150 N Ridge Road
PO Box 2000
Hesston, KS 67062

HESSTON
USD 460

Ph: 620-327-4931
Fax: 620-327-7157
www.hesstonschools.org

**Request for Proposals (RFP)**

Project Title: Middle School Gymnasium Salvage
Issued by: Hesston USD 460
Date: 09/15/2026

**1. Project Overview**

USD 460 Hesston Public Schools is seeking bids from qualified Contractors to complete various scopes of work to restore the existing middle school gym after demolition of surrounding structures. The project will include a new vestibule at existing entry door and exterior and interior upgrades to provide a new standalone gym for the Hesston Community. Scopes to be bid: Painting, Masonry, Roofing, Earthwork, Utilities, DF&H.

All contracts will be held by the district. Management and oversight will be conducted by Lighthouse Construction Guidance. Lighthouse will be the primary decision maker for all construction related questions that arise during the work.

All contractors and sub-contractors shall comply with all local, state, and federal laws, ordinances, and regulations.

Please submit individual bids for bid packages included. Scopes that do not include a specific bid package are still eligible for bidding with the scope defined by the individual proposal. It will be in the sole discretion of Lighthouse to evaluate completeness and price of each proposal to ensure a complete project.

Contractors shall submit Contractor's Qualification Statement with the sealed bid. Upon review of the Qualification Statement document, the Owner shall have the right to take such steps as he deems necessary to determine the ability of the Contractor to perform the Work, and the Contractor shall furnish to the Owner such additional information and data for this purpose, as they may request. The right is reserved to reject any Bid after an investigation or consideration of the information and data submitted by such Contractor.

The contractor will be required to start the work per the schedule included herein. Substantial completion is the owner's ability to utilize the facility for its intended purpose. The owner reserves the right and may delay work if scheduling between school administration and contractor cannot be resolved.

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**2. Contractor Requirements**

- Licensed and bonded Contractor in Kansas.
- Onsite project foreman required.
- List project foreman and primary point of contact in bid information.

**3. Bid Submission Requirements**

All bids must include:

- Bid qualifications.
- Project duration for base bid and any voluntary alternates. (Working Days)
- Lump-sum bid including all work components.
- Insurance certificate.
- Letter from surety for performance and payment bond if over $100,000 per state statute.

**4. Bid Due Date & Submission**

All bids must be received by:
Date: September 23, 2026
Time: 12:00 PM
Attn: Whitney Henle
**The bid documents must be emailed to Whitney Henle: whenle@lcgway.com*

**5. Evaluation Criteria**

Bids will be evaluated based on:

- Completeness and clarity
- Price
- Schedule
- Compliance

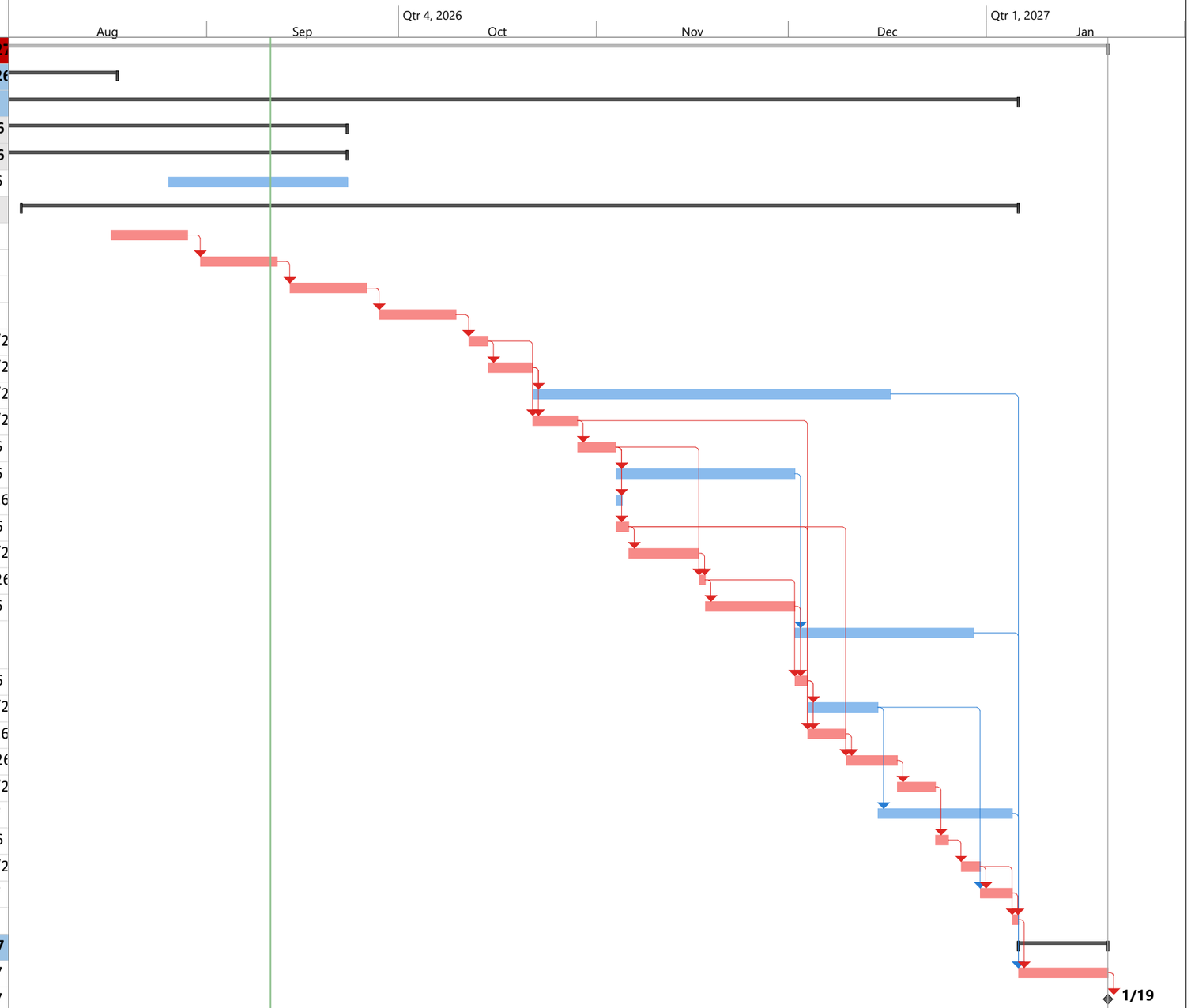
**6. Anticipated Project Timeline**

- Contract Award: September 2026
- Construction Start: October 2026.

**7. Contact Information**

For questions or clarifications, contact:
Whitney Henle
Lighthouse Construction
whenle@lcgway.com
785.210.4148

| ID | Task Mode | Outline Level | Task Name | Duration | Start | Finish |
|---|---|---|---|---|---|---|
| 0 | | 0 | **Hesston Middle School Demo** | **177 days** | **Mon 5/18/26** | **Tue 1/19/27** |
| 1 | | 1 | **Preconstruction** | **66 days** | **Mon 5/18/26** | **Mon 8/17/26** |
| 13 | | 1 | **Construction** | **136 days** | **Tue 6/30/26** | **Tue 1/5/27** |
| 14 | | 2 | **Utilities** | **61 days** | **Tue 6/30/26** | **Tue 9/22/26** |
| 18 | | 3 | **Demolition** | **47 days** | **Mon 7/20/26** | **Tue 9/22/26** |
| 21 | | 4 | Demolition at Electrical Service | 20 days | Wed 8/26/26 | Tue 9/22/26 |
| 22 | | 2 | **Construction** | **112 days** | **Mon 8/3/26** | **Tue 1/5/27** |
| 24 | | 3 | Survey | 10 days | Mon 8/17/26 | Fri 8/28/26 |
| 25 | | 3 | Civil Plans | 10 days | Mon 8/31/26 | Fri 9/11/26 |
| 26 | | 3 | Procurment of Earthwork Contractor | 10 days | Mon 9/14/26 | Fri 9/25/26 |
| 27 | | 3 | Earthwork Scope | 10 days | Mon 9/28/26 | Fri 10/9/26 |
| 28 | | 3 | Grading @ Vestibules | 3 days | Mon 10/12/2 | Wed 10/14/2 |
| 29 | | 3 | Weather Days | 5 days | Thu 10/15/26 | Wed 10/21/2 |
| 30 | | 3 | Exterior Envelope Refurbishing | 40 days | Thu 10/22/26 | Wed 12/16/2 |
| 31 | | 3 | Concrete | 5 days | Thu 10/22/26 | Wed 10/28/2 |
| 32 | | 3 | Metal Stud/Truss Installation | 4 days | Thu 10/29/26 | Tue 11/3/26 |
| 33 | | 3 | Rework Electrical/Fire Alarm System | 20 days | Wed 11/4/26 | Tue 12/1/26 |
| 34 | | 3 | Door Frame Installation | 1 day | Wed 11/4/26 | Wed 11/4/26 |
| 35 | | 3 | Roof Decking | 2 days | Wed 11/4/26 | Thu 11/5/26 |
| 36 | | 3 | Roof Installation | 7 days | Fri 11/6/26 | Mon 11/16/2 |
| 37 | | 3 | Sheathing Installation | 1 day | Tue 11/17/26 | Tue 11/17/26 |
| 38 | | 3 | Weather Days | 10 days | Wed 11/18/2 | Tue 12/1/26 |
| 39 | | 3 | Plumbing/HVAC @ Existing Boiler Room and Locker Room | 20 days | Wed 12/2/26 | Tue 12/29/26 |
| 40 | | 3 | Air/Moisture Barrier | 2 days | Wed 12/2/26 | Thu 12/3/26 |
| 41 | | 3 | Exterior Metal Wall Panels | 7 days | Fri 12/4/26 | Mon 12/14/2 |
| 42 | | 3 | Drywall Installation | 4 days | Fri 12/4/26 | Wed 12/9/26 |
| 43 | | 3 | Drywall Finish | 6 days | Thu 12/10/26 | Thu 12/17/26 |
| 44 | | 3 | Paint - Vestibule | 4 days | Fri 12/18/26 | Wed 12/23/2 |
| 45 | | 3 | Site Improvements | 15 days | Tue 12/15/26 | Mon 1/4/27 |
| 46 | | 3 | Light Fixtures | 2 days | Thu 12/24/26 | Fri 12/25/26 |
| 47 | | 3 | Flooring Install | 3 days | Mon 12/28/2 | Wed 12/30/2 |
| 48 | | 3 | Doors and Hardware | 3 days | Thu 12/31/26 | Mon 1/4/27 |
| 49 | | 3 | Glazing | 1 day | Tue 1/5/27 | Tue 1/5/27 |
| 50 | | 1 | **Closeout** | **10 days** | **Wed 1/6/27** | **Tue 1/19/27** |
| 51 | | 2 | Punchlist | 10 days | Wed 1/6/27 | Tue 1/19/27 |
| 52 | | 2 | Substantial Completion | 0 days | Tue 1/19/27 | Tue 1/19/27 |




Project: Hesston Middle School
Date: Fri 9/11/26

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Task | Project Summary | Manual Task | Start-only | Deadline | Manual Progress | | |
| Split | Inactive Task | Duration-only | Finish-only | Critical | | | |
| Milestone | Inactive Milestone | Manual Summary Rollup | External Tasks | Critical Split | | | |
| Summary | Inactive Summary | Manual Summary | External Milestone | Progress | | | |

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# TERMS AND CONDITIONS

RESERVATIONS: The Board of Education reserves the right to cancel this Invitation for Bid at any time and for any reason. The Board also reserves the right to reject any or all offers, to accept any item or items in an offer, and to waive any informality or immaterial defect in offers. Failure to adhere to any of these terms and conditions may result in the rejection of the offending bid.

QUANTITIES: The Board reserves the right to increase or decrease the quantity of any bid item. Every effort has been made to provide an accurate estimate of desired quantities or usage, but it is understood quantities are indefinite until time of order.

PRICING: Prices quoted must remain firm for a minimum period of (45) days from Response Due date. Prices shall remain firm for the contract period. Prices quoted are to be the full delivered, set-up, and purchase price to the Unified School District No. 450 (District) including charges of every kind and nature, unless otherwise indicated.

EQUIVALENT ITEMS: Whenever a material, article or piece of equipment is identified in the specifications by reference to a manufacturer's or vendor's name, trade name, catalogs or model number, etc., it is intended to establish a standard, unless otherwise specifically stated. Any material, article or equipment of other manufacturers or vendors shall perform to the standard of the item specified. Equivalent bids must be accompanied by sufficient descriptive literature and specifications to provide for detailed comparison. Samples or demonstrations, if required, will be furnished at no expense to the District.

ALTERNATES: Alternate offers on items comparable to the material, article or pieces of equipment listed in this Invitation for Bid are invited. Bidders should indicate clearly any deviation from the specifications of this solicitation. The District is under no obligation to consider or accept such offers.

DISCOUNTS: Cash discounts will not be considered in awarding a contract. Where cash discounts for prompt payment are offered, the discount period shall begin with the date of receipt of a correct invoice, or acceptance of final receipt of goods, whichever is later.

AWARD: Bids will be analyzed and the award made to the lowest responsible bidder whose offer conforms to the solicitation, and is considered the most advantageous to Hesston School District USD 460. Award may be made on an item-by-item basis, or based on group or total award. The District may issue a purchase order, contract, or both as its notification of award to the successful bidder.

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NEW GOODS: Unless otherwise specified, all materials, supplies, articles or equipment offered by vendor must be new, unused and be the best of their respective kinds, free from defects in material or workmanship. Items will be subject to our inspection and approval. If a substitution is made at the time of delivery, it will be the decision of the USD Board of Education or District Purchasing Department to determine if it is acceptable.

DELIVERY: Delivery of goods or materials to be F.O.B. stated location. All items must be properly packed and crated to ensure delivery in good condition, and in accordance with any special instructions included in the 'Invitation for Bid' or purchase order.

DEFAULT ON DELIVERY: If the supplier refuses or fails to make deliveries of the materials, supplies, articles or equipment as defined in this solicitation or on our purchase order, the Board of education may terminate the right of the supplier to proceed with the transaction. A vendor who defaults on delivery may be barred from bidding on any subsequent Solicitation for a period to be determined.

REJECTED ITEMS: Rejected items will be held at the seller's risk and expense. Seller shall not provide replacement unless agreed to by the Board of Education or the District Purchasing Department.

PAYMENT: The Board of Education normally approves payments of invoices on the first and third Monday of each month. Claims received on or before the Wednesday of the week preceding a Board will be paid immediately following Board approval. Payment of the seller's invoice is subject to adjustment for any shortage or rejected items. Individual invoices must be issued for each shipment applying against a purchase order.

PATENT INFRINGEMENT: The supplier shall provide the standard patent infringement indemnity clause which shall hold and save the Board of Education and its officers, agents, servants, and employees, harmless from liability for use of any patented, or unpatented invention, process, article, or appliance manufactured, or used in the performance of the contract, including its use by the Board of Education.

INDUSTRY STANDARDS: Items must be furnished and performed in accordance with the best-established practice and standards recognized by the contracted industry and comply with all codes, regulations and governmental directives.

COMPETITION: The purpose of this solicitation is to seek competition. The vendor shall advise the District of any specification, language or other requirement inadvertently restricts or limits bidding to a single source. Notification shall be in writing and must be received no later than five business days prior to the bid closing date. The Board reserves the right to waive minor deviations in the specifications if they do not hinder the intent of the solicitation.

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# CONTRACTUAL PROVISIONS ATTACHMENT

## Hesston USD 460 | DA-146a (Rev. 09-25)

The parties agree that the following provisions are hereby incorporated into the agreement in which this attachment is incorporated and made a part thereof (the "Agreement"):

Terms Herein Controlling Provisions: It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting provision in the Agreement and any other document relating to and a part of the Agreement. Any terms that conflict or could be interpreted to conflict with this attachment are nullified.

Kansas Law and Venue: The Agreement shall be subject to, governed by, and construed according to the laws of the State of Kansas, and jurisdiction and venue of any suit in connection with the Agreement shall reside only in courts located in Harvey County, Kansas.

Termination Due to Lack of Funding Appropriation: If sufficient funds are not appropriated to continue the function performed in the Agreement and for the payment of the charges hereunder, Hesston Unified School District (the District) may terminate the Agreement at the end of its current fiscal year. The District agrees to give written notice of termination to contractor at least 30 days prior to the end of its current fiscal year, and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in this contract, except that such notice shall not be required prior to 90 days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided under any contract for which it has not been paid. The District will pay to the contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination of the Agreement by the District, title to any such equipment shall revert to Contractor at the end of the District's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to the agency or the contractor.

Disclaimer of Liability: No provision of this contract will be given effect that attempts to require the District to defend, hold harmless, or indemnify any contractor or third party for any acts or omissions. The liability of the District is defined under the Kansas Tort Claims Act (K.S.A. 75-6101, *et seq*.).

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Anti-Discrimination Clause: Contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001, *et seq*.) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111, *et seq*.) and the applicable provisions of the Americans With Disabilities Act (42 U.S.C. 12101, *et seq*.) (ADA), and Kansas Executive Order No. 19-02, and to not discriminate against any person because of race, color, gender, sexual orientation, gender identity or expression, religion, national origin, ancestry, age, military or veteran status, disability status, marital or family status, genetic information, or political affiliation that is unrelated to the person's ability to reasonably perform the duties of a particular job or position; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the Agreement may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration; (f) if it is determined that the Contractor has violated applicable provisions of ADA, such violation shall constitute a breach of contract and the Agreement may be cancelled, terminated or suspended, in whole or in part, by the District or the Kansas Department of Administration.

Contractor agrees to comply with all applicable state and federal anti-discrimination laws.

The provisions of this paragraph number 5 (with the exception of those provisions relating to the ADA) are not applicable to a Contractor who employs fewer than four employees during the term of such contract or whose contracts with the contracting State agency cumulatively total $5,000 or less during the fiscal year of such agency.

Acceptance: The Agreement shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given, including, but not limited to the signature of an authorized representative of the District, as defined in District policy.

Arbitration, Damages and Warranties: Notwithstanding any language to the contrary, no interpretation of this contract shall find that the State or the District have agreed to binding arbitration, or the payment of damages or penalties. Further, the District does not agree to pay attorney fees, costs, or late payment charges beyond those available under the Kansas Prompt Payment Act (K.S.A. 75-6403), and no provision will be given effect that attempts to exclude, modify, disclaim or otherwise attempt to limit any damages available to the District at law, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

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Representative's Authority to Contract: By signing and entering into contract with the District, the representative of Contractor thereby represents that such person is duly authorized by Contractor to execute the contract on behalf of Contractor and that Contractor agrees to be bound by the provisions thereof.

Responsibility for Taxes: Hesston School District USD 460 is exempt from all federal and local taxes unless otherwise imposed by a governmental body and applicable to the items on the proposal. Reference K.S.A. 79-3606 (c) governing items purchased directly by a public or private elementary or secondary school or educational institution.

Insurance: The District shall not be required to purchase any insurance against loss or damage to property or any other subject matter relating to this contract, nor shall this contract require it to establish a "self-insurance" fund to protect against any such loss or damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101, *et seq*.), Contractor shall bear the risk of any loss or damage to any property in which Contractor holds title.

Information: No provision of this contract shall be construed as limiting the State of Kansas Legislative Division of Post Audit from having access to information pursuant to K.S.A. 46-1101, *et seq*.

Confidentiality: The District's contracts are generally public records. Accordingly, no provision of this contract shall restrict the District's ability to produce this contract and/or any corresponding documents in response to a lawful request or from otherwise complying with the Kansas Open Records Act (K.S.A. 45-215, *et seq*.).

The Eleventh Amendment: The Eleventh Amendment is an inherent and incumbent protection with the State of Kansas and need not be reserved, but prudence requires the State and the District to reiterate that nothing related to this contract shall be deemed a waiver of the Eleventh Amendment.

Campaign Contributions / Lobbying: Funds provided through a grant award or contract shall not be given or received in exchange for the making of a campaign contribution. No part of the funds provided through this contract shall be used to influence or attempt to influence an officer or employee of the District regarding any pending legislation or the awarding, extension, continuation, renewal, amendment or modification of any government contract, grant, loan, or cooperative agreement.

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Privacy of Student Records: Contractor understands that the District is subject to the Family Educational Rights and Privacy Act (20 U.S.C. § 1232g) (FERPA) and agrees to handle any student education records it receives pursuant to the contract in a manner that enables the District to be compliant with FERPA and its regulations. Contractor agrees to protect the privacy of student data and educational records in a commercially reasonable manner and shall not transmit, share, or disclose any data about a student without the student's written consent, except to other District officials who seek the information within the context of his/her professionally assigned responsibilities and used within the context of official District business. Contractor shall promptly report to the District any request for or improper disclosure of District's student educational records.

Export Control: Contractor agrees to comply with all U.S. Laws relating to the transfer, export, or re-export of technology and technical data, as defined in the export controls under the International Traffic in Arms Regulations (ITAR) 22 Code of Federal Regulations Parts 120-130 or the Export Administration Regulations (EAR) 15 Code of Federal Regulations Parts 730-774. The release of information to any employee or other person, who is not a U.S. Citizen or permanent resident, as well as to corporations or to any other entity, organization, or group that is not incorporated or otherwise organized to do business in the United States may require advanced written authorization from the appropriate U.S. agency. Contractor shall notify District in writing prior to disclosure of any technical data or other items subject to EAR or ITAR and identify the export controlled items at issue and the applicable categories and subcategories of the United States Munitions List and/or Export Control Classification Number(s). District reserves the right to decline to accept any items or information controlled under ITAR or EAR.

Certification: Contractor certifies that to the best of its knowledge neither it nor any of their principals are presently debarred, suspended, proposed for debarment, the subject of an indictment involving the criminal statutes enumerated in 22 Code of Federal Regulations § 120.6, or otherwise declared ineligible for the award of contracts by any Federal agency. Contractor shall provide immediate written notice to the District if at any time it learns that this certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

Facility Access: To the extent Contractor is required to be on the District's premises in the performance of any contract, Contractor and its representatives will adhere to the District's reasonable safety and security policies and procedures, and will use commercially reasonable efforts not to interfere with the District's regular operations. Contractor further agrees to, upon request, include the District as an additional insured on its general liability insurance policy on a primary and non-contributory basis and provide the District with a certificate of insurance.

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Accounts Receivable Set-Off Program: If, during the course of this contract, Contractor is found to owe a debt to the State of Kansas, District payments to Contractor may be intercepted / set-off by the State of Kansas as set forth by law. Notice of the setoff action will be provided to Contractor. Pursuant to K.S.A. 75-6201, *et seq*., Contractor shall have the opportunity to challenge the validity of the debt. If the debt is undisputed, Contractor shall credit the District's account showing payment has been made in an amount equal to the funds intercepted. K.S.A. 75-6201, *et seq*. allows the Director of Accounts and Reports to set off District payments to Contractor against debts owed by Contractor to the State of Kansas. Payments set off in this manner constitute lawful payment for services or goods received. Contractor benefits fully from the payment because its obligation to the State of Kansas is reduced by the amount subject to setoff.

Sexual Harassment and Retaliation Prohibited: In accordance with Kansas Executive Order 18-04, the District has policies prohibiting sexual harassment, discrimination, and retaliation. These policies provide for confidentiality and anonymous reporting. To view these policies or to make a report of sexual harassment, discrimination, or retaliation, please visit https://www.usd450.net/page/board-policies.

Electronic Signature: The parties agree that the contract may be signed with electronic signatures. If an electronic signature is used, the parties agree that it is the legally binding equivalent to the signing party's handwritten signature. Whenever either party executes an electronic signature on the contract, it has the same validity and meaning as a handwritten signature. The parties agree that neither party will, at any time in the future, repudiate the meaning of an electronic signature or claim that an electronic signature is not legally binding.

Defend Trade Secrets Act: Notwithstanding any confidentiality obligations set forth in the Agreement and any other confidentiality provision or document relating to the Agreement, Contractor understands that, pursuant to the Defend Trade Secrets Act of 2016, Contractor will not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that: (i) is made (A) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. Contractor understands that in the event it is determined that disclosure of trade secrets was not done in good faith pursuant to the preceding sentence, Contractor will be subject to substantial damages, including punitive damages and attorneys' fees.

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Force Majeure: The District shall not be liable to Contractor or any third party for any failure or delay caused by events beyond The District's reasonable control, whether foreseeable or unforeseeable, including but not limited to: an act of God; inevitable accident, fire, labor dispute, riot or civil commotion; act of public enemy, terror, or war; governmental act; epidemic; pandemic (including but not limited to COVID-19); viral outbreaks; outbreaks of communicable disease or any other public health crisis; quarantines or other restrictions; national or regional emergencies; regulation or rule; governmental regulations or restrictions on travel, movement, and large gatherings; failure of technical facilities; national day of mourning; emergency announcement or news bulletin; inability to obtain supplies, delays in transportation, embargoes; or other reason beyond the reasonable control of the District (each, a "Force Majeure Event"). The District shall notify Contractor as soon as reasonably practicable of any Force Majeure Event and use its reasonable best efforts to mitigate and remedy the adverse effects of such Force Majeure Event. In the event said Force Majeure Event persists for more than thirty (30) days, the District shall have the option to terminate the Agreement, without penalty.

## VICINITY MAP

## PROJECT TEAM

**OWNER**

HESSTON UNIFIED SCHOOL DISTRICT 460
150 NORTH RIDGE ROAD
HESSTON, KS 67062
620.327.4931
CONTACT: BEN PROCTOR, SUPERINTENDENT

**ARCHITECT**

SPANGENBERG PHILLIPS TICE ARCHITECTURE
312 S. BROADWAY
WICHITA, KS 67202
316.267.4002
CONTACT: GREG TICE
EMAIL: gt@sptarchitecture.com

**GENERAL CONTRACTOR**

**STRUCTURAL ENGINEER**

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 S. TOPEKA
WICHITA, KS 67202
316.262.2691
CONTACT: MIKE KELSO

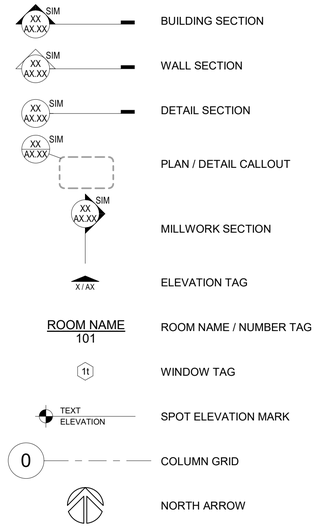
**MECHANICAL ENGINEER**

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 S. TOPEKA
WICHITA, KS 67202
316.262.2691
CONTACT: SHAUN CONWAY

**ELECTRICAL ENGINEER**

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 S. TOPEKA
WICHITA, KS 67202
316.262.2691
CONTACT: SEAN GERETY

## DRAWING SYMBOLS

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**ARCHITECTURAL**

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| AS1.1 | SITE PLAN |
| A1.00 | OVERALL FLOOR PLANS |
| A1.01 | ROOF PLAN |
| A2.01 | OVERALL EXTERIOR ELEVATIONS |
| A3.01 | BUILDING SECTIONS |
| A4.01 | ENLARGED PLANS & SCHEDULES |

**STRUCTURAL**

| | |
|---|---|
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| S0.01 | STRUCTURAL GENERAL NOTES |
| S0.02 | STRUCTURAL GENERAL NOTES & IBC... |
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| S5.01 | TYPICAL FOUNDATION DETAILS |
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| E0.03 | ELECTRICAL SPECIFICATIONS |
| E0.04 | ELECTRICAL SPECIFICATIONS |
| E0.05 | ELECTRICAL SPECIFICATIONS |
| E1.01 | ELECTRICAL SITE DEMOLITION PLAN |
| E1.02 | ELECTRICAL DEMOLITION PLAN |
| E1.11 | ELECTRICAL SITE PLAN |
| E1.31 | ELECTRICAL SYSTEMS PLAN |
| E5.01 | ELECTRICAL DETAILS |
| E5.02 | ELECTRICAL DETAILS |
| E6.01 | ELECTRICAL ONE-LINE DIAGRAM -... |
| E6.02 | ELECTRICAL ONE-LINE DIAGRAM -... |
| E6.11 | ELECTRICAL SCHEDULES |
| E6.12 | ELECTRICAL SCHEDULES |

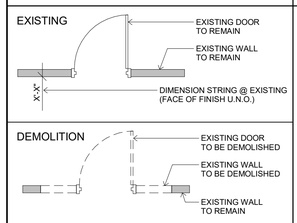

**PERMIT SET**
**06.26.2026**

# USD 460 HESSTON MIDDLE SCHOOL

HESSTON, KS

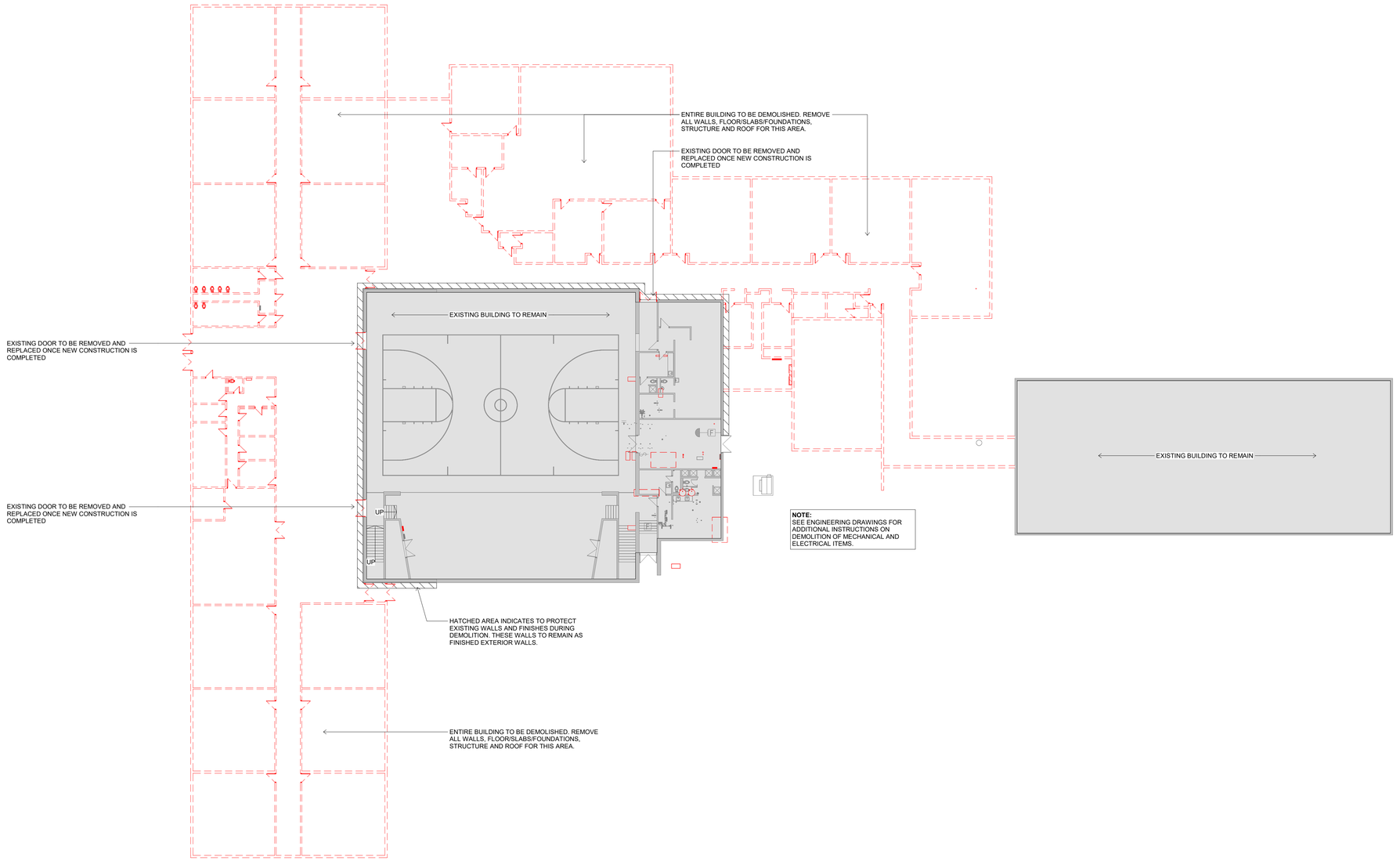
SPT ARCHITECTURE

## DEMOLITION LEGEND




## DEMOLITION NOTES

1. DEMOLITION SHALL BE PERFORMED TO MINIMIZE DAMAGE TO ADJACENT MATERIALS SHOWN TO REMAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPAIRING ANY DAMAGE TO ADJACENT MATERIALS THAT OCCURS DUE TO DEMOLITION ACTIVITIES.
2. CONTAIN ALL EXCESS TRASH AND DEMOLITION DEBRIS DAILY. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL CONSTRUCTION DEBRIS ON OR OFF SITE WHICH ORIGINATES AT THE CONSTRUCTION SITE.
3. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL MATERIAL NOT SCHEDULED FOR REUSE UNDER THIS PROJECT. ALL PRODUCTS SHALL BE DISPOSED OF IN A LEGAL MANNER. ANY ITEMS THE OWNER WISHES TO RETAIN, CONTRACTOR SHALL DELIVER TO A LOCATION DETERMINED BY THE OWNER WITHIN THE CITY LIMITS.
4. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DEMOLITION DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY CONFLICTS.
5. ALL CUTTING OF OPENINGS IN EXISTING WALLS/FLOOR/CEILINGS/ROOFS SHALL BE COORDINATED BY THE GENERAL CONTRACTOR FOR ALL TRADES. PROTECT EXISTING GENERAL CONTRACTOR FOR ALL TRADES. PROTECT EXISTING MATERIALS TO REMAIN AT ALL TIMES DURING DEMOLITION AND CONSTRUCTION.
6. ALL ELEMENTS INDICATED WITH A DASHED LINE SHALL BE DEMOLISHED AND DISPOSED OF AS PART OF THIS PROJECT UNLESS INDICATED OTHERWISE.
7. DEMOLITION SHALL BE ACCOMPLISHED WITH MINIMAL DISRUPTION TO OPERATIONS. IF REQUIRED, THE OWNER RESERVES THE RIGHT TO TEMPORARILY STOP WORK OF SPECIFIC CONSTRUCTION OPERATIONS SHOULD THE OWNER IDENTIFY AN EMERGENCY OR DANGER EXISTS TO THE WELFARE OF THE OCCUPANTS.
8. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR MISCELLANEOUS DEMOLITION FOR RESPECTIVE TRADES.
9. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR EXTENT OF ELECTRICAL ITEMS TO BE DEMOLISHED.
10. ENSURE THAT NEW MECHANICAL UNITS ARE ATTACHED TO AND ARE SUPPORTED BY EXISTING STRUCTURE. CONTACT THE ARCHITECTS OR STRUCTUAL ENGINEER IF STRUCTURAL SYSTEMS REQUIRE BOLSTERING TO SUPPORT NEW MECHANICAL SYSTEM. DO NOT ATTACH NEW MECHANICAL TO CEILINGS.
11. SALVAGE EXISTING NEWER TOILET ACCESSORIES FOR REUSE/RELOCATION; COORDINATE WITH OWNER.
12. RETURN ALL EXISTING APPLIANCES TO OWNER FOR REUSE/RELOCATION; COORDINATE WITH OWNER IF ANY TO BE SALVAGED.




A DEMOLITION PLAN
1" = 20'-0"

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

GREG TICE
LICENSED
6.26.2026
KANSAS
ARCHITECT

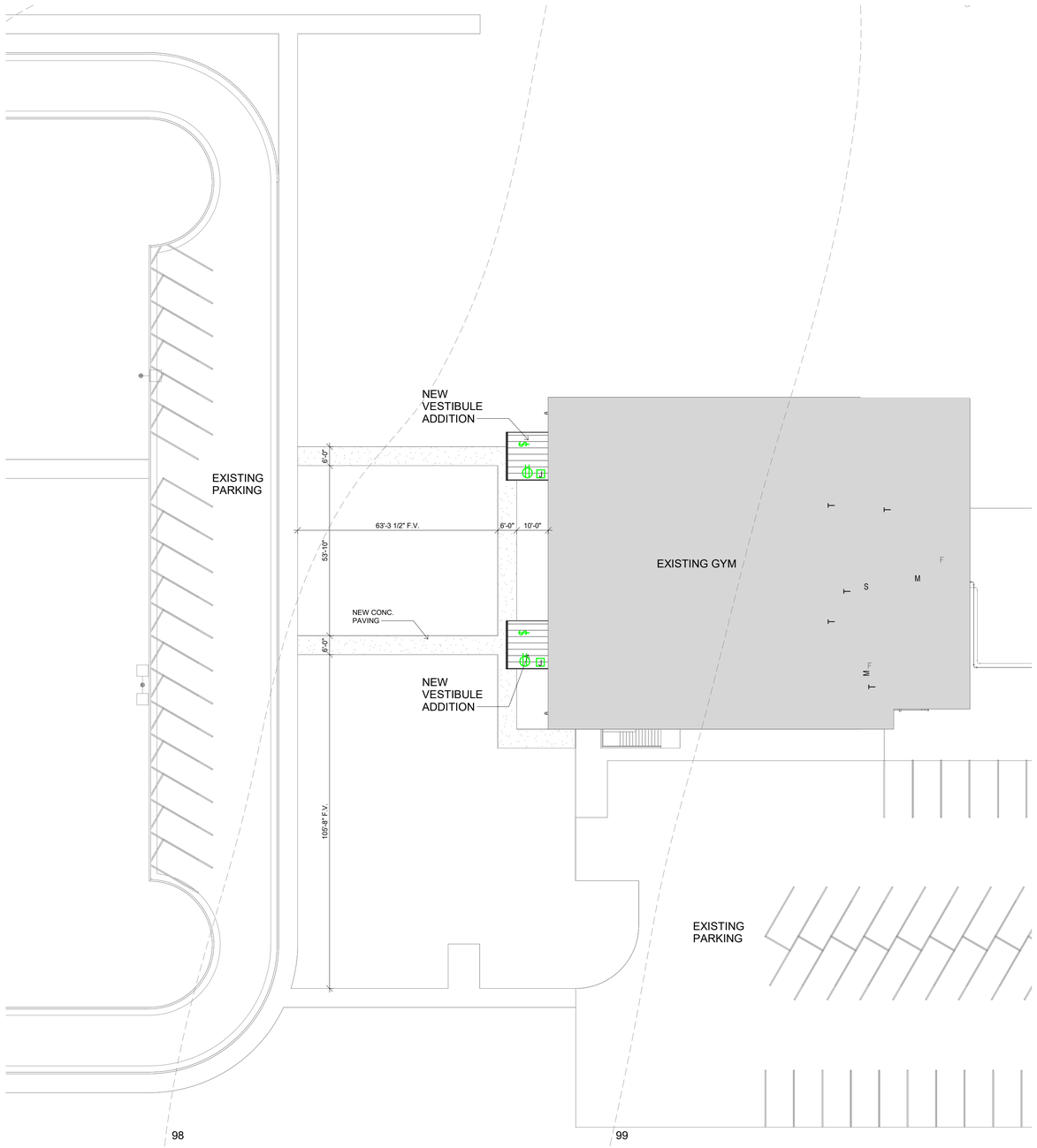
# USD 460 HESSTON MIDDLE SCHOOL

HESSTON, KS

PERMIT SET 06.26.2026

DEMOLITION PLAN

D1.01




A SITE PLAN
1" = 20'-0"

SPT
ARCHITECTURE
WICHITA, KS
316.267.4002

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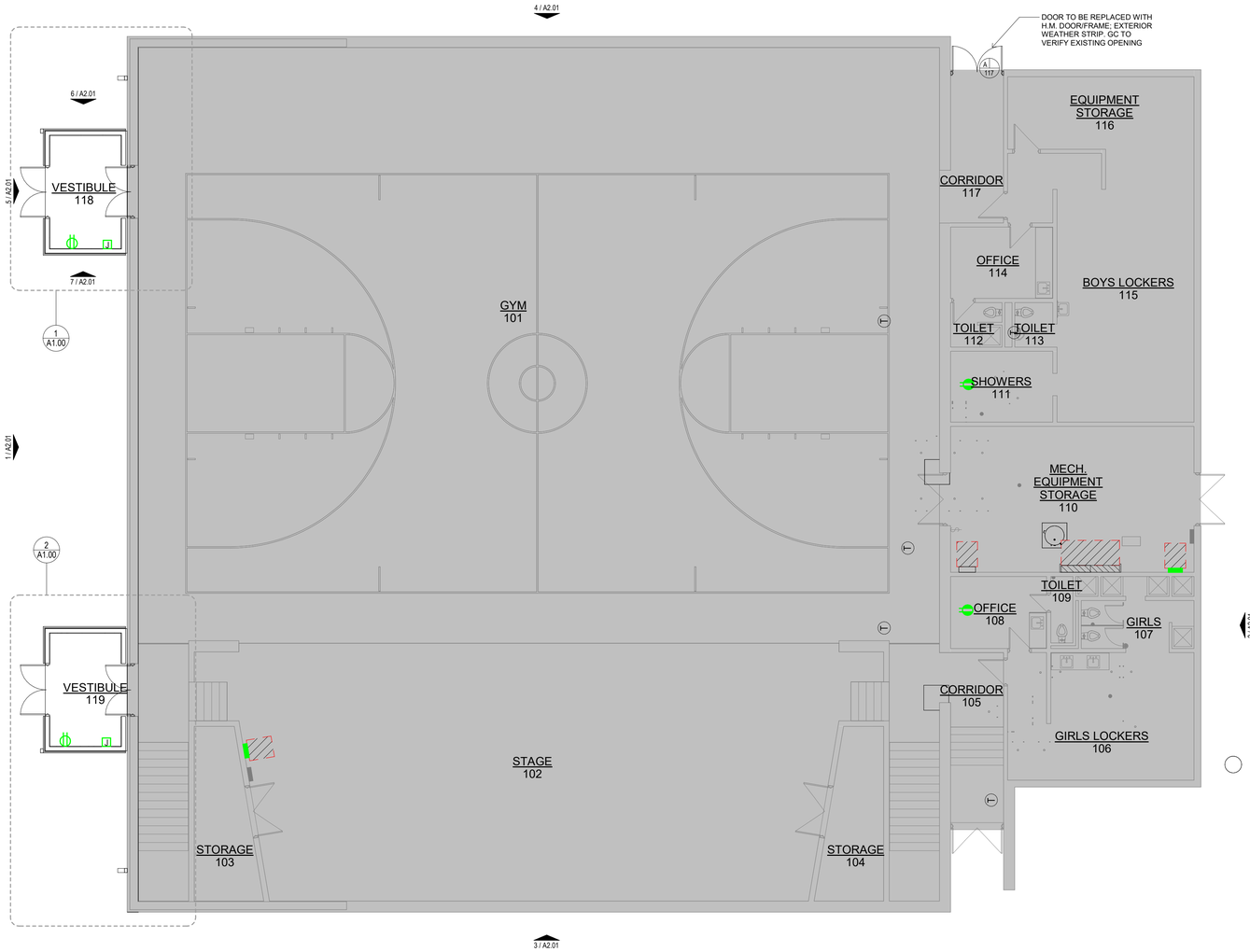
ARCHITECT
6.26.2026
KANSAS

**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

SITE PLAN

**AS1.1**




## A ARCHITECTURAL FLOOR PLAN - OVERALL
1/8" = 1'-0"

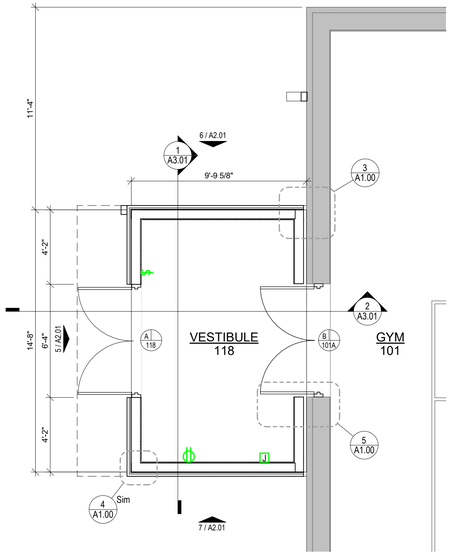
## PLAN LEGEND

**EXISTING**
- EXISTING DOOR TO REMAIN
- EXISTING WALL TO REMAIN
- DIMENSION STRING @ EXISTING (FACE OF FINISH U.N.O.)

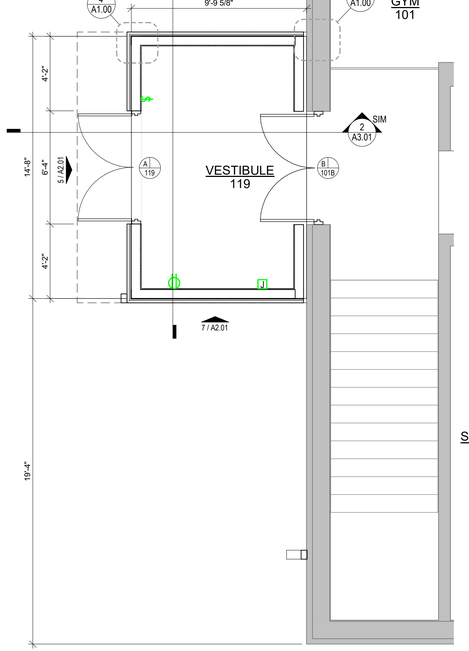
**DEMOLITION**
- EXISTING DOOR TO BE DEMOLISHED
- EXISTING WALL TO BE DEMOLISHED
- EXISTING WALL TO REMAIN

**NEW**
- HARDWARE SET
- DOOR TYPE
- DOOR NUMBER
- NEW DOOR
- PARTITION TAG
- NEW WALL
- DOOR TAG
- DIMENSION STRING @ NEW (FACE OF STUD U.N.O.)

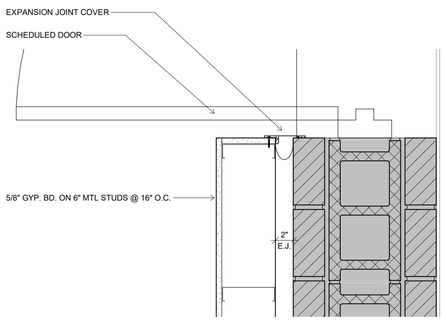
AREA NOT INCLUDED IN SCOPE OF WORK



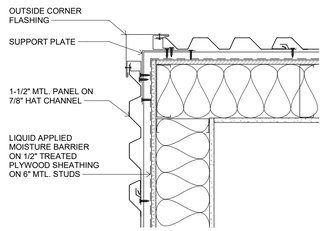

## 1 NORTH VESTIBULE PLAN
1/4" = 1'-0"



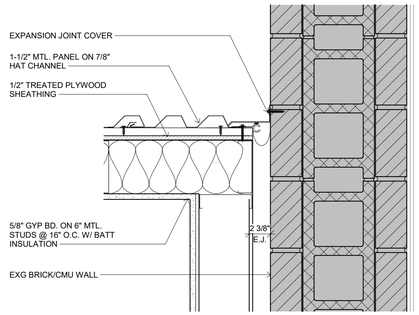

## 2 SOUTH VESTIBULE PLAN
1/4" = 1'-0"




## 5 E.J. DTL. @ DOOR JAMB
1 1/2" = 1'-0"




## 4 MTL PANEL 90° OUTSIDE CORNER
1 1/2" = 1'-0"




## 3 DTL @ EXG BRICK & MTL PANEL
1 1/2" = 1'-0"

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

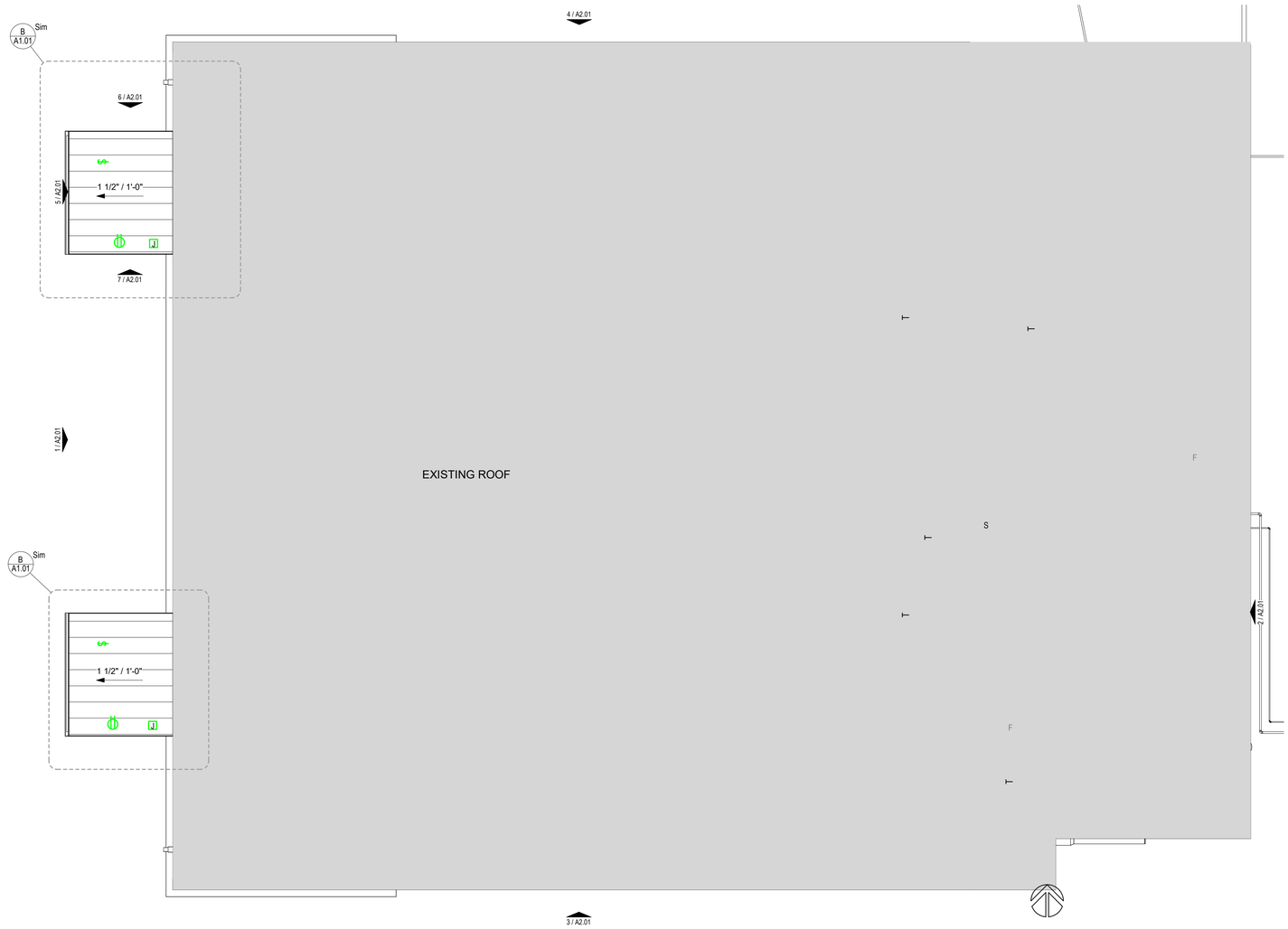
GREG TICE LICENSED 06.26.2026 KANSAS ARCHITECT

**USD 460 HESSTON MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

OVERALL FLOOR PLANS

**A1.00**

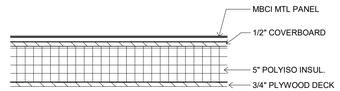



A ROOF PLAN
1/8" = 1'-0"

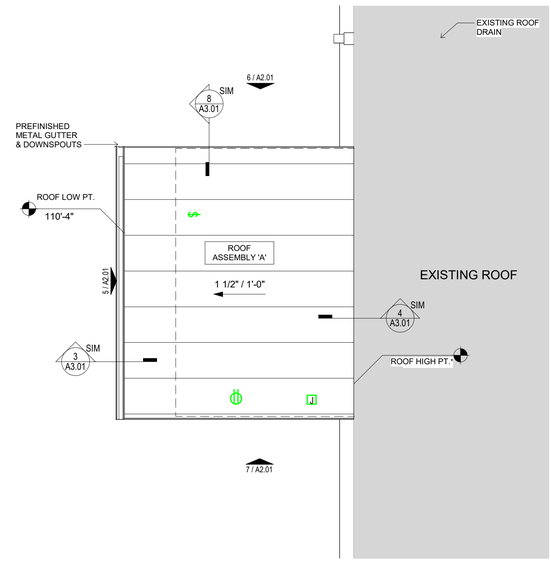
## ROOF LEGEND

EXISTING ROOFING TO REMAIN

NEW METAL ROOFING




1 ROOF ASSEMBLY 'A'
1 1/2" = 1'-0"




B ROOF PLAN - VESTIBULE
1/4" = 1'-0"

SPT
ARCHITECTURE
WICHITA, KS
316.267.4002

GREG T. KOCH
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06.26.2026
KANSAS
ARCHITECT

**USD 460 HESSTON**
**MIDDLE SCHOOL**
**HESSTON, KS**

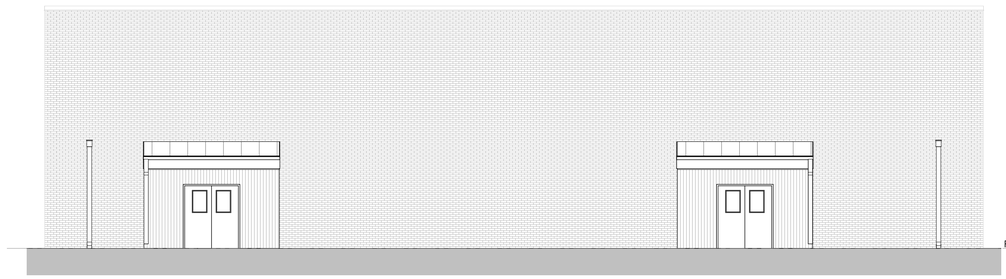
PERMIT SET 06.26.2026

ROOF PLAN

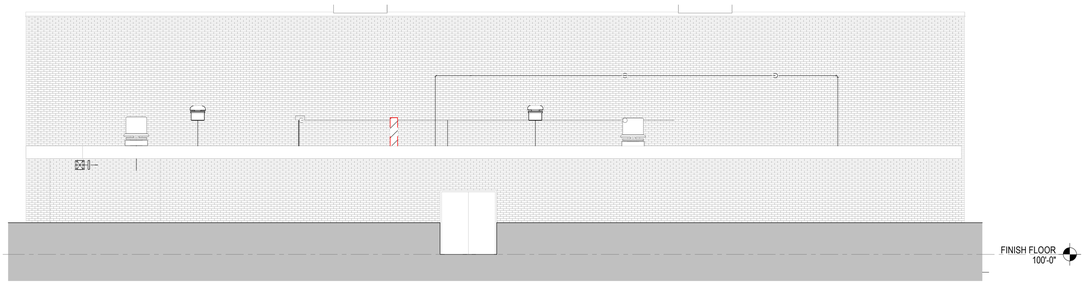
# A1.01

## EXTERIOR LEGEND

| | |
|---|---|
| | METAL WALL PANEL (WP-1) |
| | *COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURE |

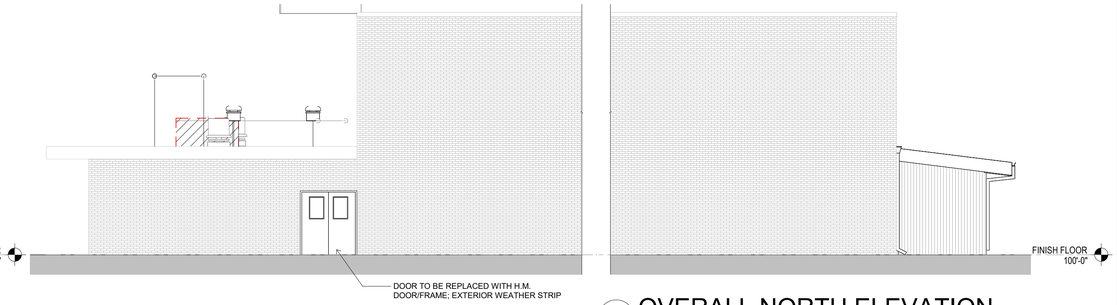



1 OVERALL WEST ELEVATION
1/8" = 1'-0"

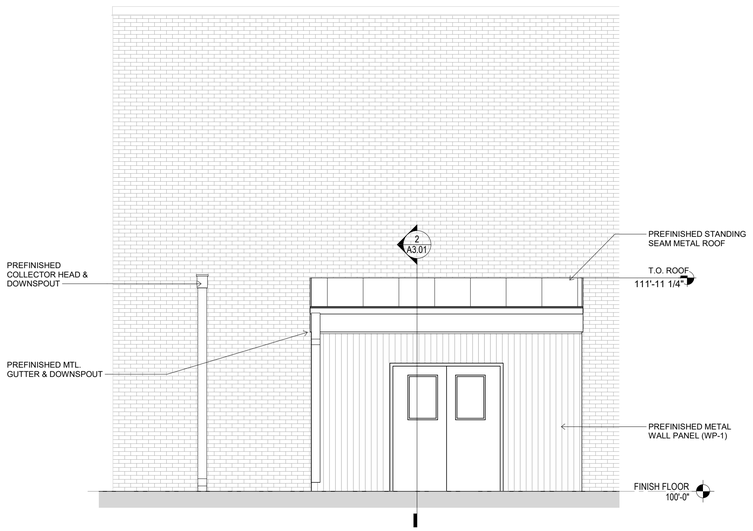



2 OVERALL EAST ELEVATION
1/8" = 1'-0"

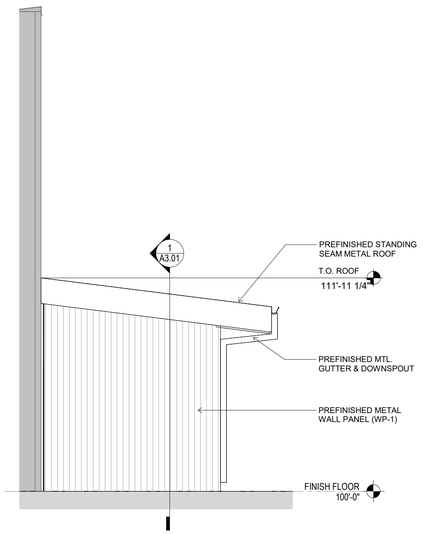
3 OVERALL SOUTH ELEVATION
1/8" = 1'-0"



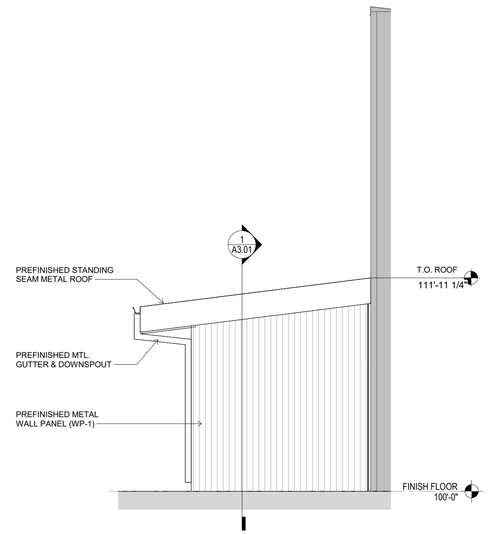

4 OVERALL NORTH ELEVATION
1/8" = 1'-0"




5 WEST VESTIBULE ELEVATION
1/4" = 1'-0"




6 NORTH VESTIBULE ELEVATION
1/4" = 1'-0"




7 SOUTH VESTIBULE ELEVATION
1/4" = 1'-0"

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316.267.4002

GREG TICE
LICENSED
6.26.2026
KANSAS
ARCHITECT

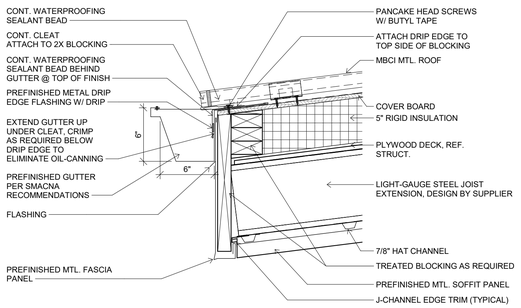
# USD 460 HESSTON MIDDLE SCHOOL

HESSTON, KS

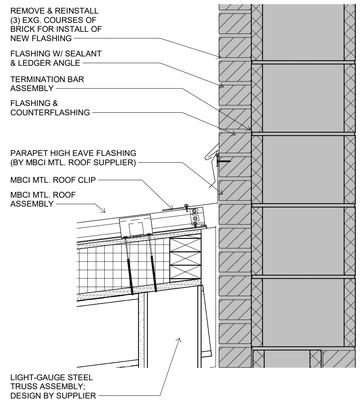
PERMIT SET 06.26.2026

OVERALL EXTERIOR ELEVATIONS

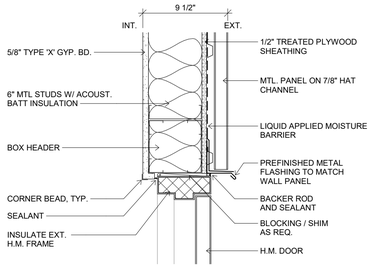
A2.01



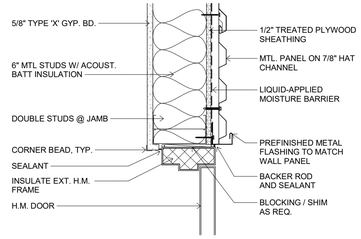

## 3 GUTTER @ OVERHANG
1 1/2" = 1'-0"



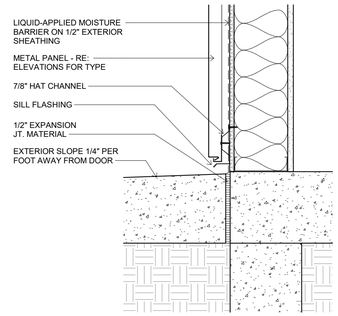

## 4 MBCI MTL ROOF @ HIGH EAVE PARAPET
1 1/2" = 1'-0"



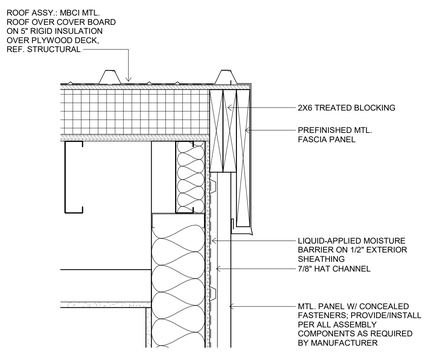

## 5 EXT H.M. DR HEAD @ MTL PANEL
1 1/2" = 1'-0"



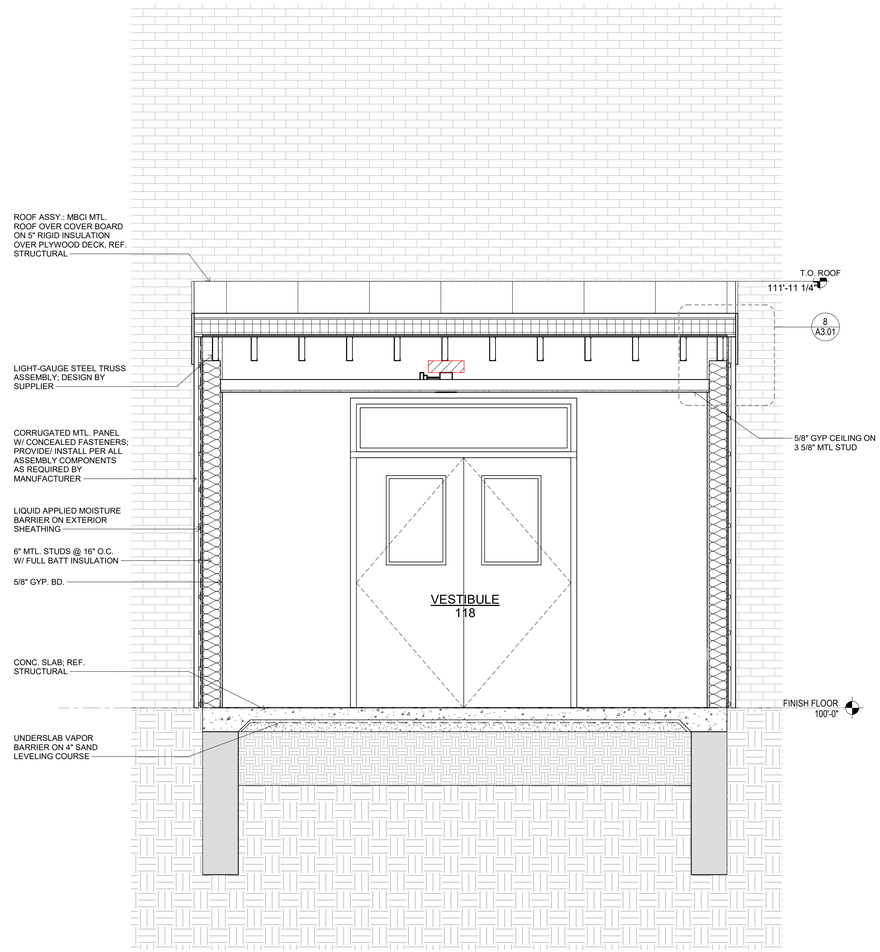

## 6 EXT H.M. DR JAMB @ MTL PANEL
1 1/2" = 1'-0"



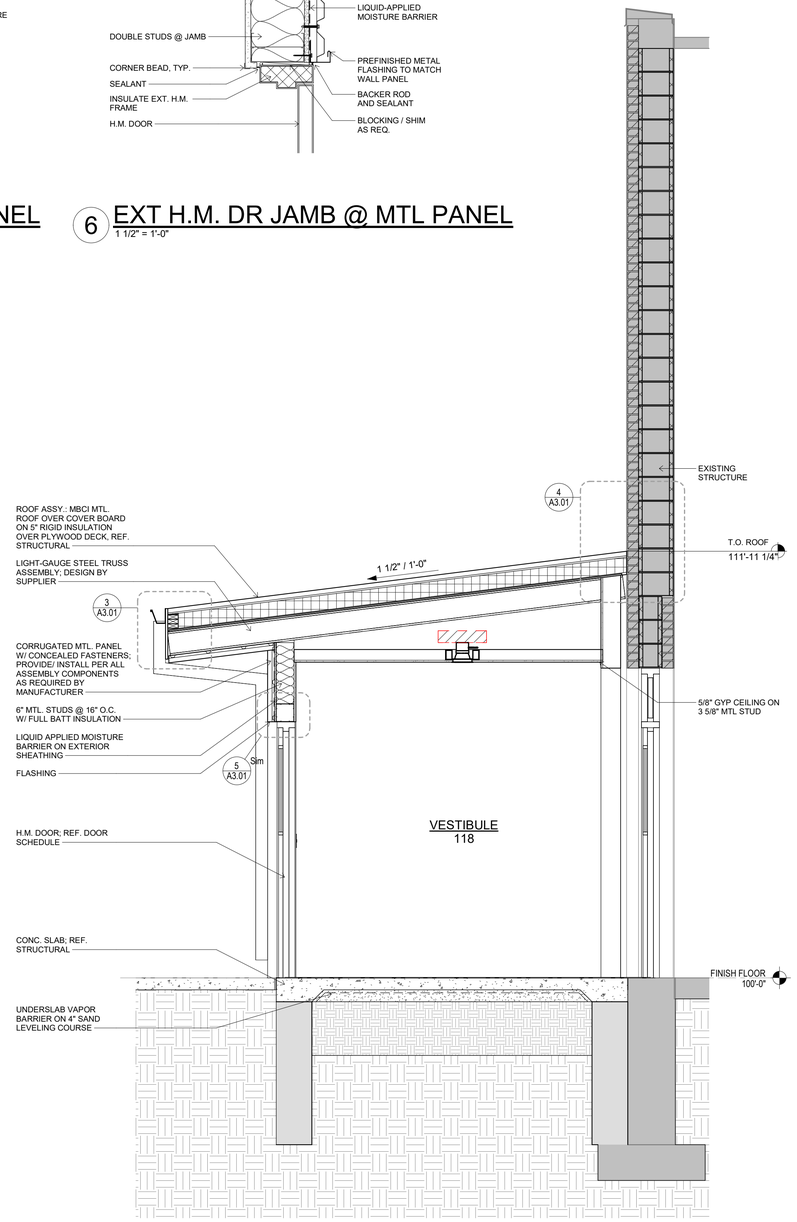

## 7 MTL PANEL BASE @ ENTRY DR
1 1/2" = 1'-0"




## 8 WALL DTL. @ ROOF
1 1/2" = 1'-0"




## 1 BLDG SECTION - VESTIBULE
1/2" = 1'-0"




## 2 BLDG SECTION - ENTRY
1/2" = 1'-0"

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

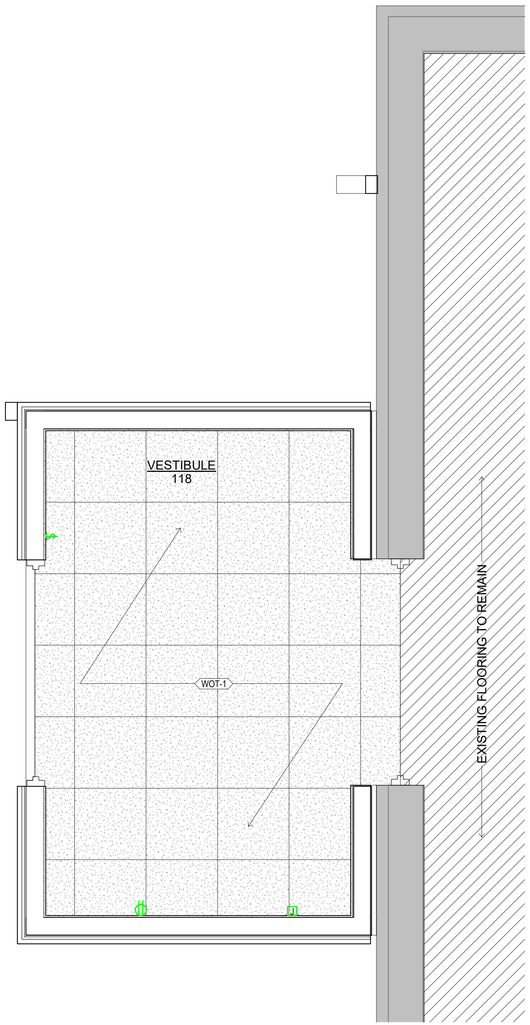
GREG TICE LICENSED 14-0084 06.26.2026 KANSAS ARCHITECT

**USD 460 HESSTON MIDDLE SCHOOL**
HESSTON, KS

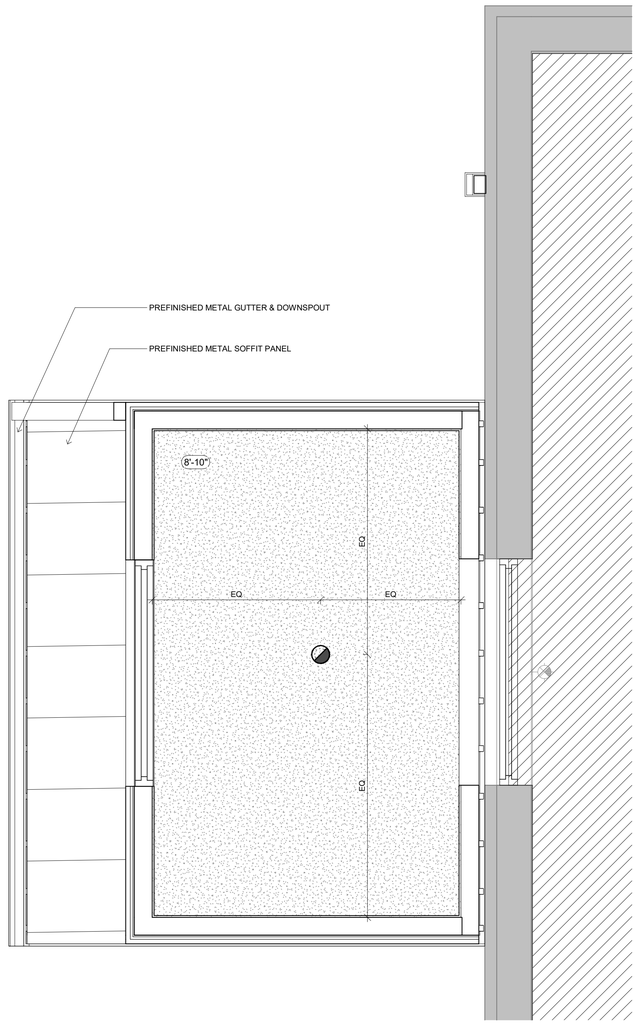
PERMIT SET 06.26.2026

BUILDING SECTIONS

**A3.01**

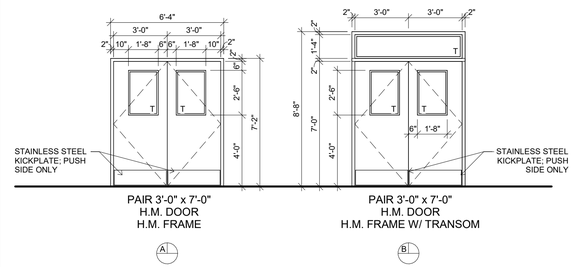



A FINISH FLOOR PLAN
1/2" = 1'-0"




B REFLECTED CEILING PLAN
1/2" = 1'-0"

## DOOR TYPE




GLAZING NOTES:
- CLEAR GLAZING U.N.O.
- T = TEMPERED GLASS
- ALL INTERIOR GLASS TO BE 1/4" THICK SINGLE PANE

*GENERAL CONTRACTOR TO FIELD VERIFY ALL EXISTING OPENINGS.

