1.723	8.45%
A0.1.14	N0.1.14	SPSRLED 75	1/2	0.070	62	18.64	1.758	8.62%
A0.1.15	N0.1.15	SPSRLED 30	1	0.022	15	18.64	1.760	8.63%
Totals			8	0.789	646			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date: 12/9/2024
Project Name: FRANKLIN MIDDLE SCHOOL
Circuit Number: FPS0.2

		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	50 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07

Max Output Current: 3.00 amps — Speaker ID: A0.2.
Total Circuit Current: 0.504 amps — NAC ID: N0.2.
Spare Current Capacity: 20%
End of Line Voltage: 19.47 volts
Notification Appliance Manufacturer: System Sensor

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
A0.2.1	N0.2.1	SPSRLED 30	1/2	0.022	50	20.25	0.155	0.76%
A0.2.2	N0.2.2	SPSRLED 30	1	0.022	58	20.07	0.326	1.60%
A0.2.3	N0.2.3	SPSRLED 135	2	0.105	24	20.01	0.394	1.93%
A0.2.4	N0.2.4	SPSRLED 15	1/2	0.018	59	19.88	0.523	2.56%
A0.2.5	N0.2.5	SPSRLED 15	1/2	0.018	32	19.81	0.589	2.89%
A0.2.6	N0.2.6	SPSRLED 15	1/2	0.018	21	19.77	0.630	3.09%
A0.2.7	N0.2.7	SPSRLED 30	1	0.022	67	19.65	0.754	3.70%
A0.2.8	N0.2.8	SPSRLED 75	1/2	0.070	16	19.62	0.781	3.83%
A0.2.9	N0.2.9	SPSRLED 30	1/2	0.022	11	19.60	0.795	3.90%
A0.2.10	N0.2.10	SPSRLED 15	1/4	0.018	25	19.58	0.824	4.04%
A0.2.11	N0.2.11	SPSRLED 15	1/4	0.018	36	19.54	0.862	4.22%
A0.2.12	N0.2.12	SPSRLED 30	1/2	0.022	24	19.52	0.884	4.33%
A0.2.13	N0.2.13	SPSRLED 110	2	0.085	47	19.48	0.921	4.51%
A0.2.14	N0.2.14	SPSRLED 30	1/2	0.022	24	19.47	0.927	4.55%
A0.2.15	N0.2.15	SPSRLED 30	1/2	0.022	33	19.47	0.932	4.57%
Totals			11	0.504	527			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date: 12/9/2024
Project Name: FRANKLIN MIDDLE SCHOOL
Circuit Number: FPS0.3

		Wire Gauge	Resistance Per 1000
Nominal System Voltage	20.4 volts		
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	60 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07

Max Output Current: 3.00 amps — Speaker ID: A0.3.
Total Circuit Current: 0.464 amps — NAC ID: N0.3.
Spare Current Capacity: 20%
End of Line Voltage: 19.53 volts
Notification Appliance Manufacturer: System Sensor

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
A0.3.1	N0.3.1	SPSRLED 30	1/2	0.022	60	20.23	0.171	0.84%
A0.3.2	N0.3.2	SPSRLED 135	2	0.105	62	20.06	0.339	1.66%
A0.3.3	N0.3.3	SPSRLED 135	2	0.105	57	19.94	0.457	2.24%
A0.3.4	N0.3.4	SPSRLED 30	1/2	0.022	71	19.84	0.558	2.74%
A0.3.5	N0.3.5	SPSRLED 15	1/2	0.018	107	19.70	0.696	3.41%
A0.3.6	N0.3.6	SPSRLED 15	1/4	0.018	17	19.68	0.716	3.51%
A0.3.7	N0.3.7	SPSRLED 15	1/4	0.018	17	19.67	0.734	3.60%
A0.3.8	N0.3.8	SPSRLED 15	1/2	0.018	39	19.63	0.772	3.78%
A0.3.9	N0.3.9	SPSRLED 30	1/2	0.022	46	19.59	0.811	3.97%
A0.3.10	N0.3.10	SPSRLED 15	1/4	0.018	20	19.57	0.825	4.04%
A0.3.11	N0.3.11	SPSRLED 15	1/2	0.018	19	19.56	0.836	4.10%
A0.3.12	N0.3.12	SPSRLED 30	1/2	0.022	34	19.55	0.853	4.18%
A0.3.13	N0.3.13	SPSRLED 15	1/4	0.018	41	19.53	0.868	4.25%
A0.3.14	N0.3.14	SPSRLED 15	1/4	0.018	20	19.53	0.873	4.28%
A0.3.15	N0.3.15	SPSRLED 30	1/2	0.022	14	19.53	0.875	4.29%
Totals			9 1/4	0.464	624			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/25/24
1	ADDED CO PADS AND ALTERED DEVICES	1/21/25

StateFire
2550 SOUTH WEST TEMPLE
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FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
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FIRE ALARM PLAN CALCULATIONS

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FA-3

FPS1 Battery Calculation

12/9/2024

PROJECT NAME:	FRANKLIN MIDDLE SCHOOL
Required Standby Time:	24 Hours
Required Alarm Time:	15 Minutes
System Manufacturer	Potter

AC Branch Current

AC Branch Current: 2.08 Amps @ 120V

Maximum NAC Output

Panel Max: 6.50 Amps
Circuit Max: 3.00 Amps

Regulated Load in Standby

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
FPS1 MAINBOARD	PSN-64	1	X	0.075000	=	0.075000
TOTAL STANDBY LOAD						0.075000

Regulated Load in ALARM

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
FPS1 MAINBOARD	PSN-64	1	X	0.075000	=	0.075000
FPS1.1 (See Voltage Drop Calculations)				0.282000	=	0.282000
FPS1.2 (See Voltage Drop Calculations)				0.000000	=	0.000000
FPS1.3 (See Voltage Drop Calculations)				0.000000	=	0.000000
FPS1.4 (See Voltage Drop Calculations)				0.000000	=	0.000000
TOTAL ALARM LOAD						0.357000

Battery Requirements

Standby Load			Required Standby Time in Hours	
Current (Amps)	0.075000	X	24.00000	= 1.800000
Alarm Load			Required Alarm Time in Hours	
Current (Amps)	0.357000	X	0.250000	= 0.089250
Total Ampere Hours (before derating factor)				1.889250
Derating Factor			X	1.2
TOTAL AMPERE HOURS REQUIRED			=	2.267100
BATTERIES TO BE PROVIDED (2 – 12v)				7 AH

Point to Point NAC Voltage Drop Calculation

Date	12/9/2024		
Project Name	FRANKLIN MIDDLE SCHOOL		
Circuit Number	FPS1.1		
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	63 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps		
Total Circuit Current	0.282 amps		N1.1.
Spare Current Capacity	20%		
End of Line Voltage	20.22 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

	NAC Identifier	Device Model # and Candela		Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
	N1.1.1	P2RLED 110		0.094	63	20.29	0.109	0.53%
	N1.1.2	P2RLED 110		0.094	38	20.25	0.153	0.75%
	N1.1.3	P2RLED 110		0.094	39	20.22	0.175	0.86%
Totals			0	0.282	140			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

FPS2 Battery Calculation

1/22/2025

PROJECT NAME:	FRANKLIN MIDDLE SCHOOL
Required Standby Time:	24 Hours
Required Alarm Time:	15 Minutes
System Manufacturer	Potter

AC Branch Current

AC Branch Current: 2.08 Amps @ 120V

Maximum NAC Output

Panel Max: 6.50 Amps
Circuit Max: 3.00 Amps

Regulated Load in Standby

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
FPS2 MAINBOARD	PSN-1000	1	X	0.060000	=	0.060000
CARBON MONOXIDE DETECTOR	CO1224TR	16	X	0.020000	=	0.320000
TOTAL STANDBY LOAD						0.380000

Regulated Load in ALARM

Device Type	Model	Number of Devices		Current (Amps)		Total Current (Amps)
FPS2 MAINBOARD	PSN-1000	1	X	0.200000	=	0.200000
FPS2.1 (See Voltage Drop Calculations)				0.789000	=	0.789000
FPS2.2 (See Voltage Drop Calculations)				0.504000	=	0.504000
FPS2.3 (See Voltage Drop Calculations)				0.464000	=	0.464000
FPS2.4 (See Voltage Drop Calculations)				0.000000	=	0.000000
FPS2.5 (See Voltage Drop Calculations)				0.000000	=	0.000000
FPS2.6 (See Voltage Drop Calculations)				0.000000	=	0.000000
TOTAL ALARM LOAD						1.957000

