ADDENDUM NO. 2

For: Humble Independent School District
AMS / HMS Additions & Renovations
10203 Birchridge Drive
Humble, TX 77338

TO: DRAWINGS AND SPECIFICATIONS DATED: May 15, 2026

PREPARED BY: PFLUGER ARCHITECTS

ADDENDUM DATE: June 4, 2026

PROJECT NO: 24-042

This addendum shall be considered part of the Bid Documents for the above named project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original Bid Documents, this Addendum shall govern and take precedence.

Bidders are hereby notified that they shall make any necessary adjustments in their estimates as a result of this Addendum. It will be construed that each bidder's proposal is submitted with full knowledge of all modifications and supplemental data specified herein.

Addendum No.2 consists of the following:

ADD. NO. 2 - Cover page
ADD. NO. 2 - Pfluger Architects Narrative
ADD. NO. 2 - Specifications and Drawings (listed below in narrative)

The Bid Documents are modified and clarified as follows:

Reference to Specification or Detail modifications in this Addendum, are to attached documents.

GENERAL:

ITEM	SHEET	DESCRIPTION
G2-1	N/A	

SPECIFICATIONS:

ITEM	SECTION	DESCRIPTION
S2-1	00 01 10	Table of Contents updated to reflect sections being issued in the addendum.
S2-2	00 01 10.1	Table of Contents updated to reflect sections being issued in the addendum.
S2-3	00 01 15	Section is reissued to reflect information being addressed in the other sections being issued as part of this addendum.
S2-4	01 21 00	Schedule of Allowances is revised.

S2-5	01 22 00	Schedule of Unit Prices is revised.
S2-6	01 23 00	Schedule of Alternates is revised.
S2-7	02 41 17	Section is deleted; Use section 02 41 19
S2-8	02 82 00	Section is a new section
S2-9	02 82 00.1	Section is a new section
S2-10	08 17 00	Section is a new section
S2-11	08 62 33	Section is deleted
S2-12	08 71 00	Both sections are deleted - for AMS & HMS; A new combined section is issued in its entirety.
S2-13	08 87 23	Type of security film is revised.
S2-14	10 12 00	Section is a new section.
S2-15	11 60 01	Shop drawing, panel door, FSC, fire rating, seismic, shelving requierements are revised.
S2-16	32 92 13	Section is a new section.

DRAWINGS:

ITEM	SHEET	DESCRIPTION
HUMBLE MIDDLE SCHOOL		
D2-1	1A01.00	Clarified height of fencing noted in Site Plan Legend.
D2-2	1A01.00	Added pattern for areas to receive solid sod in Site Plan Legend.
D2-3	1A01.00	Added regions for areas to receive solid sod and hydromulch seeding, with clarifying notes.
D2-4	1A01.01	Revised Turf Details 2–4 to clarify required surface slope and drainage intent, including direction of slope to drain in accordance with Civil drawings.
D2-5	1A05.01	Deleted scope requiring 1-hour rated roof fireproofing at underside of existing roof deck, as fire wall parapet height exceeds 30 inches above existing roof.
D2-6	1A05.01	Clarified intent to roll back existing roofing as required to install fire wall expansion joint.
D2-7	1A08.00	Updated the Hardware Set column in the Door Schedule to match the hardware sets identified in the latest revised specifications.
D2-8	1A08.01	Revised security film installation to interior side of windows only (Surface 4).
D2-9	1A08.01	Revised Basis of Design for interior and exterior aluminum storefront systems to Series 451 and Series 451T, respectively.
D2-10	1A09.00	Revised security film installation to interior side of windows only (Surface 4).
D2-11	1A09.00	Added clarifying notes directing all graphic types to Specification Section 09 72 23.
D2-12	1A09.01G	Added finish tags for graphic locations at north wall of Gym G120 and exterior wall of Dance G110.
D2-13	1A09.01G	Updated gym court striping layout to include dimensional information and clarifying notes for court markings, striping, and finish requirements.
D2-14	1A09.02	Corrected FWP finish tags in Elevations 7, 8, and 10 to match the finish pattern for each type.
D2-15	1A09.03	Corrected FWP finish tags in Elevations 9 and 10 to match the finish pattern for each type.
D2-16	1A09.04	Clarified graphic type notes on Elevation 2.
D2-17	1A11.02	Added additional finish notes to court graphics.

D2-18	1A11.06	Added clarifying notes to exterior dimensional lettering.
D2-19	1A11.06	Added clarifying notes and dimensions to cut-out logo.
D2-20	1A11.06	Added clarifying notes and section tag to back-lit graphic panel.
ATASCOCITA MIDDLE SCHOOL		
D2-21	2AD01.01	Added clarifying note to reference detail at new 4'-0" wide single chain link gate.
D-22	2A01.00	Clarified height of fencing noted in Site Plan Legend.
D2-23	2A01.00	Added pattern for areas to receive solid sod in the Site Plan Legend.
D2-24	2A01.00	Added regions for areas to receive solid sod and hydromulch seeding, with clarifying notes.
D2-25	2A01.00	Extended sidewalk east of gym to 8'-0" wide.
D2-26	2A01.01	Revised Turf Details 2–4 to clarify required surface slope and drainage intent, including direction of slope to drain in accordance with Civil drawings.
D2-27	2A01.02	Added Detail 7 to sheet.
D2-28	2A02.01A	Added steel tube columns for new equipment support. Contractor to verify column locations with Owner prior to installation. Electrical drawings to be referenced for power requirements at new equipment, typ.
D2-29	2A02.01C	Deleted note requiring column to receive intumescent paint.
D2-30	2A05.01	Deleted scope requiring 1-hour rated roof fireproofing at underside of existing roof deck, as fire wall parapet height exceeds 30 inches above existing roof.
D2-31	2A05.01	Clarified intent to roll back existing roofing as required to install fire wall expansion joint.
D2-32	2A08.00	Updated the Hardware Set column in the Door Schedule to match the hardware sets identified in the latest revised specifications.
D2-33	2A08.01	Revised security film installation to interior side of windows only (Surface 4).
D2-34	2A08.01	Revised Basis of Design for interior and exterior aluminum storefront systems to Series 451 and Series 451T, respectively.
D2-35	2A09.00	Revised security film installation to interior side of windows only (Surface 4).
D2-36	2A09.00	Added clarifying notes directing all graphic types to Specification Section 09 72 23.
D2-37	2A09.01G	Added finish tags for graphic locations at north wall of Gym G120 and exterior wall of Dance G110.
D2-38	2A09.01G	Updated gym court striping layout to include dimensional information and clarifying notes for court markings, striping, and finish requirements.
D2-39	2A09.02	Added painted graphic note on Elevation 10.
D2-40	2A09.03	Corrected FWP finish tags in Elevations 9, 10, and 11 to match the finish pattern for each type.
D2-41	2A11.02	Added additional finish notes to court graphics.
D2-42	2A11.06	Added clarifying notes to exterior dimensional lettering.
D2-43	2A11.06	Added clarifying notes and dimensions to cut-out logo.
D2-44	2A11.06	Added clarifying notes and section tag to back-lit graphic panel.

END OF ADDENDUM 2

ADDENDUM NO. 2

For: Humble Independent School District
AMS / HMS Additions & Renovations
10203 Birchridge Drive
Humble, TX 77338

TO: DRAWINGS AND SPECIFICATIONS DATED: May 15, 2026

PREPARED BY: DALLY + ASSOCIATES

ADDENDUM DATE: June 4, 2026

PROJECT NO: 24-042

This addendum shall be considered part of the Bid Documents for the above named project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original Bid Documents, this Addendum shall govern and take precedence.

Bidders are hereby notified that they shall make any necessary adjustments in their estimates as a result of this Addendum. It will be construed that each bidder's proposal is submitted with full knowledge of all modifications and supplemental data specified herein.

Addendum No.2 consists of the following:

ADD. NO. 2 - Cover page
ADD. NO. 2 - Dally + Associates Narrative
ADD. NO. 2 - Specifications and Drawings (listed below in narrative)

The Bid Documents are modified and clarified as follows:

Reference to Specification or Detail modifications in this Addendum, are to attached documents.

GENERAL:

ITEM	SHEET	DESCRIPTION
G2-1	N/A	

SPECIFICATIONS:

ITEM	SECTION	DESCRIPTION
S2-1	00 01 10.2	Table of Contents updated to reflect sections being issued in the addendum.
S2-2	31 12 00	Section is a new section
S2-3	32 92 02	Section is a new section.

DRAWINGS:

ITEM	SHEET	DESCRIPTION
HUMBLE MIDDLE SCHOOL		
D2-1	C4.00	Revised proposed demo at existing weight room and alternate 4 turf area.
D2-2	C4.00	Revised keynote D4.
D2-3	C4.00	Revised keynote D5.
D2-4	C8.00	Revised proposed storm layout at turf area for alternate 4.
D2-5	C8.00	Added callout for canopy 12” roof drain collector pipe at gym addition.
D2-6	C8.00	Revised keynote D6.
D2-7	C8.00	Added keynote D8.
D2-8	C9.00	Added grading at turf area for alternate 4.
D2-9	C13.00	Added turf detail for alternate 4.
ATASCOCITA MIDDLE SCHOOL		
D2-10	C4.00	Revise demo hatch at existing weight room and alternate 4 turf area.
D2-11	C4.00	Revised keynote D4.
D2-12	C4.00	Revised keynote D5.
D2-13	C8.00	Added proposed storm layout at turf area for alternate 4.
D2-14	C8.00	Added keynote D5.
D2-15	C9.00	Added grading at turf area for alternate 4.
D2-16	C13.00	Added turf detail for alternate 4.

END OF ADDENDUM 2

ADDENDUM NO. 2

For: Humble Independent School District
AMS / HMS Additions & Renovations
10203 Birchridge Drive
Humble, TX 77338

TO: DRAWINGS AND SPECIFICATIONS DATED: May 15, 2026

PREPARED BY: DBR ENGINEERING

ADDENDUM DATE: June 4, 2026

PROJECT NO: 24-042

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Addendum No.2 consists of the following:

ADD. NO. 2 - Cover page
ADD. NO. 2 - DBR Engineering Narrative
ADD. NO. 2 - Specifications and Drawings (listed below in narrative)

The Bid Documents are modified and clarified as follows:

Reference to Specification or Detail modifications in this Addendum, are to attached documents.

GENERAL:

ITEM	SHEET	DESCRIPTION
G2-1	N/A	

SPECIFICATIONS:

ITEM	SECTION	DESCRIPTION
S2-1	23 31 14	Fabric Air Dispersion System specification is added in its entirety.
S2-2	23 64 23	1.08:B - Warranty section updated to include refrigerant, refrigerant oil, parts, and labor for 5 years per Humble ISD Standards.
S2-3	26 24 16	1.03 - Added Siemens and Eaton as approved manufacturers.
S2-4	26 36 13	Removed 263613 Manual Transfer Switch and Docking Station Spec in its entirety

S2-5	27 41 00	1.01:A-Clarified that exisitng system is to be expanded. 2.01-Updated accepatable manufacturers. 2.04, 2.05, 2.06-removed requirements.
S2-6	27 41 16	2.02:C:2:1-Added touch panel basis of design model for Band. 2.02:D:2:1-Added touch panel basis of design model for Dance. 3.01:16-updated ALS minimum receiver quantity.

DRAWINGS:

ITEM	SHEET	DESCRIPTION
HUMBLE MIDDLE SCHOOL		
D2-1	1M02.02D	Added Air Purification Unit. Added Keyed note M4.3
D2-2	1M02.02I	Added Air Purification Unit. Added Keyed note M4.3
D2-3	1M02.03	Added KEF-3 and KEF-4.
D2-4	1M03.11	Modified exhaust ductwork and rerouted connections so each hood is served by a dedicated fan.
D2-5	1M05.01	Corrected pump schedule: flow GPM and pump size for P-1. Fan Schedule: Modified KEF-2; added KEF-3 and KEF-4. Clarified bipolar ionization model number and provided notes in RMAHU schedule and SZ AHU Schedules.
D2-6	1E01.14	Updated roof fans. Added (1) fan. See updated sheet.
D2-7	1E02.02	Added call-out, added eletrical keyed note E10.3 to provide new GTDs and emergency circuit to all existing egress and exit lights in building. See updated sheet.
D2-8	1E02.02A	Updated lighting fixture types in tech room and added circuit to exterior wall pack. Added call-out. See updated sheet.
D2-9	1E02.02B	Updated lighting fixture types in culinary lab. See updated sheet.
D2-10	1E02.02G	Added wall pack fixture circuits and updated fixture types. See updated sheet.
D2-11	1E02.12	Added call-outs. See updaeted sheet.
D2-12	1E02.12G	Added (1) new dedicated 120V circuit. See updaetd sheet.
D2-13	1E03.14	Added sheet in its entirety.
D2-14	1E04.01	Updated ATS size. See updated sheet.
D2-15	1E05.01	Updated all eletrical panel schedules. See updated sheet.
D2-16	E4.01	Updated transformer schedule. See updated sheet.
D2-17	E5.01	Updated lighting fixture schedule. Updated Contactors shcedules. See updated sheet.
D2-18	E6.02	Added sheet in its entirety.
D2-19	1P03.01	Added existing cold lines with sizes. Added keynote to cold and hot water line.
D2-20	1T02.02G	Relocated A/V inputs for mobile rack.
D2-21	T6.01	Removed Details 1 and 2 - replaced with new Detail 1 for access control.
ATASCOCITA MIDDLE SCHOOL		
D2-22	2M02.02D	Added Air Purification Unit. Added Keyed note M4.3
D2-23	2M02.02H	Added Air Purification Unit. Added Keyed note M4.3

D2-24	2M02.03	Added KEF-3 and KEF-4.
D2-25	2M03.01	Revised drawings to clarify the phasing of VFD-P-10, VFD-P-1, and VFD-P-1-2. Increased HWR piping serving B-2 from 4" Ø to 6" Ø. Added pump to central plant and updated piping to follow flow diagran.
D2-26	2M03.11	Modified exhaust ductwork and rerouted connections so each hood is served by a dedicated fan. Added VFD-KEF-3 and VFD-KEF-4. Modified ductwork connecting to hoods and fans to use radius elbows in lieu of 90-degree elbows. Modified M4.26 to include coordination with food service consultant.
D2-27	2M04.01	Modified Chilled Water - AC - Dedicated Primary / Headered Secondary System Diagram to include tie in of CHS to existing chillers.
D2-28	2M04.02	Added Sequence #3 - Alternate Chiller-Pump Integration. Modified and clarified some items for Sequence #2 and Sequence #1 to match design intent.
D2-29	2M04.04	Added new sheet to include Sequences for (1) Heat Pump Makeup Air - Control Schematic and Sequence of Operations; and (2) Kitchen Fans.
D2-30	2M05.01	Modified P-1, 1-2 in the Pump Schedule and Pump Schedule (Alternate). Clarified Notes in the Pump Schedule and the Pump Schedule (Alternate). Fan Schedule: Modified KEF-2; added KEF-3 and KEF-4. Updated performance data for B-1, 2 in the Boiler Schedule. Clarified bipolar ionization model number and provided notes in RMAHU schedule and SZ AHU Schedules.
D2-31	2E01.14	Updated roof fans. Added (1) fan. See updated sheet.
D2-32	2E02.02	Added call-out, added eletrical keyed note E10.4 to provide new GTDs and emergency circuit to all existing egress and exit lights in building. See updated sheet.
D2-33	2E02.02A	Updated lighting fixture types in shop room. See updated sheet.
D2-34	2E02.02C	Added wall pack fixture circuits and updated fixture types. Added eletrical keyed notes E11.5 and E11.4. See updated sheet.
D2-35	2E02.02E	Updated lighting fixture types. See updated sheet.
D2-36	2E02.02G	Added wall pack fixture circuits and updated fixture types. See updated sheet.
D2-37	2E02.12	Added call-outs. See updaeted sheet.
D2-38	2E02.12A	Added (4) dedicated circutis in shop room. Added eletrical keyed notes E3.23 and E3.24. See updated sheet.
D2-39	2E02.12B	Added SPD2. Only for clarification. See updated sheet.
D2-40	2E02.12D	Added SPD2. Only for clarification. See updated sheet.
D2-41	2E02.12G	Added (1) new dedicated 120V circuit. See updaetd sheet.
D2-42	2E03.11	Added (1) Pump and provided new circuit and power. Relocated pumps. Added (2) enlarged views. See updated sheet.
D2-43	2E04.01	Updated eltrical one-line diagrams. Added eletrical one-line diagram keyed notes 15 and 16. See updated sheet.
D2-44	2E05.01	Updated all eletrical panel schedules. See updated sheet.
D2-45	E4.01	Updated transformer schedule. See updated sheet.
D2-46	E5.01	Updated lighting fixture schedule. Updated Contactors shcedules. See updated sheet.

D2-47	E6.02	Added sheet in its entirety.
D2-48	2P03.01	Added existing cold lines with sizes. Added keynote to cold and hot water line.
D2-49	2T02.02G	Relocated A/V inputs for mobile rack.
D2-50	T6.01	Removed Details 1 and 2 - replaced with new Detail 1 for access control.

END OF ADDENDUM 2

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02 41 19 – DEMOLITION
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~~08 71 00 - DOOR HARDWARE-AMS~~ ***[DELETED: ADDENDUM 2]***
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09 65 25 - VINYL TILE_PLANK FLOORING (LVT)
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23 25 13 - WATER TREATMENT FOR CLOSED LOOP HYDRONIC SYSTEMS
23 31 13 - METAL DUCTWORK
23 31 14 - FABRIC AIR DISPERSION SYSTEM ***[ISSUED: ADDENDUM 2]***
23 33 00 - DUCTWORK ACCESSORIES
23 34 00 - HVAC FANS
23 36 16 - SINGLE DUCT VAV TERMINAL UNITS
23 37 13 - AIR DISTRIBUTION DEVICES

23 41 00 - AIR FILTERS
23 52 16 - CONDENSING BOILERS
23 55 43 - GAS FIRED ROOF MOUNTED MAKE-UP AIR UNIT HEATERS
23 64 23 - AIR COOLED SCROLL WATER CHILLERS ***[REVISED: ADDENDUM 2]***
23 73 26 - MODULAR OUTDOOR CENTRAL STATION AIR HANDLING UNITS
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List of Specifications, As Prepared by:

2 Greenway Plaza Ste 460
Houston, TX 77046
P: 713-222-1141
pflugerarchitects.com

05/15/2026
ADDENDUM 2: 06/02/2026

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01 22 00 - UNIT PRICES ***[REVISED: ADDENDUM 2]***
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01 45 29 - TESTING LABORATORY SERVICES
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END OF SECTION 00 01 10.1

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List of Specifications. As Prepared by:

DALLY + ASSOCIATIES, INC.
9800 Richmond Ave. Suite 600,
Houston, TX 77042

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REQUEST FOR COMPETITIVE SEALED PROPOSALS

CSP#2026-05 AMS/HMS ADDITIONS

ATASCOCITA/HUMBLE MIDDLE SCHOOLS

HUMBLE INDEPENDENT SCHOOL DISTRICT

ADDENDUM #2

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REQUEST FOR COMPETITIVE SEALED PROPOSALS

Competitive Sealed Proposals for the work identified below in accordance with Proposal Documents and Addenda as may be issued prior to date of the proposal opening will be received by the Humble ISD Board of Trustees, until proposal closing date and time, as identified below. Proposals from Offerors should be submitted in ION WAVE - the District's online bidding system.

OWNER: Humble ISD
10203 Birchridge Drive
Humble, Texas 77338
Representative: Dr. Jason Seybert
Associate Superintendent of Operational Support Services

PROJECT: CSP#2026-05 AMS/HMS ADDITIONS

PROJECT LOCATIONS: Atascocita Middle School
18810 West Lake Houston Parkway
Humble TX 77346

Humble Middle School
11207 Will Clayton Parkway
Humble TX 77346

BUDGET: The budget for this project is $17,000,000.00 (Seventeen million dollars)

PRE-PROPOSAL MEETING May 27, 2026 at 10:00am at
Humble ISD Maintenance and Construction Facility
1703 Wilson Rd, Bldg B
Humble, Tx 77396
Attendance is not mandatory.

PROJECT SITE VISIT May 27, 2026; Following the Pre-Proposal Meeting
Attendance is not mandatory

A305 GC Statement of Qualifications and References Due:
Date: June 11, 2026 at 1:00pm
A PDF copy shall be uploaded to ION WAVE (Response Attachments) tab.
Do not email these documents

BASE BID PROPOSAL DUE
DATE AND TIME: June 11, 2026 at 1:00pm

ALTERNATES, SUBCONTRACTORS LIST AND UNIT PRICES PROPOSAL DUE
DATE AND TIME: June 11, 2026 at 2:00pm

PROPOSAL OPENING: June 11, 2026 - Public Bid Opening
at 3:00pm
The bids will be publicly opened at the following location:
(In Person) Humble ISD Maintenance and Construction Facility
1703 Wilson Rd, Bldg B
Humble, Tx 77396
The public bid opening can also be viewed online via ZOOM
Join Zoom Meeting
https://humbleisd.zoom.us/j/88903394463
Meeting ID: 889 0339 4463

ARCHITECT: Pfluger Architects, Inc.
2 Greenway Plaza, Ste. 460
Houston TX 77046
p: 713.222.1141

Proposal documents may be obtained from the following:

Virtual Builders
3910 Kirby, Suite 131
Houston, Texas 77098
(713) 523-6222

Associated General Contractors of Houston (AGC)
3825 Dacoma Street
Houston, Texas 77092
(713) 843-3700

McGraw Hill Construction/Dodge
Hempstead Rd., Suite 110
Houston, Texas 77092
(713) 316-9411

Reed Construction Data (RCD) 10606
www.reedplans.com
(800) 424-3996

All proposals and associated required documents shall be submitted to ION WAVE - the Districts' online bidding system by the time specified above.

The Owner reserves the right to reject any and all proposals and to waive any irregularities in the Competitive Sealed Proposal process.

No proposal shall be withdrawn within 90 days after the proposal opening without the specific consent of the Owner.

PROPOSAL BOND: A Proposal Bond from a bonding company acceptable to the Owner must be uploaded with the Offerors proposal to the Districts' online bidding system. 5%

PAYMENT BOND AND PERFORMANCE BOND: A Payment Bond and Performance Bond, each in an amount equal to 100% of the Contract Sum conditioned upon the faithful performance of the Contract will be required upon award. Please note that all bonding companies presented must be acceptable to the Owner.

PREVAILING WAGE RATE: The Districts' approved Prevailing Wage Rate Schedule are the minimums that must be paid in conformance with all applicable laws of the State of Texas.

PRE-PROPOSAL CONFERENCE: All Offerors submitting a proposal are encouraged to attend the pre-proposal conference.

JOB SITE WALK: All Offerors submitting a proposal are encouraged to visit the site.

Subcontractors and Suppliers intending to submit proposals to General Construction Offerors are required to prepare their proposals based on a complete set of proposal documents. If after reviewing the complete set of proposal documents, Subcontractors and Supplier Offerors desire to purchase individual drawings and specification sections for their proposal convenience, they may do so by ordering the specific drawings and specifications directly from the reproduction company. Each Offeror purchasing a partial set of proposal documents is responsible for determining exactly which documents he requires and is responsible for all costs associated with printing and delivery. Subcontractors and Suppliers exercising this option must agree to do so on the basis that 1) all documents shall be returned to the Architect, without refund, after submitting a proposal and 2) documents shall not be used on other construction projects. Successful Subcontractors and Supplier Offerors may retain their Proposal Documents until completion of the construction.

END OF SECTION 00 11 19

SECTION 00 21 16
INSTRUCTIONS TO OFFERORS

1.1 QUALIFIED OFFERORS

A. Competitive Sealed Proposals will be accepted from qualified Offerors (General Contractors) for only the entire scope of work described in the Contract Documents. As a prerequisite to an Offeror's qualifying for the award of contract on this work, the Offeror must complete each item of the Contractor's Qualification Statement (AIA Document A305) and supplemental information per Section 1.4, I. The AIA Document A305 may be obtained from the Houston Chapter of the American Institute of Architects, 315 Capitol, Suite 120, Houston, Texas 77002, (713) 520-0155. In addition to the information contained in the AIA Document A305 form, Offerors shall also address the selection criteria issues listed under the paragraph below for Determination of Successful Respondent and Award of Contract.

Submit a PDF copy of AIA Document A305 by uploading to ION WAVE (Response Attachments) tab, do not email to bids@humbleisd.net.

B. The primary purposes of the evaluation process will be to:

1. Gather information for the Owner's Selection Committee evaluation process.
2. Enable the Owner and Architect to evaluate the Offeror's qualifications.

C. After review of Contractor's qualification statements, requested supplemental information and Offeror's submitted Proposal by the District's Selection Committee comprised of District staff and Architect, the Owner will make their decision and each Offeror will be notified once Humble ISD Board of Trustees has approved the recommended Offeror.

D. In the event a proposed Offeror fails to submit the specified Contractor's Qualification Statement at time of receipt for Proposals, such noncompliance shall be considered by both the Owner and Architect as a negative factor in the determination of the successful Offeror.

1.2 OFFEROR'S PRESENTATION

A. Each Offeror by making their Proposal represents that:

1. He has read and understands the Proposal Documents and his Proposal is made in accordance therewith.
2. He has thoroughly familiarized themselves with Division 01 General Requirements as they are applicable to subsequent specification sections.
3. He has visited the site, has familiarized himself with the local conditions under which the work is to be performed and has correlated his observations with the requirements of the proposed Contract Documents.
4. He agrees to comply with the requirements of the following paragraph. Any Offeror who subsequently does not agree to comply with these requirements will automatically disqualify himself from proposing or receiving award of the contract.

B. He Agrees that:

1. Work on the project will begin immediately upon receipt of properly executed District Purchase Order.
2. Offeror will participate as a team member in cooperation with the Project Architect, Engineers, Owner, and Owner's agents and/or consultants.
3. The Offeror will assign a competent full-time superintendent, to the project, and that superintendent shall be maintained on the project for the duration of the project, including any delays or extensions.
4. The Offeror will furnish and pay for a proposal bond in the amount of five percent (5%) of the contract amount.
5. If awarded, the Offeror shall furnish and pay for a Performance Bond and a Payment Bond each in the full contract amount.
6. Offeror shall carry and keep in full force for the duration of the Project, insurance coverage for builder's risk, workmen's compensation, comprehensive general liability, and automobile liability as required by the General Conditions and/or Supplementary General Conditions of the Specifications.
7. Each Offeror by making his Proposal represents that his Proposal includes only material and equipment specified in the Proposal Documents and supplemented, if necessary, for a complete and operating system.
8. Where subcontract work is involved and where Acceptable Subcontractors are designated for particular sections or phases of the Work, each Offeror by making his Proposal represents that his Proposal includes only firms designated as Acceptable Subcontractors.
9. That no asbestos PCB's or lead building materials shall be used, and that each Offeror (and sub- offeror or supplier submitting a proposal to on Offeror) shall submit an affidavit at Project Close-out stating that no asbestos, PCB's or lead building materials has been used on the Project.

1.3 PROPOSAL DOCUMENTS

A. Proposal Documents include the request for Competitive Sealed Proposals, Instructions to Offerors, the Proposal Form, and the proposed Contract Documents, including any Addenda issued prior to receipt of proposals, and Humble ISD Required forms.

B. Contract Documents for the Work consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, Supplementary and other Conditions), the Drawings, the Specifications, and all Addenda issued prior to receipt of proposals.

1.4 PROPOSAL PROCEDURES

A. A proposal is invalid if it has not been received at the designated location prior to the time and date for receipt of proposals indicated in the request for Competitive Sealed Proposals, or prior to any extension thereof issued to the Offerors by Addenda.

B. All General Contractors and subcontractors are required to review all of the contract documents and to visit the site to determine the exact scope of work pertaining to their trade. The Owner and the Architect will not be responsible for additional changes in the work if the entire scope of work could have been determined by a complete review of all of the documents and/or a site visit. The Owner and the Architect will not be responsible if the General Contractor or the subcontractor reviewed partial or incomplete documents.

C. All requested Alternates shall be proposed. If no change in the Base Proposal is required, enter "0".

D. Prior to the receipt of Proposals, Addenda will be forwarded by the Architect and will be available for inspection wherever the proposal documents are kept available for that purpose.

E. Proposals will be received via the Districts' online bidding system on the Proposal Form for the work as indicated by the Proposal Documents.

F. There must be a Proposal Bond or Certified Check in the amount of **5%** of the proposal.

G. A proposal may be withdrawn only upon request by the Offeror or his duly authorized representative, provided such request is received by the Owner at the place designated for receipt of proposals and prior to the time fixed for the opening of proposals. A withdrawal of a proposal shall not be effective unless a written confirmation of the withdrawal is received by the Owner at said place within 48 hours before the time fixed for the opening of proposals. The Proposal Bond will be returned with the proposals if withdrawn in accordance with the above. The withdrawal of a proposal does not prejudice the right of the Offeror to file a new proposal at the time and place stated. No proposal may be withdrawn after the time fixed for the opening of proposals for a period of 90 days.

H. Certain references to Owners' Documents will be obsolete due to the new procedure of submitting proposal and forms through Humble ISD Ion Wave online bidding system. Offerors intending to propose on this project should visit https://humbleisd.ionwave.net/Login.aspx to register and access all the Owner required forms, certifications, and enter the Base Proposal, Alternates Proposal, Item List pricing etc.

I. The AIA Document A305 must be accompanied by a listing of the Offeror's projects of similar size and scope during the past five (5) years. The listing shall include the project name, address, building area, contract sum, contract date, contract completion date(s), substantial completion date(s}, Owner representative's name and telephone number, and the names of the Contractor's project staff assigned to the project. In addition, the General Contractor shall include in this submission the following information regarding the Contractor's Proposed Project Team.

1. Name of the Proposed Project Executive.
2. Name of the Proposed Project Manager.
3. Names of Proposed Assistant Project Managers or Project Engineers.
4. Name of Proposed Project Superintendent.
5. Name of Proposed Assistant Project Superintendent.
6. Name of Proposed Field Engineer.
7. Names of any proposed project support staff.
8. The General Contractor shall include a resume of qualifications for each of the project personnel proposed.
9. In addition, include a written summary describing the roles each person will have on the project team and what percentage of time each person will dedicate to this project on a weekly basis. In addition, the contractor shall indicate where each staff member will office (onsite or main office).

This information shall be submitted on June 11, 2026 at 1:00pm.

J. The Proposal Form must be accompanied with a bar chart construction schedule for this project with projected milestone dates and respective phasing as described by the contract documents (complete foundation, complete steel erection, dry-in, HVAC start-up, etc.). Elaborate on exact milestones and describe liquidated damages if not met.

K. The Contract shall be awarded to the Contractor offering the "best value" to the Owner. Base proposal, alternates proposal, A305 information and supplemental information requested, and responses on requests for information will all be utilized to evaluate all submitted proposals and provide an evaluation ranked on all published selection criteria.

1.5 INTERPRETATION OF PROPOSAL DOCUMENTS

A. Offerors and sub-offerors requiring clarification or interpretation of the Proposal Documents shall make a written request through the Districts' online bidding system. **Cutoff date for questions is 06/01/2026 at 5:00pm.** Questions must be submitted through Ion Wave Only. **ALL QUESTIONS TO BE SUBMITTED TO ION WAVE – NO EXCEPTIONS**

B. Any interpretation, correction or change of the Proposal Documents will be made by Addendum. Interpretations, corrections or changes of the Proposal Documents made in any other manner will not be binding.

C. With submission of Proposal response Offerors agrees to selection process set forth by Humble ISD.

1.6 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT

A. The materials, products and equipment described in the Proposal Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. The materials and equipment named in, and the procedures covered by these specifications have been selected as a standard because of quality, particular suitability or record of satisfactory performance. It is not intended to preclude the use of equal or better materials or equipment provided that same meets the requirements of the particular project and is approved in an addendum as a substitution prior to the submission of proposals.

B. No substitution will be considered prior to receipt of proposals unless written request for approval has been received by the Architect at least seven (7) days prior to the date for receipt of proposals as described in Section 01 60 00 - Product Requirements. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

C. Email request for substitutions to: Michael.adame@pflugerarchitects.com

D. If the Architect approves any proposed substitution prior to receipt of proposals, such approval will be set forth in an Addendum. Offerors shall not rely upon approvals made in any other manner.

E. No substitutions will be considered until after the Contract award. See Section 01 25 13 for project substitution procedures.

1.7 REJECTION OF PROPOSALS

A. The owner shall have the right to reject any or all proposals and to reject a proposal not accompanied by any required proposal security, or by other data required by the Proposal Documents, or to reject a proposal which is in any way incomplete or irregular.

B. The Owner reserves the right to reject any or all proposals and to waive any formalities or irregularities and to make the award of the contract in the best interest of the Owner.

C. The Owner reserves the right to reject any proposal if the evidence submitted by, or investigation of, such Offeror fails to satisfy the Owner that such Offeror is properly qualified to carry out the obligations of the contract and to complete the Work therein. Award may be made to other that the low-dollar Offeror and given the one offering the "best value" to the school district, in addition to the purchased price, based on the published selection criteria and on its ranking evaluation.

D. Do not submit voluntary alternates. The Owner reserves the right to reject any proposal which is accompanied by conditional or qualifying statements, or "voluntary alternates".

1.8 INSURANCE

A. Each Offeror shall include in this proposal the complete cost and shall carry and keep in full force for the duration of the project, insurance coverage required under the General Conditions and Supplementary Conditions.

1.9 PERFORMANCE BOND AND PAYMENT BOND

A. Each Offeror shall include in this proposal the premium costs for 100% Performance Bond and 100% Payment Bond. These bonds shall cover the faithful performance of the contract and payment of all obligations arising hereunder in such form as the Owner. The selected Offeror shall deliver the required bonds to the Owner not later than the date of execution of the Contract.

1.10 PROPOSAL SECURITY

A. No proposal will be considered unless it is accompanied by a Certified or Cashier's Check or Proposal Bond executed on the form attached. In either case the amount shall be not less than five percent (5%) of the greatest amount proposed (considering alternates, if any). The proposal security shall insure the execution of the contract and the furnishing of an acceptable Performance Bond and Payment Bond by the successful Offeror within ten (10) days after notification of award to such Offeror and that this proposal will not be withdrawn within 90 days after date of opening of proposals without the consent of the Owner. Proposal Bond shall be prepared in the identical form of AIA Document A310 or Document 00 42 14.10 attached.

1.11 SUBMISSION OF POST PROPOSAL INFORMATION

A. The apparent Selected Offeror shall within three (3) days after proposals are received submit the following:

1. A designation of the work to be performed by the Offeror with his own forces.
2. An experience profile of the selected Offeror's superintendent scheduled to work on this project. In addition, the apparent selected Offeror shall cooperate with the Owner, supplying requested information to substantiate the qualifications of the superintendent. If, in the opinion of the Owner, the superintendent does not qualify, the Owner may request the submission of another superintendent and more information. The Owner reserves the right to reject the apparent selected Offeror if an acceptable superintendent is not presented.

B. The Selected Offeror shall within five (5) days thereafter submit the following:

1. A statement of costs for each major item of work included in the proposal as described in Section 01 29 00 - Payment Procedures for each section of specifications will be considered a major item of work and shall be shown as a separate cost item.

1.12 AWARD OF CONTRACT

A. The Offeror to whom the award is made will be promptly notified. If an Offeror (a) withdraws his proposal within 90 days after the date of time fixed for the opening of proposals in the Request for Competitive Sealed Proposals, or (b) fails or refuses to execute the Agreement, or other required forms within ten (10) days after the same are presented to him for signature, or (c) fails or refuses to furnish properly executed Performance Bond and Certification of Required Insurance within fifteen (15) calendar days of execution date of the Agreement, the Owner may award the Work to another Offeror or Offerors or may call for new proposals.

B. The Offeror will be required to (a) submit his Proposal and Proposal Bond, (b) execute Contract and Performance and Payment Bonds, and (c) submit Certification of required insurances, all using the Owner's own forms for such respective purposed.

C. Proposal Bond is forfeited if proposal is withdrawn after the proposal opening, or Contract Documents are not executed in accordance with the above.

1.13 NOTICE TO PROCEED

A. The Offeror shall not commence work under this Contract until a properly executed District Purchase Order has been received.

1.14 COMPLETION TIME

A. Offerors shall familiarize themselves with the Owners requirements concerning the project schedule as described in Section 01 32 16 of this Project Manual.

B. Having thoroughly familiarized himself with the conditions as they exist at the building sites and acquainted him with the labor supply and the material market, the Offeror will state in his proposal that he agrees to be partially complete at each indicated milestone and substantially complete with the Work by the date agreed upon.

C. It is therefore expressly agreed as a part of the consideration inducing the Owner to execute this contract that the Owner may deduct liquidated damages from the partial and final payment made to the Contractor for each and every calendar day beyond the agreed date which the Contractor shall require for each milestone date and Substantial Completion of the Work included in this contract. It is expressly understood that the said sum per day is agreed upon as a fair estimate of the pecuniary damages which will be sustained by the Owner in the event that the Work is not completed within the agreed time, or within the legally extended time, if any, otherwise provided for herein. Said sum shall be considered as liquidated damages only and in no sense shall be considered a penalty, said damage being caused by additional compensation to personnel, for loss of interest on money and other miscellaneous increased costs, all of which are difficult of exact ascertainment. Also, any disruption of Owner's use of the existing facilities or newly completed facilities will also be subject to liquidated damages. Refer to the Supplementary Conditions for additional requirements. Delays, disruption of use, failures to complete, and liquidated damages are fully described under Article 8.3 of the Supplementary Conditions. The definition of Substantial Completion is found in Article 9.8.1 of the AIA General Conditions and Supplementary Conditions bound herein.

1.15 FELONY CONVICTION NOTIFICATION

A. Section 44.034, of the Texas Education Code requires a person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony. Subsection (b) states "a school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for the services performed before the termination of the contract." Subsection (c) states "this section does not apply to a publicly held corporation."

B. The Offeror shall acknowledge their agreement on this requirement as directed in attributes in ION WAVE - the Districts' online bidding system.

1.16 AFFIDAVIT OF NON-DISCRIMINATORY EMPLOYMENT

A. The Offeror, and sub-offerors, shall agree to refrain from discrimination in terms and conditions of employment to the basis of race, color, religion, sex, or national origin, and agrees to take affirmative action as required by Federal Statutes and Rules and Regulations issued in order to maintain and insure non-discriminatory employment practices.

B. The Offeror shall acknowledge their agreement on this requirement as directed in attributes in the Districts' online bidding system.

1.17 LIST OF SUBCONTRACTORS

A. The Offeror shall supply a list of the following major subcontractors:

1. Site work
2. Field work
3. Bleacher and Press Boxes
4. Masonry
5. Concrete
6. Sports Lighting
7. Mechanical
8. Electrical
9. Plumbing
10. Technology
11. Controls

B. Offerors shall identify subcontractors that are local, MBE and WBE.

C. The Offeror **must** execute Section 00 42 14.10 and Proposed Subcontractors Form found as part of Section 00 43 36 and submit with their Proposal.

1.18 AFFIDAVIT OF NON-ASBESTOS, LEAD, AND PCB USE IN PROJECT

A. The use of any construction process or the installation of any asbestos, lead and PCB's or material containing asbestos, lead and PCB's is strictly prohibited for this Project.

B. Prior to submitting a proposal, Offerors shall notify the Architect, in writing, of any materials in these specifications which are known to contain or are likely to contain asbestos, lead or PCB's.

C. The Offeror, and sub-offerors shall agree to refrain from using products which are known to contain asbestos, lead, and PCB containing materials as applicable to the project. They shall also affirm that lead or lead bearing materials have not been incorporated into potable water systems, and that lead sheet flashing used in through roof plumbing penetration applications is the only lead on the Project.

D. The Selected Offeror (Contractor) **must** execute Document 00 45 23, Affidavit of Non-Asbestos, Lead, and PCB Use and submit at Project Closeout. The Subcontractors to the Contractor **must** execute Close-out Form, attached to Section 01 70 01, Closeout.

1.19 CRIMINAL HISTORY RECORDS

A. The Selected Contractor shall certify on their response online their compliance to the requirement that for each of its employee who will have direct contact with students, the Selected Contractor has obtained, as required by Texas Education Code Section 22.0834:

1. National criminal history record information from a law enforcement or criminal justice agency for each employee of the Selected Contractor hired before January 1, 2008 who will have direct contact with students; and/or

2. National criminal history record information from the Texas Department of Safety for each employee of the Selected Contractor hired on or after January 1, 2008 who will have direct contact with students; Fingerprinting is required and shall be provided by the Contractor (Applicant) and administered through FAST (Fingerprint Applicant Services of Texas) which will be recorded by the District in the FACT (Fingerprint-based Applicant Clearinghouse of Texas). Currently, Applicant must obtain fingerprinting from L-1 Identity Solutions Company, (888) 467- 2080, or schedule an appointment online at https://tx.ibtfingerprint.com/.

B. Any personnel who will have direct contact with students must not have been convicted of an offense identified in Texas Education Code Section 22.085.

C. At this time, Senate Bill 9 applies only to contractors with direct contracts with the District. This requirement does not apply to sub-contractors of the Contractor, material suppliers, agent, code official, or similar personnel. However, changes to these requirements are anticipated and may require the acquisition and submittal of additional background checks to the District during the course of the Work.

D. The Offeror shall acknowledge their agreement on this requirement as directed in attributes section in the Districts' online bidding system.

E. Furthermore, an updated Schedule 'B' shall be submitted weekly to the District indicating changes to contractor personnel with accompanying certifications and criminal history records. Any fingerprinting and photographing required by the aforementioned code will be the responsibility of the Contractor- Employer.

1.20 CONFLICT OF INTEREST QUESTIONNAIRE

A. According to Local Government Code, Chapter 176, a person or an agent of a person who contracts or seeks to contract for the sale or purchase of property, goods, or services with any government agency must file a completed Conflict of Interest Questionnaire with the records administrator of the local government not later than the seventh (7^{th}) business day after the date that the person begins contract discussions or negotiations with the District or submits to the District an application, response to a request for proposals or bids, correspondence, or another writing related to a potential agreement with the District.

B. All Offeror's and sub-offeror's proposing to do work with the District shall acknowledge their agreement on this requirement as directed in attributes section in ION WAVE - the Districts' online bidding system.

1.21 PROPOSAL EVALUATION WAIVER

A. By submitting a proposal, each Offeror agrees to waive any claim it has or may have against the District and its respective employees, the program Manager and their respective employees, the Architect/Engineer and consultants, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any proposal; waiver of any requirements under the Proposal Documents, acceptance or rejection of any proposals; and award of the contract.

B. All Offeror's acknowledge this agreement to waiver any claim as directed in the attributes or attachment section in ION WAVE - the Districts' online bidding system.

1.22 NON-COLLUSION CERTIFICATE

A. All Offeror's acknowledge their agreement to the certification as directed in the attributes section in ION WAVE - the Districts' online bidding system.

1.23 CERTIFICATE OF RESIDENCY

A. All Offeror's acknowledge their agreement to the certification as directed in the attributes section in ION WAVE - the Districts' online bidding system.

1.24 SUSPENSION OR DEBARMENT CERTIFICATE

A. All Offeror's acknowledge their agreement to the certification as directed in the attributes section in ION WAVE - the Districts' online bidding system.

1.25 CLEAN AIR AND WATER ACT

A. All Offeror's must acknowledge their agreement to this required certification as noted in the attachments section in ION WAVE - the Districts' online bidding system.

1.26 AVAILABILITY OF MATERIALS AND SYSTEMS

A. A serious effort has been made to select only materials that are systems that are readily available. As far as is known at proposal time all items are either available "off the shelf" or within a relatively short period of time. If during the proposal period, an Offeror becomes aware of an availability or delivery problem with any of the specified systems or material, he should notify the Architect immediately. The Architect will promptly explore possibilities for selecting other systems or materials which would circumvent the problem and notify Offerors of any changes in an addendum, otherwise it will be understood that only specified systems and materials that are readily available are included in the proposals.

1.27 DETERMINATION OF SUCCESSFUL RESPONDENT AND AWARD OF CONTRACT

A. In determining the Selected Offeror, the Owner will evaluate the information derived from the Offeror's (Contractor's) Qualification Statement required herein, the information submitted on the Proposal Form, and other selection criteria including, but not limited to the following: SEE SELECTION CRITERIA FORM

B. The Selection Committee consisting of Humble ISD administrators, architects, consultants and other District staff will make an initial evaluation of the proposals. Its recommendation will be considered by the Humble ISD Board of Trustees ("Board"). The District reserves the right to review the recommendation with the Assistant Superintendent for Operational Support Services and others deemed appropriate by the District prior to review by the entire Board. The final decision-making authority on the proposals rests with the full Board. Decision-making authority has not been delegated to any person or entity other than the Board.

C. By submitting a proposal, each Offeror agrees to waive any claim it has or may have against the District and its respective employees, the Architect/Engineer and consultants, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any proposal; waiver of any requirements under the Proposal Documents, acceptance or rejection of any proposals; and award of the contract.

D. The District will make such investigations as it deems necessary to determine the ability of the Offeror to perform the Work, and the Offeror shall furnish all such information and data for this purpose as may be requested. The District reserves the right to reject any proposal if the evidence submitted by, or investigation of, such Offeror fails to satisfy the District that such Offeror is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

E. The District reserves the right to reject any or all proposals and to waive any formalities or irregularities and to make the award of the contract in the best interest of the District.

F. A decision regarding determination of the successful Offeror will be made by the District as soon as practical.

1.28 USE OF ASBESTOS FREE MATERIALS, PRODUCTS AND SYSTEMS

A. The Offeror is reminded to refer to the Paragraph above for requirements during the Proposal period and the following requirements during performance of the Work regarding the use of asbestos free materials, products and systems in the Project.

1. Since many materials, products and systems are proprietary, it is not possible to know all of the materials or components which go into producing such material, product or system without the manufacturer divulging trade secrets or patent information. Every effort has been made to specify materials, products or systems, which either as an "off the shelf" material, products or system or as a custom material, product or system do not contain asbestos.

2. It is the Contractor's responsibility to submit an affidavit from the manufacturer to ascertain that every material, product or system used in the Project does not contain asbestos. In the event the material, product or system is found to contain asbestos, the Contractor shall offer for the Architect's consideration a substitution which he knows does not contain asbestos.

3. Even though a material, product or system is specified or a specification is based on a particular material, product or system, the Contractor will not be relieved from the responsibility to ascertain that materials, products and systems used in the Project do not contain asbestos. Under no circumstances shall a material, product or system which is known, suspected or found to contain asbestos be used on the Project.

4. If a material, product or system containing asbestos is used, the Contractor shall remove and replace the material, product or systems with one which is asbestos free at no additional expense to the Owner, including removal and replacement of other materials affected by the removal of the asbestos bearing material, product or system, i.e. gypsum wallboard removed, replaced, and repainted on account of insulation being removed, etc.

1.29 CONSTRUCTION PERSONNEL

A. Field Forces/Construction Personnel involved in the construction shall have contractor identification in the form of badges. Badges shall have the name and photo of the personnel and the name of the company they work for.

END OF SECTION 00 21 16

DOCUMENT 00 42 12

COMPETITIVE SEALED PROPOSAL FORM - BASE PROPOSAL

CSP# **2026-05 AMS/HMS ADDITIONS**

Submitted by: _____

Date:_____Phone No.:_____

To: Board of Trustees
Humble Independent School District
10203 Birchridge Drive, Humble, TX 77338

Having examined Proposal and Contract Documents prepared by Pfluger Architects, Inc., dated May 15, 2026, and having examined site conditions, the undersigned proposes to furnish all labor, equipment and materials and perform all work for the completion of the above-named project for the sum indicated below.

In submitting this Proposal, the undersigned agrees to the following:

1. Base proposal to be submitted online by 1:00 PM on June 11, 2026, and this signed document to be submitted post-bid.
2. Hold proposal open for acceptance 90 days.
3. Accept right of Owner to reject any or all proposals, to waive formalities and to accept proposal which Owner considers most advantageous.
4. Enter into and execute the contract, if awarded, for the Base Proposal and accepted Alternate Proposals.
5. Complete work in accordance with the Contract Documents within the stipulated contract time or be subject to liquidated damages at milestone dates and Substantial Completion.
6. By signing, the undersigned affirms that, to the best of his knowledge, the Proposals have been arrived at independently and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over respondents in the award of this Proposal.

NOTE: THIS INFORMATION MUST BE SUBMITTED ONLINE BY 2:00 PM on JUNE 11, 2026

BASE PROPOSAL

A.1 Base Proposal:

Undersigned agrees to complete the Work for the lump sum amount of:

_____
(Amount written in words governs)

$_____
(Amount in figures)

I.1 ALLOWANCES

Undersigned certifies that the specified allowances are included in the Base Proposal and agrees that unexpended balance of allowance sums will revert to Owner in the final settlement of the contract. Allowances – for each school - to be submitted with Base Proposal.

Allowances for AMS

Allowance No. 1
Owner Contingency: $400,000.00

Allowance No. 2
Graphics: $50,000.00

Allowance No. 3
Landscape: $40,000.00

Allowance No. 4
Signage: $20,000.00

Allowance No. 5
Emergency Responder Radio: $50,000.00

Allowances for HMS

Allowance No. 1
Owner Contingency: $400,000.00

Allowance No. 2
Graphics: $50,000.00

Allowance No. 3
Landscape: $40,000.00

Allowance No. 4
Signage: $20,000.00

Allowance No. 5
Emergency Responder Radio: $50,000.00

II. CONTRACT TIME

Undersigned agrees to begin Work upon Notice to Proceed and be Substantially Complete by 13 months after Notice to Proceed.

III. CHANGES IN THE WORK

Undersigned understands that changes in the work shall be performed in accordance with the Supplementary Conditions.

IV. LIQUIDATED DAMAGES

Undersigned understands that liquidated damages as defined in the Supplementary Conditions will be included in the form of Agreement between Owner and Contractor and that the Contractor will be bound thereto.

_____
Authorized Signature

_____
Title

(Seal, if a Corporation)
State whether Corporation, Partnership or Individual Firm

_____
Name of Contracting

_____
Address

_____
Telephone

_____
Date

END OF DOCUMENT 00 42 12

DOCUMENT 00 42 13

COMPETITIVE SEALED PROPOSAL FORM – ALTERNATE PROPOSAL

CSP# 2026-05 AMS/HMS ADDITIONS

Submitted by: _____

Date:_____Phone No.:_____

To: Board of Trustees
Humble Independent School District
10203 Birchridge Drive
Humble, Texas 77338

Having examined Proposal and Contract Documents prepared by Pfluger Architects, Inc., dated May 15, 2026 and having examined site conditions, the undersigned proposes to furnish all labor, equipment and materials and perform all work for the completion of the above-named project for the sum indicated below.