## FINISH SCHEDULE

| NUMBER | NAME | FLOOR | WALL | BASE | CEILING | COMMENTS |
|---|---|---|---|---|---|---|
| 118 | VESTIBULE | WOT-1 | PNT-1 | RB-1 | GYP-1 | |
| 119 | VESTIBULE | WOT-1 | PNT-1 | RB-1 | GYP-1 | |

## FINISH MATERIALS LIST

| FINISH CODE | MATERIAL | MANUFACTURER | STYLE/PATTERN | COLOR/FINISH | SIZE | INSTALLATION/GROUT | COMMENTS |
|---|---|---|---|---|---|---|---|
| 01-FLOOR | | | | | | | |
| WOT-1 | WALK OFF TILE | MILLIKEN | OBEX / CUTX / GRAIN | GREY | | | |
| 02-BASE | | | | | | | |
| RB-1 | RUBBER BASE | JOHNSONITE | | 63 BURNT UMBER | 4" COVE | ROLLED GOODS | |
| 03-WALL | | | | | | | |
| PNT-1 | PAINT (FIELD) | SHERWIN WILLIAMS | | SW7036 ACCESSIBLE BEIGE | | | |
| PNT-2 | PAINT (WHITE) | SHERWIN WILLIAMS | | SW7008 ALABASTER | | | |
| PNT-3 | PAINT | SHERWIN WILLIAMS | | SW7019 GAUNTLET GREY | | | |
| 04-CEILING | | | | | | | |
| GYP-1 | GYP. BD. CEILING | | | PNT-2 FINISH U.N.O. | | | |

## FINISH NOTES

1. DO NOT START OR STOP FINISH MATERIAL TRANSITIONS ON OUTSIDE CORNERS.
2. ALL FLOOR FINISH CHANGES AT DOORWAYS OCCUR AT CENTER OF DOOR OR DOORWAY.
3. REFER TO ARCHITECTURAL PLAN OR FLOOR PLAN FOR TRANSITION LOCATIONS
4. FLOAT FLOOR BETWEEN DIFFERING FLOOR MATERIALS TO CREATE A SMOOTH TRANSITION.
5. TRANSITION STRIPS ARE REQUIRED AT ALL DIFFERING FLOOR MATERIALS UNLESS OTHERWISE NOTED- USE THE FOLLOWING TRANSITION TYPES:
   A. CARPET TO CONCRETE: JOHNSONITE SLT-XX-L- SLIM LINE IN BURNT UMBER
   B. WOOD GYM FLOOR TRANSITIONS BY MANUFACTURER
6. FOR RUBBER BASE USE COIL PRODUCT NOT SEGMENTS. ALL CORNERS TO BE FIELD FORMED.
7. ALL EXPOSED CONCRETE FLOORS TO BE SEALED OR DENSIFIED AND POLISHED- REFER TO FINISH SCHEDULE FOR LOCATIONS FOR EACH APPLICATION.
8. ONCE INSTALLATION OF FLOOR FINISHES IS COMPLETE, PROTECT FLOORS TO PREVENT DAMAGE DURING THE REMAINDER OF THE PROJECT CONSTRUCTION. CLEAN & FINISH FLOORS PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO FINAL COMPLETION & INSPECTIONS.
9. ALL STEEL DOORS & FRAMES TO BE FACTORY PRIMED & FIELD PAINTED- COLOR TO BE PNT-3, U.N.O.
10. INTERIOR HOLLOW METAL WINDOW FRAMES, DOOR FRAMES & SIDELIGHTS SHALL BE PAINTED WITH PNT-3.
11. ALL GYPSUM BOARD SOFFITS AND FURR DOWNS ARE PAINTED- SEE CEILING PLANS AND ELEVATIONS FOR PAINT COLOR- IF UNMARKED ON CEILING PLANS, USE PNT-2.
12. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS, VARYING CEILING MATERIALS & FINISHES.
13. MATERIAL COST FOR FINISHES SHOULD NOT INCLUDE LABOR, FREIGHT, GLUE, APPLICABLE TAXES, G.C. OVERHEAD & PROFIT.
14. ALL FINISH MATERIALS UTILIZED TO COMPLY WITH FLAME SPREAD AND SMOKE DEVELOPED RATINGS SPECIFIED IN CHAPTER 8 OF THE INTERNATIONAL BUILDING CODE. FOR RENOVATION PROJECTS

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

GREG T. KS LICENSED 14-0001 06.26.2026 KANSAS ARCHITECT

**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

ENLARGED PLANS & SCHEDULES

**A4.01**

# DESIGN CRITERIA

1. BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION, INCLUDING LOCAL SUPPLEMENTS. THE STRUCTURE IS CLASSIFIED AS A RISK CATEGORY III FACILITY.

2. DEAD AND LIVE LOADS:

| LOCATION | UNIFORM LIVE LOAD | CONCENTRATED LIVE LOAD | TOTAL DEAD LOAD* |
|---|---|---|---|
| VESTIBULE ROOF | 20 PSF | --------- | 20 PSF |
| SLAB ON GRADE | 100 PSF | 2,000 LB | --------- |
| EXIST. GYM ROOF | 30 PSF | --------- | 15 PSF (PER EXIST. DWGS.) |

ROOF LIVE LOADS ON SUPPORTING ELEMENTS SHALL NOT BE REDUCED.
*TOTAL DEAD LOAD INCLUDES WEIGHT OF STRUCTURAL ELEMENTS.

3. SNOW LOADS

| | |
|---|---|
| GROUND SNOW LOAD, $P_g$: | 20 PSF |
| SNOW EXPOSURE FACTOR, $C_e$: | 1.0 |
| SNOW IMPORTANCE FACTOR, $I_s$: | 1.1 |
| THERMAL FACTOR, $C_t$ | 1.0 |
| ROOF SLOPE FACTOR, $C_s$ | 1.0 |

DRIFTING OF SNOW AND UNBALANCED SNOW SHALL BE IN ACCORDANCE WITH THE CODE.

4. WIND:

| | |
|---|---|
| BASIC WIND SPEED, V: | 118 MPH (3 SECOND GUST) |
| ALLOWABLE STRESS DESIGN WIND SPEED, $V_{asd}$ | 91.4 MPH (3 SECOND GUST) |
| WIND EXPOSURE: | C |
| INTERNAL PRESSURE COEFF.: | +/-0.18 |

COMPONENTS AND CLADDING PRESSURE SHALL BE USED FOR DESIGN OF EXTERIOR WALLS, WINDOWS, DOORS, AND MISCELLANEOUS MATERIALS NOT SPECIFICALLY SHOWN ON THE PLANS.

5. SEISMIC:

| | |
|---|---|
| SITE CLASS: | D |
| SEISMIC DESIGN CATEGORY: | B |
| SEISMIC IMPORTANCE FACTOR: | 1.25 |
| $S_S$: | 0.082 |
| $S_1$: | 0.052 |
| $S_{DS}$: | 0.087 |
| $S_{D1}$: | 0.084 |
| SEISMIC FORCE RESISTING SYSTEM: | LIGHT-FRAME (CFS) WALL SYSTEMS USING SHEATHED STRUCT. PANELS (R=6.5) |
| METHOD OF ANALYSIS: | EQUIVALENT LATERAL FORCE |

6. RAIN INTENSITY (DURATION/100 YEAR MEAN RECURRENCE):

15 MINUTE: 6.88 INCHES PER HOUR
60 MINUTE: 3.42 INCHES PER HOUR

# PLAN MARKS

GB# — GRADE BEAM MARK, REF. GRADE BEAM SCHEDULE

WF# — WALL FOOTING MARK, REF. WALL FOOTING SCHEDULE

F# — SPREAD FOOTING MARK, REF. SPREAD FOOTING SCHEDULE

HSS6X6X1/4 — COLUMN SIZE
BP-1, P-1 — PILASTER TYPE, REF. PILASTER DETAILS; BASE PLATE TYPE, REF. BASE PLATE DETAILS

BRACED FRAME ABOVE, REF. FRAMING ELEVATIONS & BRACED FRAME SCHEDULE

BRACED FRAME BELOW, REF. FRAMING ELEVATIONS & BRACE FRAME SCHEDULE

MOMENT CONN., REF. FRAMING ELEVATIONS & MOMENT CONN. SCHEDULE

W16X26 (20) <3/4"> — CAMBER; # OF HEADED SHEAR CONNECTORS (3/4" DIA. U.N.O.); BEAM SIZE

J# — JOIST MARK, REF. JOIST SCHEDULE

L# — LINTEL MARK AND SYMBOL, REF. LINTEL SCHEDULE

1 / 8' - 0" — SHEAR WALL MARK, REF. SHEAR WALL SCHEDULE (POINTS TO SHEATHED SIDE); SHEAR WALL LENGTH

H# — HEADER MARK, REF. HEADER SCHEDULE

STEP IN SURFACE ELEVATION

SLOPE IN SURFACE ELEVATION

# MATERIAL LEGEND

- LOAD BEARING CMU (NON-LOAD BEARING CMU HALFTONED)
- EARTH
- EXISTING
- GROUT/SAND/GRANULAR FILL
- PRECAST CONCRETE
- CONCRETE
- NOT IN SCOPE (E.G. VENEER, PAVING, ETC.)
- STEEL (IN SECTION)
- GRATING

# ABBREVIATIONS

| | |
|---|---|
| # | NUMBER OR POUNDS |
| (E) | EXISTING |
| @ | AT |
| ADD'L | ADDITIONAL |
| ALT. | ALTERNATE |
| APPROX. | APPROXIMATE |
| ARCH. | ARCHITECTURAL |
| B.O. | BOTTOM OF |
| BLDG. | BUILDING |
| BOT. | BOTTOM |
| BRG. | BEARING |
| C.J. | CONTROL JOINT |
| CFS | COLD-FORMED STEEL |
| CL | CENTERLINE |
| CLR. | CLEAR |
| CMU | CONCRETE MASONRY UNIT |
| COL. | COLUMN |
| COMP. | COMPOSITE |
| CONC. | CONCRETE |
| CONN. | CONNECTION |
| CONST. | CONSTRUCTION |
| CONT. | CONTINUOUS |
| COORD. | COORDINATE |
| CTR. | CENTER |
| D(L) | DEAD (LOAD) |
| DBA | DEFORMED BAR ANCHOR |
| DEMO. | DEMOLITION / DEMOLISH |
| DIA. | DIAMETER |
| DIM. | DIMENSION |
| DWG. | DRAWING |
| DWL. | DOWEL |
| E(L) | EARTHQUAKE/SEISMIC (LOAD) |
| E.G. | FOR EXAMPLE |
| E.J. | EXPANSION JOINT |
| E.O.R. | ENGINEER OF RECORD |
| EA. | EACH |
| EL. | ELEVATION |
| ELEC. | ELECTRICAL |
| ELEV. | ELEVATOR |
| EQ. | EQUAL |
| EQUIP. | EQUIPMENT |
| ETC. | ET CETERA |
| EXIST. | EXISTING |
| EXP. | EXPANSION |
| EXT. | EXTERIOR |
| F.S. | FAR SIDE |
| F.V. | FIELD VERIFY |
| FDN. | FOUNDATION |
| FT | FEET / FOOT |
| FTG. | FOOTING |
| G.C. | GENERAL CONTRACTOR |
| GA. | GAUGE |
| GALV. | GALVANIZED |
| GEN. | GENERAL |
| H.D.G. | HOT-DIP GALVANIZED |
| HD. ST. | HEADED STUD |
| HORIZ. | HORIZONTAL |
| I.D. | INSIDE DIAMETER |
| I.E. | INVERT ELEVATION |
| I.J. | ISOLATION JOINT |
| IN | INCH(ES) |
| INT. | INTERIOR |
| K | KIPS |
| L(L) | LIVE (LOAD) |
| LBS | POUNDS |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| LOC. | LOCATION |
| MANUF. | MANUFACTURER |
| MAX. | MAXIMUM |
| MECH. | MECHANICAL |
| MIN. | MINIMUM |
| MISC. | MISCELLANEOUS |
| MTL. | METAL |
| N.A. | NOT APPLICABLE |
| N.S. | NEAR SIDE |
| N.T.S. | NOT TO SCALE |
| O.C. | ON CENTER |
| O.D. | OUTSIDE DIAMETER |
| O.H. | OVERHEAD |
| OPP. | OPPOSITE |
| P.A.F. | POWDER ACTUATED FASTENER |
| PCF | POUNDS PER CUBIC FOOT |
| PEMB | PRE-ENGINEERED METAL BUILDING |
| PERP. | PERPENDICULAR |
| PL. | PLATE |
| PLF | POUNDS PER LINEAR FOOT |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| QTY. | QUANTITY |
| RAD. | RADIUS |
| REF. | REFERENCE |
| REINF. | REINFORCING |
| REQ'D | REQUIRED |
| REV. | REVISION/REVISED |
| S.J. | SAWN JOINT |
| S.S. | STAINLESS STEEL |
| SCHED. | SCHEDULE |
| SF | SQUARE FEET/FOOT |
| SIM. | SIMILAR |
| SPA. | SPACE(S) |
| SQ. | SQUARE |
| SSE | SPECIALTY STRUCTURAL ENGINEER |
| STD. | STANDARD |
| STIFF. | STIFFENER |
| STRUCT. | STRUCTURAL |
| T.O. | TOP OF |
| T/C | TENSION/COMPRESSION |
| TEMP. | TEMPORARY |
| TYP. | TYPICAL |
| U.N.O. | UNLESS NOTED OTHERWISE |
| VERT. | VERTICAL |
| W(L) | WIND (LOAD) |
| W/ | WITH |
| W/C | WATER / CEMENT RATIO |
| WP | WORKING POINT |
| WT. | WEIGHT |
| WWR | WELDED WIRE REINFORCEMENT |

# STRUCTURAL SHEET INDEX


| SHEET NO. | SHEET TITLE |
|---|---|
| S0.00 | STRUCTURAL COVER SHEET |
| S0.01 | STRUCTURAL GENERAL NOTES |
| S0.02 | STRUCTURAL GENERAL NOTES & IBC TABLES |
| S1.01 | STRUCTURAL PLANS |
| S5.01 | TYPICAL FOUNDATION DETAILS |
| S5.02 | FOUNDATION DETAILS |
| S5.31 | TYPICAL CFS DETAILS |
| S5.32 | CFS SHEARWALL DETAILS |



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30140
06/26/2026
KANSAS
PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001
PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com


**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

STRUCTURAL COVER SHEET

**S0.00**


6/26/2026 10:47:21 AM
Autodesk Docs://260125-001 - Old Hesston Middle School Renovation/260125-001_STRUCT_R25.rvt

RENOVATION (EXISTING CONDITIONS)

1. INFORMATION SHOWN FOR THE EXISTING STRUCTURE ON THESE DRAWINGS WAS TAKEN FROM A SITE INVESTIGATION IN WHICH VARIOUS DIMENSIONS AND ASPECTS OF THE BUILDING CONSTRUCTION WERE VERIFIED. SOME LIMITED ARCHIVED DRAWINGS WERE LOCATED AND USED FOR INFORMATION AS APPROPRIATE. THE DRAWINGS THAT WERE FOUND DURING INVESTIGATION OF THE FACILITIES ARCHIVES WERE ORIGINALLY PREPARED 1963 BY SHAVER & COMPANY ARCHITECTS.

2. WORK SHOWN ON THESE PLANS ASSUMES THAT THE ORIGINAL CONSTRUCTION WAS PERFORMED IN ACCORDANCE WITH THE ABOVE INDICATED ORIGINAL DRAWINGS INCLUDING (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, MEMBER SIZES, MATERIALS, DETAILS, ETC. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE CONDITIONS RELATING TO THE EXISTING STRUCTURE AND TO NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS.

3. THE DRAWINGS LOCATED FOR THE ORIGINAL BUILDING WERE WIDELY INCOMPLETE AND DURING THE SITE INVESTIGATION, IT WAS APPARENT THAT MULTIPLE RENOVATIONS HAVE OCCURRED BETWEEN THE ORIGINAL CONSTRUCTION AND PRESENT DAY. DUE TO THE INCOMPLETE NATURE OF EXISTING DRAWINGS AND VARIOUS INACCESSIBILITIES IN THE BUILDING, ASSUMPTIONS WERE MADE TO PREPARE THESE DOCUMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY EXISTING CONDITIONS AND CONSTRUCTION RELATING TO THE STRUCTURE AND TO NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS.

4. WHERE NEW WORK IS TO BE FITTED TO OLD WORK, THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND CONDITIONS IN THE FIELD, AND REPORT ANY ERRORS OR DISCREPANCIES TO THE STRUCTURAL ENGINEER PRIOR TO THE FABRICATION AND ERECTION OF ANY NEW MEMBERS.

5. EXISTING MATERIALS TO BE REMOVED AND REINSTALLED AS PART OF THE PROJECT, THAT BECOME DAMAGED, SHALL BE REPLACED WITH NEW MATERIAL OF EQUAL QUALITY AND APPEARANCE, AT THE CONTRACTOR'S EXPENSE.

6. ALL WORK SHALL BE PERFORMED WITHOUT DAMAGE TO ADJACENT RETAINED WORK. ADJACENT EXISTING CONSTRUCTION SHALL BE PROTECTED FROM DUST, DIRT AND DEBRIS ACCUMULATION AT ALL TIMES.

CONSTRUCTION DETAILS FOR STRUCTURAL MOVEMENT

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ACCOMMODATIONS IN GLAZING, ARCHITECTURAL FINISHES, PLUMBING, HVAC, AND ELECTRICAL ELEMENTS TO PREVENT DAMAGE DUE TO DEFLECTION OF ROOF, WALL AND FLOOR MEMBERS.

2. VERTICAL DEFLECTIONS DUE TO GRAVITY LOADS:

| | LIVE/SNOW/WIND | TOTAL |
|---|---|---|
| OPEN ROOF JOISTS | L/360 | L/240 |

3. HORIZONTAL DEFLECTIONS OF INDIVIDUAL MEMBERS:

A. EXTERIOR WALLS — WIND* OR SEISMIC

WITH METAL PANEL FINISHES — L/180

4. DEFLECTION LIMITS OF WHOLE BUILDING FRAME DUE TO WIND* (W) OR SEISMIC (E):

A. THE BUILDING HAS BEEN DESIGNED FOR A LIMITED DRIFT FOR WIND

CONVENTIONAL BUILDING (FLOOR TO ROOF) — H/240 (W), AS REQ'D PER ASCE 7 (E)

SOIL PREPARATION AND FOUNDATIONS

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENGAGE A LICENSED GEOTECHNICAL ENGINEER TO PERFORM A SUBSURFACE GEOTECHNICAL INVESTIGATION. THE RESULTS OF THE GEOTECHNICAL INVESTIGATION SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE GEOTECHNICAL INVESTIGATION MUST, AT THE MINIMUM, PROVIDE THE FOLLOWING:

A. SUFFICIENT SOIL BORINGS SHALL BE MADE TO VERIFY THAT THE PRESUMPTIVE SOIL BEARING PRESSURE OF 1,500 PSF IN UNDISTURBED SOILS AND ENGINEERED FILLS USED FOR DESIGN IS ADEQUATE.

B. LABORATORY TESTS SHALL BE MADE AS NECESSARY TO VERIFY THAT THE TOTAL SETTLEMENT IS LESS THAN 1" AND THE DIFFERENTIAL SETTLEMENT IS LESS THAN 1/2", NO SHRINK/SWELL POTENTIAL EXISTS, AND THE DEPTH IS ADEQUATE FOR THE SITE.

2. REMOVE TOP SOIL CONTAINING ORGANIC MATERIAL AND PREPARE THE BUILDING PAD IN ACCORDANCE WITH THE CIVIL ENGINEERING PLANS, SPECIFICATIONS, AND GEOTECHNICAL INVESTIGATION.

3. REMOVE SOIL AS REQUIRED TO ALLOW FOR A LOW VOLUME CHANGE ZONE 12" THICK UNDER THE FLOOR SLAB AND DRAINAGE MATERIAL. FILL TO SUBGRADE ELEVATION SHOWN ON THE DRAWINGS WITH NON-EXPANSIVE FILL OR STABILIZED SOIL PER SPECIFICATION.

4. DO NOT BACKFILL FOUNDATIONS/BASEMENT WALLS UNTIL THE RESTRAINING SLABS OR ADEQUATE BRACING ARE IN PLACE. ALL BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATION.

5. EXTERIOR SLABS SHALL SLOPE AWAY FROM THE STRUCTURE A MINIMUM OF 1/4" PER FOOT UNLESS NOTED OTHERWISE.

6. SOIL SUPPORTED FOUNDATIONS:

A. DESIGN BEARING PRESSURE (NET) IS 1,500 PSF FOR FOUNDATIONS BEARING ON UNDISTURBED SOIL OR APPROVED ENGINEERED FILL MATERIAL. BEARING MATERIALS SHALL BE VERIFIED BY A LICENSED GEOTECHNICAL ENGINEER.

B. ALL FOUNDATIONS ARE DESIGNED WITH EARTH FORMED SIDES; THE TOP 7-1/4" OF THE FOUNDATION SHALL BE FORMED TO THE DESIGN DIMENSION WHEN VISIBLE AFTER CONSTRUCTION IS COMPLETE. THE CONSTRUCTED FOUNDATION DIMENSION SHALL BE NO LESS THAN THE DESIGN DIMENSION, AND NO MORE THAT 6" GREATER THAN THE DESIGN DIMENSION.

CONCRETE

1. ALL CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH ACI 318 AND THE BUILDING CODE, AND IN CONFORMANCE WITH THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE."

2. THE CONCRETE REQUIREMENTS ARE:

A. FINE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.

B. COARSE AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33. COARSE AGGREGATES SHALL BE NO LESS THAN 50% OF THE TOTAL AGGREGATE BY WEIGHT, UNLESS APPROVED BY THE ENGINEER PRIOR TO MIX DESIGN SUBMITTAL.

C. THE CONTRACTOR OR MIX DESIGNER SHALL SPECIFY AN APPROPRIATE SLUMP PER ACI 117 FOR THE APPLICATION AS NEEDED FROM PUMPING, WORKABILITY, AND FINISHING. IF CONCRETE IS PLACED THROUGH A FUNNEL HOPPER AT THE TOP OF A DEEP FOUNDATION ELEMENT, THE MIX SHALL HAVE A SLUMP BETWEEN 4" AND 8".

D. THE CONCRETE COMPRESSIVE STRENGTH, $f'_c$, SHALL BE BASED ON 28-DAY TESTS UNLESS NOTED OTHERWISE.

E. REFER TO CONCRETE MIX DESIGN REQUIREMENTS TABLE FOR MIX DESIGN.

3. ADMIXTURES, HARDENERS, & CURING COMPOUNDS

A. ALL CONCRETE ADMIXTURES SHALL, WHEN MIXED INTO CONCRETE, BE NON-CHLORIDE AND NON-CHLORIDE FORMING.

B. ALL ADMIXTURES MUST CONFORM TO ASTM C 494 AND C 260.

C. CONCRETE CURING COMPOUND AND SEALERS SHALL MEET ASTM C 309 TYPE 1 OR 1D.

D. CONCRETE PENETRATING HARDENER SEALERS SHALL BE USED ON ALL EXPOSED CONCRETE FLOORS UNLESS OTHER COATINGS ARE REQUIRED BY THE ARCHITECT.

4. MISCELLANEOUS CONCRETE DETAILS:

A. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE THE FORMS OR TOOLED TO 3/4" RADIUS UNLESS NOTED OTHERWISE.

B. SLABS ON GRADE SHALL HAVE CONSTRUCTION JOINTS AND/OR CONTROL JOINTS (SAWN JOINTS) TO DIVIDE THE SLAB INTO PANELS, NOT TO EXCEED 144 SQUARE FEET. THE LONG DIMENSION SHALL NOT EXCEED THE SHORT DIMENSION BY MORE THAN 20%. CONTRACTOR TO SUBMIT PROPOSED LOCATIONS FOR APPROVAL.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING AND SHORING.

D. NO ALUMINUM SHALL BE EMBEDDED IN CONCRETE. CONDUITS AND PIPING EMBEDDED IN CONCRETE WALLS, SLABS, OR BEAMS SHALL BE SPACED A MINIMUM OF FOUR DIAMETERS AND THE OUTSIDE DIAMETER SHALL BE LESS THAN 30% OF THE MEMBER THICKNESS AND PLACED BETWEEN LAYERS OF REINFORCING.

5. WHEN THE CONCRETE WILL HAVE MOISTURE SENSITIVE FLOOR COVERING, THE CONTRACTOR SHALL COORDINATE THE CURING TIME TO ALLOW THE MOISTURE VAPOR TRANSMISSION TO REDUCE THE LEVEL THAT THE ADHESIVE MANUFACTURER WILL GUARANTEE THE INSTALLATION. THE CONTRACTOR SHALL HAVE THE FLOOR COVERING INSTALLER TEST THE MOISTURE VAPOR TRANSMISSION OR USE AN ADHESIVE DESIGNED FOR THE RATE OF VAPOR TRANSMISSION OCCURRING AT THE TIME OF INSTALLATION.

CONCRETE REINFORCING

1. MATERIALS

| | ASTM | GRADE |
|---|---|---|
| PLATE & ANGLE: | A36 | --- |
| REINFORCING STEEL: | A615 | 60 |
| WELDABLE REINFORCING STEEL | A706 | 60 |
| WELDED WIRE REINFORCEMENT (WWR): | A1064 | 60 (MIN.) |
| HEADED STUDS: | A108 | --- |
| DEFORMED BAR ANCHORS: | A706 | 60 |
| ANCHOR RODS (BOLTS): | F1554 | 36 |

2. DETAILS:

A. WELDING OF REINFORCING STEEL IS PROHIBITED UNLESS NOTED OTHERWISE. WHEN WELDING IS APPROVED, WELDING SHALL BE IN ACCORDANCE WITH AWS D1.4 "WELDING REINFORCING STEEL, ETC."

B. WELDED WIRE REINFORCEMENT SHALL BE FURNISHED IN FLAT SHEETS.

C. SHOP DRAWINGS SHALL BE SUBMITTED WITH REINFORCING STEEL IN ACCORDANCE WITH ACI 315.

D. WHEN MECHANICAL SPLICES ARE INDICATED ON THE PLANS, THE SPLICE SHALL DEVELOP 125% OF THE SPECIFIED YIELD STRENGTH OF THE REINFORCING STEEL. REQUESTS BY THE CONTRACTOR FOR MECHANICAL SPLICES MUST BE SUBMITTED IN WRITING.

**CONCRETE MIX DESIGN REQUIREMENTS**

| LOCATION | COMPRESSIVE STRENGTH, f'c (PSI) | TARGET AIR CONTENT | EXPOSURE CLASSES | | | | NOTES |
|---|---|---|---|---|---|---|---|
| | | | F | C | S | W | |
| SPREAD/WALL FOOTINGS | 4000 | 6% | F2 | C1 | S0 | W1 | |
| GRADE BEAMS/STEM WALLS | 4000 | 6% | F2 | C1 | S0 | W1 | |
| INTERIOR SLAB ON GRADE | 4000 | NR | F0 | C0 | S0 | W0 | |

3. PLACEMENT:

A. ALL REINFORCING AND EMBEDMENTS SHALL BE SUPPORTED ON CHAIRS/BOLSTERS TO THE DESIGN DIMENSIONS. SPACING SHALL BE SUFFICIENTLY CLOSE TO PREVENT DISPLACEMENT OR PERMANENT DEFORMATION DUE TO CONCRETE PLACEMENT, FOOT TRAFFIC, OR VIBRATION. "PUDDLING IN" OR "PULLING UP" REINFORCING IS NOT AN ACCEPTABLE METHOD FOR PLACING REINFORCING. CHAIRS/BOLSTERS SHALL HAVE PLASTIC COATED FEET OR BE MADE OF STAINLESS STEEL. CHAIRS/BOLSTERS IN CONTACT WITH EARTH SHALL HAVE BOTTOM PLATES AND BE COATED TO PREVENT CORROSION. ANCHOR RODS SHALL BE HELD IN PLACE WITH TEMPLATES SUFFICIENTLY STRONG TO PREVENT DISPLACEMENT OR TILTING.

B. MAINTAIN ACI CLEAR COVER ON REINFORCING AS LISTED BELOW UNLESS NOTED OTHERWISE.

| | |
|---|---|
| CAST AGAINST EARTH (BOTTOM OR SIDES): | 3" |
| FORMED - EXPOSED TO SOIL, WEATHER OR LIQUIDS: | 2" |
| FORMED SLABS - INTERIOR: | 1" |
| SLABS ON GRADE (FROM TOP OF SLAB): | 1.5" |

C. PROVIDE CORNER BARS OF THE SAME SIZE AND SPACING AS ADJACENT REINFORCING.

D. OPENINGS IN WALLS OR SLABS SHALL BE REINFORCED PER DETAIL.

E. REINFORCING STEEL SHALL BE LAPPED PER CONCRETE REINFORCEMENT LAP TABLE.

F. WELDED WIRE REINFORCEMENT SHALL BE LAPPED ONE FULL SQUARE PLUS 2".

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE LATEST "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGE," AND HAS BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE AND THE LATEST EDITION OF AISC "MANUAL OF STEEL CONSTRUCTION".

2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE FOLLOWING REQUIREMENTS UNLESS NOTED OTHERWISE ON THE DRAWINGS:

| TYPE | ASTM | GRADE |
|---|---|---|
| PLATES, CHANNELS, & ANGLES | A36 | ------ |
| STRUCTURAL BOLTS | A325 | ------ (ASTM F3125) |
| ERECTION BOLTS | A307 | ------ |
| HEADED ANCHOR STUDS | A108 | 1015/1025 |

3. ALL BOLTED CONNECTIONS SHALL BE STANDARD AISC BEARING TYPE FRAMING CONNECTIONS. BOLTS SHALL BE TENSION-INDICATING FOR INSPECTION PURPOSES.

4. ALL CONNECTIONS NOT DETAILED OR OTHERWISE NOTED SHALL BE PROVIDED BY THE FABRICATOR AND HIGHLIGHTED FOR THE ENGINEER OF RECORD'S REVIEW.

5. ALL WELDING SHALL BE IN ACCORDANCE WITH LATEST AWS CODE, SECTION D1.1. ALL WELD MATERIAL SHALL BE 70 KSI TENSILE STRENGTH.

6. STEEL FRAMING MEMBERS SHALL NOT BE SPLICED.

7. OPENINGS SHALL NOT BE FIELD-CUT IN THE FLANGE OR WEBS OF STEEL MEMBERS.

8. GALVANIZED STRUCTURAL STEEL SHALL CONFORM TO ASTM A123 FOR MEMBERS AND ASTM A153 FOR CONNECTION ELEMENTS. REPAIR ANY DAMAGED GALVANIZING COATING IN ACCORDANCE WITH ASTM A780.

COLD-FORMED STEEL FRAMING

1. ALL COLD-FORMED STEEL STUDS, PURLINS, AND TRUSS SYSTEMS SHALL BE GALVANIZED PER AISI STANDARDS. APPLY ZINC-RICH PAINT TO ALL AREAS WHERE FINISH IS DAMAGED DUE TO WELDING.

2. THIS STRUCTURE IS DESIGNED AS CONVENTIONAL FIELD FRAMED CONSTRUCTION. SHOULD PANELIZED CONSTRUCTION BE USED, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL ENGINEERING, COORDINATION WITH ALL OTHER BUILDING SYSTEMS, AND REVIEW OF SHOP DRAWINGS. COORDINATION AND REVIEW OF PANELIZED CONSTRUCTION SHOP DRAWINGS ARE NOT INCLUDED IN THE ENGINEER OF RECORD'S SCOPE OF SERVICES FOR THIS PROJECT. REQUESTS FOR INFORMATION PERTAINING TO, OR DIRECTLY ASSOCIATED WITH, PANELIZED CONSTRUCTION WILL NOT BE REVIEWED.

3. PRODUCTS SHALL BE FORMED FROM STEEL MEETING THE REQUIREMENTS OF AISI, SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, UNLESS NOTED OTHERWISE.

4. STUD TRACK SECTIONS SHALL MEET OR EXCEED THICKNESS OF STUD MEMBERS, UNLESS NOTED OTHERWISE.

5. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS.

6. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, FASTENERS, ANCHORAGE DEVICES, CONNECTION ANGLES, BRIDGING, AND MISCELLANEOUS HARDWARE REQUIRED TO COMPLETE ALL CONNECTIONS AND INSTALLATION.

7. FASTENING OF FRAMING COMPONENTS SHALL BE WITH SELF-TAPPING SCREWS OR WELDING OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION. WELDS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST AWS D1.3 CODE.

8. COLD-FORMED STEEL STUD PRODUCTS SHALL BE MANUFACTURED BY A CURRENT MEMBER OF THE STEEL STUD MANUFACTURER ASSOCIATION (SSMA) OR THE STEEL FRAMING INDUSTRY ASSOCIATION (SFIA).

A. THE PHYSICAL AND STRUCTURAL PROPERTIES SHALL BE EQUIVALENT TO THOSE LISTED BY THE SSMA "PRODUCT TECHNICAL INFORMATION" AND ICC-ES ER-3064P FOR "S" AND "T" SECTIONS.

B. PROVIDE WALL STUD BRIDGING SPACES AT 4'-0" ON CENTER, MAXIMUM IN ALL EXTERIOR WALLS AND INTERIOR, LOAD BEARING WALLS.

C. PROVIDE DEFLECTION TRACK AT THE TOP OF ALL NON-LOAD BEARING STUD WALLS WHERE THE TOP OF WALL ABUTS THE BOTTOM OF THE STRUCTURE. DEFLECTION TRACK SHALL ACCOMMODATE A DEFLECTION DESCRIBED UNDER CONSTRUCTION DETAILS FOR STRUCTURAL MOVEMENT.

D. ATTACH STUDS TO TRACK WITH A MINIMUM OF ONE SCREW IN EACH STUD FLANGE, UNLESS NOTED OTHERWISE.

STRUCTURAL WOOD

1. ALL WOOD STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE AND THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS).

2. THIS STRUCTURE IS DESIGNED AS CONVENTIONAL FIELD FRAMED CONSTRUCTION. SHOULD PANELIZED CONSTRUCTION BE USED, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL ENGINEERING, COORDINATION WITH ALL OTHER BUILDING SYSTEMS AND REVIEW OF SHOP DRAWINGS. COORDINATION AND REVIEW OF PANELIZED CONSTRUCTION SHOP DRAWINGS ARE NOT INCLUDED IN THE ENGINEER OF RECORD'S SCOPE OF SERVICES FOR THIS PROJECT. REQUESTS FOR INFORMATION PERTAINING TO, OR DIRECTLY ASSOCIATED WITH, PANELIZED CONSTRUCTION WILL NOT BE REVIEWED.

A. ROOF SHEATHING SHALL BE 15/32" APA RATED PLYWOOD OR ORIENTED STRAND BOARD, 32/16 SPAN RATING, EXPOSURE 1, FIRE RETARDANT, LAID IN A CONTROLLED RANDOM STAGGERED PATTERN, WITH EDGE CLIPS BETWEEN SUPPORTS, LONG PANEL DIMENSION PERPENDICULAR TO THE FRAMING MEMBERS, AND CONTINUOUS OVER A MINIMUM OF THREE SUPPORTS. ALLOW FOR 1/8" GAP AT ALL PANEL EDGE AND END JOINTS UNLESS OTHERWISE RECOMMENDED BY MANUFACTURER.

B. SHEAR WALL SHEATHING SHALL BE 15/32" APA RATED PLYWOOD OR ORIENTED STRAND BOARD, EXPOSURE 1. PROVIDE SOLID BLOCKING AT ALL PANEL EDGES IN SHEAR WALLS. ALLOW FOR 1/8" GAP AT ALL PANEL EDGE AND END JOINTS UNLESS OTHERWISE RECOMMENDED BY MANUFACTURER.

C. ALL WOOD PRODUCTS IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED WITH CCA-C, ACQ, CBA-A, CA-B OR SBX AND SHALL NOT BE IN CONTACT WITH SOIL.

POST INSTALLED ANCHORING SYSTEMS

1. SUBSTITUTION OF POST INSTALLED ANCHORS FOR EMBEDDED ANCHORS SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER OF RECORD IN ADVANCE.

2. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) AND THE EVALUATION REPORT (ER/ESR) SPECIFIED INCLUDING HOLE PREPARATION, TEMPERATURE AND MOISTURE CONDITIONS. HOLES SHALL BE DRY AT THE TIME OF INSTALLATION.

3. ADHESIVE ANCHORS:

A. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE CONTRACTOR MUST MAINTAIN TRAINING RECORDS OF ALL CONTRACTOR PERSONNEL INSTALLING ANCHORS AND SUBMIT TO THE ENGINEER OF RECORD PRIOR TO INSTALLING ANCHORS UPON REQUEST.

B. ADHESIVE ANCHORS SHALL BE USED IN CONJUNCTION WITH THE APPROPRIATE ADHESIVE SYSTEM. STANDARD REINFORCING STEEL REBAR ANCHORED IN CONCRETE SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. ALL THREADED ANCHORS SHALL BE IN ACCORDANCE TO ASTM F1554 GRADE 36 (OR BETTER) OR STAINLESS STEEL 304/316.

C. APPROVED ADHESIVES FOR PREVIOUSLY CAST CONCRETE:

| MANUFACTURER/PRODUCT | EVALUATION REPORT |
|---|---|
| HILTI HIT-HY200 | ICC-ES ESR-3963 |
| HILTI HIT-HY270 SAFE SET INSTALLATION | ICC-ES ESR-3187 |
| HILTI HIT-RE 500 V3 SAFE SET INSTALLATION | ICC-ES ESR-2322/3814 |

D. APPROVED ADHESIVES FOR GROUTED MASONRY:

| MANUFACTURER/PRODUCT | EVALUATION REPORT |
|---|---|
| HILTI HIT-HY 200 SAFE SET | ICC-ES ESR-4143 |

E. APPROVED ADHESIVES FOR BRICK MASONRY:

| MANUFACTURER/PRODUCT | EVALUATION REPORT |
|---|---|
| HILTI HIT-HY 270 SAFE SET INSTALLATION | ICC-ES ESR-4143 |

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USD 460 HESSTON
MIDDLE SCHOOL
HESSTON, KS

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STRUCTURAL GENERAL NOTES

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CONTRACT/CONSTRUCTION DOCUMENTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A FULL SET OF THE MOST RECENT REVISIONS OF EACH DOCUMENT INCLUDING ALL PLANS, SPECIFICATIONS, ADDENDA, AND SUPPLEMENTAL INSTRUCTIONS.
2. THE CONTRACTOR SHALL REVIEW THE DOCUMENTS PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY MATERIALS FOR CONFLICTS. IF CONFLICTS OCCUR THE CONTRACTOR SHALL USE THE MOST STRINGENT REQUIREMENT OR REQUEST A CLARIFICATION THROUGH A REQUEST FOR INFORMATION (RFI).
3. THE DOCUMENTS MAY NOT BE REPRODUCED IN WHOLE OR IN PART FOR USE ON PROJECTS OTHER THAN IDENTIFIED IN THE TITLE BLOCK. SHOULD THE CONTRACTOR USE THE DOCUMENTS AS A PORTION OF A SHOP DRAWING SUBMITTAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONSEQUENCES RESULTING FROM ERRORS IN THE REPRODUCED DOCUMENTS.
4. DETAILS LABELED TYPICAL ARE INTENDED TO REPRESENT A CONDITION THAT OCCURS AT SEVERAL LOCATIONS IN THE PLANS WHETHER OR NOT THE DETAIL IS REFERENCED.
5. DO NOT SCALE THE PLANS AND DETAILS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.

CONTRACTOR'S RESPONSIBILITY

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL SUB-CONTRACTOR SUBMITTALS AND NOTING ALL DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMITTING TO THE ENGINEER FOR REVIEW.
2. SUBSTITUTION REQUESTS SHALL BE SUBMITTED IN WRITING WITH THE COST REDUCTION AMOUNT AND THE SCHEDULE IMPACT FOR THE OWNER (SUBMITTALS WITHOUT THE COST AND SCHEDULE IMPACT WILL NOT BE REVIEWED). A COMPARISON OF THE DATA WITH THE MATERIAL SPECIFIED INCLUDING CODE APPROVALS SHALL BE PROVIDED.
3. REQUESTS FOR INFORMATION (RFI) SHALL BE SUBMITTED IN WRITING WITH COST, SCHEDULE IMPACT, AND SUGGESTED SOLUTION INCLUDED. AN RFI THAT DOES NOT INCLUDE THE COST AND SCHEDULE IMPACT WILL NOT BE REVIEWED.
4. DEFECTIVE WORK REPORT (DWR) SHALL BE SUBMITTED TO THE ENGINEER. THE DWR SHALL REPORT THE DEFECT AND PROPOSE A REMEDIATION OF THE DEFECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REMEDIATION OF THE DEFECT INCLUDING ENGINEERING COSTS, IF ANY.
5. WHEN THE CONTRACTOR BECOMES AWARE OF WHAT MAY BE AN UNFORESEEN CONDITION THAT COULD AFFECT COST OR SCHEDULE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING. AFTER REVIEW AND ENGINEER'S DETERMINATION THAT AN UNFORESEEN CONDITION EXISTS; THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER REQUEST FOR APPROVAL WITH BOTH COST AND SCHEDULE IMPACT ATTACHED.
6. THE CONTRACTOR'S SCHEDULE MUST PROVIDE A REASONABLE TIME ALLOWANCE FOR THE ENGINEERING REVIEW AND APPROVAL.
7. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR SITE SAFETY. THE ENGINEER IS RESPONSIBLE FOR FOLLOWING THE CONTRACTOR'S CONSTRUCTION SITE SAFETY INSTRUCTIONS PROVIDED IN WRITING. ALTERNATELY, THE CONTRACTOR SHALL ASSIGN AN ESCORT TO ADVISE THE ENGINEER OF SITE SAFETY ISSUES DURING SITE VISITS. THE ENGINEER'S PURPOSE OF A SITE VISIT IS SOLELY TO BECOME FAMILIAR WITH THE GENERAL PROGRESS AND QUALITY OF THE PROJECT. THE ENGINEER'S SITE VISIT IS NOT A QUALITY CONTROL FUNCTION.

CONSTRUCTION MEANS AND METHODS ISSUES

1. SLAB ON GRADE AND ELEVATED SLABS ARE NOT DESIGNED TO SUPPORT CRANES, FORKLIFTS, TRUCKS, MANLIFTS, OR OTHER CONSTRUCTION RELATED EQUIPMENT UNLESS NOTED AS SUCH. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF CONSTRUCTION EQUIPMENT CAN BE SAFELY OPERATED ON THESE SLABS AND TO REPAIR ANY DAMAGE THE EQUIPMENT MAY CAUSE.
2. THE CONSTRUCTION DOCUMENTS REPRESENT A STABLE STRUCTURE IN THE COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY BRACING AND/OR SHORES TO SAFELY CONSTRUCT THE BUILDING AND PREVENT DAMAGE DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION THAT MAY AFFECT THE PROJECT AND REPORT DISCREPANCIES TO THE ENGINEER. ANY DIMENSIONS FOR ELEVATIONS THAT IMPACT NEW WORK SHALL BE VERIFIED PRIOR TO FABRICATION OF ANY MATERIAL. EXISTING BUILDING ELEMENTS THAT ARE TO BE ABANDONED THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
4. WHEN A PIECE OF EQUIPMENT (HVAC, ELECTRICAL, KITCHEN, ETC.) IS PROVIDED THAT IS DIFFERENT THAN THE EQUIPMENT THAT THE STRUCTURE WAS DESIGNED FOR EITHER BY SIZE, WEIGHT OR CONFIGURATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REMEDY OF THE SITUATION. THOSE COSTS SHALL INCLUDE THE ENGINEERING COSTS TO REDESIGN PORTIONS OF THE STRUCTURE TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN AND MATERIALS FOR ATTACHING NON-STRUCTURAL ELEMENTS TO ANY PORTION OF THE STRUCTURE TO RESIST ALL LOADS, INCLUDING SEISMIC, IN A WAY THAT DOES NOT OVERSTRESS STRUCTURAL MEMBERS. NON-STRUCTURAL ELEMENTS CAN BE FOUND IN EACH OF THE OTHER DISCIPLINES (ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC.).

STRUCTURAL TESTS, INSPECTIONS, AND QUALITY ASSURANCE

1. ALL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED PER CHAPTER 17 OF THE BUILDING CODE WITH LOCAL SUPPLEMENTS, UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED.

## REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL FOR BOLTING PROCESS

| Inspection Tasks Prior to Bolting | QUALITY CONTROL | QUALITY ASSURANCE |
|---|---|---|
| Manufacturer certifications available for fastener materials | O | P |
| Fasteners marked in accordance with ASTM requirements | O | O |
| Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane) | O | O |
| Proper bolting procedure selected for joint detail | O | O |
| Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements | O | O |
| Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used | P | O |
| Proper storage provided for bolts, nuts, washers and other components | O | O |
| **Inspection Tasks During Bolting** | **QUALITY CONTROL** | **QUALITY ASSURANCE** |
| Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required | O | O |
| Joint brought to the snug-tight condition prior to the pretensioning operation | O | O |
| Fastener component not turned by the wrench prevented from rotating | O | O |
| Fasteners are pretentioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges | O | O |
| **Inspection Tasks After Bolting** | **QUALITY CONTROL** | **QUALITY ASSURANCE** |
| Document acceptance or rejection of bolted connections | P | P |

Quality Control - Requirements on the part of the steel fabricator and erector.
Quality Assurance - Requirements on the part of the project owner's representative.
P Perform these tasks for each weld joint or member.
O Observe these items on a random basis. Operations need not be delayed pending these inspections

## REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

| TYPE | FREQUENCY | REFERENCED STANDARD | IBC REFERENCE |
|---|---|---|---|
| 1. Inspect reinforcement, including prestressing tendons, and verify placement. | Periodic | ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 | 1908.4 |
| 2. Reinforcing bar welding:<br>a. Verify weldability of reinforcing bars other than ASTM A706<br>b. Inspect single-pass fillet welds, maximum 5/16"; and<br>c. Inspect all other welds. | Periodic<br>Periodic<br>Continuous | AWS D1.4<br>ACI 318: 26.6.4 | |
| 3. Inspect anchors cast in concrete. | Periodic | ACI 318: 17.8.2 | |
| 4. Inspection of anchors post installed in hardened concrete members.[b]<br>a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.<br>b. Mechanical anchors and adhesive anchors not defined in 4.a. | Continuous<br>Periodic | ACI 318: 17.8.2.4<br>ACI 318: 17.8.2 | |
| 5. Verify use of required design mix. | Periodic | ACI318: Ch.19, 26.4.3, 26.4.4 | 1904.1, 1904.2 1908.2, 1908.3 |
| 6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete. | Continuous | ASTM C172, ASTM C31, ACI 318: 26.5, 26.12 | 1908.10 |
| 7. Inspection of concrete and shotcrete placement for proper application techniques. | Continuous | ACI 318: 26.5 | 1908.6, 1908.7, 1908.8 |
| 8. Verify maintenance of specified curing temperature and techniques. | Periodic | ACI 318: 26.5.3-26.5.5 | 1908.9 |
| 9. Inspection of prestressed concrete for:<br>a. Application of prestressing forces; and<br>b. Grouting of bonded prestressing tendons. | Continuous<br>Continuous | ACI 318: 26.10<br>ACI 318: 26.10 | |
| 10. Inspect erection of precast concrete members. | Periodic | ACI 318: Ch. 26.9 | |
| 11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs. | Periodic | ACI 318: 26.11.2 | |
| 12. Inspect formwork for shape, location and dimensions of the concrete member being formed. | Periodic | ACI 318: 26.11.1.2(b) | |

(a) Where applicable, see Section 1705.12, Special inspections for seismic resistance.
(b) Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

## REQUIRED SPECIAL INSPECTIONS OF STEEL CONSTRUCTION OTHER THAN STRUCT STEEL

| TYPE | FREQUENCY | REFERENCED STANDARD |
|---|---|---|
| 1. Material verification of cold-formed steel deck: | | |
| a. Identification markings to conform to ASTM standards specified in the approved construction documents. | Periodic | ASTM standards |
| b. Manufacturer's certified test reports. | Periodic | |
| 2. Inspection of welding: | | |
| a. Cold-formed steel deck: | | |
| 1. Floor and roof deck welds. | Periodic | AWS D1.3 |

## REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

| TYPE | FREQUENCY |
|---|---|
| 1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity. | Periodic |
| 2. Verify excavations are extended to proper depth and have reached proper material. | Periodic |
| 3. Perform classification and testing of compacted fill materials. | Periodic |
| 4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill. | Continuous |
| 5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly. | Periodic |

**Special Inspection Additional Requirements:**

- Additional items that need special inspection, in the opinion of the building official, shall be inspected.
- Coordination of Special Inspections with construction of the inspected items shall be the responsibility of the contractor.
- If Special Inspection is waived by the Authority having Jurisdiction, the general contractor shall provide the designer of record with a copy of the written exemption for each item that has been waived.
- The building official may perform inspections in addition to and/or concurrently with the Special Inspection's outlined in the tables.
- The general contractor is responsible for implementing a quality control program. The quality control program is in addition to the Special Inspection requirements and must meet or exceed those responsibilities required as part of the contract drawings and specifications.

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USD 460 HESSTON MIDDLE SCHOOL
HESSTON, KS

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STRUCTURAL GENERAL NOTES & IBC TABLES

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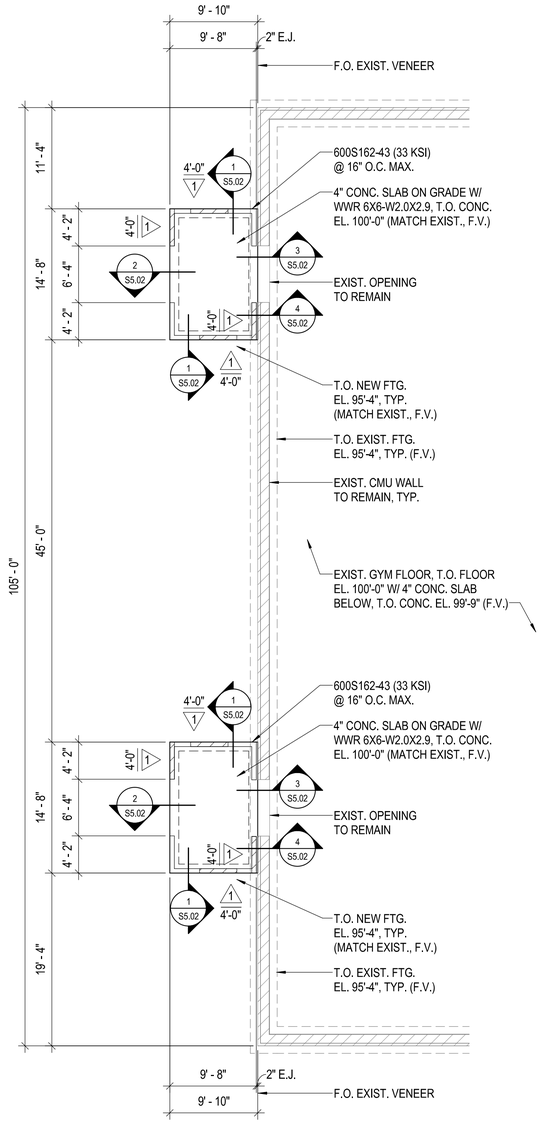


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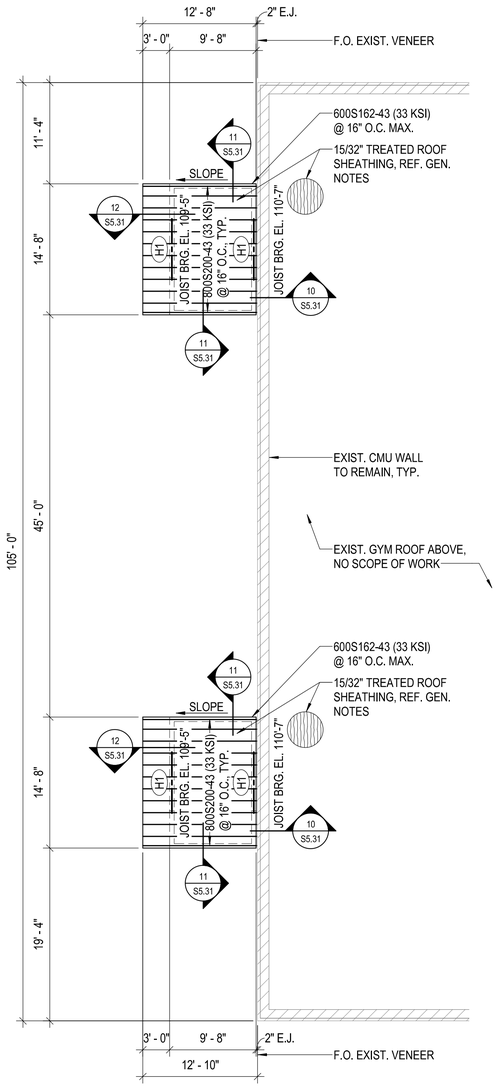
## A FOUNDATION PLAN - VESTIBULES

0' 4' 8' 12' 1/8" = 1'-0"

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## B ROOF FRAMING PLAN - VESTIBULES

0' 4' 8' 12' 1/8" = 1'-0"


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**USD 460 HESSTON**
**MIDDLE SCHOOL**
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STRUCTURAL PLANS

**S1.01**


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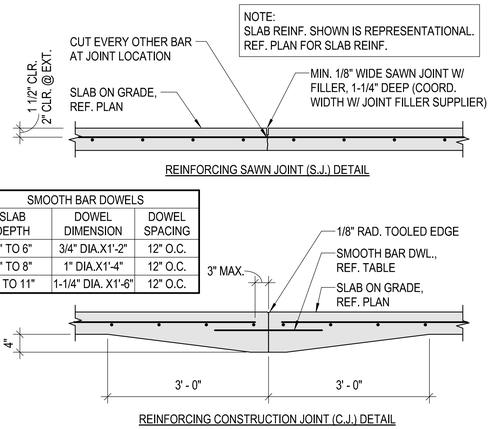
# CONCRETE REINFORCEMENT LAP, EMBEDMENT, AND HOOK LENGTHS

**fy = 60,000 PSI** **f'c = 4,000 PSI**

**NOTES:**

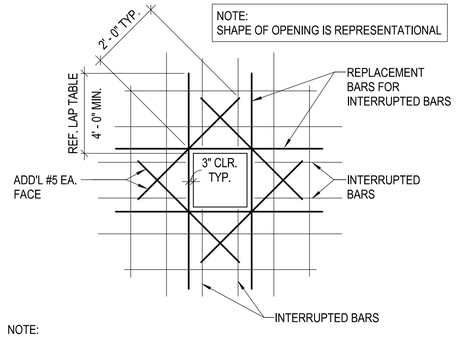
1. LENGTHS SHOWN CONFORM WITH NON-SEISMIC PROVISIONS OF ACI 318 FOR UNCOATED BARS.
2. BAR CLEAR SPACING IS THE CENTER TO CENTER BAR SPACING MINUS ONE BAR DIAMETER.
3. CLASS A LAP LENGTHS APPLY WHEN BAR LAPS ARE STAGGERED TO LAP HALF THE BARS AT THE SAME LOCATION. USE CLASS B LAP FOR ALL OTHER CASES.
4. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE REINFORCEMENT.
5. MULTIPLY LENGTHS GIVEN BY 2.0 FOR BARS WITH CLEAR SPACING OF TWO BAR DIAMETERS OR LESS, OR CONCRETE COVER OF ONE BAR DIAMETER OR LESS.

| BAR SIZE | CLEAR SPACING (S) (IN) | | | EMBEDMENT & CLASS A LAP (IN) | | | | | | CLASS B LAP (IN) | | | | | | HOOK EMBED (IN) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | TOP BAR | | | OTHER BARS | | | TOP BAR | | | OTHER BARS | | | |
| | 2d | 3d | 5d | 2d<s<3d | s>3d | s>5d | 2d<s<3d | s>3d | s>5d | 2d<s<3d | s>3d | s>5d | 2d<s<3d | s>3d | s>5d | |
| 3 | 3/4 | 1-1/8 | 1-7/8 | 28 | 18 | 12 | 21 | 14 | 12 | 36 | 24 | 14 | 28 | 18 | 12 | 8 |
| 4 | 1 | 1-1/2 | 2-1/2 | 37 | 25 | 15 | 28 | 19 | 12 | 48 | 32 | 19 | 37 | 25 | 15 | 10 |
| 5 | 1-1/4 | 1-7/8 | 3-1/8 | 46 | 31 | 18 | 36 | 24 | 14 | 60 | 40 | 24 | 46 | 31 | 18 | 12 |
| 6 | 1-1/2 | 2-1/4 | 3-3/4 | 55 | 37 | 22 | 43 | 28 | 17 | 72 | 48 | 29 | 55 | 37 | 22 | 15 |
| 7 | 1-3/4 | 2-5/8 | 4-3/8 | 81 | 54 | 32 | 62 | 42 | 25 | 105 | 70 | 42 | 81 | 54 | 32 | 18 |
| 8 | 2 | 3 | 5 | 92 | 62 | 37 | 71 | 47 | 28 | 120 | 80 | 48 | 92 | 62 | 37 | 20 |
| 9 | 2-1/4 | 3-3/8 | 5-5/8 | 104 | 70 | 42 | 80 | 54 | 32 | 136 | 90 | 54 | 104 | 70 | 42 | 22 |
| 10 | 2-1/2 | 3-3/4 | 6-3/8 | 117 | 78 | 47 | 90 | 60 | 36 | 153 | 102 | 61 | 117 | 78 | 47 | 25 |
| 11 | 2-7/8 | 4-1/4 | 7 | 130 | 87 | 52 | 100 | 67 | 40 | 170 | 113 | 68 | 130 | 87 | 52 | 27 |




## 1 TYP. SLAB ON GRADE JOINT

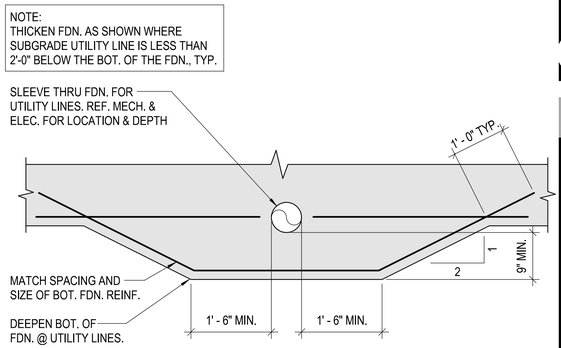
**NO SCALE**




NOTE:
1. USE THIS DETAIL FOR ALL OPENINGS GREATER THAN 8" IN CONC. WALLS AND SLABS. PROVIDE (2) #5 ON DIAGONAL AS SHOWN AND EXTEND BARS 2'-0" MIN. BEYOND EDGE OF OPENING. REPLACE ALL VERT. AND HORIZ. BARS INTERRUPTED BY THE OPENING WITH AN EQ. QUANTITY AND SIZE BARS EVENLY DIVIDED ON EA. SIDE OF THE OPENING U.N.O.
2. REF. PLANS FOR OPENING LOCATIONS.

## 2 TYP. CONC. OPENING REINF.

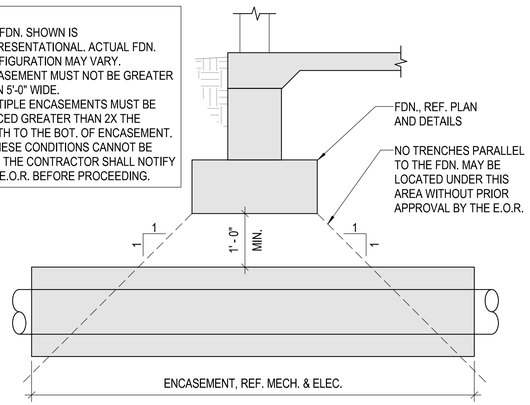
**NO SCALE**




## 3 TYP. UTILITY THRU FTG.

**NO SCALE**

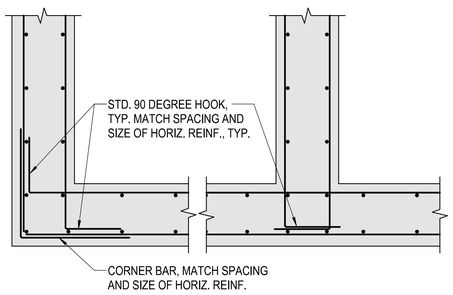
NOTE:
1. THE FDN. SHOWN IS REPRESENTATIONAL. ACTUAL FDN. CONFIGURATION MAY VARY.
2. ENCASEMENT MUST NOT BE GREATER THAN 5'-0" WIDE.
3. MULTIPLE ENCASEMENTS MUST BE SPACED GREATER THAN 2X THE DEPTH TO THE BOT. OF ENCASEMENT.
4. IF THESE CONDITIONS CANNOT BE MET, THE CONTRACTOR SHALL NOTIFY THE E.O.R. BEFORE PROCEEDING.




## 4 UTILITY ENCASE. UNDER FTG.

**NO SCALE**

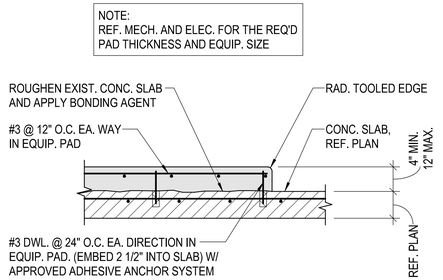
NOTE:
REINF. SHOWN APPLIES TO TOP, BOT. AND INTERMEDIATE BARS IN CONC. WALLS AND GRADE BEAMS U.N.O.