Battery Requirements

Standby Load			Required Standby Time in Hours	
Current (Amps)	0.380000	X	24.00000	= 9.120000
Alarm Load			Required Alarm Time in Hours	
Current (Amps)	1.957000	X	0.250000	= 0.489250
Total Ampere Hours (before derating factor)				9.609250
Derating Factor			X	1.2
TOTAL AMPERE HOURS REQUIRED			=	11.531100
BATTERIES TO BE PROVIDED (2 – 12v)				12 AH

Point to Point NAC Voltage Drop Calculation

Date	12/10/2024		
Project Name	FRANKLIN MIDDLE SCHOOL		
Circuit Number	FPS2.1		
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	46 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	A1.4.
Total Circuit Current	0.639 amps	NAC ID	N2.1.
Spare Current Capacity	20%		
End of Line Voltage	19.44 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
A1.4.1	N2.1.1	SPSRLED 75	1/4	0.070	46	20.22	0.180	0.88%
A1.4.2	N2.1.2	SPSRLED 75	1	0.070	44	20.07	0.334	1.64%
A1.4.3	N2.1.3	SPSRLED 75	1	0.070	10	20.04	0.365	1.79%
A1.4.4	N2.1.4	SPSRLED 15	1/2	0.018	10	20.01	0.391	1.92%
A1.4.5	N2.1.5	SPSRLED 75	1	0.070	48	19.89	0.512	2.51%
A1.4.6	N2.1.6	SPSRLED 15	1/2	0.018	48	19.79	0.613	3.00%
A1.4.7	N2.1.7	SPSRLED 15	1/2	0.018	24	19.74	0.660	3.24%
A1.4.8	N2.1.8	SPSRLED 30	1/2	0.022	22	19.70	0.702	3.44%
A1.4.9	N2.1.9	SPSRLED 75	1	0.070	39	19.63	0.769	3.77%
A1.4.10	N2.1.10	SPSRLED 30	1/2	0.022	37	19.58	0.818	4.01%
A1.4.11	N2.1.11	SPSRLED 15	1/2	0.018	34	19.54	0.858	4.20%
A1.4.12	N2.1.12	SPSRLED 30	1/2	0.022	30	19.51	0.890	4.36%
A1.4.13	N2.1.13	SPSRLED 30	1/2	0.022	20	19.49	0.908	4.45%
A1.4.14	N2.1.14	SPSRLED 95	2	0.075	55	19.45	0.952	4.66%
A1.4.15	N2.1.15	SPSRLED 15	1/2	0.018	20	19.44	0.958	4.70%
A1.4.16	N2.1.16	SPSRLED 15	1/4	0.018	20	19.44	0.963	4.72%
A1.4.17	N2.1.17	SPSRLED 15	1/2	0.018	15	19.44	0.964	4.73%
Totals			11 1/2	0.639	522			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	12/9/2024		
Project Name	FRANKLIN MIDDLE SCHOOL		
Circuit Number	FPS2.2		
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	50 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	A1.5.
Total Circuit Current	0.439 amps	NAC ID	N2.2.
Spare Current Capacity	20%		
End of Line Voltage	19.75 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
A1.5.1	N2.2.1	SPSRLED 15	1/4	0.018	50	20.27	0.135	0.66%
A1.5.2	N2.2.2	SPSRLED 15	1/4	0.018	27	20.20	0.205	1.00%
A1.5.3	N2.2.3	SPSRLED 15	1/2	0.018	14	20.16	0.239	1.17%
A1.5.4	N2.2.4	SPSRLED 15	1	0.018	27	20.10	0.303	1.49%
A1.5.5	N2.2.5	SPSRLED 75	1/2	0.070	34	20.02	0.380	1.86%
A1.5.6	N2.2.6	SPSRLED 75	1	0.070	43	19.94	0.458	2.25%
A1.5.7	N2.2.7	SPSRLED 30	1/2	0.022	40	19.89	0.514	2.52%
A1.5.8	N2.2.8	SPSRLED 30	1/2	0.022	27	19.85	0.548	2.69%
A1.5.9	N2.2.9	SPSRLED 110	2	0.085	49	19.80	0.603	2.96%
A1.5.10	N2.2.10	SPSRLED 15	1/2	0.018	24	19.78	0.617	3.03%
A1.5.11	N2.2.11	SPSRLED 15	1/2	0.018	24	19.77	0.629	3.08%
A1.5.12	N2.2.12	SPSRLED 15	1/2	0.018	19	19.76	0.636	3.12%
A1.5.13	N2.2.13	SPSRLED 30	1/2	0.022	21	19.76	0.642	3.15%
A1.5.14	N2.2.14	SPSRLED 30	1/2	0.022	39	19.75	0.647	3.17%
Totals			9	0.439	438			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	12/9/2024		
Project Name	FRANKLIN MIDDLE SCHOOL		
Circuit Number	FPS2.3		
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	40 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	A1.6.
Total Circuit Current	0.436 amps	NAC ID	N2.3.
Spare Current Capacity	20%		
End of Line Voltage	19.58 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
A1.6.1	N2.3.1	SPSRLED 15	1/2	0.018	40	20.29	0.107	0.52%
A1.6.2	N2.3.2	SPSRLED 15	1/2	0.018	20	20.24	0.158	0.78%
A1.6.3	N2.3.3	SPSRLED 30	1/2	0.022	28	20.17	0.227	1.11%
A1.6.4	N2.3.4	SPSRLED 30	1/2	0.022	38	20.08	0.315	1.55%
A1.6.5	N2.3.5	SPSRLED 30	1/2	0.022	40	20.00	0.403	1.97%
A1.6.6	N2.3.6	SPSRLED 30	1/2	0.022	30	19.94	0.464	2.28%
A1.6.7	N2.3.7	SPSRLED 75	1	0.070	38	19.86	0.537	2.63%
A1.6.8	N2.3.8	SPSRLED 30	1/2	0.022	28	19.82	0.579	2.84%
A1.6.9	N2.3.9	SPSRLED 15	1/2	0.018	18	19.80	0.603	2.96%
A1.6.10	N2.3.10	SPSRLED 15	1/2	0.018	15	19.78	0.622	3.05%
A1.6.11	N2.3.11	SPSRLED 15	1/4	0.018	25	19.75	0.650	3.19%
A1.6.12	N2.3.12	SPSRLED 15	1/4	0.018	24	19.73	0.674	3.31%
A1.6.13	N2.3.13	SPSRLED 15	1/2	0.018	60	19.67	0.729	3.57%
A1.6.14	N2.3.14	SPSRLED 15	1/2	0.018	30	19.65	0.753	3.69%
A1.6.15	N2.3.15	SPSRLED 30	1/2	0.022	29	19.63	0.773	3.79%
A1.6.16	N2.3.16	SPSRLED 15	1/2	0.018	12	19.62	0.779	3.82%
A1.6.17	N2.3.17	SPSRLED 15	1/2	0.018	44	19.60	0.799	3.92%
A1.6.18	N2.3.18	SPSRLED 15	1/4	0.018	41	19.59	0.812	3.98%
A1.6.19	N2.3.19	SPSRLED 15	1/4	0.018	15	19.58	0.816	4.00%
A1.6.20	N2.3.20	SPSRLED 15	1/2	0.018	18	19.58	0.818	4.01%
Totals			9 1/2	0.436	593			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	12/9/2024		
Project Name	FRANKLIN MIDDLE SCHOOL		
Circuit Number	FPS2.4		
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	75 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps	Speaker ID	A1.7.
Total Circuit Current	0.563 amps	NAC ID	N2.4.
Spare Current Capacity	20%		
End of Line Voltage	19.30 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
A1.7.1	N2.4.1	SPSRLED 15	1/2	0.018	75	20.14	0.259	1.27%
A1.7.2	N2.4.2	SPSRLED 15	1/2	0.018	24	20.06	0.340	1.66%
A1.7.3	N2.4.3	SPSRLED 135	2	0.105	51	19.90	0.505	2.47%
A1.7.4	N2.4.4	SPSRLED 30	1/2	0.022	39	19.79	0.606	2.97%
A1.7.5	N2.4.5	SPSRLED 30	1/2	0.022	25	19.73	0.667	3.27%
A1.7.6	N2.4.6	SPSRLED 30	1/2	0.022	35	19.65	0.748	3.67%
A1.7.7	N2.4.7	SPSRLED 30	1/2	0.022	32	19.58	0.818	4.01%
A1.7.8	N2.4.8	SPSRLED 15	1/2	0.018	31	19.52	0.882	4.32%
A1.7.9	N2.4.9	SPSRLED 15	1/2	0.018	41	19.44	0.961	4.71%
A1.7.10	N2.4.10	SPSRLED 75	1	0.070	13	19.41	0.985	4.83%
A1.7.11	N2.4.11	SPSRLED 75	1	0.070	42	19.36	1.044	5.12%
A1.7.12	N2.4.12	SPSRLED 75	1	0.070	35	19.32	1.078	5.28%
A1.7.13	N2.4.13	SPSRLED 75	1	0.070	36	19.30	1.097	5.38%
A1.7.14	N2.4.14	SPSRLED 15	1/2	0.018	18	19.30	1.099	5.39%
Totals			10 1/2	0.563	497			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