In submitting this Proposal, the undersigned agrees to the following:

1. Alternate proposals to be submitted online by 2:00 PM on June 11, 2026, and this signed document to be submitted post- bid. To be submitted with Base Proposal.
2. Hold proposal open for acceptance 90 days.
3. Accept right of Owner to reject any or all proposals, to waive formalities and to accept proposal which Owner considers most advantageous.
4. Enter into and execute the contract, if awarded, for the Base Proposal and accepted Alternate Proposals.
5. Complete work in accordance with the Contract Documents within the stipulated contract time.
6. By signing, the undersigned affirms that, to the best of his knowledge, the Proposals have been arrived at independently and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over respondents in the award of this Proposal.

NOTE: THIS DOCUMENT MUST BE SUBMITTED ONLINE BY 2:00 PM ON JUNE 11, 2026

ADDENDUM #2

ALTERNATE PROPOSALS (for AMS)

Undersigned shall provide the following alternate prices as described in Section 01 23 00.

I. ALTERNATE NO. 1: Replace ceiling tile in the main corridors located on rcp 1a10.01. Includes removing ceiling tiles and ceiling Mounted fixtures and replacing the fixtures in same locations.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

II. ALTERNATE NO. 2: New finishes for the existing performing arts, band, choir, orchestra , and storage areas: includes new paint, New flooring, new ceiling tile, and new acoustic panels. Refer to finish schedule.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

III. ALTERNATE NO. 3: NOT USED

IV. ALTERNATE NO. 4: Install new courtyard artificial turf at exterior courtyard re: sheet 2a02.01g. basis of design: field turf vintageblend-50 series, slit-film fiber, heavy and dense 2-layer pile on gravel bed. coordinate underground drainage with civil contact basis of design: tarkettsports;
Bernie Mulvaney; bernard.mulvaney@tarkettsports.com 281.546.046.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

V. ALTERNATE NO. 5: Install hydronic piping on roof deck in lieu of routing piping within building (deduct).

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

VI. ALTERNATE NO. 6: NOT USED

VII. ALTERNATE NO. 7: Install new masonry wall, refer to 2a01.01g.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

NOTE: THIS DOCUMENT MUST BE SUBMITTED ONLINE BY 2:00 PM ON JUNE 11, 2026

VIII. ALTERNATE NO. 8: Emergency communications equipment prep.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

IX. ALTERNATE NO. 9: Backlighting for night time viewing at exterior aluminum signage.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

ALTERNATE PROPOSALS (for HMS)

Undersigned shall provide the following alternate prices as described in Section 01 23 00.

X. ALTERNATE NO. 1: Replace ceiling tile in the main corridors located on RCP 1a10.01. Includes removing ceiling tiles and ceiling mounted fixtures and replacing the fixtures in same locations.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

XI. ALTERNATE NO. 2: New finishes for the existing performing arts, band, choir, orchestra , and storage areas: includes new paint, new flooring, new ceiling tile, and new acoustic panels. Refer to finish schedule.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

XII. ALTERNATE NO. 3: NOT USED

XIII. ALTERNATE NO. 4: Install new courtyard artificial turf at exterior courtyard re: sheet 2a02.01g. Basis of design: field turf Vintageblend-50 series, slit-film fiber, heavy and dense 2-layer pile on gravel bed. Coordinate underground drainage with civil contact basis of design:tarkettsports;
Bernie Mulvaney: bernard.mulvaney@tarkettsports.com 281.546.046.

Undersigned agrees to complete the Work for the lump sum amount of:

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

XIV. **ALTERNATE NO. 5**: Install hydronic piping on roof deck in lieu of routing piping within building (deduct).

Undersigned agrees to complete the Work for the lump sum amount of:

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

XV. **ALTERNATE NO. 6**: add supplemental lighting at HMS auditorium entrance. Refer to electrical drawings to confirm locations noted as part of this alternate.

Undersigned agrees to complete the Work for the lump sum amount of:

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

XVI. **ALTERNATE NO. 7**: NOT USED

XVII. **ALTERNATE NO. 8**: Emergency communications equipment prep.

Undersigned agrees to complete the Work for the lump sum amount of:

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

XVIII. **ALTERNATE NO. 9**: Backlighting for night time viewing at exterior aluminum signage.

Undersigned agrees to complete the Work for the lump sum amount of:

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

ALTERNATE PROPOSALS (for both AMS and HMS)

Undersigned shall provide the following alternate prices as described in Section 01 23 00

XIX. **ALTERNATE #10 – BASE BID CORRECTIONS:**

This alternate shall establish the amount to be added to/deducted from the Base Proposal in the event the Contractor has discovered an error in their Base Bid Proposal amount. The intent of this alternate is to receive accurate pricing numbers for Alternates 1-9 from all proposers.

Note: There is no scope associated with Alternate #10.

Undersigned agrees to complete the Work for the lump sum amount of:

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

XX. UNIT PRICES

Undersigned shall provide the following unit prices as described in Section 01 22 00, and shall agree to utilize these amounts for future changes in the work:

Item No. 1 – Additional Visual Alarm Device

Description: Furnish and install a new visual alarm device to an area the school, include all wiring and devices to make operational.
Unit of Measurement: Unit Cost.

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 2 – Additional Audio/Visual Alarm Device

Description: Furnish and install a new audio/visual alarm device to an area within the school, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 3 – Additional Manual Pull Station

Description: Furnish and install a new manual pull station to an area within the school, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 4 – Additional Duct Detector

Description: Furnish and install a new duct detector with remote indicator to an area within the building, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 5 – Additional Smoke Detector

Description: Furnish and install a new smoke detector to an area within the building, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost

_____ Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 6 – Additional Emergency Battery Pack
Description: Furnish and install an emergency battery pack in each florescent lighting fixture, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 7 – Additional Data Drop
Description: Furnish and install additional data drop, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 8 – Additional Duplex Outlet
Description: Furnish and install additional duplex outlet, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 9 – Additional Quadraplex Outlet
Description: Furnish and install additional quadraplex outlet, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 10 – Chill Water Hot Water Isolation
Description: Furnish and install additional hot and cold water valves for complete function of the chill water hot water system.
Unit of Measurement: Unit Cost.

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

Item No. 11 – Additional Concrete Sidewalk
Description: Furnish and install 100 SF of additional concrete sidewalk, refer drawings for details; include all material to provide finished product.
Unit of Measurement: Unit Cost.

_____Dollars $_____
(Amount written in words governs) (Amount in figures)

_____
Authorized Signature

_____
Title

(Seal, if a Corporation)
State whether Corporation,
or Individual

_____ Partnership
Name of Contracting Firm

_____
Address

_____
Telephone

_____
Date

END OF DOCUMENT 00 42 13

DOCUM7ENT 00 42 14.10
PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____, as Principal, and _____, as Surety, are held and firmly bound unto the Humble Independent School District, Harris County, Texas, hereinafter called the Owner, in the penal sum of_____Dollars ($_____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Proposal, dated_____, being for **CSP# 2026-05 AMS/HMS ADDITIONS**, the kind and extent of work involved being set forth in detail in the proposed Contract Documents cites herein.

NOW THEREFORE, if the Principal shall not withdraw the accompanying proposal within 90 days after the date set for opening thereof, and shall within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the owner in accordance with the Proposal as accepted; and give Bond and good and sufficient surety for the faithful performance and proper fulfillment of such contract including payment of all persons supplying labor or materials therefore, or in the event of the withdrawal of said proposal within the period specified, or the failure to enter into such contract and give such bond within the time specified, if the Principal shall pay to the Owner the difference between the aggregate amount for which the Owner may enter into a contract for the same work with another Respondent; if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above bonded parties have executed this instrument under their several seals this_____of_____, 2026, the name and Corporate Seal of each corporate party hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

_____ _____
Business Address Individual Principal

_____ _____
Business Address Individual Principal

ATTEST:

_____ _____
Secretary President

_____ _____
Business Address Corporate Surety

END OF DOCUMENET 00 42 14.10

NOTE: THIS INFORMATION MUST BE SUBMITTED ONLINE BY 2:00 PM on JUNE 11, 2026

DOCUMENT 00 45 23 - AFFIDAVIT OF NON-ASBESTOS, LEAD, AND PCB USE IN PROJECT

Upon completion of this form, return to the Architect upon close-out of the project.

PROJECT:
Humble Independent School District

ARCHITECT:
Pfluger Architects, Inc.
ARCHITECT'S PROJECT NO. 24-042

CONTRACTOR: _____ DATE: _____

(Name, address) _____

_____

AFFIDAVIT

The undersigned affirms and certifies that "to the best of their knowledge and belief asbestos, lead, and PCB containing materials have not been used or incorporated into the Work and lead or lead bearing materials have not been incorporated into potable water systems", including, but not limited to those water systems for drinking fountains, all sinks, showers, bath tubs, residential and commercial kitchen equipment, ice machines, and hose bibbs, as applicable to the project, and that lead sheet flashing used in through roof plumbing penetration applications is the only lead on the Project.

_____
Company

_____
Printed Name

_____
Signature

STATE OF TEXAS)
)
COUNTY OF_____)

Sworn to and subscribed before me at_____, Texas, this the _____ day of _____, 2026.

_____
Notary Public in and for_____County, Texas

NOTE: THIS DOCUMENT MUST BE EXECUTED AND SUBMITTED AT PROJECT CLOSE-OUT

ADDENDUM #2

SECTION 00 45 25 – RELEASE OF LIEN DOCUMENTS

APPENDIX

STATUTORY LIEN WAIVER FORMS

1. **CONDITIONAL WAIVER FOR PROGRESS PAYMENTS**
2. **UNCONDITIONAL WAIVER FOR PROGRESS PAYMENTS**
3. **CONDITIONAL WAIVER FOR FINAL PAYMENT**
4. **UNCONDITIONAL WAIVER FOR FINAL PAYMENT**

[Note: the attached forms are duplicated *verbatim* (without editing) from HB 1456.]

FORM 1: CONDITIONAL WAIVER FOR PROGRESS PAYMENTS

* * * * * * *

CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

Project: AMS/HMS ADDITIONS
Owner: Humble Independent School District

Job No.: CSP #2026-05

On receipt by the signer of this document of a check from _____

_____
(maker of check)

in the sum of $_____

payable to _____
(payee or payees of check) and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on

the property of _____
(owner)

located at _____
(location)

to the following extent: _____

_____
(job description).

This release covers a progress payment for all labor, services, equipment, or materials furnished to

the property or to _____
(person with whom signer contracted)

as indicated in the attached statement(s) or progress payment request(s), except for unpaid retention, pending modifications and changes, or other items furnished.
Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this progress payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project in regard to the attached statement(s) or progress payment request(s)."

Date: _____

_____(Company name)

By_____(Signature)

_____(Title)

FORM 2: UNCONDITIONAL WAIVER FOR PROGRESS PAYMENTS

* * * * * * *

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. IT IS PROHIBITED FOR A PERSON TO REQUIRE YOU TO SIGN THIS DOCUMENT IF YOU HAVE NOT BEEN PAID THE PAYMENT AMOUNT SET FORTH BELOW. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

UNCONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

Project: **AMS/HMS ADDITIONS**
Owner: Humble Independent School District

Job No.: CSP # **2026-05**

The signer of this document has been paid and has received a progress payment in the sum of

$_____ for all labor, services, equipment, or

materials furnished to the property or to _____
(person with whom signer contracted)

on the property of _____
(owner)

located at _____
(location)

to the following extent: _____

_____
(job description).

The signer therefore waives and releases any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the above referenced project to the following extent:

_____

_____

This release covers a progress payment for all labor, services, equipment, or materials furnished to the

property or to _____
(person)

with whom signer contracted) as indicated in the attached statement(s) or progress payment request(s), except for unpaid retention, pending modifications and changes, or other items furnished.

The signer warrants that the signer has already paid or will use the funds received from this progress payment to promptly pay in **full** all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project in regard to the attached statement(s) or progress payment request(s).

Date: _____

_____(Company name)

By_____(Signature)

_____(Title)

FORM 3: CONDITIONAL WAIVER FOR FINAL PAYMENT

* * * * * * *

CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

Project: **AMS/HMS ADDITIONS**
Owner: Humble Independent School District

Job No.: CSP #**2026-05**

On receipt by the signer of this document of a check from _____

_____
(maker of check)

in the sum of $_____

payable to: _____
(payee or payees of check)

and when the check has been properly endorsed and has been paid by the bank on which it is drawn, this document becomes effective to release any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position that the signer has on the property of _____

_____
(owner)

located at _____
(location)

to the following extent:_____

_____
(job description)

This release covers the final payment to the signer for all labor, services, equipment, or materials furnished to the property or to _____
(person with whom signer contracted).

Before any recipient of this document relies on this document, the recipient should verify evidence of payment to the signer.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

Date: _____

_____(Company name)

By_____(Signature)

_____(Title)

FORM 4: UNCONDITIONAL WAIVER FOR FINAL PAYMENT

* * * * * * *

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. IT IS PROHIBITED FOR A PERSON TO REQUIRE YOU TO SIGN THIS DOCUMENT IF YOU HAVE NOT BEEN PAID THE PAYMENT AMOUNT SET FORTH BELOW. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

UNCONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

Project: **AMS/HMS ADDITIONS**
Owner: Humble Independent School District

Job No.: CSP#**2026-05**

The signer of this document has been paid in full for all labor, services, equipment, or materials furnished to the property or to_____

_____
(person with whom signer contracted)

on the property of_____
(owner)

located at_____
(location)

to the following extent _____

_____
(job description).

The signer therefore waives and releases any mechanic's lien right, any right arising from a payment bond that complies with a state or federal statute, any common law payment bond right, any claim for payment, and any rights under any similar ordinance, rule, or statute related to claim or payment rights for persons in the signer's position.

The signer warrants that the signer has already paid or will use the funds received from this final payment to promptly pay in full all of the signer's laborers, subcontractors, materialmen, and suppliers for all work, materials, equipment, or services provided for or to the above referenced project up to the date of this waiver and release.

Date: _____

_____(Company name)

By_____(Signature)

_____(Title)

DOCUMENT 00 61 00
INSURANCE AND BONDS

1.01 GENERAL:

A. Prior to commencement of the Work, Contractor shall cause Certificates of Insurance and copies of all policies required in this Section to be submitted to the Owner by Contractor's insurer(s) evidencing coverage of the types, and for at least the limits, stated below.
   1. Certificate form: ACORD 25-S (7/90) accompanied by AIA Document G715 Supplemental Attachment, 2007 Edition.
   2. Each Certificate shall be signed by insurer's authorized representative.
   3. Certificates shall contain a provision that the policies cannot be cancelled unless 30 days prior written notice has been given to the Owner and the Architect.
   4. If spaces are otherwise to be left blank because coverage is not provided, enter "not covered" in the applicable space.
   5. Provide an explanation of any policy exclusions and restrictions on the Certificate or a signed attachment thereto.

B. Subcontractors' Worker's Compensation: Prior to commencement of the Work, Contractor shall obtain from each subcontractor on the Project (or from each subcontractor's insurer), and submit to the Owner, Certificates of Insurance evidencing Workers' Compensation coverage of the respective subcontractor's employees.

C. Policy Dates: If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the Policy Date or Retroactive Date shall predate the Contract; the Policy Termination date or applicable extended reporting period shall be no earlier that the termination date of coverages required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2 of the General Conditions.

D. Insurance and Bonds shall be written by a company or companies acceptable to the Owner and legally qualified to conduct business in the State of Texas. All insurance coverage shall be underwritten by a company or companies rated not less than "A" in Best's latest published guide.

E. The Owner, Architect and all Consultants listed in the Project Directory Page(s) of the Project Manual shall be listed as additional insureds on the Contractor's policy for this Project.

F. Include a provision for Waiver of Subrogation against Owner, Architect and the above-mentioned Consultants.

G. If Contractor requires coverages not herein provided for, Contractor shall effect such insurance by appropriate riders to the policy or policies required above.

H. Contractor shall deposit all sums received from insurance in an account separate from all other funds and shall distribute it in accordance with such agreement as the parties in interest may reach.

I. Copies of AIA forms may be obtained from The American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006, or the local AIA chapter.

1.02 INSURANCE COVERAGE TYPES AND MINIMUM LIMITS OF LIABILITY

A. Refer to the Supplementary Conditions that are included as part of this Project Manual.

END OF DOCUMENT

SECTION 00 61 10

CONTRACT DOCUMENTS

I. CONSTRUCTION CONTRACT AGREEMENT

A. The contract for the construction of the project shall be executed by the successful Offeror on the 2017 Edition of AIA Document A101 "Standard Form of Agreement Between Owner and Contractor." Said contract, fully executed, shall be delivered to the Owner within ten (10) days of receipt of said contract. The successful Offeror understands that this agreement applies only to the construction of Humble Independent School District's project: AMS/HMS ADDITIONS; CSP#2026-05

II. CONDITIONS OF THE CONTRACT

A. The General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition, as amended by Humble ISD is hereby specifically made a part of the Contract Documents, whether attached hereto or not; and as supplemented and amended herein, constitutes the General Conditions.

B. Supplementary Conditions

A. The Supplementary Conditions contain modifications to the General Conditions of the Contract for Construction. AIA Document A201, 2017 Edition, as amended by Humble ISD. Where any part of that document is modified by Supplementary conditions, the unaltered provisions of the General Conditions shall remain in effect. Refer to the Supplementary Conditions that are included as part of this Project Manual.

III. AVAILABILITY

A. Printed copies of these documents may be examined in the Architect's office. AIA Documents may be obtained from the Houston Chapter of the American Institute of Architects, 315 Capitol, Suite 120, Houston, Texas 77002; (713) 520-0155. Copies may also be obtained from local architects' supply stores.

B. Failure to obtain and examine these documents in no way relieves the Contractor, Subcontractors, Sub-subcontractors, and material suppliers of responsibilities incorporated in the Agreement.

END OF SECTION 00 61 10

DOCUMENT 00 61 13.13
TEXAS STATUTORY PERFORMANCE BOND
(Penalty of this bond must be 100% of contract amount)

Bond No.: _____

KNOW ALL MEN BY THESE PRESENTS, that _____
(hereinafter called the Principal), as Principal, and _____
a corporation organized and existing under the laws of the State of _____
authorized and admitted to do business in the State of Texas and licensed by the State of Texas to execute bonds as Surety (hereinafter called the Surety), are held and firmly bound unto

_____

_____

(hereinafter called the Obligee) in the amount of _____

_____

Dollars($_____) for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the _____ day of_____, 2026, for

HUMBLE INDEPENDENT SCHOOL DISTRICT

which contract is hereby referred to and made a part hereof as fully and the same extent as if copied at length herein.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform the Work in accordance with the plans, specifications and contract documents, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of the Texas Government code and all liabilities on this bond shall be determined in accordance with the provisions of said Chapter to the same extent as if it were copied at length herein.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this Instrument

this_____day of_____, 2026.

_____ _____
Principal

_____ BY: _____
Surety Address

_____
Surety

_____ BY: _____
Surety Telephone Number Attorney-in-Fact

ADDENDUM #2

DOCUMENT 00 61 13.16
TEXAS STATUTORY PAYMENT BOND
(Penalty of this bond must be 100% of contract amount)

Bond No.: _____

KNOW ALL MEN BY THESE PRESENTS, that _____
(hereinafter called the Principal), as Principal, and _____
a corporation organized and existing under the laws of the State of _____
authorized and admitted to do business in the State of Texas and licensed by the State of Texas to execute bonds as Surety (hereinafter called the Surety), are held and firmly bound unto

_____

_____

(hereinafter called the Obligee) in the amount of _____

_____

Dollars($_____) for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, dated the _____ day of_____, 2026, for

HUMBLE INDEPENDENT SCHOOL DISTRICT

which contract is hereby referred to and made a part hereof as fully and the same extent as if copied at length herein.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform the Work in accordance with the plans, specifications and contract documents, then this obligation shall be void; otherwise to remain in full force and effect.
PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 22.53 of the Texas Government Code and all liabilities on this bond to all such claimants shall be determined in accordance with the provisions of said Chapter to the same extent as if it were copied at length herein.
IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this Instrument

this_____day of_____, 2026.

Witness: _____ _____

Witness: Principal

_____ BY: _____

_____ _____

Surety Address Surety

_____ BY: _____

Surety Telephone Number Attorney-in-Fact

ADDENDUM #2

SECTION 00 72 00
GENERAL CONDITIONS

1.02 GENERAL CONDITIONS OF THE CONTRACT

A. The General Conditions of the Contract for this Project are stated in the following form, which follows this page.

1. AIA Document A201, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, 2017 Edition, as amended by Humble ISD.

1.03 SUPPLEMENTARY CONDITIONS

A. Certain articles of the General Conditions are revised or replaced by requirements of the Supplementary Conditions; Such revisions or replacements shall take precedence over the General Conditions. All provisions not specifically modified by Supplementary Conditions shall remain in effect.
B. Refer to the Supplementary Conditions that are included as part of this Project Manual.

END OF SECTION

ADDENDUM #2

SECTION 01 21 00 ALLOWANCES

PART 1 - GENERAL

ALL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances. Selected materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued.

B. Types of Allowances may include the following:
1. Betterment and Contingency allowances.

1.03 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise the Architect of the date when the final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At the Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by the Architect from the designated supplier.

1.04 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to show the actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.05 BETTERMENT AND CONTINGENCY ALLOWANCES

A. Use the betterment and contingency allowance only as directed by Architect and Owner for the Owner's purposes and only by Contingency Allowance Expenditure Authorization that indicate amounts to be charged to the allowance.

B. Contingency Allowance Expenditure Authorizations authorizing use of funds from the betterment and contingency allowance will include Contractor's related material and labor costs. Overhead and profit for betterment and contingency allowances is included in contract sum and therefore contractor overhead and profit shall not be added to cost amounts charged to this allowance.

C. At Project closeout, credit 100% unused amounts remaining in the betterment and contingency allowance to the Owner by Change Order.

1.06 STIPULATED SUM ALLOWANCES

A. Use the stipulated sum allowance for the purchase of materials, labor, installation, overhead and profit to be included in the contract sum. Any difference in cost and allowance will be returned to the Owner.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine products covered by an allowance promptly upon delivery for damage or defects.

3.02 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.03 SCHEDULE OF ALLOWANCES

A. ALLOWANCES FOR AMS

1. Allowance No. 1:
Owner's Contingency = $400,000.00

2. Allowance No. 2:
Graphics = $50,000.00

3. Allowance No. 3:
Landscape = $40,000.00

4. Allowance No. 4:
Signage = $20,000.00

5. Allowance No. 5:
Emergency Responder Radio = $50,000.00

A. ALLOWANCES FOR HMS

1. Allowance No. 1:
Owner's Contingency = $400,000.00

2. Allowance No. 2:
Graphics = $50,000.00

3. Allowance No. 3:
Landscape = $40,000.00

4. Allowance No. 4:
Signage = $20,000.00

5. Allowance No. 5:
Emergency Responder Radio = $50,000.00

END OF SECTION 01 21 00

SECTION 01 22 00 UNIT PRICES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. CONDITIONS OF THE CONTRACT AND DIVISION 1, as applicable, apply to this Section.

B. Measurement and payment criteria applicable to portions of the Work performed under a unit price payment method.

C. Defect assessment and non-payment for rejected work.

1.02 AUTHORITY

A. Measurement methods delineated in the individual specification sections complement the criteria of this Section. In the event of conflict, the requirements of the individual specification section govern.

B. Take all measurements and compute quantities. The Architect will verify measurements and quantities.

1.03 UNIT QUANTITIES SPECIFIED

A. Quantities indicated in the Contract Documents are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Architect determine payment.

B. If the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit sum/prices contracted.

C. If the actual Work requires a 25 percent or greater change in quantity than those quantities indicated, the Owner or Contractor may claim for a Contract Price adjustment.

1.04 MEASUREMENT OF QUANTITIES

A. Measurement Devices:

1. Weigh Scales: Inspected, tested and certified by the applicable State Weights and Measures Department within the past year.

2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.

3. Metering Devices: Inspected, tested and certified by the applicable State department within the past year.

B. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.

C. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.

D. Measurement by Area: Measured by square dimension using mean length and width or radius.

E. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

F. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

1.05 PAYMENT

A. Payment Includes: Full compensation for all required labor, Products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

B. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Architect multiplied by the unit/sum price for Work which is incorporated in or made necessary by the Work.

1.06 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Architect, it is not practical to remove and replace the Work, the Architect will direct one (1) of the following remedies:

1. The defective Work may remain, but the unit sum/price will be adjusted to a new sum/price or reduced 50 percent at the discretion of the Architect.

2. The defective Work will be partially repaired to the instructions of the Architect, and the unit sum/price will be adjusted to a new sum/price or reduced 50 percent at the discretion of the Architect.

C. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.

D. The authority of the Architect to assess the defect and identify payment adjustment is final.

1.07 NON-PAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for any of:
1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the lines and levels of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling and disposing of rejected Products.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.01 SCHEDULE OF UNIT PRICES

Item No. 1 – Additional Visual Alarm Device

Description: Furnish and install a new visual alarm device to an area the school, include all wiring and devices to make operational.
Unit of Measurement: Unit Cost.

Item No. 2 – Additional Audio/Visual Alarm Device

Description: Furnish and install a new audio/visual alarm device to an area within the school, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

Item No. 3 – Additional Manual Pull Station

Description: Furnish and install a new manual pull station to an area within the school, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

Item No. 4 – Additional Duct Detector

Description: Furnish and install a new duct detector with remote indicator to an area within the building, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost

Item No. 5 – Additional Smoke Detector

Description: Furnish and install a new smoke detector to an area within the building, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost

Item No. 6 – Additional Emergency Battery Pack

Description: Furnish and install an emergency battery pack in each florescent lighting fixture, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

Item No. 7 – Additional Data Drop

Description: Furnish and install additional data drop, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

Item No. 8 – Additional Duplex Outlet

Description: Furnish and install additional duplex outlet, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

Item No. 9 – Additional Quadraplex Outlet

Description: Furnish and install additional quadraplex outlet, include all wiring and devices to make fully operational.
Unit of Measurement: Unit Cost.

Item No. 10 – Chill Water Hot Water Isolation
Description: Furnish and install additional hot and cold water valves for complete function of the chill water hot water system.

Item No. 11 – Additional Concrete Sidewalk
Description: Furnish and install 100 SF of additional concrete sidewalk, refer drawings for details; include all material to provide finished product.

END OF SECTION 01 22 00

SECTION 01 23 00 ALTERNATES

PART 1 -GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements governing Alternates.

1 .02 DEFINITIONS

A. Definition: An alternate is an amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

B. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate the Alternate into the Work. No other adjustments are made to the Contract Sum.

1.03 PROCEDURES

A. Coordination: Modify or adjust affected adjacent Work as necessary to completely and fully integrate that Work into the Project.

B . Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate. Include as part of each alternate, costs coordination, modification, and/or adjustment to accommodate the accepted alternate.

C. Notification: Immediately following the award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate whether alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION

3.01 GENERAL

A. Execute accepted alternates under the same conditions as other Work of this Contract.

3.02 SCHEDULE OF ALTERNATES

A. ALTERNATE PROPOSALS (for AMS)

1. **ALTERNATE NO. 1**: REPLACE CEILING TILE IN THE MAIN CORRIDORS LOCATED ON RCP 1A10.01. INCLUDES REMOVING CEILING TILES AND CEILING MOUNTED FIXTURES AND REPLACING THE FIXTURES IN SAME LOCATIONS.

2. **ALTERNATE NO. 2**: NEW FINISHES FOR THE EXISTING PERFORMING ARTS, BAND, CHOIR, ORCHESTRA , AND STORAGE AREAS: INCLUDES NEW PAINT, NEW FLOORING, NEW CEILING TILE, AND NEW ACOUSTIC PANELS. REFER TO FINISH SCHEDULE.

3. **ALTERNATE NO. 3**: NOT USED

4. **ALTERNATE NO. 4**: INSTALL NEW COURTYARD ARTIFICIAL TURF AT

EXTERIOR COURTYARD RE: SHEET 2A02.01G. BASIS OF DESIGN: FIELD TURF VINTAGEBLEND-50 SERIES, SLIT-FILM FIBER, HEAVY AND DENSE 2-LAYER PILE ON GRAVEL BED. COORDINATE UNDERGROUND DRAINAGE WITH CIVIL CONTACT BASIS OF DESIGN: TARKETTSPORTS, BERNIE MULVANEY; BERNARD.MULVANEY@TARKETTSPORTS.COM 281.546.046.

5. **ALTERNATE NO. 5**: INSTALL HYDRONIC PIPING ON ROOF DECK IN LIEU OF ROUTING PIPING WITHIN BUILDING (DEDUCT).

6. **ALTERNATE NO. 6**: NOT USED

7. **ALTERNATE NO. 7**: INSTALL NEW MASONRY WALL, REFER TO 2A01.01G.

8. **ALTERNATE NO. 8:** EMERGENCY COMMUNICATIONS EQUIPMENT PREP.

9. **ALTERNATE NO. 9:** BACKLIGHTING FOR NIGHTIME VIEWING AT EXTERIOR ALUMINUM SIGNAGE .

~~10. **ALTERNATE #10 - BASE BID CORRECTIONS:**~~

~~THIS ALTERNATE SHALL ESTABLISH THE AMOUNT TO BE ADDED TO/DEDUCTED FROM THE BASE PROPOSAL IN THE EVENT THE CONTRACTOR HAS DISCOVERED AN ERROR IN THEIR BASE BID PROPOSAL AMOUNT. THE INTENT OF THIS ALTERNATE IS TO RECEIVE ACCURATE PRICING NUMBERS FOR ALTERNATES 1-9 FROM ALL PROPOSERS.~~

~~NOTE: THERE IS NO SCOPE ASSOCIATED WITH ALTERNATE #10.~~

B. <u>ALTERNATE PROPOSALS (for HMS)</u>

1. **ALTERNATE NO. 1:** REPLACE CEILING TILE IN THE MAIN CORRIDORS LOCATED ON RCP 1A10.01. INCLUDES REMOVING CEILING TILES AND CEILING MOUNTED FIXTURES AND REPLACING THE FIXTURES IN SAME LOCATIONS.

2. **ALTERNATE NO. 2:** NEW FINISHES FOR THE EXISTING PERFORMING ARTS, BAND, CHOIR, ORCHESTRA , AND STORAGE AREAS: INCLUDES NEW PAINT, NEW FLOORING, NEW CEILING TILE, AND NEW ACOUSTIC PANELS. REFER TO FINISH SCHEDULE.

3. **ALTERNATE NO. 3:** NOT USED

4. **ALTERNATE NO. 4:** INSTALL NEW COURTYARD ARTIFICIAL TURF AT EXTERIOR COURTYARD RE: SHEET 2A02.01G. BASIS OF DESIGN: FIELD TURF VINTAGEBLEND-50 SERIES, SLIT-FILM FIBER, HEAVY AND DENSE 2-LAYER PILE ON GRAVEL BED. COORDINATE UNDERGROUND DRAINAGE WITH CIVIL CONTACT BASIS OF DESIGN:TARKETTSPORTS, BERNIE MULVANEY: BERNARD.MULVANEY@TARKETTSPORTS.COM 281.546.046.

5. **ALTERNATE NO. 5:** INSTALL HYDRONIC PIPING ON ROOF DECK IN LIEU OF ROUTING PIPING WITHIN BUILDING (DEDUCT).

6. **ALTERNATE NO. 6:** ADD SUPPLEMENTAL LIGHTING AT HMS AUDITORIUM ENTRANCE. REFER TO ELECTRICAL DRAWINGS TO CONFIRM LOCATIONS NOTED AS PART OF THIS ALTERNATE.

7. **ALTERNATE NO. 7:** NOT USED

8. **ALTERNATE NO. 8:** EMERGENCY COMMUNICATIONS EQUIPMENT PREP.

9. **ALTERNATE NO. 9:** BACKLIGHTING FOR NIGHTIME VIEWING AT EXTERIOR ALUMINUM SIGNAGE.

~~10. **ALTERNATE #10 – BASE BID CORRECTIONS:**~~
~~THIS ALTERNATE SHALL ESTABLISH THE AMOUNT TO BE ADDED TO/DEDUCTED FROM THE BASE PROPOSAL IN THE EVENT THE CONTRACTOR HAS DISCOVERED AN ERROR IN THEIR BASE BID PROPOSAL AMOUNT. THE INTENT OF THIS ALTERNATE IS TO RECEIVE ACCURATE PRICING NUMBERS FOR ALTERNATES 1-9 FROM ALL PROPOSERS.~~
~~NOTE: THERE IS NO SCOPE ASSOCIATED WITH ALTERNATE #10.~~

C. ALTERNATE PROPOSALS (for Both AMS & HMS)

10. ALTERNATE #10 – BASE BID CORRECTIONS:
THIS ALTERNATE SHALL ESTABLISH THE AMOUNT TO BE ADDED TO/DEDUCTED FROM THE BASE PROPOSAL IN THE EVENT THE CONTRACTOR HAS DISCOVERED AN ERROR IN THEIR BASE BID PROPOSAL AMOUNT. THE INTENT OF THIS ALTERNATE IS TO RECEIVE ACCURATE PRICING NUMBERS FOR ALTERNATES 1-9 FROM ALL PROPOSERS.
NOTE: THERE IS NO SCOPE ASSOCIATED WITH ALTERNATE #10.

END OF SECTION 01 23 00

SECTION 02 80 00 ASBESTOS ABATEMENT

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including the General and Supplementary Conditions, if any, and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes the performance specification for the removal and legal disposal from the site of the asbestos containing materials on the existing building, the extent of which is indicated in the Drawings. In the case of uncertainty, confirm location(s) with the Architect.

1.3 RELATED SECTIONS

A. Coordinate the work of this Section with the work of other sections, including Division 01 Sections, if any, as required to properly execute the work and as necessary to maintain the satisfactory progress of the work.

1.3 DEFINITIONS

A. Asbestos Abatement: Asbestos abatement is the regulated process of identifying, containing, removing, or sealing asbestos-containing materials to prevent the release of hazardous fibers into the air.

B. Asbestos Abatement Contractor, Contractor, Etc.: Wherever the term “Asbestos Abatement Contractor”, “Contractor”, or any derivative thereof appears in the Contract Documents, they mean the same and shall refer to the entity (person or firm) licensed and meeting all applicable regulations to perform the work in the state where the project is located, or their authorized representative.

1. Under Texas Administrative Code (TAC) § 296.50, an asbestos abatement contractor is defined as a person who is licensed to perform asbestos abatement work in a public building for others under contract, agreement, or other designation.

C. Regulated Area: A regulated area is established whenever employee exposure to hazardous substances, such as asbestos or respirable crystalline silica, exceeds or is reasonably expected to exceed the permissible exposure limit (PEL) set by OSHA. The purpose of these areas is to minimize exposure, protect workers, and ensure compliance with safety standards (OSHA 29 CFR 1910.1001, 1926.1101, 1910.1053).

1.4 ASBESTOS ABATEMENT REPORT

A. Asbestos Abatement Investigation (Asbestos Survey Report): For the information and convenience of the Contractor, an Asbestos Abatement Investigation or Asbestos Survey Report has or will be prepared by others for the Owner, and a copy will be made available from the Owner.

1.4 DISCLAIMER

A. Neither the Owner, Architect, nor any of the Architect's consultants warrant the applicability, adequacy or accuracy of the information contained in the above-mentioned document.

B. This document should not be relied on for the asbestos abatement without an on-site verification by the Contractor that the actual conditions are as reported.

C. The Contractor shall field-verify the actual site conditions at the time of abatement. If such conditions are found to differ from those reported, the Contractor shall immediately notify the Owner and Architect, and request further instructions, cease work affected and proceed with such work only when further instructions have been received from the Owner and Architect.

D. If the Contractor desires to verify the current conditions, an additional investigation or survey performed at Contractor's own expense. Owner must grant permission for access to the site prior to the start of any such investigation and such investigation shall not disrupt or interfere with any on going operations at the site.

1.5 PRE ABATEMENT CONFERENCE

A. Pre-Abatement Conference: The Contractor shall conduct a pre-abatement conference at the project site with the Architect, Owner, Contractor, Asbestos Abatement Contractor, and any relevant consultants, or their representatives present to review the means, methods, and procedures related to the asbestos abatement including, but not limited to, the following:

1. Inspection and discussion of the condition of the asbestos material to be abated.
2. Review and finalize the asbestos abatement schedule and verify the availability of personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review and finalize protection requirements.
4. Review procedures for noise control and dust control.
5. Review and finalize removal and disposal procedures.

1.6 SUBMITTALS

A. Qualification Data: For the Asbestos Abatement Contractor.

B. Proposed Protection Measures: Submit informational report, including drawings, if any, that indicate the measures proposed for the protection of individuals and property, and for environmental protection, dust control, and noise control. Indicate proposed locations and construction of barriers.

C. Schedule of Asbestos Abatement Activities: Indicate the following:

1. Detailed sequence of asbestos abatement work, with starting and ending dates for each activity.

1.7 QUALITY ASSURANCE

A. This Section outlines minimum standards and requirements. Refer to the Asbestos Abatement Investigation or Asbestos Survey, and the Drawings for additional requirements. In case of conflicts and discrepancies between documents, the information in the Asbestos Abatement Investigation or Asbestos Survey shall take precedence. Bring all such conflicts and discrepancies to the attention of the Owner and Architect and do not start work until such conflicts and discrepancies are clarified.

B. Abatement Contractor Qualifications: An entity (person or firm) licensed and meeting all applicable regulations in the state where the project is located to perform the work and having a minimum of five (5) years of experience in the asbestos abatement of buildings of the size and scope of this Project.

C. Regulatory Requirements:
1. Comply with Occupational Safety & Health Administration (OSHA) 29 CFR 1926.1101 regulations governing the demolition or salvage of structures where asbestos or materials containing asbestos are present.
2. Comply with Texas asbestos regulations which are primarily administered by the Texas Department of State Health Services (DSHS) under the Texas Asbestos Health Protection Act, codified in Texas Occupations Code Chapter 1954, and implemented through Title 25, Chapter 296 of the Texas Administrative Code.
3. Comply with Environmental Protection Agency (EPA) regulations governing asbestos abatement, removal, and disposal.
   a. The Environmental Protection Agency (EPA) has established several key regulations concerning asbestos, which include the following:
      1) Asbestos-Containing Materials in Schools Rule (AHERA): This regulation requires local educational agencies to inspect school buildings for asbestos-containing materials, develop management plans, and perform necessary response actions to mitigate asbestos hazards.
      2) Toxic Substances Control Act (TSCA): This act defines asbestos and mandates that manufacturers report production data to the EPA. It also provides the framework for regulating asbestos in various applications, including the requirement for training and accreditation of individuals conducting asbestos-related activities.
      3) National Emission Standards for Hazardous Air Pollutants (NESHAP): These regulations specify work practices for asbestos during demolitions and renovations of buildings, requiring notification to state agencies before any work begins on structures that may contain asbestos.
      4) Asbestos Abatement Regulations: The EPA has established guidelines for the safe removal and disposal of asbestos-containing materials to minimize exposure risks during abatement activities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. The Contractor shall use materials that meets or exceeds the stricter requirements of OSHA, EPA, Texas Department of State Health Services (DSHS) authorities having jurisdiction for site (barricades, sheeting, and posting of warning signs) and personnel protection, removal encapsulant, equipment, bagging, and disposal of asbestos containing materials (ACM).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that site environmental conditions are appropriate, work area is in proper condition, and protective measures are in place prior to beginning the asbestos removal work.

3.2 CONTRACTOR'S RESPONSIBILITIES

A. As scope and performance documents, the Drawings and these Specifications do not necessarily indicate or describe all the work required for the performance and completion of the asbestos abatement work on the Project. Contracts will be made on the basis, of such documents, with the understanding that the Contractor shall provide all materials, personnel, asbestos abatement, and legal disposal of waste from the Project site without adjustment to price or schedule.

B. As a performance specification, the criteria for the asbestos abatement solution either indicated in the Drawings or specified herein are for the sole purpose of defining the intent and performance requirements for this Project. To avoid any misunderstanding or lack of interpretation, the Contractor is hereby advised that the responsibility for the asbestos abatement work is totally his and that all asbestos abatement work will meet or exceed the requirements of all authorities having jurisdiction.

C. Contractor's proposal submissions which follow exactly the details indicated in the Drawings, if any, will not relieve the Contractor of his responsibility for the performance of the asbestos abatement work required on the Project.

3.3 CLEANUP PROCEDURE

A. Remove and containerize all visible accumulations of asbestos containing material and asbestos contaminated debris utilizing rubber dust pans and rubber squeegees to move material around. Do not use metal shovels to pick up or move accumulated waste. Special care shall be taken to minimize damage to floor or ground sheeting or protection.

B. Wet clean all surfaces in the regulated area using rags, mops and sponges as appropriate. (Note: Some HEPA vacuums might not be wet-dry vacuums.)

C. Prior to removing the inner layer of plastic sheeting, the sheeting shall be sprayed with an encapsulant, so that any residue remaining will be adhered to the plastic sheeting.

D. Remove the cleaned inner layer of plastic sheeting from walls and floors. Windows, doors, HVAC system vents and all other openings shall remain sealed. The negative pressure ventilation units, if any, shall remain in continuous operation. Decontamination enclosure systems, if any, shall remain in place and be utilized.

E. Remove all containerized waste from the regulated area and waste container pass-out airlock.

F. The Contractor shall inspect the regulated area for visible residue. If any accumulation of residue is observed, it will be assumed to be asbestos, and the cleaning cycle shall be repeated.

G. After cleaning the regulated area, the Contractor may either spray the remaining barrier material with encapsulant or wait at least 24 hours to allow fibers to settle and HEPA vacuum and wet clean all objects and surfaces in the regulated area again.

H. Decontaminate all tools and equipment and remove them at the appropriate time in the cleaning sequence.

I. The regulated area shall be cleaned until it is in compliance with clearance testing required by authorities having jurisdiction.

J. Following the satisfactory completion of clearance air testing remaining barriers shall be removed and properly disposed of prior to other trades occupying the area. All fixed objects within the area, which were covered with polyethylene prior to abatement work, shall be uncovered and thoroughly cleaned. A final visual inspection by the Contractor shall ensure that no contamination remains in the regulated area. Unsatisfactory conditions require additional cleaning and air testing.

END OF SECTION

TEXAS Department of State Health Services

For Office Use Only:

Notification #:_____

ASBESTOS/DEMOLITION NOTIFICATION FORM

DO NOT WRITE IN THIS BOX- FOR DEPARTMENT USE ONLY
Date received:___/___/___ Postmark date:___/___/___ Walk-in date:___/___/___

TYPE OF NOTIFICATION: ***(Select one and fill in the requested information)***

☐ **ORIGINAL** ☐ **AMENDMENT No. ___** ☐ **CANCELLATION**

☐ **EMERGENCY**

- Was emergency request made to the Regional Office or Environmental Health Notifications Group (EHNG) by phone?

☐Yes ☐No

- If yes, the DSHS reference #:_____ and name of the Regional or EHNG representative with whom you spoke?

_____

Date: __/__/__ Time: _____ ☐a.m. ☐p.m.

- Describe the reason for Emergency: _____

_____

☐ **ORDERED: (*For structurally unsound facilities, attach copy of demolition order and identify Governmental Official)***

Name: _____ Registration No. _____

Title: _____

Date of order (MM/DD/YY): __/__/__ Date order to begin (MM/DD/YY): __/__/__

(x) Below if Amended

AMENDMENTS: ***You must complete the entire form and mark the appropriate check box(es) along the left-hand side of this form to indicate amended information.***

TYPE OF WORK

☐ Asbestos Abatement ☐ Demolition ☐ Annual Consolidated O&M ☐ Abatement/Demolition

Is this a phased project? ☐ Yes ☐ No

FACILITY INFORMATION

1. Facility Location

☐……. Description or Facility Name: _____

☐……. Physical Address: _____

☐……. County: _____ City: _____ Zip: _____

☐……. Facility Contact: _____ Phone #: (___) ___-____

2. Type of Facility ***(Select one)***

☐ Public ☐ Federal ☐ Industrial/Manufacturing ☐ NESHAP-Only ☐ Public School K-12

3. Facility Details

☐…… Description of Area/Room Number: _____
☐…… Age of Building: ____ Size: _____ Number of Floors: ___
☐…… Is this building occupied? ☐ Yes ☐ No
☐…… Prior Use: _____
☐…… Future Use: _____
☐…… Date of Asbestos Survey/NESHAP Inspection: __/__/__
☐…… DSHS Inspector License #: _____
☐…… Analytical Method: ☐ PLM ☐ TEM ☐ Assumed Asbestos ☐ No Suspect Material
☐…… DSHS Laboratory License #: _____

WORK SCHEDULE/ASBESTOS AMOUNTS (***Note: if the start date(s) entered below cannot be met, the DSHS Regional or Local Program office must be notified prior to the scheduled start date. Failure to do so is a violation of TAHPA Section 295.61.)***

1. Asbestos Abatement Work Schedule:

☐…… Start date: __/__/__ and End date: __/__/__
☐…… Work days: ☐Mon. ☐Tues. ☐Wed. ☐Thurs. ☐Fri. ☐Sat. ☐Sun.
☐…… Working hours: _____ ☐ a.m. ☐ p.m. to _____ ☐a.m. ☐p.m.

2. Demolition Work Schedule:

☐…… Start date: __/__/__ and End date: __/__/__
☐…… Work days: ☐Mon. ☐Tues. ☐Wed. ☐Thurs. ☐Fri. ☐Sat. ☐Sun.
☐…… Working hours: _____ ☐ a.m. ☐ p.m. to _____ ☐a.m. ☐p.m.

(x) Below if Amended

C. ASBESTOS AMOUNTS

☐…… Is Asbestos Present? ☐ Yes ☐ No ***(Complete the table below if asbestos is present)***

Asbestos-Containing Building Material Type	**Approximate amount of Asbestos**						
Only mark the boxes below on this chart if they are being amended	**Pipes**	**Ln Ft**	**Ln M**	**Surface Area**	**SQ Ft**	**SQ M**	**Cu Ft**
☐**RACM to be removed**		☐	☐		☐	☐	
☐**RACM left in place during demolition**		☐	☐		☐	☐	
☐**Interior Category I non-friable removed**		☐	☐		☐	☐	
☐**Exterior Category I non-friable removed**		☐	☐		☐	☐	
☐**Category I non-friable left in place during demolition**		☐	☐		☐	☐	
☐**Interior Category II non-friable removed**		☐	☐		☐	☐	
☐**Exterior Category II non-friable removed**		☐	☐		☐	☐	
☐**Category II non-friable left in place during demolition**		☐	☐		☐	☐	
☐**RACM Off-Facility Component**							

DESCRIPTION OF WORK PRACTICES AND PROCEDURES

☐…… **1**. Description of procedures to be followed in the event that unexpected asbestos is found or previously non-friable asbestos
material becomes crumbled, pulverized, or reduced to powder: _____
_____
_____

☐…… **2.** Description of planned demolition or abatement work, type of material, and method(s) to be used: _____

_____
_____

☐……. **3.** Description of work practices and engineering controls to be used to prevent emissions of asbestos at the demolition site:

_____
_____
_____

PROJECT INFORMATION

☐…… **A. FACILITY OWNER**
Facility Owner Name: _____
Phone #: (___) ___ - ____
Attention: _____
Mailing Address: _____
City: _____ State: _____ Zip: _____

☐…… **B. ASBESTOS ABATEMENT CONTRACTOR #1**
DSHS Asbestos Contractor License #: _____
Contractor Name:

Address: _____
City: _____ State: _____ Zip: _____
Office Phone #: (___) ___ - ____ Job-Site Phone #: (___) ___ - ____

☐…… **C. ASBESTOS ABATEMENT CONTRACTOR #2 (O*nly if there is more than one Contractor)***
DSHS Asbestos Contractor License #: _____
Contractor Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Office Phone #: (___) ___ - ____ Job-Site Phone #: (___) ___ - ____

D. ASBESTOS SUPERVISOR
☐…… DSHS Supervisor License #: _____ Site Supervisor: _____
☐…… DSHS Supervisor License #: _____ Site Supervisor: _____

(x) Below if Amended **E. NESHAP TRAINED INDIVIDUAL**
☐…… NESHAP Trained Individual:
Certification Date: __/__/__

☐……**F. DEMOLITION CONTRACTOR**
Demolition Contractor: _____
Address: _____
City: _____ State: _____ Zip: _____ Phone #: (___) ___ - ____

☐……**G. PROJECT CONSULTANT OR OPERATOR**
DSHS License No.: _____
Project Consultant or Operator: _____
Address: _____

City: _____ State: _____ Zip: _____ Phone #: (___) ___-____

☐ ..... **H. Waste Transporter**
DSHS Waste Transporter License #: _____
Waste Transporter: _____
Address: _____
City: _____ State: _____ Zip: _____
Contact Person: _____Phone #: (___) ___-____

☐ .....**I. Waste Disposal Site**
TCEQ Permit #: _____
Waste Disposal Site: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone #: (___) ___-____

CERTIFICATION STATEMENT

I hereby declare that I have examined this notification and, to the best of my knowledge and belief, all information provided is complete, true, and correct. I affirm that I am the owner, operator, or delegated agent and that I am responsible for the fee associated with this notification. I also understand that the owner, operator, or delegated agent is responsible for notification to the department.

_____ Date: __/__/__
(Signature of Owner, Operator or Delegated Agent)

_____
(Printed Name & Title)

E-mail Address: _____ Phone #: (___) ___-____

IMPORTANT INFORMATION

NOTIFICATION TIMELINESS REQUIREMENT:
Your Asbestos/Demolition Notification form must be postmarked no less than ten working days (not calendar days) prior to the start of any asbestos abatement or demolition.

FILING FEE: An invoice will be mailed to the facility owner upon completion of the project.

CALL FOR ASSISTANCE: (512) 834-6747 or (888) 778-9440 (toll free in Texas)

MAIL FORM TO: ENVIRONMENTAL HEALTH NOTIFICATIONS GROUP
TEXAS DEPARTMENT OF STATE HEALTH SERVICES
PO BOX 143538
AUSTIN, TX 78714-3538

(Insert [illegible])

(Insert name of Owner): _____

The undersigned Contractor hereby certifies and affirms that the building materials used for construction by the Contractor or any person or firm representing or represented by the Contractor, do not contain any asbestos materials or any other prohibited materials as defined by laws, rules and regulations promulgated by the Federal Government, The State of Texas, and any governmental organization operating under these entities, except when specifically authorized in writing by the Owner. A copy(s) of that (those) authorization(s), if any is (are) attached.

The undersigned Contractor hereby certifies and affirms that the Contractor shall be totally responsible for any and all costs incurred in removing any asbestos or prohibited materials determined to be part of the building materials as a result of inspection and sample analysis performed by individuals or firms certified to perform asbestos prohibited materials inspection and sample analysis under the laws, rules and regulations of the Federal Government and the State of Texas.

The undersigned Contractor hereby certifies and affirms that the Contractor shall pay for any and all damages resulting from the inability of the Owner to comply with all laws, rules and regulations governing the Asbestos Hazard Emergency Response Act of 1987, and all other laws, rules and regulations governing public buildings.

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument this _____ day of _____, 20__.

_____
Authorized Signature - Print Name & Title

Company Name: _____

Personally appeared before the undersigned, _____, who, after being sworn, deposes and says that the facts stated in the above certification are true.