## 5 TYP. CORNER/INTERSECTION

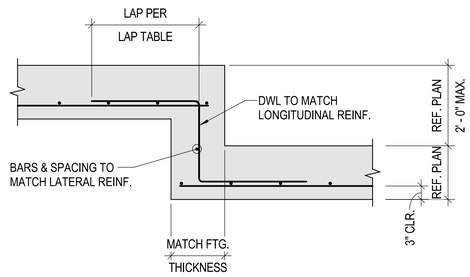
**NO SCALE**

NOTE:
REF. MECH. AND ELEC. FOR THE REQ'D PAD THICKNESS AND EQUIP. SIZE



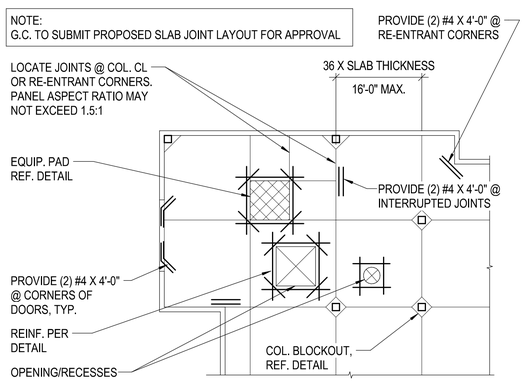

## 6 TYP. INTERIOR EQUIP. PAD

**NO SCALE**



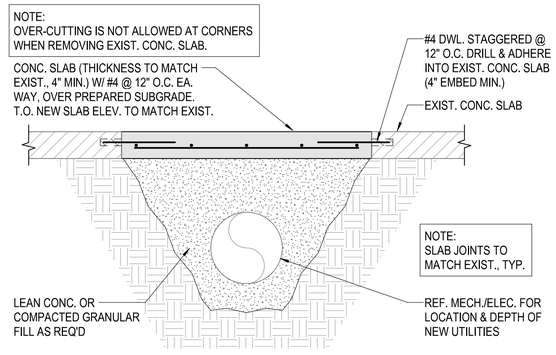

## 7 TYP. FTG. STEP

**NO SCALE**




## 8 TYP. SLAB JOINT DETAIL

**NO SCALE**




## 9 TYP. SLAB REPAIR AT EXIST.

**NO SCALE**


SPT ARCHITECTURE
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316.267.4002

EDUARDO MORAN-TORRES
30140
06/26/2026
KANSAS
PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001
PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com


**USD 460 HESSTON**
**MIDDLE SCHOOL**
**HESSTON, KS**

**PERMIT SET** 06.26.2026

**TYPICAL FOUNDATION DETAILS**

**S5.01**


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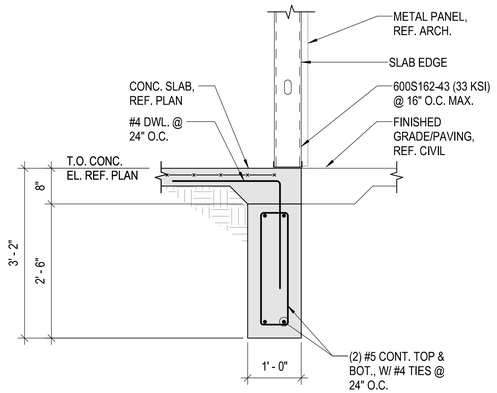
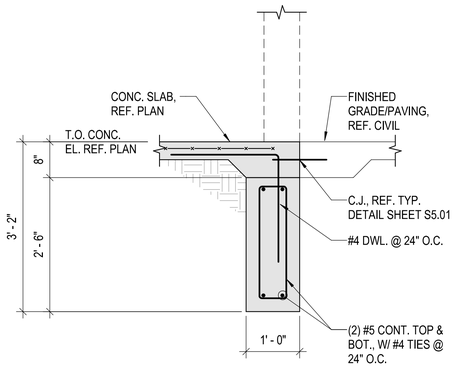


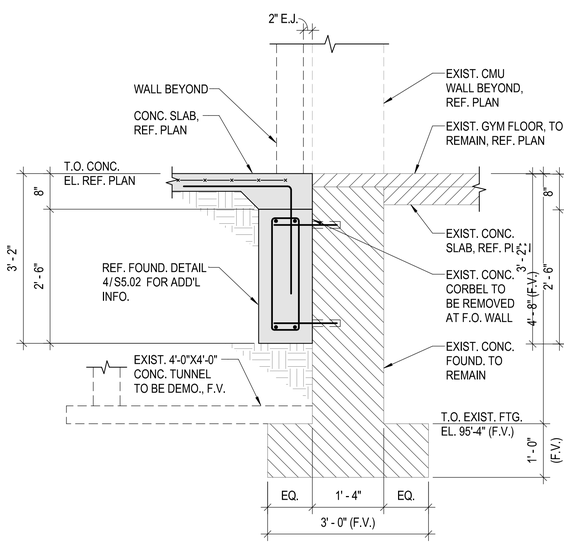

1 **WALL FTG. @ VESTIBULE**

0' 6" 1' 2' **3/4" = 1'-0"**



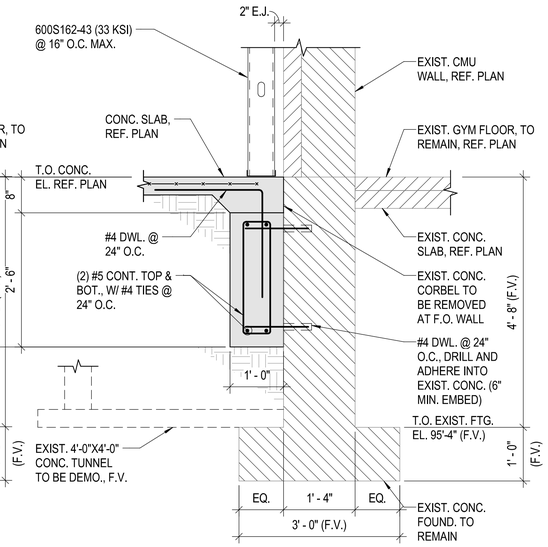

2 **WALL FTG. @ OPENING**

0' 6" 1' 2' **3/4" = 1'-0"**




3 **NEW SLAB @ EXIST.**

0' 6" 1' 2' **3/4" = 1'-0"**




4 **NEW SLAB @ EXIST.**

0' 6" 1' 2' **3/4" = 1'-0"**

SPT ARCHITECTURE
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# USD 460 HESSTON MIDDLE SCHOOL

HESSTON, KS

PERMIT SET 06.26.2026

FOUNDATION DETAILS

# S5.02

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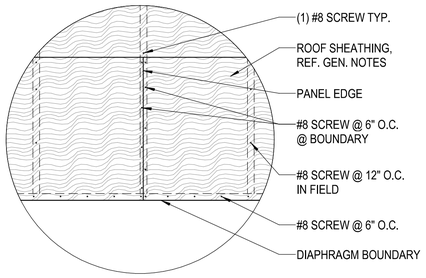
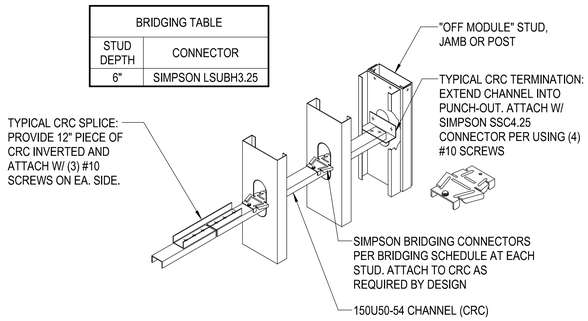



## 1 ROOF SHEATHING ATTACHMENT

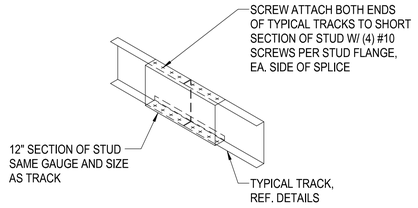
**NO SCALE**

| BRIDGING TABLE | |
|---|---|
| STUD DEPTH | CONNECTOR |
| 6" | SIMPSON LSUBH3.25 |



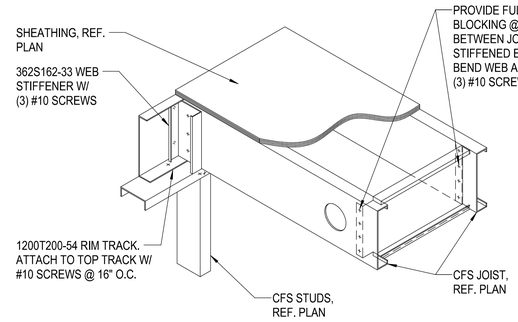

## 2 TYP. LOAD BRG. WALL BRIDGING

**NO SCALE**




## 3 CONTINUOUS TRACK SPLICE

**NO SCALE**




## 4 TYP. JOIST BRG. AND BLOCKING

**NO SCALE**




## 5 TYP. HEADER TO JAMB

**NO SCALE**




## 6 TYP. JAMB TO BOTTOM TRACK

**NO SCALE**




## 7 TYP. JAMB TO TOP TRACK

**NO SCALE**

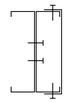


NOTE:
ATTACH MEMBERS TOGETHER WITH #10 SCREWS AT 12" O.C., WHERE SHOWN

HEADER TYPE 1
(2) 600S162-54 (50 KSI) W/
600T125-54 (50 KSI) TOP & BOT.

## 8 BUILT-UP HEADER - H1

**NO SCALE**



JAMB TYPE 1
(2) 600S162-54 (50 KSI) W/ (2) #10 SCREWS @ 24" O.C. VERT., CAPPED W/ 600T125-54 (50 KSI)

## 9 BUILT-UP JAMB - H1

**NO SCALE**




## 10 CFS JOIST BRG. @ EXIST.

**NO SCALE**




## 11 LIGHT GAUGE FRAMING DETAIL

0' 6" 1' 2' **3/4" = 1'-0"**




## 12 LIGHT GAUGE FRAMING DETAIL

0' 6" 1' 2' **3/4" = 1'-0"**

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SPT ARCHITECTURE
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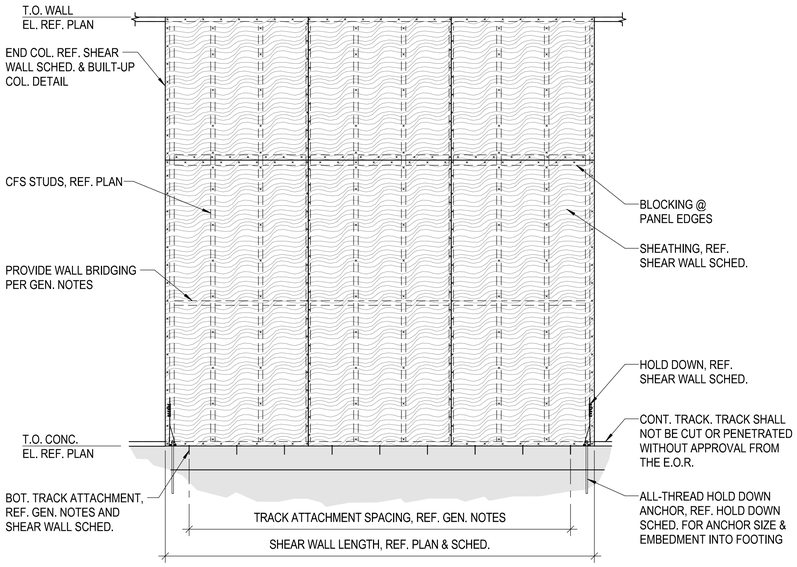
**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

**PERMIT SET** 06.26.2026

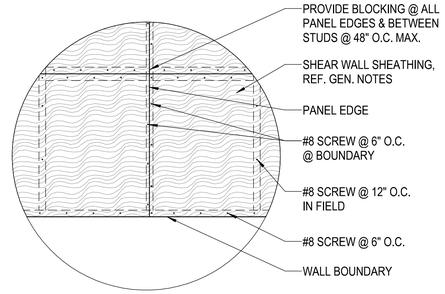
**TYPICAL CFS DETAILS**

# S5.31



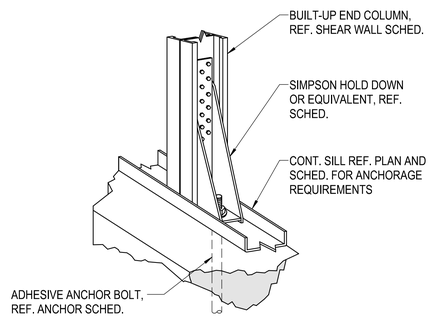

## A CFS SHEAR WALL ELEVATION

**NO SCALE**




## 1 SHEAR WALL ATTACHMENT

**NO SCALE**




## 2 CFS HOLD DOWN

0' 6" 1' 2'

**3/4" = 1'-0"**

## COLD-FORMED STEEL SHEARWALL SCHEDULE

**NOTES:**
1. REFERENCE THE SHEAR WALL ELEVATION FOR ADDITIONAL INFORMATION
2. REFERENCE THE HOLD DOWN SCHEDULE FOR ANCHORAGE SIZE AND EMBEDMENT
3. FASTENERS TO BE #12 SCREWS U.N.O
4. SCREWS ARE TO HAVE A CENTER TO CENTER SPACING OF AT LEAST (3) TIMES THE SCREW DIAMETER

| MARK | HOLD DOWN | BUILT-UP END STUD SIZE | CONTINOUS TRACK CONN. | |
|---|---|---|---|---|
| | | | SILL TRACK TO CONC. | TOP TRACK TO TOP BLOCKING |
| 1 | HDU6 | (2) 600S162-43 (33 KSI) | (2) 0.157 PAF @ 12" O.C. | #12 SCREW @ 6" O.C. |

## HOLD DOWN SCHEDULE

**NOTES:**
1. USE HILTI HIT HY200 MAX ADHESIVE, REF. GEN. NOTES.
2. EMBEDMENT DEPTH SHOWN IS FOR EMBEDMENT INTO CONCRETE ONLY.
3. REFERNCE SHEARWALL HOLD DOWN DETAIL.

| HOLD DOWN | ADHESIVE ANCHOR BOLT DIAMETER | MINIMUM EMBED INTO FOOTING |
|---|---|---|
| SIMPSON HDU6 | 5/8" | 8" |

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

EDWARD MORAN NOTES
LICENSED
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06/26/2026
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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

CFS SHEARWALL DETAILS

**S5.32**

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# ABBREVIATIONS

| | |
|---|---|
| Ø | ROUND DIAMETER |
| ABV | ABOVE |
| AFF | ABOVE FINISHED FLOOR |
| AFMS | AIRFLOW MEASURING STATION |
| AFUE | ANNUAL FUEL UTILIZATION EFFICIENCY |
| BAC | BUILDING AUTOMATION CONTROL |
| BAS | BUILDING AUTOMATION SYSTEM |
| BFF | BELOW FINISHED FLOOR |
| BFG | BELOW FINISHED GRADE |
| BLW | BELOW |
| BOD | BOTTOM OF DUCT ELEVATION ABOVE FLOOR |
| BOP | BOTTOM OF PIPE ELEVATION ABOVE FLOOR |
| BOS | BOTTOM OF STEEL |
| BP | BUILDING PRESSURE |
| BTU | BRITISH THERMAL UNITS |
| BTUH | BRITISH THERMAL UNITS PER HOUR |
| CAP | CAPACITY |
| CAV | CONSTANT AIR VOLUME |
| CFM | CUBIC FEET PER MINUTE |
| CI | CAST IRON |
| CO | CARBON MONOXIDE |
| CO | CLEANOUT |
| CO2 | CARBON DIOXIDE |
| COP | COEFFICIENT OF PERFORMANCE |
| DB | DECIBELS |
| DB | DRY BULB TEMPERATURE |
| DD | DIRECT DRIVE |
| DEMO | DEMOLISH |
| DIA | DIAMETER |
| DN | DOWN |
| DP | DIFFERENTIAL PRESSURE |
| DS | DOOR SWITCH |
| DSD | DUCT SMOKE DETECTOR |
| DSP | DUCT STATIC PRESSURE |
| DX | DIRECT EXPANSION |
| (E) | EXISTING COMPONENT DESIGNATION |
| EA | EXHAUST AIR |
| EAT | ENTERING AIR TEMPERATURE |
| EC | ELECTRICAL CONTRACTOR |
| ECM | ELECTRONICALLY COMMUNICATED MOTOR |
| ETR | EXISTING TO REMAIN |
| EWT | ENTERING WATER TEMPERATURE |
| °F | DEGREES FAHRENHEIT |
| FCO | FLOOR CLEANOUT |
| FD | FLOOR DRAIN |
| FDC | FIRE DEPARTMENT CONNECTION |
| FLR | FLOOR |
| FL | FLOW LINE |
| FOFS | FUEL OIL FLOW SWITCH |
| FOG | FUEL OIL GAUGE |
| FOV | FUEL OIL VENT |
| FPM | FEET PER MINUTE |
| FS | FLOOR SINK |
| GAL | GALLON |
| GC | GENERAL CONTRACTOR |
| GI | GREASE INTERCEPTOR |
| GPM | GALLONS PER MINUTE |
| HGB | HOT GAS BYPASS |
| HSL | HIGH STATIC PRESSURE LIMIT |
| IFB | INTEGRAL FACE AND BYPASS |
| INV | INVERT |
| LAT | LEAVING AIR TEMPERATURE |
| LB/HR | POUNDS PER HOUR |
| LWT | LEAVING WATER TEMPERATURE |
| MAT | MIXED AIR TEMPERATURE |
| MBH | ONE THOUSAND BTU PER HOUR |
| MC | MECHANICAL CONTRACTOR |
| MFR | MANUFACTURER |
| MOA | MINIMUM OUTSIDE AIR |
| MVSA | MEDIUM VELOCITY SUPPLY AIR |
| NC | NORMALLY CLOSED |
| NCR | NOISE CRITERIA RATING |
| NO | NORMALLY OPEN |
| NO2 | NITROGEN DIOXIDE |
| NTS | NOT TO SCALE |
| OA | OUTSIDE AIR |
| OAT | OUTSIDE AIR TEMPERATURE |
| OBD | OPPOSED BLADE DAMPER |
| OCC | OCCUPANCY |
| ORD | OVERFLOW ROOF DRAIN |
| PC | PLUMBING CONTRACTOR |
| PD | PRESSURE DROP |
| PIV | POST INDICATOR VALVE |
| PSI | POUNDS PER SQUARE INCH |
| PSIG | POUNDS PER SQUARE INCH GAUGE |
| PVC | POLYVINYL CHLORIDE PIPE |
| PWR | POWER |
| (R) | RELOCATED COMPONENT DESIGNATION |
| RA | RETURN AIR |
| RD | ROOF DRAIN |
| RH | RELATIVE HUMIDITY |
| RP | ROOM PRESSURE |
| RPC | ROOM PRESSURE CONTROL |
| RPM | REVOLUTIONS PER MINUTE |
| SA | SUPPLY AIR |
| SAT | SUPPLY AIR TEMPERATURE |
| SF | SQUARE FOOT |
| SMP | SMOKE PURGE |
| SOI | SAND/OIL INTERCEPTOR |
| SP | STATIC PRESSURE |
| TA | TRANSFER AIR |
| TCC | TEMPERATURE CONTROL CONTRACTOR |
| TCP | TEMPERATURE CONTROL PANEL |
| TCV | TEMPERATURE CONTROL VALVE |
| TD | TRENCH DRAIN |
| TOD | TOP OF DUCT ELEVATION ABOVE FLOOR |
| TOP | TOP OF PIPE ELEVATION ABOVE FLOOR |
| UG | UNDERGROUND |
| UV | ULTRAVIOLET STERILE CONDITIONER |
| VAV | VARIABLE AIR VOLUME |
| VCP | VITRIFIED CLAY PIPE |
| VENT | VENTILATION |
| VFD | VARIABLE FREQUENCY DRIVE |
| VOC | VOLATILE ORGANIC COMPOUND |
| VTR | VENT THROUGH ROOF |
| VVT | VARIABLE VOLUME AND TEMPERATURE |
| WB | WET BULB TEMPERATURE |
| WFS | WATER FLOW SWITCH |

# GENERAL SYMBOLS

- REFER TO PLAN NOTES
- EXISTING COMPONENT PEN WEIGHT
- DEMOLITION PEN WEIGHT - COMPONENT SHADED
- ROOM CALLOUT (ROOM / 111)
- AREA NOT IN SCOPE HATCHING
- REVISION NUMBER
- CONNECT NEW TO EXISTING - VERIFY EXACT LOCATION
- DISCONNECT FROM EXISTING - VERIFY EXACT LOCATION
- PIPE / DUCT CONTINUATION SYMBOL
- DETAIL NUMBER (5 / M3.6) SHEET NUMBER WHERE DRAWN
- SECTION LETTER (B / M3.6) SHEET NUMBER WHERE DRAWN
- UNIQUE I.D. (FAN COIL UNIT NO. 1) TYPICAL EQUIPMENT CALLOUT (FC-01) EQUIPMENT TYPE (FC=FAN COIL UNIT)

# PIPE SYMBOLS

- DIRECTION OF FLOW
- PIPE DROP / SIDE CONNECTION / PIPE RISE
- TEE OUTLET DOWN / TEE OUTLET UP
- BOTTOM / TOP CONNECTION, 45° OR 90°
- CAP / CAPPED OUTLET
- BALL VALVE / GLOBE VALVE
- CONCENTRIC / ECCENTRIC REDUCER OR INCREASER
- ANCHOR / FLEXIBLE CONNECTION
- BUTTERFLY VALVE
- CIRCUIT SETTER
- CHECK VALVE
- STRAINER / UNION
- BLIND FLANGE / FLOW METER
- BACKFLOW PREVENTER (BFP)
- PRESSURE REDUCING VALVE / PLUG VALVE
- WATER METER / IRRIGATION WATER METER
- PLUG VALVE / NEEDLE VALVE
- GAS COCK
- PRESSURE REGULATING VALVE / PETE'S PLUG
- WATER HAMMER ARRESTOR (WHA)
- SLEEVE / EXPANSION JOINT
- PIPE PITCH DOWN / PIPE RISE UP (D / R)
- SOLENOID VALVE / PNEUMATIC 3-WAY CONTROL VALVE (S / P)
- ELECTRIC 3-WAY / 2-WAY CONTROL VALVE (M / M)
- MANUAL / EMERGENCY 3-WAY CONTROL VALVE (EM)
- THERMOMETER / PRESSURE GAUGE
- STEAM TRAP
- TEMPERATURE/PRESSURE RELIEF VALVE

# PLUMBING SYMBOLS

- DOMESTIC COLD WATER (CW)
- DOMESTIC HOT WATER (HW)
- DOMESTIC HOT WATER RECIRC. (HWC)
- WASTE (W)
- BELOW GRADE WASTE (W)
- VENT (V)
- RAINLEADER (RL)
- OVERFLOW RAINLEADER (ORL)
- NATURAL GAS (G)
- LIQUIFIED PETROLEUM (LP)
- COMPRESSED AIR (CA)
- CONDENSATE DRAIN (CD)
- DRAIN (D)
- OIL WASTE (OW)
- GREASE WASTE (GW)
- INDUSTRIAL WASTE (IW)
- PRODUCTION WASTE (PW)
- SOFT COLD WATER (SCW)
- FILTERED COLD WATER (FCW)
- REVERSE OSMOSIS WATER (RO)
- REVERSE OSMOSIS RETURN WATER (ROR)
- DEIONIZED WATER (DI)
- DEIONIZED WATER RETURN (DIR)
- DOMESTIC HOT WATER HIGH TEMP (HW 140°)
- DOMESTIC HOT WATER HIGH TEMP RECIRC (HWR 140°)
- CLEANOUT (FLOOR) (CO / FCO)
- 2-WAY CLEANOUT (FLOOR/GRADE) (2-WAY CO)
- WALL CLEANOUT / END OF LINE CLEANOUT (WCO / CO)

# HVAC SYMBOLS

- (UP)DUCT SECTION, POSITIVE PRESSURE- FIRST SIZE IS TOP DIM.(TYP.) (24x12)
- (DOWN) DUCT SECTION, POSITIVE PRESSURE (24x12)
- (UP) DUCT SECTION, NEGATIVE PRESSURE (24x12)
- (DOWN) DUCT SECTION, NEGATIVE PRESSURE (24x12)
- FLEXIBLE DUCT
- TURNING VANES
- DUCT SIZE, FIRST IS SIDE SHOWN CLEAR INSIDE DIM. (18x12)
- DUCT CHANGE OF ELEVATION RISE(R) DROP(D) (→R)
- FLEXIBLE CONNECTION
- SIDE WALL SUPPLY REGISTER
- BALANCE DAMPER - MANUAL LOCKING QUADRANT RECT: OPPOSED BLADE / ROUND: BUTTERFLY
- BALANCE DAMPER - MOTORIZED LOCKING QUADRANT RECT: OPPOSED BLADE / ROUND: BUTTERFLY
- FIRE DAMPER (FD) IN WALL / FLOOR (FD)
- SMOKE DAMPER (SD) IN WALL / FLOOR (SD)
- COMBO FIRE/SMOKE DAMPER (FSD) IN WALL / FLOOR (FSD)
- THERMOSTAT (TSTAT) / TEMPERATURE SENSOR (T)
- HUMIDISTAT (HSTAT) / HUMIDITY SENSOR (H)
- PRESSURE SENSOR (P)
- MOTOR (M)
- SUPPLY FLOW ARROW / RETURN FLOW ARROW
- EQUIPMENT CALLOUT (T1.1) EQUIPMENT AIRFLOW (CFM) (200)

**GRD CALLOUT SYMBOLS**

**ROUND**
MARK IN SCHEDULE — SUPPLY DIFFUSER (SB10) — CFM (250) — CONNECTION & RUNOUT SIZE (10"ø) — ALT → SB10-250

**RECTANGULAR**
MARK IN SCHEDULE — RETURN GRILLE (RB12x12) — CFM (250) — CONNECTION & RUNOUT SIZE (12x12) — ALT → RB12x12-250

**SLOT**
MARK IN SCHEDULE — SLOT DIFFUSER (LSL8-2s) — CFM (200) — CONNECTION & RUNOUT SIZE (8"ø) — NUMBER OF SLOTS — ALT → LSL8-2s-200

# HVAC DESIGN CONDITIONS

REMARKS:

1. WEATHER DATA BASED ON 2025 ASHRAE DATA FROM NEWTON, KS DATA STATION (WMO: 724509)
2. %RH IS NOT MAINTAINED IN THE COOL, DRY WINTER MONTHS.

| SPACE OR AREA | OUTDOOR AIR | | INDOOR HEATING °F | INDOOR COOLING °F | RELATIVE HUMIDITY %RH | REMARKS |
|---|---|---|---|---|---|---|
| | SUMMER DB/WB °F | WINTER DB °F | | | | |
| MIDDLE SCHOOL | 99.5/73.7 | 5.5 | 70 | 75 | 50 | 1-2 |

# PRESSURE CLASS SCHEDULE

| AIR SYSTEM | PRESSURE CLASS | SEAL CLASS | LEAKAGE CLASS | |
|---|---|---|---|---|
| | | | ROUND | RECT |
| GENERAL EXHAUST | 2 INCH WG (500 PA) | A | 3 | 6 |
| LOW-PRESSURE SUPPLY | 2 INCH WG (500 PA) | A | 6 | 12 |
| RETURN AND RELIEF | 2 INCH WG (500 PA) | A | 6 | 12 |

# GENERAL DEMO. NOTES

1. VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE ARCHITECT IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF THE DEMOLITION WORK SHALL NOT JUSTIFY AN ADDITIONAL COST.
2. REMOVAL OF EXISTING FIXTURES AND EQUIPMENT WILL REQUIRE ISOLATING THE PIPING RISERS OR MAINS VIA SHUT-OFF VALVES. INSTALL NEW ISOLATION VALVES WHERE REQUIRED FOR COMPLETION OF WORK.
3. REMOVAL OF EXISTING DUCTWORK, DIFFUSERS, GRILLES, REGISTERS, PLUMBING FIXTURES, ETC. WILL REQUIRE TEMPORARY CAPPING AND SEALING EXISTING MAINS OR BRANCHES AS NECESSARY AND REQUIRED TO ALLOW THE REMAINING SYSTEMS TO FULLY OPERATE WITHOUT DEGRADATION.
4. CONTRACTOR SHALL PROVIDE PROTECTIVE PLASTIC DROP CLOTHS TO PROTECT THE EXISTING OCCUPIED AREAS AND EQUIPMENT FROM DUST AND DEBRIS DURING THE CONSTRUCTION WORK, AND SHALL CLEAN THE AREAS OF ALL CONSTRUCTION DIRT DAILY, AND UPON COMPLETION OF THE WORK.
5. ALL DRAINED PIPING RISERS AND MAINS SHALL BE REFILLED WITH PROPER FLUID AND PROPERLY VENTED BY THIS CONTRACTOR, ONCE NEW WORK HAS BEEN INSTALLED.
6. COORDINATE WITH OWNER THE REMOVAL AND REPLACEMENT OF ALL EXISTING CEILINGS, WALLS, ETC. AS REQUIRED FOR MECHANICAL DEMOLITION WORK.
7. EXISTING DUCTS, PIPING, AND EQUIPMENT, ETC., NOT TO BE UTILIZED IN THE COMPLETED BUILDING SHALL BE DISCONTINUED OR REMOVED AS REQUIRED. ALL ENDS OF DISCONTINUED DUCTS AND PIPING SHALL BE CAPPED IN THE NEAREST WALL, CEILING OR FLOOR SO THAT THEY ARE COMPLETELY CONCEALED. OPENINGS LEFT IN WALLS, CEILINGS, ETC., WHERE EQUIPMENT, PIPE, DUCTS, ETC., ARE REMOVED AND NOT REPLACED, SHALL BE PATCHED NEATLY WITH SIMILAR MATERIAL TO ADJACENT CONSTRUCTION.
8. ALL ACCESSIBLE ABANDONED PIPING AND DUCTWORK SHALL BE REMOVED AND PROPERLY DISPOSED OF.
9. EXISTING PIPING, FIXTURES AND EQUIPMENT THAT ARE NOT TO BE REUSED SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE OWNER IF THEY WISH TO RETAIN OWNERSHIP OF SAME. IF NOT, EQUIPMENT SHALL BECOME THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AS SOON AS PRACTICAL AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.
10. ALL CUTTING AND CHANNELING OF EXISTING BUILDING SHALL BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER WITHOUT REMOVAL OF EXCESS MATERIALS. THIS CONTRACTOR SHALL PATCH AND REPLACE WITH MATERIAL SIMILAR TO ADJACENT CONSTRUCTION.
11. CUTTING OF STRUCTURAL MEMBERS IS NOT ALLOWED.
12. PORTIONS OF EXISTING SYSTEMS MAY BE SHOWN FOR CLARITY EVEN THOUGH IT MAY NOT BE NECESSARY TO MODIFY OR REVISE THEM. ALL EXISTING SYSTEMS ARE SHOWN BASED ON ORIGINAL OR REMODEL BUILDING DRAWINGS. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS.
13. WHERE EXISTING DUCTS, PIPING, AND EQUIPMENT, ETC. THAT ARE TO BE UTILIZED IN THE COMPLETED PROJECT CONFLICT WITH NEW CONSTRUCTION AND THE REQUIRED DEMOLITION, THEY SHALL BE RELOCATED AND RECONNECTED TO MAINTAIN THE DESIRED SERVICE. ALERT ENGINEER TO ANY MAJOR RELOCATIONS REQUIRED.
14. ALL CONTRACTORS SHALL GIVE FULL COOPERATION TO THE OWNER IN THE SCHEDULING AND PROCEDURE OF WORK TO PROVIDE THE LEAST AMOUNT OF DISRUPTION AS POSSIBLE. CONTRACTORS SHALL TAKE EVERY PRECAUTION TO PREVENT DAMAGE FROM FREEZING TO EXISTING SYSTEMS AND SHALL MAINTAIN A CONDITIONED SPACE FOR ALL OWNER OCCUPIED AREAS DURING CONSTRUCTION.

**NOTE:**
ALL GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

# GENERAL NOTES

1. ALL WORK IS TO CONFORM WITH APPLICABLE CODES AND STANDARDS.
2. VERIFY JOB SITE CONDITIONS AND DIMENSIONS BEFORE BEGINNING WORK. PLANS ARE SCHEMATIC IN NATURE. LAYOUT IS BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS.
3. NO PIPING, DUCTWORK, ETC. SHALL PENETRATE STRUCTURAL MEMBERS.
4. PROVIDE MISCELLANEOUS CUTTING, PATCHING AND REPAIRING OF FINISHES, ROOF, WALLS, ETC., AS REQUIRED TO ACCOMMODATE THE NEW WORK. ALL CUTTING AND PATCHING SHALL BE CLOSELY COORDINATED WITH THE G.C.
5. G.C. IS TO PATCH ANY OPENINGS IN CORRIDORS REQUIRED TO BE CONSTRUCTED TO LIMIT THE TRANSFER OF SMOKE AND IN SMOKE BARRIERS AS REQUIRED TO MEET CODE REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY EXACT LOCATION, CONFIGURATION AND ROUTING OF EXISTING SYSTEMS REQUIRED TO REMAIN IN OPERATION DURING THE PROJECT TO PREVENT DAMAGE DURING DEMOLITION AND PHASING.
7. REMOVE ALL EXISTING EQUIPMENT, DUCTWORK AND PIPING THAT IS NOT REQUIRED FOR A WORKING INSTALLATION.
8. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION.
9. COORDINATE ROUTING OF PLUMBING, AND HVAC PIPING WITH DUCTWORK, LIGHTS, ARCHITECTURAL CEILING AND STRUCTURAL ELEMENTS. PIPING SHALL RISE AND DROP, JOG OR OFFSET AS REQUIRED TO AVOID CONFLICTS. DUCTWORK SHALL TAKE PRECEDENCE OVER ALL PIPING, EXCEPT WHERE GRADE MUST BE MAINTAINED FOR DRAINAGE. REWORK OF INSTALLED WORK TO RESOLVE CONFLICTS RISING FROM LACK OF COORDINATION SHALL NOT JUSTIFY AN INCREASE IN THE CONTRACT AMOUNT.
10. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRE STOPPED BY THE TRADE MAKING THE PENETRATION. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIREMENTS.
11. DO NOT ROUTE PIPING OR DUCTWORK OVER ELECTRICAL PANELS OR EQUIPMENT. PIPING OR DUCTWORK SHALL NOT BE ROUTED THROUGH ELECTRICAL ROOMS, TELECOM ROOMS OR ELEVATOR EQUIPMENT ROOMS UNLESS SPECIFICALLY SERVING THAT ROOM. MAINTAIN N.E.C. CLEARANCES. COORDINATE WITH E.C. PROVIDE WATERTIGHT DRIP PAN WITH DRAIN TO NEAREST APPROVED RECEPTOR, WHERE REQUIRED.
12. COORDINATE SIZE AND LOCATION OF ACCESS DOORS IN CONSTRUCTION REQUIRED FOR ACCESS TO MECHANICAL EQUIPMENT WITH G.C.
13. COORDINATE SIZE AND LOCATION OF MECHANICAL EQUIPMENT PADS WITH G.C.
14. ALL EQUIPMENT SUPPORT STANDS SHALL BE PRIMED AND PAINTED WITH EPOXY ENAMEL.
15. UNDERGROUND-TYPE UTILITY MARKER: PROVIDED AND INSTALLED PER SPECIFICATION SECTIONS 220553 AND 230553 AT EVERY 100 FEET FOR ALL UNDERGROUND UTILITIES.
16. MECHANICAL CONTRACTOR (M.C.) SHALL FURNISH AND INSTALL ALL LOW VOLTAGE WIRING AND ASSOCIATED CONDUIT REQUIRED FOR MECHANICAL CONTROL SYSTEM. WIRING SHALL BE IN CONDUIT WHEN INSIDE WALLS, IN ROOMS WITH EXPOSED CEILINGS, AND ABOVE HARD CEILINGS. LINE VOLTAGE WIRING AND ASSOCIATED CONDUIT SHALL BE PROVIDED AND INSTALLED BY E.C.. THE CONTROL SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS.
17. ALL CONTROL DAMPERS SHALL BE FURNISHED BY M.C. AND INSTALLED BY THE M.C. MOTOR OPERATORS SHALL BE FURNISHED AND INSTALLED BY THE M.C.
18. COORDINATE ACCESS TO EQUIPMENT AND VALVES INSTALLED ABOVE 'HARD' CEILINGS AND IN MASONRY CHASES WITH GENERAL CONTRACTOR. PROVIDE LOCKING ACCESS DOORS FOR INSTALLATION BY CONTRACTOR AS REQUIRED TO SERVICE CONCEALED DAMPERS, VALVES AND EQUIPMENT. CEILING ACCESS DOORS FOR FIRE DAMPERS, SMOKE DAMPERS AND FIRE SMOKE DAMPERS FURNISHED AND INSTALLED BY CONTRACTOR.
19. CONTRACTOR TO INSTALL TEMPORARY FILTERS OVER ALL RETURN AND EXHAUST GRILLES IN WORK AREA DURING CONSTRUCTION.
20. EQUIPMENT THAT REQUIRES MAINTENANCE SHALL BE LOCATED A MINIMUM OF 15'-0" FROM THE BUILDING ROOF EDGE TO OMIT FALL PROTECTION REQUIREMENTS.
21. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF TEMPORARY PARTITIONS.
22. TERMINAL UNITS, MANUAL BALANCE DAMPERS, HYDRONIC AND PLUMBING VALVES, CIRCUIT SETTERS AND OTHER ACCESSORIES REQUIRING ACCESS SHALL BE ACCESSIBLE VIA A STANDARD LADDER SO COMPONENTS MAY BE REPLACED, REPAIRED, OR UTILIZED WITHOUT THE NEED FOR EXTENSIVE CEILING REMOVAL, SCAFFOLDING OR A MAN LIFT. WHERE POSSIBLE NO MORE THAN 48" ABOVE THE FINISHED CEILING.
23. THESE DRAWINGS ARE ACCOMPANIED BY SPECIFICATIONS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

# MECHANICAL SHEET INDEX



| SHEET NO. | SHEET TITLE |
|---|---|
| MP0.01 | MECHANICAL COVER SHEET |
| MP0.02 | MECHANICAL SHEET SPEC |
| MP0.03 | MECHANICAL SHEET SPEC |
| PD1.01 | PLUMBING DEMOLITION PLAN |
| P1.01 | PLUMBING SITE PLAN |
| MD1.01 | MECHANICAL DEMOLITION PLAN |
| M1.01 | MECHANICAL PLAN |
| M1.02 | MECHANICAL ENLARGED PLANS |
| M6.01 | MECHANICAL DETAILS AND SCHEDULES |




SPT ARCHITECTURE
WICHITA, KS
316.267.4002


SHAUN M. CONWAY — LICENSED — 19761 — 06/26/2026 — KANSAS — PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001


PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA, WICHITA, KS 67202
316-262-2691 www.pec1.com


**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

**MECHANICAL COVER SHEET**

**MP0.01**


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**SECTION 200500 – COMMON WORK RESULTS FOR PLUMBING, AND MECHANICAL**

1.1 GENERAL CONDITIONS
- A. The General Conditions, Supplemental General Conditions, Special Conditions and General Requirements in Division 01 are part of this contract and shall be referred to as they apply to this section of the specifications.

1.2 EXAMINATION OF SITE
- A. Visit the site, inspect the existing conditions, and check the drawings and specifications so as to be fully informed of the requirements for completion of the work. Lack of such information shall not justify an extra to the contract price.

1.3 SCOPE
- A. The Mechanical Work shall include labor, materials, and equipment to install systems as shown on plans and hereinafter specified. The installation shall include all labor, materials, tools, transportation, equipment, services, and facilities, required for the complete, proper and substantial installation of all mechanical work shown on the plans, and/or outlined in these specifications. The installation shall include all materials, appliances, and apparatus not specifically mentioned herein or noted on the drawings, but which are necessary to make a complete working installation of all mechanical systems.
- B. Show on prints in red ink all changes from original plans made during the installation. Return these prints to the Architect upon completion of the project.
- C. By bidding, this contractor acknowledges his understanding of the work to be done and agrees to install complete and workable systems.

1.4 CODES
- A. Execute work in compliance with all applicable Federal, State and Municipal laws, codes, ordinances, and local customs regarding the trade to perform the work. The Contractor is required to verify that all installations comply with applicable codes. The codes applicable to this specific project may be listed on the Architect's code compliance sheet. If not, it is the Contractor's responsibility to determine which codes apply to the installations.
- B. Codes shall govern in case of any direct conflict between codes and plans and specifications; except when plans and specifications require higher standards than those required by code. Variance from the plan and specifications made to comply with code must be approved by the Architect. If approved, they shall be made with no increased cost to the Owner.

1.5 DEFINITIONS
- A. It shall be understood that the drawings and specifications complement one another, and items specified shall also meet the criteria set forth on the drawings.
- B. Where any device or item is referred to in the singular sense (such as "the unit"), such reference applies to as many devices as are required to complete the installation as shown on the drawings.
- C. The term "work" shall mean all obligations imposed upon the Contractor by the Contract Documents.

1.6 ABBREVIATIONS

ADA - Americans with Disabilities Act
AGA - American Gas Association
AISI - American Iron and Steel Institute
AMCA - Air Moving and Conditioning Association, Inc.
ANSI - American National Standards Institute
ASHRAE - American Society of Heating, Refrigeration & Air-Conditioning Engineers
ASME - American Society of Mechanical Engineers
ASTM - American Society for Testing and Materials
AWWA - American Water Works Association
BPVC - Boiler and Pressure Vessel Code of ASME
CISPI - Cast Iron Soil Pipe Institute
NFPA - National Fire Protection Association
SMACNA - Sheet Metal and Air-Conditioning Contractors National Association
UL - Underwriters' Laboratories, Inc.
ETL - ETL Testing Laboratories, Inc.
OSHA - Occupational Safety and Health Administration

1.7 PERMITS
- A. Obtain and pay for all licenses and permits, fees, inspection and certificates required for the execution of this work.
- B. Pay fees and charges for connection to outside services and use of property.
- C. Deliver permits and certificates to the Architect for transmittal to the Owner.

1.8 UTILITY SERVICES:
- A. This Contractor shall pay for all expenses, deposits, reimbursements, etc., required by the local rules and codes for the service to the buildings, complete and ready for use.
- B. Consult gas, water, and sewer utility for their requirements and for coordinating with their installation. Contractor shall provide any work thus required beyond that indicated by the drawings and specifications. Contractor shall bear all expense involved for the complete installation of the gas service (both temporary and permanent) to the building ready for operation, including utility service charges, except as specifically excluded on the plans.
- C. This Contractor shall consult all local departments to verify requirements and bid installation for service in accordance with local codes and Utility company rules and regulations.

1.9 RESPONSIBILITY
- A. This contractor will be held responsible for any and all damage to any part of the building or to the work of other contractors, as may be caused through his operation.
- B. The operation and maintenance of the new Mechanical equipment during construction shall be the responsibility of this contractor until the acceptance of the building by the Owner.
- C. The General Contractor shall pay for all fuel cost for operation of the equipment, unless indicated otherwise in the specifications.
- D. The Mechanical and General Contractors shall coordinate to make all provisions for entry of equipment, installed under this Contract, to the installed location. Contractors shall provide openings in existing construction if necessary. Contractors shall perform repairs necessary to restore the building to the original condition. During the period of entry of equipment and removal of trash, no disruption of the Owner's normal business shall occur.

1.10 WORK TO BE DONE BY GENERAL CONTRACTOR
- A. Build in all openings, sleeves, chases, etc., for piping, as established, furnished, and set by this contractor.
- B. Mechanical Contractor shall furnish bolts, brackets, hangers, etc., required for work established and arrange for General Contractor to build into concrete structure. General Contractor shall install all factory sleeved fire dampers, furnished by Mechanical Contractor, in walls and floors.
- C. Frame around and provide openings for ductwork, louvers, roof drains, etc.
- D. Build curb or install factory curb and provide flashing for roof mounted mechanical equipment. Provide heavy steel angle support under entire perimeter of roof curb for rooftop equipment. Metal deck and roof insulation shall be installed within the roof curb area of rooftop equipment for acoustical considerations.
- E. Provide lintels over wall openings.
- F. Build concrete base for equipment furnished and set by this contractor.
- G. Provide concrete housing for sewage ejector and sump pump basins.
- H. Paint all mechanical equipment so specified. Use paint which is specified by the Architect.
- I. Do excavation, provide moisture barrier, sand and/or gravel, tie down wire, and a minimum thickness of 3" of lightweight concrete for installation of duct below grade. Mechanical Contractor shall furnish duct and set in place in preparation for concrete pour.

1.11 WORK TO BE DONE BY ELECTRICAL CONTRACTOR
- A. The Electrical Contractor shall provide all motor starters complete with auxiliary contacts where required for the function of this system unless specifically noted otherwise on the plans or in these specifications.
- B. All required line voltage wiring for the mechanical control system shall be furnished and installed by the Electrical Contractor under supervision of the Control Manufacturer's representative.
- C. Check mechanical specifications to verify wiring requirements for motor driven equipment. Provide complete wiring for the equipment including all required interlocking. Provide complete wiring for power factor correction capacitors.
- D. The Electrical Contractor shall install the power factor correction capacitors furnished by the Mechanical Contractor for equipment so specified.

1.12 ELECTRICAL REQUIREMENTS BY MECHANICAL CONTRACTOR
- A. Mechanical Contractor shall furnish all motors, motor interlocking control devices, certain magnetic starters, etc.
- B. Submittals shall include complete equipment wiring diagrams and temperature control drawings for all the equipment furnished.
- C. Submittals shall show all wiring connections, starters, auxiliary contactors, interlocking selector switches, separate control voltage power supplies, for each and every item of equipment, etc., requiring wiring.
- D. Provide one copy of Engineer approved shop drawings showing all wiring and temperature control requirements of all mechanical equipment to the Electrical Contractor.
- E. Build curb or install factory curb and provide flashing for roof mounted mechanical equipment. Provide heavy steel angle support under entire perimeter of roof curb for rooftop equipment. Metal deck and roof insulation shall be installed within the roof curb area of rooftop equipment for acoustical considerations.
- F. Provide lintels over wall openings.
- G. Build concrete base for equipment furnished and set by this contractor.
- H. Provide concrete housing for sewage ejector and sump pump basins.
- I. Paint all mechanical equipment so specified. Use paint which is specified by the Architect.
- J. Do excavation, provide moisture barrier, sand and/or gravel, tie down wire, and a minimum thickness of 3" of lightweight concrete for installation of duct below grade. Mechanical Contractor shall furnish duct and set in place in preparation for concrete pour.

1.11 WORK TO BE DONE BY ELECTRICAL CONTRACTOR
- A. The Electrical Contractor shall provide all motor starters complete with auxiliary contacts where required for the function of this system unless specifically noted otherwise on the plans or in these specifications.
- B. All required line voltage wiring for the mechanical control system shall be furnished and installed by the Electrical Contractor under supervision of the Control Manufacturer's representative.
- C. Check mechanical specifications to verify wiring requirements for motor driven equipment. Provide complete wiring for the equipment including all required interlocking. Provide complete wiring for power factor correction capacitors.
- D. The Electrical Contractor shall install the power factor correction capacitors furnished by the Mechanical Contractor for equipment so specified.

1.12 WORKMANSHIP AND COORDINATION
- A. Make installation substantially as shown on the plans.
- B. Pipe and duct routing and equipment location shown on the drawings are schematic in nature. Make alterations in location of apparatus or piping as may be required to conform to building construction without extra charge.
- C. Equipment service clearances, per equipment manufacturers' specifications, shall be maintained from general construction. No pipe or ductwork shall be installed within these clearances. No piping, coils, or ductwork shall be installed above electrical panels, starters, or switch gear, or in elevator equipment rooms.
- D. Cooperate with other contractors in their installation of work.
- E. The ductwork shall take precedence over all pipe work except where it is necessary to maintain an even grade or specific slope on the piping.
- F. Use only experienced mechanics.

1.13 MATERIALS
- A. Material and equipment shall be new, of best quality and design and free from defects. A manufacturer's nameplate affixed in a conspicuous place will be required on each major component of equipment stating manufacturer's name, address, and catalog number.

1.14 MATERIALS OF APPROVED EQUAL
- A. Where items of equipment and/or materials are specifically identified herein by a manufacturer's name, model, or catalog number, only such specific items may be used in the base bid, except as hereinafter provided.
- B. Unless requests for changes in base bid specifications are received and approved and noted by addendum prior to the opening of bids, the successful contractor will be held to furnish specified item.
- C. After contract is awarded, changes in specifications shall be made only as defined under "Substitution of Equipment".

1.15 SUBSTITUTION OF EQUIPMENT
- A. After execution of the contract, substitution of equipment of makes other than those specifically named in the contract documents will be approved by the Engineer only if the equipment named in the specifications cannot be delivered to the job in time to complete the work in proper sequence to work of other contractors, due to conditions beyond control of the contractor.
- B. Requests for substitutions must be accompanied by documentary proof of equality or difference in price and delivery, if any, in form of certified quotations from suppliers of both specified and proposed equipment.
- C. The Owner shall receive all benefits of the difference in cost involved in any substitution, and the contract altered by change order to credit Owner with any savings so obtained.

1.16 SUBMITTALS
- A. Contractor shall send to the Architect for approval submittals on all equipment, accessories, and components.
- B. Submittals shall be in electronic format (PDF) and all submittals by each trade shall be submitted together as a package to be reviewed together. Incomplete submittals packages or submittals sections sent in a piecemeal manner will not be reviewed until all sections are received.
- C. Where catalog cuts are used, mark them to indicate equipment, capacities, controls, fittings, valves, sizes, etc.
- D. Reference each item to applicable specification paragraph number and plan sheet number. Reference items not appearing in base specification to applicable alternate numbers, change order numbers, letters of authorization, etc.
- E. All shop drawings shall be checked and signed by the mechanical contractor prior to submittal to the Engineer.
- F. Shop drawings submitted without contractor's signature or approval and verification will not be approved. Quantities will not be checked or verified. It is the contractor's responsibility to provide the proper quantities required to complete the job.
- G. Portions of the work requiring a shop drawing submittal shall not begin until the shop drawing has been approved by the Engineer.
- H. Submit wiring diagrams for all mechanical equipment requiring field wiring clearly showing all required connections.
- I. Engineer's acceptance of Compliance Submittals will not relieve Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless Contractor has in writing called Engineer's attention to such deviation at the time of submission and Engineer has given written approval to the specific deviation, nor shall any acceptance by Engineer relieve Contractor from responsibility for errors or omissions in Compliance Submittals.

1.17 CUTTING AND PATCHING
- A. Notify the General Contractor in ample time, of the location of all chases, sleeves, and any other openings required in connection with the work of this contract.
- B. Cutting and patching made necessary because of failure to comply with the above shall be done by the General Contractor at the expense of the Mechanical Contractor.

1.18 TESTING
- A. Furnish testing equipment and test all piping systems under methods and conditions as specified or per code.
- B. Make all necessary replacements and repair and repeat tests until the entire system is approved and satisfactory.
- C. Test under pressure with liquid or gas as directed or specified.
- D. Refer to TAB and piping sections for further information on duct and pipe testing.

1.19 PAINTING
- A. All painting shall be done by the General Contractor.
- B. Painting shall be for the following items: all piping, ductwork, framework, and all equipment not furnished with factory finish, etc., in all exposed areas of the building and/or as noted on the drawings. Omit painting of piping in tunnels and in concealed areas.

1.20 LABELING
- A. Install mechanically engraved metal or plastic label at equipment, not less than 2-1/2 inches wide by 3/4 inch tall with letters between 1/4 inch and 1/2 inch tall. Utilize labels with pre-drilled holes and stainless-steel rivets or self-tapping screws, or labels with contact-type permanent adhesive.
- B. Identify all service piping which is accessible for maintenance operation with semi rigid plastic markers complete with direction of flow arrows. Each marker must show approved color-coded background, proper color of legend, approved legend letter size and approved marker length. Use snap on or self-adhesive markers on diameters 3/4" thru 5". Use strap-on or self-adhesive on diameter 6" and larger. Locate pipe markers at each valve, each branch and riser takeoff, each passage through wall or floor construction, each passage to underground and at 25-foot intervals on all horizontal pipe runs.
- C. Install valve tags, stamped, or engraved with 1/4" high letters for piping system abbreviation and 1/2" high numbers. and predrilled or stamped holes for attachment hardware.
  1. In existing buildings, coordinate with existing numbering system.
  2. Furnish valve schedule on 8-1/2"x11" paper indicating valve numbering and where valves are installed. Include schedule in Operating and Maintenance Instructions.

| Pipe Diameter | Marker Size | Letter Height |
|---|---|---|
| 3/4" thru 2" | 1"x8" | 3/4" |
| 2-1/4" thru 7-7/8" | 2-1/4"x13" | 1-3/4" |

1.21 OPERATING INSTRUCTIONS
- A. Prepare and submit to the Engineer for approval operating instructions made in conjunction with Equipment Manufacturer's representative. Instruction shall contain equipment starting sequence, interlocks, controls, switches, etc. which affect the equipment operation. Place copies in maintenance instructions brochure.

1.22 MAINTENANCE INSTRUCTIONS
- A. Prepare a brochure covering all systems and equipment furnished and installed under this contract. Each brochure shall include certified equipment drawings and/or catalog data as submitted, complete maintenance instructions, parts lists for each item of equipment, any special emergency operating instructions, all equipment warranties with starting dates identified, and a list of service organizations including addresses and telephone numbers.
- B. Label cover with the following:
  1. Project name and address
  2. Section of work covered by brochure, i.e., "Plumbing Heating, Ventilation, Air Conditioning", etc.
  3. Name and address of Architect, Engineer, Contractor.
  4. Telephone number of Contractor including night and emergency numbers.
- C. Brochures shall be submitted to the Engineer for approval and delivery to the Owner.

1.23 LOOSE EQUIPMENT
- A. All keys and special wrenches furnished with the equipment shall be kept in a safe place during construction and presented to the Owner at the completion of the project.

1.24 FINAL INSPECTION
- A. Final inspection will be made upon written request from the Mechanical Contractor after the project is completed and Test and Balance (TAB) has been complete.
- B. Furnish a workman familiar with this project to accompany the Engineer on final inspection and have available ladders, drop cords, and other equipment as required to gain access to any portion of this system.
- C. Submit TAB Report to Engineer for review at least 5 days prior to final inspection.
- D. This contractor and his principal sub-contractors shall be represented at the inspection by a person of authority responsible to demonstrate to the Engineer that his work conforms to the intent of the plans and specifications.
- E. Extra inspections made necessary by the Mechanical Contractor's failure to comply with the conditions as set forth above shall be charged to the contractor at the inspector's time both on the job and spent in travel between the office and the project site.

1.26 GUARANTEE
- A. Guarantee all work, material and equipment for a period of one year after date of final certificate of acceptance by the Architect.
- B. During the year guarantee period the mechanical contractor shall be responsible for any defects which develop in the mechanical systems. Upon notification of a defect by the Architect, the Contractor shall make immediate effort to correct it and shall notify the Architect when this work is completed.
- C. Repairs and/or replacements shall be made with no cost to Owner.

**SECTION 200600 – MATERIALS AND METHODS COMMON TO PLUMBING, AND MECHANICAL.**

1.1 PIPING SYSTEMS - GENERAL
- A. Pipe for piping systems shall be cut accurately to measurements taken on the job.
- B. Install offset connections for alignment of vertical to horizontal piping wherever required to make a true connection.
- C. Make branch connections with offsets to provide for movement with the expansion of the piping system.
- D. Install horizontal piping parallel to the building walls and partitions.
- E. Do not run piping through elevator equipment rooms, transformer vaults or other electrical equipment spaces (unless the piping serves that room) or above electrical gear or panels.
- F. Valves, strainers, control valves, check valves and fittings shall be full size of the line they serve. Make change in pipe size noted on plans after last fitting on larger pipe. When supply pipes are larger than equipment tappings, reduce pipe size immediately prior to equipment connection.

1.2 PIPE AND FITTINGS
- A. Each piece of pipe must be clearly labeled or stenciled with manufacturer's name, type of pipe and length, in accordance with ASTM standards. All pipe must be new. Re-processed pipe which has been cleaned and re-finished due to extended yard storage will not be accepted. All pipe must be corrosion free. Submit shop drawings on piping along with certified mill specifications.
- B. Mechanically Formed Tee Connections: (Optional)
  1. Mechanically extracted collars shall be formed in a continuous operation consisting of drilling a pilot hole and drawing out the tube surface to form a collar having a height of not less than three times the thickness of the tube wall. The collaring device shall be fully adjustable as to insure proper tolerance and complete uniformity of the joint.
  2. The branch shall be notched to conform with the inner curve of the run tube and dimpled to ensure penetration of the branch tube into the collar is of sufficient depth for brazing and that the branch tube does not obstruct the flow in the main line tube.
  3. All joints shall be brazed in accordance with the Copper Development Association Copper Tube Handbook using B-cup series filler metal.
  4. Note: Soft Soldered joints will not be permitted.
- C. Polyvinyl Chloride Pipe and Fittings conform to ASTM D2665.
- D. Cast Iron Soil Pipe and Fittings: weight in compliance with Specification; ASTM A-74 carrying the insignia of the Cast Iron Soil Pipe Institute.
- E. Cast Iron No-hub Pipe and Fittings: conform to Standard 301 of the Cast Iron Soil Pipe Institute.
- F. Copper tubing: seamless copper water tube conforming to ASTM Standard Specification B88.
- G. Black or Galvanized Steel Pipe and Fittings: For pipe 2" and smaller A-120/A53 continuous weld pipe, threaded and coupled, with 150# cast iron screwed fittings. For steel nipples close and short use extra strong weight.
- H. For black steel pipe 2 1/2" and larger A53 Grade B ERW electric resistance welded pipe, beveled plain end, with ASTM A234 butt weld fittings. Flanges for steel pipe ASA-B 16.5 flat face, 150# welding neck. For galvanized pipe 2 1/2" and larger use 150# cast iron screwed fittings.
- I. Weld in accordance with American Welding Society Code. Mitering and notching of pipe to form elbows and tees is not permitted.
- J. PEX Plumbing Tube and Fittings: All pipe shall be high-density crosslinked polyethylene. Pipe shall conform to ASTM F876, ASTM F877 CSA B137.5, NSF/ANSI 14 and NSF/ANSI 61. Pipe shall be certified by PPI to standard TR-3, with applicable plumbing and mechanical code certifications and shall be manufactured in an ISO 9001 certified production facility. All Fittings shall be third-party certified to applicable standards ASTM F877, NSF/ANSI 14, NSF/ANSI 61 and CSA B137.5 and approved by the manufacturer's PEX piping system, with applicable plumbing and mechanical code certifications. Where fittings are encased in concrete or buried underground, fittings shall be wrapped as per manufacturer's recommendation to protect the material. Distribution manifolds shall be manufactured of copper and be supplied by the piping manufacturer as a proven cataloged part of the manufacturer's system. Copper manifolds shall be manufactured from Type L copper. Manufacturers: Apollo, NIBCO, Rehau, Viega, Watts, Uponor, Zurn, or pre-approved equal.

1.3 HANGERS AND SUPPORTS
- A. Use strap type pipe ring hangers on pipe up thru 3" equal to Grinnel Fig. 69 or CT-69. Use standard duty clevis hangers on piping larger than 3" equal to Grinnel Fig. 260.
- B. Use inserts or supporting members in construction above for overhead suspension. Set inserts or supporting members for hangers in form for concrete construction. Use expansion inserts only where approved by the Architect's inspector.
- C. Use heavy welded steel brackets for wall suspension. Mount brackets and wall supports on masonry walls with bolts through the wall and a suitable steel back plate on the back of the wall.
- D. Provide all surface mounted and concealed unistrut for pipe supports in all equipment rooms and above ceilings for pipe and duct mounting. Unistrut shall all be at a minimum of heavy 12 ga., 1-5/8" construction. Contractor shall insure adequate support of each unistrut section based on the load that section is to handle.
- E. Support fire protection piping independent of all other piping.
- F. Size hangers on insulated pipe 3" and smaller to fit the pipe. Use copper plated hangers for copper pipe. Size hangers on insulated pipe 4" and larger to fit the insulation and provide pipe sleeves and high density insulation inserts as specified under "Insulation and Pipe Covering".
- G. Space hangers 8'-0" on center for steel, iron, and copper pipe up to 1".
- H. Space hangers 10'-0" on center for steel, iron, and copper pipe above 1".
- I. Space hangers 5'-0" on center for cast iron soil pipe.
- J. Space hangers 4'-0" on center for PVC.
- K. Space hangers 32" on center for PEX.
- L. Mount piping so that all runs are parallel and evenly spaced.
- M. Except as otherwise indicated, provide factory-fabricated vertical-piping clamps complying with MSS SP-58, of one of the following types listed, selected by Installer to suit vertical piping systems, in accordance with MSS SP-69 and manufacturer's published product information. Select size of vertical piping clamps to exactly fit pipe size of bare pipe. Provide copper-plated clamps for copper-piping systems.
- N. Two-Bolt Riser Clamps: MSS Type 8.
- O. Except as otherwise indicated, provide factory-fabricated hanger-rod attachments complying with MSS SP-58, selected by Installer to suit horizontal-piping hangers and building attachments, in accordance with MSS SP-69 and manufacturer's published product information. Use only one type by one manufacturer for each piping service. Select size of hanger-rod attachments to suit hanger rods. Provide copper-plated hanger-rod attachments where attachments are in direct contact with copper piping.
- P. Except as otherwise indicated, provide factory-fabricated building attachments complying with MSS SP-58, selected by Installer to suit building substrate conditions, in accordance with MSS SP-69 and manufacturer's published product information. Select size of building attachments to suit hanger rods. Provide copper-plated building attachments where attachments are in direct contact with copper piping.
- Q. Install hangers and supports to allow controlled movement of piping systems and to permit freedom of movement. Resting of pipe in framing or structural members is not permitted.
- R. Load Distribution: Install hangers and supports so that piping live and dead loading and stresses from movement will not be transmitted to connected equipment.
- S. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes, and so that maximum pipe deflections allowed by ANSI B31 are not exceeded.
- T. Insulated Piping: Comply with the following installation requirements:
  1. Clamps: Attach clamps, including spacers (if any), to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ANSI B31.
  2. Shields: Where low-compressive-strength insulation or vapor barriers are indicated on cold or chilled water piping, install coated protective shields.
  3. Saddles: Where insulation without vapor barrier is indicated, install protection saddles.

1.4 VALVES
- A. Provide all valves required for operation, service, and maintenance of systems and equipment, i.e., shut off valves both sides of equipment, coils, etc.
- B. Where Used:
  1. Domestic and Hydronic Piping shut-off valves 2" and smaller shall be ball valves
  2. Domestic and Hydronic Piping shut-off valves 2-1/2" and larger shall be butterfly valves.
  3. Valves in air lines and throttling valves shall be globe valves.
  4. Flow control valves shall be plug valves.
  5. Steam piping shut-off valves shall be globe or gate valves. On low pressure applications, at the appliance or 2" or smaller, ball valves are acceptable, UNO.
  6. Steam piping valves 2-1/2" and larger shall be gate valves.
- C. Ball Valves:
  1. Ball valves two inches and smaller shall have a forged bronze body with screwed pipe ends for steel pipe and sweat ends for copper pipe. Body shall be two-piece assembly full port. Hard chrome plated brass ball or stainless steel ball with full port flow, self-aligning and free floating between two Viton seats (300 psi) to provide positive seal in either direction. Stem shall be brass or stainless steel and extended 1 1/4" above the valve to clear insulation and to receive molded packing brass packing nut and handle nut. Handle shall be constructed of zinc plated steel with partial plastic coating. Valve shall be rated for 150 psig at 180°F.
- F. Check Valves:
  1. Unless a composition disc is specified, swing check valves two inches and smaller shall be bronze, regrinding, with seating angle 40 to 45 degrees. A stop plug is required as a renewable stop for the hanger, unless otherwise specified. Disc and hanger shall be separate parts, and the disc shall be free to rotate. Hanger pins shall be supported on both ends by removable side plugs.
  2. Lift check valves two inches and smaller shall be bronze or forged steel, to suit the service.
  3. Check valves 2 1/2 inches and larger shall be flanged, swing type, unless otherwise specified.
- G. Standard valves shall have 125 psi. working steam pressure or 200 psi. for water, oil and gas.
- H. Sweat joint valves shall be used on all copper pipe.
- I. Bronze valves with the basic saturated steam rating of 125 psi or 150 psi shall have pressure containing parts of a material having at least the physical properties of ASTM Specification B-62. Metallic seated bronze globe, angle, check and gate valves with a basic steam rating of 200 or 300 psi shall have pressure containing parts of material conforming to ASTM Specification B-61, for temperatures to 550°F.
- J. Stems of bronze and Iron Bodied Bronze Mounted valves shall be of ASTM-B-198 Class 13C (cast silicon brass), ASTM B-371, Alloy A (rolled silicon brass), or other material equally resistant to dezincification.
- K. All pressure casting shall be free of any impregnating materials.
- L. Each valve is to be given shell and seat tests by the manufacturer and will carry a permanently affixed indication that tests have been successfully completed.
- M. Insofar as possible, all valves of the same type shall be of the same manufacturer. Before purchasing any valve, contractor shall submit for approval the name of the manufacturer, the figure number which he proposes to furnish, and engineering data on each figure number, if not using those specified. The intent of this requirement is to obtain the most suitable valve for each service. Nonstandard valves will not be considered.
- N. Pressure Independent Control Valves for Hydronic Systems.
  1. Manufacturer: Danfoss, Belimo or an approved equal.
  2. Capacity: Flow rate to match equipment served, regardless of system pressure fluctuation, within ± 5%. Control range shall be 1 to 14 PSI, 2 to 32 PSI, 4 to 57 PSI or 8 to 128 PSI depending on location within the piping system.
  3. Submittal shall include a schedule which delineates the control range for each specific flow controller at every unit along with the valve size.
  4. Valve shall include all internal working parts shall be of passivated stainless steel or nickel plated brass. The valve shall be tamperproof when installed. Body pressure tappings suitable for pressure gauge and thermometer installation and verification of pressure differential across valve orifice shall be provided - Bronze body - 150 PSI and 250°F rating - Units 1 1/2" and smaller located at coils shall have female threaded ball valve with lever handle on system side of controller for isolation with female sweat connection on unit side. A metal identification tag on chain will be provided for each valve. The tag will give valve model number, rated flow GPM, absorption range. Units 3" and above shall be gray iron body Class 150 for flanged installation.

1.5 JOINTS
- A. Provide joints of type indicated in each piping system.
  1. Full and clean cut.
  2. Ream to the full inside diameter of the pipe with all burrs removed.
  3. Sweat joints in copper tubing - with 95-5 solder.
  4. Thread pipe in accordance with ANSI B2.1; cut threads full and clean using sharp dies. Ream threaded ends to remove burrs and restore full inside diameter. Apply pipe joint compound, or pipe joint tape (Teflon) where recommended by pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than 3 threads exposed.
  5. Braze copper tube-and-fitting joints where indicated, in accordance with ANSI B31.
  6. Solder copper tube-and-fitting joints where indicated, in accordance with recognized industry practice. Cut tube ends squarely, ream to full inside diameter, and clean outside of tube ends and inside of fittings. Apply solder flux to joint areas of both tubes and fittings. Insert tube full depth into fitting, and solder in manner which will draw solder full depth and circumference of joint. Wipe excess solder from joint before it hardens.
  7. Copper Pressure Seal Joint fittings shall be in accordance with ASME B16.18 or ASME B16.23.
- B. Use insulating unions on HVAC and domestic water lines where steel and copper pipe are jointed.
- C. Use brass ferrules on plumbing systems where dissimilar metals are joined.

1.6 UNIONS
- A. Unions 2" and Smaller (150 WSP - 200 WOG): Standard Weight brass to iron seat malleable iron body with screwed ends.
- B. Unions 2 1/2" and Larger: (125 PSI WSP) Standard cast iron body with flanged ends.
- C. Install wherever necessary for repair, replacement, or service of the equipment or system.

1.7 SLEEVES AND COVER PLATES
- A. Install for all pipes passing through floors, walls, or partitions. Size sleeves large enough to allow for free movement of the pipes with expansion.
- B. Floor sleeves: 20-gauge galvanized sheet metal flanged at the bottom and attached to the forms before concrete is poured (straighten sleeve after floor is poured).
- C. Sleeves for insulated pipe passing through walls or partitions: 24-gauge galvanized sheet metal with plaster bead set flush with the wall finish.
- D. Sleeves for uncovered pipe passing through walls or partitions: Galvanized steel pipe sleeves, extending outside of the wall finish as required to attach the cover plates.
- E. Sleeves for basement walls or floors: Provide "Link-Seal" as manufactured by GPT or silicone pressure sealants as manufactured by General Electric or Dow Chemical Co., field applied under the direction of the local Manufacturer's Representative.
- F. Provide chrome plated brass cover plates attached to the sleeves independent of the pipe on all pipes which pass through floors, walls, ceilings, and partitions in finished rooms.
- G. Provide pipe escutcheons as specified herein with inside diameter closely fitting pipe outside diameter, or outside of pipe insulation where pipe is insulated. Select outside diameter of escutcheon to completely cover pipe penetration hole in floors, walls, or ceilings; and pipe sleeve extension, if any. Furnish pipe escutcheons with nickel or chrome finish for occupied areas, escutcheons not required for unoccupied areas.
- H. Pipe Escutcheons for Moist Areas: For waterproof floors, and areas where water and condensation can be expected to accumulate, provide cast brass or sheet brass escutcheons, solid or split or split hinged.
- I. Pipe Escutcheons for Dry Areas: Provide sheet steel escutcheons, solid or split hinged.
- J. Install pipe escutcheons on each pipe penetration thru floors, walls, partitions, and ceilings where penetration is exposed to view, and on exterior of building. Secure escutcheon to pipe or insulation so escutcheon covers penetration hole and is flush with adjoining surface.

1.8 FIRE BARRIER THROUGH PENETRATION PROTECTION SYSTEMS
- A. Manufacturer: Subject to compliance with requirements, provide fire barrier penetration seals of one of the following:
  1. 3M Fire Protection Products
  2. Hilti Corp.
- B. Provide seals for any opening through fire-rated walls, floors, roof, or ceilings used as passage for mechanical components such as piping or ductwork.
- C. Cracks, Voids or Holes Up to 4" Diameter: Use putty or calking, one-piece intumescent elastomer, non-corrosive to metal, compatible with synthetic cable jackets, and capable of expanding 10 times when exposed to flame or heat, UL-listed.
- D. Openings 4" or Greater: Use sealing system capable of passing 3-hour fire test in accordance with ASTM E-814, consisting of wall wrap or liner, partitions, and end caps capable of expanding when exposed to temperatures of 250 to 350°F (121 to 177°C), UL-listed.
- E. Execution: Fill entire opening with sealing compound. Adhere to manufacturer's installation instructions.

**SECTION 200700 - INSULATION**

1.1 PIPE COVERING
- A. Manufacturers: Johns Manville - Owens Corning - CertainTeed - Knauf.
- B. Features: All completed insulation of pipe and fittings shall have the following Underwriters Laboratories Fire Hazard Classification:
  1. Flame spread not to exceed - 25.
  2. Fuel contributed not to exceed - 50.
  3. Smoke developed not to exceed - 50.
- C. Four (4 lb.) density glass fiber insulation used for all pipe covering in this section shall have a maximum "K" factor of .23 at 75° F. mean temperature.
- D. Prepare all exposed insulated covering for painting. Apply insulation over clean dry surface. Butt all longitudinal joints tightly together. Insulate domestic hot and domestic cold water and condensate drains in their entirety. Rain leaders need not be insulated below grade.
- E. Domestic Water Pipe, insulate with fiber glass insulation following:

| PIPING SYSTEM | THICKNESS (IN.) |
|---|---|
| Domestic hot water supply and recirculation | |
| 1-1/4" pipe size and smaller | 1.0 |
| 1-1/2" pipe size and larger | 1.5 |
| Domestic cold water supply (all sizes) | 1.0 |

- F. Outdoor Piping (exposed to weather): Use the same insulation for interior exposed pipes carrying the same product and add: a jacket of .032 embossed aluminum with factory applies vapor barrier. Finish fittings with Foster Sealfas G-P-M 35-00 reinforced with Foster Mast-a-Fab.
- G. Refrigerant Suction Lines: insulate with 1" thick and condensate drain lines with 1/2" thick Armstrong AP Armaflex, applied in strict accordance with manufacturer's instruction. Finish all exposed piping with two coats of white Armstrong Armaflex finish. Manville Aerotube or Owens-Corning O.C. flexible tubing approved equal.