Point to Point NAC Voltage Drop Calculation

Date	1/22/2025		
Project Name	FRANKLIN MIDDLE SCHOOL		
Circuit Number	FPS2.5		
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16.0 volts		
Distance from source to 1st device	125 feet	14	3.07
Wire Gauge for balance of circuit		14	3.07
Max Output Current	3.00 amps		
Total Circuit Current	0.365 amps		N2.5.
Spare Current Capacity	20%		
End of Line Voltage	18.81 volts		
Notification Appliance Manufacturer	System Sensor		

Circuit is within limits

SLC ID	NAC Identifier	Device Model # and Candela		Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
1:005	N2.5.1	C01224TR		0.020	125	20.12	0.280	1.37%
1:009	N2.5.2	C01224TR		0.020	45	20.02	0.375	1.84%
1:010	N2.5.3	C01224TR		0.020	35	19.95	0.445	2.18%
1:013	N2.5.4	C01224TR		0.020	35	19.89	0.511	2.50%
1:021	N2.5.5	OSID-R		0.015	60	19.78	0.616	3.02%
1:023	N2.5.6	C01224TR		0.020	76	19.66	0.742	3.64%
1:032	N2.5.7	C01224TR		0.020	30	19.61	0.788	3.86%
1:033	N2.5.8	OSID-R		0.015	90	19.49	0.915	4.49%
1:043	N2.5.9	C01224TR		0.020	67	19.40	1.003	4.92%
1:053	N2.5.10	C01224TR		0.020	74	19.31	1.092	5.35%
2:008	N2.5.11	C01224TR		0.020	136	19.16	1.238	6.07%
2:011	N2.5.12	C01224TR		0.020	55	19.11	1.291	6.33%
2:040	N2.5.13	C01224TR		0.020	116	19.01	1.387	6.80%
2:058	N2.5.14	C01224TR		0.020	156	18.90	1.497	7.34%
2:061	N2.5.15	C01224TR		0.020	41	18.88	1.521	7.45%
2:062	N2.5.16	C01224TR		0.020	35	18.86	1.537	7.53%
2:067	N2.5.17	C01224TR		0.020	35	18.85	1.549	7.59%
3:018	N2.5.18	OSID-R		0.015	75	18.84	1.565	7.67%
3:053	N2.5.19	C01224TR		0.020	170	18.81	1.586	7.77%
Totals			0	0.365	1456			

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16–33 VDC (24 VDC nominal)).

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/25/24
1	ADDED CO PADS AND ALTERED DEVICES	1/21/25

StateFire
2550 SOUTH WEST TEMPLE
SALT LAKE CITY, UTAH 84115
TOLL FREE: 800-523-4300
OFFICE: 801-288-2100

FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
POCATELLO, ID 83201
FIRE ALARM PLAN CALCULATIONS

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'-0"

shop drawings created by:
5794 W. 4600 So.
Hooper, UT 84315
Office: 801.985.0410
UNICAD Inc.
www.unicad.net
Fire Alarm Design & Drafting Services

FA-4

SHEET NOTES:

1. ADDRESSABLE RELAY MODULE(S) PROVIDED FOR FAN SHUT DOWN. TIE TO INDICATED UNIT FAN CONTROLLER. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING, AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE. USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S) WITH MECHANICAL DIVISION.

2. ADDRESSABLE MONITOR MODULE(S) PROVIDED TO MONITOR ALL WATER FLOW, PRESSURE SWITCHES, TAMPER SWITCHES AND POST INDICATING VALVES ASSOCIATED WITH THE FIRE SPRINKLER SYSTEM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

3. MANUAL PULL STATION TO BE LOCATED AT A CONVENIENT CENTRAL POINT UNDER CONTINUOUS SUPERVISION OF RESPONSIBLE EMPLOYEES.

4. CONVENTIONAL DUCT SMOKE DETECTORS PROVIDED FOR THE RETURN AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 2,000 CFM AND FOR THE SUPPLY AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 15,000 CFM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. PROVIDE POWER TO THE DETECTOR FROM THE ASSOCIATED UNIT (24 VDC OR 120 VAC) UNLESS OTHERWISE INDICATED. PROVIDE FOR SHUT DOWN OF THE ASSOCIATED UNIT FAN(S). FIELD VERIFY UNIT POWER SOURCE. USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S) WITH MECHANICAL DIVISION. PROVIDE REMOTE ALARM/SUPERVISORY INDICATION IN A LOCATION ACCEPTABLE TO THE LOCAL AHJ WHEN IN-DUCT SMOKE DETECTOR INDICATOR IS NOT VISIBLE TO RESPONDING PERSONNEL.

5. WHERE HOISTWAY(S) AND ELEVATOR CONTROL ROOM ARE PROTECTED WITH SPRINKLERS, PROVIDE HEAT DETECTOR(S) WITHIN 24" OF EACH SPRINKLER HEAD. HEAT DETECTORS SHALL HAVE A LOWER TEMPERATURE RATING THAN THE SPRINKLERS IN THE AREA AND BE MONITORED FOR INTEGRITY.

6. ADDRESSABLE RELAY MODULES (4) PROVIDED FOR THE ELEVATOR RECALL AND SHUT DOWN. TIE TO ELEVATOR EQUIPMENT ROOM DETECTOR(S), HOISTWAY DETECTOR(S) AND LOBBY DETECTOR(S) TO INITIATE RECALL AND SHUT DOWN. ADDRESSABLE MONITOR MODULE PROVIDED TO MONITOR THE CONTROL CIRCUIT TO THE ELEVATOR SHUNT TRIP BREAKER FOR THE PRESENCE OF OPERATING VOLTAGE. LOSS OF VOLTAGE SHALL CAUSE A SUPERVISORY SIGNAL AT THE CONTROL PANEL. FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS.

7. EXISTING DEVICES DESIGNATED TO REMAIN.

8. ADDRESSABLE RELAY MODULE(S) AND MULTI-VOLTAGE CONTROL RELAY(S) PROVIDED FOR FIRE-SMOKE CURTAIN CONTROL. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE (24 VDC OR 120 VAC). USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

9. ADDRESSABLE RELAY MODULE(S) AND MULTI-VOLTAGE CONTROL RELAY(S) PROVIDED FOR DOOR HOLDER CONTROL. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE (24 VDC OR 120 VAC). USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

10. DUCT DETECTOR LOCATED ON ROOFTOP.

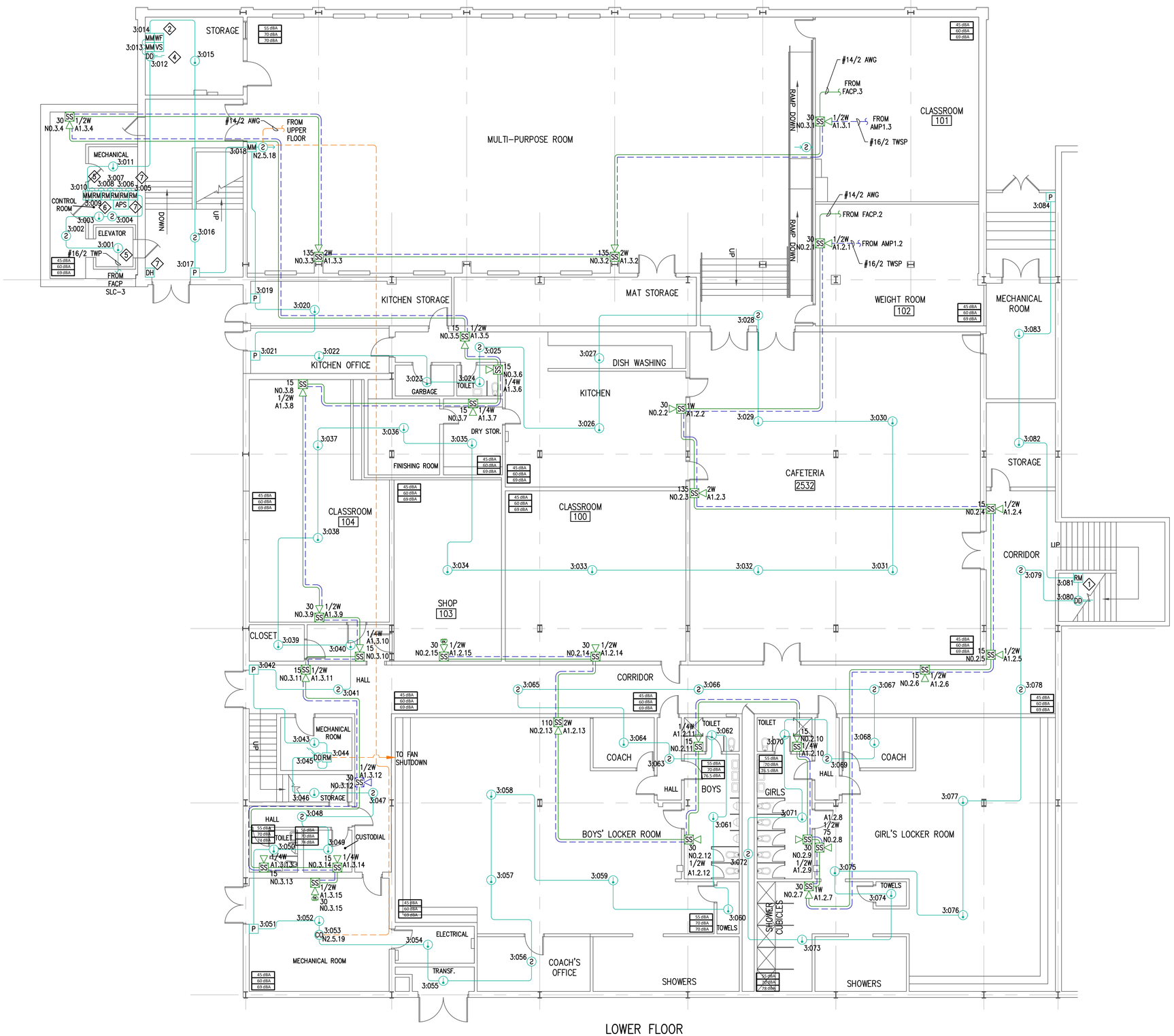
SOUND PRESSURE LEVEL ANNOTATION:

45 dBA — AMBIENT SOUND PRESSURE LEVEL
60 dBA — MINIMUM SOUND PRESSURE LEVEL REQUIRED
78 dBA — DESIGNED SOUND PRESSURE LEVEL

NOTIFICATION APPLIANCE DECIBEL OUTPUT			
WATTAGE	UL REVERBERANT dBA @ 10 FT	WATTAGE	UL REVERBERANT dBA @ 10 FT
CEILING SPEAKER/STROBE - SPSCWLED		SPEAKER/STROBE - SPWLED	
1/4 W	77	1/4 W	77
1/2 W	80	1/2 W	80
1 W	83	1 W	83
2 W	86	2 W	86

LOCATION	AVERAGE AMBIENT SOUND LEVEL (DBA)	DESIGN SOUND LEVEL (DBA)
BUSINESS OCCUPANCIES	55	70
EDUCATIONAL OCCUPANCIES	45	60
INDUSTRIAL OCCUPANCIES	80	95
INSTITUTIONAL OCCUPANCIES	50	65
MERCANTILE OCCUPANCIES	40	55
MECHANICAL ROOMS	85	100
PIERS AND WATER-SURROUNDED STRUCTURES	40	55
PLACES OF ASSEMBLY	55	70
RESIDENTIAL OCCUPANCIES	35	50
STORAGE OCCUPANCIES	30	45
THOROUGHFARES, HIGH-DENSITY URBAN	70	85
THOROUGHFARES, MEDIUM-DENSITY URBAN	55	70
THOROUGHFARES, RURAL AND SUBURBAN	40	55
TOWER OCCUPANCIES	35	50
UNDERGROUND STRUCTURES AND WINDOWLESS BUILDINGS	40	55
VEHICLES AND VESSELS	50	65

* NOTE: DESIGN SOUND PRESSURE LEVELS ARE MEASURED WITH A LOSS OF 10DB THROUGH WALLS AND CLOSED DOORS.



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

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/25/24
1	ADDED CO PADS AND ALTERED DEVICES	1/21/25

StateFire
2550 SOUTH WEST TEMPLE
SALT LAKE CITY, UTAH 84115
TOLL FREE: 800-523-4300
OFFICE: 801-288-2100

FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
POCATELLO, ID 83201
LOWER FLOOR & MODULAR UNITS FIRE ALARM PLAN

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'-0"

FA-5

shop drawings created by
5794 W. 4600 So.
Hooper, UT 84315
Office: 801.985.0410
www.unicad.net
UNICAD inc.
Fire Alarm Design & Drafting Services

SHEET NOTES:

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2. ADDRESSABLE MONITOR MODULE(S) PROVIDED TO MONITOR ALL WATER FLOW, PRESSURE SWITCHES, TAMPER SWITCHES AND POST INDICATING VALVES ASSOCIATED WITH THE FIRE SPRINKLER SYSTEM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

3. MANUAL PULL STATION TO BE LOCATED AT A CONVENIENT CENTRAL POINT UNDER CONTINUOUS SUPERVISION OF RESPONSIBLE EMPLOYEES.

4. CONVENTIONAL DUCT SMOKE DETECTORS PROVIDED FOR THE RETURN AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 2,000 CFM AND FOR THE SUPPLY AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 15,000 CFM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. PROVIDE POWER TO THE DETECTOR FROM THE ASSOCIATED UNIT (24 VDC OR 120 VAC) UNLESS OTHERWISE INDICATED. PROVIDE FOR SHUT DOWN OF THE ASSOCIATED UNIT FAN(S). FIELD VERIFY UNIT POWER SOURCE. USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S) WITH MECHANICAL DIVISION. PROVIDE REMOTE ALARM/SUPERVISORY INDICATION IN A LOCATION ACCEPTABLE TO THE LOCAL AHJ WHEN IN-DUCT SMOKE DETECTOR INDICATOR IS NOT VISIBLE TO RESPONDING PERSONNEL.

5. WHERE HOISTWAY(S) AND ELEVATOR CONTROL ROOM ARE PROTECTED WITH SPRINKLERS, PROVIDE HEAT DETECTOR(S) WITHIN 24" OF EACH SPRINKLER HEAD. HEAT DETECTORS SHALL HAVE A LOWER TEMPERATURE RATING THAN THE SPRINKLERS IN THE AREA AND BE MONITORED FOR INTEGRITY.

6. ADDRESSABLE RELAY MODULES (4) PROVIDED FOR THE ELEVATOR RECALL AND SHUT DOWN. TIE TO ELEVATOR EQUIPMENT ROOM DETECTOR(S), HOISTWAY DETECTOR(S) AND LOBBY DETECTOR(S) TO INITIATE RECALL AND SHUT DOWN. ADDRESSABLE MONITOR MODULE PROVIDED TO MONITOR THE CONTROL CIRCUIT TO THE ELEVATOR SHUNT TRIP BREAKER FOR THE PRESENCE OF OPERATING VOLTAGE. LOSS OF VOLTAGE SHALL CAUSE A SUPERVISORY SIGNAL AT THE CONTROL PANEL. FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS.

7. EXISTING DEVICES DESIGNATED TO REMAIN.

8. ADDRESSABLE RELAY MODULE(S) AND MULTI-VOLTAGE CONTROL RELAY(S) PROVIDED FOR FIRE-SMOKE CURTAIN CONTROL. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE (24 VDC OR 120 VAC). USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

9. ADDRESSABLE RELAY MODULE(S) AND MULTI-VOLTAGE CONTROL RELAY(S) PROVIDED FOR DOOR HOLDER CONTROL. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE (24 VDC OR 120 VAC). USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

10. DUCT DETECTOR LOCATED ON ROOFTOP.

SOUND PRESSURE LEVEL ANNOTATION:

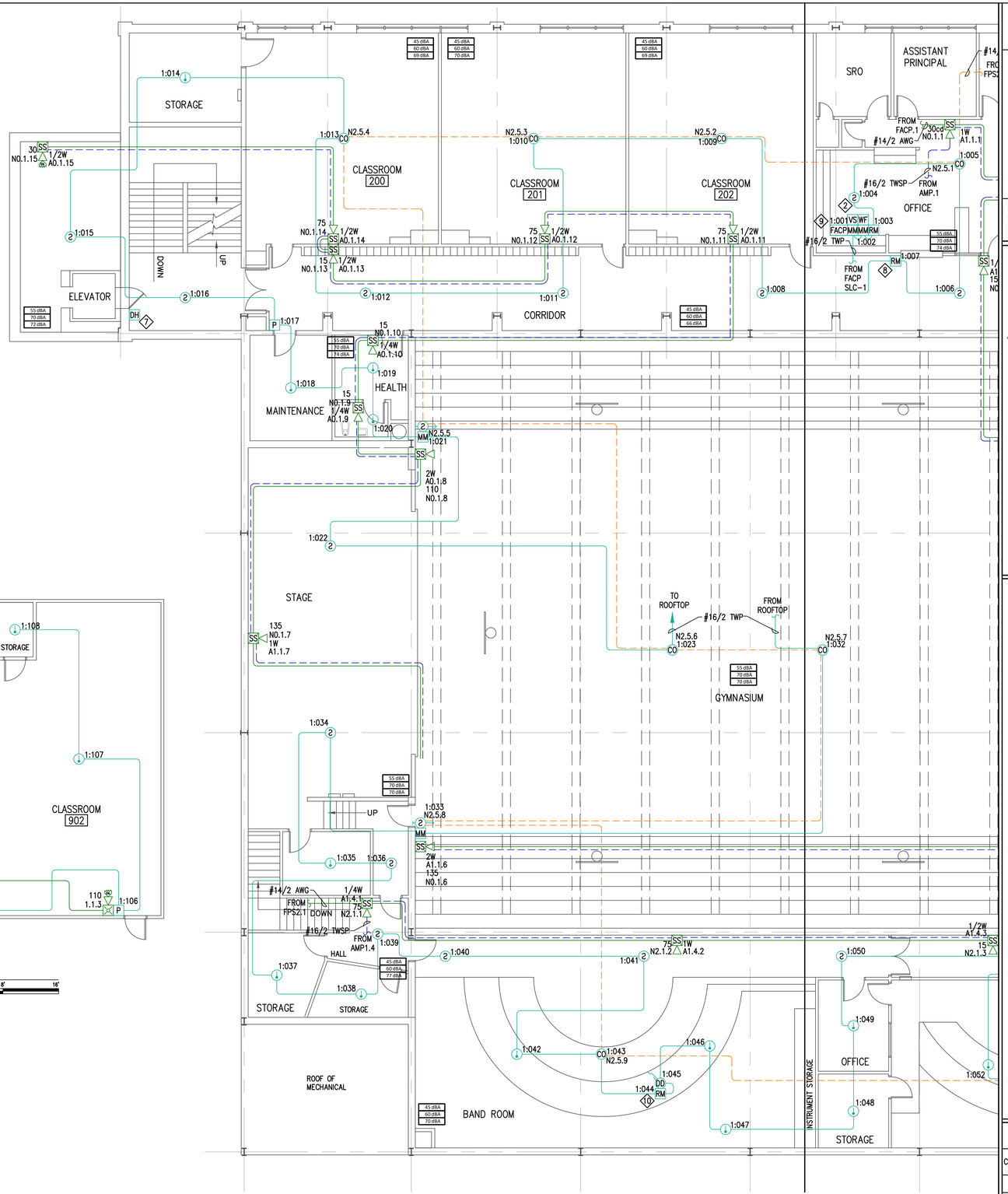
45 dBA / 60 dBA / 75 dBA — AMBIENT SOUND PRESSURE LEVEL / MINIMUM SOUND PRESSURE LEVEL REQUIRED / DESIGNED SOUND PRESSURE LEVEL

NOTIFICATION APPLIANCE DECIBEL OUTPUT			
WATTAGE	UL REVERBERANT dBA @ 10 FT	WATTAGE	UL REVERBERANT dBA @ 10 FT
CEILING SPEAKER/STROBE - SPSCWLED		SPEAKER/STROBE - SPWLED	
1/4 W	77	1/4 W	77
1/2 W	80	1/2 W	80
1 W	83	1 W	83
2 W	86	2 W	86

LOCATION	AVERAGE AMBIENT SOUND LEVEL (DBA)	DESIGN SOUND LEVEL (DBA)
BUSINESS OCCUPANCIES	55	70
EDUCATIONAL OCCUPANCIES	45	60
INDUSTRIAL OCCUPANCIES	80	95
INSTITUTIONAL OCCUPANCIES	50	65
MERCANTILE OCCUPANCIES	40	55
MECHANICAL ROOMS	85	100
PIERS AND WATER-SURROUNDED STRUCTURES	40	55
PLACES OF ASSEMBLY	55	70
RESIDENTIAL OCCUPANCIES	35	50
STORAGE OCCUPANCIES	30	45
THOROUGHFARES, HIGH-DENSITY URBAN	70	85
THOROUGHFARES, MEDIUM-DENSITY URBAN	55	70
THOROUGHFARES, RURAL AND SUBURBAN	40	55
TOWER OCCUPANCIES	35	50
UNDERGROUND STRUCTURES AND WINDOWLESS BUILDINGS	40	55
VEHICLES AND VESSELS	50	65

* NOTE: DESIGN SOUND PRESSURE LEVELS ARE MEASURED WITH A LOSS OF 10DB THROUGH WALLS AND CLOSED DOORS.

MODULAR UNITS
FIRE ALARM PLAN
SCALE: 1/8"=1'-0"



WEST SIDE OF MAIN FLOOR
FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/25/24
1	ADDED CO PADS AND ALTERED DEVICES	1/21/25

StateFire
2550 SOUTH WEST TEMPLE
SALT LAKE CITY, UTAH 84115
TOLL FREE: 800-523-4300
OFFICE: 801-288-2100

FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
POCATELLO, ID 83201
WEST SIDE OF MAIN FLOOR FIRE ALARM PLAN

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'-0"

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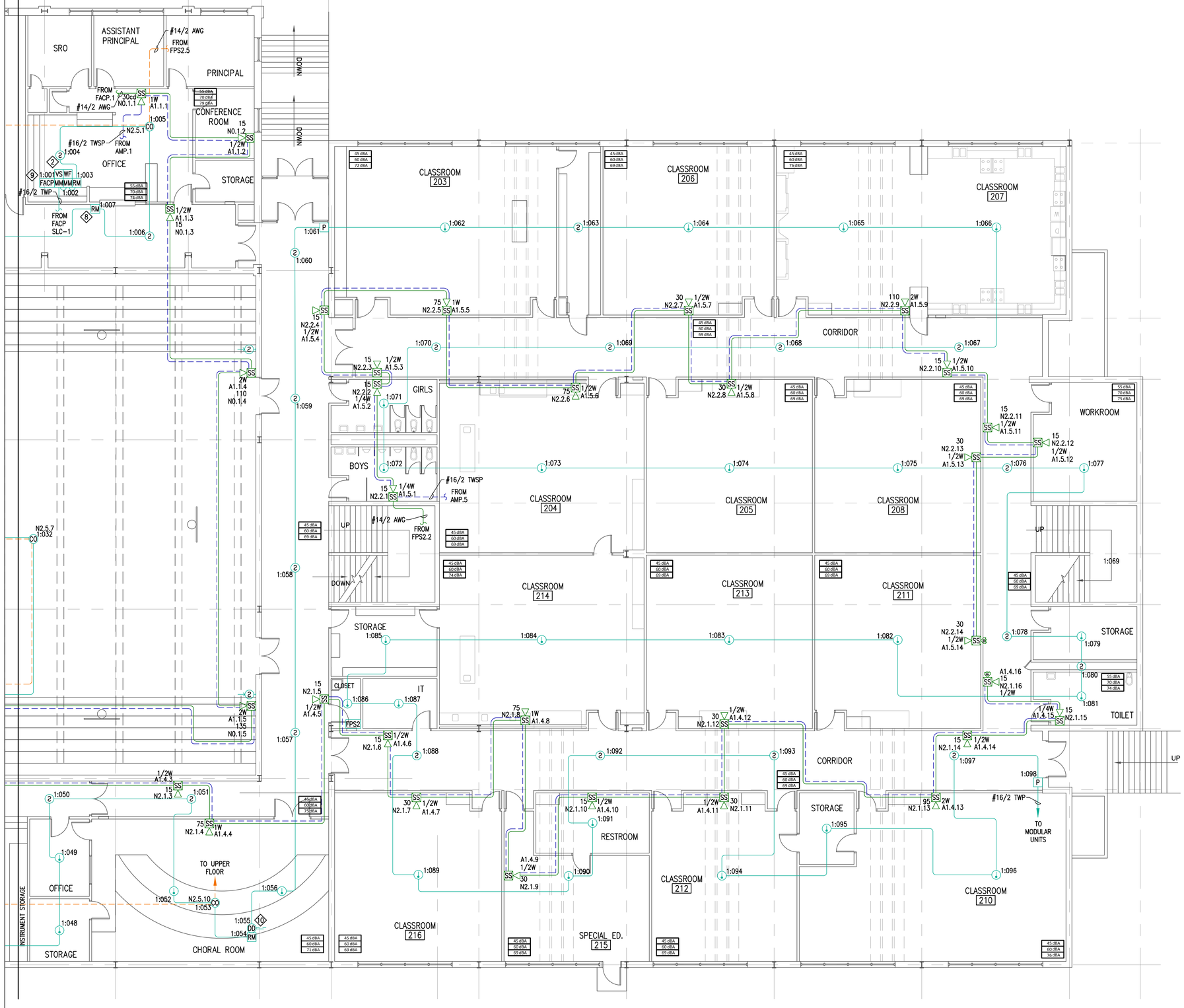
FA-6