_____ for the State of Texas
Notary Public

_____ My Commission Expires
Printed Name of Notary Public

Notary Seal:

CONTRACTOR'S AFFIDAVIT OF NON-USE OF LEAD

The undersigned affirms and certifies that "to the best of their knowledge and belief lead and PCB containing materials have not been used or incorporated into the Work and lead or lead bearing materials have not been incorporated into potable water systems", including, but not limited to those water systems for drinking fountains, all sinks, showers, bath tubs, residential and commercial kitchen equipment, ice machines, and hose bibbs, as applicable to the project, and that lead sheet flashing used in through roof plumbing penetration applications is the only lead on the project.

DATE: _____

PROJECT NAME: _____

OWNER: _____

JOB DESCRIPTION: _____

_____

_____

_____

CONTRACTOR: _____

_____

CONTRACTOR'S SIGNATURE _____ DATE _____

Failure to complete this certificate constitutes non-compliance with the job specifications and an unacceptable job.

Signed before me this _____ day of _____, 20_____.

_____ for the State of Texas
Notary Public

_____ My Commission Expires
Printed Name of Notary Public

Notary Seal:

SUBCONTRACTOR'S / MATERIAL SUPPLIER'S AFFIDAVIT

STATE OF TEXAS
COUNTY OF _____

BEFORE ME, the undersigned authority, on this day personally appeared _____ personally known to me to be the person whose name is subscribed hereto, and who, upon his oath deposes and says as follows:_____

_____

That he, as subcontractor and/or material supplier, furnished certain labor and materials which form a part of certain improvements constructed on the following property, to wit:

(Insert project name):_____

(Insert name of owner):_____
and that he personally knows that all bills for materials furnished and labor performed in connection with his subcontract/purchase order on the improvements constructed on the above described property have been fully paid.

He further covenants and guarantees that there are no other person or firms whatsoever (materials, supplies, laborers or others in any way involved in the furnishing of goods and/or work or labor on his subcontractor and / or materials purchase order heretofore had, now have, or may hereafter be entitled to any liens or claims against the above set out property.

He does further agree to hold the Contractor and/or Owner wholly harmless and/or fully indemnify them against any and all liens, claims or demands of any or every kink and nature which may in any way arise out of the furnishing of any of the materials, labor or other services or products in connection with my subcontract and/or supplier of materials.

_____
Name of Subcontractor/Material Supplier

By _____

BEFORE ME, a Notary Public, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument, after being duly sworn, deposed and said that the facts stated above are true. Given under my hand and seal office this _____ day of _____ _____, 20____.

_____ for the State of Texas
Notary Public

_____ My Commission Expires
Printed Name of Notary Public

Notary Seal:

AFFIDAVIT OF NON-USE OF UREA-FORMALDEHYDE

(Insert project name):_____

(Insert name of Owner):_____

The undersigned Contractor hereby certifies and affirms that the building materials used for construction by the Contractor or any person or firm representing or represented by the Contractor, do not contain any urea-formaldehyde materials or any other prohibited materials as defined by laws, rules and regulations promulgated by the Federal Government, The State of Texas, and any governmental organization operating under these entities, except when specifically authorized in writing by the Owner. A copy(s) of that (those) authorization(s), if any is (are) attached.

The undersigned Contractor hereby certifies and affirms that the Contractor shall be totally responsible for any and all costs incurred in removing any urea-formaldehyde or prohibited materials determined to be part of the building materials as a result of inspection and sample analysis performed by individuals or firms certified to perform asbestos prohibited materials inspection and sample analysis under the laws, rules and regulations of the Federal Government and the State of Texas.

The undersigned Contractor hereby certifies and affirms that the Contractor shall pay for any and all damages resulting from the inability of the Owner to comply with all laws, rules and regulations governing public buildings

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument this _____ day of _____, 20____.

_____
Authorized Signature - Print Name & Title

Company Name: _____

Personally appeared before the undersigned, _____, who, after being sworn, deposes and says that the facts stated in the above certification are true.

_____ for the State of Texas
Notary Public

_____ My Commission Expires
Printed Name of Notary Public

Notary Seal:

AFFIDAVIT OF LIMITED USE OF UREA-FORMALDEHYDE FOR HARDWOOD PLYWOOD, PARTICLEBOARD OR MEDIUM DENSITY FIBERBOARD

(Insert project name):_____

(Insert name of Owner):_____

The undersigned Contractor hereby certifies and affirms that the hardwood plywood, particleboard or medium density fiberboard building materials used for construction by the Contractor or any person or firm representing or represented by the Contractor, are in conformance with the **EPA - FORMALDEHYDE STANDARDS ACT, 40 CFR Part 770, Federal Register Vol. 81, No. 238; effective 02/10/2017**

https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0461-0001

The undersigned Contractor hereby certifies and affirms that the Contractor shall be totally responsible for any and all costs incurred in removing any non-conforming urea-formaldehyde hardwood plywood, particleboard or medium density fiberboard products, or prohibited materials determined to be part of the building materials as a result of inspection and sample analysis performed by individuals or firms certified to perform prohibited materials inspection and sample analysis under the laws, rules and regulations of the Federal Government and the State of Texas.

The undersigned Contractor hereby certifies and affirms that the Contractor shall pay for any and all damages resulting from the inability of the Owner to comply with all laws, rules and regulations governing public buildings.

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument this _____ day of _____, 20____.

_____
Authorized Signature - Print Name & Title

Company Name: _____

Personally appeared before the undersigned, _____, who, after being sworn, deposes and says that the facts stated in the above certification are true.

_____ for the State of Texas
Notary Public

_____ My Commission Expires
Printed Name of Notary Public

Notary Seal:

CONTRACTOR'S AFFIDAVIT

STATE OF TEXAS
COUNTY OF _____

FROM:_____
(Name of Contractor)

_____
(Name of Owner)

RE: The Contract entered into the _____ day of _____, 20____, between the above mentioned parties for the construction of (insert project name:)_____

_____

(Insert name of owner):_____

1. The undersigned hereby certifies that all work required under the above contract has been performed in accordance with the terms thereof, that all material, men, subcontractors, mechanical and laborers have been paid and satisfied in full, and that there are no outstanding claims of any character arising out of the performance of the Contract which have not been paid and satisfied in full.

2. The undersigned further certifies that (to the best of his knowledge and belief), there are no unsatisfied claims for damages resulting from injury or death to any employees, subcontractors, or the public at large arising out of the performance of the Contract, any suite or claims for any other damage of any kind, nature, or description which might constitute a lien upon the property of the Owner.

3. The undersigned makes this affidavit as specified for the purpose of receiving final payment in full settlement of all claims arising under or by virtue of the Contract, and acceptance of such payment is acknowledge as a release from the Owner from any and all claims arising under or by virtue of the Contract.

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument this _____ day of _____, 20____.

_____
Name of Contractor

By_____
Authorized Signature

Title:_____

BEFORE ME, a Notary Public, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument, after being duly sworn, deposed and said that the facts stated are true. Given under my hand and seal of office this _____ day of _____, 20____.

_____ for the State of Texas
Notary Public

My Commission Expires
Printed Name of Notary Public

Notary Seal:

SUBCONTRACTOR WARRANTY

STATE OF TEXAS

COUNTY OF _____

KNOW ALL MEN BY THESE PRESENTS:

_____, being first duly sworn, deposes and says:

1. That he / she is the Subcontractor (or the _____of_____ the subcontractor) who supplied, installed, and/or erected the work described below, and that, he / she is duly authorized to make this Subcontractor Warranty:

   Project: _____
   Owner: _____
   Architect: Pfluger Associates Architects
   Work Performed: _____Specification Section(s): _____

2. The undersigned Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract are of good quality and new except where otherwise required or permitted by the Contract Documents, that the Work is free from defects not inherent in the quality required or permitted, and that the Work conforms with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Subcontractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Subcontractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage.

3. In the event of failure of materials, products, or workmanship, during the specified warranty periods, the Subcontractor shall take appropriate measures to assure correction or replacement of the defective items, whether notified by the Contractor, Owner or Architect.

4. The Subcontractor warrants the work performed for a period of _____ months from the date of Substantial Completion, except as follows: _____

ATTEST (If Corporation)

_____
Name of Subcontractor

_____
Secretary (By) (Title)

_____

STATE OF TEXAS

COUNTY OF _____

Sworn to and subscribed before me on this _____ day of _____, 20_____

(Seal)

_____
Notary Public Signature

SECTION 08 17 00 INTEGRATED DOOR OPENING ASSEMBLIES

PART 1 – GENERAL

1.01 SUMMARY

A. SECTION INCLUDES

1. Work in this section includes providing integrated door opening systems including metal frame, integrated doors, and associated finish hardware, unless specified elsewhere. Smoke Seals shall be included in related work areas, unless specifically listed in this section.

B. RELATED DOCUMENTS

1. Related documents, drawings and general provisions of contract, including General and Supplementary Conditions and Division 1 specification sections apply to this section.

1.02 REFERENCES

A. STANDARDS

1. ANSI-A250.4 – Steel Doors and Frames Physical Endurance
2. ANSI A156.1 – Butts and Hinges
3. ANSI A156.2 – Bored Locks and Latches
4. ANSI A156.3 – Exit Devices
5. ANSI A156.4 – Door Controls – Door Closers
6. ANSI A156.5 – Auxiliary Locks and Associated Products
7. ANSI A156.6 – Architectural Door Trim
8. ANSI A156.7 – Template Hinge Dimensions
9. ANSI A156.8 – Door Controls – Overhead Holders
10. ANSI A156.15 – Closer Holder Release Devices
11. ANSI A156.16 – Auxiliary Hardware
12. ANSI A156.18 – Material and Finishes
13 ANSI A156.26 – Continuous Hinges
14. ANSI A156.32 – Integrated Door Opening Assemblies
15. ANSI/SDI-100 – Recommended Specifications for Standard Steel Doors an Frames
16. NFPA 80 – Fire Doors and Windows
17. SDI-105 – Recommended Erection Instructions for Steel Frames
18. SDI-107 – Hardware on Steel Doors (reinforcement application)
19. UL10C – Positive Pressure Fire Tests of Door Assemblies

B. CODES

1. NFPA 101 – Life Safety Code
2. IBC 2009 – International Building Code
3. ANSI A117.1 – Accessible and Usable Buildings and Facilities
4. Texas Accessibility Standards

1.03 SUBMITTALS

A. GENERAL REQUIREMENTS

1. Submit copies of schedule in accordance with Division 1, General Requirements.

B. PRODUCT DATA

1. Submit manufacturer’s product data and standard details for integrated door opening assemblies.

C. SHOP DRAWINGS

1. Submit shop drawings with proposed integrated door opening assembly system, product and hardware options. Include anchors, hardware and other components not included in manufacturer’s standard data for a complete and working installation.

D. OPERATIONS AND MAINTENANCE MANUALS
1. Upon completion of construction and building turnover, furnish two (2) complete operation and maintenance manuals to the owner.

1.04 WARRANTY
A. All items except as noted below shall be warranted to be free of defect in material or workmanship under normal use for a period of five years.
1. Continuous Hinges: Ten (10) years
2. Door closers: Ten (10) years

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Only manufacturers as listed below shall be accepted. Obtain all products from a single manufacturer.
1. Specified Manufacturer: Adams Rite - RITE Door
2. Substitutions: Refer to section 01 25 13.

2.02 EQUIPMENT
A. MATERIALS
1. DOOR AND FRAME REQUIREMENTS
a. Doors shall be 1-3/4” thick, with no seams or spot welds on door face and be of manufacturer’s standard construction: Door face skins to be minimum 18 gauge cold rolled steel; door core construction shall be honeycomb. All doors shall be constructed with a U-Shaped, 16 gauge steel reinforcement channel, top and bottom, for the installation of door hardware accessories and shall be supplied with an 18 gauge top cap.

b. Frames shall be 16 gauge ASTM A366, cold roll steel and shall comply to ANSI/SDI 100 Level A – Grade II and / or HMMA/NAAMM – 850-99. Frames shall be furnished with mitered corners, continuously welded, ground smooth on frame face. Prepare frames with proper 14 gauge reinforcements for applied hardware and provide suitable adjustable type anchors, minimum 4 per jamb.

c. Fire Rating: 90 mins

2. HARDWARE REQUIREMENTS
a. Provide a complete integrated door opening assembly including the installation and adjustment of the latching mechanism within the door construction.

b. Exit devices shall be clean and unobtrusive in design with a minimal bar height of 2-7/16”. The push bar of exit devices shall not exceed a projection of 5/8” and shall be made of heavy duty aluminum extrusion, available in anodized finish; end caps shall be metal.

c. Push and pull devices shall be clean and unobtrusive in design with a maximum projection of 1/4” on pull side and 5/8” on the push side.

3. HARDWARE OPTIONS
a. Provide hardware sets to indicate hardware options for each integrated opening assembly.
1) Hinges: Continuous (geared or pinned).
2) Latching Hardware: Exit Devices
3) Door Closers: Pocket Closer
4) Accessory Items: Magnetic Holders, Smoke Seal

2.03 FINISH REQUIREMENTS

A. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 or traditional U.S. finishes shown by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

C. FINISHES

1. Door Faces: High Pressure Laminate; Architect to select colors/patterns from manufacturer's full range of options
2. Frames: Primed; Painted
3. Hardware: As spe

PART 3 – EXECUTION

3.01 EXAMINATION

A. Contractor is responsible for notification of any wall conditions or building structure that would prevent proper execution of the installation of products produced in accordance with approved hardware schedule.

B. Note short or damaged deliveries on the bill of lading at the time of delivery.

C. The fire label is a manufacturer's certification only. Proper installation of products and proper wall construction are requirements to meet fire label.

D. Verify that power supplies, as required, are available to power electrically operated devices.

E. Beginning of installation means acceptance of existing conditions.

3.02 INSTALLATION

A. Mount furnished hardware accessories at heights indicated in "Recommended Locations or Builder's Hardware" for Standard Doors and Frames, Custom Steel Doors and Frames, established by the Door and Hardware Institute (DHI), except if otherwise indicated or to comply with requirements of governing regulations, or if otherwise directed by the architect.

B. Install furnished hardware accessories in compliance with the manufacturer's instructions, templates and recommendations. Comply with specified degree of opening for doors with automatic operators, overhead door closers, etc. Securely fasten all furnished parts. Make sure all operating parts move freely and smoothly without binding, sticking and void of any excessive clearance.

C. Coordinate installation and interface wiring with fire alarm and smoke detection systems.

D. Remove or protect furnished hardware accessories, prior to any painting or finishing that is to be completed after the installation of the hardware accessories.

3.03 ADJUSTMENT AND CLEANING

A. Adjust and check door assembly and each operating item of hardware to ensure correct operation and function. Units which cannot be adjusted to operate as intended for the application made shall be replaced.

B. Wherever hardware installation is made more than a month prior to building acceptance or occupancy of a space or area, the installer shall return to the work during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items. Hardware Accessories shall be cleaned as necessary to restore correct operation, function, and finish. Do not use cleaners that will harm finish.

3.04 PROTECTION

A. Whenever furnished hardware accessories are located in areas where it may be subject to damage during construction by handling, cleaning, etc., (e.g. painting, cleaning of bricks) it shall be protected and/or removed from its location until the hazardous condition is terminated.

3.05 HARDWARE SCHEDULE

A. The following schedule is furnished for whatever assistance it may afford the Contractor; do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware heading, provide door or item with hardware same as required for similar purposes. Hardware supplier is responsible for handing and sizing all products as listed in the hardware heading. Quantities listed are for each pair of doors, or for each single door.

END OF SECTION

SECTION 08 71 00 DOOR HARDWARE-AMS-HMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical door hardware.
3. Cylinders specified for doors in other sections.

C. Related Sections:

1. Division 08 Section “Hollow Metal Doors and Frames”.
2. Division 08 Section “Flush Wood Doors”.
3. Division 08 Section “Stile and Rail Wood Doors”.
4. Division 08 Section “Sound Control Hollow Metal Door Assemblies”.
5. Division 08 Section “Sound Control Wood Door Assemblies”.
6. Division 08 Section “Aluminum-Framed Entrances and Storefronts”.
7. Division 08 Section “All-Glass Entrances”.
8. Division 28 Section “Access Control Hardware Devices”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
3. Content: Include the following information:

    a. Type, style, function, size, label, hand, and finish of each door hardware item.
    b. Manufacturer of each item.
    c. Fastenings and other pertinent information.
    d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    e. Explanation of abbreviations, symbols, and codes contained in schedule.
    f. Mounting locations for door hardware.
    g. Door and frame sizes and materials.
    h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
b. Complete (risers, point-to-point) access control system block wiring diagrams.
c. Wiring instructions for each electronic component scheduled herein.

2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

1.4 CLOSEOUT SUBMITTALS

A. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

B. Project Record Documents: Provide record documentation of as-built door hardware sets in digital format (.pdf, .docx, .xlsx, .csv) and as required in Division 01, Project Record Documents.

1.5 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to

consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

F. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.6 DELIVERY, STORAGE AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.7 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.8 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Hardware shall not have any visible manufacturer names on exposed materials, except cylinders, when the door is in a closed position.

2.2 BUTT HINGES

A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

a. Two Hinges: For doors with heights up to 60 inches.
b. Three Hinges: For doors with heights 61 to 90 inches.
c. Four Hinges: For doors with heights 91 to 120 inches.
d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for all out-swinging lockable doors.

5. Manufacturers:

a. McKinney (MK) - TA/T4A Series, 5-knuckle.

2.3 POWER TRANSFER DEVICES

A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug

directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

1. Manufacturers:

   a. Pemko (PE) - EL-CEPT Series.
   b. Securitron (SU) - EL-CEPT Series.

B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:

   a. McKinney (MK) - Electrical Connecting Kit: QC-R001.
   b. McKinney (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

   a. McKinney (MK) - QC-C Series.

2.4 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: Provide products conforming to ANSI/BHMA A156.3 and A156.16, Grade 1.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
5. Manufacturers:

   a. Rockwood (RO).

B. Coordinators: ANSI/BHMA A156.3 door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.

1. Manufacturers:

   a. Rockwood (RO).

C. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Pulls shall be provided with a 10” clearance from the finished floor on the push side to accommodate wheelchair accessibility.
5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets. When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
6. Manufacturers:

    a. Rockwood (RO).

2.5 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Manufacturer’s Standard.

C. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.

D. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. New System: Key locks to a new key system as directed by the Owner.

E. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

F. Construction Keying: Provide construction master keyed cylinders.

G. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.6 KEY CONTROL

A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Manufacturers:

a. Lund Equipment (LU).
b. MMF Industries (MM).
c. Telkee (TK).

P. Electronic Key Management System: Provide an electronic key control system with Stand-alone Plug and Play features including advanced RFID technology. Touchscreen interface with PIN access for keys individually locked in place. Minimum 1,000 system users and 21 iFobs for locking receptors. System shall have a minimum 250,000 audit events screen displayed or ability to be exported via USB port.

1. Manufacturers:

a. Medeco (MC).

2.7 MORTISE LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all functions and features as specified herein.

1. Manufacturers:

a. ASSA ABLOY ACCENTRA (YA) - 8800FL Series.
b. Corbin Russwin Hardware (RU) - ML2000 Series.
c. Sargent Manufacturing (SA) - 8200 Series.

2.1 INTEGRATED WIRED OUTPUT LOCKING DEVICES - MULTI-CLASS READER

A. Integrated Wired Output Multi-Class Mortise Locks: Wiegand or Open Supervised Device Protocol (OSDP) output ANSI A156.13, Grade 1, mortise lockset with integrated card reader with or without keypad option, request-to-exit signaling, door position status switch, and latchbolt monitoring in one complete unit. Hard wired, solenoid driven locking/unlocking control of the lever handle trim, 3/4" deadlocking anti-friction latch, and 1" case-hardened steel deadbolt. Lock is U.L listed and labeled for use on up to 3 hour fire rated openings. Available with or without keyed high security cylinder override.

1. Open architecture, hard wired platform supports centralized control of locking units with new or existing Wiegand or OSDP compatible access control systems. Latchbolt monitoring and door position switch act in conjunction to report door-in-frame (DPS) and door latched (door closed and latched) conditions.
2. Integrated reader supports the following credentials:

    a. 125kHz proximity credentials: HID, AWID, Indala, and EM4102.
    b. 13.56 MHz proximity credentials: HID Secure Identity Object™ (SIO) on iCLASS Seos, HID iCLASS, HID iCLASS SE/SR, MIFARE Classic, DESFire EV1 and EV2.
    c. 2.4 GHz credentials: Secure Identity Object™ (SIO) on Mobile IDs (Bluetooth Smart)
    d. ISO14443A/B (PIV-compatible Transparent FASC-N read) available with pivCLASS variant
    e. NFC-enabled mobile phones
    f. PIN code only or PIN + credential with keypad option.

3. 12VDC external power supply required for reader and lock, with optional 24VDC lock solenoid. Fail safe or fail secure options.
4. Energy Efficient Design: Provide lock bodies which have a holding current draw of 500mA maximum, and can operate on either 12 or 24 volts. Locks are to be field configurable for fail safe or fail secure operation.
5. Support end-of-line resistors contained within the lock case.
6. Installation requires only one cable run from the lock to the access control panel without requirements for additional proprietary lock panel interface boards or modules.
7. Installation to include manufacturer's access control panel interface board or module where required for Wiegand or OSDP output protocol.
8. Manufacturers:

    a. Corbin Russwin (RU) - ML2000 SN Series.
    b. Sargent Manufacturing (SA) - SN200/SN210 8200 Series.

2.2 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.3 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.
2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer’s catalog and template book for specific requirements.
4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2” wide stiles.
9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
10. Rail Sizing: Provide exit device rails factory sized for proper door width application.

11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed exit devices. Listed manufacturers shall meet all functions and features as specified herein.

1. Manufacturers:

a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
b. Sargent Manufacturing (SA) - 80 Series.

2.4 INTEGRATED WIRED OUTPUT EXIT DEVICES - MULTI-CLASS READER

A. Integrated Wired Output Multi-Class Exit Hardware: Wiegand output ANSI 156.3 Grade 1 rim, mortise, and vertical rod exit device hardware with integrated card reader with or without keypad option, latchbolt and touchbar monitoring, and request-to-exit signaling, in one complete unit. Hard wired, solenoid driven locking/unlocking control of the lever handle exit trim with 3/4" throw latch bolt. U.L listed and labeled for either panic or "fire exit hardware" for use on up to 3 hour fire rated openings. Available with or without keyed high security cylinder override.

1. Open architecture, hard wired platform supports centralized control of locking units with new or existing Wiegand or OSDP compatible access control systems. Inside push bar (request-to-exit) signaling and door position (open/closed status) monitoring (via separately connected DPS).
2. Integrated reader supports the following credentials:

a. 125kHz proximity credentials: HID, AWID, Indala, and EM4102.
b. 13.56 MHz proximity credentials: HID Secure Identity Object™ (SIO) on iCLASS Seos, HID iCLASS, HID iCLASS SE/SR, MIFARE Classic, DESFire EV1 and EV2.
c. 2.4 GHz credentials: Secure Identity Object™ (SIO) on Mobile IDs (Bluetooth Smart)
d. ISO14443A/B (PIV-compatible Transparent FASC-N read) available with pivCLASS variant
e. NFC-enabled mobile phones
f. PIN code only or PIN + credential with keypad option

3. 12VDC external power supply required for reader. 24VDC required for solenoid operated exit trim. Fail safe or fail secure options.
4. Installation requires only one cable run from the exit hardware to the access control panel without requirements for additional proprietary lock panel interface boards or modules.
5. Competitor Alternates Allowed Option: Installation to include manufacturer's access control panel interface board or module where required for Wiegand or OSDP output protocol.
6. Manufacturers:

a. Corbin Russwin (RU) - ED5000 SN Series.
b. Sargent Manufacturing (SA) - SN200/SN210 80 Series.

c. No Substitution.

2.5 SURFACE DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.

2. Manufacturers:

a. ASSA ABLOY ACCENTRA (YA) - 4400 Series.
b. Corbin Russwin Hardware (RU) - DC6000 Series.
c. Norton Rixson (NO) - 7500 Series.
d. Sargent Manufacturing (SA) - 351 Series.

2.6 SURFACE MOUNTED CLOSER HOLDERS

A. Electromagnetic Door Holders: ANSI A156.15, Grade 1 electromagnetic door holder/releases with a minimum 25 to 40 pounds holding power and fail-safe operation; power failure releases door to close.

1. Manufacturers:

a. Norton Rixson (RF) - 900 Series.

b. Sargent Manufacturing (SA) - 1560 Series.

2.7 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16” above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer’s catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:

   a. Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:

   a. Rockwood (RO).

2.8 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

   a. Rockwood (RO).

2.9 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:

1. Pemko (PE).

2.10 ELECTRONIC ACCESSORIES

A. Linear Power Supplies: Filtered and regulated power for electrified hardware. Listed manufacturers shall meet all functions and features as specified herein.

1. Provide power supplies with functions and features as follows:

a. 120VAC input with selectable output at 12VDC (6 amp) or 24VDC (3 amp).
b. Internal back-up battery (batteries not included) charging circuit.
c. Regulated and filtered, fuse protected outputs.
d. Each output can be individually turned on and off via a jumper.
e. Power status of each output is shown by an LED.
f. Fire alarm interface; dry contacts NO/NC, 9-33VDC, 3-15mA.

2. Manufacturers:

a. Sargent (SA) - LSP Series.

B. Switching Power Supplies: Provide the least number of power supplies at the appropriate amperage level sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.

1. Power supplies shall meet all functions and features as specified herein.

a. UL listed dual voltage 12 or 24 VDC field selectable continuous output.

b. Tolerates brownout or overvoltage input ± 15% of nominal voltage.
c. Thermal shutdown protection with auto restart.
d. Circuit breaker protection against overcurrent and reverse battery faults.
e. Integrated battery charging circuit to prevent overvoltage on locking devices.
f. Available with a single relay fire trigger or individually triggered relayed outputs.
g. Monitoring options as specified.

2. Manufacturers:

a. Securitron (SU) - AQD Series.

2.11 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.12 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Push Plates and Door Pulls: When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.

E. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

F. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.
2. The supplier is responsible for handing and sizing all products.
3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Manufacturer’s Abbreviations:

1. OT - Other
2. MK - McKinney
3. SU - Securitron
4. RO - Rockwood

5. SA - SARGENT
6. RF - Rixson
7. PE - Pemko

Hardware Sets

Set: 0.1
Doors: A100a, A100b, C100a, G100b
Description: Exterior ASF Pair Exit - Access Control

6	Hinge (heavy weight)	T4A3386 NRP	US32D	MK
2	Electric Power Transfer	EL-CEPT	630	SU
1	Mullion	L980S	PC	SA
1	Rim Exit Device	LD TB 43 72 56-SN200-8804 862	US32D	SA
1	Exit Device (exit only)	16 TB 55 8810 862	US32D	SA
1	Cylinder_	72 980C1	US26D	SA
2	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 CPS brkt/spacer as req	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Rain Guard_	346C		PE
2	Perimeter Seal	S88BL		PE
2	Sweep	3452AV		PE
1	Perimeter Seal	By door mfgr		OT
1	Threshold_	2005AT		PE
2	Elec Cables - Exit to Hinge	QC-CxxxP		MK
2	Elec Cables - Hinge to Above	QC-C1500P		MK
2	Door Position Switch	DPDT surface mount by Div 28		OT
1	Power Supply	By Security Contractor		OT

Notes: Confirm hardware compatibility with door manufacturer. Wide stile required. All exterior doors to have timed Bosch system to notify security in the event of door prop.

Set: 1.0
Doors: A110a, G110b, G120b, G120c, G120d, G121b
Description: Exterior HM Pair Exit - Access Control

6	Hinge (heavy weight)	T4A3386 NRP	US32D	MK
2	Electric Power Transfer	EL-CEPT	630	SU
1	Mullion	L980S	PC	SA
1	Rim Exit Device	LD TB 43 72 56-SN200-8804 862	US32D	SA
1	Exit Device (exit only)	16 TB 55 8810 862	US32D	SA
1	Cylinder_	72 980C1	US26D	SA
2	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 CPS brkt/spacer as req	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Rain Guard_	346C		PE
1	Perimeter Seal	2891APK		PE
2	Perimeter Seal	S88BL		PE

2	Sweep	3452AV	PE
1	Threshold_	2005AT	PE
3	Elec Cables - Exit to Hinge	QC-CxxxP	MK
2	Elec Cables - Hinge to Above	QC-C1500P	MK
1	Door Position Switch	DPDT surface mount by Div 28	OT
1	Power Supply	By Security Contractor	OT

Notes: Confirm hardware compatibility with door manufacturer. Wide stile required. All exterior doors to have timed Bosch system to notify security in the event of door prop.

Set: 3.0
Description: Exterior ASF Pair Exit - Access Control

6	Hinge (heavy weight)	T4A3386 NRP	US32D	MK
2	Electric Power Transfer	EL-CEPT	630	SU
1	Mullion	L980S	PC	SA
1	Rim Exit Device	LD TB 43 72 56-SN200-8804 862	US32D	SA
1	Exit Device (exit only)	16 TB 55 8810 862	US32D	SA
1	Cylinder_	72 980C1	US26D	SA
2	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 CPS brkt/spacer as req	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Rain Guard_	346C		PE
2	Perimeter Seal	S88BL		PE
1	Perimeter Seal	By door mfgr		OT
2	Elec Cables - Exit to Hinge	QC-CxxxP		MK
2	Elec Cables - Hinge to Above	QC-C1500P		MK
1	Door Position Switch	DPDT surface mount by Div 28		OT
1	Power Supply	By Security Contractor		OT

Notes: Confirm hardware compatibility with door manufacturer. Wide stile required. All exterior doors to have timed Bosch system to notify security in the event of door prop.

Set: 5.1
Doors: C110b
Description: Exterior HM -Access Control Exit

3	Hinge (heavy weight)	T4A3386 NRP	US32D	MK
1	Electric Power Transfer	EL-CEPT	630	SU
1	Rim Exit Device	LD TB 43 72 56-SN200-8804 862	US32D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Surface Closer	TB 351 CPS brkt/spacer as req	EN	SA
1	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Rain Guard_	346C		PE
1	Perimeter Seal	2891APK		PE
1	Sweep_	3452AV		PE
1	Threshold_	2005AT		PE
1	Elec Cables - Exit to Hinge	QC-CxxxP		MK
1	Elec Cables - Hinge to Above	QC-C1500P		MK

1	Door Position Switch	DPDT surface mount by Div 28	OT
1	Power Supply	By Security Contractor	OT

Notes: All exterior doors to have timed Bosch system to notify security in the event of door prop.

Set: 15.0
Doors: A100c
Description: Pair Rim Exit - Rated Corr / Gym / Aud/ Cafeteria -Access Control - Accoustical Seals

6	Hinge (heavy weight)	T4A3786	US26D	MK
2	Electric Power Transfer	EL-CEPT	630	SU
1	Mullion	L980S	PC	SA
1	Rim Exit Device	TB 72 56-SN200-8804 ETL	US32D	SA
1	Rim Exit Device, Dummy	TB 55 8810 ETL	US32D	SA
1	Cylinder_	72 980C1	US26D	SA
2	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 Arm As Required	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
2	Door Stop	406/481	US26D	RO
2	Electromagnetic Holder	990 Series	689	RF
2	Astragal	303AS		PE
1	Perimeter Seal	2891APK		PE
1	Gasketing	350CSR		PE
2	Door Bottom	420APKL		PE
2	Elec Cables - Hinge to Above	QC-C1500P		MK
2	Elec Cables - Lock to Hinge	QC-CxxxP		MK
1	Power Supply	By Security Contractor		OT

Set: 15.2
Doors: G100a, G100a
Description: Pair Rim Exit - Rated Corr / Gym / Aud/ Cafeteria - Accoustical Seals

6	Hinge (heavy weight)	T4A3786	US26D	MK
1	Mullion	12-L980	PC	SA
2	Rim Exit Device, Classroom	12 TB 72 8813 ETJ	US32D	SA
1	Cylinder_	72 980C1	US26D	SA
3	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 Arm As Required	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
2	Door Stop	406/481	US26D	RO
2	Electromagnetic Holder	990 Series	689	RF
2	Astragal	303AS		PE
1	Perimeter Seal	2891APK		PE
1	Gasketing	350CSR		PE
2	Door Bottom	420APKL		PE

Set: 15.3
Doors: C100b
Description: Pair CVR - Rated Corr / Gym / Aud/ Cafeteria - MHO

6	Hinge (heavy weight)	T4A3786	US26D	MK
1	Mullion	12-L980	PC	SA
2	Rim Exit Device, Classroom	12 TB 72 8813 ETJ	US32D	SA
1	Cylinder_	72 980C1	US26D	SA
2	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 CPS brkt/spacer as req	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
2	Electromagnetic Holder	990 Series	689	RF
2	Astragal	303AS		PE
1	Perimeter Seal	S88BL		PE

Notes: Doors are held open. Upon loss of power or signal from fire control, doors will close and latch. Doors must be tied into the fire alarm.

Set: 15.4
Doors: A110b, C110a, G110a, G120a
Description: Pair - Rated - Corr / Gym / Aud/ Cafeteria

6	Hinge (heavy weight)	T4A3786	US26D	MK
1	Mullion	12-L980	PC	SA
2	Rim Exit Device, Classroom	12 TB 72 8813 ETJ	US32D	SA
1	Cylinder_	72 980C1	US26D	SA
3	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 CPS brkt/spacer as req	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Astragal Set (2)	18041CNB		PE
1	Perimeter Seal	S88BL		PE

Notes: Confirm hardware compatibility with door manufacturer. Wide stile required.

Set: 17.0
Doors: C111, C112, G121a
Description: Pair Storage - Closer

6	Hinge, Full Mortise	TA2714	US26D	MK
1	Dust Proof Strike_	570	US26D	RO
1	Self Latching Flush Bolt (top only)	2905	US26D	RO
1	Storeroom Lock	72 8204 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Coordinator (W/mtg plates)	2672 x Mtg Brkts	Black	RO
2	Closer	TB 351 O / PS as required	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
2	Door Stop	406/481	US26D	RO
2	Silencer	608		RO

Set: 17.1
Doors: A101
Description: Pair Rated Storage - Closer

6	Hinge, Full Mortise	TA2714	US26D	MK
1	Dust Proof Strike_	570	US26D	RO
1	Self Latching Flush Bolt (top only)	2905	US26D	RO
1	Storeroom Lock	72 8204 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Coordinator	2672	US28	RO
1	Mounting Bracket	2601AB	Black	RO
2	Closer	TB 351 O / PS as required	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
2	Door Stop	406/481	US26D	RO
1	Astragal Set (2)	18041CNB		PE
1	Perimeter Seal	S88BL		PE

Set: 17.2
Doors: A102, C163
Description: Pair Storage - Closer

6	Hinges	By STC door manufacturer		OT
1	Dust Proof Strike_	570	US26D	RO
1	Self Latching Flush Bolt (top only)	2905	US26D	RO
1	Storeroom Lock	72 8204 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
2	Surface Closer	TB 351 Arm As Required	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
2	Door Stop	406/481	US26D	RO
1	Gasket, door bottom, threshold	By STC Door Manufacturer		OT

Set: 19.0
Doors: C115, C122, C125, G111
Description: Storage - Wall Stop

3	Hinge, Full Mortise	TA2714	US26D	MK
1	Storeroom Lock	72 8204 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Door Stop	406/481	US26D	RO
3	Silencer	608		RO

Set: 20.0
Doors: C162
Description: Pair Storage - Closer - OHS

6	Hinge, Full Mortise	TA2714	US26D	MK
1	Storeroom Lock	72 8204 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Surface Overhead Stop	59_S	EN	SA
2	Closer	TB 351 O / PS as required	EN	SA
2	Kick Plate	K1050 10" CSK BEV	US32D	RO
2	Silencer	608		RO

Set: 27.1
Doors: A111, A112, A113, A114, C113, C114, C116, C117
Description: Office - Acoustical Seals

3	Hinge, Full Mortise	TA2714	US26D	MK
1	Office/Entry Lock	72 8205 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Door Stop	406/481	US26D	RO
1	Perimeter Seal	2891APK		PE
1	Gasketing	350CSR		PE
1	Door Bottom	420APKL		PE

Notes: Door hardware is specified for design intent. Confirm hardware compatibility and design meets the door manufacturer's approved assembly testing for the STC level indicated.

Set: 28.0
Doors: C121
Description: SGL Office -

3	Hinge, Full Mortise	TA2714	US26D	MK
1	Office/Entry Lock	72 8205 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Door Stop	406/481	US26D	RO
1	Perimeter Seal	2891APK		PE

Notes: Door hardware is specified for design intent. Confirm hardware compatibility and design meets the door manufacturer's approved assembly testing for the STC level indicated.

Set: 31.2
Doors: A109a, A109b, A121a, A121b, C120a, C160
Description: Typical Classroom/ Corridor - Closer - Gasket - Wide

4	Hinge (heavy weight)	T4A3786	US26D	MK
1	Classroom Lock	72 8237 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Closer	TB 351 O / PS as required	EN	SA
1	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Door Stop	406/481	US26D	RO
1	Perimeter Seal	S88BL		PE

Notes: At aluminum frames gasketing is by frame manufacturer.

Set: 34.0
Doors: G130
Description: Access Control - Inswing

3	Hinge, Full Mortise	TA2714	US26D	MK
1	Electric Power Transfer	EL-CEPT	630	SU
1	Access Control Mort Lock	72 SN200-82271-12V LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Closer	TB 351 O / PS as required	EN	SA
1	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Door Stop	406/481	US26D	RO
1	Perimeter Seal	S88BL		PE
1	Elec Cables - Hinge to Above	QC-C1500P		MK
1	Elec Cables - Lock to Hinge	QC-CxxxP		MK
1	Door Position Switch	DPDT surface mount by Div 28		OT
1	Power Supply	By Security Contractor		OT

Notes: Remote release buttons where required are by security contractor.

Set: 36.0
Doors: G101, G102
Description: Shared Restroom / Dressing / Weight Rm- Inswing

3	Hinge (heavy weight)	T4A3786	US26D	MK
1	Small Format Inter Core	7P-7300B	US15	SA
1	Push Plate	70E	US32D	RO
1	Pull Plate	111x70C	US32D	RO
1	Closer	TB 351 O / PS as required	EN	SA
1	Kick Plate	K1050 10" CSK BEV	US32D	RO
1	Door Stop	406/481	US26D	RO
1	Perimeter Seal	S88BL		PE

Set: 37.0
Doors: C123
Description: Sgl Classroom - Wall Stop

3	Hinge, Full Mortise	TA2714	US26D	MK
1	Classroom Lock	72 8237 LNJ	US26D	SA
1	Small Format Inter Core	7P-7300B	US15	SA
1	Door Stop	406/481	US26D	RO
3	Silencer	608		RO

END OF SECTION 087100

SECTION 08 87 23 SECURITY FILM AND PANEL SYSTEMS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes film products applied to glass surfaces to impart safety and security characteristics.
B. Locations: As indicated on Drawings.

1.3 ACTION SUBMITTALS

A. Product Data: Security film sample on 1/4 inch clear glass.
B. Sample of bullet resistant panels.

1.4 INFORMATION SUBMITTALS

A. Qualification Data: For firms and persons specified under this section, demonstrating their capabilities and experience by including a list of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Confirmation Data: Written confirmation from the curtain wall and storefront manufacturer that the warranty will not be affected by the application security and safety film.

1.5 CLOSEOUT SUBMITTALS

A. Closeout Submittals: Upon completion of the Work, submit the following;
   1. Executed warranty.
   2. Maintenance (cleaning) and replacement instructions.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Engage a firm experienced in manufacturing systems similar to those indicated for this Project.

B. Installer Qualifications: Engage an experienced installer certified, licensed, or otherwise qualified by film manufacturer as having the necessary experience, staff, and training to install manufacturer's products according to specified requirements.

C. Mockups: Apply glazing films in locations as directed to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution.
   1. Obtain approval of field samples before continuing with remainder of installation.
   2. Maintain field samples during remainder of installation in an undisturbed condition as a standard for judging the completed Work.
   3. Approved field samples may become part of the completed Work.

D. Pre-installation Conference: Before installing glazing films, conduct conference at Project site. Conduct pre-installation conference in conjunction with installation of mockup.
   1. Meet with Owner, Architect, glazing film Installer and glazing film manufacturer's representative.
   2. Review methods and procedures related to installation, including manufacturer's written instructions.
   3. Examine substrate conditions for compliance with requirements.
   4. Review temporary protection measures required during and after installation.
   5. Document proceedings, including corrective measures or actions required, and furnish copy of record to each participant.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing films according to manufacturer's written instructions and as needed to prevent damage condensation, temperature changes, direct exposure to sun, or other causes.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with film installation when ambient and substrate temperature conditions are outside limits permitted by manufacturer and when glass substrates are wet from frost, condensation, or other causes.

1.9 WARRANTY

A. Manufacturer's standard warranty agreeing to replace films that fail within 10 years from date of original installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS / PRODUCTS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the work include but are not limited to those indicated as Basis of Design.
   1. Substitutions: Refer to section 01 25 13

B. **Security Film - Basis of Design: Subject to compliance with requirements, provide the following safety and security films:**
   1. Product Name: 3M™ Safety And Security Window Film Safety Series S140; Manufactured by 3M.
   2. Description:
      a. Film Thickness: 14 mils
      b. 3-ply
      c. Tensile Strength (ASTM D882): 25,000 psi
      d. Break Strength (ASTM D882): 350 lbs/in
      e. Percent Elongation at Break (ASTM D882): >125%
      f. Peel Strength: > 2 lbs/in (9 N / 25mm)
      g. Abrasion Resistance: <5%

2.2 ACCESSORIES

A. General: Provide products complying with requirements of manufacturers for application indicated.

B. Adhesive: Types recommended by glazing film manufacturer.

C. Cleaners, Primers, and Sealers: Types recommended by glazing film manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine field conditions for conditions affecting installation.
   1. Report conditions to Architect that may adversely affect installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Beginning of installation means acceptance of conditions.

D. Ensure mechanical attachment to curtain wall system is acceptable.

3.2 PREPARATION

A. Comply with manufacturers written instructions for surface preparation.
B. Immediately before beginning installation of films, clean glass surfaces of substances that could impair glazing film's bond, including mold, mildew, oil, grease, dirt, and other foreign materials.
C. Protect window frames and surrounding conditions from damage during installation.

3.3 INSTALLATION

A. General: Comply with manufacturers' written installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
   1. Install film absent of bubbles, wrinkles, blisters, edge lifting and blemishes (within the installing technician's control).

B. After installation, view film from a distance of 10 feet. Film shall appear uniform in appearance with no visible streaks, banding, thin spots or pinholes.
   1. If installed film does not meet this criteria, remove and replace with new film.

C. Spandrels: Remove insulation for reuse. After installation of the safety film system and anchors, reinstall insulation to comply with curtain wall requirements.

3.4 CLEANING

A. Remove excess mounting fluid at finished seams, perimeter edges, and adjacent surfaces.
B. Use cleaning methods recommended by manufacturer.
C. Replace films that cannot be cleaned.
D. Clean installed film with manufacturer approved cleaners only.

END OF SECTION 08 87 23

SECTION 10 12 00 DISPLAY CASES

PART 1 - GENERAL

1.01 SUBMITTALS

A. Product Data:
1. Manufacturer's specifications and other data needed to prove compliance with specified requirements.

2. Manufacturer's installation instructions.

B. Shop Drawings:
1. Showing all required field measurements, all details and elevations, plans and sections required to indicate all conditions.

C. Samples:
1. Include color charts showing manufacturer's full range of colors.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Specifications are based on Series 370 recessed display cases as manufactured by Claridge; www.claridgeproducts.com

B. Alternate Acceptable Manufacturers
1. The Tablet & Ticket Co., West Chicago, Illinois; www.tabletandticket.com
2. Pyramid Presentation Products (Stargazer Display Cases)

2.02 MATERIALS

A. Fully Recessed Display Cases: Refer to drawings for sizes and locations

B. Case Construction:

1.	Construction:	Complete case with aluminum front.
2.	Mounting:	Recessed as shown on drawings.
3.	Dimensions:	As shown on drawings.
4.	Doors:	regular sliding doors. Provide locks for each pair.
5.	Vertical Mullions:	between pair doors
6.	Horizontal Mullions:	None.
7.	Glazing:	3/16 inch clear tempered glass with finger pulls (no tong marks).
8.	Finish:	Satin anodized.
9.	Lighting Type:	Regular T-12 fluorescent.
10.	Lighting Location:	Top, removable.
11.	Baffles:	None.
12.	Diffusers:	Egg crate.
13.	Shelving:	1/4 inch polished clear tempered glass, depth as shown on drawings.
14.	Depth of Shelving:	18 inches unless otherwise indicated on the drawings
15.	Standards:	Surface mounted
16.	Brackets:	Manufacturer standard
17.	Background Type:	Guilford of Maine Fabric over tackable cork. Color as selected by Architect from manufacturer's standard colors.
18.	Locks:	Cylinder locks shall be master keyed to Owner's hardware system.

PART 3 - EXECUTION

3.01 PREPARATION

A. Coordinate dimensional and electrical requirements prior to fabrication.

3.02 INSTALLATION

A. Install display cases at locations scheduled or noted on the drawings.

B. Install display cases in accordance with manufacturer's installation procedures.

C. Clean display cases after installation and repair or replace damaged work.

END OF SECTION 10 12 00

SECTION 11 60 01 MUSIC STORAGE CABINETS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Specialty casework including the following:
1. Musical instrument storage casework.
2. Mobile storage rack.

1.2 REFERENCES

A. American National Standards Institute (ANSI):
1. ANSI A208.1 - Particleboard.

B. American Society of Civil Engineers (ASCE):
1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

C. ASTM International (ASTM):
1. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
2. ASTM C503 - Specification for Silvered Flat Glass Mirror.
3. ASTM E488 - Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements.
4. ASTM E795 - Practices for Mounting Test Specimens during Sound Absorption Tests.

D. Audio Engineering Society (AES): AES-4id - AES information document for room acoustics and sound reinforcement systems -- Characterization and measurement of surface scattering uniformity.

E. Builders Hardware Manufacturers Association (BHMA): ANSI/BHMA A156.9 - Cabinet Hardware.

F. GREENGUARD Environmental Institute (GEI): GREENGUARD certified low emitting products.

G. National Electrical Manufacturers Association (NEMA): NEMA LD 3-2000 - High Pressure Decorative Laminates.

H. U.S. Department of Commerce, National Institute of Standards and Technology: DOC PS 1: U.S. Product Standard for Construction and Industrial Plywood.

1.3 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Maintenance instructions and recommendations.

B. Shop Drawings:
1. Indicate layouts and elevations of cabinets

C. Closeout Submittals:
1. Operation and Maintenance Data: For adjusting, repairing and replacing components and accessories.
2. Warranty: Submit manufacturer's warranty.
3. As-Built Drawings: For completed work.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 5 years' experience in design and manufacturing of similar products on projects of similar size, scope and complexity, and with the production capacity to meet the construction and installation schedule.

B. Electrical Components: Listed and labeled per NFPA 70, Article 100 by a testing agency acceptable to Authorities Having Jurisdiction (AHJ).

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original unopened containers with manufacturer's labels attached. Do not deliver material until spaces to receive them are clean, dry, and ready for their installation. Ship to jobsite only after roughing-in, painting and other finishing work has been completed, installation areas are ready to accept work.

B. Handle and install materials to avoid damage.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install materials until spaces are enclosed and weather tight, wet work in spaces is complete and dry, HVAC system is operating and maintaining ambient temperature at occupancy levels during the remainder of the construction period.

B. Field Measurements: Verify field measurements as indicated on Shop Drawings. Where measurements are not possible, provide control dimensions and templates.
   1. Coordinate installation and location of blocking and supports as requested.
   2. Verify openings, clearances, storage requirements and other dimensions relevant to the installation and final application.
   3. Where applicable, coordinate locations of electrical junction boxes.

C. Field Measurements: Verify field measurements as indicated on Shop Drawings. Where measurements are not possible, provide control dimensions and templates.
   1. Coordinate locations of electrical junction boxes.

D. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.7 WARRANTY

A. Special Warranty for Specialty Casework: Manufacturer's written warranty indicating manufacturer's intent to repair or replace components of specialty casework that fail in materials or workmanship within 10 years from date of Substantial Completion. Failures are defined to include, but are not limited to, the following:
   1. Fracturing or breaking of casework components including doors, panels, shelves, or hardware resulting from normal wear and tear and normal use other than vandalism.
   2. Delamination or other failures of glue bond of components.
   3. Warping of casework components not resulting from leaks, flooding, or other uncontrolled moisture or humidity.
   4. Failure of operating hardware.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Wenger Corporation

B. Substitutions: Refer to section 01 25 13

2.2 MUSICAL INSTRUMENT STORAGE CASEWORK

A. Basis of Design: AcoustiCabinets as manufactured by Wenger Corporation. Modular instrument storage casework with integral bases, adjustable levelers, and through-bolted fastening, enabling owner reconfiguration of unit layout.
   1. Acoustically enhanced instrument storage casework finished with interior lining of sound-absorbent material providing sound absorption and noise reduction properties.
   2. Sound Absorption Average: Minimum SAA of 0.80, based upon sound absorption coefficient for twelve one-third octave bands from 200 to 2500 Hz, inclusive, with a minimum Noise Reduction Coefficient (NRC) of 0.75, per ASTM C 423 and ASTM E 795.
   3. Acoustical Performance: Comply with manufacturer's published sound absorption data.
   4. Wave grille doors in 5/16 inch (24 mm) and 1/4 inch (6.4 mm) diameter designed to reduce vibration.

B. Storage Casework Component Load Capacities:
   1. Storage Casework Wire-Grille Door Hinge: Each weld capable of resisting 400 lbf (1779 N) pull test without visible damage or permanent deformation.
   2. Storage Casework Full Grille Door Hinge: Full length door capable of supporting 315 lbs (143 kg). Through open and close cycle without permanent damage.

C. General: Provide through-ventilating instrument storage casework meeting requirements in System Description and Performance Requirements Articles.

D. General: Provide through-ventilating robe and uniform storage casework meeting requirements in System Description and Performance Requirements Articles.

E. Side Panels and Divider Panels: Particleboard thermoset panel with no urea formaldehyde added, 3/4 inch (19 mm) thick. Side panels machined to accept unit-to-unit through-bolting.

F. Grille Doors: Bright basic steel wire, 5/16 and 3/16 inch (7.9 and 4.8 mm) diameter, or 5/16 and 1/4 inch (7.9 and 6.3 mm) diameter for AcoustiCabinets, with full 360 degree welds at T-joints.
   1. Provide for casework indicated.

~~G. Panel Doors: Particleboard thermoset panel with no urea formaldehyde added, 3/4 inch (19 mm) thick.~~
   ~~1. Color: As scheduled.~~
   ~~2. Door Grille: Provide for casework indicated.~~

~~H. Open Casework: Provide casework without doors.~~
   1. Provide for casework indicated.