1.2 EQUIPMENT
- A. Insulate roof drain sumps, with Armstrong Armaflex II sheet insulation 1/2" thick. Apply in accordance with manufacturers recommendations.
- B. Prepare all exposed insulated covering for painting. Apply insulation over clean dry surface. Butt all longitudinal joints tightly together.

1.3 DUCT LINER (INTERNAL)
- A. Manufacturers: Johns Manville – Owens Corning - CertainTeed - Knauf.
- B. Internal Liner Thickness:

| DUCTWORK SYSTEM | THICKNESS (IN.) |
|---|---|
| Low velocity, rectangular supply | 1.0 |
| Low velocity, rectangular return | 0.5 |
| Ductwork routed in unconditioned building spaces | 1.5 |
| Return air transfer ducts | 1.0 |
| Ductwork located exterior to the building, liner thickness listed plus 2" external rigid glass board insulation with vapor retarder jacket, cover with membrane duct jacket and aluminum jacket. Caulk all seams. | 1.0 |
| Rectangular exhaust ducts for last 15 feet before fan in all directions | 0.5 |

- C. Liner shall be Type I per ASTM C 1071 and have a NRC not less than 0.45 as tested per ASTM C423, with a minimum density of 2 pounds per cubic foot and a maximum "K" factor of 0.26 at 75°F mean temperature. The liner air stream surface coating shall contain an EPA registered, anti-microbial agent.
- D. Use mechanical fastening of Graham Welded pins, or Stick-Klips on maximum 16" centers at top sections when width exceeds 12" and on sides when height exceeds 24".
- E. Manufacturers shall print density and thickness on face of duct liner.
- F. Duct liner shall have an Underwriters Laboratories flame spread rating not to exceed 25, fuel contributed rating not to exceed 50, and smoke developed rating not to exceed 50.
- G. DUCT SIZES ON DRAWINGS ARE FOR DIMENSIONS INSIDE OF LINING AND SHEET METAL SIZE SHALL BE INCREASED ACCORDINGLY.
- H. Adhesive and Application:
  1. Adhere liner to interior sides of duct with minimum 90% coverage of fire retardant adhesive.
  2. Apply a brush width of Foster's Fire Retardant Coating over all joints, visible cut edges and leading edges of insulation to prevent fiber erosion.
  3. Apply with coated side to air stream in cut to fit pieces fastened to interiors of duct with adhesive. Coat all exposed edges with adhesive.
  4. Adhesives shall be approved and listed by Underwriters Laboratories and shall bear the U. L. Label.

1.4 DUCT WRAP INSULATION (EXTERNAL)
- A. Manufacturers: Johns Manville - CertainTeed - Owens Corning - Knauf.
- B. Insulate externally all concealed round ducts and rectangular outdoor air ducts with 0.75-pound per cubic foot minimum density fiberglass ductwrap with a Foil-scrim Kraft vapor barrier applied with outward-clinching staples.
- C. The duct insulation shall have Underwriters Laboratories flame spread rating not to exceed 25 - fuel contributed rating not to exceed 50 - smoke developed rating not to exceed 50.
- D. Insulation shall be continuous through partitions, coils, etc. Insulate fire damper sleeves to partitions.

1.5 DUCT INSULATION APPLICATION AND THICKNESS
- A. Ductwork insulation minimum R-values to comply with the latest adopted year of ASHRAE/IESNA 90.1, based on Climate Zone and duct location. If not adopted, utilize 90.1-2016 values: Exterior Ducts: R-12, Fully Ducted Plenums: R-6, and Un-ducted (Return Air) Plenums: R-1.9.
- B. Duct Wrap Insulation Thickness:

| DUCTWORK SYSTEM | THICKNESS (IN.) |
|---|---|
| Non-hospital, Low velocity, round/oval supply | 1.5 |
| Non-hospital, Round supply and return exposed to Outdoor Air or Exterior to Building | 3.0 |
| Exhaust fan discharge duct between backdraft / isolation damper and exterior opening | 1.5 |
| Combustion Air Duct | 2.0 |

**SECTION 220400 - PLUMBING**

1.1 DOMESTIC WATER PIPING
- A. Domestic hot, cold and recirculated water pipe: From 5'-0" outside of the building wall, below grade use ASTM B 88 Type "K" hard drawn copper tube with wrought fittings. Above grade use ASTM B 88 Type "L" hard drawn copper tube with wrought fittings. Below concrete floors within the building use soft annealed Type "K" copper tubing with no fittings.
- B. Install water hammer arrestors per PDI-WH 201 and where indicated on the plans.
- C. Test under 130 psi hydrostatic pressure.

1.2 CLEANING AND TREATING DOMESTIC WATER SYSTEM
- A. Sterilize domestic hot and cold-water systems to meet State Board of Health requirements. Prior to treatment flush the system of all dirt and foreign matter, then fill with water treated with 50 ppm of chlorine. Open all valves and faucets several times during the flushing and treatment filling processes. Leave treated water in the systems for 24 hours. Test the chlorine content at the end of this period and if exceeding 10 ppm, flush the system; if less than 10 ppm, repeat the sterilization process. After sterilization, flush the systems with clean water until the chlorine content is no greater than 0.1 ppm. After sterilization, obtain State Board of Health approval on samples of water taken from the systems or repeat the sterilization process until approval is obtained.
- B. In addition to sterilization testing, samples shall be collected at the city supply and at all tap locations for testing of lead content to ensure compliance with EPA regulations.

1.3 WALL HYDRANT
- A. Woodford Model 67, 3/4" exposed non-freeze wall hydrant to suit wall size with ASSE 1052 integral backflow preventer, loose key operator - bronze casing and bronze interior components, nickel-bronze face. Equivalent Josam –J.R. Smith - Mifab - Wade – Zurn - Prier.

1.4 SANITARY WASTE PIPING
- A. Grade all waste piping less than 4" in diameter at a uniform fall of not less than 1/4" per foot. Grade piping 4" diameter and greater 1/8" per foot with approval of Administrative Authority.
- B. Install cleanouts at the base of all vertical stacks, changes in direction, where necessary for easy cleaning, and as indicated on the plans.
- C. Size cleanouts the full size of the pipe.
- D. Branch connections and changes in direction made with 45 degree "Y" fittings or long sweep ells, except only that sanitary tees or short sweep ells may be used on vertical stacks and closet connections.
- E. Provide means for expansion in vertical stacks to roof.
- F. Extend vent stacks full size through the roof.
- G. Install vent connections on all fixtures, traps, and equipment connected to the soil and waste system and extend vertical not less than 3'-6" above the floor line before connecting to any horizontal run.
- H. Conceal vent lines within the building and extend one foot above roof line.
- I. Use standard cast iron soil pipe and fittings with No-Hub joints for waste pipe within the building, and gasketed joints under the building, and to a point 5'-0" outside the building.
- J. If there are no return plenums in the building, it is acceptable to use Schedule 40 solid wall PVC plastic pipe with solvent welded DWV fittings for waste pipe located above floor slab within the building and to a point 5'-0" outside the building.
- K. Below grade waste pipe can be either cast iron as noted above or Schedule 40 solid wall pipe PVC pipe with solvent welded DWV fittings.
- L. Test soil, waste, and vent piping systems with 10 ft. water column.

1.5 VENT PIPING
- A. Use cast iron pipe with no-hub joints.
  1. Schedule 40 solid wall PVC/DWV plastic pipe with solvent welded DWV fittings will be allowed only in ducted return applications. Plastic pipe is not allowed in return air plenums.

1.6 FLASHING
- A. Flash plumbing vents through roof per roofing manufacturer's recommendations.

1.7 DRAINS
- A. Manufacturers: Wade - Zurn - Josam - J. R. Smith - Mifab.
- B. General Floor Drains: Cast iron floor drain with seepage flange and round nickel bronze strainer. 2" outlet shall have a 5" strainer, 3" outlet shall have a 6" strainer, 4" outlet shall have an 8" strainer.
- C. Accessories: Trap guard on all floor drains subject to evaporation by Pro Set or equivalent. Cast iron soil-P-trap, deep seal. Backwater valves on all drains installed below grade as required.

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**USD 460 HESSTON MIDDLE SCHOOL**
**HESSTON, KS**

PERMIT SET 06.26.2026

**MECHANICAL SHEET SPEC**

**MP0.02**

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1.08 GAS PIPING
- A. Gas pipe above grade shall be Standard Sch 40 black steel piping ASTM A53/A53M.
- B. Joints: Pipe 2" and smaller shall have standard threaded fittings. Pipe 2 1/2" and larger shall have welded fittings.
- C. Gas pipe in locations that are not accessible shall be continuous with no fittings or unions. Pipe shall be fully welded where applicable.
- D. Underground gas piping shall be Sch 40 black steel piping with ASTM A234/A234M forged steel welded fittings and ASME B31.9 welded joints. Provide AWWA C105 polyethylene jacket or double layer, half-lapped 10mil polyethylene tape.
- E. Install gas cock external to the building, on each gas line entering the building and at each piece of equipment served.
- F. Gas Cocks 2 Inch and Smaller: 150 psi WOG, bronze body, straightaway pattern, square head, threaded ends.
- G. Gas Cocks 2-1/2 Inch and Larger: MS SP-78; 175 psi, lubricated plug type, semi-steel body, single gland, wrench operated, flanged ends.
- H. Install a dirt leg and union for a rigid connection to each gas appliance unless noted otherwise on drawings.
- I. Gas piping on the roof shall be supported at a minimum of 10'-0" on centers and at every change of direction.
- J. Test gas piping in accordance with NFPA 54.

1.09 GAS DOMESTIC WATER HEATER
- A. Manufacturers: A. O. Smith – Bock – Bradford White - Lochinvar – PVI – Rheem -State.
- B. Capacity: As scheduled on the plans.
- C. Features: Glass lining permanently bonded to heavy steel tank - magnesium anode rod - factory insulated and covered with cold rolled steel jacket with white baked enamel finish - 3-year warranty - tank constructed and guaranteed to 150 psi. working pressure - quiet drilled port gas burner - safe lighting - thermostat with 100% safety shut off - gas pressure regulator, flue collector and draft hood - ASME construction on units above 200 MBH input or over 120-gallon storage (85 gallon in Kansas)– U.L. Listed.
- D. Pressure/temperature relief valve with ASME label - extend tell-tale line from relief valve to the nearest floor drain.
- E. Domestic water expansion tank: Amtrol, Bell and Gossett, A.O. Smith, State, Taco or equal. Steel, pressure rated tank constructed with welded joints and factory-installed butyl-rubber diaphragm. Include air precharge to minimum system operating pressure at tank.

1.10 CONDENSATE DRAIN PIPING (COOLING COIL DRIP)
- A. Type M copper pipe with sweat drainage fittings, Schedule 40 steel pipe with screwed drainage fittings or Schedule 40 PVC plastic pipe with solvent welded fittings.
- B. Pitch all horizontal lines to drain at a minimum fall of 1" per 10 feet of run.
- C. Provide air trap at each equipment connection.

**SECTION 230593 - AIR TEST AND BALANCE**

1.1 SCOPE
- A. The Mechanical Contractor shall procure the services of an independent air balancing agency, fully certified with the National Environmental Balancing Bureau (NEBB) to test air moving equipment and air distribution and exhaust systems and to supervise the balance and adjustment of these systems. All work shall be done under direct supervision of a qualified and licensed Heating and Ventilating Engineer. The mechanical contractor shall provide workmen of the proper trade to make adjustments to the systems as determined by the Engineer. The Contractor shall provide access as required, including any necessary scaffolding, and shall cooperate with testing laboratory personnel. All instruments used in this work shall be accurately calibrated and maintained in good working order. If requested the tests shall be conducted in the presence of the Mechanical Engineer responsible for the project and/or his representative. Air balance and testing shall not begin until the system has been completed and is in full working order. The Contractor shall put all heating, ventilating, and air conditioning systems and equipment into full operation 24 hours prior to the onset of testing and balancing and shall continue the operation of same during each working day until the completion of all test and balance work. The Contractor shall award the test and balance contract upon receipt of his contract to proceed with the air conditioning installation, to allow the Air Balance and Testing Engineer to schedule his work in cooperation with other trades involved and comply with completion date. Upon completion of the air conditioning system installation, the Air Balance and Testing Engineer shall perform the following tests, supervise adjustments and system modifications, and compile the test data as required for evaluation and approval.
- B. In addition to procuring the services of an air balancing engineer as hereinafter specified the mechanical contractor shall:
  1. Clean air filters, ductwork, coils, fans, etc. in the air system to remove all construction dust and debris.
  2. Start, lubricate and balance all fans. Change and/or adjust drive pulleys on fans to give required capacity.
  3. Supply and install all balancing dampers as required for final balancing as determined by the balancing engineer.
  4. Furnish workmen familiar with this project and of the proper trade to assist the balancing engineer in the air and water balancing. Also make available subject to request by the balancing engineer trained servicemen of the control and equipment suppliers to assist as needed during the testing of their portion of the project.
  5. Furnish plans, operating manuals, and shop drawings of all equipment installed for use by the Air and Water Balancing Agency.
  6. Have all systems in full operation a minimum of 24 hours before Balancing Engineer arrives on job.

1.2 AIR SYSTEM TEST AND BALANCE PROCEDURE
- A. Procedure:
  1. Bring all fans to design RPM.
  2. Bring air volume in each air handling system to the design air volume using pitot tube transverse method.
  3. Test and record fan motor data.
  4. Bring air diffusers and registers to design CFM.
  5. Make recommendations for system modifications and adjustments required to facilitate proper system balancing as determined by preceding test.
  6. Retest and readjust all system segments affected by system modifications.
- B. If any issues arise during the test and balance procedure that prevent it from being properly completed, bring issues to owner and engineer before submitting report to investigate.

**SECTION 230800 - AIR DISTRIBUTION**

1.1 DEFINITIONS
- A. Low Velocity Ductwork: Supply, return, make-up, and exhaust ductwork systems that are sized at 2,000 FPM or lower.
- B. Medium Velocity Ductwork: Supply ductwork systems sized at greater than 2,000 FPM to 3,000 FPM.
- C. Low Pressure Ductwork: Ductwork connected to fan systems with a 2" w.c. or less deadhead rating.
- D. Medium Pressure Ductwork: Ductwork connected to fan systems with greater than 2" w.c. and less than 6" w.c. deadhead rating.
- E. High Pressure Ductwork: Ductwork connected to fan systems with 6" w.c. or greater deadhead rating.

1.2 PERFORMANCE REQUIREMENTS
- A. Duct construction, including sheet metal thicknesses, seam and joint construction, reinforcements, and hangers and supports, shall comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" and performance requirements and design criteria indicated in "Duct Schedule" Article.
- B. All work shall comply with the Mechanical Codes.
- C. Structural Performance: Duct hangers and supports [and seismic restraints] shall withstand the effects of gravity [and seismic] loads and stresses within limits and under conditions described in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" [and] [ASCE/SEI 7].
- D. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

1.3 SHEET METAL DUCT WORK CONSTRUCTION
- A. The work under this heading includes all sheet metal work as required to complete supply and exhaust systems including ducts, housings, ventilating hoods, exhaust hoods, louvers, dampers, grilles, diffusers, registers, access doors, access panels, etc.
- B. Duct material shall be galvanized steel unless noted otherwise on the drawings.
- C. Seal all ducts to Seal Class A per SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"
- D. Make ductwork and installation in conformance with the applicable local Mechanical Code and Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) HVAC Duct Construction Standards (Latest Edition) amended as follows:
  1. Seal all transverse joints, fittings, connections, and seams with Hardcast DT tape and FTA adhesive, Hardcast AFG-1402 "Foil-Grip" applied per manufacturers instructions, or brushed-on liquid based joint and seam sealant.
  2. Make all branch connections with 45° entry clinch collar.
  3. Round branch duct take-offs shall be high efficiency takeoffs (HETO), made with 45° entry clinched collar and rectangular to round transition. If damper is provided with HETO, it shall meet the requirements of the manual balance damper section below.
- E. Use square type elbows with turning vanes for changes in direction and fittings for branch ducts. Radius elbows may also be used for duct changes in direction, refer to drawings.
- F. Offset ducts to clear pipes and obstructions.
- G. Patch all duct holes airtight after installation.
- H. All round ductwork shall be a minimum of 26 gauge sheet metal or heavier as required by SMACNA and the Mechanical Code.
- I. Exposed Spiral Ductwork:
  1. Provide factory-fabricated duct and fittings, manufactured on automatic spiral duct forming machines, for round (spiral) low, medium and high velocity duct systems.
  2. Round and Oval Ductwork: Construct of galvanized sheet steel complying with ASTM A527 by the following methods and in minimum gages listed.
- J. Duct up to 14" diameter shall be a minimum gage of 26.
- K. Duct Cleaning: Clean new and existing duct system(s) before testing, adjusting, and balancing.
- L.

1.4 FLEXIBLE CONNECTIONS
- A. Duct connections to fans and where noted elsewhere on plans, shall be sound and vibration isolation flexible connections made with fire resistant, water proof heavy glass fabric with double coating of neoprene as manufactured by Ventfabrics, Inc., Ductmate Industries, Inc., Duro Dyne, Inc., or Ward Industries, Inc. Connections shall be not less than 4" long, shall have suitable metal collar frame at each end and shall be made with at least one-inch slack in material to prevent transmission of vibration.

1.5 GRILLES, REGISTERS, AND DIFFUSERS
- A. Manufacturers: Titus - Krueger - Price
- B. Capacity: As indicated on drawings.
- C. Accessories: As scheduled on the drawings for finish, opposed blade dampers, borders, directional vanes, etc.

1.6 ROOF HOODS
- A. Manufacturers: PennBarry – Cook – Greenheck – Acme - Twin City - Carnes.
- B. Capacity and/or size scheduled on drawings.
- C. Features: All aluminum with 1/2" bird screen (1/4" mesh on combustion air hoods) - backdraft dampers with felt tipped blades on relief hoods. Optional factory priming for field painted finish, or kynar finish with color selection by the Architect where noted on the plans.
- D. Accessories: Factory roof curb (14" high and a minimum of 8" above adjacent roof surface). Roof curb shall be galvanized steel with 1-1/2" thick fiberglass insulation and wood nailer, sized to suit hood base and sloped as necessary for roof.

1.7 SPLIT SYSTEM AIR HANDLER AND HEAT PUMP UNIT
- A. Manufacturers: Lennox - Trane - Carrier - York - Rheem.
- B. Capacity: As scheduled on plans.
- C. DX Coil Features: Comply with ARI 210/240 – painted steel cabinet to match air handler, with access panel and flanges for mounting at cabinet – drain pan.
- D. Heat Pump Unit Features: Galvanized steel cabinet with baked enamel finish and removable panels - Scroll type compressor(s) with overload protection on vibration isolators – single stage, digital scroll, variable speed, or multiple stage compressor as scheduled – condenser coil with seamless copper tubing with aluminum fins – propeller condenser fan(s) with aluminum or galvanized steel blades, statically and dynamically balanced, direct driven with permanently lubricated bearings – crankcase heater – cycle protector – high pressure switch – low ambient controller to allow unit operation down to 40°F – low pressure switch – thermostatic mixing valve – time delay relay – R454b or R32 Refrigerant.
- E. Direct Drive Fans: Double width, forward curved, centrifugal; with ECM motor resiliently mounted in the fan inlet. Aluminum or painted-steel wheels, and painted-steelor galvanized-steel fan scrolls.
- F. Electric-Resistance Heating Coils: Nickel-chromium heating wire, free of expasion noise and hum, mounted in ceramic inserts in a galvanized-steel housing; with fuses in terminal box for overcurrent protection and limit controls for high-temper-aturesprotection of heaters. Terminate elements in stainless-steel machine-staked terminals secured with stainless-steel hardware.
- G. Accessories: Extra set of throw away air filters to install after final acceptance - separate filter rack required on all side or bottom return installations
- H. Controls: Provide 7-day programmable thermostat with fan on/auto and heat/auto/cool switches for automatic heating and cooling operation. Program thermostat for continuous fan operation during occupied periods and have programmed ventilation output. Thermostat shall be capable of operating multiple heating and/or cooling stages as scheduled.
- I. Refrigerant Piping: Contractor to provide Type "L" hard drawn pre-dehydrated and sealed copper pipe equal to "ACR". Fittings to be forged or wrought copper sweat with "SIL-FOS" or equivalent silver bearing solder. Use long radius ells except for traps. Test system at 300 PSI with Nitrogen for 2 hours. Triple evacuate piping down to 500 microns prior to final refrigerant charge. Support piping with "Hydrazorb", "Cush-A-Clamp" or equal vibration absorbing clamps. Equipment supplier to size piping for the indicated installation, and provide all required refrigerant specialities. Contractor's option to utilize pre-charged and insulated line sets.

1.8 GAS UNIT HEATER
- A. Manufacturers: Reznor, Modine, or any approved equal.
- B. Capacity and/or size scheduled on drawings.
- C. Self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heat exchanger, burner, controls, and accessories

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WICHITA, KS
316.267.4002

PEC PROJECT NUMBER: 260125-001

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# USD 460 HESSTON MIDDLE SCHOOL

HESSTON, KS

PERMIT SET 06.26.2026

MECHANICAL SHEET SPEC

# MP0.03

## PLUMBING DEMO NOTES

1. PLANS ARE SCHEMATIC IN NATURE, LAYOUT IS BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE OWNER'S REPRESENTATIVE IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF THE DEMOLITION WORK SHALL NOT JUSTIFY AN ADDITIONAL COST.
2. CONTRACTOR SHALL CLEAN ALL EXISTING PLUMBING FIXTURES TO REMAIN OR BE REUSED IN AREA OF WORK TO LIKE-NEW CONDITION AND PROVIDE A LIST OF ANY DEFICIENCIES TO OWNER'S REPRESENTATIVE.
3. DEMOLISH ALL DUCTWORK, PIPING AND EQUIPMENT SHOWN SHADED AND DASHED IN A DARK LINE WEIGHT.

## # SHEET KEYNOTES

(E) GAS METER AT ROAD
(E) SANITARY SEWER MANHOLE AT ROAD
(E) SANITARY SEWER MANHOLE
(E) GAS SERVICE. FIELD VERIFY EXACT ROUTING AND CONNECTIONS.
(E) GAS TO REMAIN.
REMOVE (E) GAS UP TO ROOF.
REMOVE ALL EXISTING GAS PIPE ON ROOF UNLESS NOTED OTHERWISE.
REMOVE GAS PIPE DOWN WALL TO METAL BUILDING.
(E) SANITARY SEWER BELOW GRADE. USE EXTREME CAUTION TO PROTECT DURING BUILDING DEMOLITION. CAP RUNOUTS SERVING DEMO'D BUILDING. FIELD VERIFY EXISTING CONDITIONS.
REMOVE (E) SUMP PUMP.
(E) REGULATOR TO REMAIN. PREPARE FOR CONNECTION.
RELOCATE REGULATOR AS NECESSARY TO ACCOMODATE NEW GAS PIPING.
(E) GAS TO GYM RTU'S TO REMAIN.
WASTE RUNOUTS T0 EXISTING LOCKER ROOMS TO REMAIN AND BE PROTECTED DURING DEMOLITION. (TYP.) FIELD VERIFY EXACT LOCATION.
REMOVE DOMESTIC WATER SERVICE TO 6' ABOVE FINISHED FLOOR
IRRIGATION PUMP TO REMAIN.
REMOVE WATER SERVICE TO ADDITION. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.
REMOVE (E) 4" DOMESTIC WATER SERVICE .
(E) WATER METER TO REMAIN.
IRRIGATION PIPING TO REMAIN. FIELD VERIFY EXACT LOCATION.
RELOCATE (E) WATER HEATER (E) RECIRC PUMP, (E) EXPANSION TANK
(E) WATER MAIN. PROTECT DURING DEMOLITION. FIELD VERIFY EXACT LOCATION.
(E) SANITARY SEWER MANHOLE TO REMAIN.
(E) WATER METER PIT CONTAINS (2) METERS. IRRIGATION METER AND BUILDING METER TO REMAIN. BUILDING WATER SERVICE FROM METER TO BUILDING SHALL BE REPLACED.
REMOVE EXISTING REGULATOR AND GAS SERVICE BACK TO MAIN SERVICE LINE AND CAP.

A PLUMBING SITE DEMOLITION PLAN

0' 10' 20' 30' 1" = 20'-0"


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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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PLUMBING DEMOLITION PLAN

**PD1.01**


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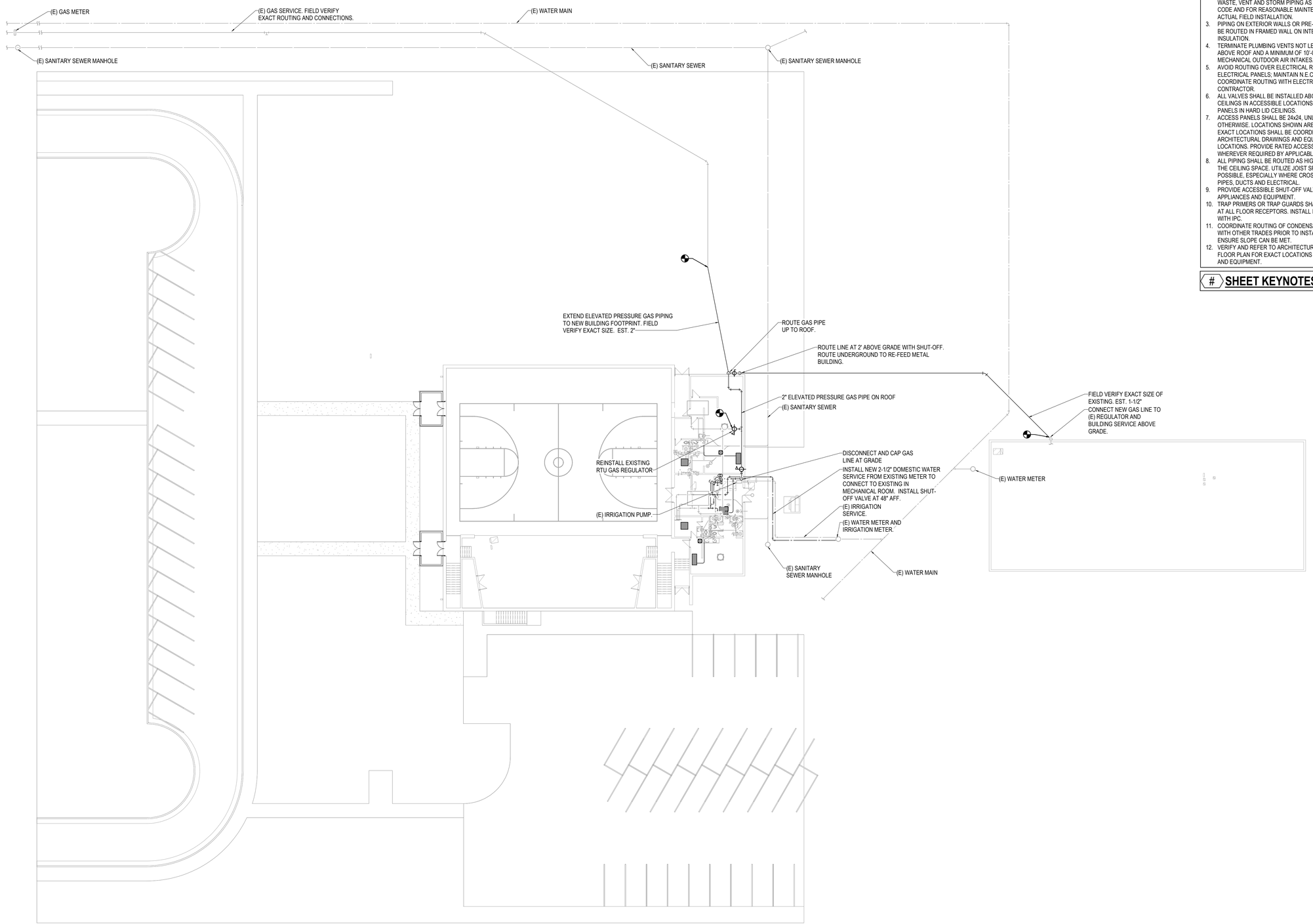


A PLUMBING SITE PLAN

0' 10' 20' 30' 1" = 20'-0"

## PLUMBING GENERAL NOTES

1. REFER TO THE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES TO INDIVIDUAL FIXTURES.
2. NOT ALL REQUIRED CLEANOUTS ARE NECESSARILY SHOWN ON THESE PLANS. PROVIDE CLEANOUTS ON WASTE, VENT AND STORM PIPING AS REQUIRED BY CODE AND FOR REASONABLE MAINTENANCE BASED ON ACTUAL FIELD INSTALLATION.
3. PIPING ON EXTERIOR WALLS OR PRE-CAST WALLS TO BE ROUTED IN FRAMED WALL ON INTERIOR SIDE OF INSULATION.
4. TERMINATE PLUMBING VENTS NOT LESS THAN 12" ABOVE ROOF AND A MINIMUM OF 10'-0" FROM MECHANICAL OUTDOOR AIR INTAKES.
5. AVOID ROUTING OVER ELECTRICAL ROOMS AND ELECTRICAL PANELS; MAINTAIN N.E.C. CLEARANCES. COORDINATE ROUTING WITH ELECTRICAL CONTRACTOR.
6. ALL VALVES SHALL BE INSTALLED ABOVE DROP-IN CEILINGS IN ACCESSIBLE LOCATIONS, OR WITH ACCESS PANELS IN HARD LID CEILINGS.
7. ACCESS PANELS SHALL BE 24x24, UNLESS NOTED OTHERWISE. LOCATIONS SHOWN ARE APPROXIMATE, EXACT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND EQUIPMENT LOCATIONS. PROVIDE RATED ACCESS PANELS WHEREVER REQUIRED BY APPLICABLE CODES.
8. ALL PIPING SHALL BE ROUTED AS HIGH AS POSSIBLE IN THE CEILING SPACE. UTILIZE JOIST SPACE WHEN POSSIBLE, ESPECIALLY WHERE CROSSING OTHER PIPES, DUCTS AND ELECTRICAL.
9. PROVIDE ACCESSIBLE SHUT-OFF VALVES TO ALL APPLIANCES AND EQUIPMENT.
10. TRAP PRIMERS OR TRAP GUARDS SHALL BE INSTALLED AT ALL FLOOR RECEPTORS. INSTALL IN ACCORDANCE WITH IPC.
11. COORDINATE ROUTING OF CONDENSATE DRAIN LINES WITH OTHER TRADES PRIOR TO INSTALLATION TO ENSURE SLOPE CAN BE MET.
12. VERIFY AND REFER TO ARCHITECTURAL DIMENSIONAL FLOOR PLAN FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.

## # SHEET KEYNOTES

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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PLUMBING SITE PLAN

**P1.01**

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## HVAC DEMO NOTES

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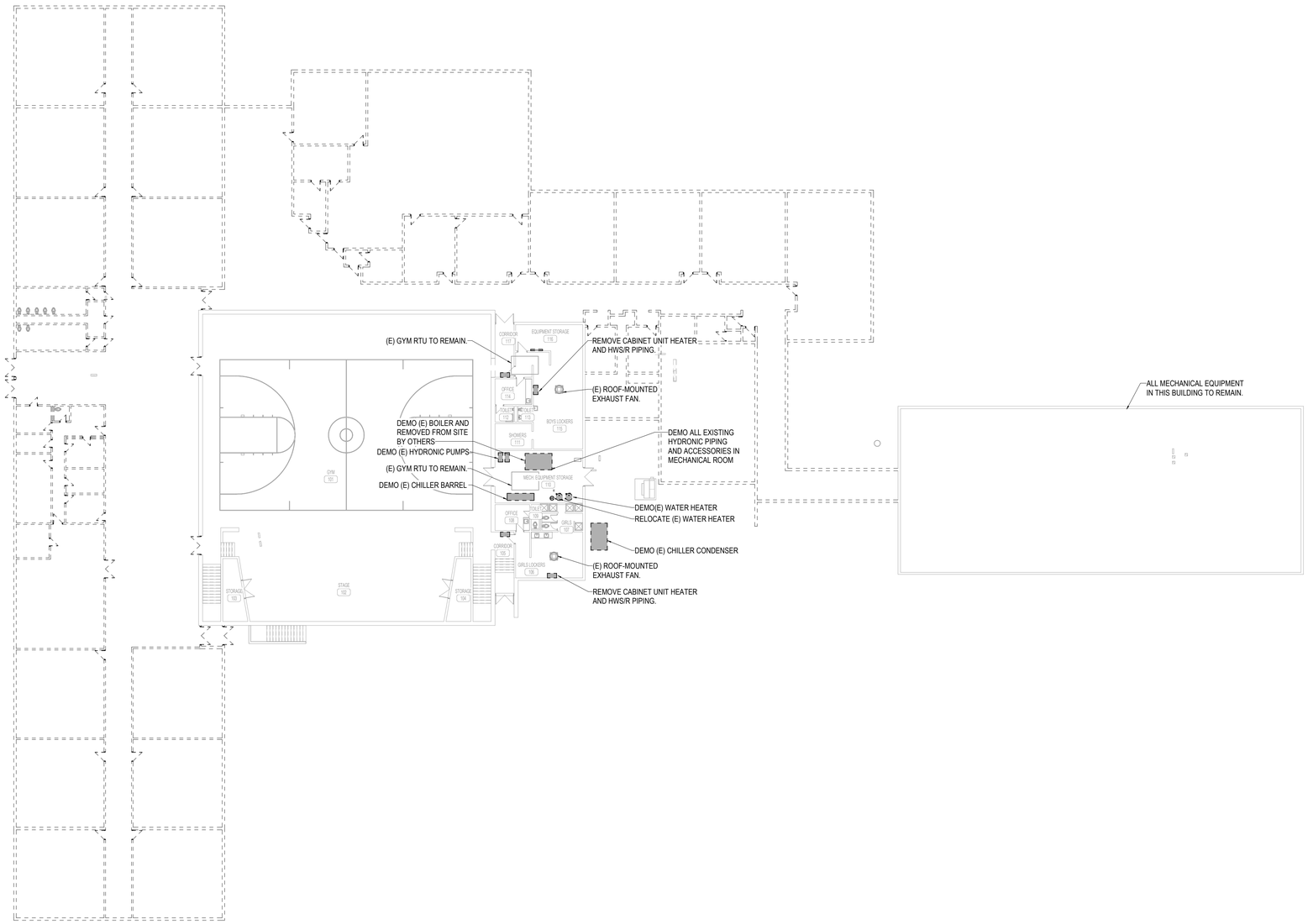
2. DEMOLISH ALL DUCTWORK, PIPING, AND EQUIPMENT SHOWN SHADED, DASHED AND IN A DARK LINE WEIGHT.

## # SHEET KEYNOTES




A MECHANICAL DEMOLITION PLAN

0' 10' 20' 30' 1" = 20'-0"

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# USD 460 HESSTON MIDDLE SCHOOL

HESSTON, KS

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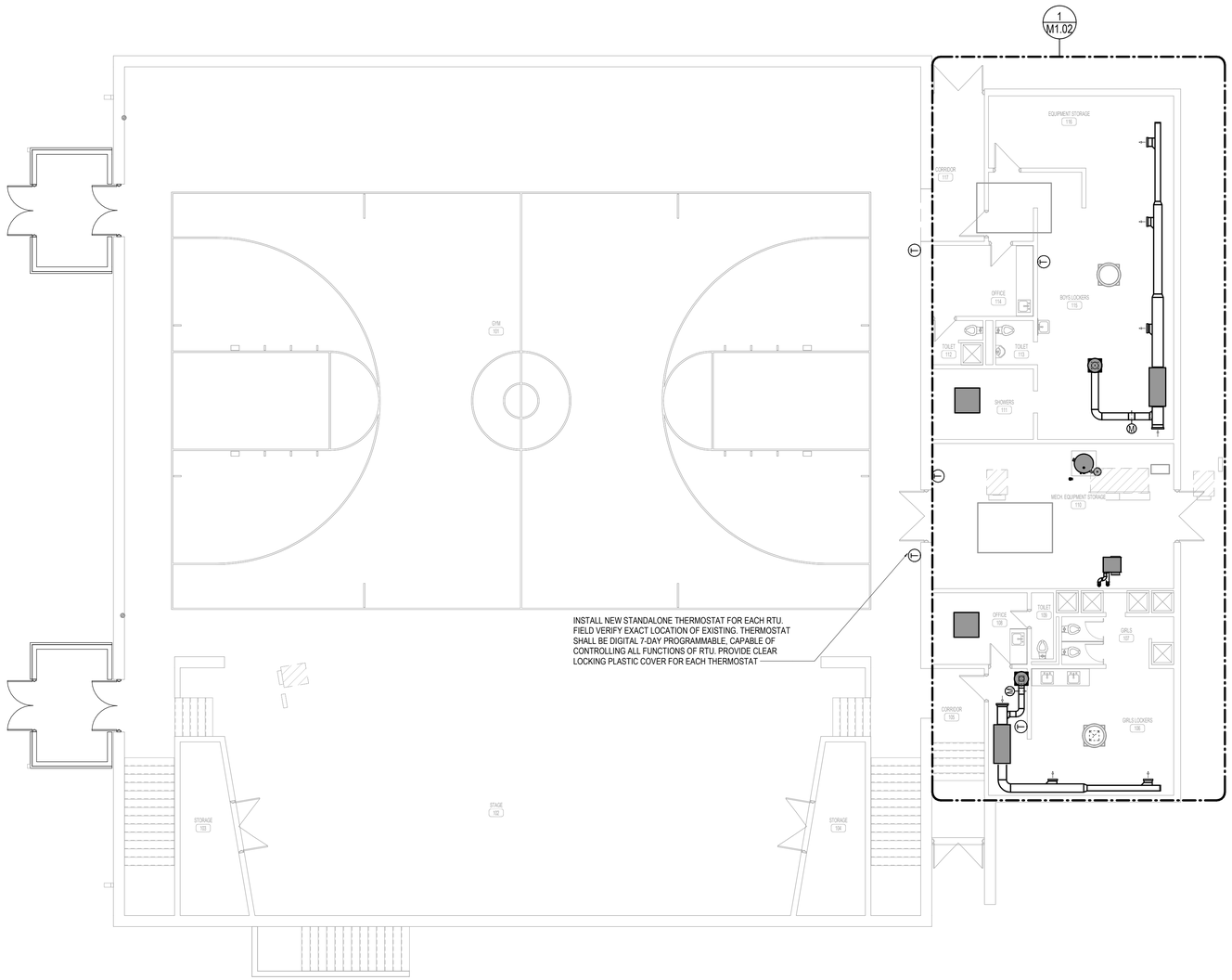
MECHANICAL DEMOLITION PLAN

# MD1.01




1 MECHANICAL PLAN

0' 4' 8' 12' 1/8" = 1'-0"

## HVAC GENERAL NOTES

1. DUCT SIZES SHOWN ARE ACTUAL INSIDE CLEAR DIMENSIONS. INCREASE SHEET METAL DIMENSIONS AS REQUIRED TO ACCOMMODATE DUCT LINER, WHERE DUCT LINER IS SPECIFIED. DUCTWORK EXPOSED TO SPACE SHALL NOT HAVE EXTERIOR INSULATION.
2. T-STATS, HUMIDISTATS AND CO2 SENSORS SHALL BE LOCATED NEXT TO LIGHT SWITCH WITHIN THE ROOM SHOWN. COORDINATE WITH GC AND ELECTRICAL CONTRACTOR TO MATCH HEIGHT AND LOCATION, BUT IN NO CASE HIGHER THAN 48 INCHES A.F.F. PER ADA REQUIREMENTS. COORDINATE EXACT HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.
3. ALL SUPPLY DIFFUSERS, EXHAUST GRILLES, AND RETURN GRILLES WHERE AIRFLOW IS INDICATED, OR AS INDICATED OTHERWISE, SHALL HAVE MANUAL BALANCE DAMPERS WITH STANDOFF AND LOCKING QUADRANT IN AN ACCESSIBLE LOCATION. FOR PLAN CLARITY, NOT ALL DAMPERS MAY BE SHOWN. WHERE HARD LID CEILINGS PREVENT BALANCE DAMPER ACCESS, CONFIRM WITH GRD SCHEDULE OR CONFIRM WITH ENGINEER TO USE OBD'S OR REMOTE BALANCE DAMPERS IF NOT ALREADY INDICATED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES.
5. ALL DIFFUSERS ARE 4-WAY BLOW UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
6. DUCT CONSTRUCTION SHALL COMPLY WITH SMACNA STANDARDS, WITH A MINIMUM HARD DUCT GAUGE THICKNESS OF 26 GAUGE. MINIMUM THICKNESS STATED SATISFIES APPLICABLE IBC LIFE SAFETY DAMPER EXCEPTIONS.
7. SQUARE THROAT NOT ALLOWED ON RADIUS ELBOWS.
8. SEAL TRANSVERSE AND LONGITUDINAL JOINTS OF ALL DUCTWORK USING HARDCAST DT TAPE AND FTA-20 ADHESIVE OR HARDCAST AFG-1402 "FOIL GRIP" PER MANUFACTURERS INSTRUCTIONS.
9. ALL DUCTWORK SHALL BE ROUTED AS HIGH AS POSSIBLE WITHIN THE CEILING SPACE. UTILIZE JOIST SPACE WHERE POSSIBLE, ESPECIALLY WHEN CROSSING OTHER DUCT, PIPE, AND ELECTRICAL.
10. PROVIDE FLEXIBLE DUCT AND PIPE CONNECTIONS TO ALL MOTORIZED EQUIPMENT.
11. VERIFY ALL EQUIPMENT ACCESS PANELS WITH MANUFACTURER AND ARCHITECT. ACCESS PANELS SHALL BE 24X24 UNLESS NOTED OTHERWISE LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECT AND THE LOCATIONS OF THE EQUIPMENT THEY SERVE.
12. COORDINATE FINISH OF ALL EXPOSED DUCT WITH ARCHITECT. DUCTWORK THAT IS TO BE PAINTED SHALL HAVE A PAINT GRIP FINISH ACCEPTABLE FOR PAINTING.
13. PAINT INSIDE OF DUCTWORK BLACK ANYWHERE VISIBLE THROUGH FACE OF GRILLE OR DIFFUSER.
14. EXPOSED SPIRAL DUCT GRILLES SHALL BE INSTALLED AT A 30 DEGREE ANGLE DOWNWARD BELOW HORIZONTAL.
15. REFER TO GRD SCHEDULE FOR DUCT CONNECTION SIZES. REFER TO TERMINAL BOX SCHEDULE FOR INLET DUCT SIZES.
16. CEILING COORDINATION OF ALL MEP SYSTEMS (LIGHTING, DUCTWORK, DIFFUSERS, ELECTRICAL, ETC.) MUST BE COMPLETED BY THE CONTRACTOR PRIOR TO THE START OF ANY NEW INSTALLATION.

## # SHEET KEYNOTES

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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MECHANICAL PLAN

# M1.01

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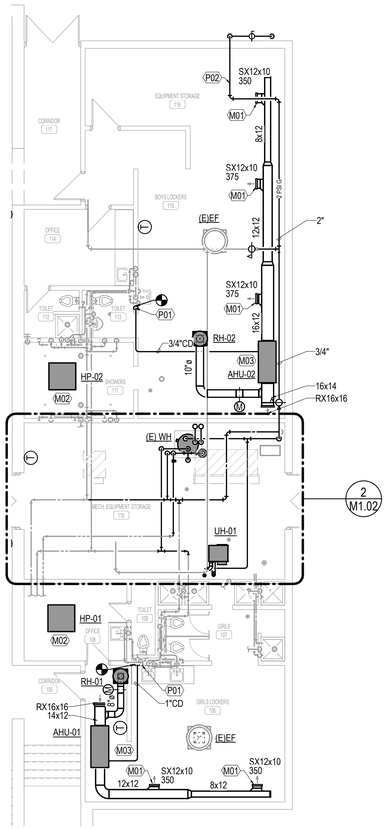


## 1 ENLARGED MECHANICAL PLAN

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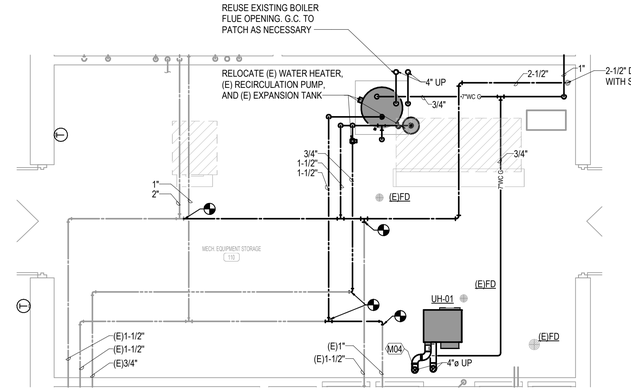


## 2 ENLARGED MECHANICAL ROOM PLAN

0' 10' 20' 30' 1/4" = 1'-0"

# HVAC GENERAL NOTES

1. DUCT SIZES SHOWN ARE ACTUAL INSIDE CLEAR DIMENSIONS. INCREASE SHEET METAL DIMENSIONS AS REQUIRED TO ACCOMMODATE DUCT LINER, WHERE DUCT LINER IS SPECIFIED. DUCTWORK EXPOSED TO SPACE SHALL NOT HAVE EXTERIOR INSULATION.
2. T-STATS, HUMIDISTATS AND CO2 SENSORS SHALL BE LOCATED NEXT TO LIGHT SWITCH WITHIN THE ROOM SHOWN. COORDINATE WITH GC AND ELECTRICAL CONTRACTOR TO MATCH HEIGHT AND LOCATION, BUT IN NO CASE HIGHER THAN 48 INCHES A.F.F. PER ADA REQUIREMENTS. COORDINATE EXACT HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.
3. ALL SUPPLY DIFFUSERS, EXHAUST GRILLES, AND RETURN GRILLES WHERE AIRFLOW IS INDICATED, OR AS INDICATED OTHERWISE, SHALL HAVE MANUAL BALANCE DAMPERS WITH STANDOFF AND LOCKING QUADRANT IN AN ACCESSIBLE LOCATION. FOR PLAN CLARITY, NOT ALL DAMPERS MAY BE SHOWN. WHERE HARD LID CEILINGS PREVENT BALANCE DAMPER ACCESS, CONFIRM WITH GRD SCHEDULE OR CONFIRM WITH ENGINEER TO USE OBD'S OR REMOTE BALANCE DAMPERS IF NOT ALREADY INDICATED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES.
5. ALL DIFFUSERS ARE 4-WAY BLOW UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
6. DUCT CONSTRUCTION SHALL COMPLY WITH SMACNA STANDARDS, WITH A MINIMUM HARD DUCT GAUGE THICKNESS OF 26 GAUGE. MINIMUM THICKNESS STATED SATISFIES APPLICABLE IBC LIFE SAFETY DAMPER EXCEPTIONS.
7. SQUARE THROAT NOT ALLOWED ON RADIUS ELBOWS.
8. SEAL TRANSVERSE AND LONGITUDINAL JOINTS OF ALL DUCTWORK USING HARDCAST DT TAPE AND FTA-20 ADHESIVE OR HARDCAST AFG-1402 "FOIL GRIP" PER MANUFACTURERS INSTRUCTIONS.
9. ALL DUCTWORK SHALL BE ROUTED AS HIGH AS POSSIBLE WITHIN THE CEILING SPACE. UTILIZE JOIST SPACE WHERE POSSIBLE, ESPECIALLY WHEN CROSSING OTHER DUCT, PIPE, AND ELECTRICAL.
10. PROVIDE FLEXIBLE DUCT AND PIPE CONNECTIONS TO ALL MOTORIZED EQUIPMENT.
11. VERIFY ALL EQUIPMENT ACCESS PANELS WITH MANUFACTURER AND ARCHITECT. ACCESS PANELS SHALL BE 24X24 UNLESS NOTED OTHERWISE LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECT AND THE LOCATIONS OF THE EQUIPMENT THEY SERVE.
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16. CEILING COORDINATION OF ALL MEP SYSTEMS (LIGHTING, DUCTWORK, DIFFUSERS, ELECTRICAL, ETC.) MUST BE COMPLETED BY THE CONTRACTOR PRIOR TO THE START OF ANY NEW INSTALLATION.

# PLUMBING GENERAL NOTES

1. REFER TO THE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES TO INDIVIDUAL FIXTURES.
2. NOT ALL REQUIRED CLEANOUTS ARE NECESSARILY SHOWN ON THESE PLANS. PROVIDE CLEANOUTS ON WASTE, VENT AND STORM PIPING AS REQUIRED BY CODE AND FOR REASONABLE MAINTENANCE BASED ON ACTUAL FIELD INSTALLATION.
3. PIPING ON EXTERIOR WALLS OR PRE-CAST WALLS TO BE ROUTED IN FRAMED WALL ON INTERIOR SIDE OF INSULATION.
4. TERMINATE PLUMBING VENTS NOT LESS THAN 12" ABOVE ROOF AND A MINIMUM OF 10'-0" FROM MECHANICAL OUTDOOR AIR INTAKES.
5. AVOID ROUTING OVER ELECTRICAL ROOMS AND ELECTRICAL PANELS; MAINTAIN N.E.C. CLEARANCES. COORDINATE ROUTING WITH ELECTRICAL CONTRACTOR.
6. ALL VALVES SHALL BE INSTALLED ABOVE DROP-IN CEILINGS IN ACCESSIBLE LOCATIONS, OR WITH ACCESS PANELS IN HARD LID CEILINGS.
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10. TRAP PRIMERS OR TRAP GUARDS SHALL BE INSTALLED AT ALL FLOOR RECEPTORS. INSTALL IN ACCORDANCE WITH IPC.
11. COORDINATE ROUTING OF CONDENSATE DRAIN LINES WITH OTHER TRADES PRIOR TO INSTALLATION TO ENSURE SLOPE CAN BE MET.
12. VERIFY AND REFER TO ARCHITECTURAL DIMENSIONAL FLOOR PLAN FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.

# # SHEET KEYNOTES

| | |
|---|---|
| M01 | PROVIDE DIFFUSERS WITH OBD'S |
| M02 | MOUNT CONDENSING UNIT ON ROOF |
| M03 | MOUNT UNIT TIGHT TO STRUCTURE |
| M04 | FLUE AND INTAKE UP THU ROOF MAINTAIN 10'-0" MIN. CLEAR FROM ANY OA INTAKE |
| P01 | ROUTE CONDENSATE TO EXISTING LAV TAILPIECE. REF DETAIL |
| P02 | GAS PIPING ROUTED ON ROOF |

SPT ARCHITECTURE
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316.267.4002

SHAUN M. CONWAY LICENSED 19761 06/26/2026 KANSAS PROFESSIONAL ENGINEER

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

**PERMIT SET** 06.26.2026

**MECHANICAL ENLARGED PLANS**

# M1.02

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# AIR HANDLER UNIT SCHEDULE - DX COOL / HEAT PUMP

REMARKS:
1. PROVIDE WITH SUPPLEMENTAL ELECTRIC HEAT AS SCHEDULED BELOW.
2. PROVIDE WITH OUTDOOR HEAT PUMP , R454b, SCROLL COMPRESSOR, HAIL GUARDS, AND FACTORY INSTALLED THERMOSTATIC EXPANSION VALVE. SIZE AND ROUTE REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALUMINUM JACKETING FOR ALL EXPOSED REFRIGERANT LINE-SETS.

| MARK | MFR | MODEL | MATCH WITH CU-# | AIRFLOW (CFM) | MIN OA (CFM) | ESP (IN WC) | HP | DRIVE | COOLING @ 100°F AMBIENT TEMP | | LDB (°F) | LWB (°F) | HEATING | ELECT HEAT | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | TOTAL (MBH) | SENS (MBH) | | | MBH @ 47°F | KW | VOLT/PH | MCA | MOCP | |
| AHU-01 | TRANE | 5TAM5 | HP-01 | 700 | 140 | 0.5 | -- | DIRECT | 22.7 | 17.89 | 54.8 | 53.9 | 21.6 | 5.76 | 208/3 | 39 | 40 | 1-2 |
| AHU-02 | TRANE | 5TAM5 | HP-02 | 1100 | 220 | 0.5 | -- | DIRECT | 32.8 | 26.0 | 56.70 | 55.10 | 31.2 | 9.6 | 208/3 | 42 | 45 | 1-2 |

# HEAT PUMP UNIT SCHEDULE

REMARKS:
1. UNIT WEIGHT INCLUDES SPECIFIED ACCESSORIES.
2. PROVIDE CONDENSING UNIT WITH LOUVERED HAIL GUARDS. SIZE AND ROUTE REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALUMINUM JACKETING FOR EXPOSED REFRIGERANT LINE-SETS.

| MARK | MFR | MODEL | MATCH WITH ___ | CAP (MBH) | AMBIENT TEMP (°F) | COMPRESSOR | | | | COND FAN | | SEER (IEER) | ELECTRICAL | | | | UNIT WT (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TYPE | QTY | RLA | CAP STEPS | HP | QTY | | VOLT | PHASE | MCA | MOP | | |
| HP-01 | TRANE | 5TWR | AHU-01 | 24 | 100 | SCROLL | 1 | 9.1 | 1 | 0.125 | 1 | 14.3 | 208 | 3 | 13 | 20 | 225 | 1-2 |
| HP-02 | TRANE | 5TWR | AHU-02 | 36 | 100 | SCROLL | 1 | 13.5 | 1 | 0.125 | 1 | 14.3 | 208 | 3 | 19 | 30 | 275 | 1-2 |

# UNIT HEATER SCHEDULE - GAS

REMARKS:
1. PROVIDE A SEALED COMBUSTION GAS UNIT HEATER WITH REMOTE THERMOSTAT

| MARK | MFR | MODEL | LOC AT ROOM | FLOW (CFM) | GAS | | FLUE Ø (IN) | MOTOR (BY MC) | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | INPUT (MBH) | OUTPUT (MBH) | | HP | SPEED | RPM | ELECT | |
| UH-01 | REZNOR | UDXC | MECH | 456 | 30 | 24.6 | 4 | 0.06 | 1 | 1550 | 120/1 | 1 |

# GRILLE, REGISTER, AND DIFFUSER SCHEDULE

FIRST LETTER IN MARK:
S = SUPPLY DIFFUSER
R = RETURN GRILLE
P = PLENUM RETURN GRILLE
E = EXHAUST GRILLE
L = SLOT DIFFUSER
M = LAMINAR FLOW SUPPLY DIFFUSER
C = SECURITY GRILLE
U = FLOOR MOUNTED SUPPLY GRILLE

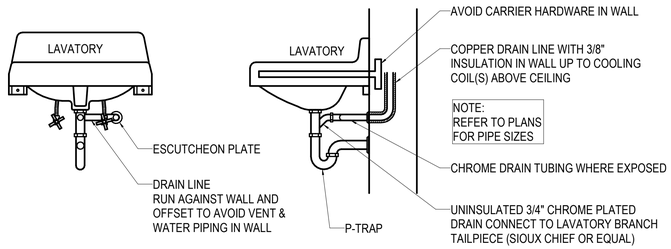
NOTES:
1. PROVIDE SQUARE TO ROUND ADAPTERS AS REQUIRED TO ACCOMMODATE ROUND RUNOUTS.
2. PROVIDE ALL LAY-IN GRDs WITH 24x24 LAY-IN PANEL AS REQUIRED.
3. FINISH TO BE WHITE UNLESS OTHERWISE SPECIFIED. COORDINATE AND VERIFY ALL FINISHES WITH ARCHITECT.
4. ALL SELECTIONS ARE BASED ON A MAXIMUM NC OF 25 UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND ASSOCIATED BORDER TYPES.
6. MARKS USED MAY NOT BE IN SEQUENCE.
7. LOUVERED GRILLES TO HAVE FRONT BLADES PARALLEL TO LONG DIMENSION UNLESS WALL MOUNTED.
8. WALL MOUNTED LOUVERED GRILLES TO HAVE FRONT BLADES PARALLEL TO FLOOR.

| MARK | TYPE | IMAGE | BASED ON | | MOUNT | PANEL SIZE (FACE SIZE) | MATERIAL | BLADE SPACING / SLOT WIDTH | DEFLECTION | COLOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MFR | MODEL | | | | | | | |
| SX | DUCT MOUNTED SUPPLY | | TITUS | 300FS | DUCT | SEE PLANS | ALUMINUM | 3/4" | DOUBLE | MATCH DUCT | PROVIDE WITH OBD |
| RX | DUCT MOUNTED RETURN | | TITUS | 350FL/S | DUCT | SEE PLANS | ALUMINUM | 3/4" | 35° | MATCH DUCT | -- |

# ROOF HOOD SCHEDULE

REMARKS:
1. PROVIDE WITH INTEGRAL ALUMINUM BIRD AND ALUMINUM INSECT SCREEN. PROVIDE STANDARD MANUFACTURER'S ROOF CURB.

| MARK | MFR | MODEL | SERVES | INTAKE OR RELIEF | HOOD SIZE (IN) | | | CAPACITY | | THROAT VELOCITY (FPM) | UNIT WT (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | THROAT SIZE | HOOD SIZE | HEIGHT | CFM | MAX PD (IN WC) | | | |
| RH-01 | GREENHECK | GRSI-8 | AHU-01 | INTAKE | 8x8 | 20.5 | 19.25 | 140 | 0.05 | 378 | 45 | 1 |
| RH-02 | GREENHECK | GRSI-10 | AHU-02 | INTAKE | 10x10 | 20.5 | 19.75 | 220 | 0.05 | 386 | 45 | 1 |




FRONT VIEW SIDE VIEW

**1 CONDENSATE DRAIN PIPING DETAIL - LAVATORY**

**NO SCALE**

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

SHAUN M. CONWAY LICENSED 19761 06/26/2026 KANSAS PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

MECHANICAL DETAILS AND SCHEDULES

**M6.01**

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# GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) & THE AMERICANS WITH DISABILITIES ACT (ADA).
2. REFER TO RELATED ARCHITECTURAL, MECHANICAL, STRUCTURAL, TECHNOLOGY, AND CIVIL DRAWINGS FOR RELATED INFORMATION.
3. REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
4. E.C. SHALL REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTION OF INTERLOCKING AND CONTROLS OF MECHANICAL UNITS AND THERMOSTAT LOCATIONS.
5. COORDINATE OUTLET BOX LOCATIONS WITH MASONRY TO MINIMIZE CUTTING OF BRICK OR BLOCK.
6. ALL MOUNTING HEIGHTS TO CENTERLINE OF ITEM UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN.
7. CONDUIT RUN W/CONDUCTORS AS INDICATED & GROUND WIRE SIZED PER N.E.C. 250.122. CONDUIT SIZE AS REQUIRED.
8. WHEN INCREASED CONDUCTOR SIZES ARE SHOWN ON THE PLANS, THE LARGER CONDUCTOR SIZE SHALL BE USED THROUGHOUT THE LENGTH OF THE CIRCUIT, INCLUDING NEUTRAL AND GROUND.
9. E.C. SHALL REFERENCE ARCHITECTURAL FINISH DRAWINGS FOR LOCATIONS AND HEIGHTS OF RIGID WALL COVERINGS, TILE, CHAIR RAIL, WAINSCOATING, ETC. AND ADJUST ELECTRICAL BOX ROUGH-IN HEIGHTS SO THAT COVERPLATES DO NOT PARTIALLY OVERLAP THESE ITEMS.
10. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION.
11. JUNCTION BOX OR RECEPTACLE FOR DRINKING FOUNTAINS SHALL BE LOCATED BEHIND THE EQUIPMENT SKIRT UNLESS OTHERWISE NOTED. COORDINATE CONNECTION TYPE AND LOCATION WITH EQUIPMENT PROVIDED.
12. LABEL THE FRONT OF EACH RECEPTACLE COVERPLATE WITH PANEL DESIGNATION AND CIRCUIT NUMBER USING CLEAR THERMAL TRANSFER (ELECTRONIC DYMO) LABELS WITH 1/8" HIGH BLACK LETTERS (OR CONTRASTING COLOR IF COVERPLATES ARE BLACK OR BROWN). LABELS SHALL BE SUITABLE FOR INDOOR/OUTDOOR USE. LABEL THE BACK OF EACH LIGHT SWITCH COVERPLATE WITH PANEL DESIGNATION AND CIRCUIT NUMBER USING A FINE BLACK PERMANENT MARKER.
13. PROVIDE 18" LONG (MIN.) CONDUIT SLEEVES THRU ALL WALLS WHERE CABLES ARE INDICATED OR REQUIRED TO PASS THRU WALLS. PROVIDE BUSHINGS ON BOTH ENDS. SIZE CONDUIT FOR CABLES INSTALLED. AT CABLE TRAYS, PROVIDE ONE 4" CONDUIT SLEEVE FOR EACH 4" WIDTH OF CABLE TRAY. MAXIMUMS SHALL BE:
    - 1"C. = 10 CABLES
    - 2 1/2"C. = 20 CABLES
    - 3"C. = 30 CABLES
    - 4"C. = 50 CABLES
14. LOCATE CABLE TRAYS 6" ABOVE CEILING. OFFSET TRAY UP AND OVER LIGHT FIXTURES AND DUCTWORK (FIELD VERIFY AND PROVIDE AS REQUIRED). IF PHYSICALLY IMPOSSIBLE TO RUN CABLE TRAY UP AND OVER, THEN PROVIDE CABLE SUPPORT HOOKS FROM STRUCTURE ABOVE, SIZED AND RATED FOR INSTALLED CABLES PLUS 25% SPARE.
15. PROVIDE DIMMER PER THE SPECIFICATIONS. COORDINATE DIMMER TYPE AND WIRING WITH ASSOCIATED LIGHT FIXTURE DIMMING REQUIREMENTS (I.E. 3-WIRE, 0-10V, ELECTRONIC OR MAGNETIC LOW VOLTAGE, ETC.) OR WITH LIGHTING CONTROL SYSTEM PROPRIETARY REQUIREMENTS (I.E. LUTRON, nLIGHT, DALI, ETC.) AS NECESSARY. 3-WIRE DIMMERS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL FOR EACH CONTROL ZONE. 0-10V DIMMERS SHALL BE PROVIDED WITH DIM/ON/OFF CONTROL. COORDINATE PHASE CONTROL OF LED DRIVERS (I.E. REVERSE PHASE, FORWARD PHASE, ETC.) WITH LIGHT FIXTURE MANUFACTURER'S RECOMMENDATIONS. LINE AND LOW VOLTAGE CONTROL WIRING IS NOT SHOWN ON PLANS FOR CLARITY, BUT SHALL BE PROVIDED AS REQUIRED. SEE ASSOCIATED CONTROLS DETAIL FOR ADDITIONAL INFORMATION RELATED TO LINE VOLTAGE CONTROL WIRING.
16. "CT" INDICATED ADJACENT TO DEVICE INDICATES DEVICE MOUNTED ABOVE BACKSPLASH OF COUNTER TOP. VERIFY EXACT HEIGHT WITH ARCHITECTURAL PLANS AND ELEVATIONS.

## FIRE ALARM

F1. THE FIRE ALARM SYSTEM SHOWN HAS BEEN DESIGNED PER THE REQUIREMENTS OF NFPA 72, 2013 EDITION. DEVICES SHOWN INDICATE DESIGN INTENT AND SHALL BE THE MINIMUM PROVIDED. SYSTEM SUPPLIER SHALL PROVIDE ANY ADDITIONAL CODE REQUIRED DEVICES OR DEVICES REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

F2. FIELD VERIFY LOCATIONS OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF A HVAC DIFFUSER (SUPPLY OR RETURN), IN A DIRECT AIR FLOW, WITHIN 36" OF A SPRINKLER HEAD, OR WITHIN 36" OF THE TIP OF A CEILING FAN BLADE. SMOKE DETECTORS FOR DOOR RELEASE SHALL BE LOCATED ON THE CENTER LINE OF THE DOOR AND A MAXIMUM OF 5 FEET FROM THE DOOR. THE MINIMUM DISTANCE FROM THE DOOR IS THE DEPTH OF THE WALL SECTION ABOVE THE DOOR, BUT NOT LESS THAN 12".

F3. FAN SHUTDOWN RELAY WIRING SHALL BE LOCATED WITHIN 3 FEET OF THE FAN CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED.

F4. LABEL REMOTE ALARM INDICATOR FOR DUCT MOUNTED SMOKE DETECTORS (I.E. RTU-1 SUPPLY, RTU-2 RETURN, FIRE/SMOKE DAMPER, ETC.). DUCT DETECTORS SHOULD BE LOCATED IN THE AREA BETWEEN 6 AND 10 DUCT EQUIVALENT DIAMETERS OF STRAIGHT, UNINTERRUPTED DUCTWORK. DUCT DETECTORS FOR FIRE/SMOKE DAMPERS SHOULD BE LOCATED BETWEEN THE LAST INLET OR OUTLET UPSTREAM OF THE DAMPER AND THE FIRST INLET OR OUTLET DOWNSTREAM OF THE DAMPER.

F5. PROVIDE 120V POWER AND FUSTAT FOR EACH FIRE/SMOKE DAMPER. INTERLOCK WITH FIRE ALARM CONTROL PANEL TO CLOSE THE FIRE/SMOKE DAMPER UPON ANY ALARM AT THE FIRE ALARM CONTROL PANEL AND TO SHUTDOWN THE ASSOCIATED MECHANICAL UNIT.

## LOW VOLTAGE ROUGH-IN ONLY

R1. DEVICES AND INFORMATION SHOWN ARE FOR ROUGH-IN PURPOSES ONLY AND ARE NOT INTENDED TO CONVEY TECHNOLOGY DESIGN SCOPE.