EAST SIDE OF MAIN FLOOR
FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

SHEET NOTES:

1. ADDRESSABLE RELAY MODULE(S) PROVIDED FOR FAN SHUT DOWN. TIE TO INDICATED UNIT FAN CONTROLLER. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING, AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE. USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S) WITH MECHANICAL DIVISION.
2. ADDRESSABLE MONITOR MODULE(S) PROVIDED TO MONITOR ALL WATER FLOW, PRESSURE SWITCHES, TAMPER SWITCHES AND POST INDICATING VALVES ASSOCIATED WITH THE FIRE SPRINKLER SYSTEM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).
3. MANUAL PULL STATION TO BE LOCATED AT A CONVENIENT CENTRAL POINT UNDER CONTINUOUS SUPERVISION OF RESPONSIBLE EMPLOYEES.
4. CONVENTIONAL DUCT SMOKE DETECTORS PROVIDED FOR THE RETURN AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 2,000 CFM AND FOR THE SUPPLY AIR PATH AT ALL AIR HANDLING UNITS HAVING A CAPACITY GREATER THAN 15,000 CFM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. PROVIDE POWER TO THE DETECTOR FROM THE ASSOCIATED UNIT (24 VDC OR 120 VAC) UNLESS OTHERWISE INDICATED. PROVIDE FOR SHUT DOWN OF THE ASSOCIATED UNIT FAN(S). FIELD VERIFY UNIT POWER SOURCE. USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S) WITH MECHANICAL DIVISION. PROVIDE REMOTE ALARM/SUPERVISORY INDICATION IN A LOCATION ACCEPTABLE TO THE LOCAL AHJ WHEN IN-DUCT SMOKE DETECTOR INDICATOR IS NOT VISIBLE TO RESPONDING PERSONNEL.
5. WHERE HOISTWAY(S) AND ELEVATOR CONTROL ROOM ARE PROTECTED WITH SPRINKLERS, PROVIDE HEAT DETECTOR(S) WITHIN 24" OF EACH SPRINKLER HEAD. HEAT DETECTORS SHALL HAVE A LOWER TEMPERATURE RATING THAN THE SPRINKLERS IN THE AREA AND BE MONITORED FOR INTEGRITY.
6. ADDRESSABLE RELAY MODULES (4) PROVIDED FOR THE ELEVATOR RECALL AND SHUT DOWN. TIE TO ELEVATOR EQUIPMENT ROOM DETECTOR(S), HOISTWAY DETECTOR(S) AND LOBBY DETECTOR(S) TO INITIATE RECALL AND SHUT DOWN. ADDRESSABLE MONITOR MODULE PROVIDED TO MONITOR THE CONTROL CIRCUIT TO THE ELEVATOR SHUNT TRIP BREAKER FOR THE PRESENCE OF OPERATING VOLTAGE. LOSS OF VOLTAGE SHALL CAUSE A SUPERVISORY SIGNAL AT THE CONTROL PANEL. FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS.
7. EXISTING DEVICES DESIGNATED TO REMAIN.
8. ADDRESSABLE RELAY MODULE(S) AND MULTI-VOLTAGE CONTROL RELAY(S) PROVIDED FOR FIRE-SMOKE CURTAIN CONTROL. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY POWER SOURCE (24 VDC OR 120 VAC). USE MULTI-VOLTAGE CONTROL RELAY(S) IF REQUIRED. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).
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10. DUCT DETECTOR LOCATED ON ROOFTOP.

SOUND PRESSURE LEVEL ANNOTATION:

45 dBA / 60 dBA / 76 dBA
- AMBIENT SOUND PRESSURE LEVEL
- MINIMUM SOUND PRESSURE LEVEL REQUIRED
- DESIGNED SOUND PRESSURE LEVEL

NOTIFICATION APPLIANCE DECIBEL OUTPUT			
WATTAGE	UL REVERBERANT dBA @ 10 FT	WATTAGE	UL REVERBERANT dBA @ 10 FT
CEILING SPEAKER/STROBE - SPSCWLED		SPEAKER/STROBE - SPWLED	
1/4 W	77	1/4 W	77
1/2 W	80	1/2 W	80
1 W	83	1 W	83
2 W	86	2 W	86

LOCATION	AVERAGE AMBIENT SOUND LEVEL (DBA)	DESIGN SOUND LEVEL (DBA)
BUSINESS OCCUPANCIES	55	70
EDUCATIONAL OCCUPANCIES	45	60
INDUSTRIAL OCCUPANCIES	80	95
INSTITUTIONAL OCCUPANCIES	50	65
MERCANTILE OCCUPANCIES	40	55
MECHANICAL ROOMS	85	100
PIERS AND WATER-SURROUNDED STRUCTURES	40	55
PLACES OF ASSEMBLY	55	70
RESIDENTIAL OCCUPANCIES	35	50
STORAGE OCCUPANCIES	30	45
THOROUGHFARES, HIGH-DENSITY URBAN	70	85
THOROUGHFARES, MEDIUM-DENSITY URBAN	55	70
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TOWER OCCUPANCIES	35	50
UNDERGROUND STRUCTURES AND WINDOWLESS BUILDINGS	40	55
VEHICLES AND VESSELS	50	65

* NOTE: DESIGN SOUND PRESSURE LEVELS ARE MEASURED WITH A LOSS OF 10DB THROUGH WALLS AND CLOSED DOORS.

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EAST SIDE OF MAIN FLOOR FIRE ALARM PLAN

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'-0"

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FA-7

SHEET NOTES:

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7. EXISTING DEVICES DESIGNATED TO REMAIN.

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10. DUCT DETECTOR LOCATED ON ROOFTOP.

SOUND PRESSURE LEVEL ANNOTATION:

45 dBA / 60 dBA / 78 dBA — AMBIENT SOUND PRESSURE LEVEL
MINIMUM SOUND PRESSURE LEVEL REQUIRED
DESIGNED SOUND PRESSURE LEVEL

NOTIFICATION APPLIANCE DECIBEL OUTPUT			
WATTAGE	UL REVERBERANT dBA @ 10 FT	WATTAGE	UL REVERBERANT dBA @ 10 FT
CEILING SPEAKER/STROBE – SPSCWLED		SPEAKER/STROBE – SPWLED	
1/4 W	77	1/4 W	77
1/2 W	80	1/2 W	80
1 W	83	1 W	83
2 W	86	2 W	86