I. Panel Edge Banding: 3 mm thick, heat-bonded, with radiused and profiled edges and corners.

J. Shelving: Sized with adequate gap between shelving and casework side panels to allow air movement inside casework.
   1. Up to 27 inches (686 mm) wide: Removable molded polyethylene shelf, with impact-resistant, radiused front edge, mounted to cabinet wall with self-locking clip.
   2. Over 27 inches (686 mm) wide: For large instrument casework: Removable formed polyethylene shelf, ribbed, with high-impact-resistant, radiused front edge, supported by steel tube frame.
   3. Tubular steel supports are included for shelves over 19 inches (483 mm) wide.
   ~~4. Corner cabinet revolving shelving: 0.053 inch (1.3 mm) min. thickness steel sheet bolted to revolving steel center post, with radiused hardboard deflector panel.~~

K. Casework Panel Color: As selected by Architect from manufacturer's standard colors.

L. Butt Hinges: 2-3/4 inches (70 mm), 5-knuckle steel hinges made from 0.090 inch (2.29 mm) thick metal, ANSI/BHMA A156.9, Grade 1, with powder-coated finish, through-bolted to door and side panels and welded to grille door frames. Provide 2 hinges on compartment doors, and 4 hinges on full-height doors.

M. Slide Latch: 0.105 inch (2.67 mm) min. thickness steel, with padlock eye, powder-coat finish, through-bolted to panel door and side panel and welded to grille door frames. Latches securely without padlock. Provide with clear plastic label holder for use with standard size labels; number system available for user to print. Padlocks furnished by Owner.

N. Panel Connectors: 1/4 - 20 by 1.77 inch (45 mm) panel connectors, with steel thread inserts, powder coated to match panels.

O. Cabinet Levelers: Leveling glides with 3/8 inch (9.5 mm) diameter threaded steel rod in steel corner brackets, minimum two each per cabinet side, accessible from within unit, and concealed in completed installation.

P. Carcass joinery includes lag screws powder coated to match substrate.

Q. Back panel 7/32 inch (5.6 mm) reinforced with 3/4 inch (19 mm) stretchers panels held in a dado groove and lag screwed in place.

R. Fasteners: Manufacturer-recommended fasteners as required for casework substrate and project performance requirements, consisting of one or more of the following:
   1. Sheet Metal Screws: SAE J78, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
   2. Wood Screws: ASME B18.6.1.
   3. Expansion Anchors in Concrete and Concrete Masonry Units: Carbon-steel, zinc plated.
   4. Hardware supplied to anchor the cabinets to the wall and to adjacent casework.

S. Finish: Steel Sheet, Steel Wire, and Exposed Fasteners. Urethane-based electrostatic powder coating, color as indicated. Refer to Drawings.

T. Materials Meeting Sustainable Design Requirements:
   1. No Added Urea Formaldehyde Products: Provide music education storage casework made with composite products and adhesives with no urea formaldehyde added.
   ~~2. FSC Certified Wood Products: Provide music education storage casework made with wood from certified sources. Also available in Moisture Resistant, Class 1 Fire rated and Plywood cores.~~

U. Particleboard: ANSI A208.1, minimum 43 lb/cu. ft. (689 kg/cu. m) density, composite products and adhesives, with no urea formaldehyde added.

~~V. Fire Rated Particle Board: ANSI A208.1, minimum 45 lb/cu. ft. (720 kg/cu. m) density ASTM E-84 class 1.~~

~~W. Plywood: APA standards PS1-98 section 5.7.4 or 5.7.1 or ANSI /HPVA HP-1-2004 Panel~~ provide with HDF skins to prevent grain telegraphing.

X. Polyethylene Shelves: High-density, one-piece, blow-molded or polyethylene, with radiused front edge, for abuse-resistant shelves. Same color throughout will not show scratches.

Y. PVC Edge Banding: Radiused PVC extrusions, 1/8 inch (3 mm) thick.

2.3 Mobile Storage Racks: Holds uncased instruments.

A. Basis-of-Design Product: Subject to compliance with requirements, provide Wenger Corporation; Tuba & Sousaphone racks, or approved equal.
1. Wood parts: 3/4-inch industrial grade composite wood with no added formaldehyde.
2. Adjustable instrument cradles: padded steel weldments.
3. Top Cross Supports: 14-gauge tubular steel.
4. Lower Cross Supports: covered with flexible PVC to protect instruments.
5. Finish: Polyester laminate as selected by Architect from manufacturer’s full range.
6. Casters: four 4” swivel, hard rubber casters with two front locking.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine installation areas and mounting surfaces with Installer present, for compliance with manufacturer's installation tolerances including required clearances, floor level, location of blocking and anchoring reinforcements, and other existing conditions that may affect installation or performance.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Proceed with installation only after correction of unsatisfactory conditions.

3.2 INSTALLATION OF SPECIALTY CASEWORK

A. Install plumb, level, and true; using integral levelers. Install in accordance with manufacturer's recommendations and approved submittals.
~~1. Install seismic bracing and fastening in accordance with approved shop drawings.~~

B. Install hardware uniformly and precisely. Set hinges snug and flat. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.

C. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind and close with uniform reveals.

~~D. Metal Shelving Requirements:~~

~~1. Anchor uprights to walls using anchors of type, size, and spacing recommended by manufacturer.~~

~~2. Install shelves in each unit.~~

~~3. Erect cantilever adjustable uprights to substrate with a maximum tolerance from vertical of 1/4 inch (6 mm).~~

~~4. Adjust metal shelving so connectors and other components engage accurately and securely. Verify modular components fit easily into alternate locations without force or use of tools.~~

3.3 CLEANING AND PROTECTION

A. Repair or replace defective work as directed by Architect upon inspection.

B. Clean surfaces. Touch up marred finishes, or replace damaged components that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by manufacturer.

C. Protect installed products from damage, abuse, dust, dirt, stain, or paint until completion of project. Do not permit use during construction.

END OF SECTION

SECTION 23 31 14 - FABRIC AIR DISPERSION SYSTEM

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B Section 23 02 00 - Basic Materials and Methods for HVAC shall be included as a part of this Section as though written in full in this document.

1.02 WORK INCLUDED

A Non-metal fabric ductwork.

B Internal fabric duct rigid framework and support grids.

C External hangers, supports, suspension system and related accessories.

D Air distribution and delivery devices.

1.03 RELATED WORK

A Section 23 31 13 - Metal Ductwork

B Section 23 33 00 - Ductwork Accessories

C Section 23 05 29 - Hangers and Supports for Piping and Equipment - HVAC

D Section 23 05 93 - Testing, Adjusting, And Balancing

1.04 REFERENCES

A ASTM D737 - Standard Test Method for Air Permeability of Textile Fabrics; 2018.

A ASTM D3776/D3776M - Standard Test Methods for Mass Per Unit Area (Weight) of Fabric; 2020 (Reapproved 2025).

B NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2024.

C UL 2518 - Standard for Safety Air Dispersion Systems; Current Edition, Including All Revisions.

D ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials

1.05 SUBMITTALS

A Product Data: Submit manufacturer’s specifications on materials and manufactured products used for work of this section, including fabric duct, duct fittings, connections, supports, air delivery devices and all associated accessories.

B Building Code Data: Submit UL file number under which product is Classified by Underwriters Laboratories.

C Provide detailed drawings from the fabric duct manufacturer confirming configuration of Fabric Tensioning System (components, support locations, segment lengths) and Textile Dispersion System (diameter, lengths, airflow, pressure, velocity, and textile permeability).

D Provide detailed installation instructions for components to be installed.

1.06 WARRANTY

A Manufacturer must provide a complete product (20) twenty year pro-rated warranty for products supplied for the fabric and suspension of this system as well as a Design and Performance Warranty. Laundering frequency nor any other conditions shall pertain to warranty terms.

1. Years (1) one through (10) ten: 100% coverage.

2. Years (11) eleven through (15) fifteen: 50% coverage.

3. Years (16) sixteen through (20) twenty: 25% coverage.

1.07 DELIVERY, STORAGE AND HANDLING

A Protect fabric air dispersion systems from damage, water, and moisture during shipping, storage and handling.

B Where possible, store products inside and protect from weather. Where necessary to store outside, store above grade and enclose with a vented waterproof wrapping.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A DuctSox - Sedona Xm

B KE Fibertec - KE-Direjet

C FabricAir, Inc. - Combi 80

D Prihoda - PM

2.02 NON-METAL FABRIC DUCT SYSTEM

A Fabric

1. Filament/filament twill polyester that includes 55% recycled content, treated with a machine washable EPA approved anti-microbial agent by the fabric manufacturer, fire retardant in accordance with UL 2518. Non-linting filament yarn to meet the requirements of ISO Class 3 environment.

2. Base Permeability @ 0.5" WG: 2 CFM / ft² per ASTM D737; shall be verified by the Frazier Permeability Test.

3. Weight: 6.8oz. / yd^2 per ASTM D3776/D3776M.
4. Shrinkage: Max. 0.5% per DIN EN 26 630.
5. Temperature Range: -40°F and +284°F.
6. Fire Retardancy: Shall meet the requirements in NFPA 90A, ICC AC167 and UL 2518.
7. Duct Shape: ROUND (coordinate with plans).
8. Fabric Color: Provide sample swatch of actual material and color with submittal and coordinate with the architect.

B Textile Systems Fabrication Requirements

1. Provide system in modular lengths optimized for maintenance, connected by zippers with proper radial securing clips (inlets, endcaps and mid-sections) and top access zippers (if required) for vertical cable safety attachment. Zippers shall provide closure completely around the circumference to prevent leakage. Required number of zippers shall be specified by the manufacturer.
2. The system shall be made of permeable fabric. Base permeability of fabric shall be reached based on a combination of weave construction and a thermo fixation process in order to prevent permeability degradation after wash. Fabric permeability based on a calendaring process is not acceptable.
3. Inlet connection to metal duct via fabric draw band with anchor patches as supplied by manufacturer. Anchor patches to be secured to metal duct via zip screw fastener - supplied by contractor.
4. Inlet connection includes zipper for easy removal / maintenance.
5. Lengths to include required intermediate zippers as specified by manufacturer.
6. End cap includes zipper for easy maintenance.
7. Each section of the fabric shall include identification labels documenting order number, section diameter, section length, piece number, code certifications and other pertinent information

C System Design Parameters

1. Fabric duct system shall be designed from 0.25” water gage minimum to 3” maximum, with 0.5” as the standard.
2. Fabric duct system shall be limited to design temperatures between -40°F and +284°F.
3. Design CFM, diameter, air distribution and delivery devices, static pressure and diffuser length shall be designed or approved by the manufacturer.
4. Do not use fabric diffusers in concealed locations.

5. Use fabric diffusers only for positive pressure air distribution components of the mechanical ventilation system.

D Air Distribution and Delivery

1. Final air distribution and delivery method shall be integral to the non-metal fabric duct system and furnished as a whole, engineered system

2. Final air distribution and delivery design shall be based on the specific project design parameters for each installation based on the following criteria:

   a. Total supply air flow for the space or specific branch.

   b. Supply air branch length.

   c. Non-metal fabric duct diameter.

   d. Throw requirements.

   e. Available main supply Air duct static pressure at the branch connection for the non-metal fabric duct.

   f. Temperature of supply air and HVAC application; heating only, cooling only, heating and cooling.

3. All final air distribution and delivery methods and devices utilized for each application shall be selected to deliver the required air flow rates with noise criteria (NC) levels not to exceed 30NC.

4. Linear Vents

   a. Air dispersion accomplished by linear vent and permeable fabric. Linear vents must be sized in 1 CFM per linear foot increments (based on 0.5” SP), starting a 1 CFM through 90 CFM per linear foot. Linear vent is to consist of an array of open orifices rather than a mesh style vent to reduce maintenance requirements of mesh style vents. Linear vents should also be designed to minimize dusting on fabric surface.

   b. Size of vent opening and location of linear vents to be specified and approved by manufacturer.

5. Orifices - 2” & 3” SG’s (Sewn-in Grommet)

   a. Air dispersion and extended throws are accomplished by reinforced orifices and permeable fabric. Reinforced orifices are to be installed to keep the integrity of opening and withstand laundry processes.

   b. Diameter, capacity, and location of reinforced orifices to be specified and approved by manufacturer.

6. Fixed Nozzles

a. Air dispersion accomplished by using conical aerodynamic nozzles and permeable fabric. Diameter of nozzles height to be minimum ½". Due to exact requirements of throw and maximum level of noise alternative flow models are not acceptable.

b. Color of nozzles must match color of fabric. Unless otherwise specifically mentioned on drawings or otherwise in this specification, supplier's standard table is used for selection of color.

c. Location and number of nozzles ot be specified and approved by manufacturer.

7. Adjustable Nozzles

a. Air dispersion accomplished by adjustable ball nozzles and permeable fabric. Adjustable ball nozzles to have multiaxial rotation to redirect airflow to desired area. Adjustable ball nozzles are able to completely close off airflow without adding caps or plugs. Adjustable ball nozzles should lock into place once set, preventing constant adjustment. Adjustable ball nozzle should have inset design to be a condensation resistant product.

b. Colors of adjustable nozzles are available are white and black. With white material receiving white adjustable nozzles and all other material colors receiving black adjustable nozzles unless otherwise specifically mentioned on drawings or otherwise in the specification.

c. Quantity and location of adjustable ball nozzles to be specified and approved by manufacturer.

E Fabric Duct Fittings

1. The non-metal fabric duct manufacturer shall provide duct fittings based on the specific project design parameters and layout for each installation.

2. Fabric duct fittings shall be constructed of the same fabric as the non-metal duct system and shall meet the same requirements and specifications.

3. Fabric duct fittings shall have the same internal metal support structure and external suspension components as the non-metal duct system.

4. Fabric duct fittings shall be provided for:

a. Radius elbows in 30°, 40°, 60°, and 90° configurations.

b. Duct transitions in increments of 2" duct diameter changes in configurations of center-aligned, top-aligned, and bottom aligned.

c. Tee and branch fittings in both matching branch-to-main diameters and non-matching branch-to-main diameters in center-aligned, top-aligned and bottom aligned configuration, single and dual-sided branches.

F Internal Frame and Fabric Tensioning System

1. System shall cylindrically tension the duct fabric along the entire length of fabric duct, including all fittings.

2. Tensioning system shall be metallic and shall include full 360 degree tensioning and intermediate rings with quick connection spacer tubes concealed inside the fabric system.

3. Interior structure to include multiple mechanically adjustable tension devices. To provide proper fabric tensioning, structural and fabric system shall be configured in segments of no more than 45 feet.

4. Fabric components supported solely by metal cylindrical rings.

5. Each cylindrical ring shall require vertical metal to metal vertical cable safety attachment.

6. If within a natatorium, all metal structural components shall be able to withstand chlorinated environment and shall not be susceptible to corrosion. Provide necessary coatings and materials.

G External Hangers, Supports and Suspension

1. Tension Cable System, One row Cable:

   a. Systems shall be installed 1-1/2” above top-dead-center. Textile system attachment to cable shall be made using gliders spaced every 24 inches. Available for systems less than 32” diameter. Cable suspension hardware o include cable, eye bolts, thimbles, cable clamps, and turnbuckle(s) as required.

   b. Cable suspension options:

      1) Galvanized steel cable

      2) Stainless steel cable

      3) Impregnated steel cable

   c. Support lengths available in 5’ (standard), 10’, 15’, & 30’.

2. Tension Cable System, Two Row Cable:

   a. Systems shall be installed 1-1/2” above the 10 and 2 o’clock locations. Textiles system attachment to cable shall be made using Gliders spaced every 24 inches. Required for systems of 32”-59” diameter. Available for systems less than 32” diameter. Cable suspension hardware to include cable, eye bolts, thimbles, cable clamps, and turnbuckle(s) as required.

   b. Cable suspension options:

      1) Galvanized steel cable

      2) Stainless steel cable

      3) Impregnated steel cable (required for natatorium applications)

c. Support lengths available in 5’ (standard), 10’ 15’, & 30’.

3. Tension Cable System, Three Row Cable:

a. Systems shall be installed 1-1/2" above the 10, 12, and 2 o'clock locations. Textile system attachment to cable shall be made using Gliders spaced every 24 inches. Required for systems of 60" diameter and larger. Available for systems less than 60" diameter. Cable suspension hardware to include cable, eye bolts, thimbles, cable clamps, and turnbuckle(s) as required.

b. Cable suspension options:

1) Galvanized steel cable

2) Stainless steel cable

3) Impregnated steel cable (required for natatorium applications)

c. Support lengths available in 5’ (standard), 10’ 15’, & 30’.

4. U-Track System, One Row U-Track:

a. Systems shall be installed 1-1/2" above top-dead-center. Textile system attachment to cable shall be made using Gliders spaced every 24 inches. Available for systems less than 32" diameter. U-Track suspension hardware to include 8' sections of aluminum track, aluminum splice connectors, track endcaps and vertical cable support kits - consisting of a length of cable with cable connectors. Radius aluminum must be included for all horizontal/flat radius sections.

b. U-Track suspension options:

1) Galvanized steel cable

2) Stainless steel cable

3) Impregnated steel cable

c. Support lengths available in 5’ (standard), 10’ 15’, & 30’.

5. U-Track System, Two Row U-Track:

a. Systems shall be installed 1-1/2" above the 10 and 2 o'clock locations. Textile system attachment to cable shall be made using Gliders spaced every 24 inches. Required for systems of 32" - 59" diameter. Available for systems less than 32" diameter. U-Track suspension hardware to include 8' sections of aluminum track, aluminum splice connectors, track endcaps and vertical cable support kits - consisting of a length of cable with cable connectors. Radius aluminum track must be included for all horizontal/flat radius sections.

b. U-Track suspension options:

1) Galvanized steel cable

2) Stainless steel cable

3) Impregnated steel cable

c. Support lengths available in 5’ (standard), 10’ 15’, & 30’.

6. U-Track System, Three Row U-Track:

a. Systems shall be installed 1-1/2" above the 10, 12, and 2 o'clock locations. Textile system attachment to cable shall be made using Gliders spaced every 24 inches. Required for systems of 60" diameter and larger. Available for systems less than 60" diameter. U-Track suspension hardware to include 8' sections of aluminum track, aluminum splice connectors, track endcaps and vertical cable support kits - consisting of a length of cable with cable connectors. Radius aluminum track must be included for all horizontal/flat radius sections.

b. U-Track suspension options:

1) Galvanized steel cable

2) Stainless steel cable

3) Impregnated steel cable

c. Support lengths available in 5’ (standard), 10’ 15’, & 30’.

PART 3 - EXECUTION

3.01 INSTALLATION OF FABRIC AIR DISPERSION SYSTEM

A Install chosen suspension system with minor noise and fabric motion at start-up in accordance with the requirements of the manufacturer. Instructions for installation shall be provided by the manufacturer with product. Suspension Track and cable within a natatorium shall be able to withstand chlorinated environment and shall not be susceptible to corrosion. Provide necessary coatings and materials.

3.02 CLEANING AND PROTECTION

A Clean air handling unit and ductwork prior to the fabric air dispersion system unit-by-unit as it is installed. Clean external surfaces of foreign substance which may cause corrosive deterioration of facing.

B Temporary Closure: At ends of ducts which are not connected to equipment or distribution devices at time of ductwork installation, cover with polyethylene film or other covering which will keep the system clean until installation is completed.

C If fabric dispersion system becomes soiled during installation, it should be removed and cleaned following the manufacturers standard terms of laundry.

END OF SECTION 23 31 14

SECTION 23 64 23 - AIR COOLED SCROLL WATER CHILLERS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B Section 23 02 00 - Basic Materials and Methods for HVAC shall be included as a part of this Section as though written in full in this document.

1.02 SCOPE

A Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for owner's use.

1.03 RELATED SECTIONS

A Section 23 05 13 - Common Motor Requirements for HVAC Equipment

B Section 23 05 48 - Vibration and Seismic Controls for HVAC Piping and Equipment

C Section 23 05 93 - Testing, Adjusting, And Balancing

D Section 23 07 16 - HVAC Equipment Insulation

E Section 23 07 19 - HVAC Piping Insulation

F Section 23 08 00 - Commissioning of HVAC Systems

G Section 23 09 63 - Energy Management and Control System (EMCS)

H Section 23 21 13 - Above Ground Hydronic Piping

I Section 23 21 19 - Hydronic Specialties

1.04 REFERENCES

A AHRI 370 - Sound Performance Rating of Large Air-cooled Outdoor Refrigerating and Airconditioning Equipment; 2015.

B AHRI 550/590 (I-P) - Standard for Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle; 2023.

C ASHRAE Std 15 - Safety Standard for Refrigeration Systems; 2024, with Addendum (2026).

D ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

E ASME BPVC-VIII-1 - Boiler and Pressure Vessel Code, Section VIII, Division 1: Rules for Construction of Pressure Vessels; 2025, with Errata .

F ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus; 2019.

G ICC (IECC) - International Energy Conservation Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

I UL 1995 - Heating and Cooling Equipment; Current Edition, Including All Revisions.

1.05 QUALITY ASSURANCE

A Unit shall be rated in accordance with AHRI 550/590 (I-P) , latest revision (U.S.A.).

B Unit construction shall comply with ASHRAE Std 15 Safety Code, UL 1995, NFPA 70 and ASME applicable codes (U.S.A. codes).

C Unit shall be manufactured in a facility registered to ISO 9002/BS5750, Part 2 Manufacturing Quality Standard.

D Unit shall be tested at the factory.

E Unit shall meet or exceed minimum efficiency requirements in accordance with ICC (IECC) and ASHRAE Std 90.1 I-P.

F Unit shall be rated for sound performance in accordance with AHRI 370.

1.06 DELIVERY, STORAGE AND HANDLING

A Unit shall be stored and handled per unit manufacturer’s recommendations.

B Protect unit from physical damage. Fit nozzles and open ends with plastic enclosures. Leave factory shipping covers and enclosures in place until installation.

1.07 SUBMITTALS

A Submit shop drawings and product data under provisions of Division One.

B Submit shop drawings indicating components, assembly, dimensions, weights and loadings, required clearances, and location and size of field connections. Indicate equipment, piping and connections, valves, strainers, and electronic valves required for complete system.

C Verify unit voltage matches voltage on electrical drawings.

D Submit product data indicating rated capacities, weights, specialties and accessories, electrical requirements and wiring diagrams.

E Submit written certification that components of package not furnished by manufacturer have been selected in accordance with manufacturer's requirements.

F Submit manufacturer's installation instructions including: Power, power wiring requirements, control wiring requirements, insulation details for unit motor starter details, etc.

G Performance Data - Submittal shall include chiller manufacturer's computer generated performance ratings. These computer ratings shall be certified in accordance with AHRI 550/590 (I-P). Computer ratings shall also contain AHRI Certified part load values for operation at 100%, 75%, 50%, and 25% of full load.

1.08 WARRANTY

A Provide parts and labor warranty for complete chiller package by equipment manufacturer for one year from start-up or 18 months from date received on site.

B Provide five-year compressor and motor parts and labor warranty by the equipment manufacturer. **Warranty shall include parts, labor, refrigerant, and refrigerant oil for 5 years per Humble ISD Standards.**

1.09 OPERATIONS PERSONNEL TRAINING

A Provide a training session for the owner’s operations personnel. Training session shall be performed by a qualified person who is knowledgeable in the subject system/equipment. Submit a training agenda two (2) weeks prior to the proposed training session for review and approval. Training session shall include at the minimum:

1. Purpose of equipment.
2. Principle of how the equipment works.
3. Important parts and assemblies.
4. How the equipment achieves its purpose and necessary operating conditions.
5. Most likely failure modes, causes and corrections.
6. On site demonstration.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A Carrier

B Trane

C JCI/York

2.02 AIR COOLED LIQUID CHILLER

A General: Factory assembled, single-piece, air-cooled liquid chiller. Contained within the unit cabinet shall be all factory wiring, piping, controls, refrigerant charge of R-32 or R-454B, and special features required prior to field start-up.

2.03 UNIT CABINET

A Frame shall be of heavy-gage, painted galvanized steel.

B Cabinet shall be galvanized steel casing with a baked on enamel powder finish.

C Cabinet shall be capable of withstanding 1,000-hour salt spray test in accordance with ASTM B117.

2.04 FANS

A Condenser fans shall be direct-driven, variable speed, and shall be statically and dynamically balanced with inherent corrosion resistance. Air shall be discharged vertically upward.

B Fans shall be protected by coated steel wire safety guards.

C Fan motors shall be high efficiency, 3 phase, Totally Enclosed Air-Over (TEAO), rigid mounted, permanently lubricated, with ball bearings.

D All condenser fans shall be controlled by variable speed drive. Each refrigerant circuit shall have an independent variable speed drive to control the associated condenser fans.

2.05 COMPRESSORS

A Unit shall have hermetic scroll type, direct drive compressors protected by motor temperature sensors.

B Each compressor shall be equipped with a discharge shutoff valve, a crankcase heater to minimize oil dilution, and mounted on external rubber-in-shear vibration isolation.

C Compressor shall start in unloaded condition. Capacity control shall be provided by staging individual compressors, with capability to reduce unit capacity to 15% of full load. Provide hot gas bypass as necessary to achieve minimum load.

D Motor cooling shall be provided by suction gas and protected by internal overload thermistor.

E Lube oil system shall include filtration devices

2.06 COOLER

A Cooler shall be either shell-and-tube type, or brazed plate type heat exchanger.

B If cooler is shell-and-tube type, the cooler shall be tested and stamped in accordance with ASME BPVC-VIII-1 for a minimum refrigerant working-side pressure of 445 psig and shall be tested for a maximum fluid-side pressure of 300 psig. Shell-and-tube cooler shall be mechanically

cleanable. Tubes shall be internally-enhanced, seamless copper type, and shall be rolled into tube sheets.

C If cooler is brazed plate type, the cooler shall be tested and stamped in accordance with ASME BPVC-VIII-1 for a minimum refrigerant working-side pressure of 430 psig and shall be tested for a maximum fluid-side pressure of 150 psig. Brazed plate cooler shall be made of stainless steel using copper braze material.

D Cooler shall be equipped with weld-on or grooved fluid connections.

E Cooler shall be insulated with 3/4 inch, closed-cell insulation with a maximum K factor of 0.28.

F Shall incorporate 1 refrigerant circuit for chillers with nominal capacity lower than 40 tons and shall incorporate 2 independent refrigerant circuits for chillers with nominal capacity of 40 tons or greater.

G Shall have a cooler drain and vent.

H Shall incorporate a refrigerant level sensing device.

I Cooler shall be provided with a factory installed thermal dispersion type flow switch.

J Provide cooler heater that provide cooler freeze protection down to 0°F.

2.07 CONDENSER

A Coil shall be air-cooled with integral subcooler. Condenser coil shall be constructed of aluminum fins mechanically bonded to seamless copper tubes. Coils shall then be cleaned, dehydrated, and sealed.

B Condenser coils shall be leak tested for a minimum design working pressure of 650 psig.

C Provide a fully louvered hail guard enclosure to protect the condenser coils.

2.08 REFRIGERATION COMPONENTS

A Refrigerant circuit components shall include oil separator, high and low side pressure relief device, discharge and liquid line shutoff valves, replaceable-core filter drier, moisture indicating sight glass, electronic expansion device and complete operating charge of both refrigerant and compressor oil.

2.09 UNIT CONTROLS

A All unit controls are housed in a weathertight NEMA 3R enclosure with removable plates to allow for customer connection of power wiring and remote interlocks. All controls, including sensors, are factory mounted and tested prior to shipment. All cataloged units are UL listed.

B Microcomputer controls provide all control functions including start-up and shut down, leaving chilled water temperature control, compressor and electronic expansion valve modulation, fan sequencing, anti recycle logic, automatic lead/lag compressor starting and load limiting.

C Unit protective functions include loss of chilled water flow, evaporator freezing, loss of refrigerant, low refrigerant pressure, high refrigerant pressure, reverse rotation, compressor starting and running over current, phase loss, phase imbalance, phase reversal, and loss of oil flow.

D A menu driven digital display shall indicate operating data points including chilled water setpoint, current limit setpoint, leaving chilled water temperature, VSD speed, evaporator and condenser refrigerant pressures and temperatures. A diagnostic check shall be made and displayed when a problem is detected.

E Condenser fan variable speed drives:

1. Variable speed drives shall be solid state, microprocessor-based, pulse-width modulation (PWM) type utilizing insulated-gate bipolar transistor (IGBT) output power devices with a power factor of 0.95 or better at all loads and speeds.

2. Provide drives with integral 5% impedance line reactor or DC link reactor to reduce the harmonics to the power line and to add protection from AC line transients. Variable speed drive voltage total harmonic distortion (THD) and harmonic current total demand distortion (TDD) shall not exceed 35%.

3. Condenser fan drive controls shall automatically regulate fan speed to optimize chiller efficiency over all chiller operating conditions. Condenser fan speed shall modulate with compressor staging to provide chiller unloading.

4. All drives shall be air cooled. The variable speed drive enclosures shall be microprocessor controlled to maintain temperature within acceptable limits as determined by the manufacturer.

5. All drives shall be suitable for continuous operation at nameplate voltage ±10%. Drives shall be suitable for continuous operation at 100% of nameplate amps and 150% of nameplate amps for 5 seconds.

6. All drives shall be suitable for operation in ambient temperatures between 32 and 104°F, 95% humidity (non-condensing) for altitudes up to 3300 ft above sea level without derating.

7. Variable speed drives shall comply with applicable ANSI, NEMA, UL, and NEC standards.

F The digital display shall provide interface for programming and display of variable speed drives and chiller parameters.

1. At a minimum, viewable data shall include:

a. Operating, configuration, and fault messages

b. Output frequency

c. Output current

d. Output voltage

e. Output power

2. At a minimum, viewable alarms and fault messages shall include:

a. Under voltage

b. Over voltage

c. Over current

d. Phase loss

e. Phase reversal

f. Ground fault

g. Phase unbalance

h. Single cycle voltage loss

i. Motor overload

j. Communication fault

2.10 POWER AND ELECTRICAL REQUIREMENTS

A Provide factory mounted, single point connection including circuit breaker with external lockable handle. Circuit breaker shall have a minimum short circuit current rating of 65,000 AIC.

B Provide factory mounted control power transformer to convert unit power voltage to 120V/1Ph/60Hz. Factory mounting shall include primary and secondary wiring between the transformer and the control panel.

2.11 ACCESSORY EQUIPMENT

A A weighted sound pressure level shall not exceed 73 dba measured at 30 feet from chiller. Provide necessary sound attenuation equipment on chiller in order to meet these requirements.

B Provide factory installed guards to prevent unauthorized access to compressors and other components.

C Provide chiller with BACnet interface for integration into an Energy Management and Control System (EMCS) for monitoring of Chiller operations. BACnet interface shall be BACnet certified. Chiller microprocessor must be capable of receiving an EMCS input signal for Remote Run/Stop and Leaving Chilled Water Temperature Reset.

D Provide condenser coils with factory applied corrosion resistant epoxy coating utilizing a dip and bake. Coating shall be capable of withstanding minimum 6,000 hour salt spray test in accordance with ASTM B117.

E Provide factory installed low ambient head pressure control and all associated components for chiller operation down to 0°F.

PART 3 - EXECUTION

3.01 INSTALLATION

A Install in accordance with manufacturer's instructions.

B All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturer’s requirements.

C Provide for connection to electrical service to chiller. Refer to Division 26. If cooler heater does not receive power from main chiller power supply via integral transformer, the Contractor shall be responsible to provide separate 120V, 15 Amp, electrical circuit for cooler heater.

D Align chiller on concrete foundations, sole plates, and sub-bases. Level, grout, and bolt in place.

E Install units on vibration isolation. Refer to Section 23 05 48 - Vibration and Seismic Controls for HVAC Piping and Equipment.

F Provide cooler connections to chilled water piping. Refer to Sections 23 21 13 and 23 21 19. On inlet, provide thermometer well for temperature controller, thermometer well and thermometer, strainer, nipple and flow switch, pressure gauge, and shut-off valve. On outlet, provide thermometer well and thermometer, pressure gauge, and shut-off valve.

G Insulate cold surfaces not provided with factory insulation. Refer to Sections 23 07 16 and 23 07 19.

H Arrange piping for easy dismantling to permit cooler cleaning.

3.02 MANUFACTURER'S FIELD SERVICES

A START-UP: Chiller manufacturer shall furnish start-up service. Refrigerant, oil, evacuation units, and all other miscellaneous materials and tools for start-up shall be furnished by the manufacturer as required. Concurrent owner instruction is to be furnished by the chiller manufacturer. Services shall be documented by a start-up completion record signed off by both the manufacturer and installing contractor.

B Provide services of factory trained representative for minimum one day to leak test, refrigerant pressure test, start-up, calibrate controls, and instruct Owner on operation and maintenance. Any leaks that are found shall be repaired using methods as recommended by the manufacturer. After repairs have been completed the system shall be evacuated, dehydrated, and fully charged with refrigerant. The chiller shall be re-tested to confirm the system is leak free.

C Supply initial charge of refrigerant and oil.

D Manufacturer shall furnish a start-up completion record, signed by the manufacturer's representative and the installing contractor and shall include:

1. Dates of start-up and personnel in attendance.
2. Dates of owner instruction and personnel in attendance.
3. Design performance data.
4. Actual performance data.

E Manufacturer shall provide any controls not listed above, necessary for automatic chiller operation. Mechanical Contractor shall provide field control wiring necessary to interface sensors to the chiller control system.

END OF SECTION 23 64 23

SECTION 32 92 13 HYDRO-MULCH SEEDING

PART 1 - GENERAL

1.01 DESCRIPTION

A. The hydro-mulch seeding operations, together with all necessary related work, shall conform to the requirements specified in this section. The area(s) to be hydro-mulch seeded shall be noted in the construction documents.

1.02 MEASUREMENT & PAYMENT

A. No separate measurement or payment will be made for materials and labor performed under this section. Include all costs in the lump sum price.

PART 2 – PRODUCTS

2.01 MATERIALS

A. All seed must meet the requirements of the U.S. Department of Agriculture Rules & Regulations as set forth in the Federal Seed Act and the Texas Seed Law.

B. Type of seed, purity and germination requirements, rate of application and planting dates are as follows:

TABLE I

Type	Application Rate *(Pounds per Acre)*	Planting Date
Annual Rye Grass, including Gulf	50	Jan. 1 to Apr. 15
Hulled Common Bermuda Grass 98/88	40	Apr. 15 to Oct. 1
Hulled Common Bermuda Grass 98/88	40	Oct. 1 to Jan. 1
Unhulled Common Bermuda Grass 98/88	40	Oct. 1 to Jan. 1

C. Fertilizer shall be water soluble with an analysis of 10 percent nitrogen, 20 percent phosphoric acid and 10 percent potash. Rate of application shall be 500 pounds per acre, except during the period of April 15 through September 1, when the rate shall be reduced to 400 pounds per acre. The fertilizer shall be delivered to the site in bags or other convenient containers, each fully labeled, conforming to the applicable State Fertilizer Laws and bearing the name and warranty of the producer.

D. Mulch shall be virgin wood cellulose fiber made from whole wood chips. Within the fiber mulch material, at least 20 percent of the fibers will be 10.7mm in length and 0.27mm in diameter. Rate of application shall be 2000 pounds per acre. Soil Stabilizers such as Terra Type III (or approved equal) shall be applied at a rate of 40 pounds per acre on side slopes and Terra Tack I (or approved equal) shall be applied at a rate of 40 pounds per acre on flatter portions.

E. Wood cellulose fiber mulch, for use in the grass seed and fertilizer, shall be processed in such a manner that it will not contain germination or growth inhibiting factors. It shall be dyed an appropriate color to allow visual metering of its application. The wood cellulose fibers shall have the property of becoming evenly dispersed and suspended when agitated in water. When sprayed uniformly on the surface of the soil, the fibers shall form a blotter-like ground cover, which readily absorbs water and allows infiltration to the underlying soil.

F. Weight specifications from suppliers for all applications shall refer only to the underlying soil. Weight specifications from suppliers, shall refer only to the air-dry weight of the fiber. The mulch material shall be supplied in packages having a gross weight not in excess of 100 pounds and must be marked by the manufacturer to show the dry weight content. Suppliers shall be prepared to certify that laboratory and field testing of their product has been accomplished and that it meets all of the foregoing requirements.

G. Water shall be free from oil, acid, alkali, salt and other substances harmful to the growth of grass. The water source shall be subject to approval, prior to use.

PART 3 — EXECUTION

3.01 INSTALLATION

A. Immediately after the finished grade has been approved by Architect and Civil Engineer, begin hydro-mulching operations to reduce erosion and excessive weed growth.

B. Hydraulic equipment used for the application of fertilizer, seed and slurry of prepared wood fiber mulch shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend and homogeneously mix a slurry containing up to forty (40) pounds of fiber plus a combined total of 70 pounds of fertilizer solids for each 100 gallons of water.

C. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles, which provide even distribution of the slurry on the area to be seeded.

D. The slurry tank shall have a minimum capacity of 800 gallons and shall be mounted on a traveling unit, which may either be self-propelled or drawn with a separate unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded, so as to provide uniform distribution without waste.

E. The Engineer may authorize equipment with a smaller tank capacity, provided the equipment has the necessary agitation system and sufficient pump capacity to spray the slurry in a uniform coat.

F. Care shall be taken that the slurry preparation take place on the site of the work. The slurry preparation should begin by adding water to the tank when the engine is at half throttle. When the water level has reached the height of the agitator shaft, good re-circulation shall be established and seed shall be added. Fertilizer shall then be added, followed by wood pulp mulch. The wood pulp mulch shall only be added to the mixture after the seed and when the tank is at least one-third filled with water. The engine throttle shall be opened to full speed when the tank is half filled with water.

G. All the wood pulp mulch shall be added by the time the tank is two-third to three-fourths full. Spraying shall commence immediately when the tank is full. The operator shall spray the area with a uniform visible coat, by using the green color of the wood pulp as a guide.

3.02 APPLICATION

A. The Contractor shall obtain approval of hydro-mulch area preparation from the Engineer prior to application.

B. Operators of hydro-mulching equipment shall be thoroughly experienced in this type of application. Apply the specified slurry mix in a motion to form a uniform mat at the specified rate. Operators shall keep the hydro-mulch within the areas designated and keep from contact with other plant material. Immediately after application, thoroughly wash off any plant material, planting areas or paved areas not intended to receive slurry mix.

C. Keep all paved and planting areas clean during maintenance operations. Contractor shall keep hydro-mulching within the areas designated and keep from contact with other plant material.

D. If in the opinion of the Engineer, unplanted skips and areas are noted after hydro-mulching, the Contractor shall be required to seed the unplanted areas with the grasses that were to have been planted at no additional cost to the Owner.

3.03 CONTRACTOR'S MAINTENANCE AND GUARANTEE PERIOD

A. The hydro-mulch seeding shall be adequately watered until established. Any areas damaged by erosion or areas that do not have any acceptable turfing shall be redone to the satisfaction of the Engineer. Maintenance of grass areas shall be for 180 days after the completion of the project and shall consist of watering, weeding, repair of all erosion and reseeding, as necessary to establish a uniform stand of the specified grasses. The Contractor shall guarantee growth and coverage of hydro-mulch planting under this contract to the effect that a minimum of 95% of the area planted will be covered with the specified planting after 180 days.

B. Prior to final acceptance, the Contractor shall be responsible for one (1) mowing per month between the months of April to September and shall mow every thirty (30) days plus or minus five (5) after the initial mowing. The Contractor shall also be responsible for one (1) mowing every six (6) weeks between the months of October to March. In addition, the Contractor shall water the entire sod and hydro-mulched areas to a saturated depth of one (1) inch at least once a week between the months of April to September and at least once a month between the months of October to March.

C. The Contractor shall make a second application of specified hydro-mulch planting to those bare areas not meeting specified coverage as determined by the Engineer. Such replanting is to be performed within 60 days of initial application and upon notification by the Engineer to replant.

D. The Contractor shall apply top dress fertilizer (delayed action), at the rate of 10 pounds per 1000 square feet at 25 days after hydro-mulching of all new lawn areas.

E. Top dress fertilizer shall be 16-6-8.

END OF SECTION 32 92 13

SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.01 SCOPE

A Provide panelboards as shown, scheduled and as specified herein.

B The types of panelboards include:

1. Panelboards.
2. Power distribution panelboards.
3. Load centers

1.02 REFERENCE STANDARDS

A ANSI C12.1 - Electric Meters - Code for Electricity Metering; 2026.

B ANSI C12.20 - American National Standard for Electricity Meters - 0.1, 0.2, and 0.5 Accuracy Classes; 2022.

C NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

D UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.

E UL 67 - Panelboards; Current Edition, Including All Revisions.

F UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures; Current Edition, Including All Revisions.

G UL 943 - Ground fault Circuit Interrupters

H NEMA PB 1 - Panelboards

I NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less

J NEMA, ABI, Molded Car Circuit Breakers and Molded Case Switches

K Federal Spec W-P 115, Rev C, Panel, Power Distribution

L NEMA KSI, Enclosed and Miscellaneous Distribution Equipment Switches (600V)

1.03 ACCEPTABLE MANUFACTURERS

A Provide one of the following manufacturers:

1. General Electric Company/ABB

2. Square D Company

3. **Siemens**

4. **Eaton**

1.04 SUBMITTALS

A Shop drawings shall include, but not be limited to:

1. Cutsheets of all enclosures, circuit breakers, fusible switches, bussing, rating, schedules and all accessories clearly labeled.

1.05 REQUIREMENTS OF REGULATORY AGENCIES

A WORK IN ACCORDANCE WITH:

1. NFPA 70

2. Local, municipal, or state codes that have jurisdiction.

PART 2 - PRODUCTS

2.01 MATERIALS AND COMPONENTS

A General

1. Provide power distribution and panelboards as indicated in the panelboard schedule and as shown on the plans. Load centers are acceptable for use in dwelling units. Power distribution panelboards shall be equipped with fusible switches or circuit breakers as shown on the schedule. Panelboards shall be equipped with thermal-magnetic, molded case circuit breakers of frame and trip ratings as shown on the schedule.

B Busing Assembly and Temperature Rise

1. Panelboard bus structure and main lugs or main breaker shall have current ratings as shown on the panelboard schedule. Such ratings shall be established by heat rise tests with maximum hot spot temperature on any connector or bus bar not to exceed 65°C. rise above 40°C ambient. Heat rise test shall be conducted in accordance with Underwriters Laboratories Standard UL 67. The use of conductor dimensions will not be accepted in lieu of actual heat tests. All current carrying parts of the bus shall be tin or silver plated copper.

2. Bus structure shall be isolated. Bus bar connections to the branch circuit breakers shall be distributed phase or phase sequence type and shall accept bolt-on circuit breakers for lighting and appliance panelboards.

3. The lugs for terminating conductors shall be rated at 75°C on all panel boards and circuit breakers.

4. Provide a non-insulated bare copper ground bus. Provide an isolated ground copper bus in each panel serving isolated ground circuits as indicated on panel schedule or one-line diagram. Provide a full size copper neutral bus in each panelboard enclosure. Provide a

200% neutral buss when served by a harmonic mitigating transformer and any K4 or higher rated transformers.

C Distribution Panelboards

1. Provide arc energy reduction switch for each overcurrent device rated 1,200 amps or larger to comply with 240.87 of the NEC. Switch shall be equipped with a pad lockable cover with a blue LED pilot light that illuminates when system is activated. Locate switch and cover recessed mounted adjacent to the switch it serves or remote as indicated on the plans. Provide label and all required hardware. Remote switch(es) shall be flush mounted in wall near entry to the room.

2. Circuit breakers shall be equipped with individually insulated, braced and protected connectors. The front faces of all circuit breakers shall be flush with each other. Large, permanent, individual circuit numbers shall be affixed to each breaker in a uniform position. Tripped indication shall be clearly shown by the breaker handle taking a position between “ON” and “OFF”. Provisions for additional breakers shall be such that no additional connectors will be required to add breakers. Circuit breakers shall be of the frame size, trip setting and interrupting capacity as indicated on the drawings. Circuit breakers shall be rated 65,000 AIC unless otherwise noted on plans.

3. All fusible switches shall be quick-make, quick-break with visible blades and dual horsepower ratings. Switch handles shall physically indicate “ON” and “OFF” positions. Switches shall be lockable only in the “OFF” position and accept three industrial type heavy duty padlocks. Switch covers and handles shall be interlocked to prevent opening in the “ON” position. A means shall be provided to permit authorized personnel to release the interlock for inspection purposes. Switches shall include positive pressure rejection type fuse clips for use with UL Class R fuses or Class J fuses and be UL labeled for 200,000 AIC.

D 480/277 Volt Panelboards

1. Main breakers shall be vertically mounted. Branch mounted main breakers are not acceptable. Provide electronic trip mains with long term, short term and instantaneous trips as indicated on drawings and required for selective coordination.

2. Circuit breakers shall be bolt-on thermal-magnetic, molded case circuit breakers. Breakers shall be 1, 2 or 3 pole with an integral crossbar to assure simultaneous opening of all poles in multiple circuit breakers. Breaker shall have an over-center, trip-free, toggle-type operating mechanism with quick-make, quick-break action and positive handle indication. Handles shall have “ON”, “OFF” and “TRIPPED” positions. Circuit breakers shall be UL listed in accordance with UL Standard 489 and shall be rated 277 volt ac (single pole, 15-30 amperes) or 480Y/277 volts ac (2 and 3 pole) with continuous current ratings as noted on the plan. Interrupting ratings shall be a minimum of 18,000 rms symmetrical amperes at 277 volts ac (single pole) or 480Y/277 volts ac (2 and 3 pole) unless otherwise noted on plans.

3. Provide circuit breakers with lock-on devices for applications where dedicated branch circuits are serving battery-equipped emergency lighting fixtures, exit signs or fire alarm equipment per Article 700 of NFPA 70.

E 240 Volt Panelboards

1. Main breakers shall be vertically mounted. Branch mounted main breakers are not acceptable. Provide electronic trip mains with long term, short term and instantaneous trips as indicated on drawings and required for selective coordination.

2. Circuit breakers shall be bolt-on thermal-magnetic, molded case circuit breakers. Breakers shall be 1, 2, or 3 pole with an integral crossbar to assure simultaneous opening of all poles in multiple circuit breakers. Breakers shall have an overcenter, trip-free, toggle-type operating mechanism with quick-make, quick-break action and positive handle indication. Handles shall have "ON", "OFF" and "TRIPPED" positions.

3. Circuit breakers shall be UL listed in accordance with UL 489 and shall be rated 240 volts ac maximum with continuous current rating as noted on the plans.

4. Branch circuit breakers feeding convenience outlets shall have sensitive instantaneous trip settings of not more than 10 times the trip settings of the breaker to prevent repeated arcing short resulting from frayed appliance cords. Single pole 15 and 20 ampere circuit breakers shall be UL listed as "Switching Breakers" at 120V ac and carry the SWD marking.

5. UL Class A 5mA ground fault circuit protection shall be provided on all receptacle circuits serving wet areas and on all 120V ac branch circuits as specified on the plans or panelboard schedule. This protection shall be an integral part of the branch circuit breaker which also provides overload and short circuit protection for branch circuit wiring. Tripping of a branch circuit breaker containing ground fault circuit interruption shall not disturb the feeder circuit to the panelboard. A single pole circuit breaker with integral ground fault circuit interruption shall require no more panelboard branch circuit space than a conventional circuit breaker.

6. UL Class B 30mA ground fault circuit protection (GFEP) shall be provided on all equipment circuits requiring ground fault protection. This protection shall be an integral part of the branch circuit breaker which also provides overload and short circuit protection for branch circuit wiring.

7. Provide Shunt Trip Breakers including control power for circuits under cooking hoods and other equipment having this requirement.

8. Provide Breakers with Switched Neutral circuits with common trip for gasoline pumps and other equipment having this requirement.

9. Circuit breakers shall be rated 10,000 AIC at 240V unless otherwise noted on plans or served by transformers greater than 150 kVA.

10. Provide 200% sized neutral bus with panels served from a non-linear transformer and any K4 or higher rated transformers. This shall be a UL approved assembly.

11. Provide circuit breakers with lock-on devices for applications where dedicated branch circuits are serving battery-equipped emergency lighting fixtures, exit signs or fire alarm equipment per Article 700 of NFPA 70.

F Cabinets and Fronts

1. The panelboard bus assembly shall be enclosed in a steel cabinet. The rigidity and gauge of steel to be as specified in UL 50 for cabinets. Wiring gutter space shall be in accordance with UL 67 for panelboards. The box shall be fabricated from galvanized steel or equivalent rust resistant steel. Provide stainless steel front cover for all panels located in all Pool Equipment rooms, Food Labs, Snack Bars, Culinary Arts, Kitchens and Life Skills rooms. All NEMA-1 panels shall have hinged front covers. The front cover shall have a door with hinges, latch and a lock. The piano hinged front covers door-in-door shall allow full access to the circuit breaker gutter area without having to remove the entire front cover. All panelboard lock shall be keyed alike. Circuit breaker and fusible distribution panels shall have four-piece trims. A welded circuit directory frame and card with a clear plastic covering shall be provided on the inside of the door. Provide NEMA 1 enclosure where installed indoors unless otherwise noted. Provide NEMA 3R enclosure where installed outside or in a sprinkled area.

G Safety Barrier

1. The distribution panelboard interior assembly shall be dead front with panelboard cover removed. Main lugs or main breakers shall have a barrier. The barrier in front of the main lugs shall be hinged to a fixed part of the interior. The end of the bus structure opposite the mains shall have barriers.

H Integrated Equipment Short Circuit Rating

1. Each panelboard, as a complete unit, shall have a short circuit current rating equal to or greater than the integrated equipment rating shown on the panelboard schedule or on the plans. This rating shall be established by testing with the over-current devices mounted in the panelboard. The short circuit tests on the over-current devices and on the panelboard structure shall be made simultaneously by connecting the fault to each over-current device with the panelboard connected to its rated voltage source. Method of testing shall be per UL 67. The source shall be capable of supplying the specified panelboard short circuit current or greater. Testing of panelboard over-current devices for short circuit rating only while individually mounted is not acceptable. Also, testing of the bus structure alone is not acceptable. Panelboards shall be marked with their maximum short circuit current rating at the supply voltage and shall be UL listed.

I Metering

1. Provide a branch circuit meter to meter the branch circuits indicated on the drawings. It shall provide kW, kVA, kWh and kVAh. It shall be mounted in the panelboard or externally mounted next to the panel. Communication protocol shall include BACnet and Modbus TCP over ethernet. Connect to the Building Automation System. Program to notify building owner if the load exceeds values set by the energy code indicated on the load analysis. This shall comply with 220.12 Exception No. 1 of the 2020 NEC.