# SYMBOL LIST

### ONE-LINE

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| LSIG, GFI, ST, K | CIRCUIT BREAKER ACCESSORIES: LSIG = LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND FAULT; GFI = GROUND FAULT; ST = SHUNT TRIP; K = KIRK KEY INTERLOCK | |
| G | INDICATOR LIGHT(G=GREEN, R=RED) | |
| B | ENERGY REDUCING MAINTENANCE SWITCH (ERMS) INDICATING LIGHT PER SPECIFICATIONS | |
| | CONTACTS (N.O., N.C.) | |
| | FUSE | |
| | CIRCUIT BREAKER | |
| | OVERLOADS | |
| | DRAWOUT CONTACTS | |
| | DISCONNECT SWITCH (SEE EQUIP CONN SCHED) (VOLTAGE / SWITCH SIZE / FUSE SIZE / # OF POLES - NOTED IF EQUIPMENT NOT SCHEDULED) | |
| | STARTER (SEE EQUIP CONN SCHED) (VOLTAGE / STARTER SIZE / # OF POLES - NOTED IF EQUIPMENT NOT SCHEDULED) | |
| | GROUND CONNECTION | |
| | LIGHTNING ARRESTOR | |
| SPD | SURGE PROTECTIVE DEVICE | |
| M | METER (UTILITY / PANEL MOUNTED) | |
| HP, KW | EQUIPMENT (SINGLE MOTOR / MULTI-MOTOR OR OTHER TYPE AS NOTED) | |
| VFD | VARIABLE FREQUENCY DRIVE (HP SIZE IF NOT SCHEDULED) | |

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| 1 | FEEDER DESIGNATION | |
| #, A, A, 2P | FUSIBLE SWITCH (CIRCUIT NUMBER / SWITCH SIZE / FUSE SIZE / # OF POLES) (# OF POLES IF OTHER THAN 3) | |
| #, A, A, 2P, '1' | STARTER WITH FUSIBLE SWITCH (CIRCUIT NUMBER / SWITCH SIZE / FUSE SIZE / # OF POLES / STARTER SIZE) (# OF POLES IF OTHER THAN 3) | |
| #, A, 2P; #, AF, AT, 2P | CIRCUIT BREAKER (MOLDED CASE NON-ADJUSTABLE TRIP / ADJUSTABLE TRIP) (CIRCUIT NUMBER / TRIP SIZE / # OF POLES) (FRAME SIZE / TRIP SIZE) (# OF POLES IF OTHER THAN 3) | |
| | 3Ø TRANSFORMER (DELTA PRIMARY / WYE SECONDARY) | |
| | 1Ø TRANSFORMER | |
| PANEL, SPD | PANELBOARD (BUILT-IN SPD) | |
| N, E, ATS | TRANSFER SWITCH (ATS = AUTOMATIC, MTS = MANUAL) (AMP SIZE / VOLTAGE / POLES / AIC RATING / NEMA RATING) (NEMA RATING IF OTHER THAN NEMA-1) | |
| '1', RV, AT | MOTOR STARTER [SINGLE SPEED ACROSS-THE-LINE (UON)] (NEMA SIZE / RV AT= REDUCED VOLTAGE / AUTO-TRANSFORMER / SS = SOLID STATE) | |

### FIRE ALARM

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| 'FACP' | FIRE ALARM CONTROL PANEL | WALL |
| 'FAAP' | FIRE ALARM REMOTE ANNUNCIATOR | WALL |
| 'VEP' | VOICE EVACUATION PANEL | WALL |
| H | FIRE ALARM HORN | BOTTOM 80" |
| H C | FIRE ALARM HORN | CEILING |
| | FIRE ALARM VISUAL SIGNAL | BOTTOM 80" |
| | FIRE ALARM VISUAL SIGNAL | CEILING |
| | COMB. F.A. HORN & VISUAL SIGNAL | BOTTOM 80" |
| C | COMB. F.A. HORN & VISUAL SIGNAL | CEILING |
| S | FIRE ALARM SPEAKER | WALL |
| S C | FIRE ALARM SPEAKER | CEILING |
| | COMB. F.A. SPEAKER & VIS SIGNAL | BOTTOM 80" |
| C | COMB. F.A. SPEAKER & VIS SIGNAL | CEILING |
| | COMB. F.A. SPEAKER & VIS SIGNAL HIGH OUTPUT CLUSTER | CEILING |
| C F | CHIME | WALL |
| F | FIRE SPRINKLER ALARM BELL | WALL |
| DH | ELECTROMAGNETIC DOOR HOLDER | WALL |
| R | FIRE ALARM RELAY (GEN NOTE F3) | |
| CM | FIRE ALARM CONTROL MODULE | |
| MM | FIRE ALARM MONITOR MODULE | |

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| F | FIRE ALARM MANUAL STATION | 46"AFF |
| S, S, S AC, S UF | PHOTO ELECTRIC AREA SMOKE DETECTOR (GEN NOTE F2) | CLG/WALL ABOVE CLG UNDER FLR |
| S LF | AREA SMOKE DETECTOR W/ LOW-FREQUENCY SOUNDER BASE | CEILING (GEN NOTE F2) |
| S | DUCT SMOKE DETECTOR (GEN NOTE F4) | DUCTWORK |
| S FSD, S SD | DUCT SMOKE DETECTOR & FIRE/ SMOKE DAMPER (FSD) OR SMOKE DAMPER (SD) (GEN NOTES F4 & F5) | DUCTWORK |
| H, H R, H H | HEAT DETECTOR (GEN NOTE F2) (FIXED TEMPERATURE UON) R = RATE OF RISE H = HIGH TEMPERATURE | |
| CO | CARBON MONOXIDE DETECTOR | |
| CO2 | CARBON DIOXIDE DETECTOR | |
| SMOKE | SMOKE CAMERA (EQUAL TO XTRALIS OSID) | WALL (AS HIGH AS POSSIBLE) |
| PS | FIRE SPRINKLER PRESSURE SWITCH | |
| TS | FIRE SPRINKLER TAMPER SWITCH | SPRKLR RSR |
| FS | FIRE SPRINKLER WATER FLOW SW | SPRKLR RSR |

### LOW VOLTAGE ROUGH-IN ONLY (SEE ROUGH-IN SCHEDULE)

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| AV1, AV2, AV3 | AV WALL BOX ROUGH-IN: AV1 = 2-GANG BOX W/ 1-GANG MUD RING; AV2 = 2-GANG BOX; AV3 = 3-GANG BOX | SEE AV ROUGH-IN DETAIL |
| | VOICE/DATA ROUGH-IN | WALL |
| AP | WIRELESS ACCESS POINT ROUGH-IN | CEILING |

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| CL, CL | CLOCK ROUGH-IN | WALL/CLG |
| IC | INTERCOM ROUGH-IN | WALL |
| S, S | SPEAKER ROUGH-IN | WALL/CLG |
| C, C | CAMERA ROUGH-IN | WALL/CLG |
| CR | ACCESS CONTROL ROUGH-IN | WALL |
| ID, ID | INTRUSION DETECTION ROUGH-IN | WALL/CLG |

**- - - SYMBOL LIST IS FOR REFERENCE ONLY. ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT. - - -**

# ELECTRICAL SHEET INDEX



| SHEET NO. | SHEET TITLE |
|---|---|
| E0.01 | ELECTRICAL GENERAL NOTES AND SYMBOLS |
| E0.02 | ELECTRICAL SPECIFICATIONS |
| E0.03 | ELECTRICAL SPECIFICATIONS |
| E0.04 | ELECTRICAL SPECIFICATIONS |
| E0.05 | ELECTRICAL SPECIFICATIONS |
| E1.01 | ELECTRICAL SITE DEMOLITION PLAN |
| E1.02 | ELECTRICAL DEMOLITION PLAN |
| E1.11 | ELECTRICAL SITE PLAN |
| E1.31 | ELECTRICAL SYSTEMS PLAN |
| E5.01 | ELECTRICAL DETAILS |
| E5.02 | ELECTRICAL DETAILS |
| E6.01 | ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION |
| E6.02 | ELECTRICAL ONE-LINE DIAGRAM - PROPOSED |
| E6.11 | ELECTRICAL SCHEDULES |
| E6.12 | ELECTRICAL SCHEDULES |



# SYMBOL LIST

### ABBREVIATIONS

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| NL | NIGHT LIGHT - WIRE AHEAD OF CONTROLS | |
| EM | ON EMERGENCY POWER | |
| WP | WEATHERPROOF | |
| CT | COUNTERTOP (SEE GEN. NOTE 16) | |
| UON | UNLESS OTHERWISE NOTED | |
| W | WALL | |

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| AFF | ABOVE FINISHED FLOOR | |
| AFG | ABOVE FINISHED GRADE | |
| DF | DRINKING FOUNTAIN - SEE GENERAL NOTE 11 | |
| GAP | GENERATOR ANNUNCIATOR PANEL | |
| CLG | CEILING | |
| TV | COORDINATE MOUNTING HEIGHT WITH BRACKET | |

### CONDUIT AND WIRING

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| | EMERGENCY CIRCUIT | CLG/WALL |
| | LOW VOLTAGE WIRING | CLG/WALL |
| | CDT RUN 2#12 & 1#12 GRD.- 1/2"C. OR CDT RUN AS NOTED ON PLAN | CLG/WALL |
| | CDT RUN 2#12 & 1#12 GRD.- 3/4"C. OR CDT RUN AS NOTED ON PLAN | EARTH/ FLOOR |
| #10 | CONDUIT HOME RUN, 1 CIRCUIT. 2#10 & 1#10 GRD. (GEN. NOTES 7 & 8) | CLG/WALL |
| | CONDUIT RUN PARTIAL CIRCUIT. 2#12 & 1#12 GRD. - 1/2"C. | CLG/WALL |
| | MISC. EQUIPMENT CONNECTION | |
| | CONDUIT SEAL OFF | |

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| | CONDUIT HOME RUN, 1 CIRCUIT. 2#12 & 1#12 GRD. - 1/2"C. | CLG/WALL |
| | CONDUIT HOME RUN, 2 CIRCUITS. 4#12 & 1#12 GRD. - 1/2"C. | CLG/WALL |
| | CONDUIT HOME RUN, 3 CIRCUITS. 6#12 & 1#12 GRD. - 1/2"C. | CLG/WALL |
| | CONDUIT HOME RUN, 2 CIRCUITS; PHASE CONDUCTORS/; NEUTRAL CONDUCTOR (#12 UON); SWITCH LEGS (#12 UON); GROUND CONDUCTOR (#12 UON) | CLG/WALL |

### POWER

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| | SINGLE GROUNDED RECEPTACLE | 18" |
| | DUPLEX GROUNDED RECEPTACLE | 18" |
| | DUPLEX GROUNDED RECEPTACLE | CEILING |
| | DOUBLE DUPLEX GROUNDED REC | 18" |
| | GROUND FAULT DUPLEX REC | 18" |
| | GRD FAULT DOUBLE DUPLEX REC | 18" |
| | DUPLEX GRD REC BOTTOM SWITCHD | 18" |
| | TAMPER-PROOF DUPLEX REC | 18" |
| | TAMPER-PROOF GFCI DUPLEX REC | 18" |
| A, A | SPECIAL OUTLET (SEE SCHEDULE OR AS NOTED) | FLOOR/WALL |
| FB#, PT# | FLOOR BOX / POKE-THRU (SEE SCHEDULE OR AS NOTED) | FLOOR |
| 2 | FEEDER DESIGNATION | |
| 1J | JUNCTION BOX - 1-GANG | |
| J | JUNCTION BOX - 2-GANG | |
| F | FUSTAT BUSS #SSY | 46" |
| TS | THERMOSTAT/TEMP SENSOR | 46" |
| P | PLUG LOAD SENSOR | CEILING |
| H | HANDICAP DOOR PUSHBUTTON | 36" AFF |
| | DUPLEX ISOLATED GROUND REC (GEN NOTES C1, C2, & C3) | 18" |
| | DOUBLE DUPLEX ISOLATED GROUND (GEN NOTES C1, C2, & C3) | 18" |

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| A | BRANCH CIRCUIT PANEL AND PANEL DESIGNATION | 72" TO TOP |
| | ELECTRICAL DISTRIBUTION EQUIP | |
| X-X, X-X | EQUIPMENT - SEE EQUIPMENT CONNECTION SCHEDULE | |
| | CONDUIT SLEEVE (GEN NOTE 13) | |
| | CABLE TRAY - WIRE BASKET, | |
| | LADDER (GEN NOTE 14) | |
| M | MOTOR | |
| | DISCONNECT SWITCH | |
| $M | MANUAL STARTER | |
| | CIRCUIT BREAKER | |
| | STARTER OR ATS (AS NOTED) | |
| | COMBINATION STARTER/DISC | |
| R | RELAY | |
| | PUSHBUTTON (1-, 2-, 3-BUTTON) | 46" |
| T | BOX MOUNTED TRANSFORMER | |
| C | CONTACTOR | |
| | METER | |
| | PLUGMOLD SURFACE RACEWAY | WALL |
| | BUSDUCT PLUG | |
| | DUPLEX GRD REC DEDICATED FOR COMPUTERS (GEN NOTE C1) | 18" |

### LIGHTING, SWITCHES AND SENSORS

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| A, A | LIGHT FIXTURE & FIXTURE LETTER | CLG SURF/ RECESSED |
| A | STRIP LIGHT FIXTURE & FIXTURE LETTER | CEILING |
| A, A, A, A, A | LIGHT FIXTURE & FIXTURE LETTER | CLG SURF/ RECESSED |
| A | LIGHT FIXTURE & FIXTURE LETTER | WALL |
| A | EXIT SIGN (SHADING DENOTES EXIT FACE SIDE) | CLG/WALL |
| A | LIGHT FIXTURE & FIXTURE LETTER | WALL |
| A, A, A, A | FIXTURE WITH SHADED LAMP(S) ON EMERGENCY POWER | CLG SURF/ RECESSED |
| A, A | EMERGENCY BATTERY LIGHT FIXT | CEIL/WALL |
| A | COMBO EXIT SIGN/EM BATTERY LIGHT | WALL |
| A, A | LIGHT FIXTURE & FIXTURE LETTER | POLE |
| A, A, A, T, A, A | LIGHTING TRACK, TRACK FIXTURES, & FIXTURE LETTERS | CEILING |
| PC | PHOTOCELL | |

| SYMBOL | DESCRIPTION | MOUNTING |
|---|---|---|
| $ / $ | LINE VOLTAGE SWITCH / LOW VOLTAGE SWITCH | |
| | SWITCH TAGS: a,b,c... = SWITCHING SCHEME; 2 = 2 CHANNEL / MULTI-STEP; 3 = 3 WAY; 4 = 4 WAY; D = DIMMING; O = OCCUPANCY SENSOR; C = DIMMER AND OCCUPANCY SENSOR; K = KEYED; P = PILOT; T = TIMER | |
| | OCCUPANCY SENSOR | CLG/WALL |
| LP | LIGHTING CONTROL POWER PACK | |
| EP | UL-924 LISTED POWER PACK | |
| AV | AV SYSTEM/LIGHTING INTERFACE | |
| DS | DAYLIGHT SENSOR | CEILING |

### PEN WEIGHT LEGEND

ALL DEVICES, LIGHT FIXTURES, ETC., DRAWN IN DARK SOLID LINES ARE NEW TO BE INSTALLED

| SYMBOL | DESCRIPTION |
|---|---|
| | NEW DUPLEX GROUNDED RECEPTACLE |
| | NEW LIGHT FIXTURE |

ALL DEVICES, LIGHT FIXTURES, ETC., DRAWN IN HALFTONE SOLID LINES ARE EXISTING TO REMAIN

| SYMBOL | DESCRIPTION |
|---|---|
| | EXISTING DUPLEX GROUNDED REC TO REMAIN |
| | EXISTING LIGHT FIXTURE TO REMAIN |

ALL DEVICES, LIGHT FIXTURES, ETC., DRAWN IN DARK DASHED LINES ARE EXISTING TO BE REMOVED

| SYMBOL | DESCRIPTION |
|---|---|
| | DUPLEX GROUNDED REC TO BE REMOVED |
| | LIGHT FIXTURE TO BE REMOVED |

**- - - SYMBOL LIST IS FOR REFERENCE ONLY. ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT. - - -**


SPT ARCHITECTURE
WICHITA, KS
316.267.4002

SEAN PATRICK GERETY LICENSED 28753 06/26/2026 KANSAS PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001
PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
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**USD 460 HESSTON MIDDLE SCHOOL**
**HESSTON, KS**

PERMIT SET 06.26.2026

**ELECTRICAL GENERAL NOTES AND SYMBOLS**

**E0.01**

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DIVISION 26 - ELECTRICAL

SECTION 260500 - BASIC METHODS AND REQUIREMENTS (ELECTRICAL)

PART 1 - GENERAL

1.1 GENERAL CONDITIONS
A. The General Conditions, Supplementary General Conditions, General Requirements, and Special Conditions shall be and are hereby made a part of this Section of the specifications.

1.2 SCOPE
A. The Electrical work shall include all labor, materials, tools, transportation,equipment, services and facilities, required for the complete, proper and substantial installation of all electrical work shown on the plans, and/or outlined in these specifications. The Installation shall include all materials, appliances, and apparatus not specifically mentioned herein or noted on the drawings but which are necessary to make a complete working installation of all electrical systems.
B. All of the electrical related work required for this project (unless specified otherwise) is a part of the Electrical Contract price and is not necessarily specified under this division of the specifications or shown on the electrical drawings. Therefore, all divisions of the specifications and all drawings shall be consulted.
C. The drawings showing the layout of the work indicate the approximate locations of outlets, apparatus, and equipment. The drawings are schematic only and are not intended to show the exact routing of conduits, etc. The final determination as to the routing shall be governed by structural conditions and other obstructions. This shall not be construed to mean the design of the system may be changed. It merely refers to the exact run of a raceway between given points. The Contractor shall consult all contract drawings which may affect the location of any outlet, apparatus or equipment to avoid possible interference and permit full coordination of all work. The right to make any reasonable change (within 6"-0") in the location of apparatus, outlets, and equipment up to the time of roughing-in is reserved by the Architect without involving any additional expense to the Owner.

1.3 MINIMUM REQUIREMENTS
A. Codes, Rules, and Regulations: Execute all work under the latest rules and regulations of the National Electrical Code Standard of the National Board of Fire Underwriters and with all laws, regulations and ordinances of the County, State, City, and the Utility Company.
B. Codes shall govern in case of any direct conflict between codes and plans and specifications; except when plans and specifications require higher standards than those required by code. Variance from the plan and specifications made to comply with code must be approved by the Architect. If approved they shall be made with no increased cost to the Owner.

1.4 EXAMINATION OF SITE
A. Visit the site, inspect the existing conditions and check the drawings and specifications so as to be fully informed of the requirements for completion of the work.
B. Lack of such information shall not justify an extra to the contract price.
C. *Existing systems and conditions shown on drawings for existing buildings are to be noted "for guidance only". The Electrical Contractor shall field check all existing conditions prior to bidding and is to include in his bid an allowance for extension, removal and/or relocation of existing conduits, wires, devices, fixtures, or other equipment as indicated on the plans or as required to coordinate and adapt new and existing electrical system to all other work.*

1.5 PERMITS
A. Obtain and pay for all licenses and permits, fees, inspection and certificates required for the execution of this work.
B. Pay fees and charges for connection to outside services and use of property.
C. Deliver permits and certificates to the Architect to be transmitted to the Owner.

1.6 SERVICES
A. This Contractor shall pay for all expenses, deposits, reimbursements, etc., required by the local rules and codes for the service to the building, complete and ready for use. See plot plan.
B. Consult Utility Company for their requirements and for coordinating with their installation. This Contractor shall bear all expense involved for the complete installation of the electrical service (both temporary and permanent) to the building ready for operation, except as specifically excluded on the plans. Expense shall also include guard posts around transformer and pedestals per Utility Company Standards.
C. This Contractor shall consult all local departments to verify requirements and bid installation of service in accordance with local codes and Utility company rules and regulations.
D. This Contractor shall bear all expense involved for the complete telephone service conduit installation and pull wire ready for cable installation. Verify complete installation with the local telephone company and bid installation to comply with their requirements.
E. *System outages shall be permitted only at times approved by Owner in writing. Work which could result in an accidental outage (beyond branch circuits) shall be performed with the Owner's maintenance personnel advised of such work.*

1.7 RESPONSIBILITY AND EQUIPMENT PROTECTION
A. This Contractor will be held responsible for any and all damage to any part of the building or to the work of other contractors, as may be caused through his operation.
B. Any mutilation of building finishes or equipment initiated by electrical construction shall be properly corrected by the respective finishing contractor and paid for by the Electrical Contractor.
C. During installation, equipment, controls, controllers, circuit protective devices, and other like items, shall be protected against entry of foreign matter and be vacuum cleaned both inside and outside before testing, operating and painting.
D. The operation of the temporary power and the permanent electrical system shall be the responsibility of this Contractor until acceptance of the building by the Owner.

1.8 WORK TO BE DONE BY GENERAL CONTRACTOR
A. Build in all openings sleeves, chases etc., for conduit and equipment as established, furnished and set by this Contractor. He shall seal or grout all openings after this Contractor has installed his conduits.
B. Build in bolts, brackets, hangers etc. for work established, furnished and set by this Contractor.
C. Do all concrete work required for equipment furnished and set by this Contractor, including clean up pads under electrical gear, fixture bases, etc.
D. All painting of Electrical equipment installed in finished areas shall be done by the General Contractor. Painting will not be required on receptacles, switches, circuit breakers etc. All fixtures and exterior poles specified to be factory-primed shall be painted by General Contractor.
E. Provide fireproofing above fixture per U.L. requirements where fixtures are located in fire rated ceilings.
F. Pay all utility costs for operation of electrical system during construction until acceptance of building by the Owner.

1.9 WORK DONE BY THE MECHANICAL CONTRACTOR
A. The Mechanical Contractor shall furnish wiring diagrams and temperature control drawings of all equipment furnished to the Electrical Contractor. Catalog information is unacceptable, provide point to point drawings.
B. The Mechanical Contractor shall furnish and install all control equipment requiring connections to air, water, steam, etc., such as pneumatic electric relays, remote bulb temperature controls, solenoid valves, aquastats and pressure controls.
C. The Mechanical Contractor shall reimburse the Electrical Contractor for any changes in system design i.e.; control or equipment which effects the Electrical Contractor.

1.10 WORKMANSHIP AND COORDINATION
A. Make installation substantially as shown on the plans.
B. Make alterations in location of apparatus or conduit as may be required to conform to building construction without extra charge.
C. Mechanical equipment service clearances and electrical apparatus service clearances as specified in their respective manufacturer's product data shall be maintained free from conduit.
D. Cooperate with other contractors in their installation of work.
E. Complete the installation in a workmanlike manner, completely connected and ready to give proper and continuous service.
F. Use only experienced licensed electricians.

1.11 CUTTING AND PATCHING
A. Notify the General Contractor in ample time, of the location of all chases, sleeves, and any other openings required in connection with the work of this contract.
B. Cutting and patching made necessary because of failure to comply with the above shall be done by the General Contractor at the expense of the Electrical Contractor.
C. When it is necessary for the Electrical Contractor to cut building materials to install his work, it shall be done in a neat and workmanlike manner meeting with the approval of the Architect.
D. Holes through concrete shall be carefully done with a "Concrete Termite" drill. A Star drill or Air Hammer will not be permitted. Structural members shall not be cut without approval from the Architect.
E. Any penetrations thru roof shall be made with "Stoneman" flashing connections as manufactured by Stoneman Engineering and Manufacturing Co., Inglewood, California.
F. Any penetrations made in exterior or basement foundation walls shall be sealed with Thunderline "Link-Seal" connections, as manufactured by Thunderline Corporation, Wayne, Michigan.

1.12 MANUFACTURER'S INSTRUCTIONS
A. Apply, install, connect, erect, use, clean, and condition articles, materials and equipment as directed by the manufacturer.

1.13 CEILING TILE MOUNTED DEVICES
A. Provide separate support for all devices mounted in or to lay-in ceiling tile. Ceiling tile shall not be used to support any device.

1.14 EQUIPMENT INSTALLATION AND REQUIREMENTS:
A. Equipment location shall be as close as practical to locations shown on the drawings.
B. Working spaces shall not be less than specified in the National Electrical Code for all voltages specified.
C. Inaccessible Equipment:
1. Where the Engineer determines that the Contractor has installed equipment without proper clearances or not conveniently accessible for operation and maintenance, equipment shall be removed and reinstalled as directed at no additional cost to the Owner. Install access panels as approved by the Architect to provide access to all equipment, J-boxes, and outlets located in non-accessible spaces. Panels shall be flush, locking type with a fire rating equal to the ceiling system.
2. "Conveniently accessible" is defined as being capable of being reached without the use of ladders, or without climbing or crawling under or over obstacles such as motors, pumps, belt guards, transformers, piping, and ductwork.
D. Distribution Equipment:
1. All items of Electrical Distribution Equipment (switchboards, fusible panelboards, panelboards, disconnect switches and transformers) shall be of one manufacturer, unless specifically noted on the drawings, in the specifications, or approved by the Engineer. Intermixing of distribution equipment by different manufacturers will not be permitted.
2. Provide a Type 1 surge protective device for lightning protection on each service entrance for each building. The surge protective device shall meet the requirements of UL 1449. Refer to drawings for voltage and phasing of service. Arrester shall be located within the main switch, panel or switchboard enclosure and connected with 12" maximum leads. Surge protective devices shall have an enclosure suitable for indoor or outdoor mounting and shall utilize metal oxide varistors that are individually fused.
a. 208Y/120V: Maximum Voltage Protection Ratings shall be 700V L-N and 1200V L-L. Minimum MCOV rating shall be 180V L-N and 360V L-L, minimum nominal discharge current shall be 10,000A, minimum short circuit current rating shall be 200,000A, and minimum surge current rating shall be 40,000A. Square 'D' #SDSA2040.
3. Equipment layouts on the drawings are based on one manufacturer. Verify all actual equipment sizes with equipment manufacturer prior to bidding.
4. If layout changes are required due to other electrical manufacturers equipment size, they must be submitted to and approved by the engineer. National Electric Code working clearances must be maintained at all times. In no case will extra remuneration be allowed for layout changes that differ from those shown.
5. Provide and install all steel supports as required for mounting of electrical equipment.
6. Anchor all free standing electrical equipment to the floor with plated 1/2" minimum anchor bolts as recommended by the manufacturer.
7. Electrical equipment that is likely to require maintenance while energized shall be field or factory marked to warn qualified persons of potential electric arc flash hazard per N.E.C. Section 110.16.
8. *Where adjustable trip circuit breakers are specified including ground fault devices, the Electrical Contractor shall provide a coordination study and set all overcurrent protective device settings accordingly.*

1.15 EQUIPMENT CONNECTIONS, CONTROLS AND INSTRUMENTATION
A. General: The following applies to all Electrical Power and Control Connections for all equipment requiring electrical installation work provided by others.
B. The Electrical Contractor shall furnish, install and connect all wiring, conduit, boxes, toggle switches, thermal switches, disconnect switches, remote pushbutton stations not included in magnetic starters, etc., for all equipment requiring electrical power that is either furnished or specified by other Contractors and/or the Owner, shown on drawings or listed below. The Electrical Contractor shall receive, install and connect all starters, controllers, variable frequency drives, over current devices, capacitors, power factor correction devices, transformers, alarms, bells, horns, relays, remote switches for equipment supplied by others (i.e. starters or capacitors or power factor correction devices for Mechanical Equip., etc.).
C. In general, all major equipment will be specified to be factory prewired with only service and interconnecting required at the site by the Electrical Contractor; however, all divisions of the specification shall be reviewed to verify whether the equipment is specified to be factory prewired and if not, then it shall be the responsibility of the Electrical Contractor to provide the complete wiring of the equipment in accordance with wiring diagrams provided by other Contractors and/or Owner to the Electrical Contractor. All interconnecting of equipment shall be by the Electrical Contractor.
D. All line and low voltage wiring/connections required to control equipment shall be provided as indicated below. Where the Mechanical Contractor (MC) is indicated, this also includes the Temperature Controls Contractor (TCC) if utilized on the project.
a. Line voltage conduit by EC
b. Line voltage wiring and connections by EC
c. Controls provided by MC
d. Low voltage control wiring and terminations shall be provided and installed by the MC
e. Conduit and rough-ins for low voltage control wiring shall be provided by MC. Conduit shall be provided for low voltage control wiring as required by Mechanical drawings/specifications.
E. The Electrical Contractor shall provide 120 volt control power supply; # 12 gauge CU. THWN in 1/2"-inch C. minimum at all points required by controls, and instrumentation and sprinkler risers. Circuit to the nearest 120 volt panel. Use spare 20 Amp. breakers. Each control panel shall be on a separate circuit unless otherwise indicated. If the controlled equipment is fed from the emergency system, then the control power supply must feed from the emergency system.
F. The Contractor shall be familiar with the equipment to be furnished by the other Contractors and/or the Owner in connection with this work and provisions for such connections and work shall be included in the Contractor's price. In no case will extra remuneration be allowed for such work.
G. Connections to all equipment have been designed from units as specified on the drawings or in the specifications. In the event equipment differs on approved shop drawings it shall be the responsibility of the supplying Contractor to coordinate electrical connections to the units and reimburse Electrical Contractor for any changes in system design. These changes shall not involve additional cost to the Owner.
H. Review all plans and specifications to verify all equipment connections that are required by Mechanical and/or other contractors. Although the electrical drawings will show equipment connection requirements, it is the Electrical Contractors responsibility to connect all equipment furnished by other Contractors at no extra cost to the Owner even if this equipment connection is not shown on the electrical drawings. Coordinate all required connections not shown on the electrical drawings with the Engineer.

1.16 NAMEPLATES
A. General: The following items shall be equipped with nameplates:
1. Disconnect Switches (fused or nonfused), switchgear, switchboards, panelboards, separately mounted circuit breakers, contactors and relays.
2. Special Electrical Systems (JCI Controls, etc.) shall be so identified at junction and pull boxes, terminal cabinet and equipment racks.
B. Inscription: Nameplates shall adequately describe the function or use of the particular equipment involved. Nameplates for panelboards and switchboards shall include the panel designation, voltage, phase, and A.I.C. rating of the supply (See Schedules). For example, "Panel A" 120/208 V, 3-Phase, 4-Wire, 10,000 A.I.C.". The name used for a machine nameplate shall be the same as the one used on the machine's motor starter, disconnect and P.B. station nameplates. Nameplates for fused switches and panels shall also indicate fuse type and size.
C. Construction: Nameplates shall be as follows:
1. Normal Power - laminated phenolic plastic white front and back with black core.
D. Lettering shall be engraved through front layer to form 1/4-inch white characters (1/2" white letters for distribution panel and switchboard names). Branch switch labels shall be 1/4-inch letters. Nameplates shall be securely fastened to the equipment to be identified, with No. 4 Phillips, round head, cadmium plated, steel self tapping screws or nickel plated brass bolts. Motor nameplate may be nonferrous metal not less than 0.03 inches thick, die stamped. In lieu of separate plastic nameplates, engraving directly on device plates is acceptable. Letters engraved thus, shall be filled with contrasting enamel. All nameplates and their installation are part of this work. Free hand lettering or dymo label marker will not be acceptable.

1.17 MATERIALS
A. Materials and equipment furnished shall be new, of best quality and design, free from defects, of current production by manufacturers regularly engaged in the manufacture of such items for at least 3 years, for which replacement parts should be available. All items used on this project shall be free of asbestos, PCB, and mercury material. A manufacturer's nameplate affixed in a conspicuous place will be required on each major component of equipment stating manufacturer's name, address and catalog number.
B. All material and equipment shall be listed, labeled or certified by Underwriter's Laboratories, Inc., where such standards have been issued. Equipment and material which are not covered by UL Standards will be accepted provided equipment and material is listed, labeled, certified or otherwise determined to meet safety requirements of a nationally recognized testing laboratory.
C. Where items of equipment and/or materials are specifically identified herein by a manufacturer's name, model or catalog number, only such specific items may be used in the base bid, except as hereinafter provided.
D. Unless requests for changes in base bid specifications are received and approved and noted by written addendum prior to the opening of bids, the successful contractor will be held to furnish specified items.
E. After contract is awarded, changes in specifications shall be made only as defined under "Substitution of Equipment"

1.18 SUBSTITUTION OF EQUIPMENT
A. After execution of the contract, substitution of equipment of makes other than those specifically named in the contract documents may be approved by the Engineer only if the equipment named in the specifications cannot be delivered to the job in time to complete the work in proper sequence to work of other Contractors, due to conditions beyond control of the contractor.
B. Requests for substitutions must be accompanied by documentary proof of equality or difference in price and delivery, if any, in form of certified quotations from suppliers of both specified and proposed equipment.
C. The Owner shall receive all benefits of the difference in cost involved in any substitution, and the contract altered by change order to credit Owner with any savings so obtained.

1.19 SUBMITTALS
A. The Engineer's approval shall be obtained for all equipment and material before delivery to the job site. Delivery, storage or installation of equipment or material which has not had prior approval will not be permitted at the job site.
B. All submittals shall be submitted electronically and include adequate descriptive literature, catalog cuts, shop drawings and other data necessary for the Engineer to ascertain that the proposed equipment and materials comply with specification requirements. Catalog cuts submitted for approval shall be legible and clearly identify equipment being submitted.
C. Submittals shall be complete and submitted together for each section. Individual systems and equipment assemblies which consist of more than one item or component shall be made for the system or assemble as a whole. Partial submittals will not be considered for approval.
D. Mark the submittals, "SUBMITTED UNDER SECTION_____". Mark out all statements on sheets that do not apply otherwise. The Engineer may select options and equipment not originally specified. All options that are not marked out will be assumed that the Contractor will furnish the same.
E. Mark catalog cuts to indicate equipment, capacities, finishes, sizes, etc. Each individual item shall have its own sheet provided for approval. (Example: Separate sheets for each panelboard.)
F. All shop drawings shall be checked and signed by this contractor and general contractor prior to submittal to the Architect/Engineer.
G. Shop drawings submitted without Contractor's signatures or approval and verification will not be approved.
H. The submittals shall include the following:
1. Information that confirms compliance with contract requirements. Include the manufacturer's name, model or catalog numbers, catalog information, technical data sheets, shop drawings, pictures, nameplate data and test reports as required.
2. Elementary and interconnection wiring diagrams for communication and signal systems, control system and equipment assemblies. All terminal points and wiring shall be identified on wiring diagrams.
3. Quantities of materials will not be verified by the Architect or Engineer. Approval stamp on shop drawings does not constitute approval of quantities listed on shop drawings.
I. Shop drawings shall be submitted on **wire, cables, devices, lighting fixtures (including distribution curves), lighting controls, panelboards, disconnects, switchboards, conduit, raceway systems, etc.**
J. Submittals for low-voltage systems (fire alarm, security, PA, controls, sound, clock, nurses' call, intercom, etc.) shall include complete riser diagrams showing all conductors and conduit sizes.
K. Engineer's acceptance of Compliance Submittals will not relieve the Contractor from his responsibility for any deviations from the requirements of the contract documents, unless Contractor has in writing called Engineer's attention to such deviation at the time of submission and the Engineer has given written approval to the specific deviation; nor shall any acceptance by Engineer relieve Contractor from responsibility for errors or omissions in Compliance Submittals.

1.20 ELECTRICAL WORK COMPLETION
A. Before requesting final inspection the following work must be completed.
B. Operating Instructions:
1. The Contractor shall submit along with the shop drawings of the equipment, three (3) copies of operating instructions for all items. Instructions shall be prepared by the manufacturer of the equipment.
2. After the operating instructions have been approved by the Architect, the Contractor shall include the three (3) copies in maintenance instructions brochures.
3. The Contractor shall also obtain all manufacturer's instructions, manuals, and one complete set of drawings and turn these over to the Architect at the completion of the project.
4. The Contractor shall keep in a safe place, all keys and special wrenches furnished with equipment under this contract and shall give same to the Engineer at the completion of the project.
5. The Contractor shall prepare a complete brochure, in triplicate, covering all systems and equipment furnished and installed under this Contract. Brochures shall be submitted to the Architect for approval and delivery to the Owner. The cost of this brochure shall be included in the contract cost. Brochures shall contain the following:
a. Certified equipment drawings and/or catalog data clearly marked for equipment furnished as required for approval submission under detailed section of the specifications.
b. Complete operating and maintenance instructions for each item of equipment.
c. Complete part list for each equipment item.
d. Any special emergency operating instructions or a list of service organizations (including addresses and telephone numbers) capable of rendering emergency service to the various parts of the system.
6. Brochures shall be bound in PDF form with an index, subdividers and reinforced sheets.
a. Project name and address.
b. Section of work covered by brochure, i.e. "Electrical Work".
c. Name and address of Architect., Engineer, and Contractor.
d. Telephone number of Contractor, including night or emergency number.
7. In addition to these written instructions, each respective contractor shall fully and carefully instruct the Owner, or the Owner's representatives, as to the proper operation, care and maintenance of each system and its equipment.

1.21 TESTING AND ADJUSTMENT
A. Upon completion of the project, record loads for a 48 hour period on each phase of all existing panelboards, distribution panels and switchboards, in which new loads are being added to and submit final readings to the Engineer for records. This Contractor shall adjust equipment, instruments, gages, meters etc., as required to test and adjust these systems.
B. Check test and adjust the mechanisms of all electrical equipment as required for optimum performance.
C. Perform tests for insulation resistance in accordance with the requirements of the National Electrical Code and insure that all circuits are free from short circuits.
D. Keep a calibrated voltmeter and ammeter available at all times and provide service for test readings when and as required up until the project is accepted by the Owner.

1.22 AS-BUILT DRAWINGS
A. Show on blue line prints in red ink all changes from original plans made during the installation. Return two (2) sets of red marked drawings, specifications and addenda, as set forth in the General Conditions, to the Architect upon completion of the Project.

1.23 FINAL INSPECTION
A. Final inspection will be made upon written request from the General Contractor after the project is completed; in accordance with the Supplementary General Conditions.
B. Furnish a workman familiar with this project to accompany the Engineer on final inspection and have available ladders, drop cords, and other equipment as required to gain access to any portion of this system.
C. This Contractor and principal subcontractors shall be represented at the inspection by a person of authority responsible to demonstrate to the Engineer that the work conforms to the intent of the plans and specifications.
D. Extra inspections made necessary by the Electrical Contractor's failure to comply with the conditions as set forth above shall be charged to the contractor for the inspector's time both on the job and spent in travel between the office and the project site.

1.24 GUARANTEE
A. Guarantee all work, material and equipment for a period of one year after date of substantial completion.
B. During the year guarantee period the Electrical Contractor shall be responsible for any defects which develop in the electrical systems. Upon notification of a defect by the General Contractor, the Electrical Contractor shall make immediate effort to correct it and shall notify the Architect when this work is completed. This guarantee does not include ordinary lamp failure.
C. Repairs and/or replacements shall be made with no cost to Owner.
D. Provide as part of the work of this contract, in addition to the first year's guarantee on equipment and materials, the following routine maintenance and inspection. (The one year time period will not start until each item is completed in accordance with plans and specifications and accepted by the Owner). Correct and adjust all emergency systems, controls, fire alarm, transformer, etc. This service to be provided throughout the guarantee period.

END OF SECTION 260500

SECTION 261000 - BASIC MATERIALS

1.1 CONDUIT
A. Materials:
1. Rigid conduit shall be standard size, hot dip galvanized conduit as manufactured by the Republic, Allied Tube, LTV, or equal. Rigid steel conduits and intermediate metal conduits shall be provided with threaded fittings and couplings.
2. EMT tubing shall be Allied, Republic, LTV, or equal with U.L. approved National Electric Code type fittings. Indenter type fittings shall not be used.
3. All conduit exposed to physical abuse (i.e. industrial locations), installed in wet locations, in slabs, below grade or exposed exterior to the building, shall be rigid steel or intermediate metal conduit (IMC).
4. EMT conduit may be used where code permits except as outlined above.
5. A ground wire sized per N.E.C. Section 250.122 shall be installed in each conduit containing phase conductors.
6. Liquid-tight flexible metal conduit: Flexible galvanized steel tubing covered with extruded liquid-tight jacket of polyvinyl chloride (PVC). Provide conduit with a continuous copper bonding conductor spiral between the convolutions. Provide steel or malleable iron fittings. Connectors shall have insulated throats.
7. U. L. approved Schedule 40 P.V.C. conduit may be used where feeders or branch circuits are to be run in earth or slabs (3/4" minimum). Use all steel ells and risers with PVC coating approved for underground use. Use conduit adapters when converting from P.V.C. to steel conduit. Use plastic spacers when more than one conduit is installed together. See Drawings for areas requiring concrete encasement.
8. *Short runs of galvanized flexible conduit may be used when approved by the Engineer. Otherwise, flexible conduit such as metal clad cable is not approved for general use.*
9. *Metal Clad Cable may be utilized in concealed locations for branch circuit wiring from junction boxes to fixtures and wiring devices. All home runs shall be in conduit.*
a. *The use and installation of Metal Clad Cable shall conform to N.E.C. Article 330, state and local codes and this specification. In all cases, the most restrictive requirements shall govern.*

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

**ELECTRICAL SPECIFICATIONS**

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*b. Metal Clad Cable shall be supported at intervals not exceeding 6 feet and within 12 inches of every box, cabinet, fitting or other cable termination. Comply with additional requirements of N.E.C. Section 330.30.*

B. Bushings And Locknuts:
1. Bushings for terminating conduits smaller than 1-1/4-inches are to have flared bottom and ribbed sides, with smooth upper edges to prevent injury to cable insulation.
2. Install insulated type bushings for terminating conduits 1-1/4-inches and larger. Bushings are to have flared bottom and ribbed sides. Upper edge to have phenolic insulating ring molded into bushing.
3. Where required, bushings of standard or insulated type shall have screw type grounding terminal.

C. Conduit Installation:
1. All conduit work shall be installed concealed in walls, floor and roof construction or concealed within furred spaces or above ceilings. In equipment or mechanical rooms exposed work shall include feeders and connections to equipment unless noted otherwise.
2. All exposed conduits (where approved by the Engineer) shall be routed parallel or perpendicular to building elements.
3. Conduit shall be installed to the requirements of the structure and to requirements of all the other work on the project. Conduit shall be installed to clear all openings, depressions, pipes, ducts, reinforcing steel, etc. Conduit set in forms for concrete structure shall be installed in a manner that installation will not affect the strength of the structure as determined by the Structural Engineer. Maximum size of conduit in concrete slab is 1-1/4-inches trade size.
4. Conduit shall be installed continuous between connections to outlets, boxes and cabinets with a minimum possible number of bends and not more than the equivalent of 4-90 degree bends between connections. Bends shall be smooth and even and shall be made without flattening conduit or flaking enamel. Radius of bends shall be as long as possible and never shorter than the corresponding trade elbow. Long radius elbows shall be used where necessary.
5. Conduits shall be securely fastened in place with approved straps, hangers, and supports as required. See Specification Section entitled SUPPORTING DEVICES for conduit support requirements.
6. Conduit shall be reamed before installation and all conduit shall be thoroughly cleaned before installation and kept clean after installation. Openings and boxes shall be plugged or covered as required to keep conduit clean during construction and all conduit shall be fished clear of obstructions before the pulling of wires. All conduit shall be as sized above and shall not be smaller than code requirements.
7. All work shall be protected against damage during construction and any work damaged or moved out of line after roughing-in shall be repaired and reset to the approval of the Architect without additional cost to the Owner.
8. Conduit terminations at panelboards, switchboards, motor control equipment, junction boxes, etc., shall be aligned and installed true and plumb. Wood or steel bucks or templates shall be used where required.
9. Install sleeves and sleeve seals at exterior floor, exterior wall, and roof conduit penetrations and completely seal clearances around the conduit and sleeve and make watertight.
10. Rooftop raceways or cables shall be supported up off the surface of the roof with a polymeric rooftop support equal to Caddy Pyramid series. Supports shall be non-penetrating and shall be designed to prevent damage to the roofing materials. Wood supports are not allowed.
11. Where conduits cross construction expansion joints, contractor shall provide Appleton XJ expansion couplings or equal with copper bonding jumpers.
12. Use flexible metal conduit (Type FMC) for connections to motors and other electrical equipment subject to movement, vibration, misalignment, cramped quarters, or noise transmission. Provide liquid-tight flexible metal conduit Type (LFMC) for installation in exterior locations, kitchens, moisture or humidity laden atmosphere, corrosive atmosphere, water or spray wash-down operations, etc.
13. All branches of the emergency system shall be installed entirely independent of other raceway systems. Common supports and hangers may be used.

1.2 WIRES AND CABLES
A. Southwire, General Cable, Allied or equal code gauge wire, finished with fadeless color solution for National Electric Code system of color coding and bearing Underwriter's label. Wires shall be soft annealed stranded copper with properties conforming to the National Electric Code requirements. No. 8 gauge and larger shall be stranded. No. 10 gauge and smaller shall be solid.
B. Wire smaller than No. 12 gauge shall not be used unless specifically called for.
C. All feeder conductors shall be the same size and type and be continuous from overcurrent device to panel.
D. Wires for general use within the building shall be Type THWN, XHHW, or combination THHN/THWN except where called for on the drawings. Type THW may be used for #6 AWG and larger sizes. All conductor sizes must be as specified on drawings regardless of insulation type. Wires for other than general use shall be as hereinafter specified for specific services.
E. A ground wire sized per N.E.C. Section 250.122 shall be installed in each conduit containing phase conductors.
F. All control wiring shall be copper, solid or stranded, #14 ga. or larger depending upon current requirements. Insulation Type for 90 degree C. Where stranded conductors are used provide with spade type insulated copper terminals.
G. See riser diagrams and/or other sections of the Specifications for types and ratings for sound, fire alarm, control and other special cables.
H. All conductors shall be identified at all termination points and in all pull and junction boxes by the following method of color coding. Means of identification shall be permanently posted at each branch circuit panel with a nameplate identifying color coding where more than one nominal voltage system is in the same building.
- 208Y/120 volt system:
  - Phase A - Black
  - Phase B - Red
  - Phase C - Blue
  - Neutral - White
  - Ground - Green

I. All conductors size #8 Awg and smaller shall have colored insulation. Where conductors with black insulation are used for the larger wire sizes (#6 Awg and larger) color coding shall be provided with two layers-one half lapped of No. 35 colored Scotch Vinyl electrical tape. Where any conductor is or can be supplied from an emergency system the Contractor shall mark each conductor with an additional two layers-one half lapped of Purple colored Scotch Vinyl Electrical tape.
J. Individual neutrals shall be provided for each circuit. Multi-wire branch circuits (i.e. Two or more phases sharing a neutral conductor) shall not be allowed, unless specifically noted or shown on the plans. Where multi-wire branch circuits are shown or noted on the plans, provide a disconnecting means that will simultaneously disconnect all phase conductors at the panel where the branch circuit originates.

1.3 FIRE BARRIER PENETRATION SEALS
A. Manufacturer: Subject to compliance with requirements, provide fire barrier penetration seals shall be equal to Electro Products Div./3M.
B. Provide seals for any opening through fire-rated walls, floors or ceilings used as passage for components such as conduits or cables.
1. Cracks, Voids or Holes Up to 4-inches Diameter: Use putty or caulking, one-piece intumescent elastomer, non-corrosive to metal, compatible with synthetic cable jackets, and capable of expanding 10 times when exposed to flame or heat, UL-listed.
2. Openings 4-inches or Greater and Conduit Sleeves Thru Floors at Telephone Terminal Boards: Use sealing system capable of passing 3-hour fire test in accordance with ASTM E-814, consisting of wall wrap or liner, partitions, and end caps capable of expanding when exposed to temperatures of 250 to 350 degrees F (121 to 177°C), UL-listed. KBS "Sealbags" manufactured by P-W Industries will be acceptable.
C. Execution: Fill entire opening with sealing compound. Adhere to manufacturer's installation instructions. All fire barrier seals shall meet the rating of the wall.

1.4 WIRE CONNECTIONS
A. All wires shall be run in conduit, shall be continuous between outlets and boxes (with no splices or taps in conduits). Splices and taps for #6 and larger conductors shall be with block type with insulating jacket or split bolt connectors, covered and completely insulated with a minimum of three half-lapped layers of Scotch No. 33+ (105°C) plastic electrical tape or by approved insulated fastener. All splices and taps having irregular surfaces shall be properly padded with Scotchfil putty before application of insulating plastic tape. Scotchlok electrical pre-insulated spring pressure connectors or equal may be used for up to #8 conductors. Connectors shall be installed so that all wires are properly insulated.

1.5 PULL AND JUNCTION BOXES
A. Pull and junction boxes shall be code gauge steel boxes with hinged, bolted or screwed covers. Boxes shall be flush or surface mounted as shown or required.
B. Junction and pull box shall be installed where shown on drawings and additional boxes shall be installed if required for pulling of wire provided location and installation is approved by the Architect. All boxes shall be code construction with screw type cover and shall be installed in accessible locations.
C. Exterior boxes for underground wiring shall comply with SCTE 77 and be designed for flush burial with open bottom unless otherwise indicated. Provide polymer concrete box and cover with tamper-resistant locking devices, structural load rating consistent with enclosure and handhole location, and molded lettering identifying use (i.e. "ELECTRIC"). Provide minimum 12" pervious material below pullbox for drainage.

1.6 OUTLET BOXES
A. All electrical service outlets, including plug receptacles, lamp receptacles, lighting fixtures and switches shall be provided with Steel City, Appleton, or RACO 4-inches square, code gauge steel knockout boxes, galvanized or sherardized and of required depth for service and appliances. Boxes installed in plaster finish shall have code gauge galvanized raised covers set to plaster ground with outside edge flush with plaster finish. Covers shall be selected with proper openings for devices installed in box. Boxes installed in concrete and boxes larger than 2 gang may be masonry type boxes. All outlet boxes in walls, partitions, and ceilings shall be flush mounted unless specifically noted otherwise on the drawings, or as approved by the Engineer.
B. Sectional boxes shall not be used except where directed and approved by the Architect for installation in unplastered tile walls and provided conduit connections are installed concealed in walls.
C. Where lighting fixtures and appliance outlets are to be mounted on concrete or on plaster finish on concrete, outlet boxes shall be installed in forms of exact dimensions from bench marks, columns, walls or floors. Where lighting fixtures and appliances outlets are to be mounted on masonry walls and/or plastered furring or other Finish, outlet boxes shall be roughed in to general location before installation of walls and furring and shall be reset to exact dimensions before walls and furring are constructed. All outlet boxes shall be set true to horizontal and vertical lines parallel to walls, floors and ceilings and true to finish lines. All boxes shall be secured to ceilings or walls so all installation are solidly mounted. Boxes mounted to wall studs shall be secured to a horizontal box mounting bracket equal to B-Line Series #BB2 or #BB26. Metal stud clips with farside box supports are not acceptable.
D. Furnish and install plaster rings for all boxes installed in plastered ceilings and walls. Verify construction with general construction plans.
E. Boxes for exterior exposed work (where approved by the Engineer) shall be Appleton or Crouse-Hinds Type FS or FSC for shallow devices and Type FD or FDC for deep devices. Boxes for ceiling mounted light fixtures shall have approved no-bolt fixture studs. Boxes used as junction boxes shall have beveled edge flat steel blank cover.
F. Where outlet boxes are mounted exposed in unfinished areas, (where approved by the Engineer) surface mounted boxes shall be 4-inches square, have rounded corners and 1/2 inch raised steel cover plates.
G. Location of outlets on small drawings is approximate and exact dimensions for location of outlets shall be as taken from large scale plans and details on drawings or as directed by the Architect/Engineer. Outlets shall be located generally from column centers and finished wall lines or to center or joints of wall panels. Ceiling outlets shall be installed at elevation of suspended ceilings and connected to outlets in ceiling or slab above. Where necessary to fit and center with panel or ceilings and wall spaces, the Contractor must at his own expense shift the lighting outlets or other outlets as required by the Architect.
H. Boxes for switches at or near doors shall be installed on the side opposite the hinge. Verify door swing direction prior to rough-in.

I. To prevent sound from traveling through walls, electrical devices from different rooms shall not be mounted in the same stud place. Through-wall boxes shall not be used. In fire rated walls or partitions, outlet boxes on opposite sides of walls or partitions shall be separated by a horizontal distance of 24-inches. Outlet boxes larger than 4-inches square shall not be installed in fire rated walls or partitions. Verify location of fire rated walls or partitions with Architectural drawings prior to rough-in.
J. It shall be the duty of this Contractor to examine the plaster, painting, and other finishes before making his installation to make sure that these accessories, when installed, will fit and cover properly and leave no open or unfinished surface showing. He shall refuse to complete his installation where faulty work on the part of others is found, and he shall promptly report the trouble to the Architect.

1.7 WALL SWITCHES
A. Wall switches in general, used to control lighting, shall be quiet operating, listed by U.L. and conform to NEMA standards as well as the latest Federal Specification W-S-896e.
B. Switches shall be single pole, two-pole, three-way, four-way, keyed, or with pilot light as called for on the drawings. Groups of switches shall be under one gangplate. Where switches are in fire rated walls. groups of switches shall be maximum of two (2) gangs under one cover plate.
C. Switches shall be 20A., 125V., 277V. unless specified otherwise.
D. LIST OF ACCEPTABLE SWITCH MANUFACTURERS:

| Mfgr: | Switch: |
|---|---|
| P&S | PS20AC Series |
| Hubbell | HBL1220 Series |
| Leviton | 1220 Series |
| Bryant | 4900 Series |
| Cooper | 1220 Series |

E. Color of switches/dimmers as selected by the Architect. Verify colors prior to ordering. Loads fed from emergency panel shall have red bodies.

1.8 RECEPTACLES
A. Convenience duplex receptacles shall be grounded twin outlet receptacle rated 20 amperes at 125 volts.
B. Where receptacles are indicated on the drawings as "WP" (weatherproof), provide weather resistant GFCI grounded duplex receptacle with "In-Use" extra-duty metallic weatherproof cover. Hubbell #WP26E or equal by Taymac or Red Dot.
C. Receptacle body shall be formed of high-impact thermoplastic or urea with nylon face and receptacle contacts shall be Bronze. Certification that receptacle meets or exceeds N.E.M.A. Standards shall be submitted to the Engineer for approval.
D. All 120V and 250V receptacles rated 50A or less located in bathrooms, kitchens, within 6 feet of a sink, exterior locations, elevator machine rooms, elevator pits, garages, per NFPA 70 and as located on the plans shall be ground fault circuit interrupters (GFCI) for personnel protection (Class A) with 5ma trip. Feed through GFCI receptacles or GFCI breakers may be used to protect other receptacles in the same room and on the same circuit if wired per the manufacturer's recommendations. Prior to final inspection, perform ground fault test on each protected receptacle and submit list of all receptacles tested with results to the Engineer. Label receptacles that are GFCI protected by another feed through GFCI receptacle or by GFCI breaker."GFCI protected". Where receptacles aren't readily accessible, then GFCI protection shall be provided integral with the associated circuit breaker.
E. LIST OF ACCEPTABLE RECEPTACLE MANUFACTURERS:

| Mfgr: | Duplex: | GFCI Duplex: | GFCI WR Duplex: |
|---|---|---|---|
| P&S | 5362 | 2097 | 2097TRWR |
| Hubbell | 5352A | GFRST20 | GFWRST20 |
| Levition | 5352 | G5362-WT | G5362-WT |
| Bryant | BRY 5362 | --- | --- |
| Cooper | 5352 | --- | --- |

F. Install receptacles to clear all cabinets, equipment, etc.
G. Color of receptacles as selected by the Architect. Verify colors prior to ordering. Loads fed from emergency panel shall have red bodies.
H. Provide tamper resistant receptacles for all 15A and 20A nonlocking type receptacles rated 125V and 250V as required per N.E.C. Section 406.12.

1.9 WALL PLATES
A. Wall plates shall be flexible (non-breakable) nylon unless noted otherwise. Wall plates in industrial areas, gymnasiums, maintenance areas, warehouses and other high abuse areas shall be stainless steel. Plates shall be set plumb and parallel with the wall.
B. Color of wall plates as selected by the Architect. Verify colors prior to ordering. Loads fed from an emergency panel shall have red plates.

1.10 FUSTATS
A. 120V motor loads up to 1/2 HP: Shall be Bussmann "SSY" with Edison-base fuse holder and integral toggle switch. Where located in damp or wet locations, provide weatherproof unit equal to Bussmann #SSN.
B. 120V motor loads, 3/4 HP: Shall consist of horsepower rated Edison-base fuse holder and separately mounted 30A. 1P. 120V. horsepower rated toggle switch adjacent to fuse holder.
C. 120V motor loads up to 1HP: Shall be Siemens "LF111N" 30A, 120V disconnect switch with Edison-base fuse holder.
D. 120V motor loads, 1 HP or 277V motor loads: Shall consist of horsepower and voltage rated manual motor starter switch and a horsepower and voltage rated fuse holder designed to hold a time-delay Class CC rejection-type fuse.
E. Mount fustats in housings of equipment served. Fuses for motors shall be sized based on 125 percent of manufacturer's nameplate full load amperage unless otherwise indicated on drawings.

1.11 SUPPORTING DEVICES
A. Conduits shall be supported at intervals not greater than 10 ft., within 3 ft. of any bend and every outlet or junction box. This shall apply on vertical runs as well as horizontal runs.
B. All supports for conduits shall be independent from other trades unless noted otherwise on drawings or written approval by the Engineer. Contractor shall work with other trades where a common support structure is provided and has been approved by Engineer.
C. Plastic or wood anchors of any type shall not be used.
D. Multiple Runs
1. Where a number of conduits are to be run exposed and parallel, one with another, they shall be grouped and supported by trapeze hangers.
2. Hanger rods shall be fastened to structural steel members with suitable beam clamps or to concrete inserts set flush with surface. A reinforcing rod shall be installed through the openings provided in the concrete inserts.
3. Inserts shall be Grinnell Fixture 282, Code Devices, Inc., No. 1 or equal.
4. Beam clamps or clips shall be suitable for structural members and conditions.
5. Rods shall be steel 3/8-inches dia. minimum or approved by the Engineer.
6. Trapeze hangers shall be Unistrut P-1000 Series or equal.
7. Each conduit shall be clamped to the trapeze hanger with conduit clamps. Clamps for rigid conduit shall be Unistrut No. P-1111 through P-1124 or equal. Clamps for electrical metallic tubing shall be Unistrut No. P-1426 through P-1431 or equal.

E. Single Runs
1. Where conduits are run individually, they shall be supported by approved pipe straps, or clips secured by adequate means. The use of perforated strap will not be permitted.
2. Conduits installed exposed on the surface in damp locations or in refrigerated areas shall be provided with clamp backs under each conduit clamp to prevent accumulation of moisture around the conduits.
3. Conduits installed in open web joists shall be supported with manufactured support clips approved for the purpose. Wire wrapped around conduits will not be approved for conduit support. Conduit will not be supported from ceiling suspension wires, except that flexible connections to light fixtures in suspended ceilings may be supported from ceiling support wires with approved bat-wing clips if the ceiling installer verifies that the hangers are designed to support the additional load.

1.12 TRENCHING AND BACKFILLING
A. Perform all trenching and backfilling required by work performed under this Section in accordance with the requirements of Table 300.5 of the National Electrical Code. Underground conduits shall be installed in a sand bed and in an organized manner.
B. Underground Utility Identification: Provide a six-inch (6") wide, yellow colored plastic tape. Install the tape for the continuous length of all underground primary raceways provided under this contract. Tape shall be buried not less than twelve inches (12") below finished grade. Tape shall be Brady "Identoline" or acceptable alternate and imprinted in large, legible, black letters "Caution – Electrical Utilities Below".
C. Prior to any underground work, contractor shall verify and locate all existing underground utilities. All existing utilities may not be shown on the drawings. Verify in field with owner and with utility locating services. The contractor shall exercise extreme caution when trenching or boring, hand digging at all crossings and where in close proximity of existing utilities. Repair existing parking lots, streets, roads, alleys, driveways, etc. to its original condition in a timely manner prior to substantial completion. Contractor shall be responsible for any damage to underground utilities

1.13 COLOR CODING OF BOXES, CONDUIT, AND RACEWAYS
A. All boxes, conduit, and raceways, shall be color coded as follows:
a. Essential Electrical System:
1. Critical Branch - Orange
2. Life Safety Branch - Yellow
3. Equipment Branch - Green
b. Other Systems:
1. Fire Alarm - Red

END OF SECTION 261000

SECTION 264000 - SERVICE AND DISTRIBUTION

1.1 ELECTRIC SERVICE (MAIN SERVICE)
A. Consult power company for their requirements and for coordinating with their installation. Coordinate fuses, circuit breakers and relays with the power company's system, and obtain power company approval. Contractor shall provide any work thus required beyond that indicated by drawings and/or specifications and pay for costs incurred for Utility Company to install both temporary and permanent service to building. Installation of temporary power and lighting shall comply with N.E.C. and OSHA requirements. Verify costs with Utility Company prior to bidding. Contractor shall provide guard posts around transformers and pedestals per Utility Company standards.

1.2 GROUNDING
A. All conductors, motor frames, etc., that require grounding shall be grounded in accordance with the requirements of the National Electrical Code, local power company and local electrical codes. All ground connections to ground rods shall be with Cadweld connections. Provide additional ground rods as required to achieve a resistance of 25 ohms or less per N.E.C. Section 250.53, at the request of the Engineer provide a copy of the test results. Multiple ground rods (when required) shall not be less than 6 feet apart. Bond all conductive piping systems in the building to the electrical system ground. Bonding connections shall be made as close as practical to the water pipe ground or service equipment ground bus.

1.3 DISCONNECT SWITCHES
A. The Contractor shall furnish and install Eaton, Square D by Schneider Electric, General Electric or Siemens Infrastructure and Cities (Siemens IC), externally operated, heavy duty, horsepower rated disconnect switches at all points indicated on the drawings or required by code. All disconnect switches shall be fused except for disconnect switches that have individual fuse protection at the point where the circuit receives its supply. Provide disconnect switches with fuse clips, Class "J" or Class "L". Provide dead front type on all exterior disconnects on grade when required by local code.
B. The enclosure shall have the proper NEMA rating for the environment.

1.4 FUSES
A. Cartridge type fuses of proper size and type as required shall be furnished and installed for all switches throughout and an additional supply of three spare fuses of each size and type shall be furnished in original packages to the Owner. Furnish NEMA 1 enclosure for storing all spare fuses located adjacent to main service equipment.
B. Approved Manufacturers: Bussmann, Littelfuse, Mersen.
C. Fuse Classifications:
1. 601 amps and larger 600 volts and less: Class L
2. 600 amps and less 600 volts and less: Class J
3. Class R fuses will not be accepted.
D. Fuses for motor and mechanical equipment shall be sized per nameplate data and the N.E.C.. Fuse manufacturer must list in shop drawings specifically which fuse to install for each motor and starter required to provide Type '2' no damage protection. The Contractor must provide and install the selected fuse and switch.
E. Fuses installed on project shall be by one manufacturer only. (Do not intermix manufacturers.).

1.5 BRANCH CIRCUIT PANELBOARDS
A. Panels shall have concealed trim clamps, doors with concealed hinges, and flush lock, master keyed. For multi-section, flush mounted panelboards are indicated on drawings. Panel cans and covers shall be of the same size for each section.
B. Key all doors alike and furnish two keys for each lock. Doors over 48 inches high and double doors to have two locks. Consult drawings for flush or surface mounting.
C. After wiring, label each circuit and provide under plastic in door of panel a type written schedule indicating load description for all circuits in panel. Mark spare breakers and provisions for future breakers in pencil on schedule for future circuit marking.
D. Breakers shall have individual plastic cases sized as scheduled on the plans. Two and three pole breakers shall have common trip (single pole units with tie bars are not acceptable). Back-fed main circuit breakers above 100 Amps will not be acceptable.
E. All panelboards shall have ground buses installed and grounded according to N.E.C. All panelboards serving devices having isolated ground circuits shall be provided with an additional insulated ground bus for connection of isolated ground conductors.
F. Where flush mounted panels occur on drawings contractor shall stub into ceiling void for future use, one 1-inch empty conduit for every four spare 20A. breakers or unused panel space.
G. Bus in panels shall be tin plated and as standard for the manufacturer.
H. Branch Circuit Panelboards rated up to 240V (400A. max) shall have a short circuit current rating tested to U.L. Standards for a minimum rating of 22,000 A.I.C. unless noted otherwise. Breaker rating with-in panel shall be equal to or greater than minimum integrated equipment rating. All breakers shall be of the plug-on or bolt-on type. Minimum panelboard width 20 inches.
I. Approved Manufacturers:

| Manufacturer: | 240 Volt (400A Max) | Circuit Breaker Distribution Panel |
|---|---|---|
| Square D | NQ | I-Line |
| Siemens | P1 & P2 | P4 & P5 |
| Eaton | PRL1a | PRL3a & PRL4 |
| ABB | RQ | Spectra |

J. Minimum circuit breaker short circuit rating options: See the drawings for panel A.I.C. ratings.
1. Fully rated breakers.
2. U.L. Series rated with Class 'J' or 'L' fuses.
3. U.L. series rated with a line side breaker.
4. Panelboards and shop drawings shall have a U.L. label indicating the integrated equipment rating. If U. L. Series ratings are used the shop drawings shall clearly indicate the rating used and that it is U.L. Listed. Panelboard nameplates shall clearly indicate the A.I.C. rating of the panel and the method used to rate the panel (Example: "50,000 AIC with 22 KA Breakers and Class 'J' fuses".)
K. A listed surge protective device (SPD) shall be provided integral with all emergency system panelboards and switchboards.

1.6 SURGE PROTECTIVE DEVICES (SPD/TVSS)
A. Surge Protective Devices (SPD) shall be factory installed in the panelboard or switchboard unless noted otherwise on the drawings. Service entrance devices shall be rated 200 ka per phase total (100 ka per mode). Branch circuit panelboard devices shall be rated 160 ka per phase total (80kA per mode).
B. A SPD device shall be provided for all panelboards supplied by the Emergency system.
C. Maximum clamping voltage shall be:
1. Line to neutral: 400 volts for 208Y/120 volt and 240/120 volt systems; 800 volts for 480Y/277 volt systems.
2. Line to ground: 400 volts for 208Y/120 volt and 240/120 volt systems; 800 volts for 480Y/277 volt systems; 2000 volts for 480 volt delta systems; 1000 volts for 240 volt delta systems.
3. Neutral to ground: 400 volts for 208Y/120 volt and 240/120 volt systems; 800 volts for 480Y/277 volt systems.
4. Line to line: 2000 volts for 480 volt delta, systems 1000 volts for 240 volt delta systems.
D. Units shall have individually fused MOV's with a 200kA minimum interrupting capacity. Include red and green LED indicator lights for power and protection status. A surge event operation counter shall be provided.
E. Connect SPD to bussing with bolted connections to each phase, neutral and ground bus. Add on devices, acceptable only when indicated on drawings, shall be connected with low impedance, shielded cable equal to Liebert Accuguide (18" maximum length).
F. Unit shall be warranted for one year.
G. Manufacturer shall be Liebert, Current Technologies, General Electric, Eaton, Square D by Schneider Electric, Siemens Infrastructure and Cities (Siemens IC).

END OF SECTION 264000

SECTION 265000 - LIGHTING

1.1 GENERAL
A. This work shall include all lighting fixtures as specified in the schedule and lamps for all fixtures as specified. Fixtures shall be completely free of defects, dents, rust or chipped surfaces. No cracked, broken, or chipped lenses will be acceptable. Fixtures shall be furnished complete including hickeys, suspension nipples, and all other material and equipment as required for hanging fixtures in accordance with U.L. and NEC requirements. This Contractor shall furnish and install lamps for all fixtures and shall wipe fixtures and lamps before and after installation. Fixtures that are cracked, broken, chipped, rusted, dented or otherwise damaged, shall be replaced at no extra cost to the Owner. All recessed mounted fixtures shall be mounted with the trim flush to the ceiling, free of gaps or cracks.
B. Electrical Contractor shall verify exact ceiling type in all areas with Architectural room finish schedule for exact fixture mounting (i.e. grid or flange type mounting) prior to ordering of fixtures. Electrical Contractor shall verify ceiling construction in all areas and provide appropriate mounting hardware for installation of lighting fixtures. All surface mounted fixtures shall be supported independent from ceiling system and shall be securely mounted. Lay-in fixtures shall be supported directly from structure, unless ceiling system has been designed for support of such fixtures.

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

SEAN PATRICK GARTY
LICENSED
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06/26/2026
KANSAS
ARCHITECT

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

**PERMIT SET** 06.26.2026

**ELECTRICAL SPECIFICATIONS**

**E0.03**

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C. Framing members of suspended ceiling systems used to support fixtures shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Fixtures shall be securely fastened to the ceiling, framing member by mechanical means, such as bolts, screws, or rivets. Clips identified for use with the type of ceiling framing member(s) and fixture(s) shall also be permitted.
D. General Contractor shall provide fireproofing around recessed fixtures installed in fire rated ceiling per U.L. requirements. Electrical Contractor shall coordinate.
E. Connection to all fixtures mounted in lay-in ceilings shall be as follows. Provide J-Box on structure above fixtures for connections. Install UL listed 1/2-inches flexible conduit whip down to each fixture. Each whip shall be field cut to length to allow fixture to be relocated 4-feet-0-inches in any direction. Whips shall include 2 or 3 #12 Cu. THWN conductors (numbers as indicated) and a #12 ground. Fixtures supplied with UL listed whip shall be supplied with ground conductors. Tandem fluorescent fixtures shall have a factory supplied UL listed whip with conductors as required to interconnect fixtures. Length shall allow mounting fixtures 12-feet-0-inches on center in any direction.
F. Fixture lenses shall be 100 percent virgin acrylic and a minimum of 0.125 inch thick. Styrene lenses shall not be provided for any fixture lenses.
G. All fixtures (housing, door, etc.) shall be provided with factory applied baked enamel finish applied after final fabrication unless specifically noted otherwise on the lighting fixture schedule.

1.2 LED FIXTURES AND DRIVERS
A. LED modules shall include the following features unless otherwise indicated:
1. Comply with IES LM-79, LM-80, LM-82 and TM-21 requirements.
2. Minimum CRI 80
3. Minimum Rated Life: IES L70 = 50,000 hours.
4. LED chips shall be wired so that failure of one chip does not prohibit operation of the remainder of the chip array.
5. Output lumens and color temperature as noted on LIGHTING FIXTURE SCHEDULE.
B. Each luminaire type shall be binned within a three-step MacAdam Ellipse to ensure color consistency among luminaires.
C. LED driver general requirements: Unless otherwise indicated, driver features shall meet the following requirements:
1. Voltage Range: +/- 10 percent of rated input.
2. Total Harmonic Distortion Rating: ≤ 20 percent.
3. Power Factor: ≥ 95 Percent.
4. UL Class 2 output.
5. Line Frequency: 60 Hz.
6. Inrush Current: Per NEMA 410.
7. Ambient Temperature Range: 0°C to 25°C.
8. Maximum Case Temperature: 90°C.
9. Sound Rating: Class A or better.
10. Integral Short Circuit, Open Circuit, and Overload Protection: IEEE C82.41.2
11. Electromagnetic Compliance: FCC Title 47, Park 15, Class A.

1.3 EMERGENCY LIGHTING AND POWER
A. When emergency battery power packs are optional to the specified exit signs and emergency fixtures and are not included in the model number in the light fixture schedule, the emergency battery power packs shall be included as part of the specified fixture when they are not connected to an emergency generator system. Verify on drawings.
B. Fixtures shown in the fixture schedule or lighting plans as an emergency fixture shall be supplied with a factory installed sealed replaceable nickel cadmium battery and a solid state inverter charger and switch systems.
C. Batteries for exit signs and other emergency fixtures shall be lead calcium, pure lead, or nickel cadmium. Lead acid will not be accepted. Batteries shall be unconditionally guaranteed for one (1) year with a ten (10) year prorated warranty from the factory. Units shall be Underwriter's Laboratory listed an labeled as an emergency unit. Batteries shall be provided as standard or as optional equipment of the same series of the specified fixtures.
D. The emergency Battery Section shall be connected on the same circuit as the light ahead of any switches or contactors controlling area lights so that emergency lighting is maintained at all times.

1.4 ACCESSORIES
A. Provide clear tempered glass shields on all metal halide, and quartz fixtures. Exterior fixtures shall be constructed with gasketed shield and bug tight.
B. Provide thermal switches on all recessed fixtures as required by N.E.C..