LOCATION	AVERAGE AMBIENT SOUND LEVEL (DBA)	DESIGN SOUND LEVEL (DBA)
BUSINESS OCCUPANCIES	55	70
EDUCATIONAL OCCUPANCIES	45	60
INDUSTRIAL OCCUPANCIES	80	95
INSTITUTIONAL OCCUPANCIES	50	65
MERCANTILE OCCUPANCIES	40	55
MECHANICAL ROOMS	85	100
PIERS AND WATER-SURROUNDED STRUCTURES	40	55
PLACES OF ASSEMBLY	55	70
RESIDENTIAL OCCUPANCIES	35	50
STORAGE OCCUPANCIES	30	45
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THOROUGHFARES, MEDIUM-DENSITY URBAN	55	70
THOROUGHFARES, RURAL AND SUBURBAN	40	55
TOWER OCCUPANCIES	35	50
UNDERGROUND STRUCTURES AND WINDOWLESS BUILDINGS	40	55
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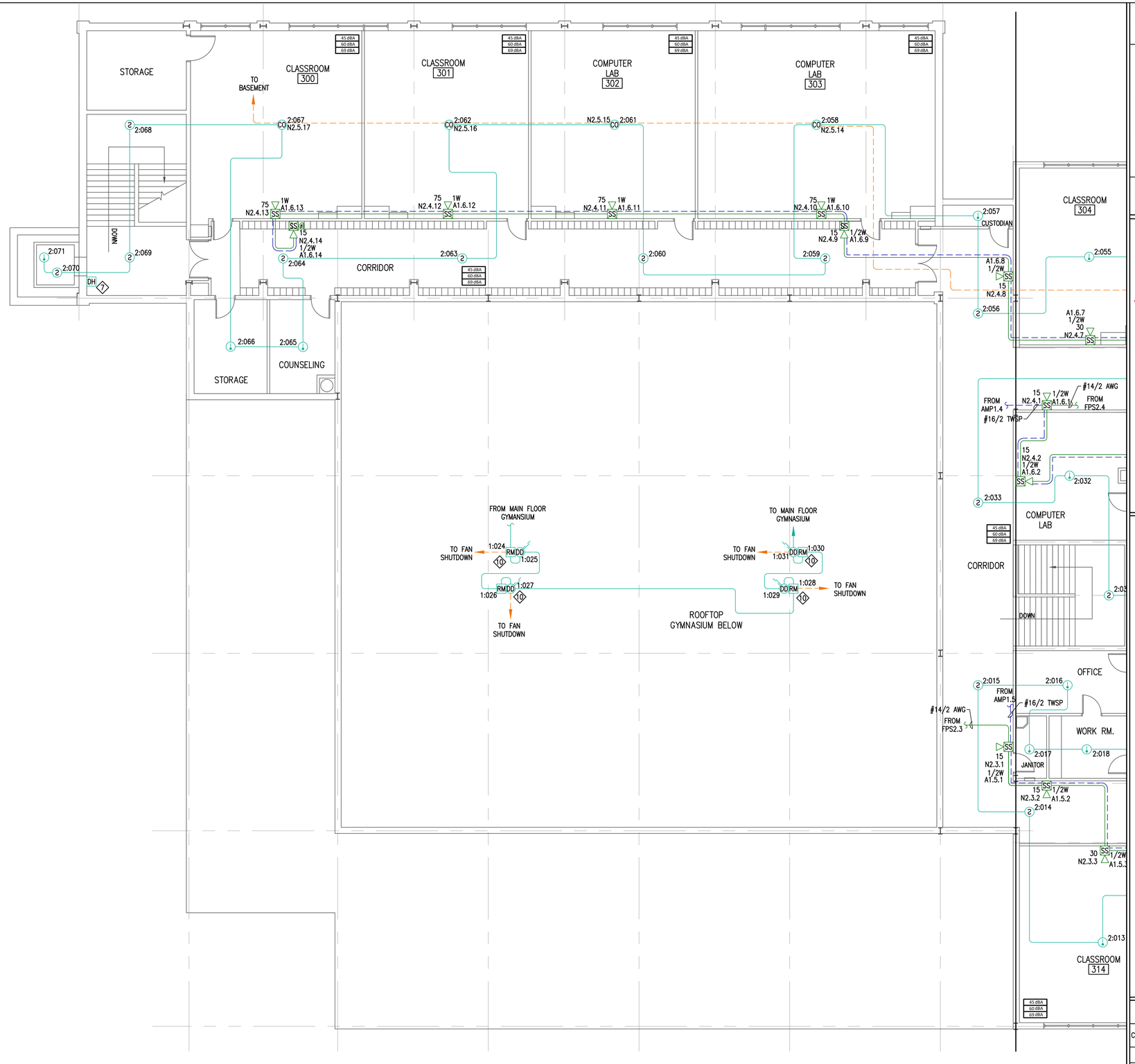

WEST SIDE OF UPPER FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

shop drawings created by:
5794 W. 4600 So.
Hooper, UT 84315
Office: 801.985.0410
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Fire Alarm Design & Drafting Services

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/25/24
1	ADDED CO PADS AND ALTERED DEVICES	1/21/25

StateFire
2550 SOUTH WEST TEMPLE
SALT LAKE CITY, UTAH 84115
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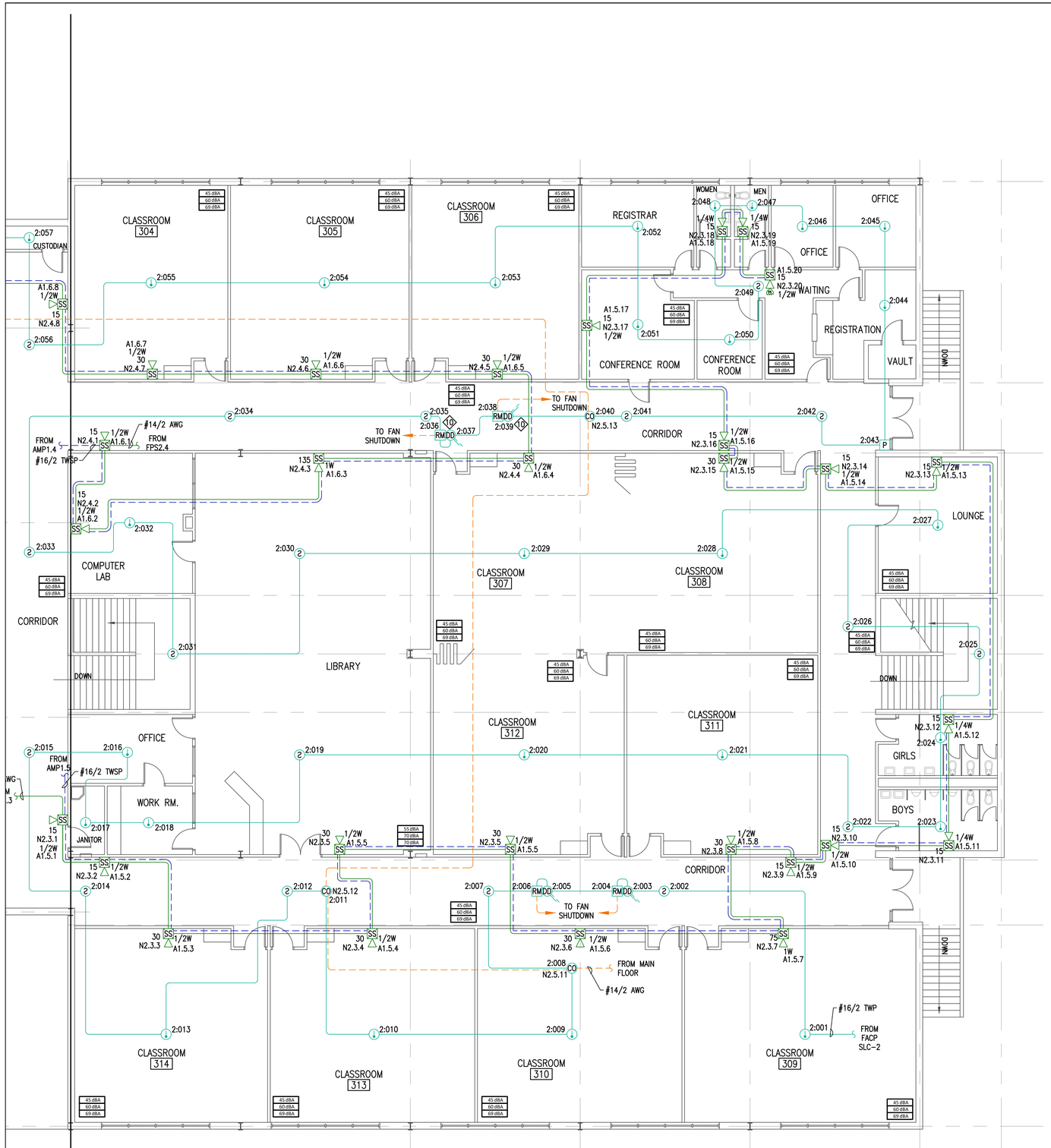
OFFICE: 801-288-2100

FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
POCATELLO, ID 83201
WEST SIDE OF UPPER FLOOR FIRE ALARM PLAN

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'-0"

FA-8



SHEET NOTES:

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10. DUCT DETECTOR LOCATED ON ROOFTOP.

SOUND PRESSURE LEVEL ANNOTATION:

45 dBA / 60 dBA / 75 dBA
- AMBIENT SOUND PRESSURE LEVEL
- MINIMUM SOUND PRESSURE LEVEL REQUIRED
- DESIGNED SOUND PRESSURE LEVEL

NOTIFICATION APPLIANCE DECIBEL OUTPUT			
WATTAGE	UL REVERBERANT dBA @ 10 FT	WATTAGE	UL REVERBERANT dBA @ 10 FT
CEILING SPEAKER/STROBE - SPSCWLED		SPEAKER/STROBE - SPWLED	
1/4 W	77	1/4 W	77
1/2 W	80	1/2 W	80
1 W	83	1 W	83
2 W	86	2 W	86

LOCATION	AVERAGE AMBIENT SOUND LEVEL (DBA)	DESIGN SOUND LEVEL (DBA)
BUSINESS OCCUPANCIES	55	70
EDUCATIONAL OCCUPANCIES	45	60
INDUSTRIAL OCCUPANCIES	80	95
INSTITUTIONAL OCCUPANCIES	50	65
MERCANTILE OCCUPANCIES	40	55
MECHANICAL ROOMS	85	100
PIERS AND WATER-SURROUNDED STRUCTURES	40	55
PLACES OF ASSEMBLY	55	70
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STORAGE OCCUPANCIES	30	45
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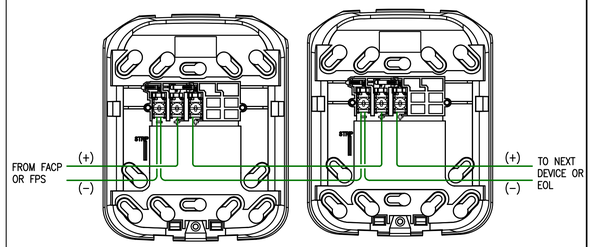
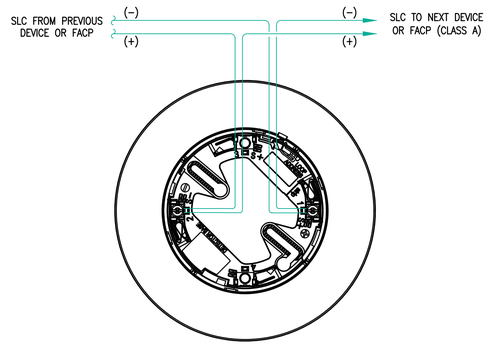
Fire Alarm Design & Drafting Services