2. Provide a panelboard meter to meter the entire panel as indicated on the drawings. It shall include per phase and total kW, kVA, accumulated kWh, kVAh, power factor, peak demand, frequency, current and voltage It shall be mounted in the panel board or externally mounted next to the panelboard. Communication protocol shall include BACnet and Modbus TCP over ethernet. Connect to the Building Automation System. Program to notify building owner

if the load exceeds values set by the energy code indicated on the load analysis. This shall comply with 220.12 Exception No. 1 of the adopted version of the NEC. Connect the meter to the building automation system before entergizing.1

3. Meters shall be provided with an accuracy of 1.0% and shall be certified to ANSI C12.1 or ANSI C12.20 as applicable.

J Load Centers

1. Provide load centers where indicated.

2. Load centers shall have mains ratings and branch circuit breaker ratings of the size and number as indicated on drawings. Load centers shall be plug-on type construction. All current carrying parts of the bus assembly shall be plated copper. Terminals for feeder conductors to mains and branch neutral shall be UL listed as suitable for the type conductor specified. The load center bus assembly shall be enclosed in steel cabinet. The size of the wiring gutters and gauge steel shall be in accordance with UL 50 and UL 67. Fronts shall include door and be provided with a directory for circuit identification. Load center boxes and fronts shall have corrosion resisting phosphate treatment and a gray baked enamel finish. Load centers shall be UL listed and meet Federal Specification W-P-115B as Type I, Class 2.

3. All breakers shall be full width, plug-on-type, toggle action with quick-make, quick-break mechanism. Provide Square D ‘QO’, GE 'THQL' breakers or approved equal. Piggy-back or half width breakers are not acceptable. Trip indication shall be clearly shown by the breaker handle taking a position between “ON” and “OFF” when the breaker is tripped. All multi-pole breakers shall be single operating handle, common trip variety. Branch circuit breakers feeding convenience outlets shall have sensitive, instantaneous trip in order to give “flash protection” for frayed, stranded wire cords. QWIK-GARD circuit breakers with ground fault circuit interrupters shall be used in accordance with the National Electrical Code. Circuit breakers shall be UL listed and meet the requirements of Federal Specification W-C-375B/GEN, Class 1. Provide ARC Fault circuit interrupter breaker to comply with 210.12 of the NEC.

4. Provide Surge Protection Device with a minimum of 100 kA.

PART 3 - EXECUTION

3.01 INSTALLATION

A General: Install panelboards, including electrical connections, in accordance with manufacturers written instructions, NFPA 70 and recognized industry practices.

B All panels shall be mounted to unistrut. Unistrut shall be securely mounted to the floor and structural ceiling. Toggle bolts or anchor bolts attached to drywall is not acceptable.

C Housekeeping Pads: Mount floor mounted panelboards on 4 inch high concrete housekeeping pads.

D Fuses: Install fuses of the rating and class as shown in each fusible distribution panel scheduled on drawings.

E Conduits: Stub up three one inch conduits to an accessible location above the ceiling for each recessed panelboard.

3.02 IDENTIFICATION

A Nameplate: Each panelboard shall have an engraved bakelite nameplate. Nameplates shall be white with black letters and show panel designation. Nameplates shall be attached with stainless steel screws. Refer to Section 26 02 00, paragraph 2.8(C).

B Directory Card: Cardholders and directory cards shall be furnished for circuit identification in panelboards. Cardholder shall be located on inside of panel door and shall be in a metal frame with clear plastic front. Circuit lists shall be typewritten. Circuit descriptions shall include location and name of each item of equipment served. Spares and spaces shall be written in erasable pencil for future use. Circuit directory shall show the room served by each circuit. The final graphs/signage room numbers shall be used. Do not use Architectural numbering on plans.

C Replacement Components: Where circuit breakers or fuses are applied in compliance with the series combination ratings marked on the equipment by the manufacturers, the equipment enclosure(s) shall be legibly marked in the field to indicate the equipment has been applied with a series combination rating. The marking shall be readily visible and state "caution - Series Rated System." (NEC 110-22). Nameplate shall also identify replacement components.

D Replacement Components: Nameplate shall identify replacement components.

3.03 INFRARED SCANNING

A After Substantial Completion by not more than 2 months after Final Acceptance, perform an infrared scan of each panelboard. Remove fronts if not equipped with viewing ports to make joints and connections accessible to a portable scanner. Submit a copy the owner and engineer for review. If O&M manuals are submitted prior to performance of infrared scan, contractor shall submit a signed letter to verify the scan has been arranged. Letter shall indicate the scan provider and the date It will be performed.

END OF SECTION 26 24 16

SECTION 27 41 00 - INTERCOMMUNICATIONS SYSTEM

PART 1 - GENERAL

1.01 WORK INCLUDED

A Furnish and install ~~a complete~~**an expansion to the exisitng** building communications system.

1. A complete system includes items such as wiring, speakers, handsets, control consoles, and main distribution equipment.

2. Integrate all components to provide a complete and functioning system.

B Locate equipment to accommodate millwork, fixtures, marker boards and other room equipment at no additional cost to the Owner.

C Integrate the communications system with the following systems:

1. Clock and Bell System.

2. Telephone System.

D Return air plenum cable may be used as an option at the contractor's discretion. Wherever cabling is run exposed, conduit shall be used to cover and protect wiring.

1.02 QUALITY ASSURANCE

A Provide the system by a company that has been designing and supplying similar systems for a period of 3 years. Provide, upon request by Owner or Architect/Engineer names and addresses of similar installations.

B Provide central processing control console wiring connections by factory engineers or authorized factory trained personnel.

1.03 WARRANTY

A Warranty equipment for a period of 1 year, from date of substantial completion.

B Correct defects in material or workmanship with a minimum loss of operating time at no cost to Owner.

C On site service.

1.04 SUBMITTAL

A The installing contractor and/or equipment supplier shall provide complete and detailed shop drawings and include:

1. Control panel wiring and interconnection schematics.

2. Complete point-to-point wiring diagrams

3. Riser diagrams.
4. Complete floor plan drawings locating all system devices.
5. Factory data sheets on each piece of equipment proposed.
6. Detailed system operational description. Any specification differences and deviations shall be clearly noted and marked.
7. Complete system bill of material.
8. Line by line specification review stating compliance or deviation.

B All submittal data will be in bound form with contractor's name, supplier's name, and project name adequately identified.

C Minimum size drawings: 11" x 17".

1.05 COORDINATION

A It shall be the responsibility of the installing contractor to coordinate all requirements surrounding installation of the communication system with all other trades.

1.06 REFERENCES

A National Electrical Code.

B UL

C Communication systems connected to a telephone utility company shall comply with the Federal Communications Commission rules Section 68 and the corresponding UL listing.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A Headend Equipment

1. ~~Telecor- E Series~~
2. ~~Carehawk – CH1000~~
3. **Bogen**
4. ~~Owner approved equivalent~~

B Speakers/Horns

1. Atlas/Soundolier
2. Quam
3. ~~Valcom~~

4. ~~Rauland~~

5. ~~JBL~~

6. **Bogen**

2.02 CENTRAL CONTROL EQUIPMENT

A The central equipment shall be mounted in a 19" equipment rack with casters. The central equipment shall consist of but not be limited to:

1. The equipment housing.

2. A power supply to provide operating DC power for the circuitry contained within the central equipment housing and all administrative control stations (ACSs) shall be provided.

3. A central microprocessor unit containing all solid-state memory and components necessary to provide the features specified herein.

4. Zone circuit boards as required to meet the system requirements for remote stations and/or communications linkage.

5. The provision for terminating the cabling from up to 8 remote stations and 4 administrative control stations (ACSs) shall be provided.

6. The provisions to automatically activate a selectable program source between class changes.

2.03 EXTERNAL PAGING AMPLIFIER

A External paging amplifiers shall be provided as required to meet the load requirements of the system when activated in the all-page mode. The system shall be equipped with equipment required for (one) program channel.

B Program/paging amplifiers shall have the following:

1. Power output shall be capable of providing sufficient power for the speakers required to the project and include an additional 25% capacity.

2. Maximum .5% harmonic distortion from 20-20KHz.

3. Frequency response of 20Hz to 20KHz +/-1 dB.

4. 90 dB signal to noise ratio at 20Hz to 20 KHz.

5. 1V RMS input sensitivity at 1 KHz.

6. Master volume control.

2.04 ~~PROGRAM SOURCES~~

A ~~CD/Media Player with Bluetooth®/USB/SD/Aux and AM/FM Tuner – Denon Product No.DN-300Z~~

2.05 ~~EMERGENCY TONE GENERATOR~~

A ~~Provide tone generator kit. It shall incorporate a multi-tone generator with priority relay to override any paging or program function of the system.~~

B ~~The tone generator shall be activated for an external contact closure provided by the fire alarm or emergency push button.~~

2.06 ~~EQUIPMENT RACK~~

A ~~The central equipment shall be housed in a 19-inch W x 72-inch H equipment rack with casters. The rack shall be of sufficient vertical size to contain all of the specified equipment to be housed within. The rack shall be equipped with a locking rear door and removable side panels. All unused front panel space shall be filled with the appropriate size blank panels.~~

B ~~Telephone Type 66 blocks shall be mounted inside lockable, hinged panel with 3/4" painted plywood backboard.~~

C ~~The program sources shall be remotely located from the control equipment. The rack shall be a wood grain finish, tabletop rack located as directed by the Owner/Architect in the administrative area of the building.~~

2.07 SPEAKERS

A Ceiling speakers:

1. General Purpose Speaker: 8" speaker with 5 oz. magnet complete with line matching transformer. Program rating shall be 5 watts continuous. The speaker shall be a Quam System 12. 25/70V transformers shall have primary taps of 0.25, 0.5, 1, 2 and 5 watts. Tap speaker at 0.25 watt. White finish unless indicated otherwise.

2. Office, conference, telephone, lounge, workroom speakers: 8 ohm speaker with 5 oz. magnet, complete with line matching transformer. Program rating shall be 4 watts continuous. The speaker shall be a Quam System 12/VC, with integral volume control. 25/70V transformers shall have primary taps of 0.25, 0.5,1, 2, 5 watts; tap speaker at 0.5 watt.

B Wall mounted volume control: Soundolier AT-1O-PA or Quam QC-10P qual recessed autotransformer volume control. Volume control shall have public address (PA) emergency override of volume control.

C Recessed Vandal proof Wall SpeakerQuam H16/SVP Flush Mount horn with multitap line matching transformer. Provide each unite with Quam es-8 recessed backbox. Tap at 2.0 watts.

D Surface mount speaker/horn: Soundolier AP-15TC or Quam H16 surface mount wide-angle loudspeaker with multitap line matching transformer with armored cable adaptor

E Remote Source Output Volue Control: Rack mounted in remote source rack. Provide line level volume control of output of eat remote source device. Label each volume control for each output device.

2.08 ADMINISTRATIVE CONTROL STATION (ACS)

A The administrative control station (ACS) shall be the control center for communications, paging, and signaling functions for the system. The ACS shall contain control panel with buttons for functional control and user programming.

1. For voice paging, the ACS shall be equipped with a handset, keypad, speaker, microphone, and a TALK button.

2. It shall be possible to manually activate and sound the time event signal to any of the 8 time zones from the ACS.

3. The ACS shall be equipped with a built-in tone generator, which provides for both time signal tone and user accessible tones (single chime, repetitive chime, steady tone, hi-lo, alarm, wail, and warble) for use as manually activated emergency or other signals.

4. All ACSs shall have a dedicated control labeled "ALL PAGE". The operation of this control shall gather all speakers for distribution of tone signaling distress or emergency signals, and emergency voice announcements. This control shall be defeatable as to restrict access into the all-page function only to assigned ACSs.

5. A designated ACS within the system shall have the ability to enter the user accessible functions for data input and programming. A "Security Code" number shall be required to enter this programming mode.

6. Desk mounted handset: (switch Hook): Staff telephone station.

2.09 MICROPHONE

A Desktop dual impedance, dynamic paging microphone with base push-to-talk with lock.

2.10 ANTENNA

A Roof Mounted FM Antenna.

1. Gain of not less that 6.5DB at frequencies of 88 to 108 MHZ and 20 DB front to back rejection ratio.

2. Coaxial antenna lead-in.

B Loop type indoor AM antenna oriented and located as required.

2.11 MASTER CLOCK SYSTEM

A The system shall provide a master clock system, which shall provide class change signaling and shall serve as a controller to ensure that a consistent time base is maintained throughout the building. The master clock system shall provide the following capabilities:

1. The system shall provide the capacity for storing 255 events.

2. The system shall provide eight (8) schedules to allow flexibility due to seasonal changes or special events. One or more of the schedules may be active at any given time.

3. speakers may be assigned to any one or more of up to eight (8) time zones. The master clock system shall provide the ability to distribute class change signals to any or all of the zones. Time zones shall be separate from paging zones. The system shall provide separate bell duration for each zone circuit.

4. The system shall provide up to sixteen (16) programmable holidays with fully automatic holiday program execution. Bells can be silenced or special schedules can be implemented. Normal bells will resume after the holiday period.

5. The system shall provide user programmable automatic Daylight Savings Time change. Two (2) daylight savings time changes may be programmed into the system.

6. The system shall provide the ability to review, edit, and delete events. Editing may take place via a separate computer.

7. The system shall provide latched operation of zones to control lighting or other devices.

8. The system shall provide the ability to test all output zone circuits.

9. Interface with all types of secondary slave clocks whether synchronous wired, electronic, or minute-impulse types. This shall be accomplished without the use of external synchronous adapters.

10. Accumulation of down time during power outage to reset slave clocks, both minute-impulse and synchronous types after the power has been restored.

11. The system shall provide eight (8) output relays for each of the eight (8) zone circuits. Each relay shall be rated at 5 amperes.

12. The system shall provide a crystal-controlled time base for assured accuracy.

13. The system's time base shall include a Lithium battery, which shall provide not less than 5 years battery backup of the time keeping function.

14. The system shall monitor eight zone inputs for interface and synchronization with external master clocks.

B Clocks

1. Synchronous single and double face 24VAC run/24 VAC/DC correct, LED, digital, corrective, 4" display

    a. Wall or ceiling mounted as required.

    b. Provide vandal guards in athletic and high activity areas.

    c. Power input shall be 12-28VDC.

    d. Faraday clocks are not acceptable.

2. Clock power supply: Provide secondary clock 12-28VDC power supply. Power supply shall be sized in quantity to meet the load requirements of the system.

3. Provide and Install Telecor 2431-24 clocks. Or Alternate manufacturers equivalents

   a. Dual mount clocks in corridors. Provide 2423 Dual Mount Kit.

   b. Recessed Mount for wall mounted single clocks Provide 2431-BBF

   c. Provide protective enclosure for all clocks installed in cafetorium /gymnasiums.

   d. Contractor is to provide all required power supplies and cabling. Category 6 network drops.

2.12 UPS BATTERY BACK-UP

A Provide UPS Battery backup for the communications system to operate a minimum of 20 minutes upon loss of power. Acceptable Manufacturers: APC or Tripplite.

2.13 PROGRAMMING COMPUTER

A Provide compatible Windows based software and IBM (PC) compatible computer and monitor for programming when such methods are the only ones available for programming the system.

2.14 CO TELEPHONE/PBX INTERFACE

A Provide CO telephone/pbx interface for remote paging from an outside telephone / pbx extension.

PART 3 - EXECUTION

3.01 PAGING SYSTEM DESCRIPTION

A The paging system shall consist of a central equipment cabinet, microprocessor control unit, power supply, zone modules, administrative control stations (ACSs), amplifiers, and station loudspeaker assemblies. Provide all associated material hardware, wiring, and options as described herein to provide a complete working system, which shall meet the specified requirements.

B The system shall provide the facilities for the paging or sounding emergency signals or time event signals to selected groups or all remote speakers.

C The system shall provide facilities for the control and distribution of the program channel to individual zones, selected zone groups, or all zones, as well as paging communications and class change signals.

D The system shall include the facilities of a built-in master clock and programmer capable of correcting appropriate secondary clock displays and controlling events based on user programmed time schedule programs.

E Provide remote control of program distribution. Distribution of the program source shall be possible from any administrative control station (ACS).

F Zone system as follows: (Final zoning is to be coordinated with the owner)

   1. All public areas shall be a zone.

2. All speakers in corridors shall be zone area designation.

3. All outside horns shall be one zone.

4. Cafeteria(s), Auditorium(s), Multipurpose Area(s), and Assembly Areas(s) shall each be a zone.

G Provide microphone where indicated by Owner / Architect

3.02 PAGING SYSTEM FUNCTIONS

A The system shall have 8 user assignable zones for zoned audio paging. Coordinate with Architect and Owner the exact zoning layout prior to construction.

B The system shall allow for user definable pre-selective access to "zone" and "all-page" functions. This feature will prevent unauthorized paging from designated ACSs.

C The system shall provide facilities so that the user has access for sounding selected tones available from the tone generator from any ACS on either all-page or by zone basis for use as emergency or other alarm signals.

D Provisions shall be provided inherent to the system, to allow for the use of a priority override inputs (telephone extension). This circuit, when activated by an external source, shall gather all speakers for distribution of the signal information provided by the external source. This priority override input shall preempt other functions currently under way in the system. Upon conclusion of the priority override function, all pre-empted functions shall be automatically restored.

E The system shall have the capability to operate with external paging amplifiers to increase the audio output available for paging. Adequate audio amplification shall be provided as required.

F The system shall be equipped with control point outputs for activating outboard devices such as priority override relays on remote sound systems. These control point outputs shall be activated when the system is placed in the all-page mode.

G The system shall be equipped with RS-232 ports to allow for the following:

1. Diagnostics via a standard computer terminal.

2. Modem interface to allow remote factory engineering assistance. Systems not providing a port of access to the system shall not be acceptable.

H System must allow simultaneous operation of both diagnostic and functional routines (paging, zone page, time events, etc.).

I The system shall have the ability to perform scan functions from the administrative control stations for:

1. Edit and review master clock time programs.

J System shall allow for Principal's microphone to page pre-selected zones and pre-empt other functions (except priority override) currently underway in the system. Upon conclusion of the use of the Principal's microphone, all pre-empted functions shall be automatically restored.

3.03 INSTALLATION

A General: Install new communication system components in accordance with the manufacturer's instructions.

1. Terminate all field wiring on telephone punch blocks mounted in an enclosure as specified.

2. Provide 4-pair Category 6 cable from paging system to telephone system.

3. Label cables and wiring logically, legibly, and permanently for ease of identification, using adhesive strip type labels.

4. Provide four pair category 6 cable from communications system to a location designated by Owner. Provide raceway, as required, for connection of Principal's computer to clock/bell system.

5. Cable shall not lay on ceiling grid or ceiling tile.

B Speaker Installation:

1. Install new speakers types as indicated on the drawings.

2. Speakers in high ambient noise areas (cafetorium, gymnasiums, etc.) Shall be tapped as required to overcome the ambient noise generated by the public.

3. Coordinate exact location of exterior speakers with Owner/Architect. Paint speaker baffle to match exterior color as directed by Architect.

C Conduit and Cables

1. Install conduit, fittings and boxes as specified in Division 26.

2. Single system cables may be grouped together in a common conduit of adequate capacity to facilitate the ease of installation and prevent conductor or insulation damage.

a. In no case shall the conduit fill exceed 50% capacity.

1) Do not group conductors or cables of different systems in a common conduit.

3. Cable:

a. Install cables as recommended by the system manufacturer. Conductor quantities specified are minimum required. Conductors to be installed shall be coordinated with the system equipment supplier.

b. Cables installed on exposed surfaces, in inaccessible locations, or underground shall be installed in conduit.

c. Cables installed above accessible, ceiling spaces may be installed without conduit. All cables not installed in conduit shall be plenum rated.

4. Cables not installed in conduit shall be grouped and bundled. Cable shall be bundled on a maximum of 2'-6" on center and secured to the structure at a maximum of 5' on center. Bundling and support shall be with plenum rated cable ties.

5. Cables installed in hollow wall spaces shall be installed in conduit to an accessible location.

6. Tag each circuit at each end and at each terminal with a separate tag indicating the area served.

3.04 INSTRUCTIONS

A Provide four hours instruction to the operating/maintenance personnel.

3.05 TESTING AND ACCEPTANCE

A General

1. After completion of installation and start-up procedures, commence a verification and testing sequence leading to final acceptance.

2. Submit for approval, a sample of the form on which the test will be reported.

a. Identify project.

b. Provide a list of all system devices, arrange in numerical order of point addresses.

1) 1) Show descriptor and location of each.

c. Signatures of participants and observers.

d. Results.

e. Description of adjustment or corrections of defective components.

f. Date.

3. Provide schedule of tests. Estimate dates of significant events.

a. All testing shall be performed in the presences of the Owner / Engineer.

4. Test, calibrate and adjust each device in the system.

5. Verify operation of all specified functions.

6. Provide documentation of all tests and verifications as specified.

3.06 ZONE DESIGNATION

A Final zone designations shall be based on actual zone graphics. (Do not use Architectural drawing zone designations).

3.07 GROUNDING OF EQUIPMENT

A Racks and cabinets shall be grounded to the metallic structure of the building or to the building system power ground in accordance with NEC section 250. Securely bond equipment to the ground system through a minimum 6 gauge green insulated conductor.

B Electronic systems shall be grounded to the building system ground, with a maximum resistance of 0.1 ohm. Systems ground shall be building steel, or other approved ground of the building power systems ground.

3.08 ANTENNA

A Provide the Antenna as specified. Secure antenna to structure using 2-inch rigid galvanized steel conduit penetration through roof. Secure conduit to structure. Provide weatherheads on top of conduit for antenna cables.

3.09 SERVICE AND MAINTENANCE

A The Contractor shall provide a one-year warranty of the installed system against defects in material and workmanship. All labor and materials shall be provided at no expense to the Owner during normal working hours. The warranty period shall begin on the date of acceptance by the Owner/Architect.

B The Contractor shall, at the Owner's request, make available a service contract offering continuing factory authorized service of this system after the initial warranty period.

C The installing contractor shall submit evidence that he maintains in his service department the following items:

1. Master Station Module

2. System Control Card

END OF SECTION 27 41 00

SECTION 27 41 16 - INTEGRATED AUDIO-VIDEO SYSTEM AND EQUIPMENT

PART 1 - GENERAL

1.01 SUMMARY

A This document covers the general requirements for the installation of audio-video (AV) systems.

1.02 RELATED DOCUMENTS

A Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B Related Sections

1. Section 27 02 00 - Basic Materials and Methods for Communications Systems
2. Section 27 05 28 - Pathways for Communication Systems
3. Section 27 05 26 - Grounding and Bonding for Communications Systems
4. Section 27 15 00 - Communications Horizontal Cabling

1.03 CODES

A Perform all work in strict accordance with the requirements and recommendations stated in the codes and standards except when requirements are exceeded by the contract documents.

B The equipment, materials, and installation shall confirm to the latest version of all applicable codes, standards and regulations of authorities having jurisdiction including the following:

1. NFPA 70, National Electrical Code.
2. NFPA 1, Code for Safety to Life from Fire in Buildings and Structures.
3. FCC Rules, Part 76.
4. UL 50, Enclosures for Electrical Equipment.
5. All applicable parts will be FCC Class B approved.
6. All equipment, cable, devices, and accessories provided shall be listed and labeled by Underwriters Laboratories, Inc. for the intended use under the latest appropriate testing standard.
7. Americans with Disabilities Act.
8. Texas Accessibility Standards.
9. International Building Codes (IBC).

10. State and Local Building Codes with Amendments.

11. All requirements of the local Authority Having Jurisdiction (AHJ).

1.04 REGULATIONS

A Comply with terms and conditions of Americans with Disabilities Act, especially regarding provisions for hearing impaired and wheelchair access in control areas.

1.05 SUBMITTALS

A General

1. Refer to Division 1 and section 27 02 00.

2. Submit in quantities, format and timetable as required by General Conditions.

B Product Data Binders

1. Minimum number of Sets: four (4) or one (1) electronic copy on CD.

2. Timetable

a. Submit within thirty (30) days after award of contract.

b. Submit simultaneously with Shop Drawings.

c. Allow minimum of ten (10) business days for review. All sets minus one (1) will be returned with review comments. If a resubmit is required, resubmit total quantity of complete sets. If second resubmit is required, Contractor shall reimburse Owner for expenses incurred during additional review process.

d. Review and approval of Product Data is required before equipment purchase and installation.

e. Bind product data sheets together either in GBC or 3-ring type binders.

C Shop Drawings

1. Minimum Number of Sets: four (4) or one (1) electronic copy on CD.

2. Timetable

a. Submit within thirty (30) days after award of contract.

b. Submit simultaneously with Product Data Binders.

c. Allow minimum of ten (10) business days for review. All sets minus one (1) will be returned with review comments. If a resubmit is required, resubmit total quantity of complete sets. If second resubmit is required, Contract shall reimburse Owner for expenses incurred during additional review process.

3. Description:

   a. Shop Drawings shall be used for coordination between trades and updated as final record drawings.

   b. Bind all Shop Drawings together to form set. Loose drawings will not be accepted.

   c. Each drawing shall include: Project, Building, Location, Contractor Name, Architect, AV Consultant, Date and Revision Number.

   d. Number and title each drawing in logical manner as a set.

   e. Include cover sheet with listing of all drawings included in bound set.

   f. Ensure that labeling on Shop Drawings match labeling on equipment.

   g. Minimum Scale:

      1) Floor Plans: 1/8 inch = 1 foot.

      2) Rack Elevations: 1-½ inch = 1 foot.

      3) Plate/Panel Details: 6 inches = 1 foot.

      4) Loudspeaker Details: 1 inch = 1 foot.

   h. Include as a minimum:

      1) Floor plans indicating locations of all AV devices, vertical risers, pull boxes, and exposed wiring. Include Device ID (PRJ, SCREEN, FRK, FB, AVP, etc., as referenced in design contract documents), as appropriate for projectors, screens, racks, floor boxes, AV plates in walls, etc.

      2) Schematic diagram showing all primary and secondary devices, interconnectivity and signal flow.

      3) Plate details showing size, material, finish, connectors, engraving, etc.

      4) Mounting detail drawings of loudspeakers, racks, and overhead equipment. Hire services of professional structural engineer, licensed by the appropriate governing authority, to review shop drawings, building structural drawings, and any existing structures from which equipment is to be suspended. Include Structural Engineer's stamped report with shop drawing submittal. Report shall include:

         (a) Itemization of items reviewed by the Structural Engineer.

         (b) Confirmation that proposed methods of suspending equipment as shown on the shop drawings conform to required safety factors.

         (c) Confirmation that building structure from which equipment is to be suspended will support equipment including required safety factors.

5) Rack elevations.

6) Complete schematic diagram. One-line diagram with detailed descriptions of product inputs and outputs is acceptable. Include terminal strip details and cable label information. If wiring diagram spans more than three (3) sheets, additionally provide simplified block diagram of entire system on one (1) sheet.

7) Electrical power wiring diagram. Include circuit, switching, and control details.

8) Wiring diagram of grounding and shielding scheme.

9) Drawings for custom-fabricated items (i.e., plates, panels, cables, and assemblies).

10) General construction drawings necessary for completion of work.

D Operation and Maintenance Manuals

1. Minimum number of Sets: four (4).

2. Bind Operation and Maintenance Manuals using either GBC or 3-ring binders.

3. Format and Minimum Information below:

a. Section 1 - System Operation.

1) Introduction/overview to system components and their functions and locations. Include a brief listing of basic system functions.

2) Complete but simple system operating instructions to accomplish basic system functions, written for non-technical personnel.

3) Certificate indicating names of Owner personnel trained by AV Contactor, date of training, name of AV Contractor representative that provided training, and name of project.

b. Section 2 - System Documentation.

1) Simplified system one-line schematic diagram showing changes made during construction.

2) Complete inventory of system components including serial numbers. Identify location (equipment rack, over stage, stored in control room, etc.) of each component.

3) Cable and terminal strip documentation including cable numbers, functions, originating locations, terminating locations, and signal levels.

4) All Shop Drawings corrected to reflect as-built conditions.

5) Other data and drawings required during construction.

6) Initial Tests and Adjustments data.

7) Final Tests and Adjustments data.

8) CD-ROM discs including all utilized manufacturer's software and saved copies of software configurations (configurations as established during Final Tests and Adjustments).

c. Section 3 - Manufacturer's Documentation.

1) For each equipment model at no additional costs to Owner, even if manufacturer does not include costs of such documentation with purchase of equipment item.

2) Manufacturer's Product Data.

3) Operating instructions.

4) Installation instructions.

5) Service information.

6) Schematic diagrams.

7) Replacement parts list.

d. Section 4 - Maintenance Information.

1) Preventive maintenance schedule letter clearly stating target dates of six month and end-of-warranty preventative maintenance inspections, and list of maintenance tasks performed.

2) Maintenance instructions including manufacturer's recommended maintenance, recommended maintenance schedule and information concerning proper inspection, testing, and replacement of components.

3) Troubleshooting information complete with instructions for procedures during equipment failure.

e. Section 5 - Warranty Information

1) System warranty letter.

4. Provide three (3) sets in electronic format that include all material in Operation and Maintenance Manuals in PDF format except for copyrighted material.

5. Submit one (1) set of Operation and Maintenance Manuals at least ten (10) days before Final Tests and Adjustments procedures (minus data from Final Tests and Adjustments). This set will be reviewed by Owner and returned to Contractor. Re-submit after Final Tests and Adjustments and include data. NOTE: Do not schedule Final Tests and Adjustments or perform training of Owner personnel before submitting Operation and Maintenance Manual.

6. Submit remaining number of complete manuals as required by General Conditions within ten (10) days after return of reviewed set(s). Include Final Tests and Adjustment data, warranty period letter, and any other data not included in first submission.

E Samples.

1. Request for Samples - Upon request, furnish samples (at no additional cost) to Owner and/or General Contractor of submitted items proposed as substitutes for specified items. Products will be reviewed to determine if proposed substitute items meet required function and quality.

2. Product Tests

   a. Products submitted as samples may require testing by independent laboratory. Testing at expense of Contractor.

   b. Obtain written approval of tested products before incorporating into system.

1.06 QUALITY ASSURANCE

A AV Contractor Qualifications.

1. Be established AV System Contractor, regularly engaged in furnishing and installing AV systems. NOTE: Electrical or general contracting firms responsible for completion of this work, but not meeting above requirement, shall employ services of approved AV Contractor as subcontractor to perform work described herein.

2. Be experienced in installations of similar size and scope within last five (5) years. Submit list of four (4) (minimum) installed jobs of similar magnitude, completed within last five years. For verification, submit complete information, including project name, project address, contact person, daytime telephone number plus month and year of project completion. At Owner’s request, accompany Owner or Owner’s representative on visit to any or all example completed projects submitted.

3. Be Authorized Dealer for all major lines of equipment listed in Part 2 (Biamp, Chief, Crestron, JBL, Middle Atlantic, Shure, etc.) Must have at least one permanent staff member who is factory trained in the installation and maintenance of each major product line offered.

4. Employ personnel (at all levels of work) experienced in projects of similar size and scope. Provide list of key personnel to be responsible for each of the following aspects of work: Project Management, Technical Documentation, Control System programming, DSP programming and Leadership of Field Work (one who is present for all field work). For each identified employee, indicate number of years employed by contractor, number of years experience in assigned responsibilities, and list of previously completed projects where similar responsibilities were required.

5. Project manager assigned to this project must have a minimum of five (5) years experience in installing and integrating AV systems of similar scale. Project Manager shall also have either an AVIXA CTS-I or CTS-D certification.

PART 2 - PRODUCTS

2.01 GUIDELINES

A Infrastructure Products - All conduits, basket tray/cable tray, pull boxes and associated parts required for infrastructure shall be installed by the electrical contractor unless specifically excluded in these specifications or drawings.

B Performance - Regardless of completeness of descriptive paragraphs herein, each device shall meet its manufacturer's published specifications. Verify performance.

C Contract Documents - Drawings and specifications are to be used in conjunction with one another and to supplement one another. In general the specifications determine the nature and quality of the materials, and the drawings establish the quantities, details, and give characteristics of performance that should be adhered to in the installation of the AV system components. If there is an apparent conflict between the drawings and specifications, the items with the greater quantity or quality shall be provided and installed. Clarification with the owner about these items shall be made prior to the ordering and installation.

D Quantities - All quantities are indicated on AV drawings or in Part 2 AV Products list. Confirm quantities on final Contract Documents. If Contract Documents do not include quantities necessary to deliver complete working system, provide notification of disparity, and install required quantity of devices for complete working system.

E Small Parts - Systems are described in terms of major products. Even if not specifically mentioned, provide and install patch cables, connectors, hardware, converters, power supplies, labels, terminals, mounting accessories etc. necessary for complete and working system meeting design intent of specifications.

F Keys - Provide five (5) sets of keys for any AV system product requiring keys.

G Condition - Provide and install products listed in this section in factory new condition, conforming to applicable provisions of American National Standards Institute.

H Designations - Each major product item is given unique designation (such as MIX1 for mixer number 1). The product designations are unique in this section only and may be repeated in other specification sections.

I Security Screws - Use Bryce Security Penta-Plus button-head screws and bits to secure rack components, LCD mounts, Projector mounts and any other location deemed necessary by Owner. Use nylon washers (not provided by Bryce) to protect equipment surfaces. Account for appropriate tip wear when ordering quantity and do no use a bit beyond the manufacturer's recommendations. Provide ten (10) additional unused driver bits and deliver to the customer after completion.

J AV Electrical Power - Coordinate with Electrical Contractor regarding proper placement of isolated-ground duplex outlets for any AV equipment. Electrical circuits should be connected (and outlets wired) by the Electrical Contractor to the AV system circuit breaker panel (N.I.C.). Ensure that

"Star" ground configuration is properly implemented by the Electrical Contractor. Ensure that ground wires from each outlet are isolated from conduit, neutrals, and each other.

K AV Screens - For any screen specified, size as indicated in drawings. Unless otherwise indicated in drawings or specifications, set limits so projected images are 48" above finished floor, and include additional black drop as appropriate considering screen size and mounting height.

L AV Racks:

1. Provide blank faceplate in any area marked BLANK in drawings.

2. Provide shelf for mounting of any device for which rack mount kit is not available.

3. PanelcraftersProvide one (1) Panelcrafters DBR-XXXXX-RHIM-01 designer/integrator information plate or approved alternate per rack. Install information plate at the top of each rack unless 1RU space is not available. Contact Panelcrafters sales department to add AV Contractor graphic to the "integrator" section (approximately 8.5" x 1.75" of the right-hand side). All alternates must include AV Consultant graphic. Submit to AV designer for approval of final plate design prior to purchasing and installation.

M AV Floor Boxes:

1. Clean floor boxes of all dust and debris prior to installation of any active or connectorized plate.

2. Any floor box with active or connectorized AV plates found to have any dust, debris or water in bottom of box are subject to replacement of all plates and components. A re-test of all associated components must be completed.

N Wireless Microphones - Coordinate frequency selection with other radio-frequency sources in the area and with manufacturer's recommendations.

O Control System Programming:

1. Program each panel to provide simple, intuitive control of all basic AV functions including:

   a. program and speech volume levels

   b. video source and destination routing

   c. screen control

   d. video projector lift control (where applicable)

   e. AV system power

   f. media player transport functions

   g. video conferencing CODEC controls including call initiation (where applicable)

   h. video conferencing PTZ camera control (where applicable)

i. combine/uncombine settings for all combinations of controlled rooms

j. local lighting and blackout shade controls (where applicable)

2. Utilize AVIXA's "Dashboard for Controls" concept and Crestron's SMART GRAPHICS for touch panel layout unless directed otherwise by Owner.

3. Provide layout of each and every touch panel and hard-button panel pages in the product data submittal for approval by Owner.

4. Provide web-control for each touch panel in AV system. Include page tracking, and track current button feedback between touch panel and web-control panel.

5. Staff member certified by control system manufacturer shall program control system.

6. After programming is approved, all control system code and programming, including touch panel code and graphics, will become property of Owner. AV Contractor shall provide Owner both raw and compiled code on electronic media.

7. Provide follow up meeting with Owner after 6 months of operation to make updates as requested to control programming.

P Audio System Programming - Owner shall coordinate layout and logical branching of DSP audio system. Include screen layout and menu branching drawings in AV submittal. After AV system is approved, all audio control system code and programming will become property of Owner. AV Contractor shall provide Owner both raw and compiled code on CD-R disc.

Q AV Design Bid & Substitutions:

1. System design is around products listed in Part 2. Intent of product specification is to provide standard of quality and function for installed materials. Certain performance specifications are given to clarify job requirements.

2. Bid AV system with products specified in Base Bid section below unless noted otherwise from Owner.

3. No substitutions will be allowed without prior approval from Owner specific to proposed manufacturer and model numbers.

4. Equipment listed in Part 2 is based on performance criteria to meet Owner design requirements.

5. All requested substitutions need to meet or exceed performance of devices listed in Part 2. For each request provide manufacturer's published specifications to verify performance and explain functional and cost impact.

6. Evaluation and approval of substitution requests will be performed by Owner.

2.02 AV PRODUCTS

A Local Sound System - Gym

1. Equipment Cabinet shall be a 61” wall mounted cabinet complete with a solid lockable front door.
    a. (1) Middle Atlantic DWR 16-22 Wall-mounted cabinet
    b. (1) Middle Atlantic VFD-16 door
    c. Provide 5 extra front door keys to the Owner
2. The following equipment shall be installed in the Equipment Cabinet:
    a. (2) Middle Atlantic PDS-620R
    b. (1) Middle Atlantic PD-920R-SP
    c. Wireless microphones: two (2) QLXD 124/85 (handheld and lapel) combo or Prior Approved Equal. These units shall be mounted in the Sound Cabinet.
        1) (2) Shure WH30TQG Head worn microphone
        2) (1) RF Venue DARC/DISTRO4 - Antennae and distribution system
    d. (1) Tascam CD-400U CD/SD/USB Player with Bluetooth® receiver.
    e. (1) Biamp Tesira Forte DAN AI - Dante enabled DSP.
    f. (1) Biamp IMPERA TANGO - System Controller.
    g. (1) Middle Atlantic D3LK Equipment drawer or Prior Approved Equal.
    h. (1) Crown CDi 4x1200
    i. (1) Listen technologies LT-800 Listening Assistance transmitter.
        1) Provide receivers as required for system, complete with earbud and batteries to comply with ADA/TAS requirements.
        2) Provide and coordinate notification signage with Architect.
    j. Any blank spaces shall be blanked off with appropriate vent and blank panels.
3. Wired Microphones and Accessories:
    a. Provide two (2) corded unidirectional (cardioid) dynamic vocal microphones Shure model SM58S or Prior Approved Equal.
    b. All microphones either hard wired or wireless shall have an on/off switch.

c. Provide two (2) K&M 26045-300-55 stackable mic stands.

d. Provide two (2) K&M 211/1 mic stand boom arms.

e. Provide two (2) Whirlwind MK425 XLR cables.

4. AV Control Interface

a. Biamp Aprimo Touch - " touchpanel interface

1) Provide locking protective cover.

b. Or approved equal.

5. Input Plates

a. AUX

1) Whirlwind MIP3, Black

2) Quantity and locations as shown on drawings

3) Provide one (1) Whirlwind MST2R - '

b. MIC

1) Proco, single gang anodized aluminum black with (2) Nuetrik NC3FBH1 female XLR chassis connectors. Provide engraved lettering, sans serif, 1/8", white

6. Loudspeakers:

a. Suspended speakers shall be JBL AC28/95 full range and AC118S subwoofer or Prior Approved Equal. Provide all mounting brackets and accessories required.

B Local Sound System - Band

C Local Sound System - Band

1. Equipment Cabinet shall be a 27RU mobile cabinet.

a. Middle Atlantic PTRK or Approved Equal.

2. The following equipment shall be installed in the Equipment Cabinet:

a. (1) Q-SYS Core 24f Audio Processor

1) **(1) Q-SYS TSC-70-G3 control panel**

b. (1) Audio Input Plate - Reference Audio-Visual One-Line Diagram for Inputs.

c. (1) Tascam CD-400U CD/SD/USB Player with Bluetooth® receiver.

d. (1) Q-SYS CX-Q 2K4 Power Amplifier.

e. (1) Listen technologies LT-800 Listening Assistance transmitter.

1) Provide receivers as required for system, complete with earbud and batteries to comply with ADA/TAS requirements.

2) Provide and coordinate notification signage with Architect.

f. (1) Middle Atlantic PDS-620R power sequencer or prior approved equal.

g. Any blank spaces shall be blanked off with appropriate vent and blank panels.

3. Loudspeakers:

a. Wall-Mounted speakers shall be QSC QSC PL-CA12 or Approved Equal. Provide all mounting brackets and accessories required for wall mounting.

4. System Overrides:

D Local Sound System - Dance

1. Equipment Cabinet shall be a 27RU mobile cabinet.

a. Middle Atlantic PTRK or Approved Equal.

2. The following equipment shall be installed in the Equipment Cabinet:

a. (1) Q-SYS Core 24f Audio Processor.

1) **(1) Q-SYS TSC-70-G3 control panel**

b. (1) Audio Input Plate - Reference Audio-Visual One-Line Diagram for Inputs.

c. (1) Tascam CD-400U CD/SD/USB Player with Bluetooth® receiver.

d. (1) Q-SYS CX-Q 2K4 Power Amplifier.

e. (1) Listen technologies LT-800 Listening Assistance transmitter.

1) Provide receivers as required for system, complete with earbud and batteries to comply with ADA/TAS requirements

2) Provide and coordinate notification signage with Architect.

f. (1) Middle Atlantic PDS-620R power sequencer or prior approved equal.

g. Any blank spaces shall be blanked off with appropriate vent and blank panels.

3. Loudspeakers:

a. Wall-Mounted speakers shall be QSC PL-CA12 or Approved Equal. Provide all mounting brackets and accessories required for wall mounting.

PART 3 - EXECUTION

3.01 INSTALLATION

A General Guidelines

1. Quality of Work - Perform labor to accepted industry standards and state and local codes to accomplish complete and working system.

2. Material and Labor - Provide specified products and other incidental materials, appliances, tools, and transportation required for complete and functioning systems. Provide personnel to perform labor who are skilled in techniques and can demonstrate technical knowledge AV infrastructure system installations.

3. Provide a complete functioning sound system that's been fully tested and properly balanced, configured, and equalized. Be of maximum assistance to the Owner during the warranty period of the system, to the degree that maximum Owner satisfaction is assured.

4. Observe proper circuit polarity and loudspeaker wiring polarity. No cables shall be wired with a polarity reversal between connectors with respect to either end. Special care shall be taken when wiring microphone cables, to ensure that constant polarity is maintained. Balanced audio connectors shall be wired as follows.

Wire	Connector	Signal
Black	Pin #3 or Ring	Low or Negative
Red or White	Pin #2 or Tip	High or Positive
Bare	Pin #1 or Shield	Ground

5. Provide all audio circuits balanced and floating, except as noted in the Specifications or directed by the Consultant at the time of final equalization and testing. Shields of audio cables shall be grounded at one end only, at the outputs of the various equipment items in the system

6. Route cables and wiring within equipment racks and cabinetry according to function, separating wires of different signal levels (video, microphone level, line level, amplifier output, 120VAC, intercom, control, etc.) by as much physical distance as possible. Neatly arrange and bundle all cables loosely with plastic cable ties. Cables and wires shall be continuous lengths without splices.

7. All system wire, except spare wire, after being cut and stripped, shall have the wire strands twisted back to their original lay and be terminated by approved soldered or mechanical means. No unterminated wire ends will be accepted. Heat-shrink type tubing shall be used to insulate and dress the ends of all wire and cables. Include a separate tube for the ground or drain wire.

8. All cables in conduits shall be insulated from each other and from the conduit the entire length and shall not be spliced. All cables and wires are to be continuous lengths without splices.

9. All solder joints and terminations shall be made with resin-core silver solder. Temperature regulated soldering irons rated at least 60 watts shall be used for all soldering work. No soldering guns or temperature unregulated irons shall be used on the job site.

10. Each mechanical connector shall be attached using the proper size controlled- duty-cycle ratcheting crimp tool which has been approved by the manufacturer of the connectors. Conventional non-ratcheting type crimping tools are unacceptable, and shall not be used on the job site.

11. Label all wires in racks and console as to destination and purpose with permanent labels. Clearly and permanently label all controls and connections at the front and back of the rack, with permanent labels. Wall plates and custom panels shall be engraved and filled with contrasting paint, unless otherwise noted. All labeling shall be completed prior to final system inspection.

12. Documents at Job Site - Keep following documents at job site during entire construction period:

    a. Complete Specifications and Drawings.

    b. Approved Shop Drawings.

    c. Approved Product Data.

    d. Progress Set of Project Record Documents.

13. Mounting - Mount equipment and enclosures plumb and square. Ensure that permanently installed equipment is firmly and safely held in place. Design equipment supports to support loads imposed with project safety factor of five (5) or greater. For devices hung overhead, obtain review by Structural Engineer licensed by the appropriate governing authority prior to installation.

14. Locate wireless microphone system and hearing assist system antennas at or above ceiling or at bar joist height in areas without ceilings. Coordinate exact location with Owner to provide adequate coverage in the area served by the system. Adjust antenna location for best possible reception/transmission in area of coverage.

15. Provide adequate protective vandal guards for all devices located in areas subject to damage from activities or vandalization, such as school gym, sports field, school cafeteria.

16. Provide hearing assist transmitter(s) and receivers for each sound reinforcement system. The quantity of hearing assist receivers for each system shall be equal to a minimum of four (4) percent of the total seating capacity, but in no case less than ~~ten (10)~~**two (2)** receivers for the area of coverage of each local sound reinforcement system. **Final recevier quantity and type to comply with ADA/TAS requirements.**

17. Dimension Verification - Verify dimensions and space requirements to assure that proper mounting, clearance, and maintenance access space is available for system components.

18. Clean-Up - Leave project clean each day. Place debris where designated by General Contractor. Debris includes but not limited to: solder splatter, cable ends, stripped insulation, spent crimp connectors, gypsum board and ceiling tile dust, and product wrappings and cartons. After completion of installation, thoroughly clean areas worked, including non-visible areas such as equipment rack interiors, rack top panels, and inside lockable floor and wall boxes.

19. Coordinate installation of AV infrastructure and equipment with other trades in order to follow project schedule.

20. Maintain any licensing required by the appropriate governing authority to install and terminate low voltage systems.

B Labeling

1. Equipment Labels - AV Contractor shall provide engraved lamicoid labels on front and rear of rack-mounted equipment. Mount labels plumb and square. Include schematic reference design, item name, and system or area controlled by labeled component. On program preamps and mixers, provide label for each input indicating which source is controlled by labeled channel. Unless otherwise indicated, provide permanently-mounted black labels engraved with 1/8-inch white block characters. Handwritten, self-laminating, or embossed plastic (Dymo) labels are not acceptable. Provide labels for major equipment with two (2) lines (minimum) of engraving, coded as follows:

    a. Line 1: Generic name of device, such as MIXER AMPLIFIER.

    b. Line 2: Schematic designation of device, such as AV-MSW-1.

2. Control Labels - AV Contractor shall provide engraved label over each user-operated control that describes the function or purpose of control. Provide label of proper size to fit available space.

3. Terminal Strip Labels - AV Contractor shall label each terminal strip with unique identification code in addition to numerical label (Cinch MS series) for each terminal. Show terminal strip codes on system schematic drawings included with Project Record Documents.

4. Rear Equipment Labels - AV Contractor shall provide adhesive label on rear of equipment where cables attach, to indicate designation of cable connected at each point.

5. Cable and Wire Labels - Label cables and wiring logically, legibly and permanently for easy identification. Labels on cables shall be adhesive strip type, covered with clear heat shrink tubing. Factory stamped heat shrink tubing may be used. Hand-written or self-laminating type labels are not acceptable.

6. Cable Label Codes and Locations - Label each cable with unique alpha-numeric code. Locate cable designation at start and end of each cable run, within three (3) inches of

termination point. For cable runs that have intermediate splice points, label cable with same designation throughout, with additional suffix to indicate each segment of run. Provide cable designation codes to schematic drawings included with Project Record Documents and Operation and Maintenance Manuals.

C Power and Grounding

1. Power Coordination - Coordinate final connection of power and ground wiring to rack. Electrical contractor will provide power to AV systems. Before installation, verify load requirements for systems as accepted.

2. Bus Bars - Install 1-inch by 1/4-inch copper ground bus bar, top to bottom in floor mounted AV racks. Ground and bond equipment chassis of each rack-mounted component without three-pin grounding plug to bus bars with #12 AWG insulated green wire using 6-32 or larger nuts, bolts, lock-washers, and appropriate NEMA connectors. Electrical Contractor (Division 26) shall provide and connect #4 AWG green insulated wire from Bus Bars to ground point in AV technical electrical panel.

D Equipment Racks

1. Ventilation - Provide ventilation adequate to keep temperature in rack below 85 degrees Fahrenheit. Use “whisper” type ventilation fans in racks, adjusted to come on when temperature in rack rises above 85 degrees Fahrenheit, only if adequate cooling cannot be provided by Owner.

E Wiring

1. Wiring Standards - Execute wiring in strict adherence to best AV engineering practices.

2. Field Connection Devices - Connect cable to active components through screw terminal connections and spade lugs when appropriate. For BNC connections use three-piece, dual crimp BNC properly sized for cable with insulating bushings. Wire nut or “Skotchlock” connectors are not acceptable. Do not wrap audio cable splices or connections with adhesive backed tape. Punch connectors or telephone-style punch blocks are not acceptable anywhere in the installation unless specifically authorized by Owner.

3. Run cable in ceiling plenums neatly parallel to building walls, supported every three feet to structure with plenum rated ties.

4. Raceways - Run vertical wiring inside rack in Panduit (or equivalent) plastic raceways with snap-on covers, sized to allow at least 50% future wiring. Mount raceways on full length 3/4-inch flat black plywood backboards, attached to rack sides. If between-rack wiring chases are provided, Panduit raceways are not required. Horizontal wiring in rack shall be neatly tied in manageable bundles with cable lengths cut to minimize excess cable slack, but still allow for service and testing. Provide horizontal support bars if cable bundles sag. Individually bundle excess AC power cable away from rack mounted equipment with plastic cable ties. Electrical tape and adhesive backed cable tie anchors are not acceptable.

5. Accessibility - Ensure that wiring and connections are completely visible and labeled in rack. Mount termination resistors, if required, on terminal strips, fully visible and not concealed within equipment or connectors.

6. Loudspeaker Polarity - Connect loudspeakers electrically in phase, using same wire color for loudspeaker wiring throughout project.

7. Physical Damage Prevention - Take necessary precautions to prevent physical damage to cables and equipment. Damaged cables or equipment will not be accepted. Separate, organize, and route cables to restrict channel crosstalk and feedback oscillation.

8. Racks - Looking into the rack from the rear, locate AC power, control, data and speaker wiring on the left; line level audio, control, video, and RF wiring on the right. Keep several inches of space between power cables and other signals.

9. Other Connections - Make connections using rosin core solder or approved mechanical connectors. Where spade lugs are used, crimp properly with ratchet type crimping tool. Solder spade lugs mounted on #22 AWG or smaller cable after crimping.

3.02 FIRESTOPPING

A Refer to section 27 02 00.

3.03 STORAGE AND HANDLING

A Power up any electronic equipment to ensure its proper functioning before its arrival onsite.

B Ensure that materials (especially electronic and electro-acoustic devices) are protected against physical, environmental, and electronic damage until final acceptance by Owner.

C Schedule delivery to minimize delays in the project.

D Provide storage protection against temperature and humidity extremes, theft, vandalism, physical damage, and environmental damage.

3.04 WARRANTY

A Refer to Division 1.