END OF SECTION 265000

SECTION 283111 - FIRE ALARM SYSTEM

1.1 DESCRIPTION:
A. This section of the specifications includes the furnishing, installation, and connection of a solid-state, low voltage, modular, hardwire, supervised fire alarm system to form a complete coordinated system ready for operation. It shall include, but not be limited to, alarm initiating devices, alarm indicating devices, control panels, auxiliary control devices, annunciators, power supplies, and wiring as shown on the drawings and specified. The setting of all addressable devices shall be performed by the manufacturer.
B. Fire Alarm systems shall comply with requirements of NFPA 70, 72, (including appendices) 90A, 101 for local building systems except as modified and supplemented by this specification. This is a performance specification. The drawings indicate a sample of device locations. Provide all other devices as required by all codes and local inspectors.
C. The Electrical Contractor shall prepare design drawings (including plans showing device locations and riser diagram), calculations, and catalog cut sheets on all components and submit as shop drawings for approval. Submit with all other required submittals to the local Fire Department and obtain approval. After approval stamp is secured from the local Fire Department, the shop drawings shall be submitted to the Engineer for final approval.

1.2 CONTROL PANELS:
A. Provide one (1) fire alarm control panel.
B. Audio/visual signals shall only sound upon any alarm within the building served.

1.3 POST CONTRACT MAINTENANCE:
A. Complete maintenance and inspection service for the fire alarm system shall be provided, by a factory trained authorized representative of the manufacturer of the major equipment, for a period of two (2) years after acceptance of the installation by the engineer.
B. Maintenance and inspection service shall be performed by factory trained authorized representatives of the major equipment manufacturer. Service availability shall be within 150 miles.
C. Maintenance service shall include the following:
1. Inspection:
a. Systematic examination of all equipment at six (6) month intervals.
b. Testing, cleaning, adjusting, repairing, and replacing of all components as necessary, to keep the system in reliable condition and proper working order.
c. Furnishing all tools, test instruments, cleaning materials, and parts required.
d. Battery and charger maintenance shall be included.
2. Emergency Service:
a. Normal and overtime emergency call-back service shall consist of responding to calls within four (4) hours of notification of system trouble.
b. Overtime emergency call-back service shall be limited to minor adjustments and repairs to effect the integrity of the system.
D. Install access panels approved by the architect for all devices located in non-accessible spaces. Panels shall be flush locking type with a fire rating equal to the ceiling system.

1.4 EQUIPMENT AND MATERIAL, GENERAL:
A. All equipment and components shall be new, and the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by Underwriters Laboratories, Inc., and Factory Mutual Research Corporation. The authorized representative of the manufacturer of the major equipment such as control panel, annunciator, transmitters, and initiating devices, shall install and be responsible for satisfactory total system operation and its certification. Manufacturer shall provide NICET certified personnel to test equipment.
B. Approved Manufacturers: Simplex, Grinnel, Pyrotronics, Notifier, EST.

1.5 WIRING:
A. Basic Materials Section 261000 shall apply:
1. This contractor shall furnish and install all wiring, conduit, junction boxes and outlet boxes required for the installation of a complete system. All wiring shall be installed in metallic conduit, shall be color coded throughout and shall test free and clear of opens, grounds and shorts between conductors. All wiring shall be #18 gauge or minimum size as determined by the manufacturer, copper, with the exception of audio and visual alarm devices which shall have #14 gauge copper. All wiring shall have a minimum insulation rating of 300V. All equipment shall be grounded with an approved earth ground wire being supplied at the control panel. All wiring shall be in conformance with Article 760 of the National Electric Code. Audible and visual devices shall be capable of being controlled individually.
2. Contractor and equipment supplier shall jointly provide a proposed riser diagram for the fire alarm system indicating all devices, equipment, and wiring with the submittals prior to construction. If changes are made during construction a corrected riser diagram shall be submitted with the operating and maintenance manuals upon project completion. Riser diagram shall use symbols as shown on the drawings and shall have room numbers adjacent to all devices. All wiring shall be in conduit.
3. Wires in junction boxes and cabinets shall be permanently tagged and identified with metal or phenolic tags attached by nylon ties.
B. Terminal Boxes, Junction Boxes and Cabinets:
1. Shall be galvanized steel and in accordance with UL.
2. Paint box and cover red and identify with letters of white paint stenciled as "Fire Alarm System" in accordance with Section PAINTING.
3. Junction boxes shall have a volume 40 percent greater than required by the NEC. Minimum sized wire shall be considered as 14 AWG for calculation purposes.
4. Terminal cabinets shall have identified pressure type terminal strips, and shall be located at the base of each riser as shown on the drawings.
C. Initiating circuits shall be arranged to serve like categories (manual, smoke, waterflow). Mixed category circuitry shall not be permitted.
D. Audible indicating devices and visual indicating devices shall be capable of being controlled individually.

1.6 FIRE ALARM CONTROL PANEL:
A. Function:
1. Operate as a supervised, positive noninterfering successive alarm system. Each power source shall also be supervised from the other source for loss of power.
2. Supervise all signal initiating circuits, alarm indicating circuits, alarm transmitter trip circuits, and sprinkler and standpipe valves.
3. Detect the operation of any signal initiating device and the area of the alarm condition, and operate all alarm and designated auxiliary devices.
4. Visually and audible annunciate any trouble condition such as main power failure, ground or system wiring derangement, and sprinkler system and standpipe valve off-normal position.
B. Central Processing Unit (CPU):
1. The CPU shall utilize either an 8 bit or 16 bit microcontroller with the necessary system logic circuitry and interrogate/response polling to perform all required automatic control-by-event functions and trouble switching as established by this specification.
2. The CPU shall supervise the entire system's operation for alarm, trouble, power normal and data communications. Assigned custom alphanumeric messages shall be displayed for all alarm and trouble conditions, Supervision of the addressable monitor or control devices shall be on a per address basis and shall not reduce the available system address.
3. The CPU must incorporate circuitry to continuously monitor the communications and data processing of the microprocessor for positive and negative ground faults, data line polling, and primary or secondary power loss. Occurrence of any such faults shall sound an audible signal at the CPU to advise attending personnel.
4. The CPU shall be equipped with a system operating panel that shall contain at least a 2 X 40 character backlit LCD display and system status LEDs to provide immediate indication of any abnormal condition. Custom alphanumeric messages, setup in programming, shall accompany any status LED indication to precisely locate any abnormal event. During normal system operation, a green LED indicates "NORMAL", a yellow LED indicates "TROUBLE", and a red LED indicates "ALARM".
5. The CPU shall provide two-way communication with a minimum of 192 addressable field initiating and/or control devices, capable of being T-tapped for a 3-conductor #18 AWG shielded wire. The system shall allow a minimum 2,500 foot wiring length to the furthest addressable device. To minimize wire routing and to facilitate future additions, T-tapping of the data communications channel shall be supported on a Class B wiring basis. Each addressable circuit from the CPU shall be sized to allow 50 percent spare capacity for the future addition of addressable devices without additional wiring from the CPU.
6. The total capacity of the system shall be a minimum of 200 addressable field initiating and/or control devices. Each Fire Alarm System CPU shall be capable of operating a system printer.
7. The data communication format shall be poll/response protocol to allow T-tapping of the wire to addressable devices and shall be digital or voltage pulse width modulated. Systems that do not utilize either of these two transmission protocols will not be acceptable.
8. Each addressable field initiating and/or control device shall be uniquely identified by an address code using magnetic (switchless), binary dipswitches, or rotary decimal (hexadecimal) switches for the assignment of its individual address number when it is being field programmed.
9. The Fire Alarm System CPU shall be provided in a surface mounted cabinet made of at least 16 gauge steel with welded construction. The system operating panel shall be located behind a locked door assembly with keys made available only to authorized personnel. All LED indicators and switches shall be labeled and the fire alarm control panel shall be provided with a set of permanently mounted operating instructions on the front of the panel itself.
10. Provide interface module in each FACP to transmit signals to a central monitoring service.
C. Software:
1. The CPU shall utilize non-volatile EPROM or EEPROM solid-state memory for the main core system configuration data base and system program instructions only.
2. However, the CPU shall be completely field programmable on site by the manufacturer's representative by the use of a portable configurator programmer device or thru the use of an operator interface keypad. Edited changes must be nonvolatile. All program access shall be passcode protected.
3. Systems requiring factory EPROM burn-in or on-site field EPROM burn-in by the manufacturer or manufacturer's representative to retain the initial programming or later field changes for all the custom alphanumeric messages for all the field initiating or control devices shall not be acceptable.
4. Custom alphanumeric messages for field devices shall be retained in non-volatile EEPROM solid-state memory or in RAM memory with lithium battery backup. All addressable devices shall also be completely field programmable for device address assignments.
5. The CPU shall be software equipped to provide automatic control-by-event programming, whereby the receipt of an alarm condition from an addressable fire alarm device or alarm initiating remote interface monitor module may be programmed to operate an addressable fire alarm control relay or remote interface control module within the system. Automatic control-by-event actions for life safety functions shall be retained in non-volatile EEPROM solid-state memory or in RAM memory with lithium battery backup for system reliability.
D. Enclosure:
1. The control panel shall be housed in a cabinet suitable for surface mounting. Cabinet and front shall be corrosion protected, given a rust-resistant prime coat, and manufacturer's standard finish.
2. Cabinet shall contain all necessary relays, terminals, lamps, and legend plates to provide control for the system.
E. Power Supply:
1. The control panel shall derive its normal power from a 120 volt, 60 Hz supply. Standby power shall be provided by a 24 volt DC battery as hereinafter specified. The normal power shall be transformed, rectified, coordinated, and interfaced with the standby battery and charger.
2. The door holder power shall be arranged so that momentary or sustained loss of main operating power shall not cause the release of any door for a minimum of 15 seconds. This may be accomplished by floating the door holders across the battery supply or by other approved means accomplishing the same function.
3. Power supply for smoke detectors shall be taken from the fire alarm control panel.
4. Provide protectors to protect the fire alarm equipment from damage due to lightning or voltage and current transients.
F. Circuit Arrangement:
1. Provide means whereby any device or signal circuit may be disconnected from the system. Removing any initiation or alarm circuit shall leave the remainder of the system in normal operating condition, and light an individual trouble lamp which shall remain lighted until the circuit is restored to normal operating condition.
2. Arrange circuits so that if an open circuit occurs in the signal coil, it shall not prevent other audible signals on the same circuit from sounding.
3. Each circuit shall be individually fused.
G. Circuit Supervision:
1. Each alarm initiating circuit, alarm indicating circuit, and local energy transmitter trip circuit, and sprinkler and standpipe valve circuit shall be supervised against the occurrence of a break or ground fault condition in the field wiring. These conditions shall cause a trouble signal to sound in the control panel until manually silenced by an off switch.
2. Sprinkler system valves, standpipe control valves, PIV, and main gate valves shall also be supervised for off-normal position. Valve supervision shall indicate where the valve is located. Closing a valve shall sound a supervisory signal in the control panel until silenced by an off switch. Valve operation shall not cause an alarm signal.
H. Trouble signals:
1. Arrange the trouble circuit for ring back operation to prevent switch disarrangement during normal supervisory condition. Automatic reset arrangement is acceptable in lieu of ring back operation.
2. System trouble switch off and on lamps shall be visible through the control panel door.
I. Modules:
1. Module assemblies shall be of unit type construction and mounted on channels to permit easy removal and service by circuit function.
2. Modules shall contain system fault locators to enable maintenance personnel to pinpoint individual fault conditions on the following:
a. Each individual initiating circuit.
b. Each individual unset condition of alarm and trouble transmitters.
c. AC power supply.
d. DC standby power supply.
e. Smoke detector supply circuit breaker.
J. Printed Circuit Boards:
1. Shall be of easily removable type and have sufficient capacity for the circuits controlled.
K. Auxiliary Control Capability: The control panel shall perform auxiliary control functions on a common or selective basis as required.
L. Function Switches: Provide the following switches in addition to any other switches required for the system.
1. Master Building Transmitter Switch: Shall prevent tripping of alarm transmitter when in off position. System trouble alarm shall be energized when switch is in off position.
2. Alarm Off Switch: Shall disconnect power to alarm indicating device circuits. System trouble alarm shall be energized when switch is in off position.
3. Trouble Off Switch: Shall silence the trouble signal whenever the system trouble circuit is energized.
4. Reset Switch: Shall reset the system after an alarm, provided the initiating device has been reset. The system shall lock in until reset.
5. Test Switches: A test switch or other approved convenient means shall be provided to test the indicator lamps.
6. Drill Switch: Shall sound the alarm indicating devices without tripping the alarm transmitter.
7. Master Door Release Switch: Shall prevent doors from releasing during fire alarm tests. A visual indicator shall show the off-normal condition.
M. System Expansion: Design the control panel so that the system can be expanded in the future (to include the addition of twenty percent more circuits) without disruption or replacement of the existing control panel.
N. U.L. Listed Dual Line Communicator shall be Simplex Type 2080-9024 4 channel fire communicator with cabinet, (2) 2080-9022 connector cords. Communicator shall be U.L. Listed to U.L. 864 conforming to the requirements of NFPA 72 and mounted within 3 feet of the FACP. Communicator shall transmit all alarms and be capable of supervising two telephone lines, if one line falls for more than 45 seconds a built in trouble alert shall be activated and a trouble signal automatically transmitted to the central station on the remaining line. The Communicator shall also send a test signal to the central station every 24 hours at a programmed time of day or night. Communicator shall be capable of remote off site programming to provide more economical changes to the owner. The Communicator shall be connected to the public switched telephone network upstream of any private telephone system. Two loop start telephone lines are required. The Communicator must be able to seize the telephone line (going off-hook) at the protected premises, disconnect an outgoing or incoming telephone call, and prevent its use for outgoing telephone calls until signal transmission has been completed. The Communicator shall not be connected to a party line telephone facility. Communicator shall be monitored by a U. L. Listed Monitoring Company. 12 months of Monitoring fees shall be included in this Bid. Telephone Company charges are the owners responsibility and are not to be included in this Bid. Communicator shall be installed and wired by the Electrical Contractor. The Electrical Contractor shall coordinate the installation of the two telephone lines with the Owner. The Owner shall be responsible for the installation costs of the two telephone lines.

1.7 BATTERY AND CHARGER:
A. Battery:
1. Battery shall have sufficient capacity to power the fire alarm system for not less than twenty-four hours plus five minutes of alarm to an end voltage of 1.14 volts per cell, upon normal AC power failure. System load shall include the power required by the electromagnetic door holders for a minimum of fifteen seconds.
2. Battery racks shall be steel with an alkali-resistant finish.
B. Battery Charger:
1. Shall be completely automatic, with constant potential charger maintaining the battery fully charged under all service conditions. Charger shall operate from a 120-volt, 60 hertz source.
2. Shall be rated for fully charging a completely discharged battery within 48 hours while simultaneously supplying any loads connected to the battery.
3. A trouble condition shall actuate the fire alarm trouble signal.
4. Charger shall have automatic AC line voltage regulation, automatic current-limiting features, and adjustable voltage controls.

1.8 LOCATION CHARTS:
A. Print with easily readable, uppercase type, minimum 3/16-inch size letters.
B. Laminate or mount under plexiglass in a neat frame, and install adjacent to the fire alarm control panel. Six additional unframed charts shall be delivered to the Owner.

1.9 SMOKE/HEAT DETECTORS:
A. Addressable Ceiling Smoke Detectors:
1. Furnish and install as indicated a ceiling mounted photoelectric detector. This detector shall be environmentally compensated, and calibrated and adjusted for sensitivity at the manufacturer's factory to U.L. Standard 268 (Nominal 2.3% per foot smoke obscuration level). Each detector shall utilize solid state components and be equipped with a fully regulated LED light source for long life reliability and an insect screen to minimize nuisance alarms. The detector shall provide a multiple pulse coincidence circuit to minimize false alarms from transient smoke conditions. When the alarm threshold value is exceeded for the first time, the detector shall go into alarm only after at least 2 more consecutive sample pulses have exceeded the alarm threshold values. The detector shall be able to transmit obscuration information to FACP. Detector shall have environmental compensation circuits and shall maintain constant sensitivity even when maintenance required messages are produced.
2. Either the detector head itself or the detector base shall use magnetic (switchless), binary dipswitches, or rotary decimal (hexadecimal) switches for the assignment of its individual address number when it is being field programmed. It shall also have a data communication line/alarm (flashing/steady) LED and terminals for making data communication line circuit connections. The detector/base assembly shall draw its power from the fire alarm control panel via the data communication line. The detector/base shall flash its LED, to assure communication, as it is being polled for status from the fire alarm control panel and shall report alarm or trouble status changes to it.
3. Outlet boxes for detectors shall be flush mounted. Each detector will have an engraved nameplate, acceptable to the engineer, with the same name setup in programming.
4. Smoke detectors shall not be located within 36" of any air diffuser or sprinkler head.
5. Provide a remote alarm indicator for each detector located in a concealed location or located where the detector's alarm indicator is not readily visible. Flush mount the remote alarm indicator in the ceiling near the detector.

1.10 INSTALLATION:
A. Installation shall be in accordance with the NEC, as shown on the drawings, and as recommended by the major equipment manufacturer.
B. Install smoke detector heads not more than two weeks prior to final inspection. Test the detectors in place. Cleaning detectors at the time of final inspection is the contractors responsibility.
C. Field verify location of area smoke detectors and heat detectors. Do not locate within 36-inches of a HVAC diffuser (supply or return), in a direct air flow or within 36-inches of a sprinkler head. Smoke detectors for door release shall be located on the centerline of the door and a maximum of 5 feet from the door. The minimum distance from the door is the depth of the wall section above the door, but not less than 12".
D. Duct smoke detectors should be located in the area between 6 and 10 duct equivalent diameters of straight, uninterrupted run. Duct smoke detectors for fire/smoke dampers should be located between the last inlet or outlet upstream of the damper and the first inlet or outlet downstream of the damper.
E. Fan shutdown relay wiring shall be located within 3 feet of the fan controls and the wiring to the relay shall be monitored.

1.11 TYPICAL OPERATION:
A. Normal System Operation: Actuation of any manual station, smoke detector, or water flow switch shall cause the following operations to occur, unless otherwise specified:
1. Operate the audible/visual signals in the building. Audible devices shall be temporal coded.
2. Transmit a separate alarm/trouble signal, via phone line to a central monitoring agency.
3. Duct type smoke detectors and waterflow switches shall, in addition to the above, perform the functions specified in the mechanical specifications or shown on the mechanical drawings.
4. Operation of any sprinkler and standpipe valve supervisory switch shall cause the system to go into trouble condition.
a. It shall not cause the system to go into alarm condition.
b. It shall not prevent any flow switch from actuating an alarm.
5. Provide duct detectors in both the supply and return air ducts for air handling units, fan coil units make-up air unit, and exhaust fans 2000 CFM or larger. Provide fan shut down relays to shut down AHU's, make-up air units, relief fans, exhaust fans and fan coil units over 2000 CFM.
6. Provide control of smoke evacuation exhaust fans. Provide manual control in FACP to turn on fans. Fans shall be automatically controlled by smoke detectors. Detectors shall be cross zoned on alternating zones. Provide selector switch to select smoke evacuation to start upon any alarm or to start upon 2nd detector alarm.
7. Stair pressurization. Provide automatic and manual control to start stair supply fans upon any alarm. Provide duct detector in supply duct of each fan with relay base to shutdown the specific supply fan upon smoke. This is to stop fan if smoke is present on roof or fan intake.
8. The alarm activation of any elevator lobby smoke detector shall, in addition to the operations listed above, cause the elevator cabs to be recalled according to the following sequence:
a. If the alarmed detector is on any floor other than the main level of egress, the elevator cabs shall be recalled to the main level of egress.
b. If the alarmed detector is on the main egress level, the elevator cabs shall be recalled to the predetermined alternate recall level as determined by the local authority having jurisdiction.
c. If the alarmed detector is in any elevator equipment room or elevator shaft, the elevator cabs shall be recalled to the main level of egress.
B. System Supervision: System supervision shall include the following conditions:
1. Loss of operating or standby power.
2. A signal ground or open circuit in alarm initiating circuits, alarm indicating circuits, and auxiliarized transmitter trip circuits, and sprinkler and standpipe valve circuits. Each circuit shall have its own supervisory devices.
3. Off-normal position of sprinkler and standpipe valves.
4. Battery and battery charger shall have supervision as specified elsewhere in this section.
C. Trouble Signals:
1. Derangement of any of the above supervised conditions shall be visually and audible annunciated at the fire alarm control panel. Each circuit shall have individual visual annunciation.
2. Operation of the sprinkler and standpipe valves towards the closed position shall cause a supervisory signal.
3. Trouble signals shall be retransmitted, via an individual auxiliarized transmitter, to remote locations.

1.22 TESTS:
A. Provide the service of a competent, NICET certified, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system. Make all adjustments and tests in the presence of the engineer.
B. When the systems have been completed and prior to the scheduling of the final inspection, furnish testing equipment and perform the following tests in the presence of the engineer. When any defects are detected, make repairs or install replacement components, and repeat the tests until such time that the complete fire alarm systems meets all contract requirements. After the system has passed the test and been approved by the engineer, the contractor may request a final inspection. Final acceptance of system will not be made until retested at final inspection.
1. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
2. Test the insulation on all installed cable and wiring by standard methods as recommended by the equipment manufacturer.
3. Run water through all flow switches. Drain the water by hose to the nearest drain. Check to verify whether all codes are coming in clearly and correctly. Check time delay on water flow switches to assure that water surges do not trip transmitters. (Submit a report listing all water flow switch operations and their retard time in seconds.)

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MIDDLE SCHOOL
HESSTON, KS

PERMIT SET 06.26.2026

ELECTRICAL SPECIFICATIONS

E0.04

4. Open fire alarm station circuits to see if trouble signal actuates.
5. Open audible signal circuits to see if the trouble signal actuates.
6. Ground fire alarm station circuits and verify response of trouble signals.
7. Ground audible signal circuits and verify response of trouble signals.
8. Check transmission of all fire alarm devices.
9. Check installation, supervision, operation and sensitivity of smoke detectors to ascertain that they will avoid false alarm signals and will function as specified. See Article SMOKE/HEAT DETECTORS.
10. Upon completion of Fire Alarm System Testing, submit to engineer one (1) copy of Testing and Inspection Report signed off as 100 percent functioning by the System Supplier and the Electrical contractor. Bind one (1) additional copy in each of the operation and maintenance manuals.

1.23 FINAL INSPECTION:

A. At the final inspection a factory trained representative of the manufacturer of the major equipment shall perform the tests in Article TESTS. In addition the representative shall demonstrate that the systems function properly in every respect. The demonstration shall be made in the presence of the Owners Representative.

1.24 INSTRUCTION:

A. Furnish the services of a competent instructor for not less than two four-hour periods for instructing personnel in the operation and maintenance of the system, on the dates requested by the Engineer.

END SECTION 283111

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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**ELECTRICAL SPECIFICATIONS**

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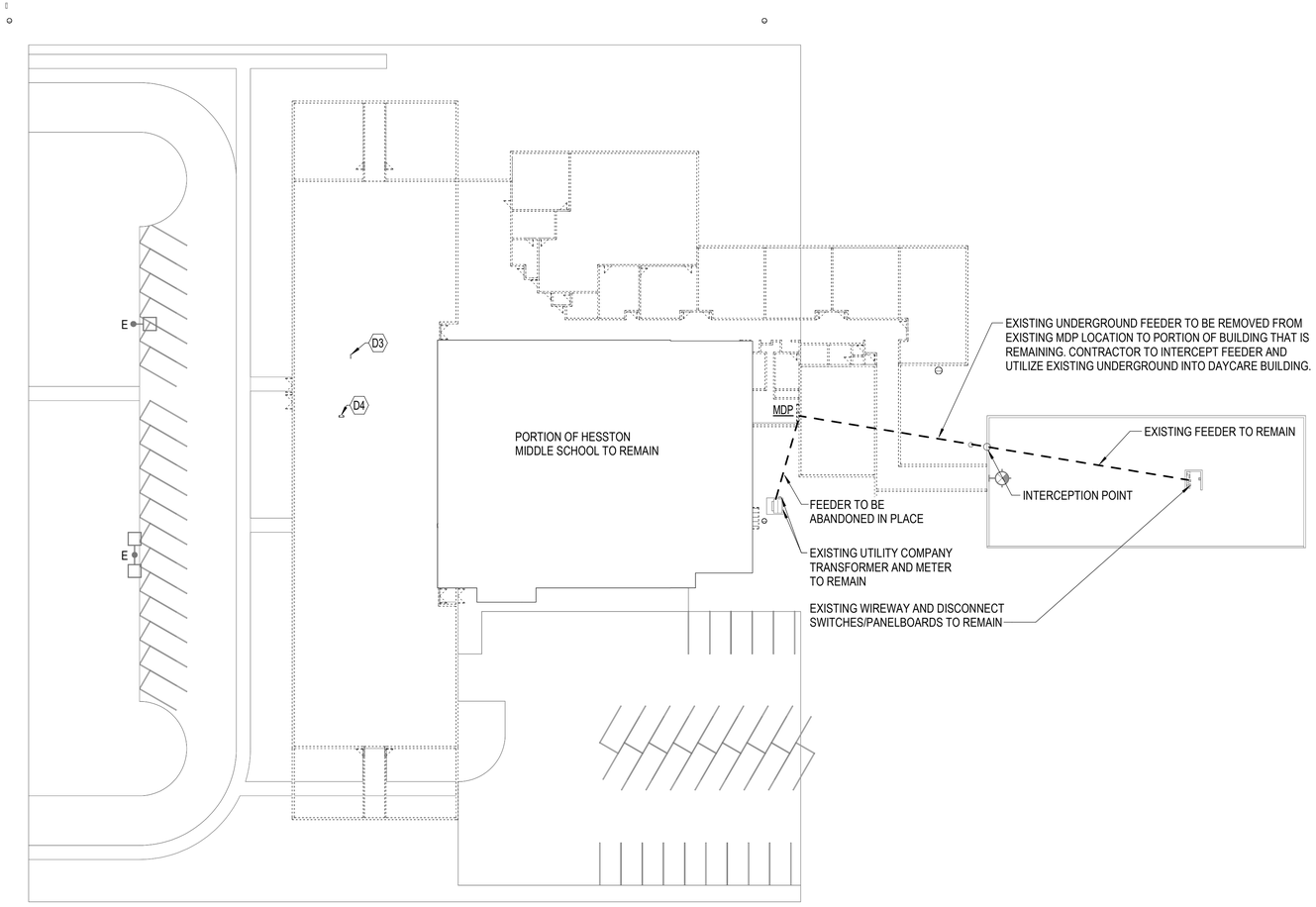
## DEMOLITION GENERAL NOTES

1. DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICES TO ALL EQUIPMENT BEING REMOVED, SEE MECHANICAL PLANS. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVERPLATES, RECEPTACLES, LIGHTS, PANELS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.
2. REMOVE ALL CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMODELED AREAS. PLUG BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.
3. ELECTRICAL OUTLETS, ETC. POSSIBLY CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC. ARE NOT SHOWN AND MAY REQUIRE REMOVAL.
4. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT, RACEWAY SYSTEMS, OUTLET BOXES, ETC.
5. WHERE EQUIPMENT AND OTHER DEVICES ARE BEING REMOVED, THE CIRCUITING SHALL BE REMOVED, IF POSSIBLE, BACK TO POINT OF SUPPLY. WHERE REQUIRED, CIRCUITING SHALL BE EXTENDED TO MAINTAIN CONTINUITY OF THE CIRCUIT OR OPERATION OF THE SYSTEM.
6. ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS NOTED OTHERWISE.
7. PROVIDE MATCHING BLANK COVERPLATES WHERE DEVICES ARE BEING REMOVED FROM FLUSH-MOUNTED OUTLET BOXES IN EXISTING WALLS TO REMAIN.
8. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.

## (#) SHEET KEYNOTES

| | |
|---|---|
| D3 | APPROXIMATE LOCATION OF PANEL 'A'. |
| D4 | APPROXIMATE LOCATION OF FACP BEING REMOVED. EXISTING DEVICES IN REMAINING PORTION OF BUILDING ARE TO BE REFED FROM NEW FACP. REFER TO POWER PLAN FOR MORE INFORMATION. |

DISCONNECT ALL EXISTING CIRCUITS, LOW VOLTAGE SYSTEMS, MECHANICAL EQUIPMENT, AND PANEL FEEDERS FROM SOURCE OF SUPPLY PRIOR TO DEMOLISHING EXISTING PORTION OF THE BUILDING SHOWN AS DEMO.




A ELECTRICAL SITE PLAN - DEMOLITION

0' 15' 30' 45' 1" = 30'-0"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316.267.4002


SEAN PATRICK GERITY LICENSED 28753 06/26/2026 KANSAS ELECTRICAL ENGINEER

PEC PROJECT NUMBER: 260125-001


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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

ELECTRICAL SITE DEMOLITION PLAN

**E1.01**


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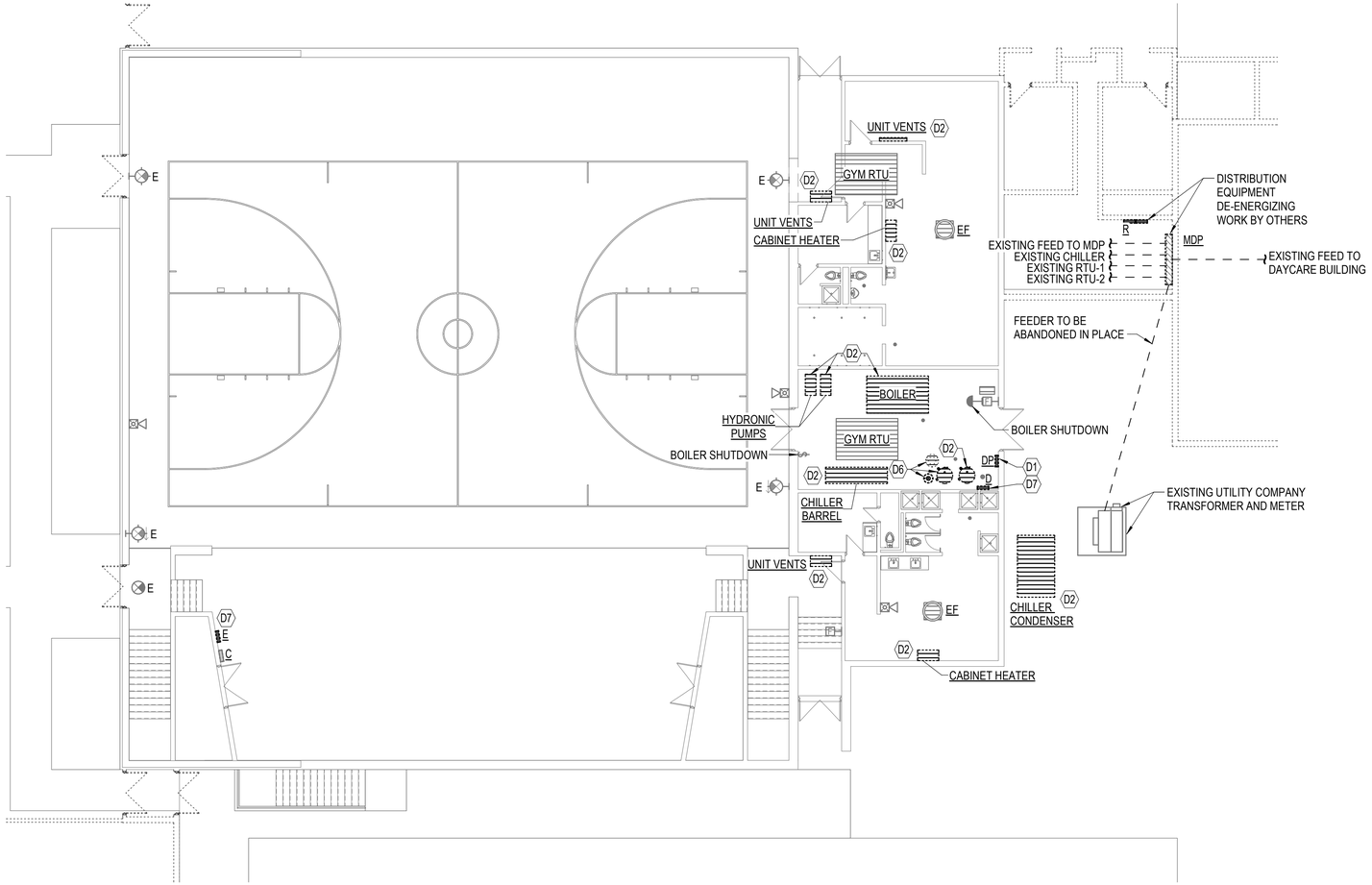
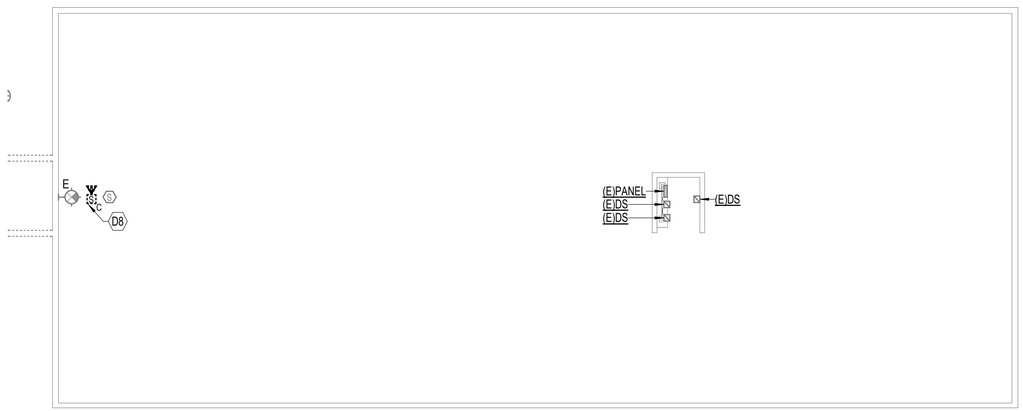



## A ELECTRICAL DEMOLITION PLAN - 1ST FLOOR

0' 5' 10' 15' 1" = 10'-0"




## B ELECTRICAL DEMOLITION PLAN - DAYCARE

0' 5' 10' 15' 1" = 10'-0"

## DEMOLITION GENERAL NOTES

1. DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICES TO ALL EQUIPMENT BEING REMOVED, SEE MECHANICAL PLANS. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVERPLATES, RECEPTACLES, LIGHTS, PANELS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.
2. REMOVE ALL CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMODELED AREAS. PLUG BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.
3. ELECTRICAL OUTLETS, ETC. POSSIBLY CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC. ARE NOT SHOWN AND MAY REQUIRE REMOVAL.
4. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT, RACEWAY SYSTEMS, OUTLET BOXES, ETC.
5. WHERE EQUIPMENT AND OTHER DEVICES ARE BEING REMOVED, THE CIRCUITING SHALL BE REMOVED, IF POSSIBLE, BACK TO POINT OF SUPPLY. WHERE REQUIRED, CIRCUITING SHALL BE EXTENDED TO MAINTAIN CONTINUITY OF THE CIRCUIT OR OPERATION OF THE SYSTEM.
6. ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS NOTED OTHERWISE.
7. PROVIDE MATCHING BLANK COVERPLATES WHERE DEVICES ARE BEING REMOVED FROM FLUSH-MOUNTED OUTLET BOXES IN EXISTING WALLS TO REMAIN.
8. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.

## (#) SHEET KEYNOTES

| | |
|---|---|
| D1 | PANELBOARD INTERIOR COMPONENTS TO BE REMOVED IN THEIR ENTIRETY. ENCLOSURE TO REMAIN AND BE UTILIZED AS A PULLBOX FOR EXTENSION OF PANELBOARD FEEDER DOWNSTREAM OF 'DP'. |
| D2 | MECHANICAL EQUIPMENT TO BE REMOVED. CONTRACTOR TO REMOVE ACCESSIBLE CONDUIT AND ALL ASSOCIATED CONDUCTORS BACK TO POINT OF SUPPLY. CIRCUIT BREAKER FEEDING EQUIPMENT TO BE TURNED TO THE 'OFF' POSITION AND LABELED AS 'SPARE'. |
| D6 | MECHANICAL EQUIPMENT TO BE RELOCATED. CONTRACTOR TO EXTEND AND REWORK EXISTING CONDUIT, CONDUCTORS, AND ASSOCIATED EQUIPMENT AS REQUIRED. |
| D7 | PANELBOARD TO BE REMOVED AND REPLACED IN SAME LOCATION. CONTRACTOR TO EXTEND AND REWORK EXISTING BRANCH CIRCUITS AS REQUIRED FOR CONNECTION TO NEW PANELBOARD. |
| D8 | FIRE ALARM DEVICE TO BE REMOVED IN ITS ENTIRETY. CONTRACTOR TO REMOVE ALL ACCESSIBLE CONDUIT AND ALL ASSOCIATED CONDUCTORS BACK TO POINT OF SUPPLY. PROVIDE BLANK COVERPLATE. CIRCUIT BREAKER SERVING DEVICE TO BE PLACED IN THE 'OFF' POSITION AND LABELED AS 'SPARE'. |

DISCONNECT ALL EXISTING CIRCUITS, LOW VOLTAGE SYSTEMS, MECHANICAL EQUIPMENT, AND PANEL FEEDERS FROM SOURCE OF SUPPLY PRIOR TO DEMOLISHING EXISTING PORTION OF THE BUILDING SHOWN AS DEMO.

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

**ELECTRICAL DEMOLITION PLAN**

# E1.02

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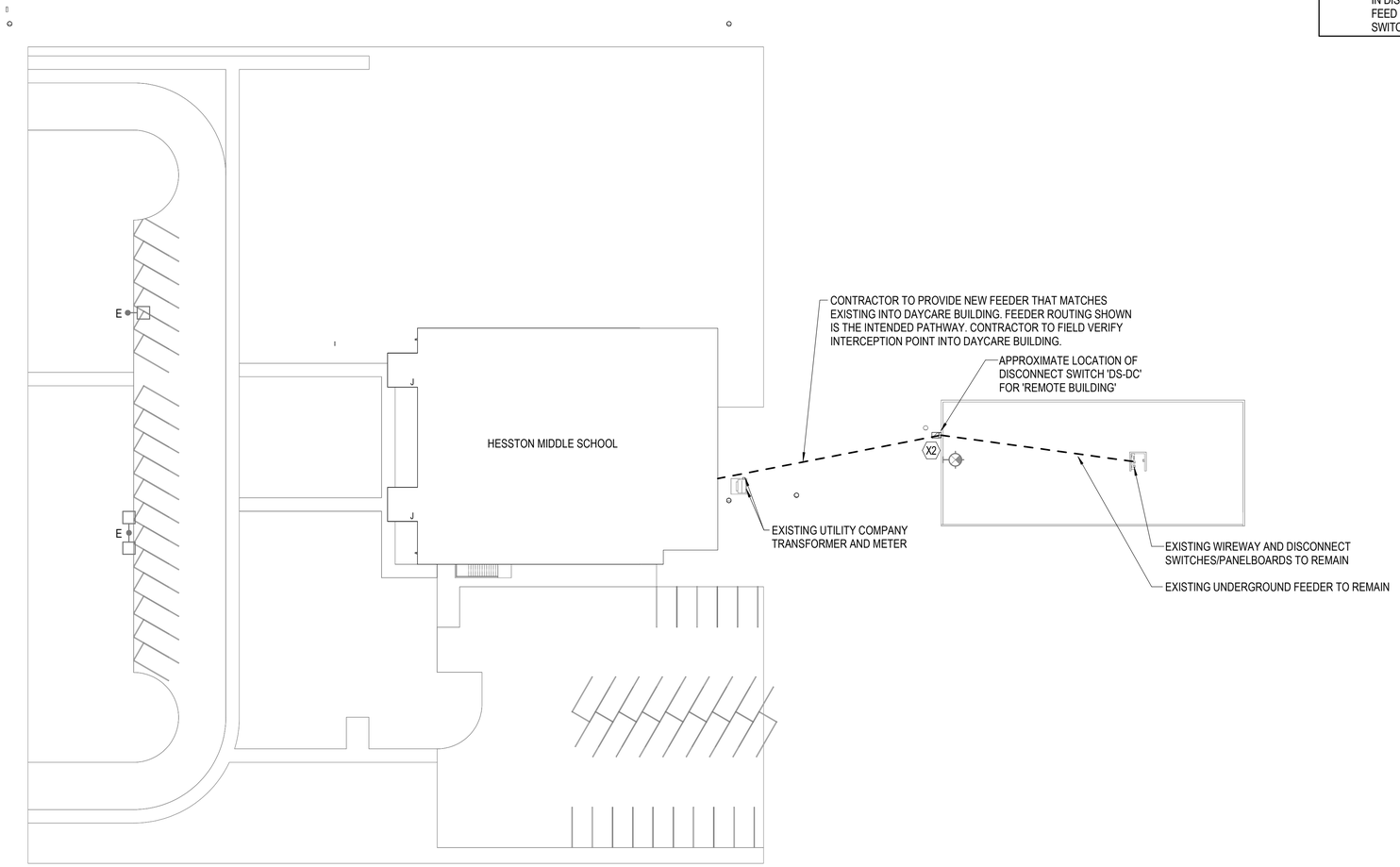
## ELECTRICAL SITE GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CONDUIT ROUTED ON SITE SHALL BE 1" MINIMUM.
2. ALL RISERS AND BELOW GRADE ELLS SHALL BE PVC COATED RIGID GALVANIZED STEEL (RGS). PROVIDE WITH PVC TO STEEL ADAPTER(S) AS NECESSARY.
3. ALL ELECTRICAL WORK AND FEES ASSOCIATED WITH UTILITIES SHALL BE VERIFIED AND COORDINATED WITH LOCAL SERVICE PROVIDER PRIOR TO BID.
4. CONTRACTOR SHALL REFERENCE ALL RELATED CONTRACT DOCUMENTS, SITE SURVEY, AND OTHER RESOURCES FOR POSSIBLE CONFLICTS WITH OTHER UNDERGROUND UTILITIES. AT UTILITY CROSSINGS, CONTRACTOR SHALL VERIFY UTILITY DEPTHS AND COORDINATE CONDUIT ROUTING AS NECESSARY.
5. CONTRACTOR SHALL VERIFY AND COORDINATE EXISTING CONDITIONS OF PROJECT SITE PRIOR TO BID.

## (#) SHEET KEYNOTES

| | |
|---|---|
| X2 | CONTRACTOR TO INTERCEPT FEEDER INTO DAYCARE BUILDING WITH DISCONNECT SWITCH 'DS-DC'. CONTRACTOR TO EXTEND AND REWORK CONDUIT AND CONDUCTOR AS REQUIRED TO TERMINATE IN DISCONNECT SWITCH AND THEN CONTINUE INTO BUILDING TO FEED THE EXISTING WIREWAY AND DISCONNECT SWITCHES/PANELBOARD IN BUILDING. |




A ELECTRICAL SITE PLAN

0' 15' 30' 45' 1" = 30'-0"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ELECTRICAL SITE PLAN

**E1.11**


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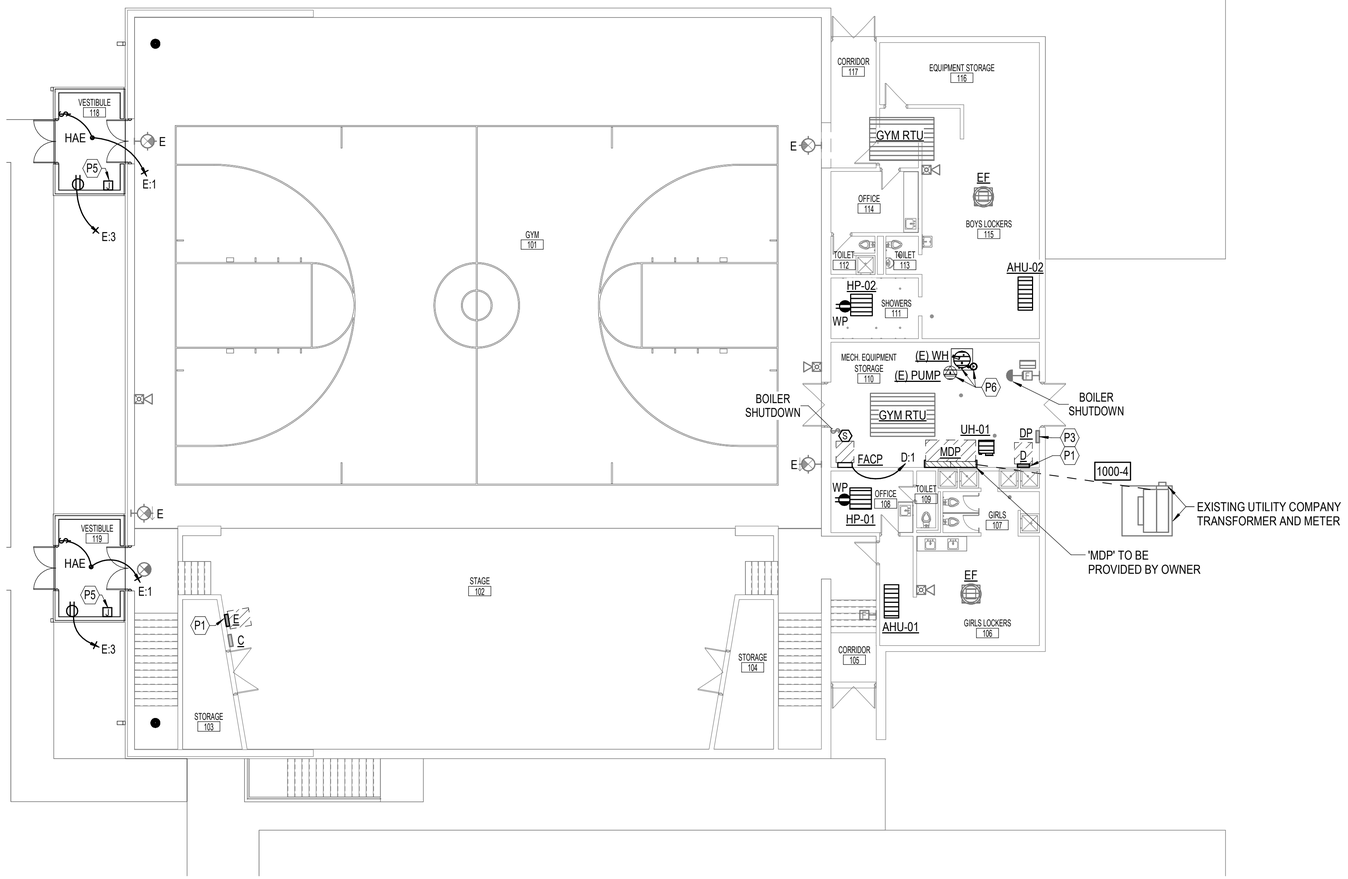
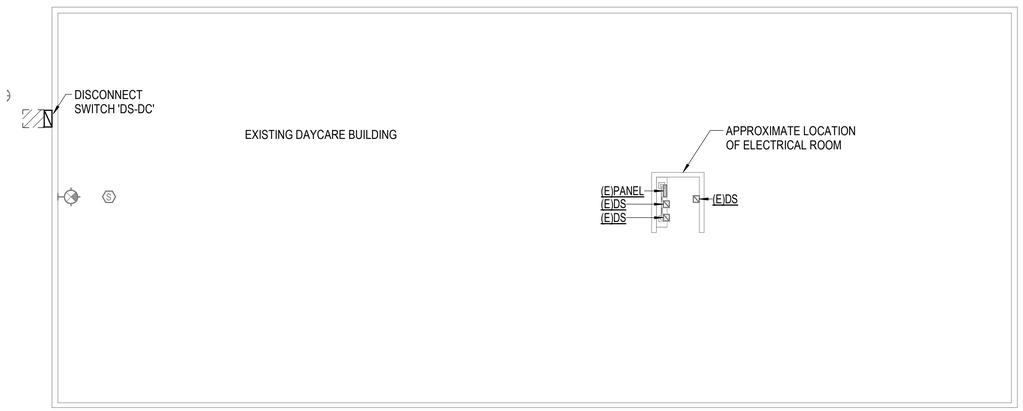



## A ELECTRICAL PLAN - GYM

0' 5' 10' 15' 1" = 10'-0"




## B ELECTRICAL PLAN - DAYCARE

0' 5' 10' 15' 1" = 10'-0"

## POWER GENERAL NOTES

1. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION.
2. A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
3. FOR CONNECTION REQUIREMENTS TO MECHANICAL UNITS, SEE MECHANICAL EQUIPMENT CONNECTION SCHEDULE.
4. REFER TO THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATIONS OF FIRE RATED WALLS AND CEILINGS AND THE ASSOCIATED U.L. ASSEMBLY NUMBERS.
5. FOR ALL PENETRATIONS IN FIRE RATED WALLS AND CEILINGS, PROVIDE AN ASTM E814 COMPLIANT, U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL OR CEILING CONSTRUCTION ASSEMBLY. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE U.L. ASSEMBLY INDICATED IN THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
6. ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) IN FIRE RATED WALLS OR CEILINGS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL.
7. OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES OR PROTECTED BY OTHER MEANS ALLOWED BY THE SPECIFIC U.L. ASSEMBLY.
8. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF STC RATED WALLS. OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) ON OPPOSITE SIDES OF STC RATED WALLS SHALL BE LIMITED TO TWO OUTLET BOXES PER STUD SPACE AND COVERED WITH "PUTTY PAD" TYPE MOLDABLE FIRE BARRIER.

## (#) SHEET KEYNOTES

| | |
|---|---|
| P1 | PANELBOARD TO BE REMOVED AND REPLACED IN SAME LOCATION. CONTRACTOR TO EXTEND AND REWORK EXISTING FEEDER AND BRANCH CIRCUITS AS REQUIRED. |
| P3 | EXISTING 'DP' ENCLOSURE TO BE USED AS JUNCTION BOX FOR CONNECTION OF PANELBOARD 'E' AND 'C' FEEDERS FROM NEW 'MDP'. CONTRACTOR TO PROVIDE POWER DISTRIBUTION BLOCKS FOR CONNECTION/EXTENSION OF FEEDERS. |
| P5 | CONTRACTOR TO MOUNT JUNCTION BOX ON UNDERSIDE OF ROOF STRUCTURE FOR FUTURE CONNECTION OF EQUIPMENT. CONTRACTOR TO PROVIDE (1)1" CONDUIT WITH PULLROPE FROM PANELBOARD 'E' TO JUNCTION BOX LOCATION. CONDUIT TO BE ROUTED TIGHT TO STRUCTURE OR ABOVE ACCESSIBLE CEILING WHEN APPLICABLE. CONDUIT SHALL BE ROUTED TO MINIMIZE VISIBILITY. |
| P6 | RELOCATED MECHANICAL EQUIPMENT. |

EXISTING FIRE ALARM DEVICES TO BE RECONNECTED TO NEW FIRE ALARM CONTROL PANEL IN EACH BUILDING. CONTRACTOR TO REUSE CABLING IF POSSIBLE.

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
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ELECTRICAL SYSTEMS PLAN

**E1.31**

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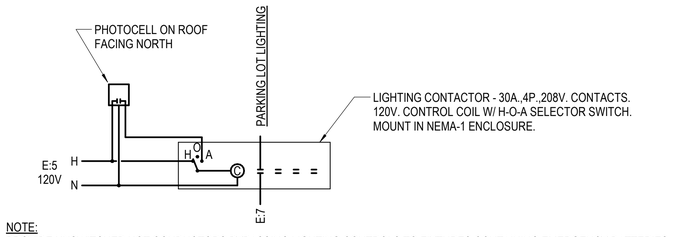
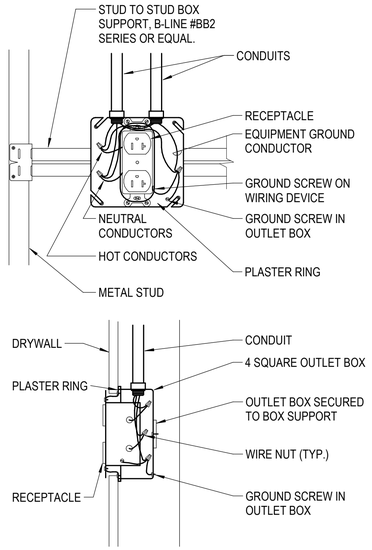



NOTE:
PROVIDE UNSWITCHED HOT CONDUCTORS BYPASSING LIGHTING CONTROLS TO FIXTURES CONTAINING EMERGENCY BATTERIES

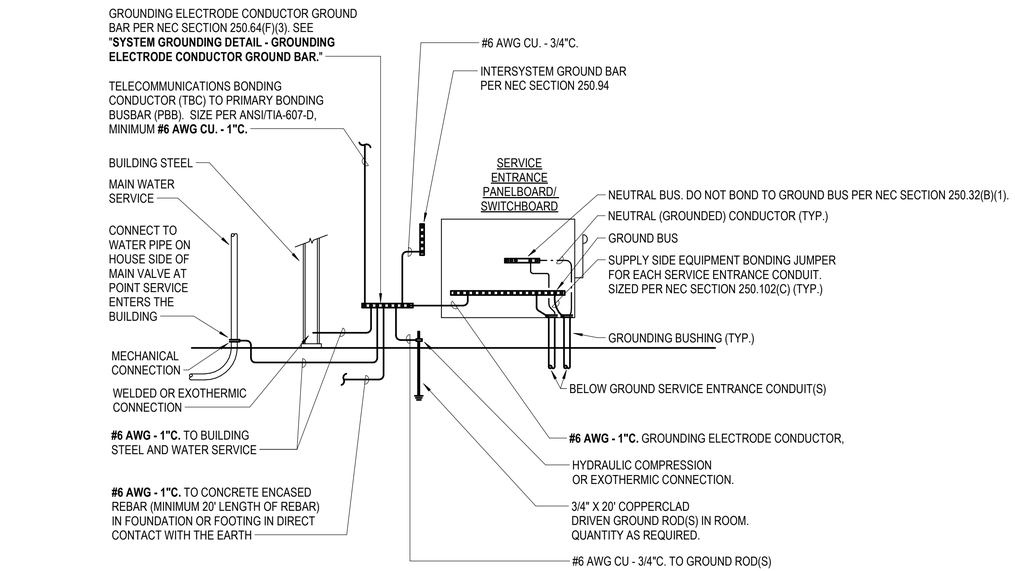
## 1 CONTACTOR 'A' DETAIL

NO SCALE




## 2 TYPICAL RECEPTACLE MOUNTING DETAIL

NO SCALE

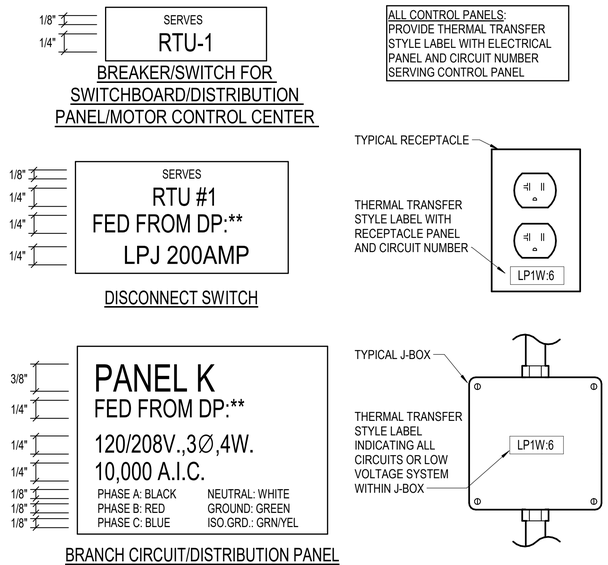



NOTES:

1. PROVIDE OTHER GROUNDING CONNECTIONS AS SPECIFIED IN NEC SECTION 250.50.
2. LABEL EACH GROUNDING ELECTRODE CONDUCTOR AND BONDING JUMPER.
3. WHERE CONDUCTORS ARE ROUTED IN FERROUS CONDUIT, BOND BOTH ENDS OF THE CONDUIT TO THE CONDUCTOR.

## 3 REMOTE SYSTEM GROUNDING DETAIL

NO SCALE




## 4 TYPICAL NAMEPLATES AND LABELS

NO SCALE

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
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ELECTRICAL DETAILS

**E5.01**

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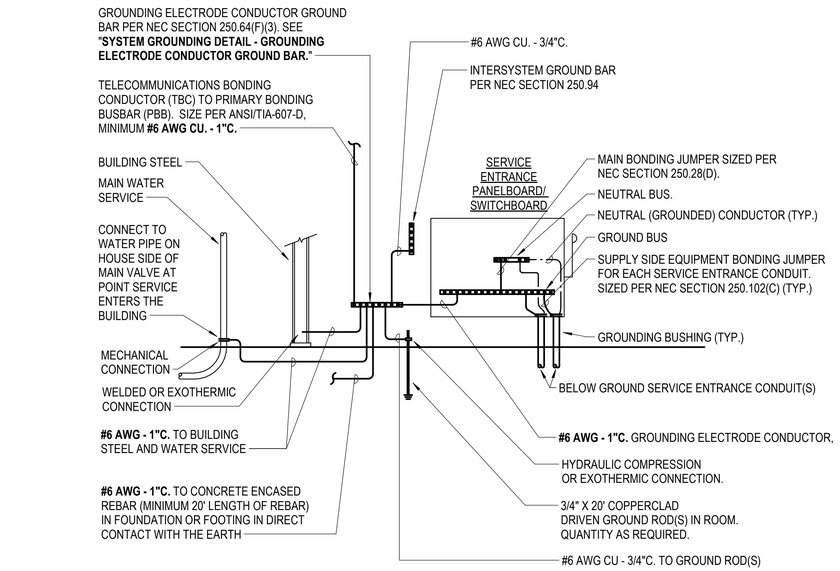
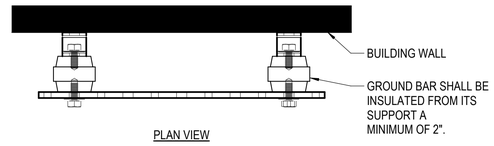



NOTES:

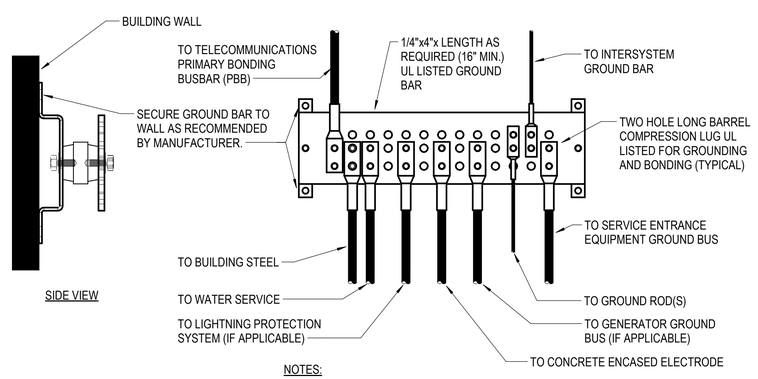
1. PROVIDE OTHER GROUNDING CONNECTIONS AS SPECIFIED IN NEC SECTION 250.50.
2. LABEL EACH GROUNDING ELECTRODE CONDUCTOR AND BONDING JUMPER.
3. WHERE CONDUCTORS ARE ROUTED IN FERROUS CONDUIT, BOND BOTH ENDS OF THE CONDUIT TO THE CONDUCTOR.

## 1 SYSTEM GROUNDING DETAIL

NO SCALE




PLAN VIEW




SIDE VIEW

NOTES:

1. PROVIDE OTHER GROUNDING CONNECTIONS AS SPECIFIED IN NEC SECTION 250.50.
2. LABEL EACH GROUND CONDUCTOR TO INDICATE USE.
3. PROVIDE NON-FERROUS CONDUIT (SIZE AS NOTED) WHERE CONDUCTORS ARE SUBJECT TO PHYSICAL DAMAGE. IF FERROUS CONDUIT IS USED, BOND EACH END OF THE CONDUCTOR TO THE CONDUIT.
4. PROVIDE GROUND BAR WITH FIBERGLASS ENCLOSURE WITH HINGED LID AND BUSHINGS IF GROUND BAR IS SUBJECT TO PHYSICAL DAMAGE.

## 2 SYSTEM GROUNDING DETAIL - GROUNDING ELECTRODE CONDUCTOR GROUND BAR

NO SCALE

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

**PERMIT SET** 06.26.2026

**ELECTRICAL DETAILS**

# E5.02

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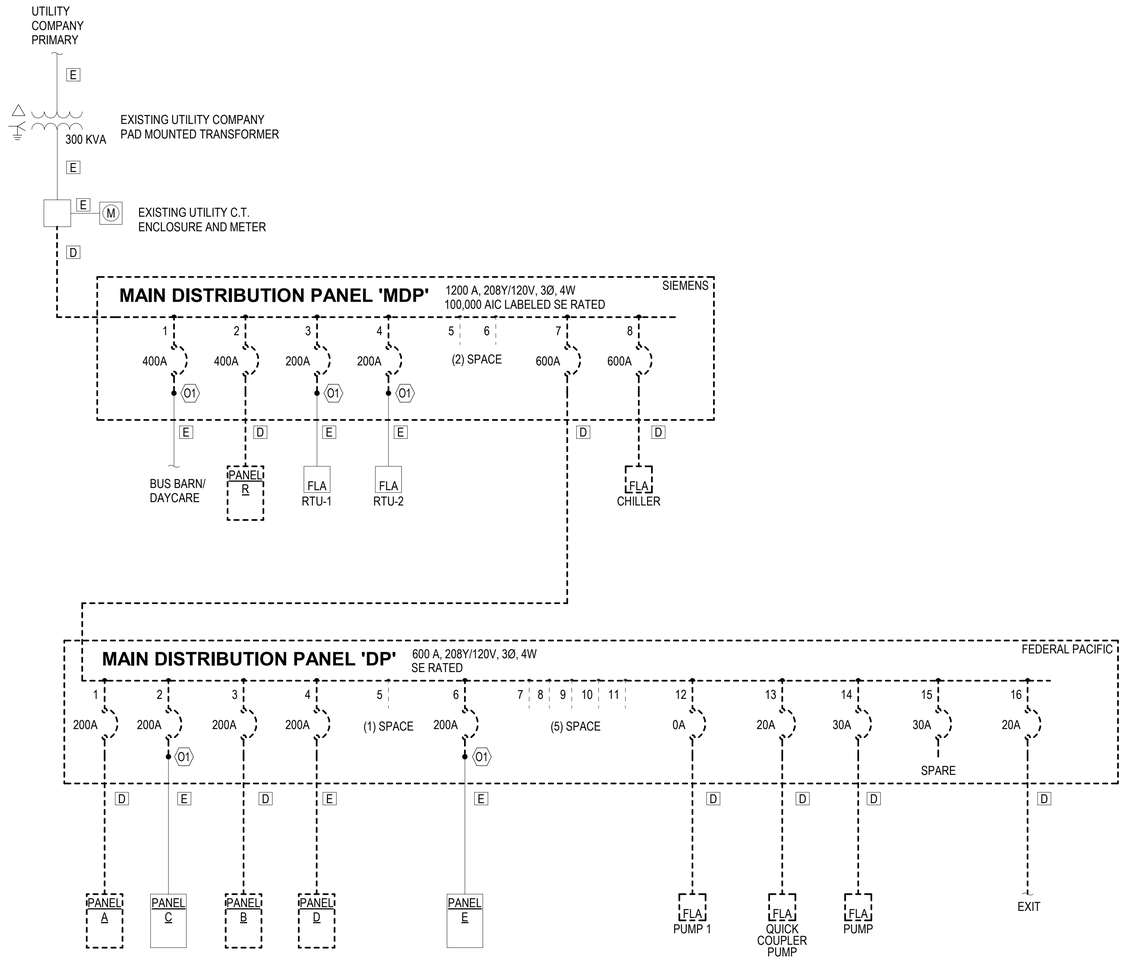


1 ONE-LINE DIAGRAM DEMO

NO SCALE

## ONE-LINE DIAGRAM GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
2. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE, IS EXISTING TO REMAIN.
3. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK LINE, IS NEW WORK UNDER THIS CONTRACT.
4. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK DASHED LINE, IS TO BE REMOVED UNDER THIS CONTRACT.

## FEEDER SCHEDULE

FEEDER TAG ABBREVIATIONS (MAY NOT APPLY):

| | | | |
|---|---|---|---|
| E | EXISTING TO REMAIN | OG | OVERSIZED GROUND |
| R | EXISTING TO BE REWORKED | TS | TRANSFORMER SECONDARY |
| D | EXISTING TO BE REMOVED | VD | UPSIZED FOR VOLTAGE DROP |
| 0 | REFERENCE EQUIPMENT CONNECTION SCHEDULE | SC | SPARE CONDUIT(S) WITH PULL ROPE(S) |
| 00 | REFERENCE PROCESS EQUIPMENT CONNECTION SCHEDULE | | |

| FEEDER TAG | CONDUCTORS | | | GROUND SIZE PER SET | CONDUIT SIZE PER SET |
|---|---|---|---|---|---|
| | SETS | NO. | SIZE | | |
| D | SEE NOTES | - | - | - | - |
| E | SEE NOTES | - | - | - | - |

## (#) SHEET KEYNOTES

| | |
|---|---|
| 01 | EXISTING FEEDER TO BE DISCONNECTED FROM EXISTING DISTRIBUTION EQUIPMENT AND RECONNECTED TO NEW DISTRIBUTION EQUIPMENT. CONTRACTOR TO EXTEND AND REWORK FEEDER AS REQUIRED. |


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**ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION**

# E6.01


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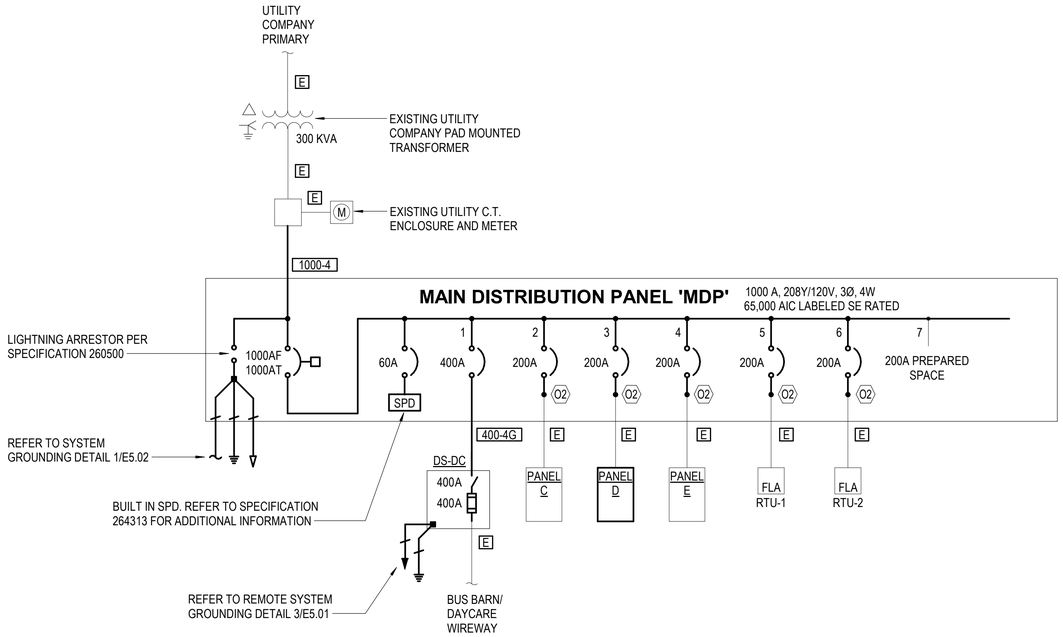


1 ONE-LINE DIAGRAM PROPOSED

NO SCALE

## ONE-LINE DIAGRAM GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
2. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE, IS EXISTING TO REMAIN.
3. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK LINE, IS NEW WORK UNDER THIS CONTRACT.
4. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK DASHED LINE, IS TO BE REMOVED UNDER THIS CONTRACT.

## FEEDER SCHEDULE

FEEDER TAG ABBREVIATIONS (MAY NOT APPLY):

| | | | |
|---|---|---|---|
| E | EXISTING TO REMAIN | OG | OVERSIZED GROUND |
| R | EXISTING TO BE REWORKED | TS | TRANSFORMER SECONDARY |
| D | EXISTING TO BE REMOVED | VD | UPSIZED FOR VOLTAGE DROP |
| 0 | REFERENCE EQUIPMENT CONNECTION SCHEDULE | SC | SPARE CONDUIT(S) WITH PULL ROPE(S) |
| 00 | REFERENCE PROCESS EQUIPMENT CONNECTION SCHEDULE | | |

| FEEDER TAG | CONDUCTORS | | | GROUND SIZE PER SET | CONDUIT SIZE PER SET |
|---|---|---|---|---|---|
| | SETS | NO. | SIZE | | |
| 400-4G | 2 | 4 | #3/0 AWG CU | #3 | 3"C |
| 1000-4 | 3 | 4 | #400 KCMIL CU | - | 4"C |
| E | SEE NOTES | - | - | - | - |

## SHEET KEYNOTES

| | |
|---|---|
| O2 | EXISTING FEEDER TO BE CONNECTED TO NEW MDP. THE EXISTING FEEDER LENGTH IS UNDERSTOOD TO BE LONG ENOUGH TO BE REWORKED AS REQUIRED. |

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**ELECTRICAL ONE-LINE DIAGRAM - PROPOSED**

**E6.02**

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(1)(2)(3)(4)

# LIGHTING FIXTURE SCHEDULE

(P.E.C.)