NOTIFICATION APPLIANCE WIRING DETAIL

SCHEMATIC: NOT TO SCALE



SMOKE/HEAT DETECTOR BASE WIRING DETAIL

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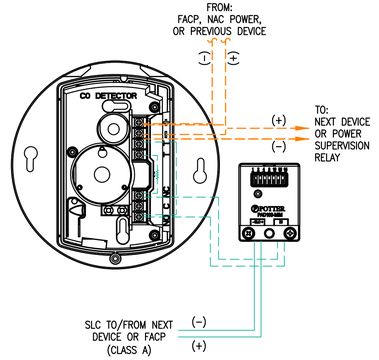
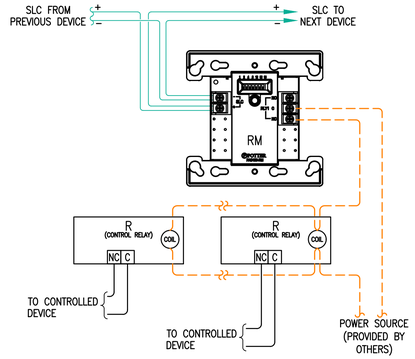


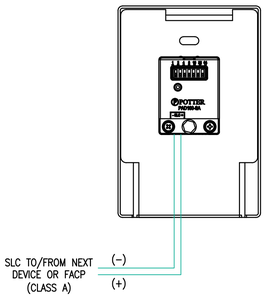
CARBON MONOXIDE DETECTOR WIRING DETAIL

SCHEMATIC NOT TO SCALE



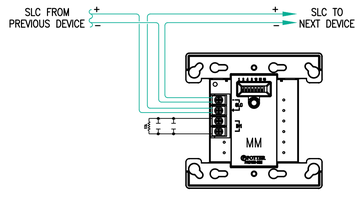
RELAY MODULE WIRING DETAIL

SCHEMATIC NOT TO SCALE



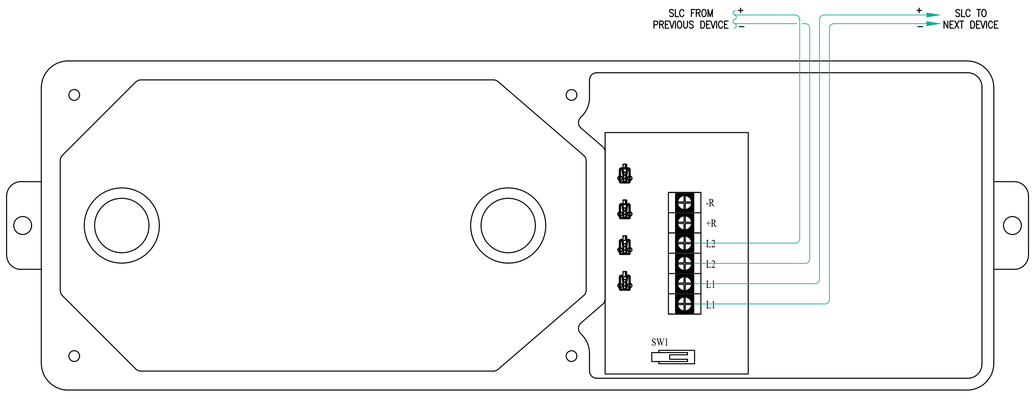
MANUAL PULL STATION WIRING DETAIL

SCHEMATIC: NOT TO SCALE



MONITOR MODULE WIRING DETAIL

SCHEMATIC: NOT TO SCALE



DUCT DETECTOR WIRING DETAIL

SCHEMATIC: NOT TO SCALE

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	11/25/24
1	ADDED CO PADS AND ALTERED DEVICES	1/21/25

StateFire
2550 SOUTH WEST TEMPLE
SALT LAKE CITY, UTAH 84115
TOLL FREE: 800-523-4300
OFFICE: 801-288-2100

FRANKLIN MIDDLE SCHOOL
2271 E TERRY ST.
POCATELLO, ID 83201
CONNECTION DETAILS

DRAWN	MD UNICAD JOB #24705
CHECKED	BRADY B. HAWS, SET NICET IV FAS 138751
DATE	1/21/25
REVISION	1
SCALE	1/8"=1'-0"

FA-10

shop drawings created by:
5794 W. 4600 So.
Hooper, UT 84315
Office: 801.985.0410
www.unicad.net
UNICAD Inc.
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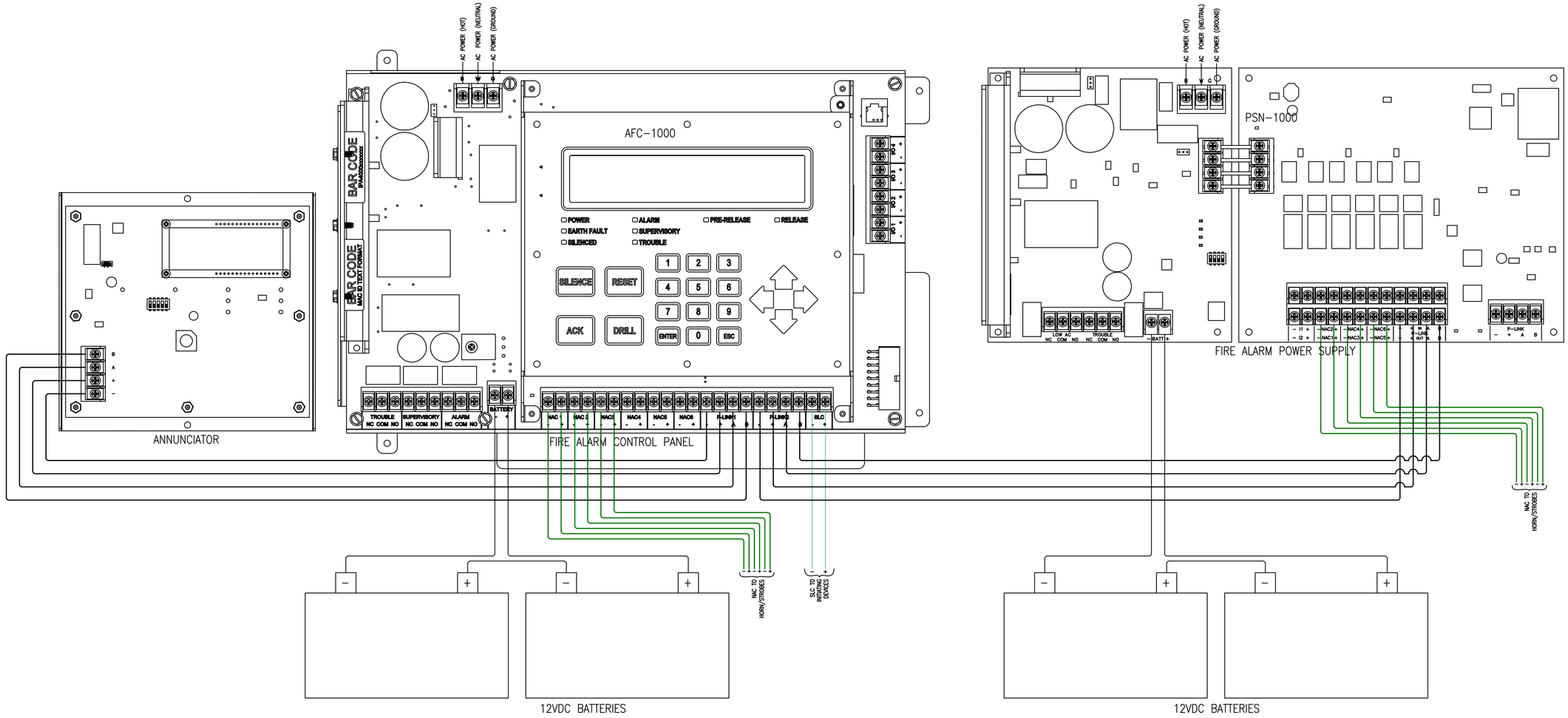

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