B Warranty - Submit letter providing warranty covering labor and materials supplied under this contract. Bind in Operation and Maintenance Manuals. Terms as described in General Conditions. Minimum terms as follows:

1. System - Systems shall be free of manufacturing or installation defects for a minimum period of one (1) year from the date of final acceptance. Clearly designate begin and end dates of system warranty period.

2. Parts and Labor - Provide parts and labor to repair defects in materials and workmanship during system warranty period.

3. Response Time - Within system warranty period, provide initial on-site service response within one (1) business day of service call. Provide resolution to any system defects within 72 hours or within 48 hours of receipt of repaired or replaced product from manufacturer.

4. Replacement Products - If any item must be removed for repair during system warranty period, provide replacement item of similar quality at no charge.

5. Repair Limit - Do not repair any piece of equipment found defective during installation or system warranty period more than two (2) times. After second repair, replace defective item with similar approved item at no additional cost to Owner.

6. Extended Manufacturer's Warranties - Identify products with manufacturer's warranties extending beyond one (1) year. Provide terms and conditions of such warranties.

7. Service Personnel Information - Provide name(s) and telephone number(s) of service personnel to be contacted regarding repair and maintenance.

C Extended Warranty - Provide cost to extend complete AV system warranty from one (1) year to three (3) years. Included a list of all provided services including maintenance schedules.

3.05 INITIAL TESTS

A Purpose - These tests are to ensure that the AV system is installed and functioning as specified, and to ensure the system is ready for Final Tests and Adjustments (described later).

B Testing Standards - Perform testing in accordance with ANSI standards.

C Inspection - Verify prior to beginning actual tests and adjustments on systems:

1. Proper grounding of all electronic components (through third prong of power connector or separate connection between component chassis and ground bus bar).

2. Cables dressed, routed, and labeled, connected with proper polarity.

3. Insulation and shrink tubing in place.

4. Dust, debris, solder splatter, etc. removed.

5. Proper frequency settings (or modules) at crossovers and controllers.

6. All equalizer bands and tone controls set for flat frequency response.

7. Survey temperatures of each piece of equipment after four (4) hours use (minimum). Note and report any hot equipment.

D Electrical Power Quality - While all sound and AV system components are unplugged from electrical power outlets, AV Contractor shall turn on power to outlets, and confirm proper voltages at each outlet across the following pairs of terminals: hot and neutral, hot and ground, and neutral and ground (zero volts across neutral and ground). AV Contractor to document measurements.

E General Function Tests - Test each piece of equipment to ensure that it performs its intended function. Include all portable equipment in tests. Intent of initial tests is to verify complete, functioning system before Final Tests and Adjustments. Correct problems found during initial testing before beginning Final Tests and Adjustments. Document whether all pieces performed intended functions; note any unresolved malfunctions.

F Initial Tests and Adjustments Data - Submit written report of Initial Tests and Adjustments data upon completion to Owner. Include printed name(s) of technician(s) performing tests, date(s) and time(s) of tests, model and serial numbers of test equipment, results of each initial test, descriptions of problems encountered and their solutions, and statement that system is ready for Final Tests and Adjustments. Initial Tests and Adjustments Data to include signatures of technician(s) performing tests.

3.06 FINAL TESTS AND ADJUSTMENTS

A Purpose - These tests are to be witnessed by AV Consultant to determine if system is complete and functioning as designed and specified. Also, AV Consultant will perform listening and viewing tests and witness adjustments of all images for optimum clarity.

B Timetable - Coordinate with Owner, General Contractor, and AV Consultant to schedule Final Tests and Adjustments after submittal of Initial Tests and Adjustments data.

C System and Site Conditions - AV Consultant will witness Final Tests and Adjustments. Have systems fully functional and ready for observation and testing upon AV Consultant’s arrival. Coordinate with all trades for quiet conditions throughout the listening areas and for the duration of the test schedule. If upon AV Consultant’s arrival, systems do not meet criteria, site is not sufficiently quiet, or if Owner or AV Consultant is required to make additional trips to job site to witness additional testing or perform additional reviews of installed equipment, Contractor shall reimburse Owner for labor and expenses incurred by having incurred costs deducted from payments to contractor.

D Test Labor - Provide technician familiar with this project’s AV systems and operation of test equipment to perform testing. Provide additional technician to assist in the tests and to perform troubleshooting, repairs, and adjustments. Include labor for these technicians to be present for one (1), eight (8)-hour day during Final Tests and Adjustments.

E Tools - Provide standard hand tools including screwdrivers, pliers, wire strippers, nut drivers, soldering iron, and other tools appropriate for troubleshooting system problems.

F Ladders and Scaffolds - Provide ladders and scaffolds to inspect/adjust loudspeakers and rigging points.

G Verification of Initial Tests and Adjustments - Verify that Initial Tests and Adjustments have been performed and meet criteria. During Final Tests and Adjustments, AV Consultant may require portions of the Initial Tests and Adjustments to be repeated. Repeat measurements as requested without claim for additional payment.

H Installer shall perform thorough preliminary testing of the AV Systems prior to the final inspection by the Consultant. All systems and subsystems shall be tested to ensure that they are in proper

working order and meet the performance specifications. Perform preliminary programming and setup of digital signal processors as necessary to conduct these tests.

I The testing and equalization work shall be performed after the installation work has been completed, but prior to any use of the system. During the testing and equalization work, the Installer shall have on the job site one (1) competent technician who is familiar with the project, and who will be prepared to stay as long as his services are needed. It is estimated that approximately eight (8) hours will be required for this work

J The process of equalizing and testing the system may necessitate moving and adjusting certain loudspeakers. Adjustments shall be performed without claim for additional payment.

K Coordinate as necessary to ensure a totally quiet room during the sound reinforcement systems testing and balancing period.

L Prior to requesting systems testing, verify the following:

1. All systems are in first-class working condition and free of short circuits, ground loops, parasitic oscillations, excessive system noise beyond published.

2. All specified equipment, including loose equipment, is on the job site for proper accounting.

3. All loudspeaker circuits have been tested, are connected to the proper crossover frequency, and are in perfect working order. Furnish impedance measurements of each circuit in PDF format prior to final tests.

4. All video systems and associated control systems have been tested and are in perfect working order.

5. All equipment controls shall be labeled, even if unused. If permanent labels cannot be furnished prior to system inspection, temporarily label every control on the front and in the rear of the racks as to its function with write-on tape. Supply printer labels or markers suitable for permanently indicating knob settings after equalization is performed.

6. Operation manuals for every equipment item furnished are on hand at the job site.

7. Installer shall provide all signal processing software loaded on a portable PC and ready for use at time of testing. Installer shall provide a calibrated RTA and microphone, and pink noise generator at time of testing.

M Should the performance testing show that the Installer has not properly completed the systems, the Installer shall make all necessary corrections or adjustments and a second demonstration shall be arranged at the Installer's expense.

N The final acceptance of the system by the Owner will be based upon the report of the Consultant following inspection, testing, and demonstration. A list of items in need of completion or correction shall be generated by the Consultant, which must be corrected by the Installer before final acceptance will be granted.

3.07 SOUND SYSTEM PERFORMANCE

A After equalization and testing, the sound system shall meet or exceed the following specifications:

1. System shall be free of short circuits, ground loops, parasitic oscillation, excessive system noise, hum, RF interference, and instability of any form.

2. Minimum SPL with band-limited pink noise input to the system in the targeted space shall be 95 dB before audible distortion occurs.

3. Seat-to-seat variation in SPL at 4kHz octave band pink noise shall be within a tolerance of plus or minus 3dB SPL.

4. Acoustic response of the system shall be plus or minus 1.5dB along a line which is flat from 50 Hz to 4000 Hz and which rolls off at 1dB per octave to 16kHz.

B The following tests and adjustments shall be performed by the Contractor. All equipment required supplied by the Contractor Follow EIA standard RS-160 and RS-219 in performing the tests. Make all necessary corrections to bring systems into specification compliance. Record the results of these tests in project record drawings. Submit written results of tests to Architect and Engineer prior to scheduled equalization and final inspection date.

1. Measure and record impedance of each speaker line at frequency of 1,000 Hz, with loudspeakers connected to their respective lines.

2. Measure and record overall system hum and noise level of each input channel with controls set so that -50 dBm microphone input or +4 dBm input would drive the system to full amplifier output. Terminate inputs with resistor (150 to 600 ohms) and disconnect power to noise generator for this test.

3. Adjust the gain of each active device to provide both optimum signal - to noise ratio, and at least 10 dB headroom at each active device. Observe the output of each active device with an oscilloscope of 5 MHZ band width, and verify visually that the signal required for full amplifier output is free of overload, clipping, parasitics, and radio frequency components. Adjust gain structure of all active components and record the input and output signal levels of all active components and record the input and output signal levels of all active components in both dBm and volts, during normal program levels.

4. Measure and record system electrical frequency response for each input channel through power amplifier. Required is flat response with permissible deviation of +/-1 dB within the range of 30 Hz to 16 kHz.

5. Check system to assure freedom from oscillations or stray RF pickup. Check inputs with no signal and with typical program material driving system to full output Detect unwanted signals on Oscilloscope at termination.

6. Check phasing of loudspeakers by applying constant power per octave (pink) noise to system and walking through the transition areas of coverage from one loudspeaker to the next. Transition should be smooth with no apparent shift in source from one speaker to the next.

Apply sine wave sweet signal to each loudspeaker system sweeping from 50 Hz to 5,000 Hz and at a level of 10 dB below full amplifier output, and listen for rattle or objectionable noises Correct if apparent.

7. Achieve uniform distribution of sound from each loudspeaker (with bleachers in their extended position in gymnasium where applicable). Drive system with broadband, constant power per octave (pink) noise, and measure the SPL using a sound level meter incorporating an octave-band filter centered at 4 kHz. Adjust noise level until the meter readings are between 75 and 80 dB. Use a sound level meter filter that meets ANSI S1 4-1971 Type 2 and ANSI S1 11-1971 standards set for slow meter damping. Take all readings at seated ear height. Adjust speaker as necessary to achieve +/-3 dB over entire area covered by this system.

3.08 FINAL ACCEPTANCE BY OWNER

A Certificate - Submit Certificate of Final Acceptance form signed by Owner verifying complete installation and proper operation of systems upon fulfillment of all requirements and upon recommendation by Owner.

B General Adjustments - Adjust, balance, and align equipment for optimum quality, meeting manufacturers published specifications.

C Input/Output Jack Demonstration - Demonstrate proper performance and phase of each system input and output jack (all audio input and output jacks) as received at AV and network systems.

D Inventory - Inventory all installed and portable equipment for correct quantities.

E Functional Demonstration - Demonstrate operation of each function of each major piece of equipment.

F Other Tests - Perform any other tests on any part of the AV system as requested by Owner.

G Final Equipment Settings - Record final settings of all equalizer bands, tone controls, filters, delays, limiters, etc., including those established through computer software settings. Include descriptions of settings (including software settings) in Operation and Maintenance Manual. Include software copy of configuration file(s) in Operation and Maintenance Manual.

H Security Inspection - Inspect equipment for security from tampering (covers, shaft-locks, etc.).

I Review of Labels - Review installed labels on cables, equipment, controls, and terminal strips.

3.09 OWNER TRAINING

A Provide Owner training as described in General Conditions. As a minimum, provide eight (8) hours instruction (within two (2) trips to site) regarding AV Systems operation to Owner-designated personnel. Schedule instruction time(s) with Owner to occur after completion of Final Tests and Adjustments. Coordinate with Owner in advance to schedule instruction time. Document date, time, and attendees of the training session and include documentation in Operation and Maintenance Manuals to serve as record of trained personnel.

3.10 SUPPORT DURING OWNER'S FIRST USE OF COMPLETED SYSTEM

A Provide personnel familiar with design, installation, and operation of each system to be present at Owner's first use of each completed system (up to eight (8) hours total in a single session). During first use of each system, respond to Owner requests for troubleshooting, adjustments, and additional training. If no one contractor employee or representative can provide expertise in all aspects of the system, provide multiple personnel for the eight (8) hours per session as required. Schedule presence of personnel in advance with Owner. Should significant elements of the new system be operational prior to final completion, Owner may elect to schedule contractor presence for Owner function prior to final completion of system. hould Owner exercise this option, contractor presence will not be required at first use following final completion.

END OF SECTION 27 41 16

SECTION 311200
TREE & PLANT PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
1. Protecting existing [trees,] [shrubs,] [groundcovers,] [plants,] [and] [grass] to remain.

1.2 MATERIAL OWNERSHIP

A. Except for materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.3 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
3. Drawings assume tree survey is accurate. Contractor shall notify the Owner’s Representative if existing tree locations differ from locations represented on Drawings.
4. Existing tree and vegetation conditions beyond tree protection fence shall remain undisturbed by Contractor.
5. Contractor shall not allow any vehicular traffic, parking of vehicles or stockpiling of excavated material or construction material beyond the tree protection fence, or in any tree preservation areas as defined on the Drawings.

PART 2 - PRODUCTS

2.1 TREE PROTECTION FENCING

A. Tree protection fencing shall be one of the following, at the Contractor’s option:
1. Wire bound woodroll snow fence, 4 feet high maximum with 3/8-by-1-1/2- inch wide pickets, spaced approximately 2 inches apart, bound together with at least 13-gauge galvanized steel wire.
2. Galvanized chain link fencing, 6 feet high. Stakes for fencing shall be 8-feet galvanized steel posts, driven a minimum of 3 feet into the ground. Posts shall be spaced 10 feet o.c. maximum.
3. Plastic polymer safety fence, 5 feet Model BX 2050 Safety Grid, manufactured by the Tensar Corporation, Morrow, GA 30260, or approved equal. Color shall be high visibility orange. Stakes for fencing shall be T- posts 6 feet length, driven a minimum of 2 feet into the ground. Posts shall be spaced 8 feet o.c. maximum.
4. Sedimentation barrier fabric: Woven silt fence sedimentation barrier fabric.]

PART 3 - EXECUTION

3.1 TREE PROTECTION FENCING

A. Fencing shall be installed at the tree protection areas indicated on the Drawings. Fencing shall be installed at the drip line of trees to be protected, unless otherwise approved by the Owner.

B. Owner's Representative will review tree protection fencing prior to clearing and may make adjustments to locations of tree protection fence and location of root pruning trenching.

C. Site preparation work shall not begin in any area where tree preservation measures have not been completed and approved as designated on the Drawings.

3.2 TRUNK PROTECTION

A. Install trunk protection planking to trees designated on the Drawings.

3.3 ROOT PRUNE TRENCHING

A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as shown on Drawings.
   1. Cut roots with trenching machine and cut exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
   2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil when possible.
   3. Cover exposed roots with burlap and water regularly.
   4. Place sedimentation barrier fabric in trench for detail.
   5. Immediately after trenching loosely backfill trench with soil.

TREE PROTECTION

B. Preserve and protect existing trees and plants to remain from foliage, branch, trunk or root damage that could result from construction operations. Review with Owner and Engineer prior to start of construction operations.

C. Prevent the following types of damage:
   1. Compaction of root zone by foot or vehicular traffic, or material storage.
   2. Trunk damage from equipment operations, material storage, or from nailing or bolting.
   3. Trunk and branch damage caused by ropes or guy wires.
   4. Root poisoning from spilled solvents, gasoline, paint and other noxious materials.
   5. Branch damage due to improper pruning or trimming.
   6. Damaged from lack of water due to: Cutting or altering natural water migration patterns near root zones.
   7. Damage from alteration of soil pH factor caused by depositing lime, concrete, plaster or other base materials near roots.
   8. Cutting of roots larger than 1-1/2 inches in diameter.

3.4 DAMAGE ASSESSMENT

A. When trees other than those designated for removal are destroyed or badly damaged as a result of construction operations, remove and replace with same size, species and variety up to and including 8 inches in trunk diameter. Tree larger than 8 inches in diameter shall be replaced with an 8 inch diameter tree of the same species and variety, and total contract amount will be reduced by an amount determined as follows - formula: D x D x .78 x $28.00 where D is diameter in inches of tree and shrub trunk measured 12 inches above grade.

3.5 MAINTENANCE

A. Fence
   1. All fencing shall be maintained upright, straight and level, having a neat and uniform appearance during the construction period. Upon completion of the project all fence material shall be removed from the site and post holes filled and graded.

B. Plant Material
   1. Contractor shall regularly water and maintain existing trees and plants to remain.

END OF SECTION

SECTION 32 92 02
SODDING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Sod.
2. Fertilization.

1.2 DEFINITIONS

A. Finish Grade: Elevation of finished surface of soil.

B. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

D. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

E. Topsoil shall be friable clay loam surface soil reasonably free of clay lumps, stones, weeds, roots and other objectionable material, a product of on-site operations.

F. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.

G. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Certification of grass sod.
1. Sod Certification: Certification shall be submitted from the sod nursery as to the grass species, location of the field from which the sod has been stripped and the date of stripping. Certification shall accompany the delivery of the sod.

C. Fertilizer Certification: Certification shall be submitted from the fertilizer manufacturer as to the chemical analysis of the fertilizer, a listing of the elements contained therein

and their percentages. Certification shall also indicate that the fertilizer is in accordance with the requirements of the local and state authorities.

1.4 QUALITY ASSURANCE

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
   1. Pesticide Applicator: State licensed, commercial.

B. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory.
   1. The soil-testing laboratory shall oversee soil sampling.
   2. Report suitability of tested soil for turf growth.
      a. State recommendations for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
      b. Report presence of problem salts, minerals, or heavy metals; if present, provide additional recommendations for corrective action.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Sod Delivery: Sod shall be delivered on pallets with the root system protected from exposure to wind and sun. Stripping and delivery shall be timed so that sod will be placed within 48 hours of stripping.

B. Fertilizer Delivery: Fertilizer shall be delivered in the manufacturer's unopened containers, labeled to indicate the manufacturer's name and product identification. Containers shall be stored protected from ground contact and from the elements.

1.6 MAINTENANCE SERVICE

A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Begin maintenance immediately after each area is planted and continue until acceptable turf is established.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Sod shall be nursery-grown Common Bermuda, St. Augustine, Zoysia, Tiff Bermuda 419 sod having a healthy, virile root system of dense, thickly matted roots throughout the soil of the sod for a minimum thickness of 1 inch. Sod shall be free of noxious weeds and undesirable native grasses. Soil attached to the sod shall be free of stones and debris.

B. Sod shall have been mowed within 7 days of being stripped. Sod shall be provided in rectangular pads of not less than 12 inches nor more than 24 inches. Dry sod will be rejected.

C. Staples shall be 6 by 1 by 6 inch, 6 inch gauge steel 'U' shaped sod samples.

D. Fertilizer shall be 13-13-13 grade, pelleted, uniform in composition, free-flowing, and suitable for application with approved equipment. The fertilizer shall be delivered to the site in bags or other convenient containers, each fully labeled, conforming to the applicable state fertilizer laws, and bearing the name or trademark and warranty of the producer.

2.2 MULCHES

A. Mulch for Top Dressing: Shredded hardwood, Ground or shredded bark, Wood and bark chips, Peanut, pecan, and cocoa-bean shells, or Organic mulch free from deleterious materials and suitable for top dressing of trees, shrubs or plants. Mulch shall be composted, well-rotted, blended double-shredded hardwood mulch, black or dark brown in color. Mulch pieces shall be sized to pass through a 1-inch screen. No dyes, mushroom compost or other additives shall be used to artificially enhance the appearance of the level of composting. Mulch shall be Native Hardwood Mulch, as supplied by Nature's Way Resources, 101 Sherbrook Circle, Conroe, TX, or approved equal.

B. Pine Straw: Pine straw shall be clean, dry commercially baled pine straw.

C. Mineral Mulch: Rounded riverbed gravel or smooth-faced stone, Crushed stone or gravel.
   1. Size Range: 3/4 inch maximum, 1/4 inch minimum.
   2. Color: Uniform tan-beige color range, or readily available natural gravel color range, acceptable to Landscape Architect.

PART 3 - EXECUTION

3.1 INSPECTIONS

A. Surfaces indicated to receive sod shall be inspected to verify that all preparatory work in the area has been completed. Sod installation shall not start until all preparatory work has been completed. Requests for inspections shall be made at least two days prior to anticipated date of inspection.

3.2 PREPARATION

A. Strip existing vegetation and 1 inch of existing soil from all areas to receive sod not stripped and graded under previous work.

B. After stripping, loosen soil to a depth of 2 inches prior to laying sod. Break up compacted soil. Remove all stones, roots, vegetation, rubbish, debris and other foreign matter 1 inch in diameter or larger from the top 2 inches of soil. No foreign matter may be buried on site.

C. Care shall be taken to avoid erosion of slopes during preparation of hydromulch areas specifically on detention pond slopes. Contractor to install erosion measures as required to keep all slopes stable and avoid any erosion.

D. Contractor to avoid chemical contamination of existing waterways including detention ponds and streams during preparation and seeding.

E. Hand rake to achieve a uniform loose depth to 2 inches and a smooth, consistent grade immediately prior to laying sod.

F. Finish grade to be 1-1/2 inches below top of adjacent hardscape.

G. Immediately prior to placing sod, apply the fertilizer by broadcast method at manufacturer's specified rate and lightly moisten.

3.3 INSTALLATION

A. All sod shall be carefully laid in parallel rows in a smooth manner, alternating all sod joints. Fit sod strips tightly together so that no joints are visible and tamp firmly. Cut pieces of sod to fill any voids left.

B. Sod strips to comply with SWPPP (Storm Water Pollution Prevention Plan) shall be as Drawings and local and regional regulations. Prepare areas and fertilize as for lawn areas. Lay strips tightly together so that no joints are visible. Water and roll.

C. Pin sod with steel staples, minimum 2 for each 1 by 2 foot block wherever slope is 4:1 or greater, pin all blocks of sod on sod strips required for compliance with SWPPP.

D. Water sod immediately after planting, slowly but thoroughly, to secure at least six (6) inches penetration into the soil below the sod. Do not allow the blades of grass to wilt. The sodded area shall be thoroughly rolled in 2 directions to form a thoroughly even, solid mat. Any voids left in block sodding shall be filled with cut sod pieces and/or topsoil.

E. Following the completion of the installation, the sod shall be watered in an amount and as often as necessary to maintain healthy growth of the grass.

F. Treat entire areas of sod for fire ants during the maintenance period as per manufacturer's instructions and Section 32 93 00, Plants.

G. Apply second application of fertilizer 60 days after planting as per Section 32 93 00, Plants.

3.4 MAINTENANCE OF SODDED AREAS

A. Sodded area shall be maintained in good condition throughout the installation process and throughout the maintenance period.

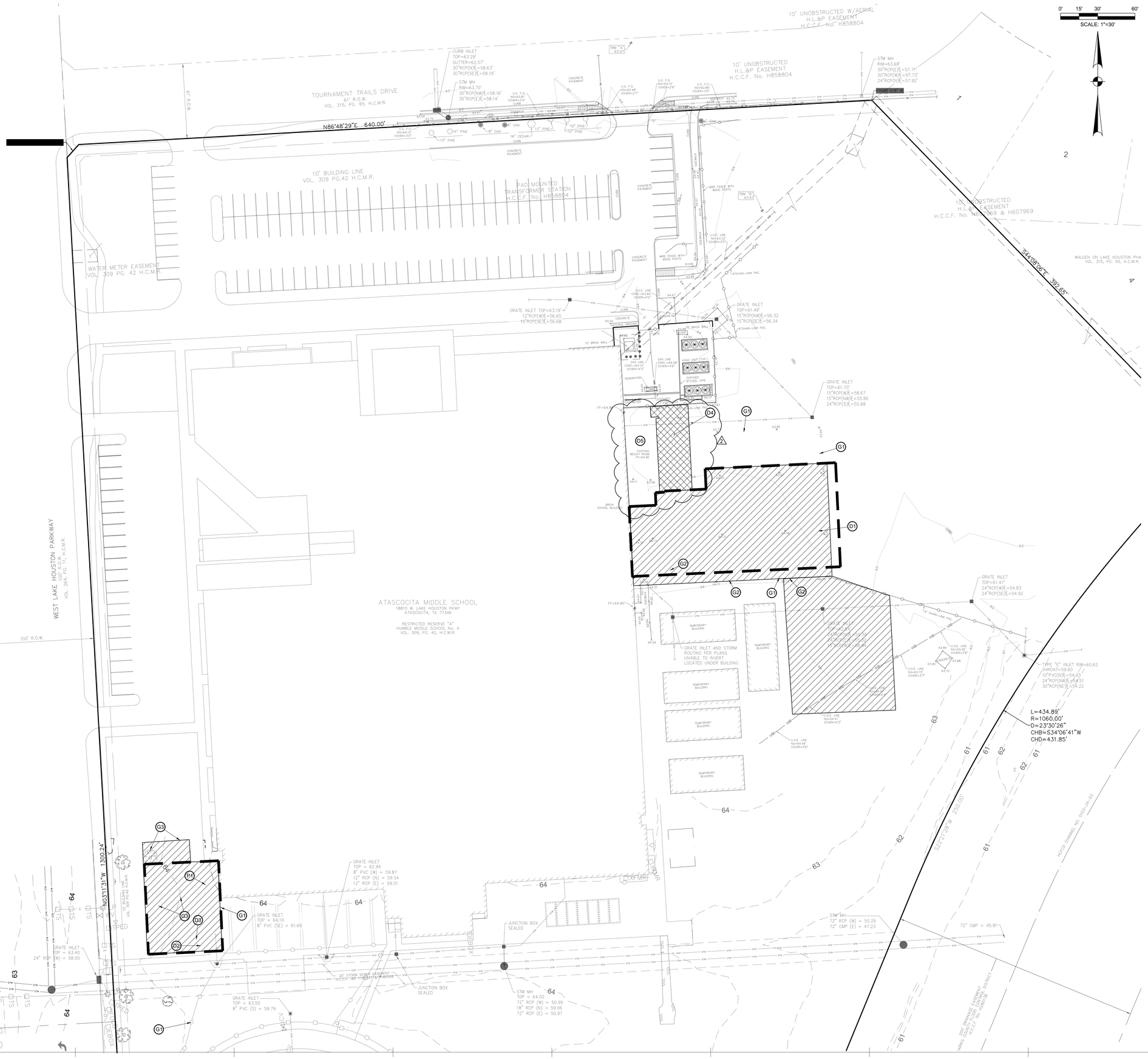
B. Upon completion of work, clean areas within Contract limits, remove tools, supplies and equipment. Wash down curbs and pavement areas. Scrub curbs and walks as necessary to ensure a clean surface. Provide site clean and free of materials and suitable for use as intended.

3.5 GUARANTEE

A. A written guarantee shall be provided guaranteeing to maintain the treated areas in a healthy, vigorous, undamaged condition for a period of 60 days beginning on the date of written acceptance of the work.

B. Guarantee shall provide for timely filling, leveling and repairing eroded areas, reseeding areas exhibiting lack of healthy growth and mowing as necessary to maintain a neat appearance.

END OF SECTION



LEGEND

- PROPOSED BUILDING LIMITS
- DEMOLITION LIMITS (2)
- ALTERNATE DEMOLITION LIMITS

GENERAL CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES SHOWN ARE NOT GUARANTEED TO BE COMPLETE OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE.
2. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IF DISCREPANCIES OCCUR.
3. THE LOCATION OF ALL UTILITIES PRESENTED ON THESE DRAWINGS IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
4. CAUTION!! THERE ARE OVERHEAD POWER LINES IN THE WORK AREA. CONTRACTOR SHALL FOLLOW CITY, STATE AND FEDERAL GUIDELINES WHEN WORKING AROUND EXISTING POWER LINES.
5. CONTRACTOR TO OBTAIN ALL PERMITS AND APPROVALS REQUIRED PRIOR TO STARTING CONSTRUCTION.

DEMOLITION NOTES TO CONTRACTOR:

1. THE CONTRACTOR AND OWNER SHALL COORDINATE WITH UTILITY SERVICE PROVIDERS FOR TERMINATION OF POWER AND GAS SERVICES TO THE SITE OR NEW SERVICES. THIS WORK SHALL BE PERFORMED BY THE UTILITY SERVICE PROVIDER AND SHALL BE SCHEDULED AS ONE OF THE FIRST ITEMS OF BUSINESS.
2. ALL SITE FEATURES NOT IDENTIFIED TO BE DEMOLISHED ARE TO REMAIN AND SHALL BE PROTECTED-IN-PLACE.
3. CONTRACTOR TO FOLLOW ALL RECOMMENDED SAFETY AND DISPOSAL PROCEDURES INCLUDING BUT NOT LIMITED TO EPA, TCEQ & OSHA.
4. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS OFFSITE.
5. WHEN EXISTING SIDEWALK IS CLOSED FOR CONSTRUCTION, CONTRACTOR SHALL BARRICADE THAT AREA AND PROVIDE SAFE ALTERNATE PATH FOR PEDESTRIANS WITH PROPER SIGNAGE.
6. ALL TRAFFIC SIGNAGE WITHIN THE ROW SHALL BE PROTECTED IN PLACE AT ALL TIMES. ANY DAMAGE TO THESE DEVICES SHALL BE REPAIRED IMMEDIATELY.
7. CONTRACTOR SHALL REPAIR ANY ITEMS DAMAGED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE ON SITE DURING ALL CONSTRUCTION ACTIVITIES.
9. THE CONTRACTOR SHALL ENTER AND EXIT THE SITE THROUGH EXISTING DRIVEWAY.
10. CONTRACTOR SHALL NOTE ALL UTILITY PLUG LOCATIONS ON FIELD RECORD DRAWINGS.

SAWCUT NOTES:

1. SAWCUT 2" MINIMUM DEPTH, EXPOSE AND CLEAN 15" OF EXISTING REINFORCING STEEL.
2. IF NO REINFORCING STEEL EXISTS, #4 HORIZONTAL DOWELS, 24" LONG, GRADE 60, SHALL BE DRILLED AND EMBEDDED 12" INTO THE CENTER OF EXISTING CONCRETE WITH EPOXY.
3. ALL REINFORCING STEEL SHALL BE PLACED 3" CLEAR (2" ABSOLUTE MINIMUM) FROM EDGE OF CONCRETE.

GENERAL DEMOLITION KEY NOTES:

NOTE: ALL SITE FEATURES NOT IDENTIFIED TO BE DEMOLISHED ARE TO REMAIN AND SHALL BE PROTECTED-IN-PLACE.

- (G1) EXISTING FENCE AND GATE TO BE REMOVED.
- (G2) EXISTING BASKETBALL GOAL TO BE REMOVED.
- (G3) EXISTING TREE TO BE REMOVED.

PAVING DEMOLITION KEY NOTES:

- (P1) EXISTING CONCRETE TO BE REMOVED.

DRAINAGE DEMOLITION KEY NOTES:

- (D1) EXISTING 24" RCP PIPE TO BE REMOVED.
- (D2) EXISTING 8" PVC PIPE TO BE REMOVED.
- (D3) EXISTING GRATE INLET TO BE REMOVED.
- (D4) CONTRACTOR TO COORDINATE ARCH / OWNER FOR ALTERNATE 4 COURTYARD TURF AND CONCRETE DEMOLTION.
- (D5) EXISTING WEIGHT ROOM TO REMAIN.

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TEXAS REGISTERED ENGINEERING FIRM F-3426
D + A PROJECT No. C24-047-00

ATASCOCITA MIDDLE SCHOOL ADD / RENO

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

STATE OF TEXAS
FRED DALLY
90904
LICENSED
PROFESSIONAL ENGINEER
06/04/2026
DALLY + ASSOCIATES
TEXAS REG. NO: F-3426
DATE: 12/15/2025

PROJECT NO. 24-042
DATE: 06/05/2026
DRAWN BY: JG CHECKED BY: JG
REVISIONS:

No.	Date	Description
2	2026.06.04	ADDENDUM 02

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C4.0
DEMOLITION PLAN

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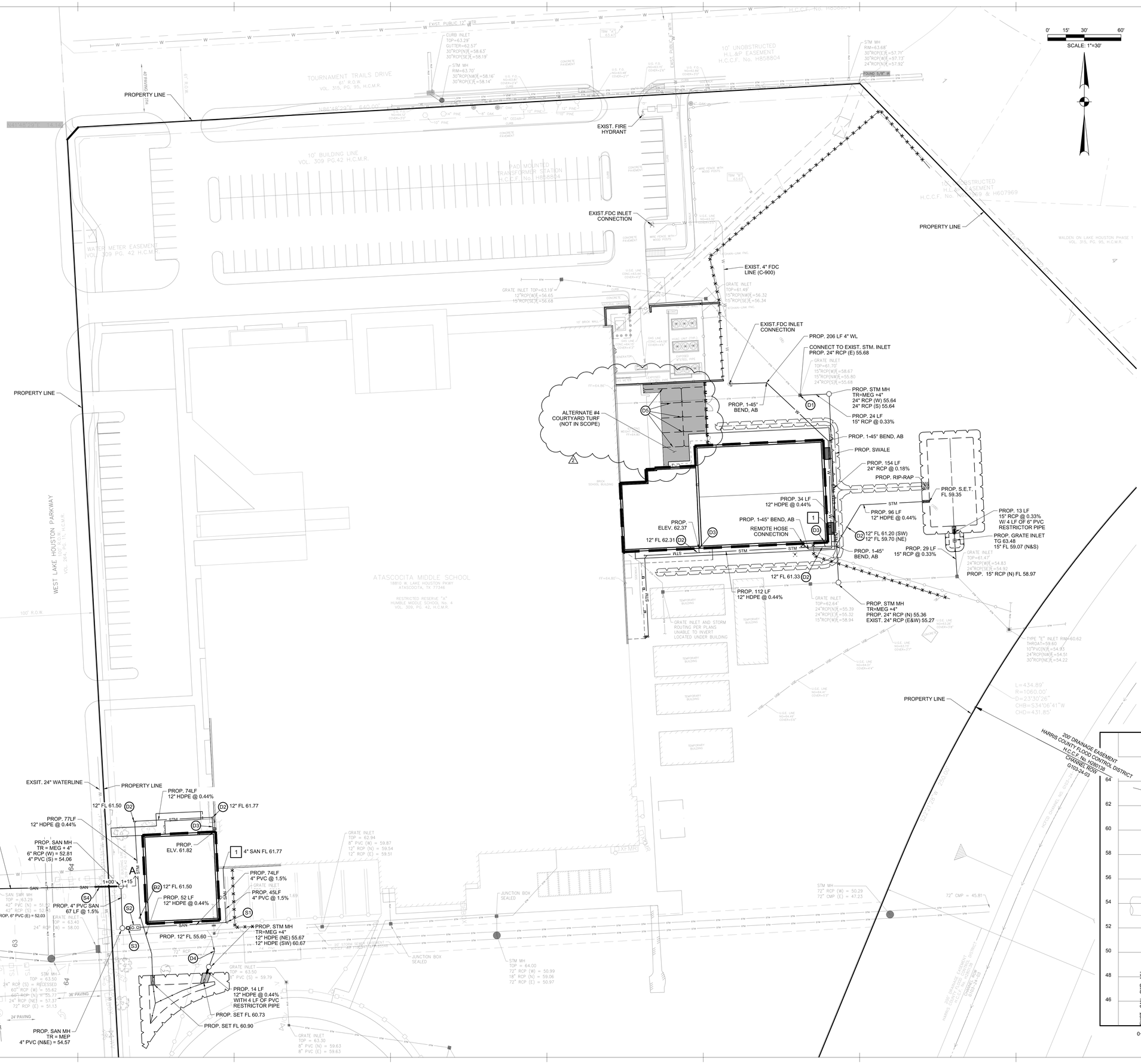

GENERAL CONSTRUCTION NOTES :

1. ALL UNDERGROUND UTILITIES SHOWN ARE NOT GUARANTEED TO BE COMPLETE OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE.
2. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IF DISCREPANCIES OCCUR.
3. THE LOCATION OF ALL UTILITIES PRESENTED ON THESE DRAWINGS IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
4. CAUTION!! THERE ARE OVERHEAD POWER LINES IN THE WORK AREA. CONTRACTOR SHALL FOLLOW CITY, STATE AND FEDERAL GUIDELINES WHEN WORKING AROUND EXISTING POWER LINES.
5. CONTRACTOR TO OBTAIN ALL PERMITS AND APPROVALS REQUIRED PRIOR TO STARTING CONSTRUCTION.
6. SIDEWALKS SHALL HAVE A RUN SLOPE NO GREATER THAN 5% AND A CROSS SLOPE NO GREATER THAN 2%, UNLESS OTHERWISE NOTED.
7. ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
8. ALL DIMENSIONS ARE PERPENDICULAR OR PARALLEL TO THEIR RESPECTIVE PROPERTY LINES UNLESS OTHERWISE NOTED.
9. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING DIMENSIONS.
10. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE STAGING AND TRAFFIC CONTROL PLANS WITH OWNER.
11. ALL DISTURBED AREAS NOT TO BE PAVED OR LANDSCAPED SHALL BE SODDED UPON COMPLETION.
12. WATER AND SEWER MAINS SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH TCEQ RULES AND REGULATIONS.
13. CONTRACTOR PERFORMING THE WORK SHALL BE RESPONSIBLE FOR SECURING ALL UTILITY PERMITS, PRIOR TO INSTALLATION OF ANY UTILITIES INCLUDING WATER, SEWER, ELECTRIC, CABLE TELEVISION AND GAS.
14. DOMESTIC WATER LINES LESS THAN 4" IN DIAMETER SHALL BE SCH 40 PVC AND HAVE A MINIMUM COVER OF 2 FEET. DOMESTIC WATER LINES 4" DIAMETER AND LARGER SHALL BE AWWA C-900 DR 14 PVC AND HAVE A MINIMUM COVER OF 4 FEET.
15. FIRE WATER SERVICE SHALL BE C-900 SELF-EXTINGUISHING PVC PIPE THAT BEARS UNDERWRITERS' LABORATORIES MARK OF APPROVAL AND IS ACCEPTABLE WITHOUT PENALTY TO TEXAS STATE FIRE INSURANCE COMMITTEE AND HAVE A MINIMUM COVER OF 4 FEET.
16. SANITARY SEWER PIPE SIZES 6 INCHES AND SMALLER SHALL BE PVC SCHEDULE 40, AND PIPE SIZES 8 INCHES OR LARGER SHALL BE SDR 26.
17. ALL STORM AND SANITARY SEWER CLEANOUTS SHALL HAVE TRAFFIC-RATED LIDS. CLEANOUTS LOCATED OUTSIDE OF PAVED AREAS SHALL HAVE 18" DIAMETER X 6" THICK REINFORCED CONCRETE PAD WITH TOP OF PAD MATCHING FINISHED GRADE.

GENERAL UTILITY KEY NOTES:

1 REFER TO MEP PLANS FOR CONTINUATION.

DRAINAGE KEY NOTES:

D1 CONNECT PROPOSED STORM SEWER TO EXISTING STORM MANHOLE OR INLET. SEAL WALL PENETRATION USING WATER STOP AND NON-SHRINK GROUT.

D2 PROPOSED STORM SEWER CLEAN OUT. CLEAN OUT IN PAVED AREAS SHALL HAVE TRAFFIC RATED LIDS.

D3 PROPOSED ROOF DRAIN. SEE PLUMBING PLANS SIZE AND CONTINUATION.

D4 CONNECT PROP. STM PIPE TO EXISTING STM PIPE. SEAL WALL PENETRATIONS USING WATER STOP AND NON-SHRINK GROUT.

D5 PROPOSED 6" PERFORATED PIPES (ALTERNATIVE)

SANITARY SEWER KEY NOTES:

S1 PROPOSED SANITARY SEWER CLEAN OUT IN PAVED AREAS SHALL HAVE TRAFFIC RATED LIDS.

S2 PROPOSED GREASE INTERCEPTOR. REFER TO PLUMBING PLANS FOR DETAILS.

S3 PROPOSED SAMPLE WELL. REFER TO PLUMBING PLANS FOR DETAILS.

S4 PROPOSED 18 LF OF RESTRAINT JOINTS CENTERED BELOW EXISTING WATERLINE.

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UTILITY PLAN

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NORTH POND STAGE STORAGE TABLE						
ELEV	AREA (sq. ft.)	DEPTH (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
59.500	2,783.40	N/A	N/A	0.00	N/A	0.00
60.000	2,935.98	0.500	1429.84	1429.84	1429.67	1429.67
60.500	3,091.36	0.500	1506.83	2936.68	1506.67	2936.34
61.000	3,249.54	0.500	1585.22	4521.90	1585.06	4521.40
61.500	3,410.52	0.500	1665.01	6186.91	1664.85	6186.25
62.000	3,574.30	0.500	1746.20	7933.12	1746.04	7932.29
62.500	3,740.88	0.500	1828.79	9761.91	1828.64	9760.93
63.000	3,910.26	0.500	1912.78	11674.69	1912.63	11673.56
63.500	4,082.44	0.500	1998.18	13672.87	1998.02	13671.58

2-YR WSE (63.35')
10-YR WSE (62.25')
100-YR WSE (62.70')

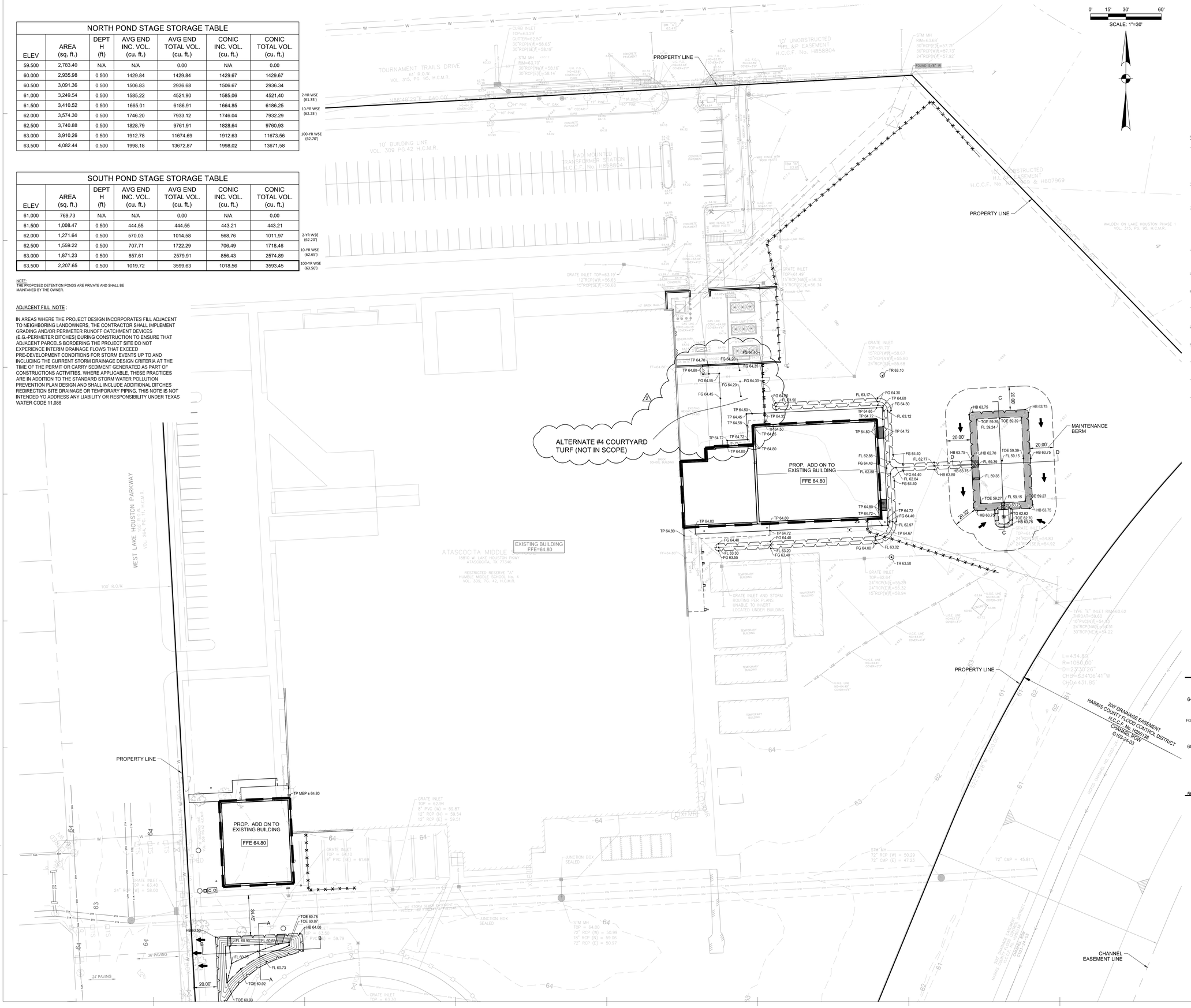
SOUTH POND STAGE STORAGE TABLE						
ELEV	AREA (sq. ft.)	DEPTH (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)
61.000	769.73	N/A	N/A	0.00	N/A	0.00
61.500	1,008.47	0.500	444.55	444.55	443.21	443.21
62.000	1,271.64	0.500	570.03	1014.58	568.76	1011.97
62.500	1,559.22	0.500	707.71	1722.29	706.49	1718.46
63.000	1,871.23	0.500	857.61	2579.91	856.43	2574.89
63.500	2,207.65	0.500	1019.72	3599.63	1018.56	3593.45

2-YR WSE (62.20')
10-YR WSE (62.65')
100-YR WSE (63.50')

NOTE:
THE PROPOSED DETENTION PONDS ARE PRIVATE AND SHALL BE MAINTAINED BY THE OWNER.

ADJACENT FILL NOTE :

IN AREAS WHERE THE PROJECT DESIGN INCORPORATES FILL ADJACENT TO NEIGHBORING LANDOWNERS, THE CONTRACTOR SHALL IMPLEMENT GRADING AND/OR PERIMETER RUNOFF CATCHMENT DEVICES (E.G.-PERIMETER DITCHES) DURING CONSTRUCTION TO ENSURE THAT ADJACENT PARCELS BORDERING THE PROJECT SITE DO NOT EXPERIENCE INTERIM DRAINAGE FLOWS THAT EXCEED PRE-DEVELOPMENT CONDITIONS FOR STORM EVENTS UP TO AND INCLUDING THE CURRENT STORM DRAINAGE DESIGN CRITERIA AT THE TIME OF THE PERMIT OR CARRY SEDIMENT GENERATED AS PART OF CONSTRUCTIONS ACTIVITIES. WHERE APPLICABLE, THESE PRACTICES ARE IN ADDITION TO THE STANDARD STORM WATER POLLUTION PREVENTION PLAN DESIGN AND SHALL INCLUDE ADDITIONAL DITCHES REDIRECTION SITE DRAINAGE OR TEMPORARY PIPING. THIS NOTE IS NOT INTENDED YO ADDRESS ANY LIABILITY OR RESPONSIBILITY UNDER TEXAS WATER CODE 11.086



LEGEND	
	PROPOSED BUILDING LIMITS
FFE	FINISHED FLOOR ELEVATION
FL	FLOW LINE
FG	FINISHED GRADE
HB	HIGH BANK
MEC	MATCH EXISTING CURB
MEG	MATCH EXISTING GRADE
MEP	MATCH EXISTING PAVEMENT
TC	TOP OF CURB
TG	TOP OF GRATE
TOE	TOE OF SLOPE
TP	TOP OF PAVEMENT
	EXTREME EVENT OVERFLOW

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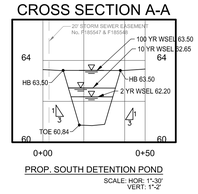
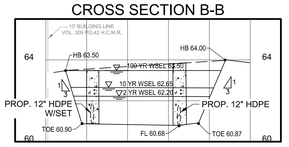


PROP. SOUTH DETENTION POND
SCALE: HOR: 1"-30'
VERT: 1"-2'



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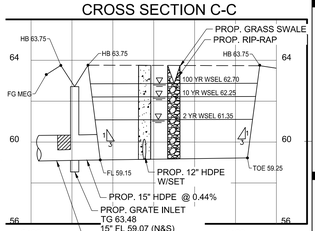

PROP. NORTH DETENTION POND
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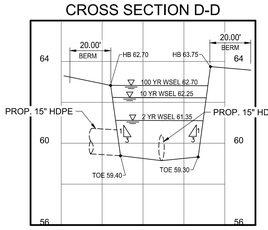

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GRADING PLAN

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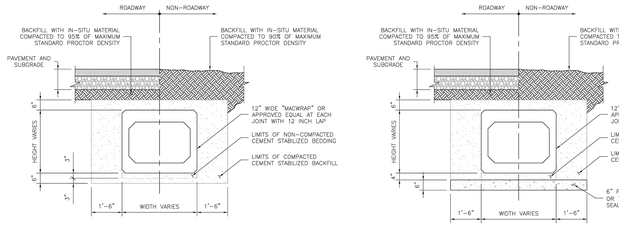
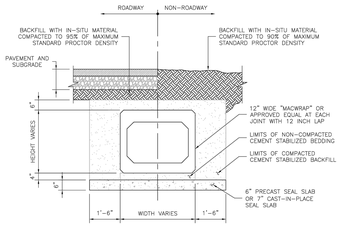
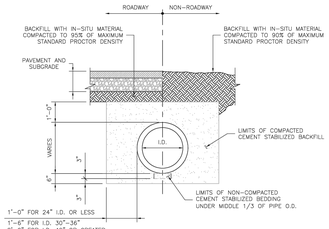


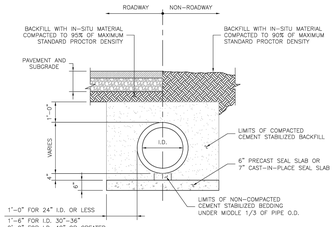
REINFORCED CONCRETE BOX CULVERT



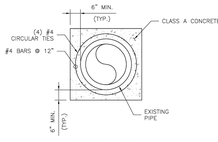
REINFORCED CONCRETE BOX CULVERT WITH SEAL SLAB



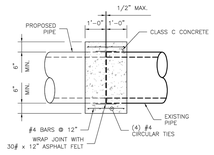
PIPE



PIPE WITH SEAL SLAB



SECTION VIEW



ELEVATION VIEW

TYPICAL CONCRETE COLLAR FOR 36" & SMALLER RCP

GENERAL NOTES:

1. FOR RCP LARGER THAN 36" DIAMETER, CONCRETE COLLARS MUST BE DESIGNED BY THE ENGINEER OF RECORD.

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

HARRIS COUNTY ENGINEERING DEPARTMENT

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE; NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

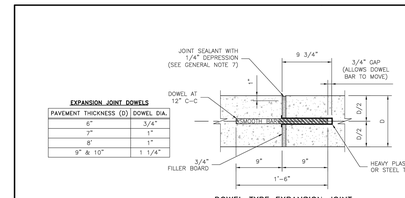
ENGINEER: NAME
P.E. SERIAL No.: NUMBER
DATE: / /

PROJECT TITLE:

SHEET DESCRIPTION: STORM SEWER CONSTRUCTION DETAILS

CIVIL STANDARD: SSC

DESIGN BY: JDZ
DRAWN BY: PDG
CHECK:
SCALE: 1" = 1'-6"
DATE: 10/10/23
SHEET NO. /



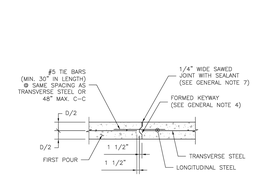
EXPANSION JOINT DOWELS

PAVEMENT THICKNESS (D)	DOWEL DIA.
6"	3/4"
7"	1"
8"	1"
9" & 10"	1 1/4"

DOWEL TYPE EXPANSION JOINT
SCALE: 1" = 3"

NOTES FOR DOWEL EXPANSION JOINT:

1. EXPANSION JOINT SHALL BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 80 FEET.
2. CENTER DOWEL HORIZONTALLY ON JOINT.
3. EXPANSION JOINT BARS SHALL BE HELD PARALLEL TO THE FINISHED CONCRETE SURFACE.