1. GENERAL CONTRACTOR SHALL PROVIDE FIREPROOFING AROUND RECESSED FIXTURES INSTALLED IN FIRE RATED CEILING PER U.L. REQUIREMENTS. ELECTRICAL CONTRACTOR WILL COORDINATE.
2. MANUFACTURERS LISTED IN THIS SCHEDULE OR APPROVED BY WRITTEN ADDENDUM WILL BE THE ONLY APPROVED MANUFACTURERS TO BID THE LIGHTING FIXTURES FOR THIS PROJECT. CONTRACTORS AND SUPPLIERS USING PRICING FROM MANUFACTURERS NOT LISTED ON SCHEDULE OR BY ADDENDUM DO SO AT THEIR OWN RISK.
3. LIGHT FIXTURE SELECTIONS ARE BASED ON THE MANUFACTURERS AS LISTED IN THE SCHEDULE. FIXTURES MANUFACTURER'S SHALL PROVIDE THE FULL MODEL NUMBER NECESSARY TO MEET THE PERFORMANCE CRITERIA LISTED IN THE SCHEDULE. FIXTURES APPROVED AS EQUALS IN THIS SCHEDULE OR BY ADDENDUM SHALL BE EQUAL TO THE UNIT LISTED IN THE BASIS OF DESIGN COLUMNAND MEET THE PERFORMANCE CRITERIA LISTED.
4. ALL LIGHT FIXTURES SHALL BE SECURED TO THE CEILING FRAMING SYSTEM BY MECHANICAL MEANS (SUCH AS BOLTS, SCREWS, OR RIVETS) OR BY CLIPS IDENTIFIED FOR USE WITH THE TYPE OF CEILING FRAMING MEMBER AND LIGHT FIXTURE.
5. 0-10V DIMMING DRIVERS SHALL BE CAPABLE OF DIMMING TO A MINIMUM OF 10% TOTAL LIGHT OUTPUT UNLESS NOTED OTHERWISE. LED DRIVERS SHALL HAVE A DISCONNECTING MEANS MEETING THE REQUIREMENTS OF NEC SECTION 410.130(G), EXCEPT FOR THOSE INSTALLED IN CORD AND PLUG CONNECTED FIXTURES. WHERE APPLICABLE, WHEN DIMMING SWITCHES ARE NOT PROVIDED AS PART OF THE DESIGN, CONTRACTOR SHALL CAP OFF THE 0-10V DIMMING WIRES FOR FUTURE EXTENSION BY THE OWNER.
6. PROVIDE ARROWS AND FACES AS INDICATED ON THE DRAWINGS. [PROVIDE EXTRA EXIT SIGNS OF EACH TYPE SPECIFIED AS FOLLOWS TO ACCOMMODATE ADDITIONAL THAT MAY BE REQUIRED BY THE AHJ DURING INSPECTION: [[5]% OF QUANTITY SPECIFIED BUT NO LESS THAN [2]] [[2] TOTAL OF EACH TYPE]].
7. TO COMPLY WITH NEC SECTION 410.130(G), ALL EXISTING OR RELOCATED LIGHT FIXTURES WITHOUT A BALLAST OR DRIVER DISCONNECTING MEANS SHALL HAVE A BALLAST OR DRIVER DISCONNECTING MEANS INSTALLED UNDER ANY OF THE FOLLOWING CONDITIONS:
   a. WHEN AN EXISTING BALLAST OR DRIVER IS REPLACED.
   b. WHEN AN EXISTING LIGHT FIXTURE IS RELOCATED OR RECIRCUITED.

| MARK | DESCRIPTION | BASIS OF DESIGN | | MOUNTING | LIGHT SOURCE | | | | | | | | | LENS/LOUVER/ FINISH | FIXTURE RATING / LISTING | BATTERY | DIMENSIONS | | | REF. NOTE | REMARKS | EQUIVALENTS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MANUFACTURER | SERIES | | # | TYPE | WATTS | VOLTS | LUMENS | COLOR TEMP. | CRI | DIMMING | OPTICS | | | | W | L | D | | | MANUFACTURER | SERIES | MANUFACTURER | SERIES | MANUFACTURER | SERIES |
| E | EXISTING FIXTURE TO REMAIN | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HAE | 4" RECESSED DOWNLIGHT W/LENS W/BATTERY BACKUP | HALO COMMERCIAL | HC4 | RECESSED | 1 | LED | 12 | UNV | 1000 | 3500K | 80 | 0-10V | MEDIUM | SEMI-CLEAR | EMERGENCY | YES | 1.17 | 1.32 | 0.55 | 5 | BATTERY BACKUP | PRE-APPROVED EQUAL | | | | | | |

(1)(2)(3)

# EQUIPMENT CONNECTION SCHEDULE

## MECHANICAL EQUIPMENT CONNECTIONS

| | UNIT DESIG. | UNIT VOLTAGE | LOAD H.P. | LOAD FLA | LOAD KVA | PANEL DEVICE CIRCUIT NUMBER | PANEL DEVICE BKR. AMPS | PANEL DEVICE SW. AMPS | PANEL DEVICE FUSE AMPS | PANEL DEVICE NEMA STARTER SIZE | DEVICE AT UNIT BKR. AMPS | DEVICE AT UNIT SW. AMPS | DEVICE AT UNIT FUSE AMPS | DEVICE AT UNIT POLE | DEVICE AT UNIT NEMA STARTER SIZE | DEVICE AT UNIT OTHER | STES | FEEDER DESCRIPTION OR SEE THE FEEDER SCHEDULE | REMARKS OR SEE THE INDICATED NOTES BELOW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | UH | UNIT HEATER | | | | | | | | | | | | | | | | | |
| (4) | 01 | 120/1 | | 1.9 | 0.228 | D:1 | 15 | | | 1 | | | | | | | 1 | 2 #12 AWG THWN; #12 AWG GRD; 1/2"C. | |
| | AHU | AIR HANDLING UNIT | | | | | | | | | | | | | | | | | |
| | 01 | 208/3 | 3.8A | 19.8 | 7.129 | D:13 | 30 | | | 3 | | 30 | 25 | 3 | NEMA-3R | | 1 | 3 #10 AWG THWN; #10 AWG GRD; 3/4"C. | |
| | 02 | 208/3 | | 26.6 | 9.6 | D:12 | 40 | | | 3 | | 60 | 35 | 3 | NEMA-3R | | 1 | 3 #6 AWG THWN; #10 AWG GRD; 1"C. | |
| | HP | HEAT PUMP | | | | | | | | | | | | | | | | | |
| | 01 | 208/3 | 9.1A | 10.7 | 3.855 | D:41 | 20 | | | 3 | | | | | | FUSTAT | 1 | 3 #12 AWG THWN; #12 AWG GRD; 1/2"C. | |
| | 02 | 208/3 | 13.5A | 15.6 | 5.62 | D:42 | 30 | | | 3 | | | | | | FUSTAT | 1 | 3 #10 AWG THWN; #10 AWG GRD; 3/4"C. | |

(1) ALL CONNECTIONS AND ELECTRICAL EQUIPMENT LISTED IN SCHEDULE SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. FIELD VERIFY CONNECTION REQUIREMENTS AND EQUIPMENT PROVIDED BY OTHERS PRIOR TO ROUGH-IN.

(2) REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTIONS OF INTERLOCKING, THERMOSTAT LOCATIONS, EXHAUST FAN CONTROL SWITCHES, AND OTHER CONTROLS OF MECHANICAL EQUIPMENT.

(3) SIZE FUSES FOR MOTOR FUSTATS BASED ON 125% OF MANUFACTURER'S NAMEPLATE FULL LOAD AMPERAGE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

(4) PROVIDED WITH INTEGRAL DISCONNECT.

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

SEAN PATRICK GARY LICENSED 28753 06/26/2026 KANSAS

PEC PROJECT NUMBER: 260125-001
PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

ELECTRICAL SCHEDULES

**E6.11**

6/19/2026 4:29:16 PM
Autodesk Docs://260125-001 - Old Hesston Middle School Renovation/260125-001_ELEC_R25.rvt

# PANELBOARD: D

208Y/120 VOLTS, 3 PHASE, 4 WIRE
225 AMP MLO, SURFACE MTD.
W/GRD. BUS 42000 AIC LABELED

| CIRC NO. | LOAD V. A. | LOAD TYPE | LOAD DESCRIPTION | P | AMP SIZE | PHASE | AMP SIZE | P | LOAD DESCRIPTION | LOAD TYPE | LOAD V. A. | CIRC NO. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 228 | HEAT | UH-01 UNIT HEATER | 1 | 15 | A | 20 | 1 | FCU BASEMENT/BAND RM HVAC | EXST | | 2 | (1) |
| (1) | 3 | | EXST | WEST GOAL WINCH | 1 | 20 | B | 20 | 1 | PUMP CONTROLS | EXST | | 4 | (1) |
| (1) | 5 | | EXST | BIG BOILER | 1 | 20 | C | 20 | 1 | GYM REC E WALL BY DF | EXST | | 6 | (1) |
| (1) | 7 | | EXST | EF - BOYS LOCKER RM | 1 | 20 | A | 20 | 1 | N HALL LIGHTS | EXST | | 8 | (1) |
| (1) | 9 | | EXST | N HALL LIGHTS | 1 | 20 | B | 20 | 1 | GIRLS SHOWER AREA | EXST | | 10 | (1) |
| (1) | 11 | | EXST | S HALL LIGHTS | 1 | 20 | C | 50 | 3 | AHU-02 AIR HANDLING UNIT | HEAT | 9600 | 12 | (1) |
| | 13 | 7129 | H/M | AHU-01 AIR HANDLING UNIT | 3 | 30 | A | \| | -- | ---------- | -- | ---- | 14 | |
| | 15 | ---- | -- | ---------- | -- | \| | B | \| | -- | ---------- | -- | ---- | 16 | |
| | 17 | ---- | -- | ---------- | -- | \| | C | 20 | 1 | S WALL MUSIC RM REC | EXST | | 18 | (1) |
| (1) | 19 | | EXST | W WALL MUSIC RM REC | 1 | 20 | A | 20 | 1 | BOILER RM LIGHT | EXST | | 20 | (1) |
| (2)(1) | 21 | | EXST | DRYER | 2 | 30 | B | 20 | 1 | FCU | EXST | | 22 | (1)(2) |
| | 23 | ---- | -- | ---------- | -- | \| | C | 20 | 1 | HOT WATER PUMP/TIME CLOCK | EXST | | 24 | (1) |
| (1) | 25 | | EXST | BASEMENT HEATER/E AC UNIT | 1 | 20 | A | 20 | 1 | 220 HEATER GIRLS LOCKER | EXST | | 26 | (1) |
| (1) | 27 | | EXST | 220 HEATER GIRLS LOCKER | 1 | 20 | B | 20 | 1 | 220 HEATER BOYS LOCKER | EXST | | 28 | (1) |
| (1) | 29 | | EXST | BOILER RM | 1 | 20 | C | 20 | 1 | BASEMENT REC MUSIC RM | EXST | | 30 | (1) |
| (1) | 31 | | EXST | #31 COMPRESSOR/BASEMENT REC MUSIC RM | 1 | 20 | A | 20 | 1 | GIRLS SHOWER OFFICE | EXST | | 32 | (1) |
| (1) | 33 | | EXST | MUSIC OFFICE LIB | 1 | 20 | B | 20 | 1 | STORAGE LIGHTS W, MUSIC RM | EXST | | 34 | (1) |
| (1) | 35 | | EXST | SUMP PUMP BASEMENT/EM LIGHT BAND RM | 1 | 20 | C | 20 | 1 | HEATER-BASEMENT/AC | EXST | | 36 | (1) |
| (1) | 37 | | EXST | TIME CLOCK/LIGHTS | 1 | 20 | A | 20 | 1 | SPARE | | | 38 | |
| (1) | 39 | | EXST | BOYS LOCKER LIGHTS/EM LIGHT/FCU | 1 | 20 | B | 20 | 1 | GIRLS LOCKER RM LIGHTS/EF | EXST | | 40 | (1) |
| | 41 | 3855 | C/M | HP-01 HEAT PUMP | 3 | 20 | C | 30 | 3 | HP-02 HEAT PUMP | C/M | 5620 | 42 | |
| | 43 | ---- | -- | ---------- | -- | \| | A | \| | -- | ---------- | -- | ---- | 44 | |
| | 45 | ---- | -- | ---------- | -- | \| | B | \| | -- | ---------- | -- | ---- | 46 | |
| | 47 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 48 | |
| | 49 | | | SPARE | 1 | 20 | A | 20 | 1 | SPARE | | | 50 | |
| | 51 | | | SPARE | 1 | 20 | B | 20 | 1 | SPARE | | | 52 | |
| | 53 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 54 | |
| | 55 | | | SPARE | 1 | 20 | A | 20 | 1 | SPARE | | | 56 | |
| | 57 | | | SPARE | 1 | 20 | B | 20 | 1 | SPARE | | | 58 | |
| | 59 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 60 | |

(1) RECONNECT EXISTING LOADS FROM DEMO'ED 'D' PANEL. VERIFY LOADS FED AND UPDATE PANEL DIRECTORY.
(2) SECOND POLE FOR DRYER TO BE SWITCHED WITH FCU TO ACCOUNT FOR MODEN PANEL CONFIGURATIONS.

| PANELBOARD: D | CONNECTED KVA: | | | | DEMAND | | CONT. | SIZING AMPS: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | PH-A | PH-B | PH-C | TOTAL | FACTOR | KVA | FACT | TOTAL | PH-A | PH-B | PH-C |
| Largest Motor | 0.0 | 0.0 | 0.0 | 0.0 | 1 | 0.0 | 0.25 | 3.4 | 3.4 | 3.4 | 3.4 |
| Cooling | 2.7 | 2.7 | 2.7 | 8.1 | 1 | 8.1 | 1 | 22.6 | 22.6 | 22.6 | 22.6 |
| Motor | 0.9 | 0.9 | 0.9 | 2.7 | 1 | 2.7 | 1 | 7.5 | 7.5 | 7.5 | 7.5 |
| Heating | 5.3 | 5.1 | 5.1 | 15.6 | 1 | 15.6 | 1.25 | 54.1 | 55.7 | 53.3 | 53.3 |
| Spare | | | | | 0.2 | 5.3 | 1 | 14.7 | 14.7 | 14.7 | 14.7 |
| TOTAL KVA: | 9.0 | 8.7 | 8.7 | 26.4 | | 31.7 | | TOTAL AMPS: | PH-A | PH-B | PH-C |
| TOTAL AMPS: | 74.7 | 72.8 | 72.8 | 73.4 | | | | 102.2 | 103.9 | 101.5 | 101.5 |

# PANELBOARD: E

208Y/120 VOLTS, 3 PHASE, 4 WIRE
225 AMP MLO, SURFACE MTD.
W/GRD. BUS 22000 AIC LABELED

| CIRC NO. | LOAD V. A. | LOAD TYPE | LOAD DESCRIPTION | P | AMP SIZE | PHASE | AMP SIZE | P | LOAD DESCRIPTION | LOAD TYPE | LOAD V. A. | CIRC NO. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 24 | LGHT | VESTIBULE 118/119 LIGHTS | 1 | 20 | A | 20 | 1 | SPARE | | | 2 | |
| | 3 | 400 | RCPT | VESTIBULE 118/119 RECS | 1 | 20 | B | 20 | 1 | SPARE | | | 4 | |
| | 5 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 6 | |
| | 7 | | | SPARE | 1 | 20 | A | 20 | 1 | SPARE | | | 8 | |
| | 9 | | | SPARE | 1 | 20 | B | 20 | 1 | NIGHT LIGHT | EXST | | 10 | (1) |
| (1) | 11 | | EXST | FRONT LIGHT ON STAGE | 1 | 20 | C | 20 | 1 | EF | EXST | | 12 | (1) |
| (1) | 13 | | EXST | EF | 1 | 20 | A | 20 | 1 | SPARE | | | 14 | |
| | 15 | | | SPARE | 1 | 20 | B | 20 | 1 | SPARE | | | 16 | |
| (1) | 17 | | EXST | BAND CLOCK | 1 | 20 | C | 20 | 1 | SPARE/EXISTING LOAD? | EXST | | 18 | (1) |
| (1) | 19 | | EXST | SPARE/EXISTING LOAD | 1 | 20 | A | 20 | 1 | SPARE/EXISTING LOAD? | EXST | | 20 | (1) |
| (1) | 21 | | EXST | OUTSIDE LIGHTS | 1 | 20 | B | 20 | 1 | OUTSIDE LIGHTS | EXST | | 22 | (1) |
| | 23 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 24 | |
| | 25 | | | SPARE | 1 | 20 | A | 20 | 1 | SPARE | | | 26 | |
| | 27 | | | SPARE | 1 | 20 | B | 20 | 1 | SCORE BOARD | EXST | | 28 | (1) |
| (1) | 29 | | EXST | SPARE/EXISTING LOAD? | 1 | 20 | C | 20 | 1 | SPARE/EXISTING LOAD? | EXST | | 30 | (1) |
| (1) | 31 | | EXST | SPARE/EXISTING LOAD? | 1 | 20 | A | 20 | 1 | STAGE LIGHT STORE ROOM | EXST | | 32 | (1) |
| (1) | 33 | | EXST | BACK LIGHT ON STAGE | 1 | 20 | B | 20 | 1 | SPARE | | | 34 | |
| | 35 | | | SPARE | 1 | 20 | C | 20 | 1 | LIGHT SIDE STAGE | EXST | | 36 | (1) |
| (1) | 37 | | EXST | STAGE OUTLET BOXES | 1 | 20 | A | 20 | 1 | STAGE OUTLET BOXES | EXST | | 38 | (1) |
| (1) | 39 | | EXST | EMERGENCY LIGHTS | 1 | 20 | B | 20 | 1 | EMERGENCY LIGHTS | EXST | | 40 | (1) |
| | 41 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 42 | |

(1) RECONNECT EXISTING LOADS FROM DEMO'ED 'E' PANEL. VERIFY LOADS FED AND UPDATE PANEL DIRECTORY

| PANELBOARD: E | CONNECTED KVA: | | | | DEMAND | | CONT. | SIZING AMPS: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | PH-A | PH-B | PH-C | TOTAL | FACTOR | KVA | FACT | TOTAL | PH-A | PH-B | PH-C |
| Lighting | 0.0 | 0.0 | 0.0 | 0.0 | 1 | 0.0 | 1.25 | 0.1 | 0.2 | 0.0 | 0.0 |
| Receptacle | 0.0 | 0.4 | 0.0 | 0.4 | 1 | 0.4 | 1 | 1.1 | 0.0 | 3.3 | 0.0 |
| Spare | | | | | 0.2 | 0.1 | 1 | 0.2 | 0.2 | 0.2 | 0.2 |
| TOTAL KVA: | 0.0 | 0.4 | 0.0 | 0.4 | | 0.5 | | TOTAL AMPS: | PH-A | PH-B | PH-C |
| TOTAL AMPS: | 0.2 | 3.3 | 0.0 | 1.2 | | | | 1.4 | 0.5 | 3.6 | 0.2 |


SPT ARCHITECTURE
WICHITA, KS
316.267.4002


SEAN PATRICK GERTY
LICENSED
28753
06/26/2026
KANSAS

PEC PROJECT NUMBER: 260125-001


PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

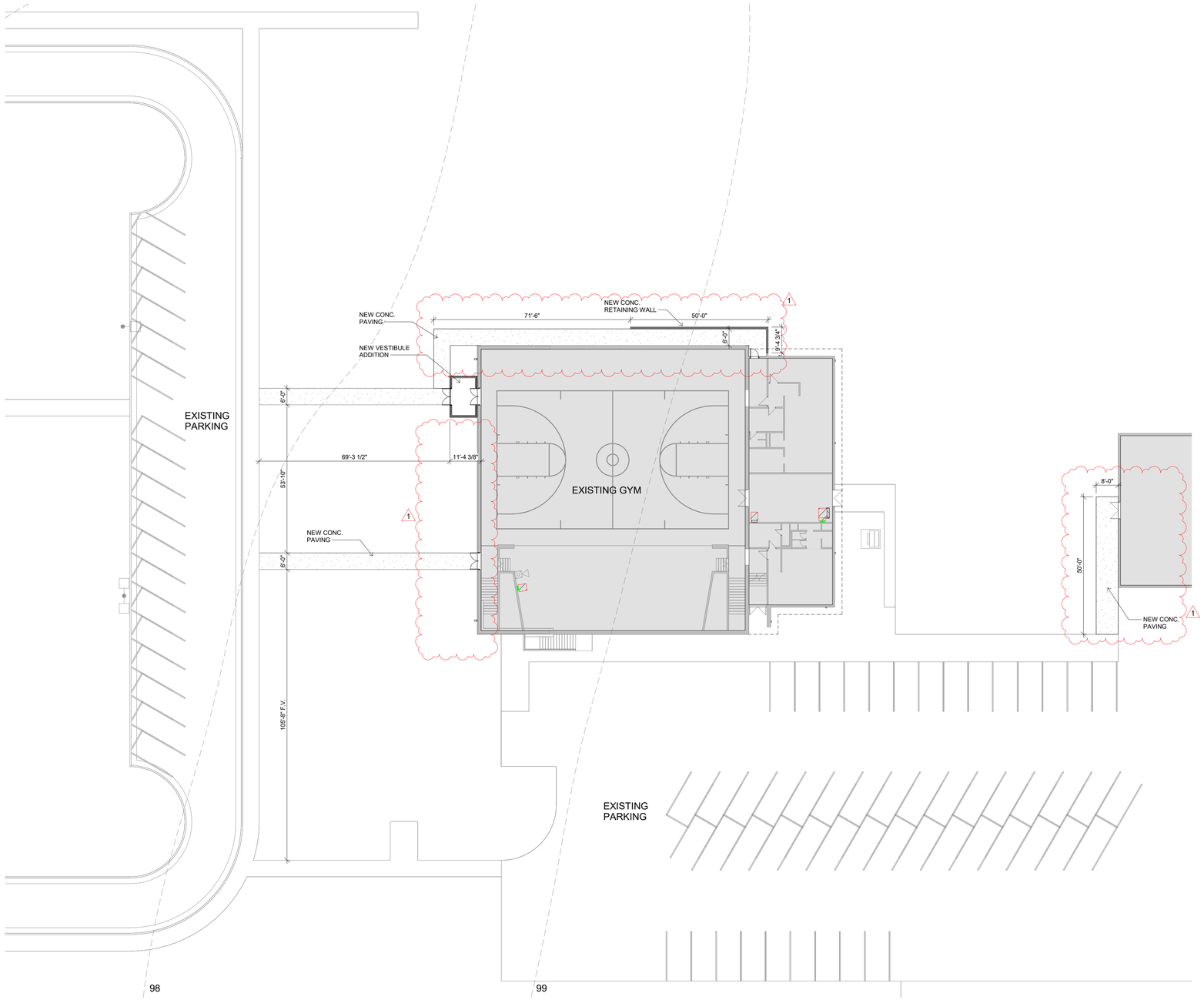

**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

PERMIT SET 06.26.2026

ELECTRICAL SCHEDULES

**E6.12**


6/19/2026 4:29:16 PM
Autodesk Docs://260125-001 - Old Hesston Middle School Renovation/260125-001_ELEC_R25.rvt




A SITE PLAN
1" = 20'-0"

SPT
ARCHITECTURE
WICHITA, KS
316.267.4002

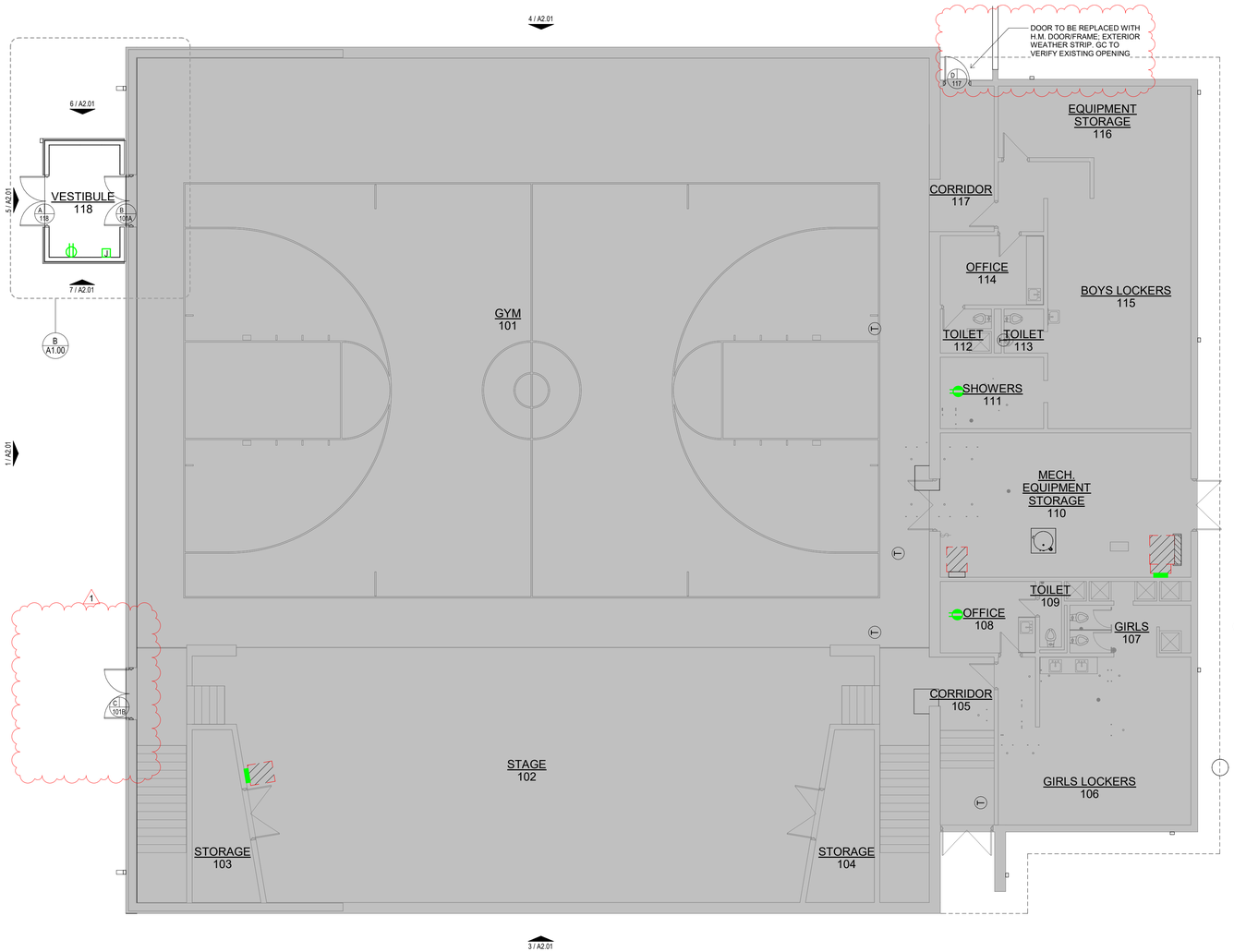
GREG TICE
LICENSED
06.26.2026
KANSAS
ARCHITECT

**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

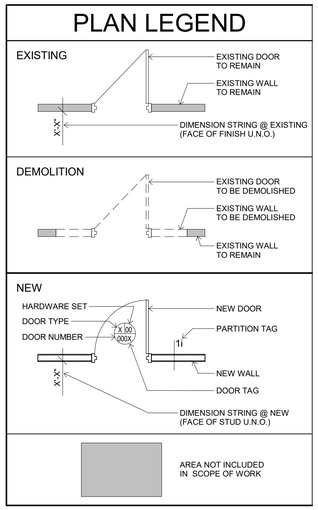
| | | |
|---|---|---|
| 1 | ASI 1 | 09.08.2026 |
| | PERMIT SET | 06.26.2026 |

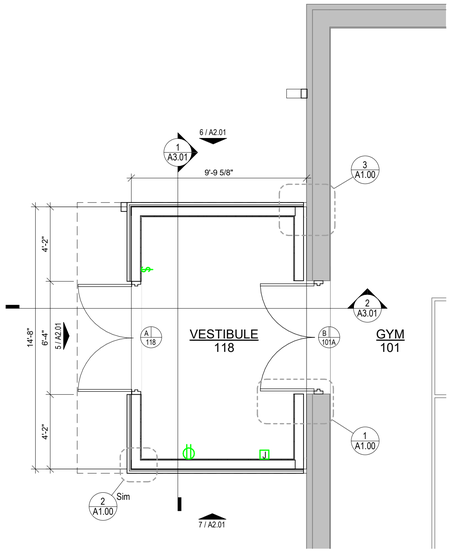
SITE PLAN

**AS1.1**

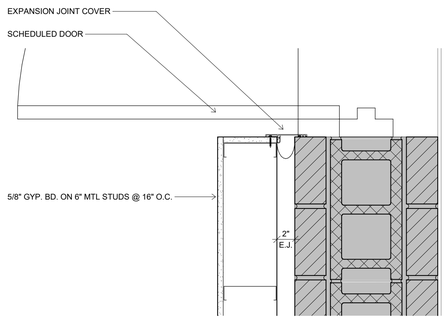



A ARCHITECTURAL FLOOR PLAN - OVERALL
1/8" = 1'-0"

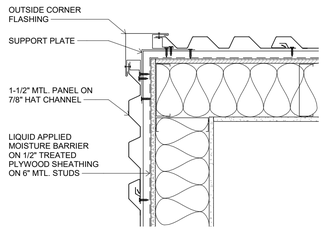


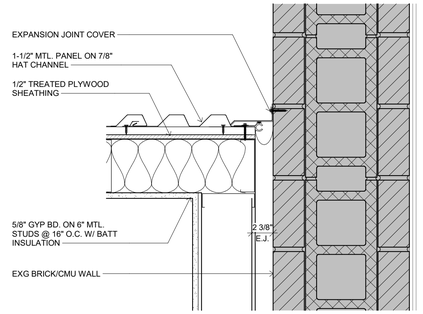

B NORTH VESTIBULE PLAN
1/4" = 1'-0"




1 E.J. DTL. @ DOOR JAMB
1 1/2" = 1'-0"




2 MTL PANEL 90° OUTSIDE CORNER
1 1/2" = 1'-0"




3 DTL @ EXG BRICK & MTL PANEL
1 1/2" = 1'-0"

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

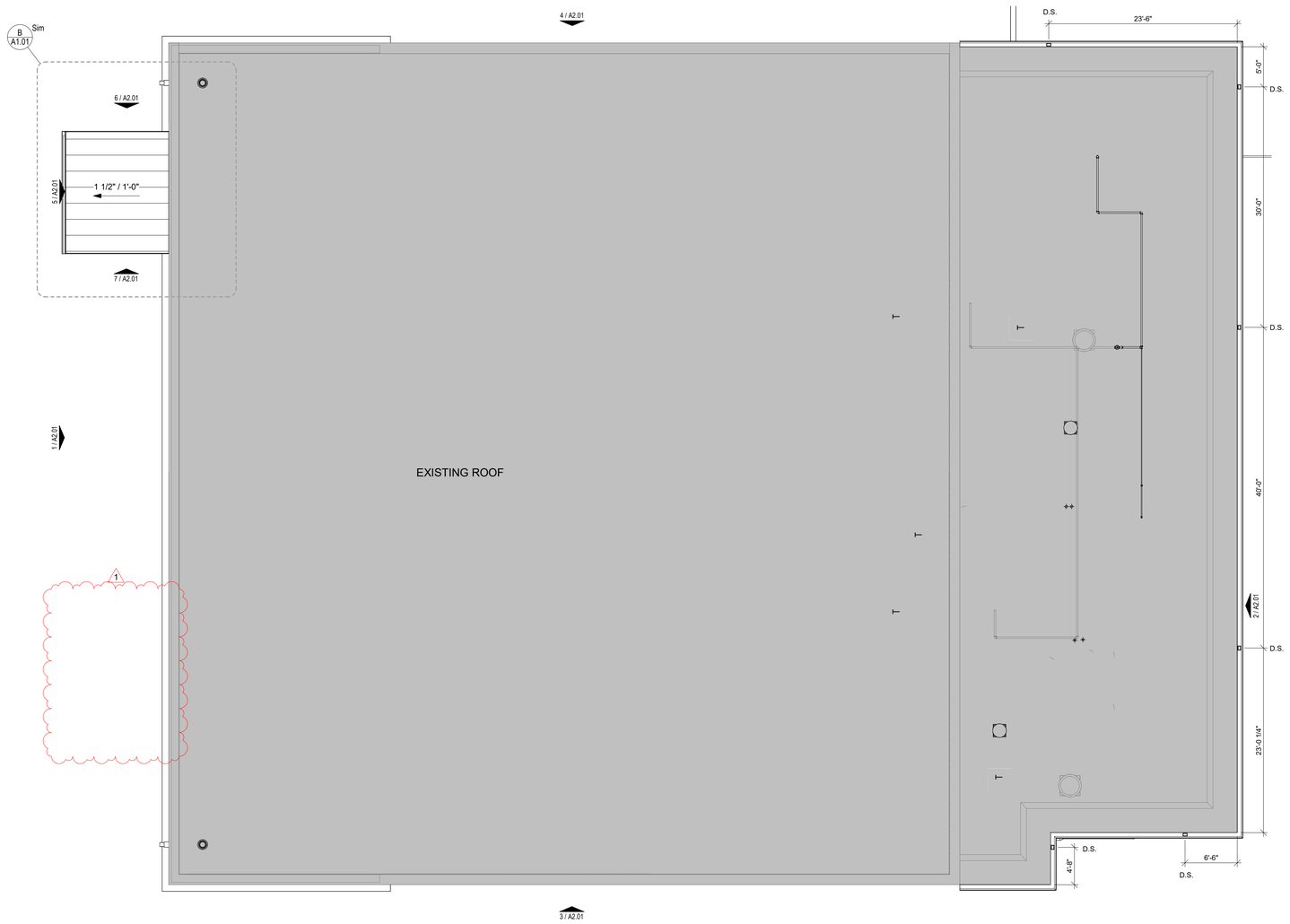
GREG TICE
LICENSED
9.8.2026
KANSAS
ARCHITECT

# USD 460 HESSTON MIDDLE SCHOOL
HESSTON, KS

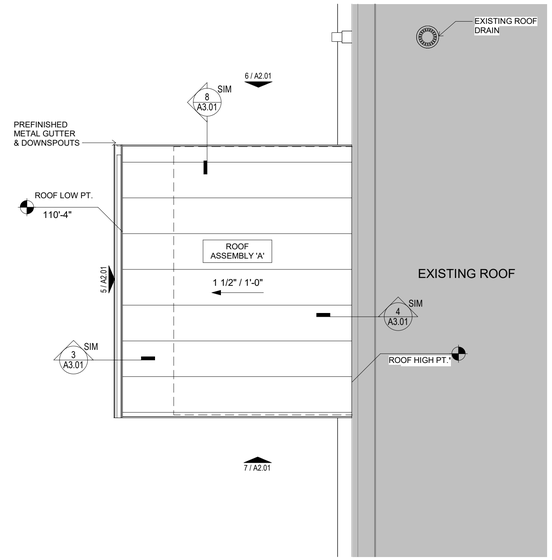
| | | |
|---|---|---|
| 1 | ASI 1 | 09.08.2026 |
| | PERMIT SET | 06.26.2026 |

OVERALL FLOOR PLANS

A1.00




## A ROOF PLAN
1/8" = 1'-0"

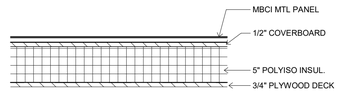



## B ROOF PLAN - VESTIBULE
1/4" = 1'-0"

## ROOF LEGEND

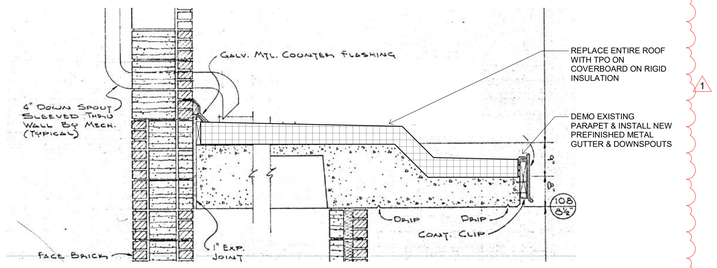
EXISTING ROOFING TO REMAIN

NEW METAL ROOFING




## 1 ROOF ASSEMBLY 'A'
1 1/2" = 1'-0"

## 2 BASE BID
1/2" = 1'-0"



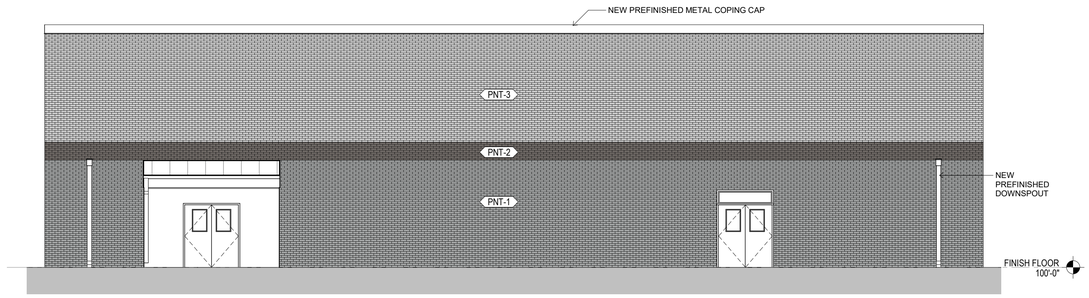

## 3 ALTERNATE BID
1 1/2" = 1'-0"

**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

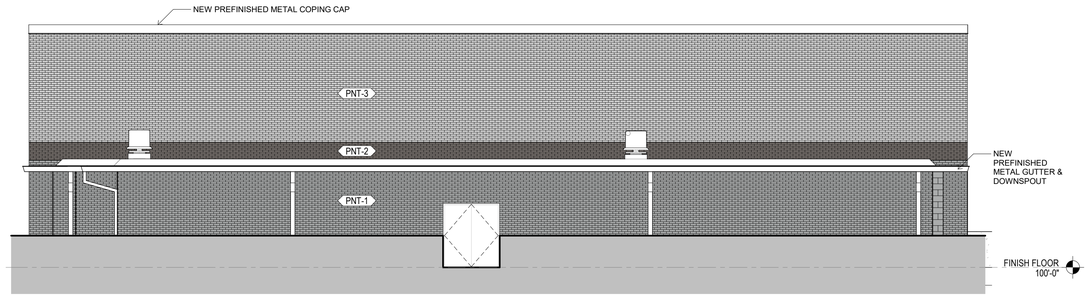
| | | |
|---|---|---|
| 1 | ASI 1 | 09.08.2026 |
| | PERMIT SET | 06.26.2026 |

ROOF PLAN

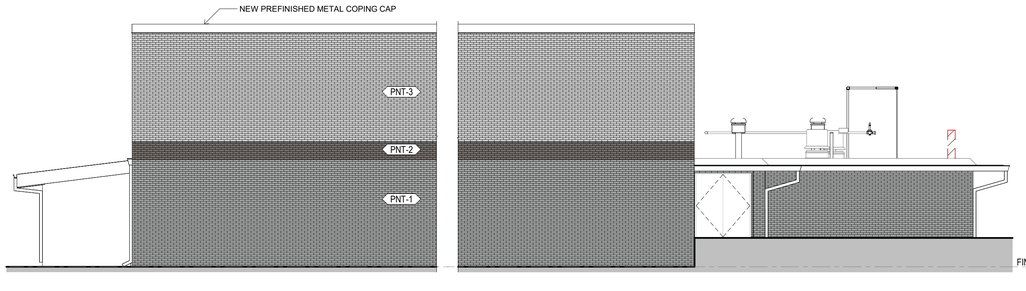
**A1.01**



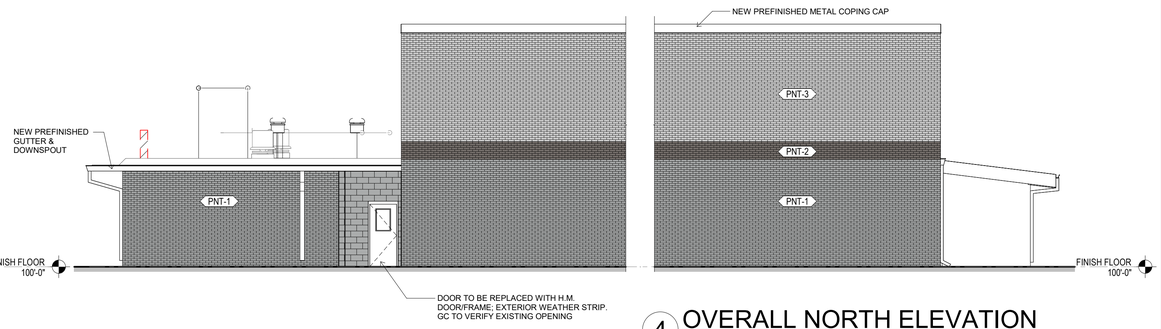

1 OVERALL WEST ELEVATION
1/8" = 1'-0"




2 OVERALL EAST ELEVATION
1/8" = 1'-0"

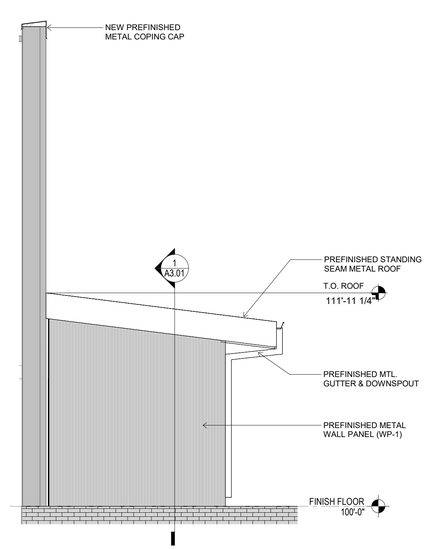



3 OVERALL SOUTH ELEVATION
1/8" = 1'-0"

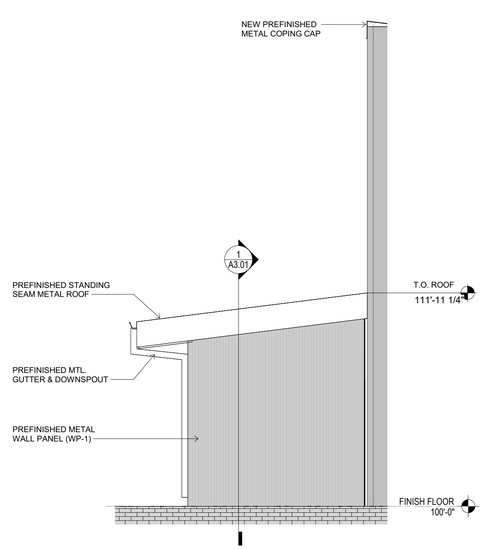



4 OVERALL NORTH ELEVATION
1/8" = 1'-0"

5 WEST VESTIBULE ELEVATION
1/4" = 1'-0"




6 NORTH VESTIBULE ELEVATION
1/4" = 1'-0"




7 SOUTH VESTIBULE ELEVATION
1/4" = 1'-0"

## EXTERIOR LEGEND

- METAL WALL PANEL (WP-1)
- ACRYLIC LATEX MASONRY PAINT PNT-1
- ACRYLIC LATEX MASONRY PAINT PNT-2
- ACRYLIC LATEX MASONRY PAINT PNT-3

*COLORS TO BE SELECTED BY ARCHITECT FROM MANUFACTURE

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

GREG TICE LICENSED 09.08.2026 KANSAS ARCHITECT

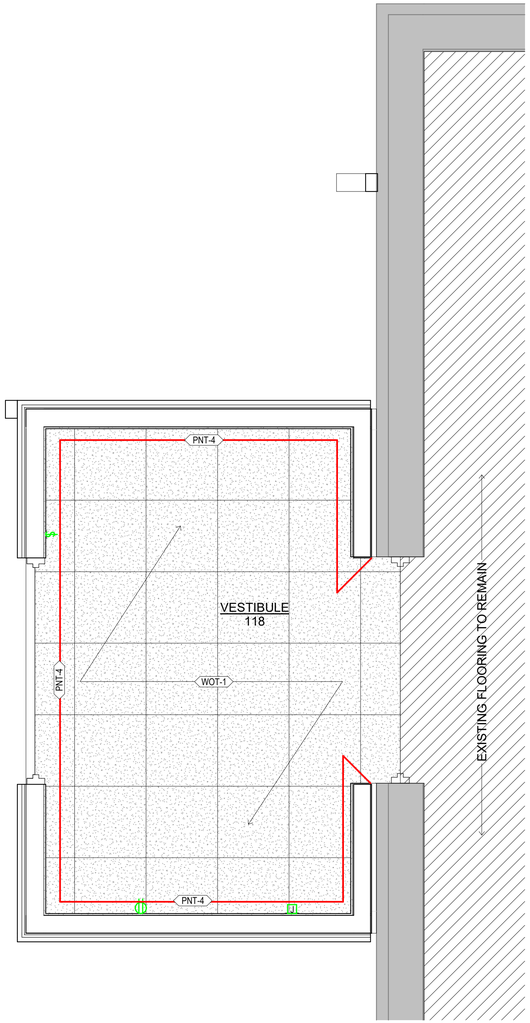
**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

| | | |
|---|---|---|
| 1 | ASI 1 | 09.08.2026 |
| | PERMIT SET | 06.26.2026 |

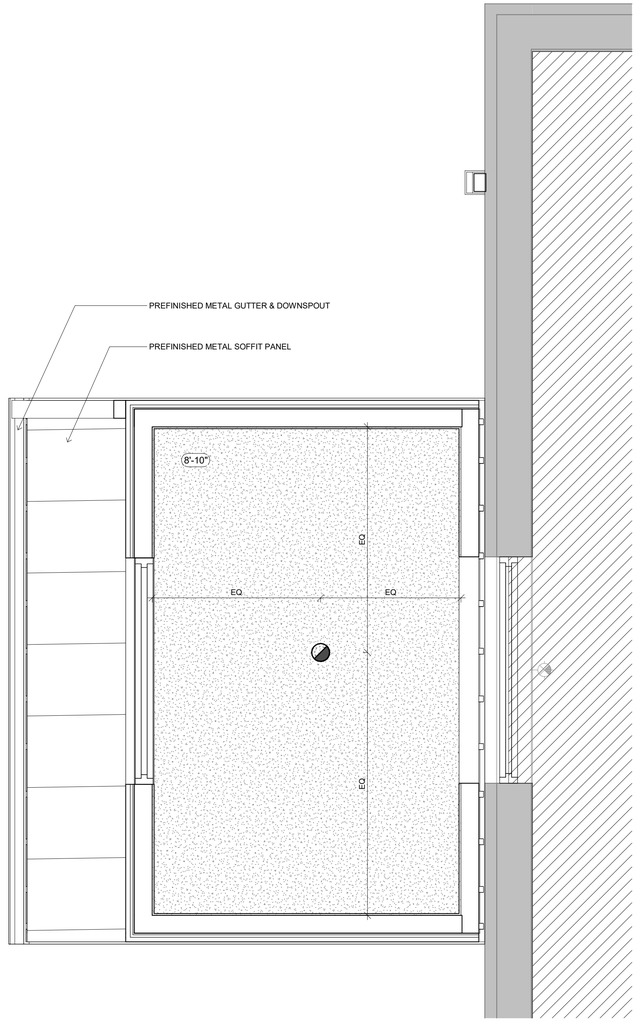
**OVERALL EXTERIOR ELEVATIONS**

**A2.01**

1 ENTIRE SHEET




A FINISH FLOOR PLAN
1/2" = 1'-0"

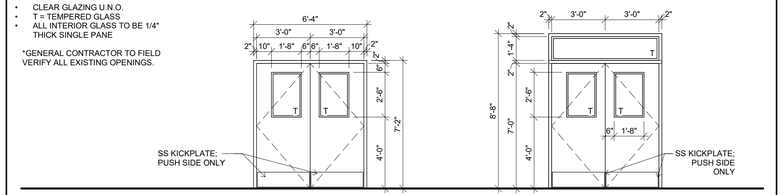


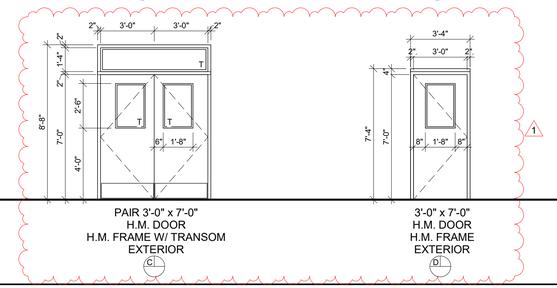

B REFLECTED CEILING PLAN
1/2" = 1'-0"

## DOOR TYPE

GLAZING NOTES:
- CLEAR GLAZING U.N.O.
- T = TEMPERED GLASS
- ALL INTERIOR GLASS TO BE 1/4" THICK SINGLE PANE

*GENERAL CONTRACTOR TO FIELD VERIFY ALL EXISTING OPENINGS.

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## FINISH SCHEDULE

| NUMBER | NAME | FLOOR | WALL | BASE | CEILING | COMMENTS |
|---|---|---|---|---|---|---|
| 118 | VESTIBULE | WOT-1 | PNT-4 | RB-1 | GYP-1 | |

## FINISH MATERIALS LIST

| FINISH CODE | MATERIAL | MANUFACTURER | STYLE/PATTERN | COLOR/FINISH | SIZE | INSTALLATION/GROUT | COMMENTS |
|---|---|---|---|---|---|---|---|
| 01-FLOOR | | | | | | | |
| WOT-1 | WALK OFF TILE | MILLIKEN | OBEX / CUTX / GRAIN | GREY | | | |
| 02-BASE | | | | | | | |
| RB-1 | RUBBER BASE | JOHNSONITE | | 63 BURNT UMBER | 4" COVE | ROLLED GOODS | |
| 03-WALL | | | | | | | |
| PNT-1 | PAINT (BASE) | SHERWIN WILLIAMS | | TBD | | | BREATHABLE ACRYLIC LATEX MASONRY PAINT |
| PNT-2 | PAINT (BAND) | SHERWIN WILLIAMS | | TBD | | | BREATHABLE ACRYLIC LATEX MASONRY PAINT |
| PNT-3 | PAINT | SHERWIN WILLIAMS | | TBD | | | BREATHABLE ACRYLIC LATEX MASONRY PAINT |
| PNT-4 | PAINT | SHERWIN WILLIAMS | | SW 7036 ACCESSIBLE BEIGE | | | |
| 04-CEILING | | | | | | | |
| GYP-1 | GYP. BD. CEILING | | | PNT-2 FINISH U.N.O. | | | |

1

## FINISH NOTES

1. DO NOT START OR STOP FINISH MATERIAL TRANSITIONS ON OUTSIDE CORNERS.
2. ALL FLOOR FINISH CHANGES AT DOORWAYS OCCUR AT CENTER OF DOOR OR DOORWAY.
3. REFER TO ARCHITECTURAL PLAN OR FLOOR PLAN FOR TRANSITION LOCATIONS
4. FLOAT FLOOR BETWEEN DIFFERING FLOOR MATERIALS TO CREATE A SMOOTH TRANSITION.
5. TRANSITION STRIPS ARE REQUIRED AT ALL DIFFERING FLOOR MATERIALS UNLESS OTHERWISE NOTED- USE THE FOLLOWING TRANSITION TYPES:
   A. CARPET TO CONCRETE: JOHNSONITE SLT-XX-L- SLIM LINE IN BURNT UMBER
   B. WOOD GYM FLOOR TRANSITIONS BY MANUFACTURER
6. FOR RUBBER BASE USE COIL PRODUCT NOT SEGMENTS. ALL CORNERS TO BE FIELD FORMED.
7. ALL EXPOSED CONCRETE FLOORS TO BE SEALED OR DENSIFIED AND POLISHED- REFER TO FINISH SCHEDULE FOR LOCATIONS FOR EACH APPLICATION.
8. ONCE INSTALLATION OF FLOOR FINISHES IS COMPLETE, PROTECT FLOORS TO PREVENT DAMAGE DURING THE REMAINDER OF THE PROJECT CONSTRUCTION. CLEAN & FINISH FLOORS PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO FINAL COMPLETION & INSPECTIONS.
9. ALL STEEL DOORS & FRAMES TO BE FACTORY PRIMED & FIELD PAINTED- COLOR TO BE PNT-3, U.N.O.
10. INTERIOR HOLLOW METAL WINDOW FRAMES, DOOR FRAMES & SIDELIGHTS SHALL BE PAINTED WITH PNT-3.
11. ALL GYPSUM BOARD SOFFITS AND FURR DOWNS ARE PAINTED- SEE CEILING PLANS AND ELEVATIONS FOR PAINT COLOR- IF UNMARKED ON CEILING PLANS, USE PNT-2.
12. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS, VARYING CEILING MATERIALS & FINISHES.
13. MATERIAL COST FOR FINISHES SHOULD NOT INCLUDE LABOR, FREIGHT, GLUE, APPLICABLE TAXES, G.C. OVERHEAD & PROFIT.
14. ALL FINISH MATERIALS UTILIZED TO COMPLY WITH FLAME SPREAD AND SMOKE DEVELOPED RATINGS SPECIFIED IN CHAPTER 8 OF THE INTERNATIONAL BUILDING CODE. FOR RENOVATION PROJECTS

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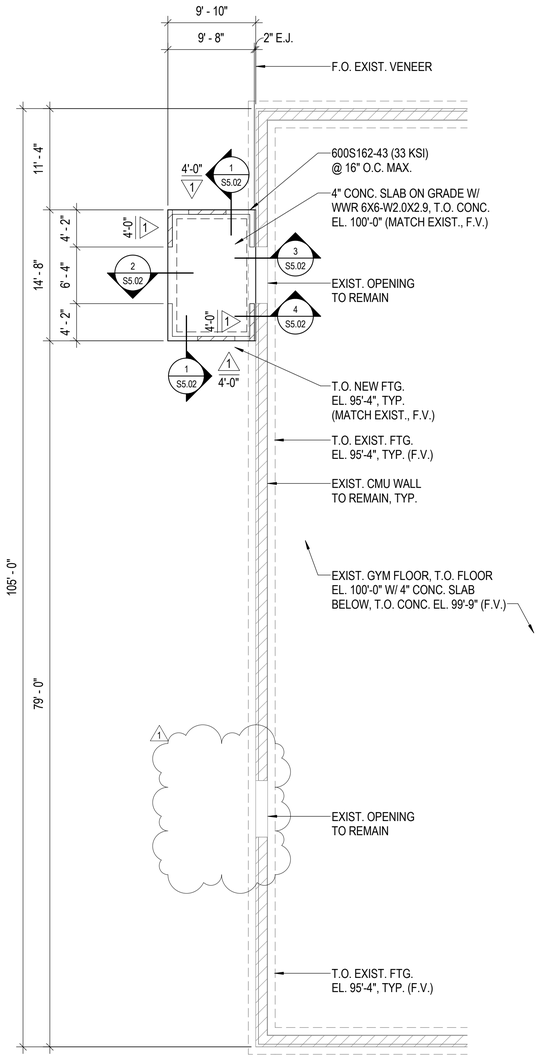
GREG T. KS LICENSED 4.8.2026 KANSAS ARCHITECT

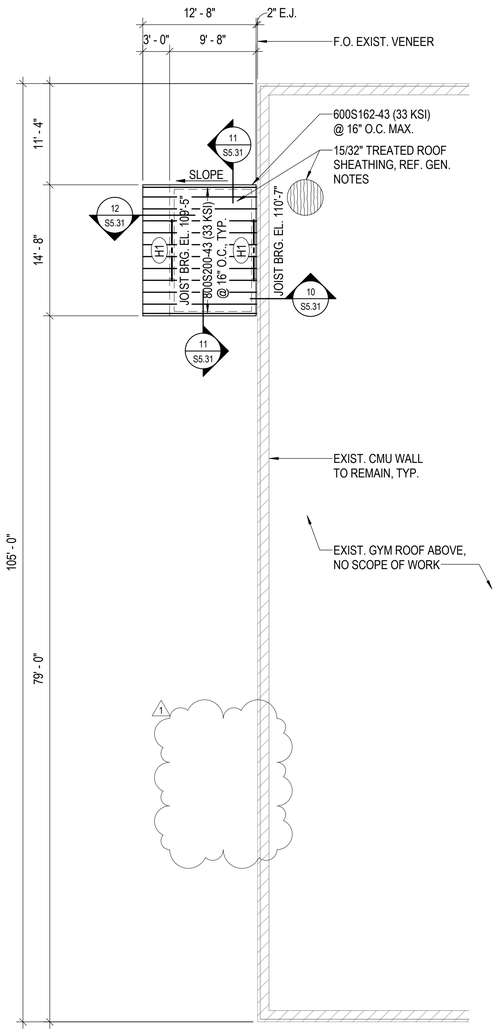
**USD 460 HESSTON MIDDLE SCHOOL**
HESSTON, KS

| | | |
|---|---|---|
| 1 | ASI 1 | 09.08.2026 |
| | PERMIT SET | 06.26.2026 |

**ENLARGED PLANS & SCHEDULES**

# A4.01

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## A FOUNDATION PLAN - VESTIBULES

0' 4' 8' 12' 1/8" = 1'-0"

N

## B ROOF FRAMING PLAN - VESTIBULES

0' 4' 8' 12' 1/8" = 1'-0"


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WICHITA, KS
316.267.4002


EDUARDO MORAN VALDES
LICENSED
30140
08/14/2026
KANSAS
PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001


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# USD 460 HESSTON
# MIDDLE SCHOOL
HESSTON, KS

| | | |
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STRUCTURAL PLANS

**S1.01**


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## PLUMBING DEMO NOTES

1. PLANS ARE SCHEMATIC IN NATURE, LAYOUT IS BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE OWNER'S REPRESENTATIVE IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF THE DEMOLITION WORK SHALL NOT JUSTIFY AN ADDITIONAL COST.
2. CONTRACTOR SHALL CLEAN ALL EXISTING PLUMBING FIXTURES TO REMAIN OR BE REUSED IN AREA OF WORK TO LIKE-NEW CONDITION AND PROVIDE A LIST OF ANY DEFICIENCIES TO OWNER'S REPRESENTATIVE.
3. DEMOLISH ALL DUCTWORK, PIPING AND EQUIPMENT SHOWN SHADED AND DASHED IN A DARK LINE WEIGHT.

## # SHEET KEYNOTES

(E) GAS METER AT ROAD

(E) SANITARY SEWER MANHOLE AT ROAD

(E) SANITARY SEWER MANHOLE

(E) GAS SERVICE. FIELD VERIFY EXACT ROUTING AND CONNECTIONS.

(E) WASTE LINE TO BE REPLACED.

(E) GAS TO REMAIN

REMOVE (E) GAS UP TO ROOF.

REMOVE ALL EXISTING GAS PIPE ON ROOF UNLESS NOTED OTHERWISE.

REMOVE GAS PIPE DOWN WALL TO METAL BUILDING.

(E) SANITARY SEWER BELOW GRADE. USE EXTREME CAUTION TO PROTECT DURING BUILDING DEMOLITION. CAP RUNOUTS SERVING DEMO'D BUILDING. FIELD VERIFY EXISTING CONDITIONS.

REMOVE (E) SUMP PUMP.

(E) REGULATOR TO REMAIN. PREPARE FOR CONNECTION.

RELOCATE REGULATOR AS NECESSARY TO ACCOMODATE NEW GAS PIPING.

(E) GAS TO GYM RTU'S TO REMAIN.

WASTE RUNOUTS T0 EXISTING LOCKER ROOMS TO REMAIN AND BE PROTECTED DURING DEMOLITION. (TYP.) FIELD VERIFY EXACT LOCATION.

REMOVE DOMESTIC WATER SERVICE TO 6' ABOVE FINISHED FLOOR.

IRRIGATION PUMP TO REMAIN.

REMOVE WATER SERVICE TO ADDITION. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS.

REMOVE (E) 4" DOMESTIC WATER SERVICE .

(E) WATER METER TO REMAIN.

IRRIGATION PIPING TO REMAIN. FIELD VERIFY EXACT LOCATION.

RELOCATE (E) WATER HEATER (E) RECIRC PUMP, (E) EXPANSION TANK

(E) WATER MAIN. PROTECT DURING DEMOLITION. FIELD VERIFY EXACT LOCATION.

(E) SANITARY SEWER MANHOLE TO REMAIN.

(E) WATER METER PIT CONTAINS (2) METERS. IRRIGATION METER AND BUILDING METER TO REMAIN. BUILDING WATER SERVICE FROM METER TO BUILDING SHALL BE REPLACED.

REMOVE EXISTING REGULATOR AND GAS SERVICE BACK TO MAIN SERVICE LINE AND CAP.

A PLUMBING SITE DEMOLITION PLAN

0' 10' 20' 30' 1" = 20'-0"


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SHAUN M. CONWAY LICENSED 19761 09/08/2026 KANSAS PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001

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303 SOUTH TOPEKA, WICHITA, KS 67202
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**USD 460 HESSTON**
**MIDDLE SCHOOL POOL**
**HESSTON, KS**

| | | |
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**PLUMBING DEMOLITION PLAN**

# PD1.01


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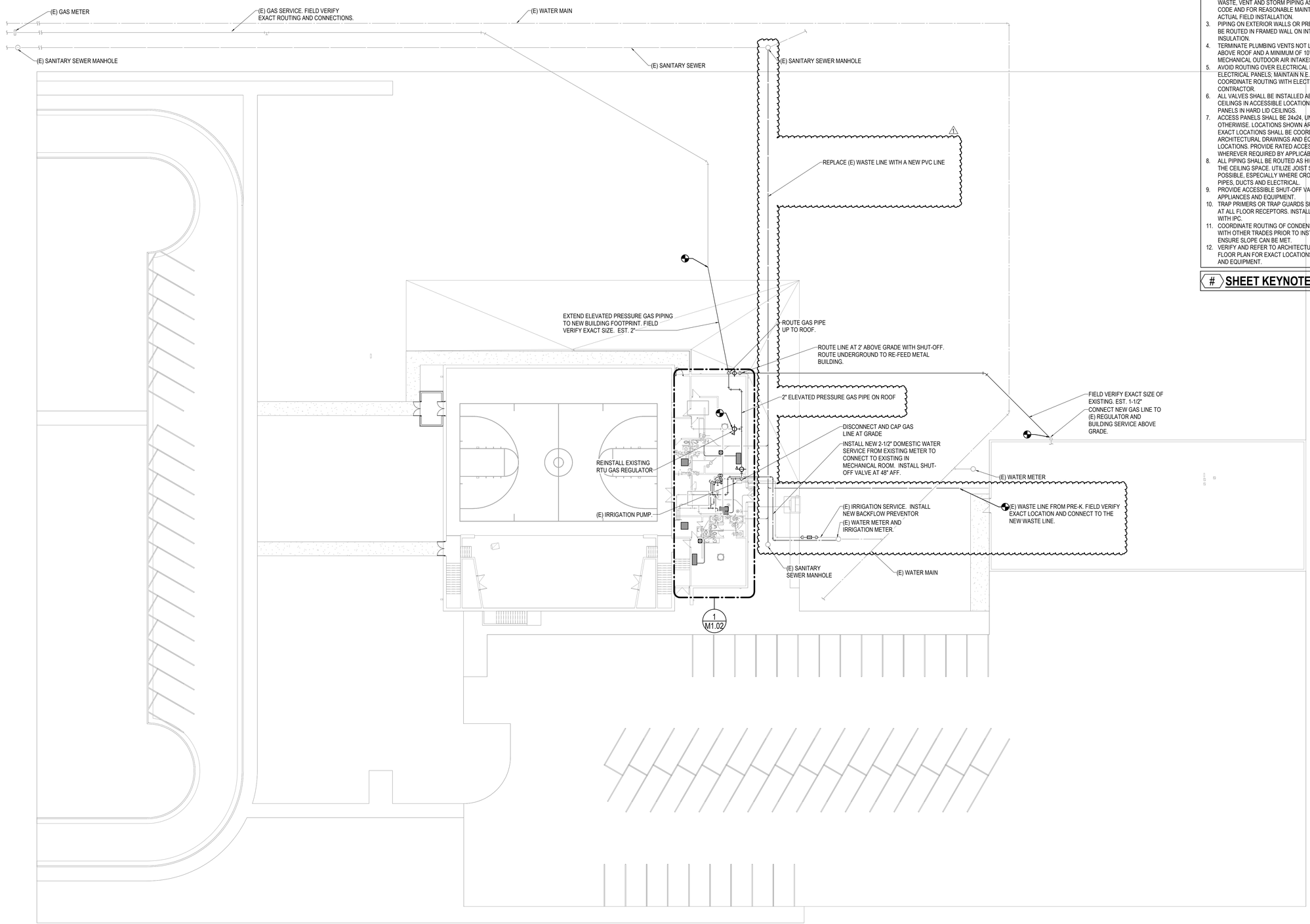


## PLUMBING GENERAL NOTES

1. REFER TO THE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZES TO INDIVIDUAL FIXTURES.
2. NOT ALL REQUIRED CLEANOUTS ARE NECESSARILY SHOWN ON THESE PLANS. PROVIDE CLEANOUTS ON WASTE, VENT AND STORM PIPING AS REQUIRED BY CODE AND FOR REASONABLE MAINTENANCE BASED ON ACTUAL FIELD INSTALLATION.
3. PIPING ON EXTERIOR WALLS OR PRE-CAST WALLS TO BE ROUTED IN FRAMED WALL ON INTERIOR SIDE OF INSULATION.
4. TERMINATE PLUMBING VENTS NOT LESS THAN 12" ABOVE ROOF AND A MINIMUM OF 10'-0" FROM MECHANICAL OUTDOOR AIR INTAKES.
5. AVOID ROUTING OVER ELECTRICAL ROOMS AND ELECTRICAL PANELS; MAINTAIN N.E.C. CLEARANCES. COORDINATE ROUTING WITH ELECTRICAL CONTRACTOR.
6. ALL VALVES SHALL BE INSTALLED ABOVE DROP-IN CEILINGS IN ACCESSIBLE LOCATIONS, OR WITH ACCESS PANELS IN HARD LID CEILINGS.
7. ACCESS PANELS SHALL BE 24x24, UNLESS NOTED OTHERWISE. LOCATIONS SHOWN ARE APPROXIMATE, EXACT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND EQUIPMENT LOCATIONS. PROVIDE RATED ACCESS PANELS WHEREVER REQUIRED BY APPLICABLE CODES.
8. ALL PIPING SHALL BE ROUTED AS HIGH AS POSSIBLE IN THE CEILING SPACE. UTILIZE JOIST SPACE WHEN POSSIBLE, ESPECIALLY WHERE CROSSING OTHER PIPES, DUCTS AND ELECTRICAL.
9. PROVIDE ACCESSIBLE SHUT-OFF VALVES TO ALL APPLIANCES AND EQUIPMENT.
10. TRAP PRIMERS OR TRAP GUARDS SHALL BE INSTALLED AT ALL FLOOR RECEPTORS. INSTALL IN ACCORDANCE WITH IPC.
11. COORDINATE ROUTING OF CONDENSATE DRAIN LINES WITH OTHER TRADES PRIOR TO INSTALLATION TO ENSURE SLOPE CAN BE MET.
12. VERIFY AND REFER TO ARCHITECTURAL DIMENSIONAL FLOOR PLAN FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.