LONGITUDINAL CONSTRUCTION JOINT
SCALE: 1" = 1'-6"

NOTES FOR CONSTRUCTION JOINT:

1. SAWED JOINTS SHALL BE CLEANED IN ACCORDANCE WITH SPECIFICATION ITEM 438 "JOINT SEALANTS."
2. JOINT SEALANT SHALL FILL THE JOINT FROM BOTTOM TO 1/4" BELOW CONCRETE PAVEMENT SURFACE.

CONTRACTION JOINT (SAWED)
SCALE: 1" = 1'-6"

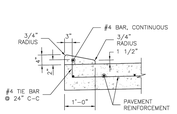
NOTES FOR CONTRACTION JOINT:

1. 20'-0" MAXIMUM SPACING BETWEEN TRANSVERSE CONTRACTION JOINTS.
2. SAWED JOINTS SHALL BE CLEANED IN ACCORDANCE WITH SPECIFICATION ITEM 438 "JOINT SEALANTS."
3. JOINT SEALANT SHALL FILL THE JOINT FROM BOTTOM TO 1/4" BELOW CONCRETE PAVEMENT SURFACE.

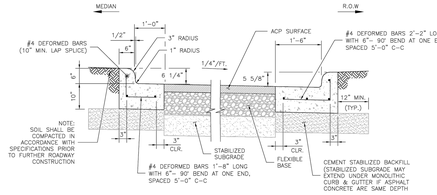
DRILLED-IN CONCRETE CURB FOR CONCRETE PAVEMENT
SCALE: 1" = 1'-0"

NOTES FOR CURB:

1. AT EACH PAVEMENT CONTRACTION JOINT, PROVIDE A 1/4" THICK PRE-MOLDED EXPANSION JOINT FILLER FULL WIDTH AND HEIGHT OF THE CURB.
2. FOR EACH PAVEMENT EXPANSION JOINT, THE PRE-MOLDED EXPANSION JOINT FILLER MATERIAL SHALL BE THE FULL WIDTH AND HEIGHT OF THE CURB.



4" X 12" CURB
SCALE: 1" = 1'-0"



6" COMBINED CURB AND GUTTER
SCALE: 1" = 1'-0"

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

HARRIS COUNTY ENGINEERING DEPARTMENT

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE; NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

ENGINEER: NAME
P.E. SERIAL No.: NUMBER
DATE: / /

PROJECT TITLE:

SHEET DESCRIPTION: CONCRETE PAVEMENT DETAILS

CIVIL STANDARD: CP-24

DESIGN BY: JDZ
DRAWN BY: PDG
CHECK:
SCALE: AS NOTED
DATE: 10/10/23
SHEET NO. /

PLAN VIEW

GRATE PLAN VIEW

GRATE SECTION A-A

FRAME SECTION A-A

SECTION A-A

SECTION B-B

GENERAL NOTES:

1. CONSTRUCTION AND MATERIALS SHALL MEET REQUIREMENTS OF ITEM 466 "INLETS."
2. CONCRETE FOR INLET: MINIMUM 4,000 PSI IN 28 DAYS.
3. PRECAST INLET DESIGN SHALL MEET OR EXCEED ASTM C913 REQUIREMENTS.
4. FRAME AND GRATE SHALL BE EAST JORDAN IRON WORKS MODEL V-4880-1 (OPEN AREA 473 SQ. IN.) OR APPROVED EQUAL.
5. IF INLET IS LOCATED IN AN UNPAVED AREA, THE CONTRACTOR SHALL INSTALL SHAPED CONCRETE APRON AS SHOWN IN THE CONTRACT DOCUMENTS; HOWEVER, IF THE CONTRACTOR ELECTS TO CONSTRUCT A CAST-IN-PLACE INLET, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING A DETAILED DRAWING, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS.
6. SHOP DRAWINGS SHALL BE REQUIRED FOR PRECAST CONSTRUCTION OF INLET.
7. PRECAST UNITS ARE NOT PERMISSIBLE FOR PRECAST CONSTRUCTION OF INLET.
8. CEMENT STABILIZED BACKFILL SHALL EXTEND TO THE BOTTOM OF PAVEMENT OR CONCRETE RIPRAP, OR 12 INCHES BELOW THE SURFACE IF INLET IS LOCATED IN AN UNPAVED AREA.

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

HARRIS COUNTY ENGINEERING DEPARTMENT

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE; NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

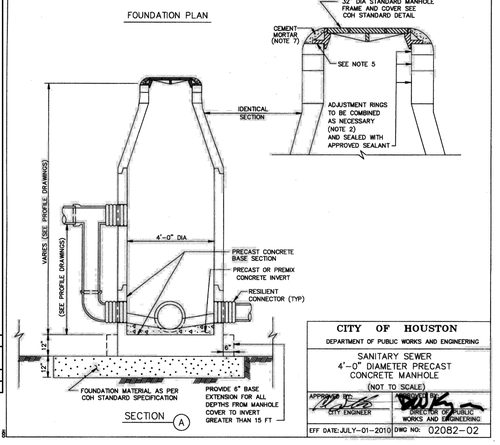
ENGINEER: NAME
P.E. SERIAL No.: NUMBER
DATE: / /

PROJECT TITLE:

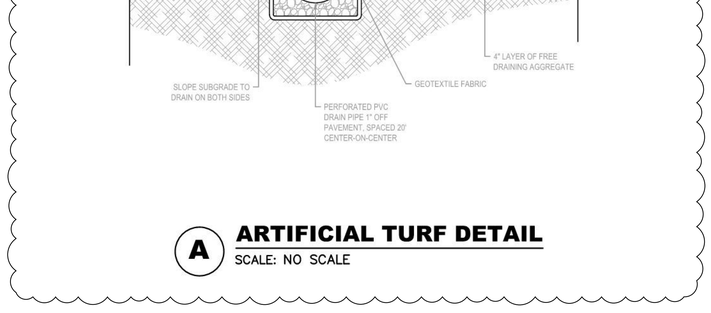
SHEET DESCRIPTION: TYPE "A" INLET DETAILS

CIVIL STANDARD: INL-A

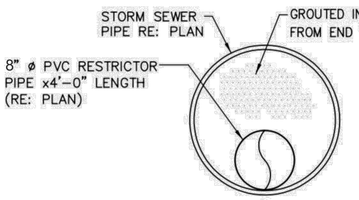
DESIGN BY: JDZ
DRAWN BY: PDG
CHECK:
SCALE: 1" = 1'-0"
DATE: 10/10/23
SHEET NO. /

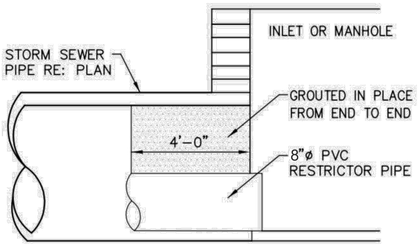


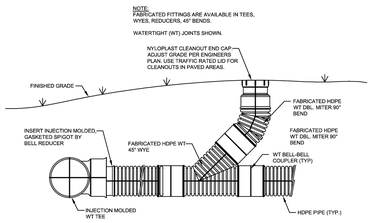
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
SANITARY SEWER
4'-0" DIAMETER PRECAST CONCRETE MANHOLE
(NOT TO SCALE)
APPROVED BY: CITY ENGINEER
DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JULY-01-2010
DWG NO: 02082-02



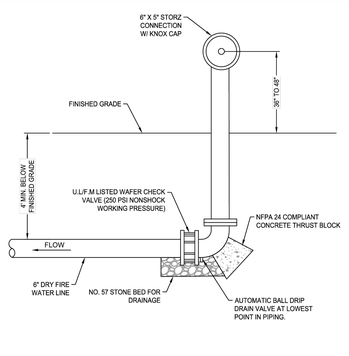
A ARTIFICIAL TURF DETAIL
SCALE: NO SCALE







STORM SEWER CLEANOUT DETAIL
N.T.S.



REMOTE FDC DETAIL
N.T.S.

pfluger
office: 713.222.1141 | fax: 713.222.1174
3411 Richmond Avenue, Suite 725
Houston, Texas 77046
pflugerarchitects.com

Dally + ASSOCIATES
STRUCTURAL | CIVIL
9800 Richmond Avenue, Suite 460
Houston, Texas 77042 | 713 337 8881
TEXAS REGISTERED ENGINEERING FIRM F-3426
D + A PROJECT No. C24-047-00

ATASCOCITA MIDDLE SCHOOL ADD / RENO
18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

STATE OF TEXAS
FRED DALLY
90904
LICENSED PROFESSIONAL ENGINEER
06/04/2026
DALLY + ASSOCIATES
TEXAS REG. NO: F-3426
DATE: 12/15/2025

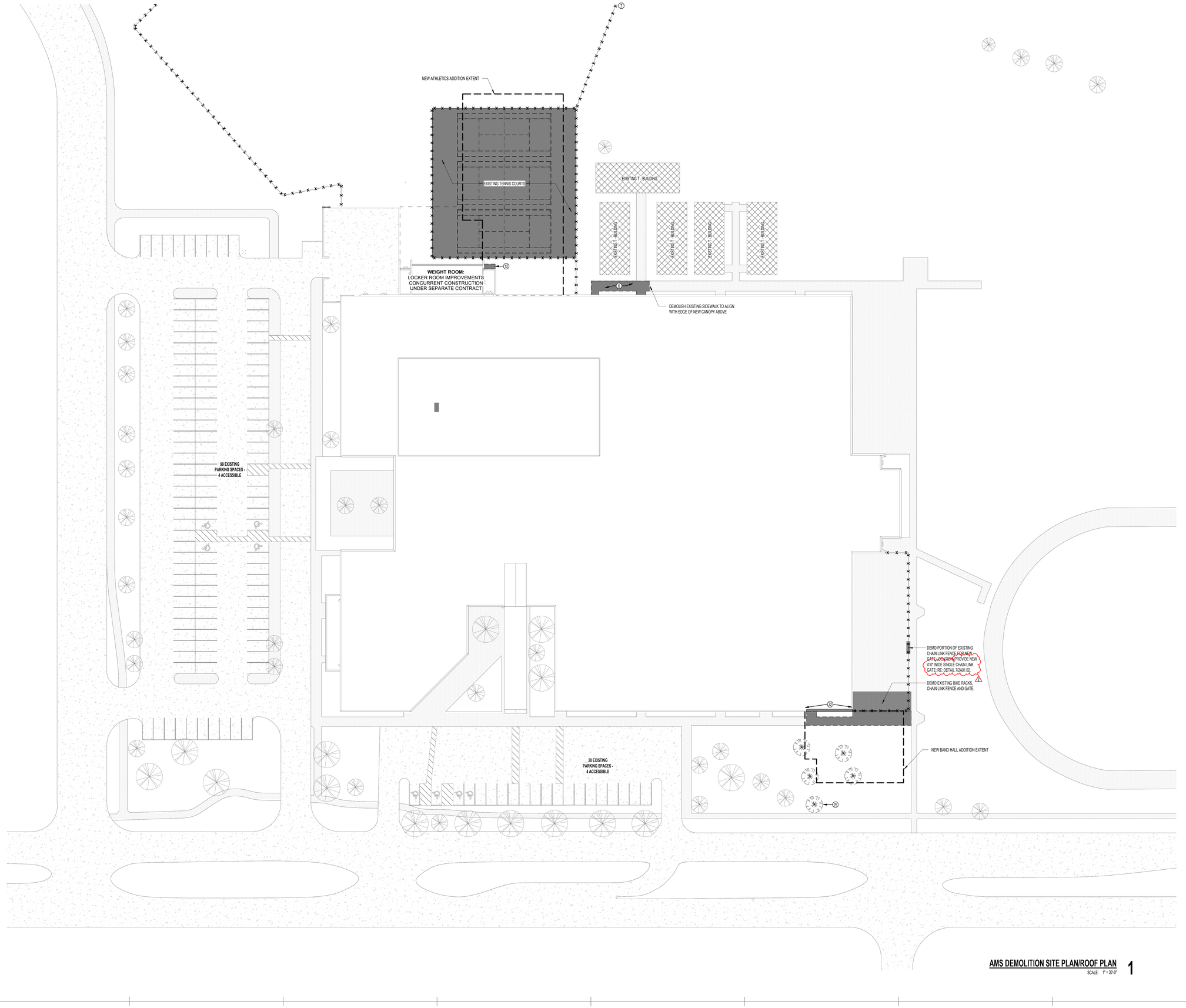
PROJECT NO. 24-042
DATE: 06/05/2025
DRAWN BY: JG CHECKED BY: JG
REVISIONS:

No.	Date	Description
2	2026.06.04	ADDENDUM 02

ISSUED FOR CONTSTRUCTION

C13.00
SITE DETAILS

10/21/2024 3:23:59 PM P:\2024 - Daily + Associates - Civil\C24-047-00 Humble ISD AMS and HMS\CONSULTANTS\Architectural\2024-10-21 Arch BG BIM Download\24-042_ARCH_HUMBLE MS_R24.rvt



AMS DEMOLITION SITE PLAN/ROOF PLAN 1

SCALE: 1" = 30'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR TO VISIT THE SITE PRIOR TO BID AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND WILLINGNESS TO WORK WITH THESE CONDITIONS.
2. "REMOVE", "REMOVE AND SALVAGE", AND "REMOVE AND REINSTALL" ITEMS INDICATED GRAPHICALLY ACCORDING TO DEMOLITION LEGEND AND AS INDICATED.
3. REFER TO ELECTRICAL, FIRE PROTECTION, MECHANICAL, AND PLUMBING DRAWINGS FOR DEMOLITION OF ELECTRICAL, FIRE PROTECTION, MECHANICAL, AND PLUMBING ITEMS.
4. DETACH ALL WALL AND CEILING MOUNTED ITEMS THAT ARE AFFECTED BY WORK AND NOT SPECIFICALLY ADDRESSED, REINSTALL OR SALVAGE ITEMS AS DIRECTED BY OWNER. DISPOSE OF ALL OTHERS.
5. WHERE A SEAMLESS PATCH BETWEEN EXISTING AND NEW SURFACES AND ITEMS IS NOT POSSIBLE OR PRACTICAL, REMOVE EXISTING ELEMENT BACK TO NEAREST JOINT OR CORNER AND REPLACE WITH NEW TO MATCH.
6. REMOVE ALL ABANDONED ITEMS EXPOSED BY DEMOLITION.
7. GENERAL CONTRACTOR TO SALVAGE EXTRA LIGHT FIXTURES TO OWNER.
8. CONTRACTOR RESPONSIBLE TO REPAIR DAMAGED WALL SURFACES THAT HAPPEN DURING THE DEMOLITION/CONSTRUCTION PROCESS.
9. DURING DEMOLITION, RETAIN STRUCTURAL INTEGRITY FOR INTERIOR/EXTERIOR WALLS. CONTACT ARCHITECT SHOULD QUESTIONS/PROBLEMS ARISE.
10. REFERENCE ARCHITECTURAL, MEP AND STRUCTURAL PLANS FOR ADDITIONAL INFORMATION REGARDING BUILDING DEMOLITION/RENOVATIONS.
11. IF WALL(S) OR SUB-WALL SURFACE(S) ISARE DAMAGED DURING REMOVAL OR DEMOLITION, THE CONTRACTOR IS RESPONSIBLE FOR PLACEMENT OF WALL MATERIAL(S) TO ENSURE A LEVEL AND SMOOTH WALL SURFACE. MATCH ADJACENT WALL FINISH WHEN POSSIBLE.
12. CONTRACTOR RESPONSIBLE FOR CAPPING REMOVED PLUMBING LINES BELOW FINISH FLOOR AND PREPARING FLOOR SURFACE TO RECEIVE SCHEDULED FINISH.
13. CONTRACTOR RESPONSIBLE FOR DISCONNECTING AND CAPPING ELECTRICAL WIRING PRIOR TO DEMOLITION OF WALL(S).
14. CONTRACTOR RESPONSIBLE FOR PROTECTING EXISTING SURFACES AND FINISHES DURING THE DEMOLITION/CONSTRUCTION PROCESS.
15. CONTRACTOR RESPONSIBLE FOR CEILING PATCHING AND CEILING PREP IN AREAS AFFECTED BY DEMOLITION/CONSTRUCTION.
16. CONTRACTOR RESPONSIBLE FOR WALL PATCHING AND WALL PREP IN AREAS AFFECTED BY DEMOLITION/CONSTRUCTION.
17. CONTRACTOR RESPONSIBLE FOR FLOOR PATCHING AND FLOOR PREP IN AREAS AFFECTED BY DEMOLITION/CONSTRUCTION.
18. TEACHING WALL TO MOVE TO OPPOSITE SIDE OF CLASSROOM UNLESS NOTED OTHERWISE.
19. ALL EXISTING EXTERIOR WALLS THAT BECOME INTERIOR WALLS SHALL BE CLEANED AND THEN REVIEWED AND APPROVED BY THE OWNER/ARCHITECT PRIOR TO BEING CONCEALED BY NEW CONSTRUCTION.

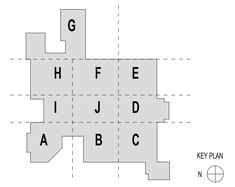
DEMOLITION LEGEND

- NEW ADDITIONS
- AREA TO BE DEMOLISHED
- AREA TO BE RENOVATED
- ALTERNATE
- AREA OUT OF SCOPE
- (A) PLAN NOTE

NOTE: SOME PLAN NOTES MAY NOT APPEAR ON SHEET

DEMOLITION PLAN NOTES

1	EXISTING SHOP EQUIPMENT, FURNITURE, AND DUCTWORK TO REMAIN. ALL EQUIPMENT, FURNITURE, AND DUCTWORK SHALL BE CLEANED AND PROTECTED DURING DEMOLITION AND CONSTRUCTION, AND COMPLETELY CLEANED PRIOR TO OCCUPANCY OF THE NEW SPACE.
2	DEMOLISH EXISTING WALL AS INDICATED ON DRAWINGS. PATCH ADJACENT CONSTRUCTION AS REQUIRED TO ACCOMODATE NEW WORK.
3	REMOVE EXISTING STOREFRONT SYSTEM, INCLUDING FRAMING, GLAZING, AND ASSOCIATED COMPONENTS.
4	CREATE NEW OPENING FOR DOOR PER PLANS. COORDINATE WITH STRUCTURAL AND ARCHITECTURAL DETAILING. SEE PROJECT MANUAL FOR HAZARDOUS MATERIAL / SELECTED DEMO SPEC.
5	REMOVE EXISTING DOOR AND FRAME IN FULL. PATCH FLOOR, WALL, AND CEILING FINISHES TO MATCH ADJACENT.
6	DEMOLISH EXISTING CONCRETE PAVING. SAWCUT EDGES CLEANLY AND PREPARE SUBGRADE FOR NEW WORK.
7	<varies>
8	STRIP EXISTING FLOORING TO BARE SUBSTRATE. SHOT BLAST AND PREPARE SURFACE FOR NEW FINISH INSTALLATION. REFER TO SPECIFICATIONS.
9	FILL PAVING AS REQUIRED TO MATCH ADJACENT GRADES AND SURFACES. COORDINATE WITH CIVIL DOCUMENTS.
10	RELOCATE EXISTING MANHOLE COVER PER CIVIL PLANS. MAINTAIN ACCESS DURING CONSTRUCTION.
11	CREATE NEW OPENING FOR WINDOW AS SHOWN. REFER TO HAZARDOUS MATERIALS REPORT BEFORE WORK BEGINS.
12	DEMOLISH PORTION OF EXISTING ROOF AS SHOWN ON PLANS AND SECTIONS. COORDINATE WITH STRUCTURAL AND ROOFING DRAWINGS.
13	REMOVE EXISTING CASEWORK IN AREAS NOTED. DISPOSE OR TURN OVER TO OWNER PER DIRECTION.
14	DEMOLISH EXISTING GYPSUM FURRING AS SHOWN. PATCH AND PREP SUBSTRATE.
15	REMOVE EXISTING WASH FOUNTAIN AND ASSOCIATED ACCESSORIES AND RELOCATE TO LOCATION SHOWN ON PLANS. MODIFY SUPPLY, WASTE, AND VENT PIPING AS REQUIRED AND COORDINATE WITH PLUMBING DRAWINGS. PATCH AND REPAIR WALLS, FLOORS, AND ADJACENT FINISHES TO MATCH NEW FINISHES.
16	REMOVE EXISTING DRINKING FOUNTAIN. MODIFY PIPING AS REQUIRED AND COORDINATE WITH PLUMBING DRAWINGS. PATCH AND REPAIR WALLS, FLOORS, AND ADJACENT FINISHES TO MATCH NEW FINISHES.
17	CLEAN AND PREPARE EXPOSED CEILING TO RECEIVE NEW FINISH OR BE LEFT EXPOSED, PER REFLECTED CEILING PLANS.
18	REMOVE EXISTING MARKERBOARD OR MARKERBOARD/TACKBOARD SYSTEMS. PATCH SURFACES BEHIND TO MATCH SURROUNDING.
19	REMOVE EXISTING BUILT-IN STORAGE UNITS. PATCH WALL/FLOOR/CEILING FINISHES.
20	REMOVE EXISTING RUBBER BASE. PREP WALL FOR NEW BASE.
21	DEMOLISH EXISTING CEILING SYSTEM INCLUDING GRID, TILES, AND ACCESSORIES.
22	DEMOLISH PORTION OF EXISTING WIRE PARTITION AS REQUIRED TO ACCOMMODATE NEW WALL INSTALLATION. CLEAN AND PREPARE CORNER CONDITIONS FOR NEW WORK.
23	REMOVE EXISTING LIGHTING FIXTURES WHERE NOTED. CAP WIRING AS REQUIRED.
24	PREPARE GROUND FOR NEW CONSTRUCTION, INCLUDING REMOVAL OF ALL GOAL POSTS, BOLLARDS, FENCING, VEGETATION, DEBRIS, OR UNSUITABLE SOILS.
25	REMOVE EXISTING TREE AS INDICATED. GRIND STUMP AND ROOT SYSTEM TO BELOW GRADE.
28	PATCH EXISTING DOOR OPENING AS INDICATED. MATCH ADJACENT WALL FINISH.
29	SAWCUT AND TRENCH SLAB FOR NEW GREASE TRAP LINE. COORDINATE LAYOUT WITH PLUMBING DRAWINGS.
30	SAWCUT AND TRENCH SLAB FOR DEMOLITION AND ABANDONMENT OF EXISTING SANITARY WASTE LINE. COORDINATE LAYOUT WITH PLUMBING DRAWINGS.
31	REMOVE EXISTING FACE BRICK AND INSULATION ONLY. CMU BACKUP TO REMAIN.
32	DEMOLISH PORTION OF EXISTING PARAPET PER DRAWINGS. MAINTAIN WATERPROOFING INTEGRITY.
33	DISTRICT TO REMOVE INTERACTIVE DISPLAY (TV) PRIOR TO CONSTRUCTION. NOT IN ARCHITECTURAL CONTRACT SCOPE.
34	REMOVE EXISTING TACKBOARD AND RELOCATE IF NOTED FOR RELOCATION. PATCH AND CLEAN CMU WALL SURFACE BEHIND. FINAL LOCATION TO BE APPROVED BY OWNER.
35	EXISTING WIRE MESH PARTITION AND DOORS TO REMAIN
36	DUST COLLECTOR SYSTEM. REFER TO FINISH PLAN AND MEP DOCUMENTS FOR SUPPLEMENTAL INFORMATION.
37	PREPARE AND CLEAN WALL SURFACE PRIOR EXECUTION OF PAINT WORK. REFER TO SPECIFICATIONS.



pfluger
office: 713.222.1141 | fax: 713.222.1174
2 Greenway Plaza, Suite 460
Houston, Texas 77046
pflugerarchitects.com

ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

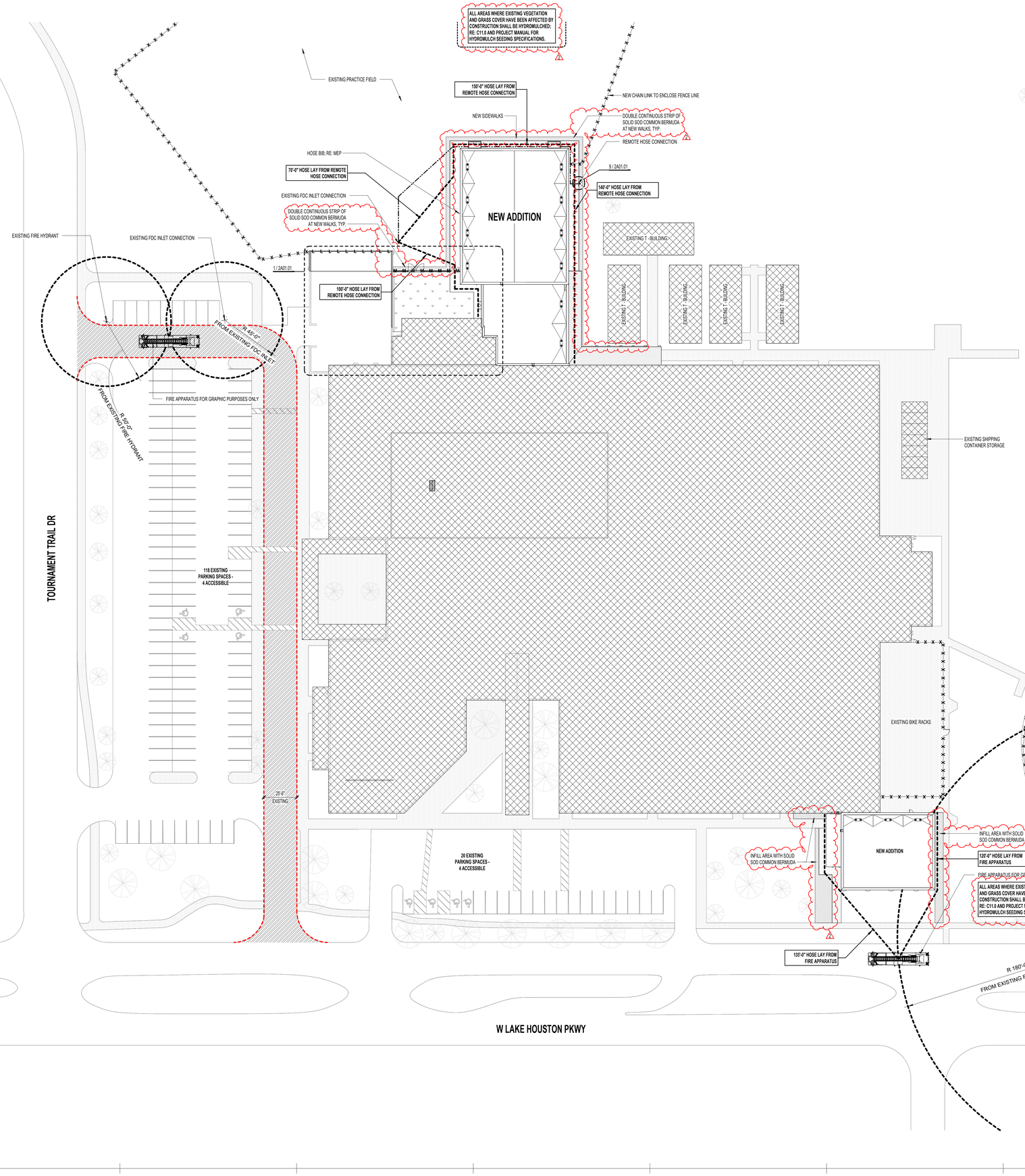
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

2AD01.01
AMS - DEMOLITION SITE PLAN/ROOF PLAN

6/4/2026 11:31:51 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



AMS - ARCHITECTURAL SITE PLAN

SCALE: 1/32" = 1'-0"

1

SITE PLAN GENERAL NOTES

1. REFER TO SHEET A00.00 FOR ADDITIONAL GENERAL NOTES.
2. RE: 2G00.07 & 2G00.08 SHEETS FOR MORE TAS REQUIREMENTS
3. PROVIDE KNOX PADLOCKS AT ALL VEHICULAR GATES. PROVIDE BOLLARDS AT LATCH SIDES OF VEHICULAR GATES WHEN THEY ARE OPEN AND HASP TO LOCK OPEN GATE TO BOLLARD.
4. ALL FENCING SHALL BE VINYL COATED CHAIN LINK, 48" HIGH UNO.
5. PROVIDE 48" HIGH, 4" DIA. CONCRETE FILLED STEEL BOLLARDS SPACED 8' O.C. AROUND SIDES AND BACK OF DUMPSTER YARDS, AROUND ELECTRICAL TRANSFORMER AS REQUIRED BY ELECTRICAL PROVIDER, AND AT BOTH SIDES OF EXTERIOR ROLL-UP/GARAGE DOORS.
6. ALL DISTURBED AREAS SHALL BE FINISH GRADED, REVEGETATED, AND IRRIGATED. COORDINATE WITH CIVIL DRAWINGS.
7. ALL EXIT GATES SHALL BE PROVIDED WITH PANIC HARDWARE AND WIRED FOR CARD READERS AND ELECTRIFIED HARDWARE.
8. PROVIDE 24" CONCRETE MOW STRIP AROUND PERIMETER OF ALL BUILDINGS WHERE NO OTHER PAVING IS CALLED FOR. PROVIDE 12" MOW STRIP CENTERED ON ALL FENCING.

SITE PLAN LEGEND

- EXISTING VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- NEW VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- ORNAMENTAL METAL FENCE, 72" HIGH UNO.
- BUILDING SECTION TAG (1 / A101, SIM)
- WALL SECTION TAG (1 / A101, SIM)
- ENLARGED CALL OUT (2 / A101, SIM)
- EXISTING FIRE LANE
- AREA OUT OF SCOPE
- AREA TO RECEIVE SOLID SOD COMMON BERMUDA
- FDC LINE REF. CIVIL
- FIRE HOSE LAY
- PROPOSED SWALE; REF. CIVIL
- PROPOSED DETENTION POND; REF. CIVIL

PROPERTY DESCRIPTION

1) OWNER INFORMATION

A. NAME : HUMBLE ISD
B. ADDRESS: 10203 BIRCHRIDGE DRIVE, HUMBLE, TX 77338

2) PROPERTY INFORMATION

A. NAME: ATASCOSITA MIDDLE SCHOOL
B: ADDRESS: 11207 CLAYTON PKWY, HUMBLE, TX 77346

3) LEGAL DESCRIPTION

XXXXX
EXISTING MIDDLE SCHOOL

4) ZONING INFORMATION

A. CATEGORY: XXXXXXXXX
B: TRANSLATED CATEGORY: XXXXXX
C. ORDINANCE NUMBER: XXXXX

PARKING REQUIREMENTS

AS OBTAINED FROM CITY ORDINANCE, CHAPTER 26, ARTICLE VIII,
SECTION 26-492, THE REQUIRED NUMBER OF OFF STREET PARKING
SPACES IS DETERMINED AS FOLLOWS:

C.2. JUNIOR HIGH SCHOOL - 1.0 PARKING SPACE PER EVERY 7
OCCUPANTS

1. EXISTING SPACES
   - 130 SPACES
   - 8 ACCESSIBLE SPACES
   - 138 TOTAL EXISTING SPACES
   - (EXISTING NON-CONFORMING)
2. NEW SPACES (INDEPENDENT PRICING 1)
   - X SPACES ADDED
   - X ACCESSIBLE SPACES ADDED
   - X TOTAL SPACES ADDED (IF IP1 ACCEPTED)
3. TOTAL SPACES
   - X SPACES
   - X ACCESSIBLE SPACES (IF IP1 ACCEPTED)
   - X TOTAL SPACES (IF IP1 ACCEPTED)
4. REQUIRED SPACES
   - X SPACES
   - X ACCESSIBLE SPACES
   - X TOTAL SPACES

KEY PLAN

G H F E I J D A B C

N

pfluger
office: 713.222.1141 | fax: 713.222.1174
2 Greenway Plaza, Suite 460
Houston, Texas 77046
pflugerarchitects.com

ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

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HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
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REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

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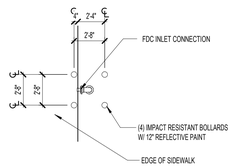
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

No.	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

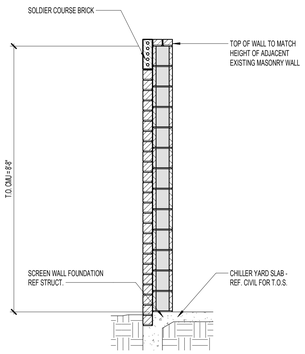
2A01.00
AMS - ARCHITECTURAL SITE PLAN

6/4/2026 11:31:56 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



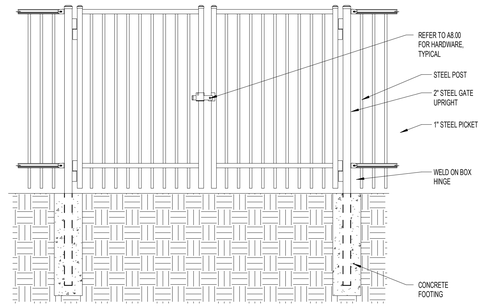
ENLARGED SITE PLAN - FDC INLET 9

SCALE: 3/16" = 1'-0"



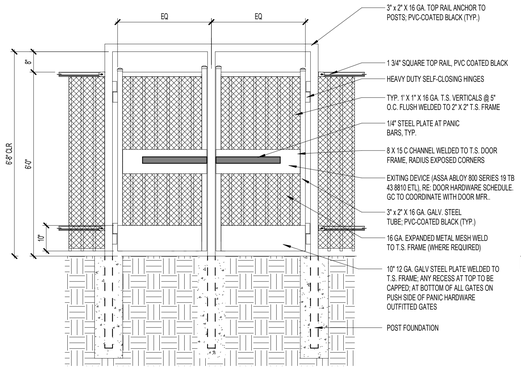
CHILLER YARD - SCREEN WALL SECTION 8

SCALE: 1/2" = 1'-0"



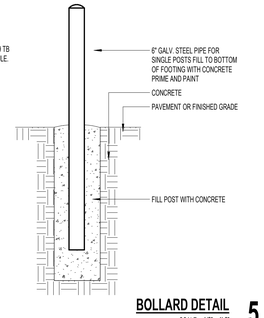
STEEL GATE DETAIL, TYPICAL 7

SCALE: 1/2" = 1'-0"



STEEL GATE DETAIL, GATES WITH PANIC HARDWARE 6

SCALE: 1/2" = 1'-0"



BOLLARD DETAIL 5

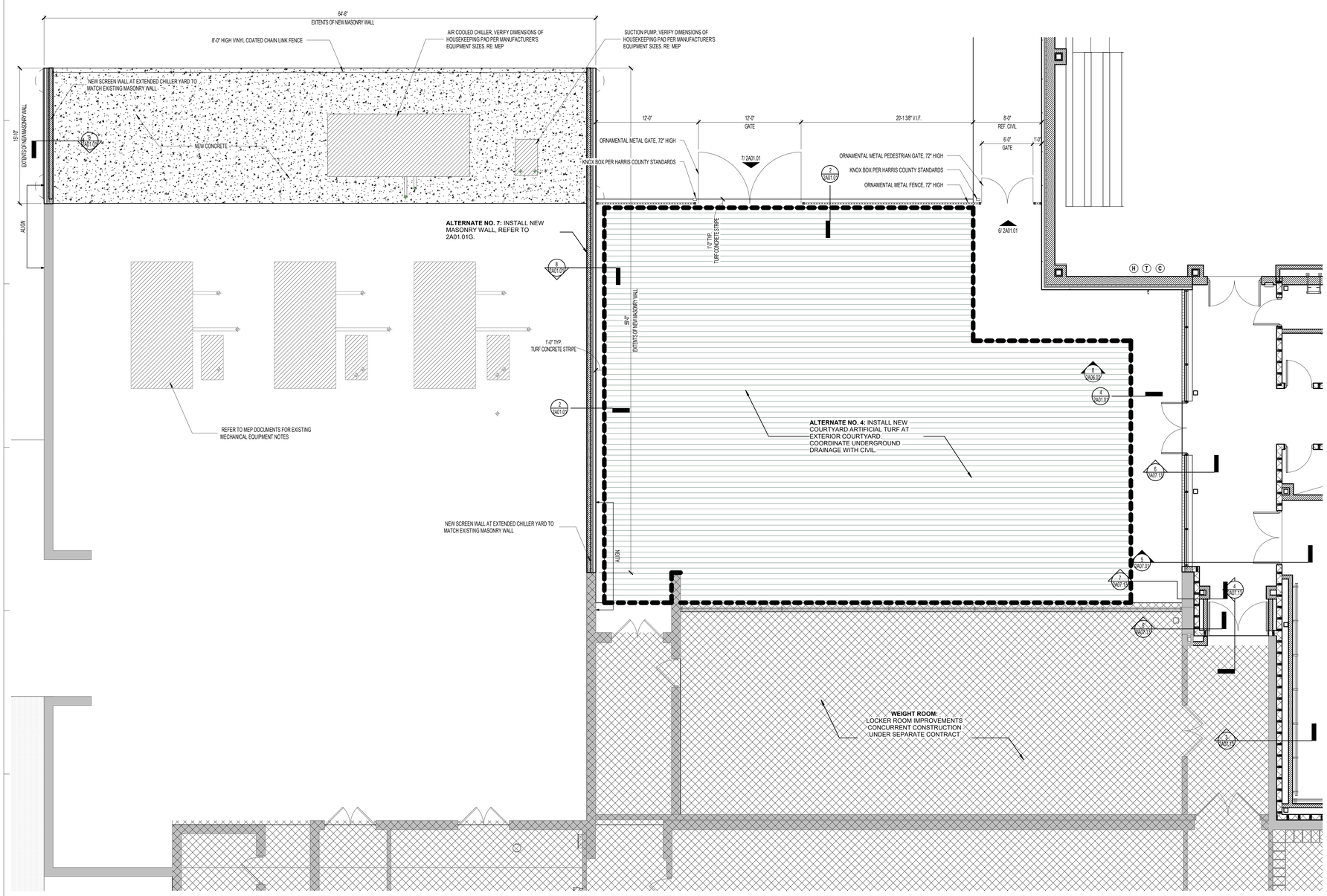
SCALE: 1/2" = 1'-0"

SITE PLAN GENERAL NOTES

1. REFER TO SHEET A00.00 FOR ADDITIONAL GENERAL NOTES.
2. RE: 1G00.07 & 1G00.08 SHEETS FOR MORE TAS REQUIREMENTS
3. PROVIDE KNOX PADLOCKS AT ALL VEHICULAR GATES. PROVIDE BOLLARDS AT LATCH SIDES OF VEHICULAR GATES WHEN THEY ARE OPEN AND HASP TO LOCK OPEN GATE TO BOLLARD.
4. ALL FENCING SHALL BE VINYL COATED CHAIN LINK, 48" HIGH UNO.
5. PROVIDE 48" HIGH, 4" DIA. CONCRETE FILLED STEEL BOLLARDS SPACED 8' O.C. AROUND SIDES AND BACK OF DUMPSTER YARDS, AROUND ELECTRICAL TRANSFORMER AS REQUIRED BY ELECTRICAL PROVIDER, AND AT BOTH SIDES OF EXTERIOR ROLL-UP/GARAGE DOORS.
6. ALL DISTURBED AREAS SHALL BE FINISH GRADED, REVEGETATED, AND IRRIGATED. COORDINATE WITH CIVIL DRAWINGS.
7. ALL EXIT GATES SHALL BE PROVIDED WITH PANIC HARDWARE AND WIRED FOR CARD READERS AND ELECTRIFIED HARDWARE.
8. PROVIDE 24" CONCRETE MOW STRIP AROUND PERIMETER OF ALL BUILDINGS WHERE NO OTHER PAVING IS CALLED FOR. PROVIDE 12" MOW STRIP CENTERED ON ALL FENCING.

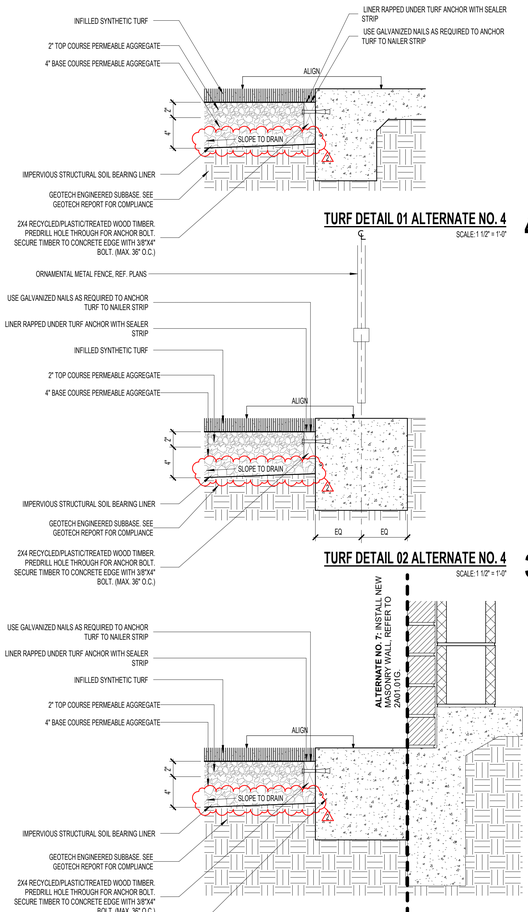
SITE PLAN LEGEND

- EXISTING VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- NEW VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- ORNAMENTAL METAL FENCE, 72" HIGH UNO.
- BUILDING SECTION TAG (SIM / A101)
- WALL SECTION TAG (1 / A101 SIM)
- ENLARGED CALL OUT (2 / A101 SIM)
- EXISTING FIRE LANE
- AREA OUT OF SCOPE
- AREA TO RECEIVE SOLID SOD COMMON BERMUDA
- FDC LINE REF. CIVIL
- FIRE HOSE LAY
- PROPOSED SWALE, REF. CIVIL
- PROPOSED DETENTION POND; REF. CIVIL



AMS - ENLARGED PLAN - SERVICE YARD 1

SCALE: 3/16" = 1'-0"



TURF DETAIL 01 ALTERNATE NO. 4 4

SCALE: 1 1/2" = 1'-0"

TURF DETAIL 02 ALTERNATE NO. 4 3

SCALE: 1 1/2" = 1'-0"

TURF DETAIL 03 ALTERNATE NO. 4 2

SCALE: 1 1/2" = 1'-0"

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

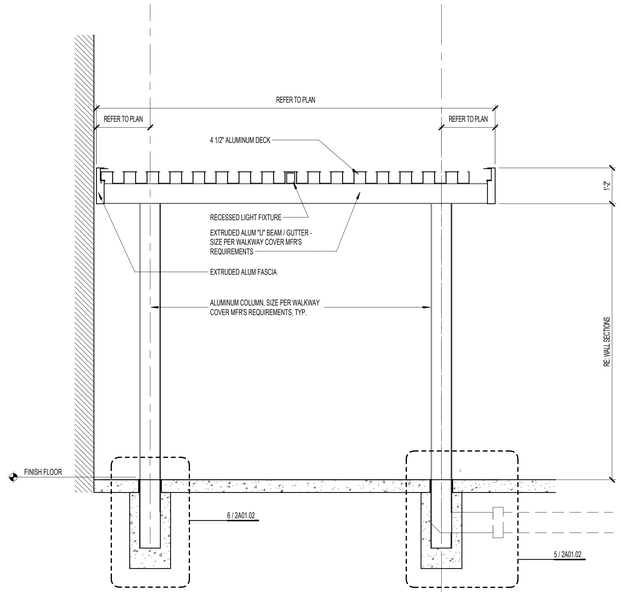
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

No.	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

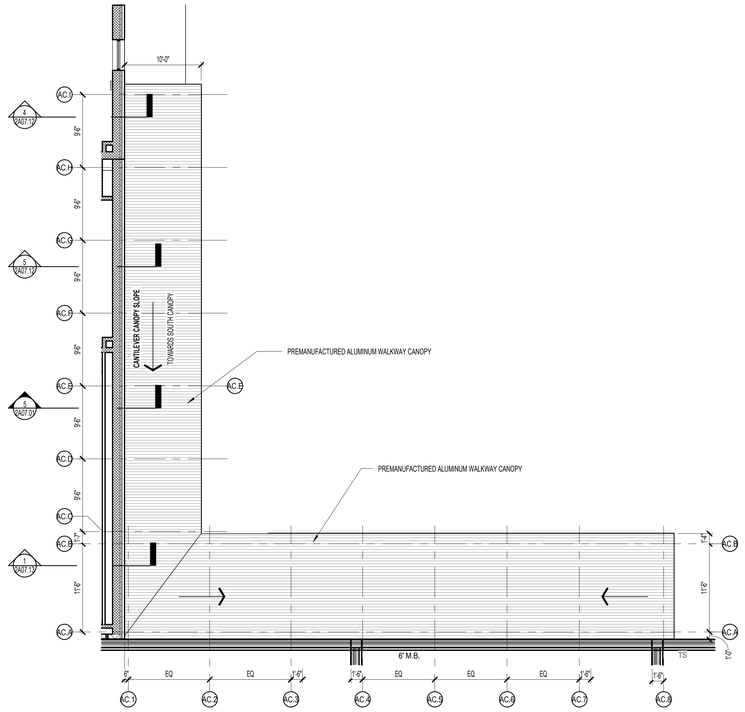
2A01.01
AMS - SITE DETAILS

6/4/2026 11:32:00 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



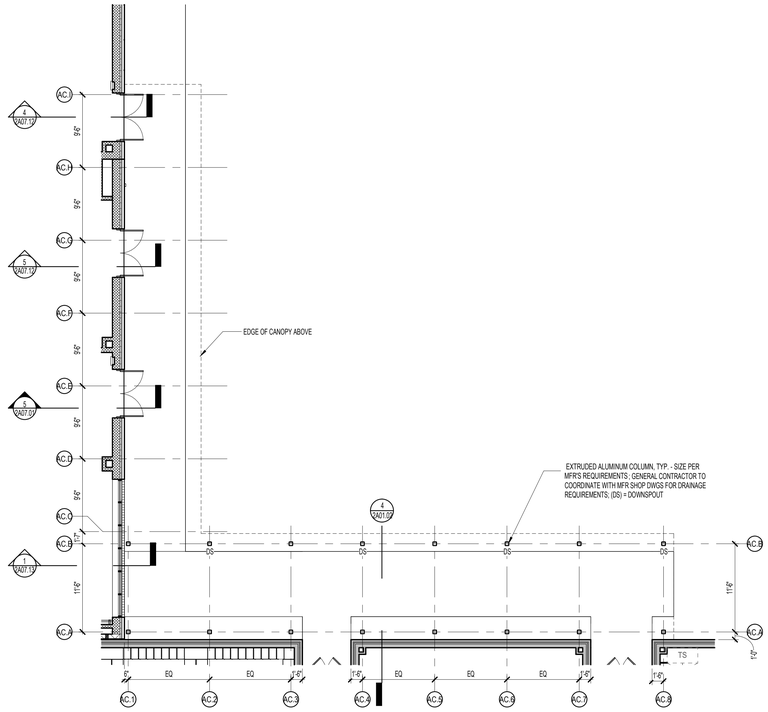
ALUMINUM WALKWAY COVER SECTION 4

SCALE: 1/2" = 1'-0"



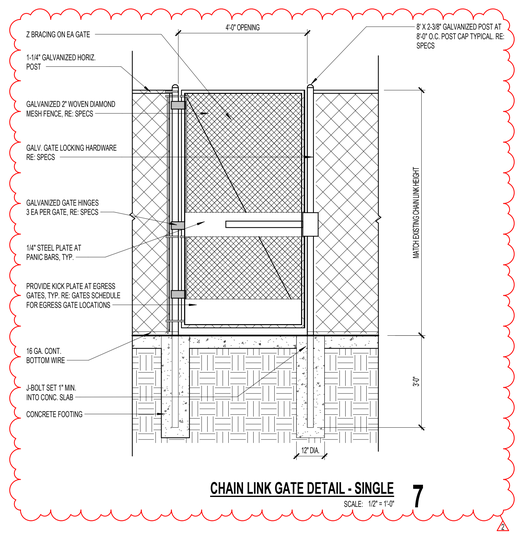
PROTECTIVE WALKWAY COVER ROOF PLAN 3

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



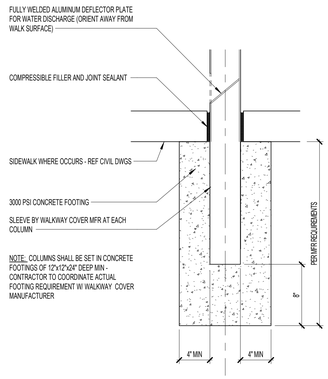
PROTECTIVE WALKWAY COVER FLOOR PLAN 2

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



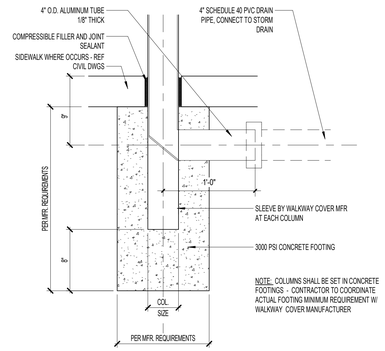
CHAIN LINK GATE DETAIL - SINGLE 7

SCALE: 1/2" = 1'-0"



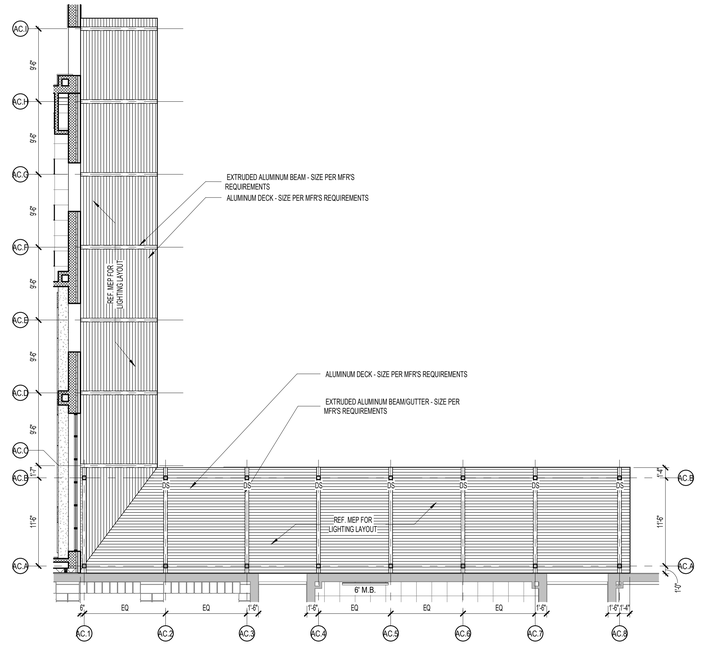
COLUMN FOOTING DETAIL 6

SCALE: 1 1/2" = 1'-0"



COLUMN FOOTING DETAIL 5

SCALE: 1 1/2" = 1'-0"



ALUMINUM WALKWAY COVER - REFLECTED CEILING PLAN 1

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

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

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HUMBLE INDEPENDENT SCHOOL DISTRICT
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HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

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PROJECT NO. 24-042
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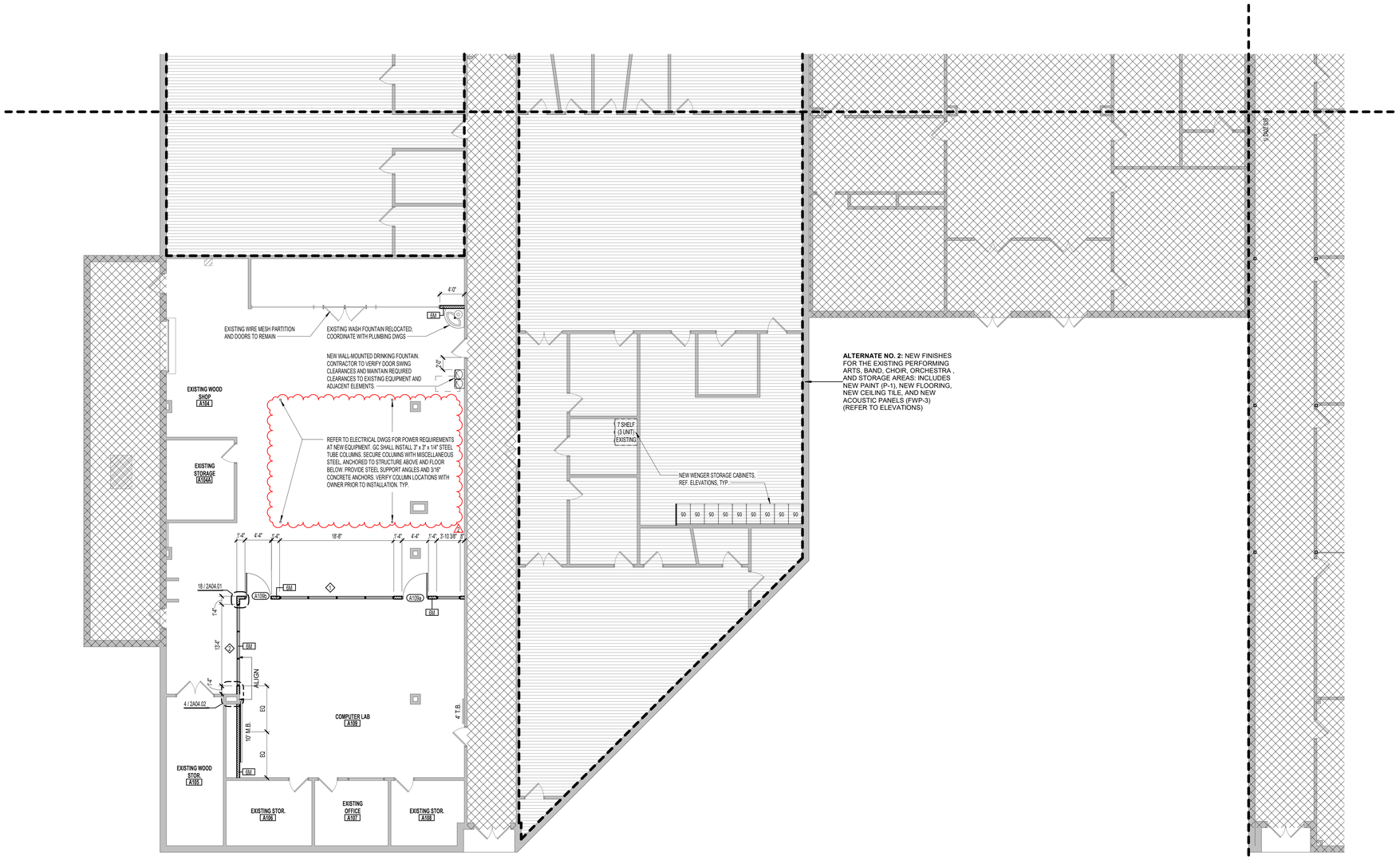
REVISIONS:

Δ	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

2A01.02
AMS - SITE DETAILS

6/4/2026 11:32:02 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



FLOOR PLAN GENERAL NOTES

1. REFER TO SHEET **2A00.00** FOR ADDITIONAL GENERAL NOTES.
2. RE: SHEET **2A00.01** FOR PARTITION TYPE SCHEDULE.
3. DIMENSIONS SHOWN ON THE FLOOR PLANS ARE TO THE FACE OF STUD/FACE OF CMU OF INTERIOR WALLS, UNLESS OTHERWISE INDICATED.
4. ALL SINKS AND LAVATORIES SHALL BE MOUNTED SO THAT THE CENTERLINE OF THE FIXTURE IS 1'-3" MIN. TO THE FACE OF ADJACENT FIXED EQUIPMENT, PARTITIONS, CASEWORK, WALLS, ETC. AND 1'-3" MIN. TO THE CENTER OF AN ADJACENT FIXTURE.
5. REFER TO A03 SHEETS FOR TOILET ROOM DESIGNATIONS, TYPICAL MOUNTING HEIGHTS OF PLUMBING FIXTURES AND TOILET ACCESSORIES.
6. PROVIDE MINIMUM 1'-0" CLEAR FLOOR SPACE AT THE PUSH SIDE OF EVERY DOOR WITH A CLOSER & LATCH. PROVIDE MINIMUM 1'-0" CLEAR AT THE PULL SIDE OF EVERY DOOR, UNLESS SPECIFICALLY DIMENSIONED, NOTED, OR SHOWN OTHERWISE.
7. ALL EXISTING EXTERIOR WALLS THAT BECOME INTERIOR WALLS SHALL BE CLEANED AND THEN REVIEWED AND APPROVED BY THE OWNER/ARCHITECT PRIOR TO BEING CONCEALED BY NEW CONSTRUCTION.