## # SHEET KEYNOTES

## A PLUMBING SITE PLAN

0' 10' 20' 30' 1" = 20'-0"


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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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PLUMBING SITE PLAN

**P1.01**


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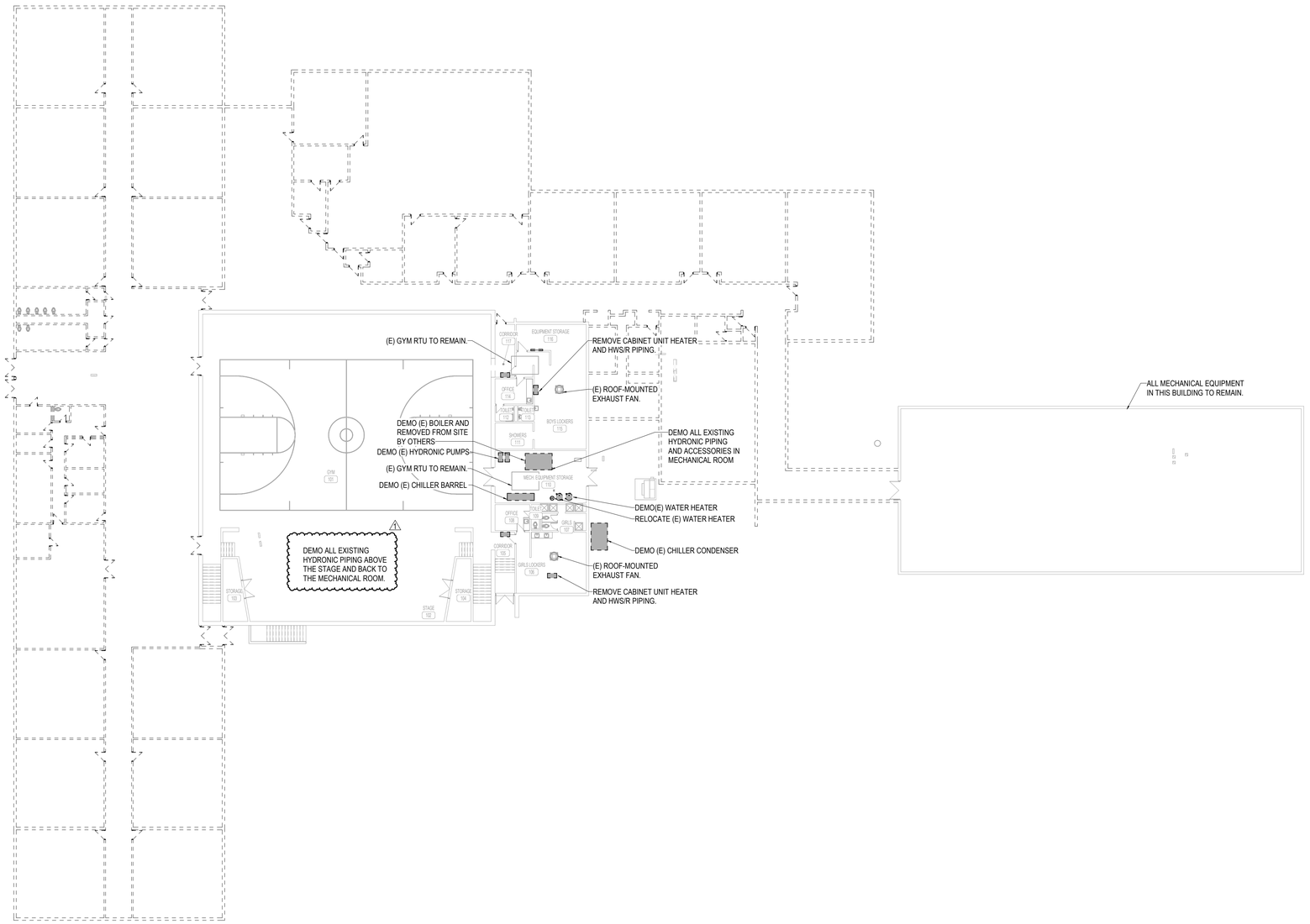
## HVAC DEMO NOTES

1. PLANS ARE SCHEMATIC IN NATURE. LAYOUT IS BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE OWNER'S REPRESENTATIVE IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF THE DEMOLITION WORK SHALL NOT JUSTIFY AN ADDITIONAL COST.
2. DEMOLISH ALL DUCTWORK, PIPING, AND EQUIPMENT SHOWN SHADED, DASHED AND IN A DARK LINE WEIGHT.

## # SHEET KEYNOTES




A MECHANICAL DEMOLITION PLAN

0' 10' 20' 30' 1" = 20'-0"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**MECHANICAL DEMOLITION PLAN**

# MD1.01


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# AIR HANDLER UNIT SCHEDULE - DX COOL / HEAT PUMP

REMARKS:
1. PROVIDE WITH SUPPLEMENTAL ELECTRIC HEAT AS SCHEDULED BELOW.
2. PROVIDE WITH OUTDOOR HEAT PUMP , R454b, SCROLL COMPRESSOR, HAIL GUARDS, AND FACTORY INSTALLED THERMOSTATIC EXPANSION VALVE. SIZE AND ROUTE REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALUMINUM JACKETING FOR ALL EXPOSED REFRIGERANT LINE-SETS.

| MARK | MFR | MODEL | MATCH WITH CU-# | AIRFLOW (CFM) | MIN OA (CFM) | ESP (IN WC) | HP | DRIVE | COOLING @ 100°F AMBIENT TEMP | | LDB (°F) | LWB (°F) | HEATING | ELECT HEAT | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | TOTAL (MBH) | SENS (MBH) | | | MBH @ 47°F | KW | VOLT/PH | MCA | MOCP | |
| AHU-01 | TRANE | 5TAM5 | HP-01 | 700 | 140 | 0.5 | -- | DIRECT | 22.7 | 17.89 | 54.8 | 53.9 | 21.6 | 5.76 | 208/1 | 39 | 40 | 1-2 |
| AHU-02 | TRANE | 5TAM5 | HP-02 | 1100 | 220 | 0.5 | -- | DIRECT | 32.8 | 26.0 | 56.70 | 55.10 | 31.2 | 9.6 | 208/1 | 42 | 45 | 1-2 |

# HEAT PUMP UNIT SCHEDULE

REMARKS:
1. UNIT WEIGHT INCLUDES SPECIFIED ACCESSORIES.
2. PROVIDE CONDENSING UNIT WITH LOUVERED HAIL GUARDS. SIZE AND ROUTE REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALUMINUM JACKETING FOR EXPOSED REFRIGERANT LINE-SETS.

| MARK | MFR | MODEL | MATCH WITH ___ | CAP (MBH) | AMBIENT TEMP (°F) | COMPRESSOR | | | | COND FAN | | SEER (IEER) | ELECTRICAL | | | | UNIT WT (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TYPE | QTY | RLA | CAP STEPS | HP | QTY | | VOLT | PHASE | MCA | MOP | | |
| HP-01 | TRANE | 5TWR | AHU-01 | 24 | 100 | SCROLL | 1 | 9.1 | 1 | 0.125 | 1 | 14.3 | 208 | 1 | 13 | 20 | 225 | 1-2 |
| HP-02 | TRANE | 5TWR | AHU-02 | 36 | 100 | SCROLL | 1 | 13.5 | 1 | 0.125 | 1 | 14.3 | 208 | 1 | 19 | 30 | 275 | 1-2 |

# UNIT HEATER SCHEDULE - GAS

REMARKS:
1. PROVIDE A SEALED COMBUSTION GAS UNIT HEATER WITH REMOTE THERMOSTAT

| MARK | MFR | MODEL | LOC AT ROOM | FLOW (CFM) | GAS | | FLUE Ø (IN) | MOTOR (BY MC) | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | INPUT (MBH) | OUTPUT (MBH) | | HP | SPEED | RPM | ELECT | |
| UH-01 | REZNOR | UDXC | MECH | 456 | 30 | 24.6 | 4 | 0.06 | 1 | 1550 | 120/1 | 1 |

# GRILLE, REGISTER, AND DIFFUSER SCHEDULE

FIRST LETTER IN MARK:
S = SUPPLY DIFFUSER
R = RETURN GRILLE
P = PLENUM RETURN GRILLE
E = EXHAUST GRILLE
L = SLOT DIFFUSER
M = LAMINAR FLOW SUPPLY DIFFUSER
C = SECURITY GRILLE
U = FLOOR MOUNTED SUPPLY GRILLE

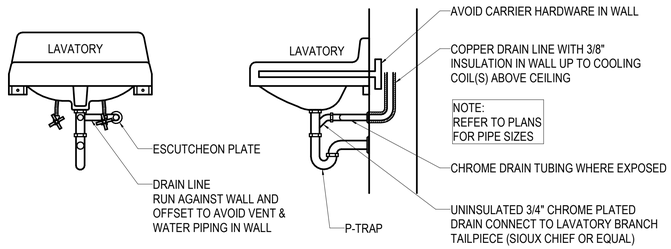
NOTES:
1. PROVIDE SQUARE TO ROUND ADAPTERS AS REQUIRED TO ACCOMMODATE ROUND RUNOUTS.
2. PROVIDE ALL LAY-IN GRDs WITH 24x24 LAY-IN PANEL AS REQUIRED.
3. FINISH TO BE WHITE UNLESS OTHERWISE SPECIFIED. COORDINATE AND VERIFY ALL FINISHES WITH ARCHITECT.
4. ALL SELECTIONS ARE BASED ON A MAXIMUM NC OF 25 UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND ASSOCIATED BORDER TYPES.
6. MARKS USED MAY NOT BE IN SEQUENCE.
7. LOUVERED GRILLES TO HAVE FRONT BLADES PARALLEL TO LONG DIMENSION UNLESS WALL MOUNTED.
8. WALL MOUNTED LOUVERED GRILLES TO HAVE FRONT BLADES PARALLEL TO FLOOR.

| MARK | TYPE | IMAGE | BASED ON | | MOUNT | PANEL SIZE (FACE SIZE) | MATERIAL | BLADE SPACING / SLOT WIDTH | DEFLECTION | COLOR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MFR | MODEL | | | | | | | |
| SX | DUCT MOUNTED SUPPLY | | TITUS | 300FS | DUCT | SEE PLANS | ALUMINUM | 3/4" | DOUBLE | MATCH DUCT | PROVIDE WITH OBD |
| RX | DUCT MOUNTED RETURN | | TITUS | 350FL/S | DUCT | SEE PLANS | ALUMINUM | 3/4" | 35° | MATCH DUCT | -- |

# ROOF HOOD SCHEDULE

REMARKS:
1. PROVIDE WITH INTEGRAL ALUMINUM BIRD AND ALUMINUM INSECT SCREEN. PROVIDE STANDARD MANUFACTURER'S ROOF CURB.

| MARK | MFR | MODEL | SERVES | INTAKE OR RELIEF | HOOD SIZE (IN) | | | CAPACITY | | THROAT VELOCITY (FPM) | UNIT WT (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | THROAT SIZE | HOOD SIZE | HEIGHT | CFM | MAX PD (IN WC) | | | |
| RH-01 | GREENHECK | GRSI-8 | AHU-01 | INTAKE | 8x8 | 20.5 | 19.25 | 140 | 0.05 | 378 | 45 | 1 |
| RH-02 | GREENHECK | GRSI-10 | AHU-02 | INTAKE | 10x10 | 20.5 | 19.75 | 220 | 0.05 | 386 | 45 | 1 |




FRONT VIEW SIDE VIEW

**1 CONDENSATE DRAIN PIPING DETAIL - LAVATORY**

**NO SCALE**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WICHITA, KS
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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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MECHANICAL DETAILS AND SCHEDULES

**M6.01**


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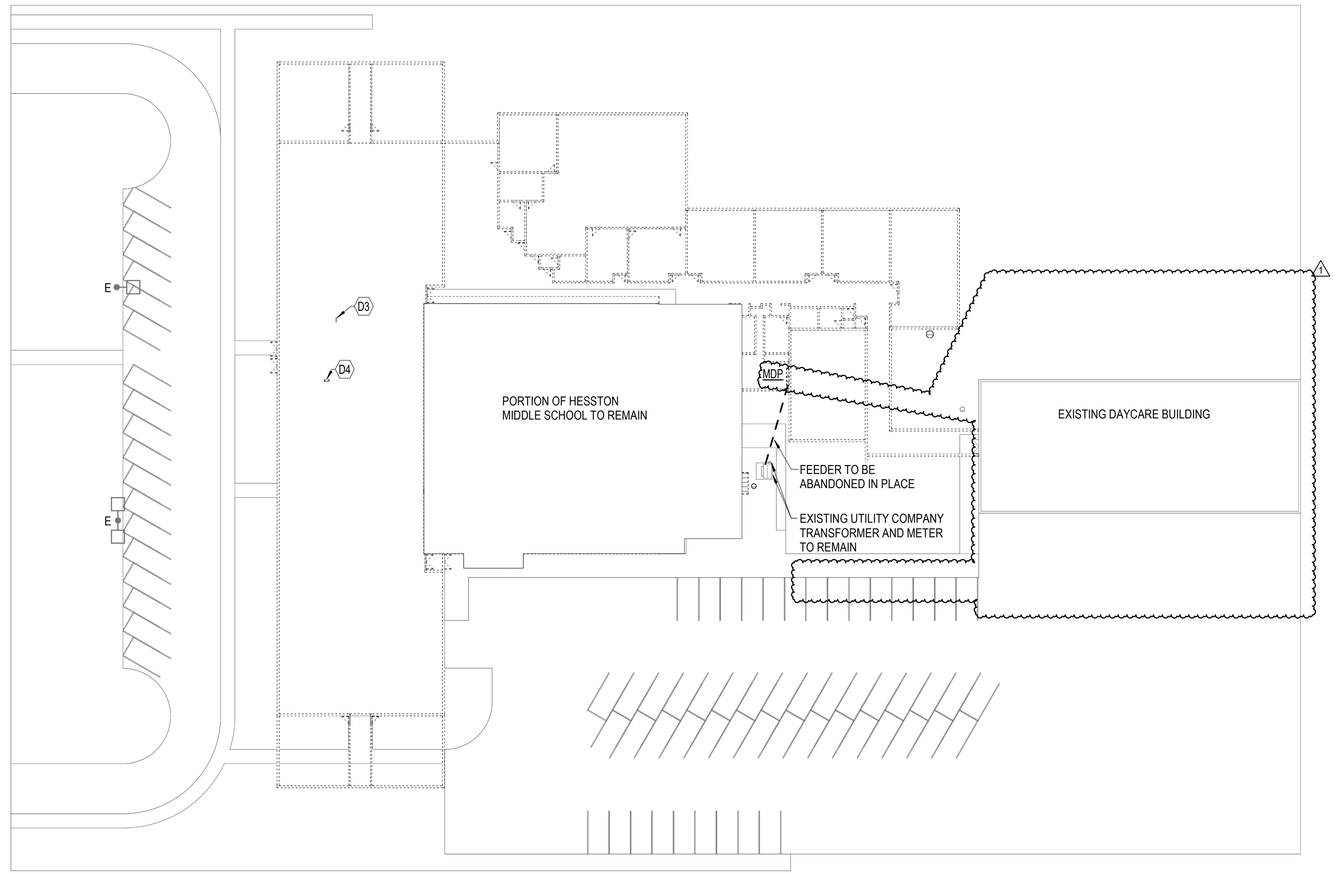


A ELECTRICAL SITE PLAN - DEMOLITION

0' 15' 30' 45' 1" = 30'-0"

## DEMOLITION GENERAL NOTES

1. DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICES TO ALL EQUIPMENT BEING REMOVED, SEE MECHANICAL PLANS. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVERPLATES, RECEPTACLES, LIGHTS, PANELS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.
2. REMOVE ALL CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMODELED AREAS. PLUG BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.
3. ELECTRICAL OUTLETS, ETC. POSSIBLY CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC. ARE NOT SHOWN AND MAY REQUIRE REMOVAL.
4. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT, RACEWAY SYSTEMS, OUTLET BOXES, ETC.
5. WHERE EQUIPMENT AND OTHER DEVICES ARE BEING REMOVED, THE CIRCUITING SHALL BE REMOVED, IF POSSIBLE, BACK TO POINT OF SUPPLY. WHERE REQUIRED, CIRCUITING SHALL BE EXTENDED TO MAINTAIN CONTINUITY OF THE CIRCUIT OR OPERATION OF THE SYSTEM.
6. ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS NOTED OTHERWISE.
7. PROVIDE MATCHING BLANK COVERPLATES WHERE DEVICES ARE BEING REMOVED FROM FLUSH-MOUNTED OUTLET BOXES IN EXISTING WALLS TO REMAIN.
8. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.

## (#) SHEET KEYNOTES

| | |
|---|---|
| D3 | APPROXIMATE LOCATION OF PANEL 'A'. |
| D4 | APPROXIMATE LOCATION OF FACP BEING REMOVED. EXISTING DEVICES IN REMAINING PORTION OF BUILDING ARE TO BE REFED FROM NEW FACP. REFER TO POWER PLAN FOR MORE INFORMATION. |

DISCONNECT ALL EXISTING CIRCUITS, LOW VOLTAGE SYSTEMS, MECHANICAL EQUIPMENT, AND PANEL FEEDERS FROM SOURCE OF SUPPLY PRIOR TO DEMOLISHING EXISTING PORTION OF THE BUILDING SHOWN AS DEMO.

SPT ARCHITECTURE
WICHITA, KS
316.267.4002

SEAN PATRICK GERITY
LICENSED
28753
09/08/2026
KANSAS
ELECTRICAL ENGINEER

PEC PROJECT NUMBER: 260125-001

PEC
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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

| | | |
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| 1 | ASI 01 | 09.08.2026 |
| | BID SET | 06.19.2026 |

**ELECTRICAL SITE DEMOLITION PLAN**

**E1.01**

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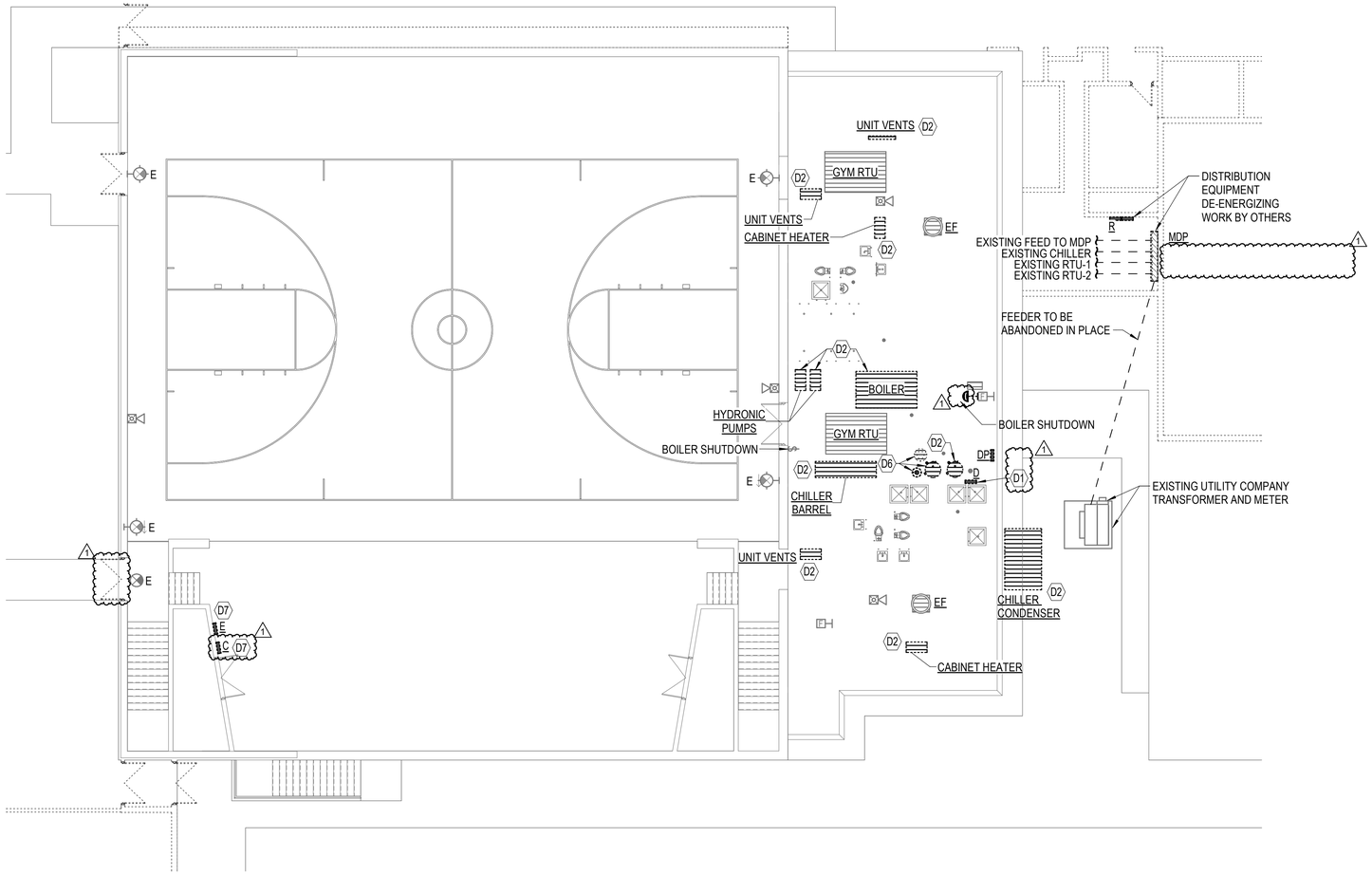
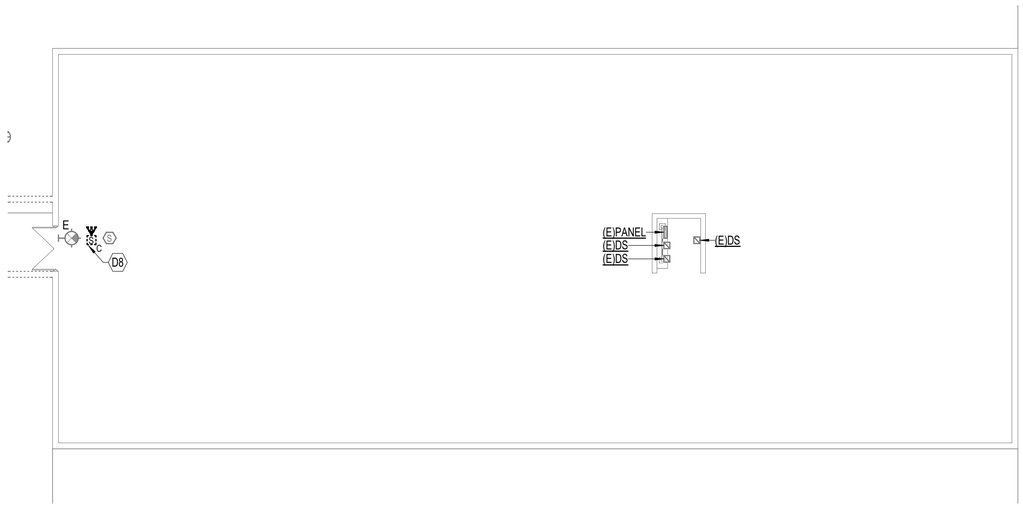



## A ELECTRICAL DEMOLITION PLAN - 1ST FLOOR

0' 5' 10' 15' 1" = 10'-0"




## B ELECTRICAL DEMOLITION PLAN - DAYCARE

0' 5' 10' 15' 1" = 10'-0"

## DEMOLITION GENERAL NOTES

1. DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICES TO ALL EQUIPMENT BEING REMOVED, SEE MECHANICAL PLANS. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVERPLATES, RECEPTACLES, LIGHTS, PANELS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.
2. REMOVE ALL CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMODELED AREAS. PLUG BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.
3. ELECTRICAL OUTLETS, ETC. POSSIBLY CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC. ARE NOT SHOWN AND MAY REQUIRE REMOVAL.
4. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT, RACEWAY SYSTEMS, OUTLET BOXES, ETC.
5. WHERE EQUIPMENT AND OTHER DEVICES ARE BEING REMOVED, THE CIRCUITING SHALL BE REMOVED, IF POSSIBLE, BACK TO POINT OF SUPPLY. WHERE REQUIRED, CIRCUITING SHALL BE EXTENDED TO MAINTAIN CONTINUITY OF THE CIRCUIT OR OPERATION OF THE SYSTEM.
6. ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS NOTED OTHERWISE.
7. PROVIDE MATCHING BLANK COVERPLATES WHERE DEVICES ARE BEING REMOVED FROM FLUSH-MOUNTED OUTLET BOXES IN EXISTING WALLS TO REMAIN.
8. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.

## # SHEET KEYNOTES

| | |
|---|---|
| D1 | PANELBOARD TO BE REMOVED AND REPLACED IN SAME LOCATION. CONTRACTOR TO EXTEND AND REWORK EXISTING CONDUIT, CONDUCTORS AND ASSOCIATED EQUIPMENT AS REQUIRED. |
| D2 | MECHANICAL EQUIPMENT TO BE REMOVED. CONTRACTOR TO REMOVE ACCESSIBLE CONDUIT AND ALL ASSOCIATED CONDUCTORS BACK TO POINT OF SUPPLY. CIRCUIT BREAKER FEEDING EQUIPMENT TO BE TURNED TO THE 'OFF' POSITION AND LABELED AS 'SPARE'. |
| D6 | MECHANICAL EQUIPMENT TO BE RELOCATED. CONTRACTOR TO EXTEND AND REWORK EXISTING CONDUIT, CONDUCTORS, AND ASSOCIATED EQUIPMENT AS REQUIRED. |
| D7 | PANELBOARDS TO BE REMOVED AND REPLACED WITH A SINGLE PANELBOARD IN SAME LOCATION. CONTRACTOR TO UTILIZE EXISTING (2)#1/0 AWG AND (2)#3/0 AWG CONDUCTORS CURRENTLY SERVING PANELBOARDS. REFER TO POWER PLAN FOR MORE INFORMATION. |
| D8 | FIRE ALARM DEVICE TO BE REMOVED IN ITS ENTIRETY. CONTRACTOR TO REMOVE ALL ACCESSIBLE CONDUIT AND ALL ASSOCIATED CONDUCTORS BACK TO POINT OF SUPPLY. PROVIDE BLANK COVERPLATE. CIRCUIT BREAKER SERVING DEVICE TO BE PLACED IN THE 'OFF' POSITION AND LABELED AS 'SPARE'. |

DISCONNECT ALL EXISTING CIRCUITS, LOW VOLTAGE SYSTEMS, MECHANICAL EQUIPMENT, AND PANEL FEEDERS FROM SOURCE OF SUPPLY PRIOR TO DEMOLISHING EXISTING PORTION OF THE BUILDING SHOWN AS DEMO.

SPT ARCHITECTURE
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316.267.4002

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**MIDDLE SCHOOL**
HESSTON, KS

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**ELECTRICAL DEMOLITION PLAN**

**E1.02**

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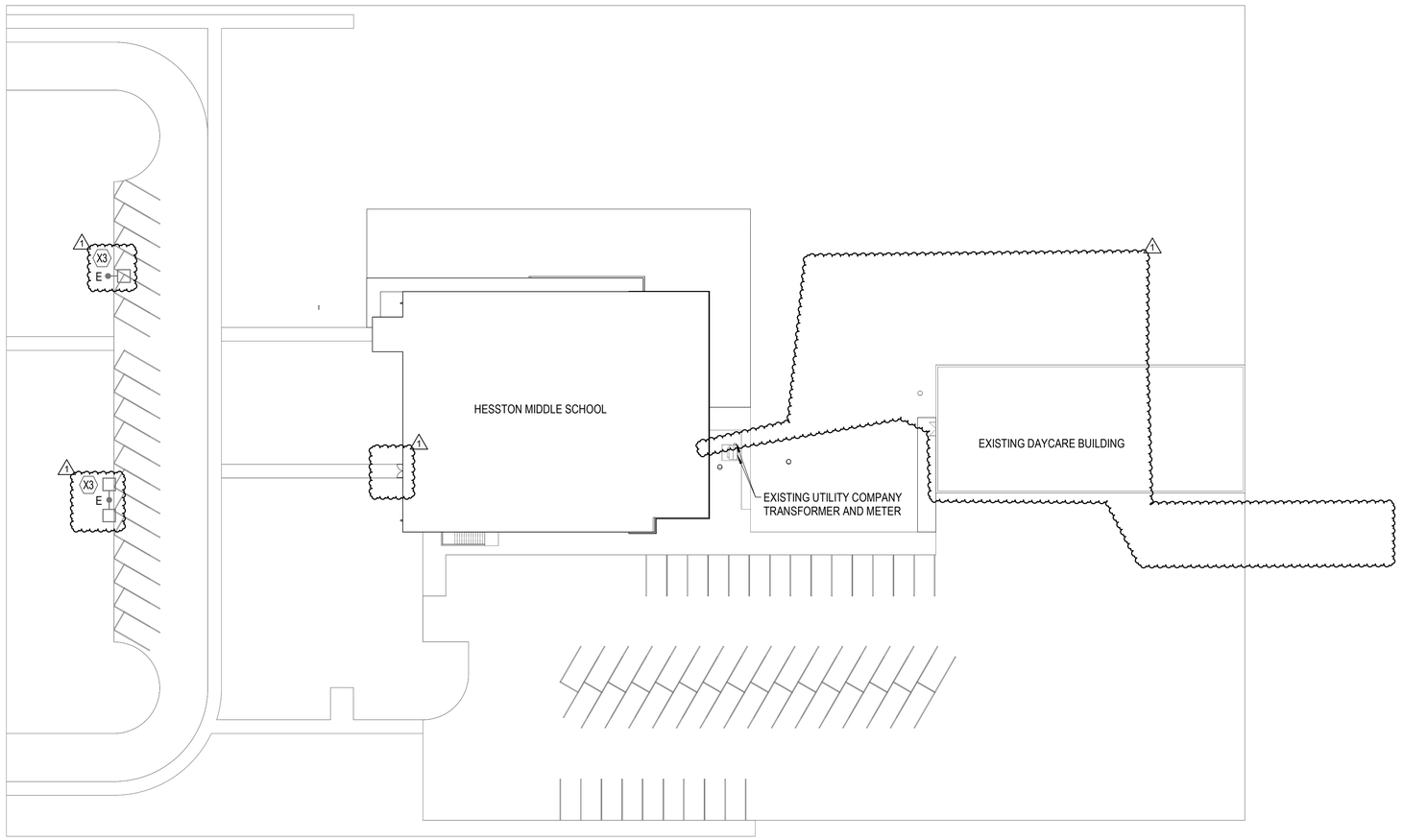
## ELECTRICAL SITE GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CONDUIT ROUTED ON SITE SHALL BE 1" MINIMUM.
2. ALL RISERS AND BELOW GRADE ELLS SHALL BE PVC COATED RIGID GALVANIZED STEEL (RGS). PROVIDE WITH PVC TO STEEL ADAPTER(S) AS NECESSARY.
3. ALL ELECTRICAL WORK AND FEES ASSOCIATED WITH UTILITIES SHALL BE VERIFIED AND COORDINATED WITH LOCAL SERVICE PROVIDER PRIOR TO BID.
4. CONTRACTOR SHALL REFERENCE ALL RELATED CONTRACT DOCUMENTS, SITE SURVEY, AND OTHER RESOURCES FOR POSSIBLE CONFLICTS WITH OTHER UNDERGROUND UTILITIES. AT UTILITY CROSSINGS, CONTRACTOR SHALL VERIFY UTILITY DEPTHS AND COORDINATE CONDUIT ROUTING AS NECESSARY.
5. CONTRACTOR SHALL VERIFY AND COORDINATE EXISTING CONDITIONS OF PROJECT SITE PRIOR TO BID.

## SHEET KEYNOTES

1 X3 EXISTING SITE LIGHT TO BE REPLACED. COORDINATE EXACT REQUIREMENTS WITH DISTRICT.




A ELECTRICAL SITE PLAN

0' 15' 30' 45' 1" = 30'-0"

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316.267.4002

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LICENSED
28753
09/08/2026
KANSAS
REGISTERED ARCHITECT

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HESSTON, KS

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ELECTRICAL SITE PLAN

**E1.11**

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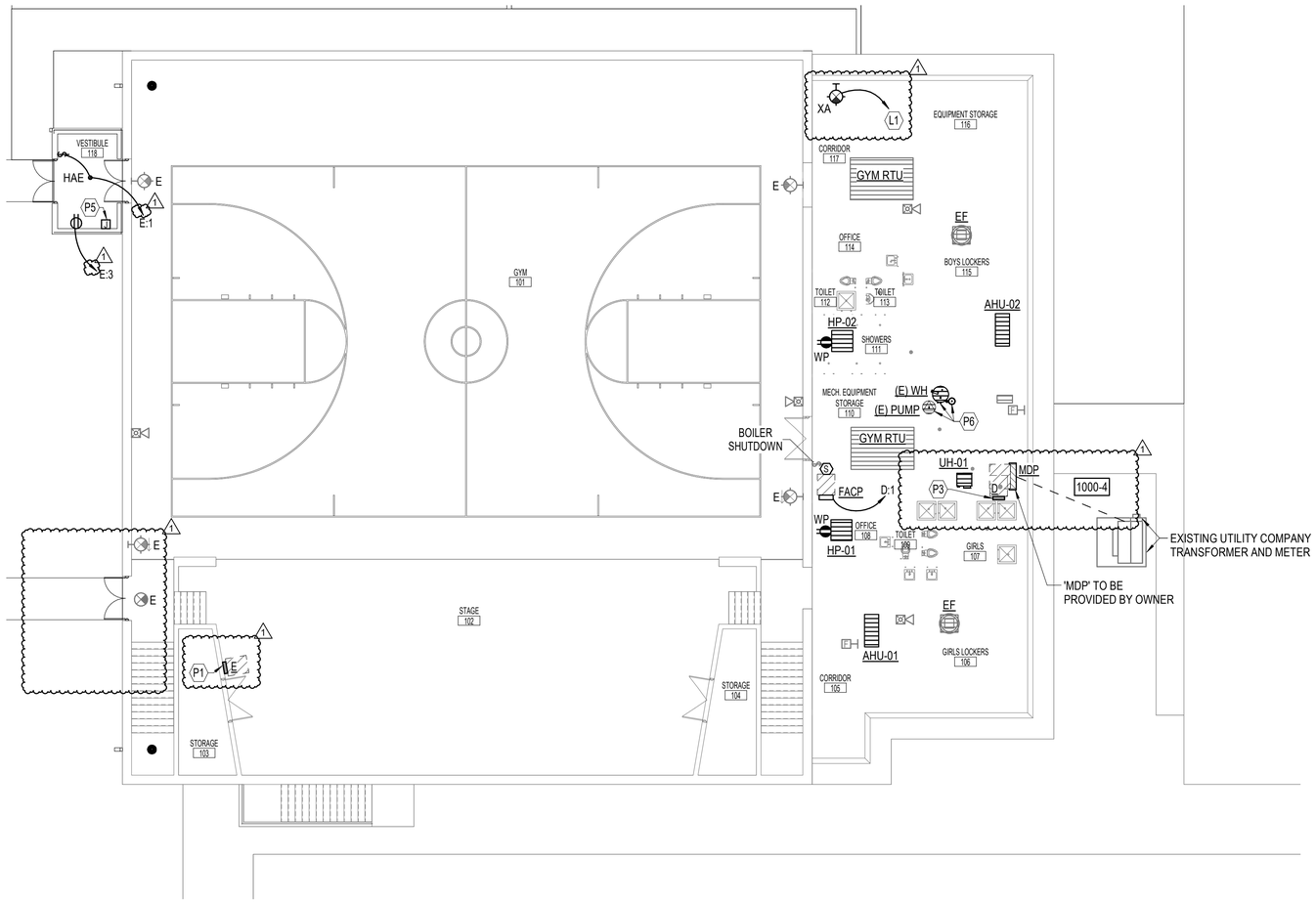


## A ELECTRICAL PLAN - GYM

0' 5' 10' 15' 1" = 10'-0"

## POWER GENERAL NOTES

1. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION.
2. A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
3. FOR CONNECTION REQUIREMENTS TO MECHANICAL UNITS, SEE MECHANICAL EQUIPMENT CONNECTION SCHEDULE.
4. REFER TO THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATIONS OF FIRE RATED WALLS AND CEILINGS AND THE ASSOCIATED U.L. ASSEMBLY NUMBERS.
5. FOR ALL PENETRATIONS IN FIRE RATED WALLS AND CEILINGS, PROVIDE AN ASTM E814 COMPLIANT, U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL OR CEILING CONSTRUCTION ASSEMBLY. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE U.L. ASSEMBLY INDICATED IN THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
6. ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) IN FIRE RATED WALLS OR CEILINGS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL.
7. OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES OR PROTECTED BY OTHER MEANS ALLOWED BY THE SPECIFIC U.L. ASSEMBLY.
8. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF STC RATED WALLS. OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) ON OPPOSITE SIDES OF STC RATED WALLS SHALL BE LIMITED TO TWO OUTLET BOXES PER STUD SPACE AND COVERED WITH "PUTTY PAD" TYPE MOLDABLE FIRE BARRIER.

## # SHEET KEYNOTES

| | |
|---|---|
| L1 | CONNECT TO EXISTING LIGHTING CIRCUIT CURRENTLY SERVING AREA. |
| P1 | NEW PANELBOARD 'E' TO REPLACE AND LOADS TO BE REFED FROM ORIGINAL PANELBOARDS 'E' AND 'C'. CONTRACTOR TO REWORK EXISTING CONDUIT AND CONDUCTORS AS REQUIRED TO TERMINATE INSIDE A SINGLE PANELBOARD ENCLOSURE. EXISTING BRANCH CIRCUITS TO BE EXTENDED AND REWORKED AS REQUIRED. |
| P3 | PANELBOARD TO BE REMOVED AND REPLACED IN SAME LOCATION. CONTRACTOR TO EXTEND AND REWORK EXISTING FEEDER AND BRANCH CIRCUITS AS REQUIRED. |
| P5 | CONTRACTOR TO MOUNT JUNCTION BOX ON UNDERSIDE OF ROOF STRUCTURE FOR FUTURE CONNECTION OF EQUIPMENT. CONTRACTOR TO PROVIDE (1)1" CONDUIT WITH PULLROPE FROM PANELBOARD 'E' TO JUNCTION BOX LOCATION. CONDUIT TO BE ROUTED TIGHT TO STRUCTURE OR ABOVE ACCESSIBLE CEILING WHEN APPLICABLE. CONDUIT SHALL BE ROUTED TO MINIMIZE VISIBILITY. |
| P6 | RELOCATED MECHANICAL EQUIPMENT. |

EXISTING FIRE ALARM DEVICES TO BE RECONNECTED TO NEW FIRE ALARM CONTROL PANEL IN EACH BUILDING. CONTRACTOR TO REUSE CABLING IF POSSIBLE.

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SEAN PATRICK GERITY LICENSED 28753 09/08/2026 KANSAS REGISTERED PROFESSIONAL ENGINEER

PEC PROJECT NUMBER: 260125-001

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**ELECTRICAL SYSTEMS PLAN**

**E1.31**

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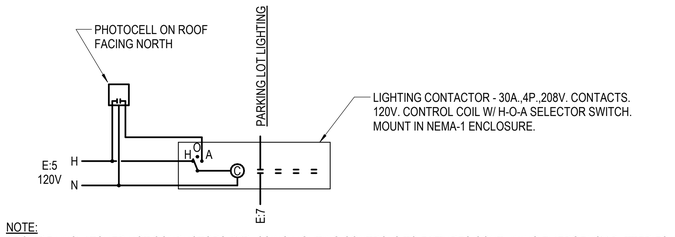
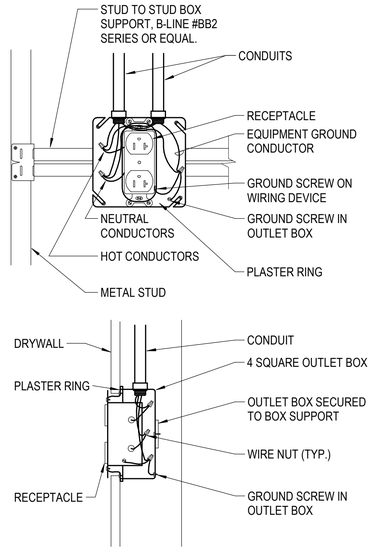



NOTE:
PROVIDE UNSWITCHED HOT CONDUCTORS BYPASSING LIGHTING CONTROLS TO FIXTURES CONTAINING EMERGENCY BATTERIES

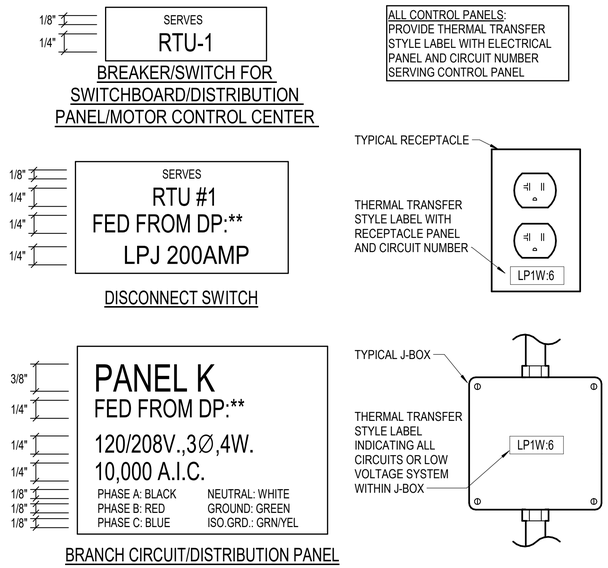
## 1 CONTACTOR 'A' DETAIL

NO SCALE




## 2 TYPICAL RECEPTACLE MOUNTING DETAIL

NO SCALE




## 4 TYPICAL NAMEPLATES AND LABELS

NO SCALE

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ELECTRICAL DETAILS

# E5.01

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## ONE-LINE DIAGRAM GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
2. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE, IS EXISTING TO REMAIN.
3. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK LINE, IS NEW WORK UNDER THIS CONTRACT.
4. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK DASHED LINE, IS TO BE REMOVED UNDER THIS CONTRACT.

# FEEDER SCHEDULE

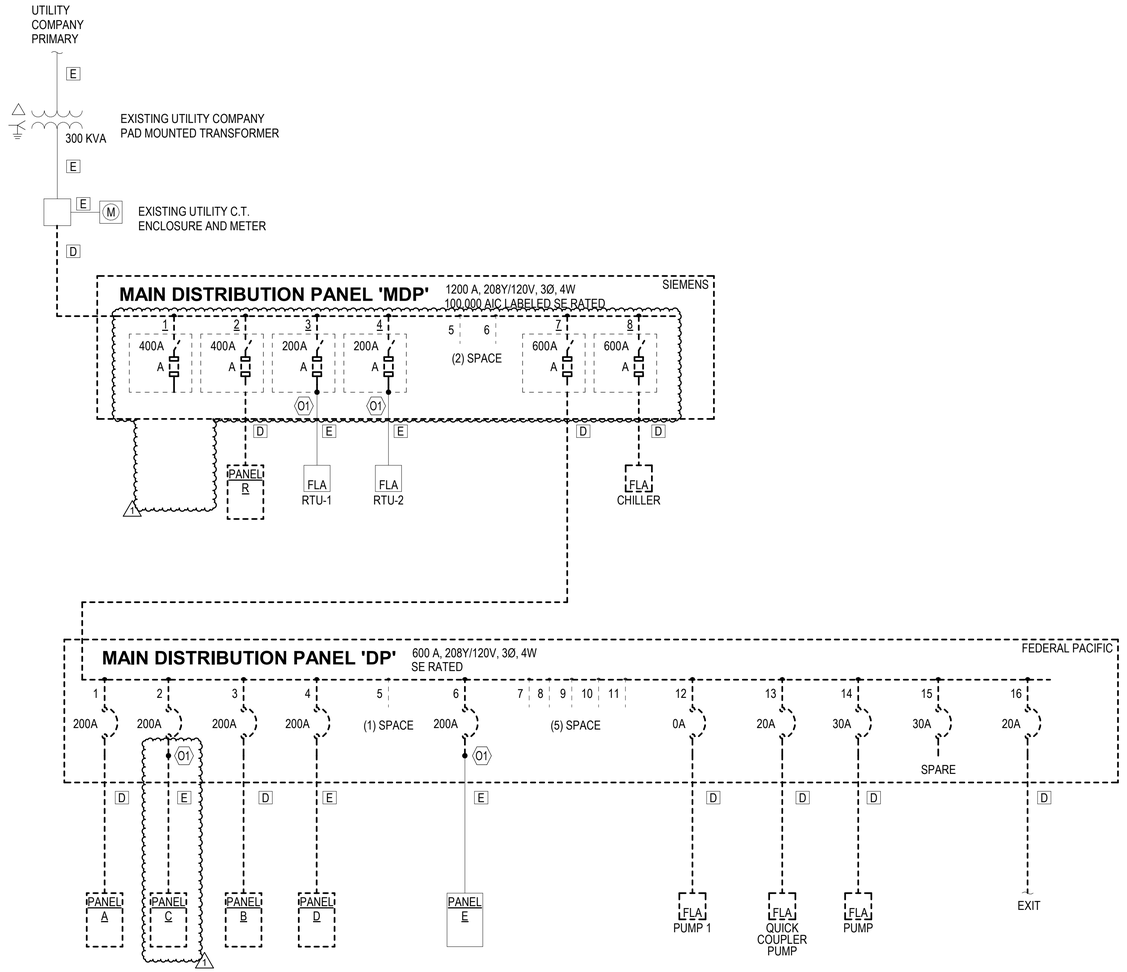
FEEDER TAG ABBREVIATIONS (MAY NOT APPLY):

| | | | |
|---|---|---|---|
| E | EXISTING TO REMAIN | OG | OVERSIZED GROUND |
| R | EXISTING TO BE REWORKED | TS | TRANSFORMER SECONDARY |
| D | EXISTING TO BE REMOVED | VD | UPSIZED FOR VOLTAGE DROP |
| 0 | REFERENCE EQUIPMENT CONNECTION SCHEDULE | SC | SPARE CONDUIT(S) WITH PULL ROPE(S) |
| 00 | REFERENCE PROCESS EQUIPMENT CONNECTION SCHEDULE | | |

| FEEDER TAG | CONDUCTORS | | | GROUND SIZE PER SET | CONDUIT SIZE PER SET |
|---|---|---|---|---|---|
| | SETS | NO. | SIZE | | |
| D | SEE NOTES | - | - | - | - |
| E | SEE NOTES | - | - | - | - |

## ⟨#⟩ SHEET KEYNOTES

⟨01⟩ EXISTING (2)#1/0 AWG AND (2)#3/0 AWG CURRENTLY FEEDING PANELBOARD 'E' AND 'C' TO BE DISCONNECTED, EXTENDED, AND REWORKED AS REQUIRED. REFER TO PROPOSED ONE-LINE DIAGRAM FOR MORE INFORMATION.




## 1 ONE-LINE DIAGRAM DEMO

NO SCALE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316.267.4002

SEAN PATRICK GERITY LICENSED 28753 09/08/2026 STATE OF KANSAS REGISTERED ARCHITECT

PEC PROJECT NUMBER: 260125-001

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**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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**ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION**

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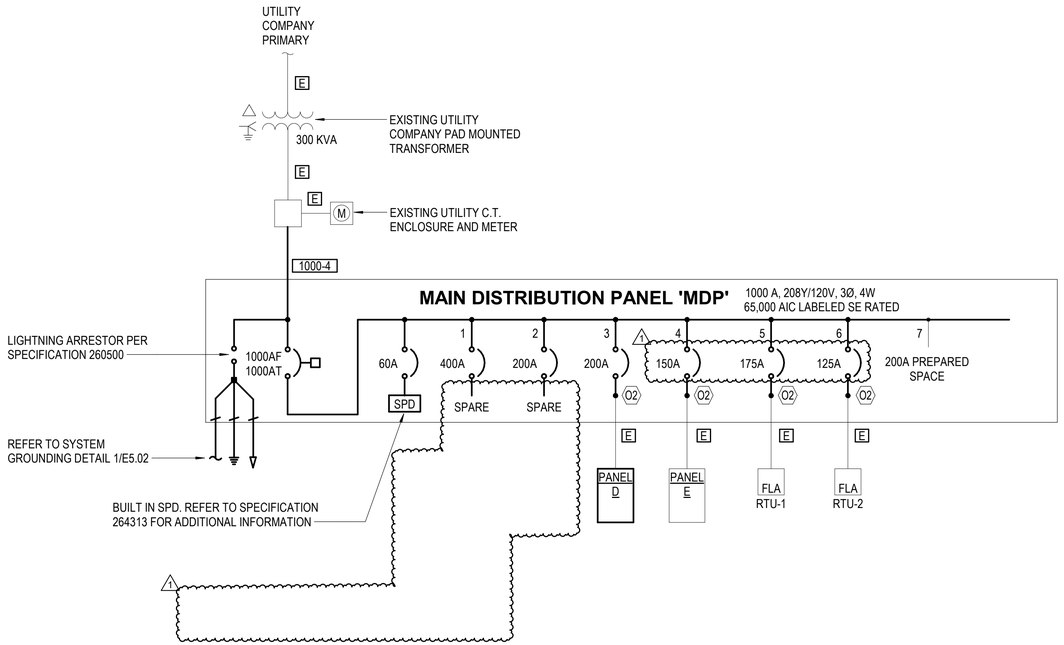


1 ONE-LINE DIAGRAM PROPOSED

NO SCALE

## ONE-LINE DIAGRAM GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
2. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE, IS EXISTING TO REMAIN.
3. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK LINE, IS NEW WORK UNDER THIS CONTRACT.
4. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK DASHED LINE, IS TO BE REMOVED UNDER THIS CONTRACT.

## FEEDER SCHEDULE

FEEDER TAG ABBREVIATIONS (MAY NOT APPLY):

| | | | |
|---|---|---|---|
| E | EXISTING TO REMAIN | OG | OVERSIZED GROUND |
| R | EXISTING TO BE REWORKED | TS | TRANSFORMER SECONDARY |
| D | EXISTING TO BE REMOVED | VD | UPSIZED FOR VOLTAGE DROP |
| 0 | REFERENCE EQUIPMENT CONNECTION SCHEDULE | SC | SPARE CONDUIT(S) WITH PULL ROPE(S) |
| 00 | REFERENCE PROCESS EQUIPMENT CONNECTION SCHEDULE | | |

| FEEDER TAG | CONDUCTORS SETS | CONDUCTORS NO | CONDUCTORS SIZE | GROUND SIZE PER SET | CONDUIT SIZE PER SET |
|---|---|---|---|---|---|
| 1000-4 | 3 | 4 | #400 KCMIL CU | - | 4"C |
| E | SEE NOTES | - | - | - | - |

## SHEET KEYNOTES

| | |
|---|---|
| O2 | EXISTING FEEDER TO BE CONNECTED TO NEW MDP. THE EXISTING FEEDER LENGTH IS UNDERSTOOD TO BE LONG ENOUGH TO BE REWORKED AS REQUIRED. |

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HESSTON, KS

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**ELECTRICAL ONE-LINE DIAGRAM - PROPOSED**

**E6.02**

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# LIGHTING FIXTURE SCHEDULE

(P.E.C.)

1. GENERAL CONTRACTOR SHALL PROVIDE FIREPROOFING AROUND RECESSED FIXTURES INSTALLED IN FIRE RATED CEILING PER U.L. REQUIREMENTS. ELECTRICAL CONTRACTOR WILL COORDINATE.
2. MANUFACTURERS LISTED IN THIS SCHEDULE OR APPROVED BY WRITTEN ADDENDUM WILL BE THE ONLY APPROVED MANUFACTURERS TO BID THE LIGHTING FIXTURES FOR THIS PROJECT. CONTRACTORS AND SUPPLIERS USING PRICING FROM MANUFACTURERS NOT LISTED ON SCHEDULE OR BY ADDENDUM DO SO AT THEIR OWN RISK.
3. LIGHT FIXTURE SELECTIONS ARE BASED ON THE MANUFACTURERS AS LISTED IN THE SCHEDULE. FIXTURES MANUFACTURER'S SHALL PROVIDE THE FULL MODEL NUMBER NECESSARY TO MEET THE PERFORMANCE CRITERIA LISTED IN THE SCHEDULE. FIXTURES APPROVED AS EQUALS IN THIS SCHEDULE OR BY ADDENDUM SHALL BE EQUAL TO THE UNIT LISTED IN THE BASIS OF DESIGN COLUMNAND MEET THE PERFORMANCE CRITERIA LISTED.
4. ALL LIGHT FIXTURES SHALL BE SECURED TO THE CEILING FRAMING SYSTEM BY MECHANICAL MEANS (SUCH AS BOLTS, SCREWS, OR RIVETS) OR BY CLIPS IDENTIFIED FOR USE WITH THE TYPE OF CEILING FRAMING MEMBER AND LIGHT FIXTURE.
5. 0-10V DIMMING DRIVERS SHALL BE CAPABLE OF DIMMING TO A MINIMUM OF 10% TOTAL LIGHT OUTPUT UNLESS NOTED OTHERWISE. LED DRIVERS SHALL HAVE A DISCONNECTING MEANS MEETING THE REQUIREMENTS OF NEC SECTION 410.130(G), EXCEPT FOR THOSE INSTALLED IN CORD AND PLUG CONNECTED FIXTURES. WHERE APPLICABLE, WHEN DIMMING SWITCHES ARE NOT PROVIDED AS PART OF THE DESIGN, CONTRACTOR SHALL CAP OFF THE 0-10V DIMMING WIRES FOR FUTURE EXTENSION BY THE OWNER.
6. PROVIDE ARROWS AND FACES AS INDICATED ON THE DRAWINGS. [PROVIDE EXTRA EXIT SIGNS OF EACH TYPE SPECIFIED AS FOLLOWS TO ACCOMMODATE ADDITIONAL THAT MAY BE REQUIRED BY THE AHJ DURING INSPECTION: [[5]% OF QUANTITY SPECIFIED BUT NO LESS THAN [2]] [[2] TOTAL OF EACH TYPE]].
7. TO COMPLY WITH NEC SECTION 410.130(G), ALL EXISTING OR RELOCATED LIGHT FIXTURES WITHOUT A BALLAST OR DRIVER DISCONNECTING MEANS SHALL HAVE A BALLAST OR DRIVER DISCONNECTING MEANS INSTALLED UNDER ANY OF THE FOLLOWING CONDITIONS:
   a. WHEN AN EXISTING BALLAST OR DRIVER IS REPLACED.
   b. WHEN AN EXISTING LIGHT FIXTURE IS RELOCATED OR RECIRCUITED.

| MARK | DESCRIPTION | BASIS OF DESIGN | | MOUNTING | LIGHT SOURCE | | | | | | | | | LENS/LOUVER/ FINISH | FIXTURE RATING / LISTING | BATTERY | DIMENSIONS | | | REF. NOTE | REMARKS | EQUIVALENTS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MANUFACTURER | SERIES | | # | TYPE | WATTS | VOLTS | LUMENS | COLOR TEMP. | CRI | DIMMING | OPTICS | | | | W | L | D | | | MANUFACTURER | SERIES | MANUFACTURER | SERIES | MANUFACTURER | SERIES |
| E | EXISTING FIXTURE TO REMAIN | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HAE | 4" RECESSED DOWNLIGHT W/LENS W/BATTERY BACKUP | HALO COMMERCIAL | HC4 | RECESSED | 1 | LED | 12 | UNV | 1000 | 3500K | 80 | 0-10V | MEDIUM | SEMI-CLEAR | EMERGENCY | YES | 1.17 | 1.32 | 0.55 | 5 | BATTERY BACKUP | PRE-APPROVED EQUAL | | | | | |
| XA | 1 FACE/EM EXIT | MULE | | | 1 | LED | 5 | UNV | | | | | | CAST ALUMINUM | | | 0.71 | 1.06 | 0.17 | | RED W/BATTERY | DUAL-LITE | | LITHONIA | | SURE-LITES | |

# EQUIPMENT CONNECTION SCHEDULE

## MECHANICAL EQUIPMENT CONNECTIONS

| UNIT DESIG. | UNIT VOLTAGE | LOAD | | | PANEL DEVICE | | | | | DEVICE AT UNIT | | | | | SETS | FEEDER DESCRIPTION OR SEE THE FEEDER SCHEDULE | REMARKS OR SEE THE INDICATED NOTES BELOW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H.P. | FLA | KVA | CIRCUIT NUMBER | BKR. AMPS | SW. AMPS | FUSE AMPS | COIL NEMA START SIZE | BKR. AMPS | SW. AMPS | FUSE AMPS | COIL NEMA START SIZE | OTHER | | | |
| UH | UNIT HEATER | | | | | | | | | | | | | | | | |
| 01 | 120/1 | | 1.9 | 0.228 | D:1 | 20 | | | 1 | | | | | FUSTAT | 1 | 2 #12 AWG THWN; #12 AWG GRD; 1/2"C. | |
| AHU | AIR HANDLING UNIT | | | | | | | | | | | | | | | | |
| 01 | 208/1 | 3.8A | 31.5 | 6.55 | D:13 | 45 | | | 2 | | | 60 | 40 | 2 | 1 | 2 #6 AWG THWN; #10 AWG GRD; 3/4"C. | |
| 02 | 208/1 | 3.8A | 50.0 | 10.39 | D:12 | 55 | | | 2 | | | 60 | 50 | 2 | 1 | 2 #6 AWG THWN; #10 AWG GRD; 3/4"C. | |
| HP | HEAT PUMP | | | | | | | | | | | | | | | | |
| 01 | 208/1 | 9.1A | 10.7 | 2.226 | D:41 | 20 | | | 2 | | | 20 | | 2MMS NEMA-3R | 1 | 2 #12 AWG THWN; #12 AWG GRD; 1/2"C. | |
| 02 | 208/1 | 13.5A | 15.1 | 3.141 | D:42 | 30 | | | 2 | | | 30 | | 2MMS NEMA-3R | 1 | 2 #10 AWG THWN; #10 AWG GRD; 1/2"C. | |

(1) ALL CONNECTIONS AND ELECTRICAL EQUIPMENT LISTED IN SCHEDULE SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. FIELD VERIFY CONNECTION REQUIREMENTS AND EQUIPMENT PROVIDED BY OTHERS PRIOR TO ROUGH-IN.

(2) REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTIONS OF INTERLOCKING, THERMOSTAT LOCATIONS, EXHAUST FAN CONTROL SWITCHES, AND OTHER CONTROLS OF MECHANICAL EQUIPMENT.

(3) SIZE FUSES FOR MOTOR FUSTATS BASED ON 125% OF MANUFACTURER'S NAMEPLATE FULL LOAD AMPERAGE UNLESS OTHERWISE NOTED ON THE DRAWINGS.


SPT ARCHITECTURE
WICHITA, KS
316.267.4002

SEAN PATRICK GARTY
LICENSED
28753
09/08/2026
KANSAS
REGISTERED ARCHITECT

PEC PROJECT NUMBER: 260125-001
PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com


USD 460 HESSTON
MIDDLE SCHOOL
HESSTON, KS

| | | |
|---|---|---|
| 1 | ASI 01 | 09.08.2026 |
| | BID SET | 06.19.2026 |

ELECTRICAL SCHEDULES

E6.11


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# PANELBOARD: D

W/GRD. BUS — 208Y/120 VOLTS, 3 PHASE, 4 WIRE — 225 AMP MLO, SURFACE MTD. — 22000 AIC LABELED

| CIRC NO. | LOAD V. A. | LOAD TYPE | LOAD DESCRIPTION | P | AMP SIZE | PHASE | AMP SIZE | P | LOAD DESCRIPTION | LOAD TYPE | LOAD V. A. | CIRC NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 228 | HEAT | UH-01 UNIT HEATER | 1 | 20 | A | 20 | 1 | FCU BASEMENT/BAND RM HVAC | EXST | | 2 ① |
| ① 3 | | EXST | WEST GOAL WINCH | 1 | 20 | B | 20 | 1 | PUMP CONTROLS | EXST | | 4 ① |
| ① 5 | | EXST | BIG BOILER | 1 | 20 | C | 20 | 1 | GYM REC E WALL BY DF | EXST | | 6 ① |
| ① 7 | | EXST | EF - BOYS LOCKER RM | 1 | 20 | A | 20 | 1 | N HALL LIGHTS | EXST | | 8 ① |
| ① 9 | | EXST | N HALL LIGHTS | 1 | 20 | B | 20 | 1 | GIRLS SHOWER AREA | EXST | | 10 ① |
| ① 11 | | EXST | S HALL LIGHTS | 1 | 20 | C | 70 | 2 | AHU-02 AIR HANDLING UNIT | H/M | 10390 | 12 ① |
| 13 | 6550 | H/M | AHU-01 AIR HANDLING UNIT | 2 | 45 | A | \| | -- | ---------- | -- | ---- | 14 |
| 15 | ---- | -- | ---------- | -- | \| | B | 20 | 1 | SPARE | | | 16 |
| 17 | | | SPARE | 1 | 20 | C | 20 | 1 | S WALL MUSIC RM REC | EXST | | 18 ① |
| ① 19 | | EXST | W WALL MUSIC RM REC | 1 | 20 | A | 20 | 1 | BOILER RM LIGHT | EXST | | 20 ① |
| ②① 21 | | EXST | DRYER | 2 | 30 | B | 20 | 1 | FCU | EXST | | 22 ①② |
| 23 | ---- | -- | ---------- | -- | \| | C | 20 | 1 | HOT WATER PUMP/TIME CLOCK | EXST | | 24 ① |
| ① 25 | | EXST | BASEMENT HEATER/E AC UNIT | 1 | 20 | A | 20 | 1 | 220 HEATER GIRLS LOCKER | EXST | | 26 ① |
| ① 27 | | EXST | 220 HEATER GIRLS LOCKER | 1 | 20 | B | 20 | 1 | 220 HEATER BOYS LOCKER | EXST | | 28 ① |
| ① 29 | | EXST | BOILER RM | 1 | 20 | C | 20 | 1 | BASEMENT REC MUSIC RM | EXST | | 30 ① |
| ① 31 | | EXST | #31 COMPRESSOR/BASEMENT REC MUSIC RM | 1 | 20 | A | 20 | 1 | GIRLS SHOWER OFFICE | EXST | | 32 ① |
| ① 33 | | EXST | MUSIC OFFICE LIB | 1 | 20 | B | 20 | 1 | STORAGE LIGHTS W, MUSIC RM | EXST | | 34 ① |
| ① 35 | | EXST | SUMP PUMP BASEMENT/EM LIGHT BAND RM | 1 | 20 | C | 20 | 1 | HEATER-BASEMENT/AC | EXST | | 36 ① |
| ① 37 | | EXST | TIME CLOCK/LIGHTS | 1 | 20 | A | 20 | 1 | SPARE | | | 38 |
| ① 39 | | EXST | BOYS LOCKER LIGHTS/EM LIGHT/FCU | 1 | 20 | B | 20 | 1 | GIRLS LOCKER RM LIGHTS/EF | EXST | | 40 ① |
| 41 | 2226 | C/M | HP-01 HEAT PUMP | 2 | 20 | C | 30 | 2 | HP-02 HEAT PUMP | C/M | 3141 | 42 |
| 43 | ---- | -- | ---------- | -- | \| | A | \| | -- | ---------- | -- | ---- | 44 |
| 45 | | | SPARE | 1 | 20 | B | 20 | 1 | SPARE | | | 46 |
| 47 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 48 |
| 49 | | | SPARE | 1 | 20 | A | 20 | 1 | SPARE | | | 50 |
| 51 | | | SPARE | 1 | 20 | B | 20 | 1 | SPARE | | | 52 |
| 53 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 54 |
| 55 | | | SPARE | 1 | 20 | A | 20 | 1 | SPARE | | | 56 |
| 57 | | | SPARE | 1 | 20 | B | 20 | 1 | SPARE | | | 58 |
| 59 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 60 |

① RECONNECT EXISTING LOADS FROM DEMO'ED 'D' PANEL. VERIFY LOADS FED AND UPDATE PANEL DIRECTORY.

② SECOND POLE FOR DRYER TO BE SWITCHED WITH FCU TO ACCOUNT FOR MODEN PANEL CONFIGURATIONS.

1

| PANELBOARD: D | CONNECTED KVA: PH-A | PH-B | PH-C | TOTAL | DEMAND FACTOR | KVA | CONT. FACT | SIZING AMPS: TOTAL | PH-A | PH-B | PH-C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Largest Motor | 0.0 | 0.0 | 0.0 | 0.0 | 1 | 0.0 | 0.25 | 2.0 | 2.9 | 0.0 | 2.9 |
| Cooling | 2.4 | 0.0 | 2.4 | 4.7 | 1 | 4.7 | 1 | 13.0 | 19.6 | 0.0 | 19.6 |
| Motor | 1.1 | 0.4 | 0.7 | 2.2 | 1 | 2.2 | 1 | 6.2 | 9.4 | 3.3 | 6.1 |
| Heating | 7.9 | 2.9 | 4.8 | 15.6 | 1 | 15.6 | 1.25 | 54.1 | 82.4 | 30.0 | 50.0 |
| Spare | | | | | 0.2 | 4.5 | 1 | 12.5 | 12.5 | 12.5 | 12.5 |
| TOTAL KVA: | 11.4 | 3.3 | 7.9 | 22.5 | | | 27.0 | TOTAL AMPS: | PH-A | PH-B | PH-C |
| TOTAL AMPS: | 94.8 | 27.3 | 65.7 | 62.6 | | | | 87.8 | 126.8 | 45.8 | 91.1 |

# PANELBOARD: E

W/GRD. BUS — 208Y/120 VOLTS, 3 PHASE, 4 WIRE — 225 AMP MLO, SURFACE MTD. — 22000 AIC LABELED

| CIRC NO. | LOAD V. A. | LOAD TYPE | LOAD DESCRIPTION | P | AMP SIZE | PHASE | AMP SIZE | P | LOAD DESCRIPTION | LOAD TYPE | LOAD V. A. | CIRC NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 | LIGHT | VESTIBULE 118 LIGHT | 1 | 20 | A | 20 | 1 | SPARE | | | 2 |
| 1 3 | 200 | RCPT | VESTIBULE 118 REC | 1 | 20 | B | 20 | 1 | SPARE | | | 4 |
| ② 5 | | EXST | FIRST ROW LIGHT GYM FLOOR | 2 | 20 | C | 20 | 1 | SPARE | | | 6 |
| 7 | ---- | -- | ---------- | -- | \| | A | 20 | 1 | SPARE | | | 8 |
| ② 9 | | EXST | EMERGENCY/EXIT LIGHTS | 1 | 20 | B | 20 | 1 | NIGHT LIGHT | EXST | | 10 ① |
| ① 11 | | EXST | FRONT LIGHT ON STAGE | 1 | 20 | C | 20 | 1 | EF | EXST | | 12 ① |
| 1 ① 13 | | EXST | EF | 1 | 20 | A | 20 | 1 | SPARE | | | 14 |
| ② 15 | | EXST | BACK ROW LIGHT GYM FLOOR, SMALL LIGHTS | 1 | 20 | B | 20 | 1 | EXISTING LOAD | EXST | | 16 ① |
| ① 17 | | EXST | BAND CLOCK | 1 | 20 | C | 20 | 1 | EXISTING LOAD | EXST | | 18 ① |
| ① 19 | | EXST | EXISTING LOAD | 1 | 20 | A | 20 | 1 | EXISTING LOAD | EXST | | 20 ① |
| 1 ① 21 | | EXST | OUTSIDE LIGHTS | 1 | 20 | B | 20 | 1 | OUTSIDE LIGHTS | EXST | | 22 ① 1 |
| ② 23 | | EXST | SECOND ROW LIGHT GYM FLOOR | 1 | 20 | C | 20 | 1 | XEROX | EXST | | 24 ② |
| ② 25 | | EXST | THIRD ROW LIGHT GYM FLOOR | 1 | 20 | A | 20 | 1 | XEROX | EXST | | 26 ② |
| 27 | | | SPARE | 1 | 20 | B | 20 | 1 | SCORE BOARD | EXST | | 28 ① |
| ① 29 | | EXST | EXISTING LOAD | 1 | 20 | C | 20 | 1 | EXISTING LOAD | EXST | | 30 ① |
| ① 31 | | EXST | EXISTING LOAD | 1 | 20 | A | 20 | 1 | STAGE LIGHT STORE ROOM | EXST | | 32 ① |
| ① 33 | | EXST | BACK LIGHT ON STAGE | 1 | 20 | B | 20 | 1 | SPARE | | | 34 |
| 35 | | | SPARE | 1 | 20 | C | 20 | 1 | LIGHT SIDE STAGE | EXST | | 36 ① |
| ① 37 | | EXST | STAGE OUTLET BOXES | 1 | 20 | A | 20 | 1 | STAGE OUTLET BOXES | EXST | | 38 ① |
| ① 39 | | EXST | EMERGENCY LIGHTS | 1 | 20 | B | 20 | 1 | EMERGENCY LIGHTS | EXST | | 40 ① |
| 41 | | | SPARE | 1 | 20 | C | 20 | 1 | SPARE | | | 42 |

① RECONNECT EXISTING LOADS FROM DEMO'ED 'E' PANEL. VERIFY LOADS FED AND UPDATE PANEL DIRECTORY.

② RECONNECT EXISTING LOADS FROM DEMO'ED 'C' PANEL. VERIFY LOADS FED AND UPDATE PANEL DIRECTORY.

1

| PANELBOARD: E | CONNECTED KVA: PH-A | PH-B | PH-C | TOTAL | DEMAND FACTOR | KVA | CONT. FACT | SIZING AMPS: TOTAL | PH-A | PH-B | PH-C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lighting | 0.0 | 0.0 | 0.0 | 0.0 | 1 | 0.0 | 1.25 | 0.0 | 0.1 | 0.0 | 0.0 |
| Receptacle | 0.0 | 0.2 | 0.0 | 0.2 | 1 | 0.2 | 1 | 0.6 | 0.0 | 1.7 | 0.0 |
| Spare | | | | | 0.2 | 0.0 | 1 | 0.1 | 0.1 | 0.1 | 0.1 |
| TOTAL KVA: | 0.0 | 0.2 | 0.0 | 0.2 | | | 0.3 | TOTAL AMPS: | PH-A | PH-B | PH-C |
| TOTAL AMPS: | 0.1 | 1.7 | 0.0 | 0.6 | | | | 0.7 | 0.2 | 1.8 | 0.1 |


SPT ARCHITECTURE
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STATE OF KANSAS

PEC PROJECT NUMBER: 260125-001
PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com


**USD 460 HESSTON**
**MIDDLE SCHOOL**
HESSTON, KS

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| 1 | ASI 01 | 09.08.2026 |
| | BID SET | 06.19.2026 |

**ELECTRICAL SCHEDULES**

**E6.12**


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