FLOOR PLAN LEGEND

- COLUMN GRID
- EXTERIOR ELEVATION TAG
- INTERIOR ELEVATION TAG
- BUILDING SECTION TAG
- WALL SECTION TAG
- ENLARGED CALL OUT
- DOOR TAG
- PARTITION TAG
- INTERIOR FRAME TAG
- EXTERIOR FRAME TAG
- AREA OUT OF SCOPE
- ALTERNATE

WALL LEGEND

- CMU WALL CONSTRUCTION
- 1 HR. RATED CMU WALL CONSTRUCTION
- 2 HR. RATED CMU WALL CONSTRUCTION
- BRICK VENEER
- EXISTING PARTITION

REFER TO PARTITION LEGEND ON SHEETS **2A00.01** FOR ADDITIONAL INFORMATION AND FOR TYPES NOT SHOWN HERE.

AMS - FLOOR PLAN - SEGMENT 'A' 1
SCALE: 1/8" = 1'-0"

KEY PLAN
N

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

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HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAMS 20113 STATE OF TEXAS

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REVISIONS:

	Date	Description
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ISSUE FOR CONSTRUCTION

2A02.01A
AMS - FLOOR PLAN - SEGMENT 'A'

6/4/2026 11:32:05 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

AMS - FLOOR PLAN - SEGMENT 'C'

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

1

FLOOR PLAN GENERAL NOTES

1. REFER TO SHEET **2A00.00** FOR ADDITIONAL GENERAL NOTES.
2. RE: SHEET **2A00.01** FOR PARTITION TYPE SCHEDULE.
3. DIMENSIONS SHOWN ON THE FLOOR PLANS ARE TO THE FACE OF STUD/FACE OF CMU OF INTERIOR WALLS, UNLESS OTHERWISE INDICATED.
4. ALL SINKS AND LAVATORIES SHALL BE MOUNTED SO THAT THE CENTERLINE OF THE FIXTURE IS 1'-3" MIN. TO THE FACE OF ADJACENT FIXED EQUIPMENT, PARTITIONS, CASEWORK, WALLS, ETC. AND 1'-3" MIN. TO THE CENTER OF AN ADJACENT FIXTURE.
5. REFER TO A03 SHEETS FOR TOILET ROOM DESIGNATIONS, TYPICAL MOUNTING HEIGHTS OF PLUMBING FIXTURES AND TOILET ACCESSORIES.
6. PROVIDE MINIMUM 1'-0" CLEAR FLOOR SPACE AT THE PUSH SIDE OF EVERY DOOR WITH A CLOSER & LATCH. PROVIDE MINIMUM 1'-0" CLEAR AT THE PULL SIDE OF EVERY DOOR, UNLESS SPECIFICALLY DIMENSIONED, NOTED, OR SHOWN OTHERWISE.
7. ALL EXISTING EXTERIOR WALLS THAT BECOME INTERIOR WALLS SHALL BE CLEANED AND THEN REVIEWED AND APPROVED BY THE OWNER/ARCHITECT PRIOR TO BEING CONCEALED BY NEW CONSTRUCTION.

FLOOR PLAN LEGEND

- COLUMN GRID
- EXTERIOR ELEVATION TAG
- INTERIOR ELEVATION TAG
- BUILDING SECTION TAG
- WALL SECTION TAG
- ENLARGED CALL OUT
- DOOR TAG
- PARTITION TAG
- INTERIOR FRAME TAG
- EXTERIOR FRAME TAG
- AREA OUT OF SCOPE
- ALTERNATE

WALL LEGEND

- CMU WALL CONSTRUCTION
- 1 HR. RATED CMU WALL CONSTRUCTION
- 2 HR. RATED CMU WALL CONSTRUCTION
- BRICK VENEER
- EXISTING PARTITION

REFER TO PARTITION LEGEND ON SHEETS **2A00.01** FOR ADDITIONAL INFORMATION AND FOR TYPES NOT SHOWN HERE.

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

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HUMBLE INDEPENDENT SCHOOL DISTRICT

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REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

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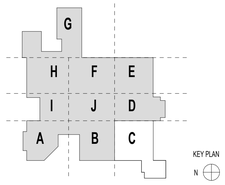

ISSUE FOR CONSTRUCTION

2A02.01C
AMS - FLOOR PLAN - SEGMENT 'C'

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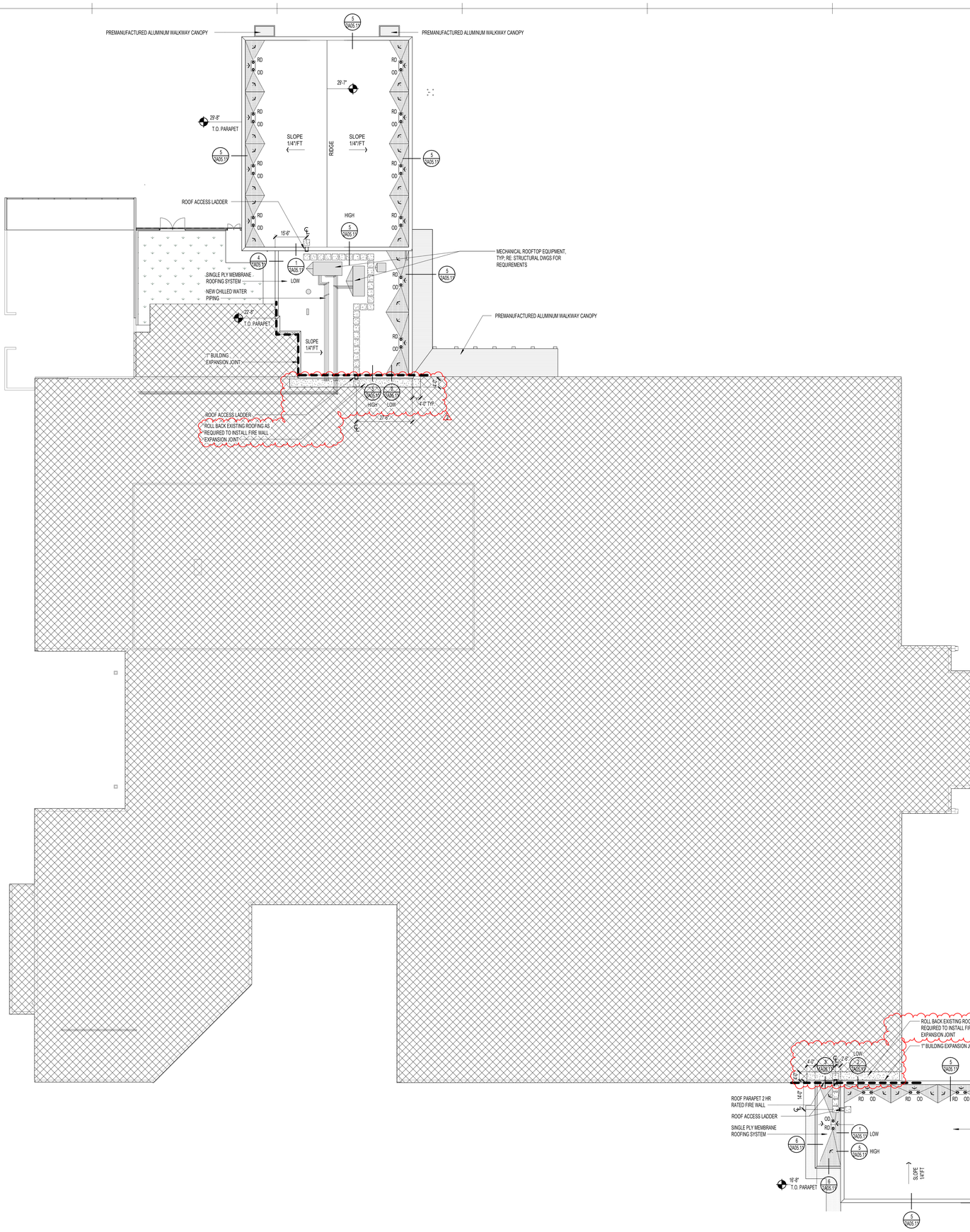
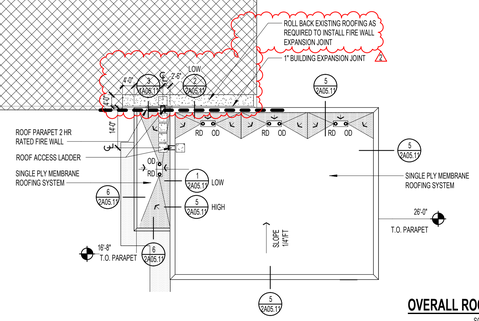
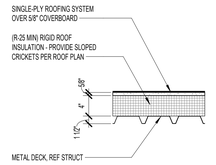




OVERALL ROOF PLAN 2

SCALE: 3/64" = 1'-0"



ROOF SYSTEM 1

SCALE: 1" = 1'-0"

ROOF PLAN GENERAL NOTES

1. FOR TYPICAL ROOF PENETRATIONS AND PIPE SUPPORTS DETAILS REFER TO SHEET **2A05.10**
2. FOR ADDITIONAL ROOF PENETRATION DETAILS: REFER TO MEP DOCS.
3. REFER MEP DOCUMENTS FOR ROOFTOP EQUIPMENT NOT SHOWN. MECHANICAL, ELECTRICAL AND PLUMBING ROOF EQUIPMENT DEPICTED ON THIS SHEET IS FOR GENERAL ARCHITECTURAL INFORMATION ONLY. REFER TO THE MEP DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND COORDINATION. REFER STRUCTURAL DOCUMENTS FOR EQUIPMENT SUPPORTS.
4. REF. **2A05.10** FOR ROOF LADDER DETAILS
5. EXPOSED METAL FLASHING/TRIM PIECES ARE TO BE PREFIN GALV STL, UON. PAINT EXPOSED METAL FLASHING/TRIM PIECES THAT ARE NOT PREFIN, AS WELL AS ALL EXPOSED MISC STL PIECES. REFER FINISH SCHEDULE AND NOTES, SHEET A9.00A

   TAPERED INSULATION SHALL BE 1/4"/FT MIN SLOPE TO DRAIN. ROOF PLAN SHOWS TAPERED INSUL AT NTS AND IS GRAPHIC ONLY, TO SHOW SLOPE AND APPROX LOCATION. (VERIFY INSULATION REQD TO MAINTAIN SLOPE, PRIOR TO INSTALLATION).
6. PROVIDE TAPERED INSULATION CRICKETS (1/4"/FT MIN SLOPE) AT HIGH SIDE OF ALL MECH UNITS, SKYLIGHTS, ROOF HATCHES, AND MISC ROOF PENETRATIONS, TO SHED WATER AROUND, AND TO INSURE POSITIVE ROOF DRAINAGE.
7. WOOD BLOCKING AT ROOF EDGES, RIDGES, ETC SHALL BE FABRICATED FROM CONT MIN 2x6s PTWD BLOCKING. PROVIDE LARGER 2X PTWDS REQD PER DETAIL DIMENSIONS. REFER ROOFING MANUF RECOMMENDATIONS.
8. WHERE WOOD BLOCKING EXCEEDS 8" THICKNESS AT TAPERED INSULATION, PROVIDE STEM WALL CONSTRUCTED OF 6" GALV CFMF AT 16"OC W/ CONT TRACK TOP AND BOTTOM AND W/ 3/4" PT EXT GR PLYWOOD AT EA SIDE, TOP TO SLOPE W/ TAPERED INSULATION.
9. PROVIDE STEP FLASHING AND COVER PLATE AT SLOPED ROOF HI/LO CONDITIONS.
10. VERIFY ELEVATION OF ROOF DRAIN RELATIVE TO OVERFLOW SCUPPER PRIOR TO INSTALLATION OF SCUPPERS.
11. STRUCTURAL SLOPES SHOWN ON PLAN ARE FOR GENERAL CONCEPT ONLY. REFER STRUCTURAL DRAWINGS FOR EXACT TOS/BOD ELEVATIONS.
12. REFER PLUMBING DOCUMENTS FOR ROOF DRAIN LEADERS, CONNECTIONS TO STORM DRAIN, AND NOZZLES.
13. FOR TYPICAL ROOF PENETRATION DETAILS: PROVIDE MTL ROOF MFRS STD ROOF CURBS AND PENETRATION DETAILS. FOR LOCATIONS, WEIGHTS, AND ANY OTHER ADDITIONAL INFO REFER TO MEP DOCS. COORDINATE FINAL SIZE.

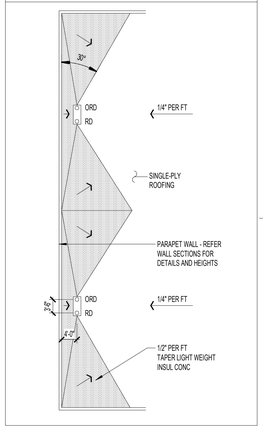
    A. PROVIDE CURBS AND ALL SUPPORTS NOT INDICATED ON THE STRUCTURAL DOCUMENTS FOR NEW ROOF TOP MECH EQUIPMENT, INCLUDING BUT NOT LIMITED TO RTUS, CONDENSERS, AND FANS. REFER STRUCTURAL AND MEP DOCUMENTS.

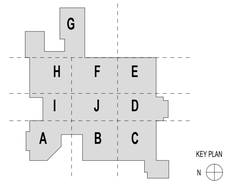
    B. PROVIDE SUPPORTS AND FLASHING AS REQUIRED AT NEW GAS PIPING ON THE ROOF.
14. PROVIDE STD EAVE CLOSURES, AND MISC TRIM REQUIRED FOR COMPLETE ASSEMBLY.
15. CONTRACTOR MAY DELETE WOOD BLOCKING SHOWN IN ROOFING DETAILS AS ALLOWED BY ROOFING MANUFACTURER RECOMMENDATIONS AND FACTORY MUTUAL WIND UPLIFT REQUIREMENTS.

ROOF PLAN LEGEND

- 1:12 — ROOF SLOPE DIRECTION (1/4"/FT MIN)
- EXISTING ROOF
- SINGLE-PLY ROOF SYSTEM
- CRICKETS AT 1/2" / 1'-0" SLOPE
- ALUMINUM WALKWAY COVER DECK
- 36" WIDE ROOF WALK PADS TO EACH ROOF ACCESS POINT AND SERVICE SIDE OF EACH MECH UNIT
- MECHANICAL ROOFTOP EQUIPMENT
- EXPANSION JOINT - TRANSITIONS TO BE FACTORY MANUFACTURED, TYP.
- NEW TUBULAR DAYLIGHT DEVICE - G.C. TO FIELD VERIFY EXISTING STEEL ROOF JOIST/BEAM LOCATIONS PRIOR TO INSTALLATION. MODIFY LOCATION AS REQUIRED. NOTIFY ARCHITECT FOR FINAL APPROVED LOCATION.

TYPICAL NOTES AT ROOF EDGE/ ROOF DRAIN LOCATIONS





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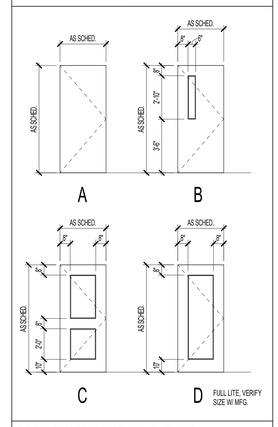
AMS - ROOF PLAN

6/4/2026 11:32:11 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

DOOR SCHEDULE - ATASCOCITA MIDDLE SCHOOL

NUMBER	PANEL PAIR	PANEL WIDTH	PANEL HEIGHT	PANEL TYPE	PANEL MATERIAL	FRAME TYPE	FRAME MATERIAL	FRAME FIRE RATING	GLAZING	HARDWARE	DETAILS HEAD	DETAILS JAMB	DETAILS THRESHOLD	PLAQUE TYPES	COMMENTS
A108a	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	31.2	5/A08.02	3/A08.02	-	C	
A108b	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	31.2	5/A08.02	3/A08.02	-	C	
C100a	PAIR	3'-0"	6'-10"	C	AL	B	AL	-	GL2	0.1	6/A05.11	21/A04.01	14/A08.03	D	1, 5
C100b	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	90	-	15.3	5/A08.02	3/A08.02	-	C	5, 7
C110a	PAIR	3'-0"	6'-10"	C	SCW	HM2	HM	20	GL1	15.4	5/A08.02	3/A08.02	-	C	5
C110b	-	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	5.1	10/A08.03	5/A08.03	1/A08.03	D	1, 5
C111	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	-	-	17.0	5/A08.02	3/A08.02	-	C	5
C112	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	-	-	17.0	5/A08.02	3/A08.02	-	C	5
C113	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
C114	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
C115	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	19.0	5/A08.02	3/A08.02	-	C	
C116	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
C117	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
C120a	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	31.2	5/A08.02	3/A08.02	-	C	
C121	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	28.0	5/A08.02	3/A08.02	-	C	
C122	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	19.0	5/A08.02	3/A08.02	-	C	
C123	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	37.0	5/A08.02	3/A08.02	-	C	
C125	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	19.0	5/A08.02	3/A08.02	-	C	
G100a	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	90	-	15.2	5/A08.02	3/A08.02	-	C	5, 7
G100b	PAIR	3'-0"	6'-10"	C	AL	G	AL	-	GL2	0.1	4/A07.14	6/A04.02	14/A08.03	D	1, 5
G101	-	3'-0"	6'-10"	A	SCW	HM3	HM	20	-	36.0	5/A08.02	3/A08.02	-	A	
G102	-	3'-0"	6'-10"	A	SCW	HM3	HM	20	-	36.0	5/A08.02	3/A08.02	-	A	
G110a	PAIR	3'-0"	6'-10"	C	SCW	HM3	HM	20	GL1	15.4	5/A08.02	3/A08.02	-	C	5
G110b	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G111	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	19.0	5/A08.02	3/A08.02	-	C	
G120a	PAIR	3'-0"	6'-10"	C	SCW	HM3	HM	20	GL1	15.4	5/A08.02	3/A08.02	-	C	5
G120b	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G120c	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G120d	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G121a	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	-	-	17.0	5/A08.02	3/A08.02	-	C	5
G121b	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G130	-	3'-0"	6'-10"	A	SCW	HM3	HM	20	-	34.0	5/A08.02	3/A08.02	-	C	

DOOR PANEL TYPES



DOOR SCHEDULE ABBREVIATIONS

AL: ALUMINUM
HM: HOLLOW METAL
SCW: SOLID CORE WOOD
MIN: MINUTES
HW: HARDWARE

GENERAL NOTES - DOORS AND WINDOWS

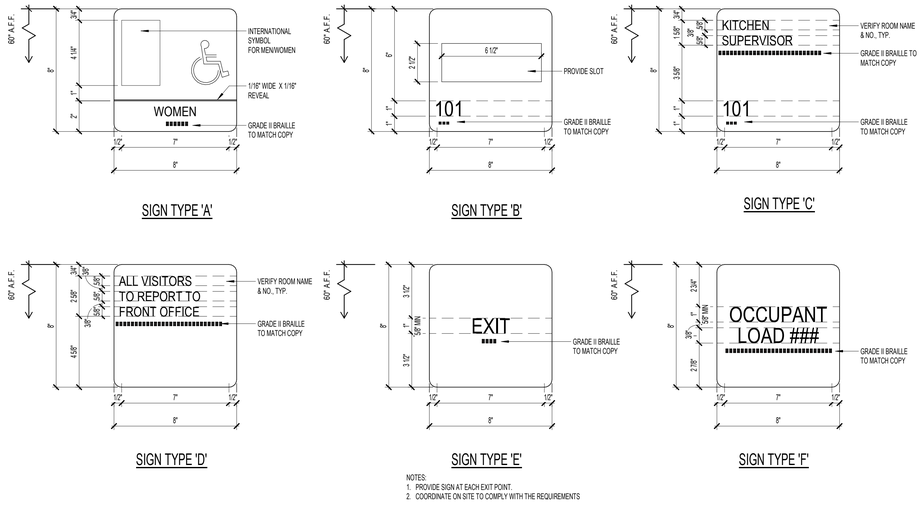
1. REFER TO SHEETS 1A08.00 & 2A08.00 FOR DOOR SCHEDULE AND FOR DOOR SIGNAGE TYPES.
2. REFER TO SHEETS 1A08.00 & 2A08.00 FOR LINTEL SCHEDULES AND DOOR AND WINDOW JAMB STUD FRAMING DETAILS.
3. ALL DOORS TO BE 1 3/4" THICK (UON).
4. ALL STL FRAMES TO HAVE A 2" FACE DIMENSION UON, W/ 5/8" STOP. 3/4" STOP REQUIRED FOR FIRE RATED FRAMES.
5. STEEL FRAME DEPTHS INDICATED IN THE DETAILS ARE NOMINAL. PROVIDE STANDARD WIDTH FRAME WITH THROAT OPENING APPROPRIATE TO PARTITION TYPE.
6. COORDINATE WITH MECH DOCUMENTS FOR DOOR UNDERCUTS AND DOOR LOUVERS, IF ANY.
7. ALL LIGHTS IN DOORS TO HAVE SAFETY GLAZING (UON).
8. EXTERIOR DOORS TO HAVE TINTED GLAZING (UON) AND INTERIOR DOORS TO HAVE CLEAR GLAZING.
9. FIELD VERIFY DIMENSIONS PRIOR TO FABRICATING FRAMES.
10. REFER TO DTLS A0.02 & 3/1A08.00 FOR TYP WINDOW AND DOOR CONTROL JOINTS IN MASONRY WALLS.
11. FLOOR MATERIAL CHANGES BETWEEN ROOMS TO OCCUR UNDER DOOR.
12. DOOR HARDWARE (CLOSER, LEVERS, PANIC HARDWARE, ETC.) SHALL NOT CONFLICT WITH THE GLASS OR TRIM FOR THE LITE.
13. REFER TO THE SPECIFICATIONS FOR HARDWARE DESCRIPTIONS.
14. REFER TO SHEETS 1/A08.01 & 2/A08.01 AND SPECIFICATIONS FOR GLAZING TYPES.
15. ALL DOORS IN SMOKE RESISTANT PARTITIONS TO HAVE POSITIVE LATCHING AND BE SMOKE TIGHT (ST).
16. ALL DOORS TO HAVE BOXED HEADERS UNLESS STEEL CHANNELS ARE INDICATED IN THE COMMENT COLUMN OF THE DOOR SCHEDULE OR UNLESS OTHERWISE INDICATED BY HEAD DETAIL.
17. ALL CLOSER TO BE LOCATED ON THE ROOM SIDE OF THE DOOR WHERE INSTALLED AT CORRIDORS. IN NON CORRIDORS, CLOSER TO BE INSTALLED AT THE ROOM SIDE FOR THE ROOM BEING SERVED BY THE OPENER.
18. ALL FIRE RATINGS NOTED IN MINUTES.
19. ALL EXTERIOR DOORS WITH LITES OR GLAZING TO HAVE GL2 GLAZING TYPE.
20. PROVIDE 9" X 9" ALUMINUM SIGNS AT ALL EXTERIOR DOORS STARTING WITH THE FRONT DOOR WHICH SHALL BEAR THE NUMBER "1" AND PROCEED CLOCKWISE AROUND THE BUILDING TO ENSURE ALL EXTERIOR DOORS ARE NUMBERED. REF: 4/1A08.00 & 4/2A08.00 FOR EXTERIOR DOOR SIGNAGE DETAIL.
22. INTERIOR DOORS SHALL BE ON HOLD-OPEN. SEE HARDWARE SPECIFICATIONS.

DOOR SCHEDULE REMARKS

1. PROVIDE ACCESS CONTROL (CARD READER) REFER TO ELECTRICAL DOCUMENTS FOR POWER FOR CARD KEY ACCESS. AT DOUBLE DOORS PROVIDE ELECTRIC STRIKE AT REMOVABLE MULLION.
2. PROVIDE DRIP AT HEAD OF DOOR.
3. PROVIDE PEEP HOLE AND DOOR BELL.
4. MANUAL FOLDING PANEL PARTITION.
5. PROVIDE REMOVABLE MULLION.
6. MOTORIZED OVERHEAD COILING DOOR.
7. HOLD-OPEN DOOR.

ROOM IDENTIFICATION PLAQUE NOTES

1. REFER TO A8.00 FOR ROOM IDENTIFICATION PLAQUES.
2. PROVIDE FULL CONCEALED BACK PIECE FOR PLAQUES MOUNTED ON GLASS.
3. PROVIDE EXTERIOR GRADE PLAQUE AT ALL EXTERIOR DOORS.
4. PROVIDE PLAQUE TYPE 'F' AT BAND HALL A110, DANCE G110, AND GYM G120.



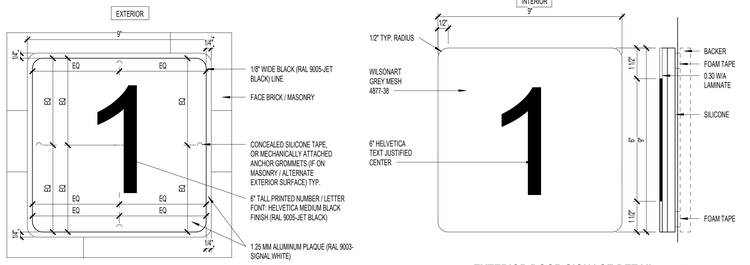
SIGN TYPE 'A' | SIGN TYPE 'B' | SIGN TYPE 'C'

SIGN TYPE 'D' | SIGN TYPE 'E' | SIGN TYPE 'F'

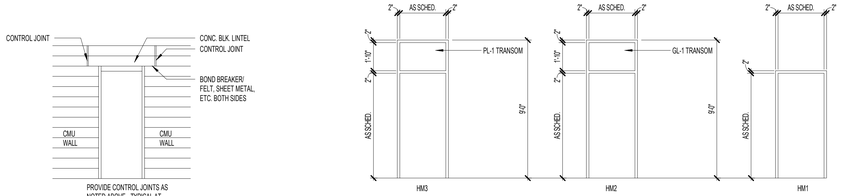
NOTES:
1. PROVIDE SIGN AT EACH EXIT POINT.
2. COORDINATE ON SITE TO COMPLY WITH THE REQUIREMENTS

ROOM IDENTIFICATION PLAQUES TYPES 5
SCALE: 3" = 1'-0"

NOTE:
-INTERIOR AND EXTERIOR SIGN SHALL BE MOUNTED BACK TO BACK ON STOREFRONT WHEN APPLICABLE. ALL SIGNS MOUNTED ON GLASS W/ BLACK BACKER PLATE ON OTHER SIDE OF GLASS.
-COORDINATE AND CONFIRM LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
-ALL SIGNS TO BE MOUNTED 7'-6" AFF, CENTERED ON DOOR OPENING.

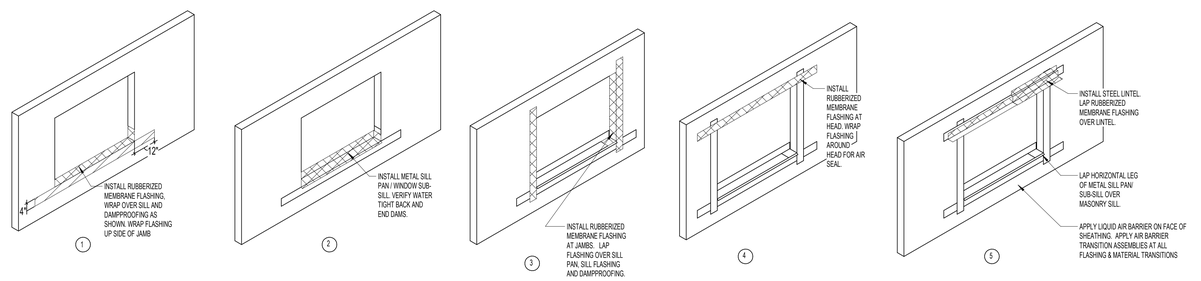


EXTERIOR DOOR SIGNAGE DETAIL 4
SCALE: 1 : 3



DOOR FRAME DETAIL @ MASONRY 3
SCALE: 1/4" = 1'-0"

HOLLOW METAL FRAME TYPES 2
SCALE: 1/4" = 1'-0"



WINDOW FLASHING SEQUENCE 1
SCALE: 3/8" = 1'-0"

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Houston, Texas 77046
pflugerarchitects.com

ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

2A08.00
AMS - DOOR SCHEDULE

6/4/2026 11:32:12 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

6/4/2026 11:32:15 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

INTERIOR FRAME TYPES

GLAZING KEY:

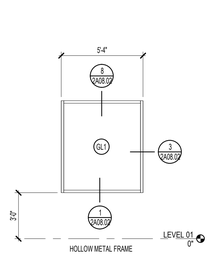
NAME/SYMBOL	DESCRIPTION
GL1	CLEAR GLAZING (TEMPERED) GLASS, 1/4" THICK, TYP. UON (INTERIOR)
GL2	INSULATED TINTED SAFETY (TEMPERED) LOW 'E' GLASS, CLEAR + CLEAR (EXTERIOR), APPLY SECURITY FILM ON INTERIOR SIDE OF THE WINDOW - SURFACE 4 (BOD: 3M SAFETY S140, 14MIL THICK PRODUCT). GRAPHICS TO BE APPLIED ON EXTERIOR SIDE OF WINDOW (SURFACE 1) - REFER TO SHEET A11.01 FOR GRAPHIC LOCATIONS.
MP-1	IMPACT RESISTANT PANEL
MP-2A	IMPACT RESISTANT PANEL - GYM ONLY

GLAZING TYPE GL2: SHGC: 0.23 U-FACTOR: 0.29

NOTE: REFER TO SPECIFICATIONS FOR GLAZING TYPES

INTERIOR ALUMINUM (STOREFRONT):
BOD DESIGN: KAWNEER 451 T, 1 1/2" x 2" MULLIONS)

EXTERIOR ALUMINUM (STOREFRONT):
BOD DESIGN: KAWNEER 451T, 1 1/2" x 2" MULLIONS)



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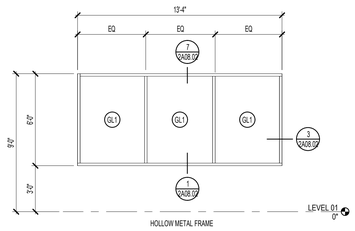

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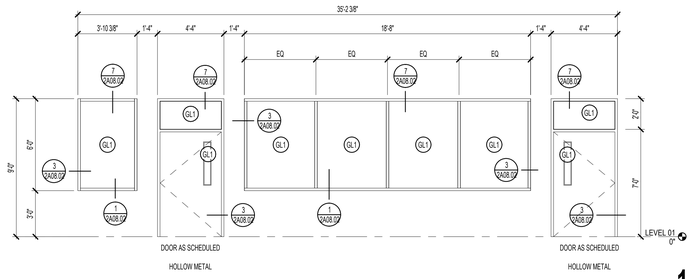

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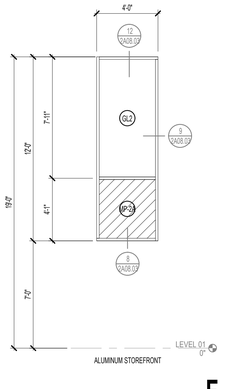
G



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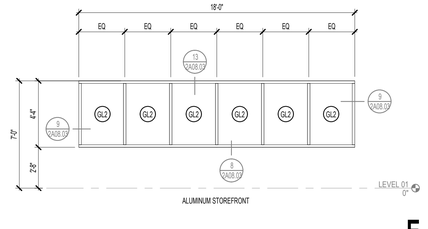

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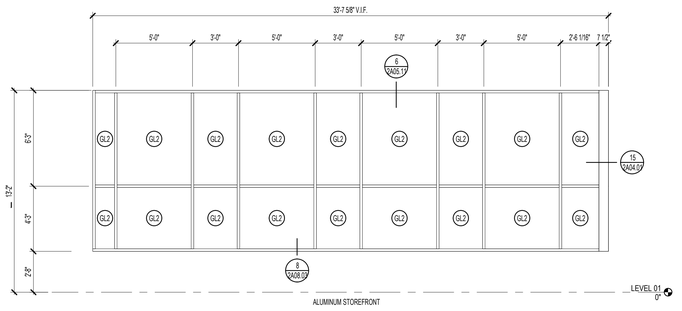

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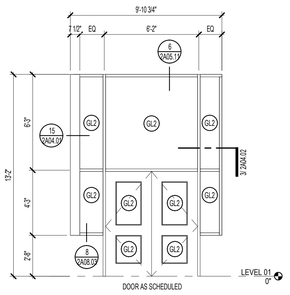

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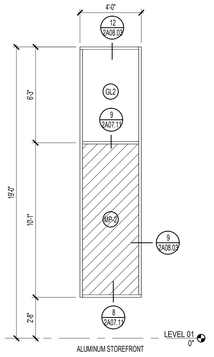

A

EXTERIOR FRAME TYPES

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT
MICHAEL ADAME
20113
STATE OF TEXAS

DATE: 05/15/2026

PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

No.	Date	Description

ISSUE FOR CONSTRUCTION

2A08.01
AMS - FRAME TYPES

ATASCOCITA MIDDLE SCHOOL - ROOM FINISH SCHEDULE - SEGMENT 'A'

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	Ceiling Finish	REMARKS	REVISION DELTA NO
A104	EXISTING WOOD SHOP	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
A105	EXISTING WOOD STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
A106	EXISTING STOR.	LVT-2	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
A107	EXISTING OFFICE	LVT-2	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
A108	EXISTING STOR.	LVT-2	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
A109	COMPUTER LAB	LVT-2	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
A110	STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	EXISTING	A	

ATASCOCITA MIDDLE SCHOOL - ROOM FINISH SCHEDULE - SEGMENT 'C'

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	Ceiling Finish	REMARKS	REVISION DELTA NO
C100	CORRIDOR	LVT-3, WOC	RB-1	P-1	REFER TO ELEVATION	P-1	REFER TO ELEVATION	MCS-2, GYP-1	A	
C110	BAND HALL	LVT-2	RB-1	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	SAP-3	A	
C111	INST. STORAGE	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
C112	UNIFORM STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
C113	PRACTICE	LVT-2	RB-1	P-1	P-2	P-1	P-1	SAP-3	A	
C114	PRACTICE	LVT-2	RB-1	P-1	P-2	P-1	P-1	SAP-3	A	
C115	STORAGE	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
C116	PRACTICE	LVT-2	RB-1	P-1	P-2	P-1	P-1	SAP-3	A	
C117	OFFICE	CPT-2	RB-1	P-1	P-1	P-2	P-1	SAP-1	A	
C120	CULINARY LAB	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	A	
C121	OFFICE	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	A	
C122	STORAGE	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	A	
C123	LAUNDRY	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	A	
C124	PANTRY	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	A	
C125	STORAGE	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	A	

ATASCOCITA MIDDLE SCHOOL - ROOM FINISH SCHEDULE - SEGMENT 'G'

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	Ceiling Finish	REMARKS	REVISION DELTA NO
G100	CORRIDOR	LVT-3, WOC	RB-1	P-1	REFER TO ELEVATION	P-1	REFER TO ELEVATION	MCS-2, GYP-1	A	
G101	BOYS	FT-1	TB-1	WT-1	WT-1	WT-3	WT-1	SAP-2	A	
G102	GIRLS	FT-1	TB-1	WT-1	WT-1	WT-3, WT-1	WT-1	SAP-2	A	
G110	DANCE	SF-1	RB-2	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	SAP-1, EXP-1, GYP-1	A	
G120	GYM	SF-1	RB-2	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	EXP-1	A	
G121	GYM STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	
G138	DANCE STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	A	

ATASCOCITA MIDDLE SCHOOL - MATERIAL SCHEDULE

MARK	MATERIAL	MANUFACTURER	STYLE	COLORS	SPECS	COMMENTS	REVISION DELTA NO.
01 FLOOR FINISH							
CPT-2	CARPET/POWERBOND	TARKETT	1157 CORDILLARY	39406 PIED	BROADLOOM ROLL	OFFICE & COMPUTER LAB AMS	
FT-1	FLOOR TILE	DALTILE	KEYSTONE	SUEDE GRAY SPECKLE D208	2" X 2" MOSAIC	RR FLOORS, HMS & AMS	
FT-2	FLOOR TILE	CROSSVILLE	CROSS COLOR MINGLES	MERCURY	12" X 12", CROSS-TREAD (CTS) FINISH; THIN SET	CULINARY LAB, HMS & AMS	
LVT-2	LUXURY VINYL TILE	TARKETT	CONTOUR/METHOD	1113S RESPECTFULLY YOURS	9" X 36", VERTICAL ASHLAR (PLANK)	BAND HALL AND PRACTICE ROOMS AMS	
LVT-3	LUXURY VINYL TILE	TARKETT	CONTOUR/COLOR BEAM	C121 FLANNEL	9" X 36", VERTICAL ASHLAR (PLANK)	CORRIDOR FIELD, HMS & AMS	
SC-1	SEALED CONCRETE						
SF-1	WOOD ATHLETIC FLOORING	TARKETT	CLUTCH COURT PERFORMANCE SYSTEM	SECOND GRADE MAPLE	CLEAR FINISH, NATURAL MAPLE	GYMNASIUM & DANCE ROOM, HMS & AMS	
SF-2	WOOD ATHLETIC FLOORING	TARKETT	CLUTCH COURT PERFORMANCE SYSTEM	TBD	MFMA-APPROVED TRANSPARENT PIGMENTED ATHLETIC FINISH FOR DARKER MAPLE APPEARANCE; GRAIN VISIBLE	GYMNASIUM, HMS & AMS; ARCHITECT TO APPROVE FINAL COLOR & TONE	
WF-2	WALK-OFF CARPET	TARKETT	ASSERTIVE ACTION	26202 STEELWORK	BROADLOOM ROLL	AMS, AT EACH EXTERIOR DOORWAY	
02 BASE							
RB-1	RUBBER BASE	JOHNSONITE	4" COVE	COLOMATCH, 48 GREY WG		FIELD BASE - HMS & AMS	
RB-2	VENTED RUBBER BASE	JOHNSONITE	4" COVE	COLOMATCH, 48 GREY WG		GYMNASIUM & DANCE ROOM - HMS & AMS	
TB-1	TILE BASE	DALTILE	KEYSTONE	SUEDE GRAY SPECKLE D208	COVE BASE 5X12	RESTROOMS HMS & AMS	
TB-2	TILE BASE	CROSSVILLE	CROSS COLOR MINGLES	MERCURY	COVE BASE 6X8	CULINARY LAB, HMS & AMS	
03 WALL FINISH							
P-1	PAINT	SHERWIN WILLIAMS		SW7653 SILVERPOINTE		FIELD PAINT HMS & AMS	
P-2	PAINT	SHERWIN WILLIAMS		SW7066 GRAY MATTERS		ACCENT PAINT HMS & AMS	
P-4	PAINT	SHERWIN WILLIAMS		SW6258 TRICORN BLACK		ACCENT PAINT HMS & AMS	
P-5	PAINT	SHERWIN WILLIAMS		SW 6968 BLUEBLOOD		BLUE ACCENT AMS	
WC	WALL COVERING (VINYL)	RIOT			REFER TO CUSTOM DIGITAL WALL COVERING IN SPEC SECTION 09 72 23	HMS & AMS, CUSTOM GRAPHICS BY ARCH.	
WT-1	WALL TILE	DALTILE	COLOR WHEEL LINEAR	X114 DESERT GRAY	8" X 24", SEMI-GLOSS	RR WALL FIELD AMS & AMS	
WT-3	WALL TILE	DALTILE	COLOR WHEEL CLASSICS	1174 SEA BREEZE	3" X 6" SEMI-GLOSS	RR WALL ACCENT TILE AMS	
WT-4	WALL TILE	DALTILE	COLOR WHEEL LINEAR	0190 ARCTIC WHITE	4" x 12" SEMI-GLOSS	AT CULINARY LAB, REF FINISH PLANS	
04 CEILING							
CCT-1	CEILING CLOUD TRIM	ARMSTRONG	AXIOM CLASSIC TRIM	COLOR: WHITE, U.N.O	8" STRAIGHT	AT CEILING CLOUDS	
EXP-1	EXPOSED STRUCTURE-PAINTED					TO BE PAINTED (P-1) U.N.O.	
GYP-1	PAINTED GYPSUM BOARD					TO BE PAINTED (P-1) U.N.O.	
MCS-2	METAL CEILING SYSTEM	CERTAINTEED	LINEAR BOX 6 SYSTEM	COLOR: LIGHT PECAN (WOOD LOOK)	INTERIOR (PERFORATED #160, OPEN REVEAL)	AMS, REFER TO RCP	
SAP-1	SUSPENDED ACOUSTICAL TILE	ARMSTRONG	SCHOOL ZONE FINE FISSURED, NRC 0.70	COLOR: WHITE, U.N.O	2' X 2', SQUARE LAY-IN	FIELD	
SAP-2	SUSPENDED ACOUSTICAL TILE W/PLASTIC FILM FINISH	CERTAINTEED	VINYLROCK TYPE XX SMOOTH	COLOR: WHITE, U.N.O	2' X 2', SQUARE LAY-IN	AT WET AREAS (CULINARY, RESTROOMS WITH HOLD-DOWN CLIPS)	
SAP-3	SUSPENDED ACOUSTICAL TILE W/ HIGHER NRC	ARMSTRONG	FINE FISSURED HIGH NRC, NRC 0.75	COLOR: WHITE, U.N.O	2' X 2', SQUARE LAY-IN	HMS & AMS BAND HALL	
05 MISC FINISHES							
	SECURITY FILM	3M	SAFETY S140		14MIL THICKNESS	INTERIOR SIDE OF WINDOW (SURFACE 4)	
CG-1	CORNER GUARD	INPRO			STAINLESS STEEL	REFER TO FINISH PLAN	
FWP-1	ACOUSTICAL WALL PANELS	GUILFORD OF MAINE		ANCHORAGE, ASTEROID 205	2" THICKNESS, FABRIC WRAPPED	BAND HALL, DANCE AND GYM; DIMENSIONS TO BE V.I.F.	
FWP-2	ACOUSTICAL WALL PANELS	GUILFORD OF MAINE		ANCHORAGE, GRAPHITE 2079	2" THICKNESS, FABRIC WRAPPED	BAND HALL, DANCE AND GYM; DIMENSIONS TO BE V.I.F.	
FWP-4	ACOUSTICAL WALL PANELS	GUILFORD OF MAINE		ANCHORAGE, LAPIS 2094	2" THICKNESS, FABRIC WRAPPED	ACCENT, SCHOOL COLOR; DIMENSIONS TO BE V.I.F.	
PG	PAINTED GRAPHIC	RIOT			REFER TO PAINTED WALL GRAPHICS IN SPEC SECTION 09 72 23	HMS & AMS, CUSTOM GRAPHICS BY ARCH.	
PL-1	PLASTIC LAMINATE	WILSONART		COLOR: DOVE GREY D92-60, MATTE		TYP AT DOORS HMS & AMS	
06 SPECIALTIES							
	BLEACHERS	IRWIN SEATING	VERSA TRACT WITH INFINITY SEAT MODULES	SEAT CBL COBALT BLUE		GYM AT AMS	
	TOILET PARTITIONS	ASI	COLOR-THRU PHENOLIC	COLOR:DARK GREY 3871	FLOOR MOUNTED	RESTROOMS AT HMS AND AMS	
	RECESSED DISPLAY CASES	CLARIDGE	370 SERIES	SIZE: 4' x 8', 18" DEEP	MODEL 374, LIGHT FIXTURE INCLUDED		
	PORCELAIN WHITE BOARDS	CLARIDGE		SIZE: REFER TO PLAN, MARKER TRAY TO BE INCLUDED			
	CORK TACK BOARDS	CLARIDGE		SIZE: REFER TO PLAN			
	SCOREBOARD					GYM	
RS-1	MOTORIZED ROLLER SHADES	MECHOSHADE	ELECTRO SHADE MOTORIZED	FABRIC: WHITE GREY		EXTERIOR WINDOWS, 3% OPENNESS	
RS-2	MANUAL ROLLER SHADES	MECHOSHADE		FABRIC: WHITE GREY		INTERIOR WINDOWS, 3% OPENNESS	
TR-1	TRANSITION	SCHLUTER	QUADEC			OUTSIDE CORNERS OF TILED SURFACES, PROVIDE END CAP	
TR-2	TRANSITION	SHLUTER	VINPRO-S			RT-CPT	
TR-3	TRANSITION	SCHLUTER	VINPRO-U			RT TO SC, CPT TO SC	
TR-4	TRANSITION	SCHLUTER	RENO-U			T TO RS, T TO SC, T TO CPT, TZ TO RS, TZ TO SC, TZ TO CPT	
TR-5	TRANSITION	SCHLUTER	JOLLY			EDGE PROTECTION AT TILE EDGES, PROVIDE END CAP	
WP	WALL PADS	PORTER		BLACK WITH GRAPHICS		GYM AT HMS AND AMS, REFER TO A9 SERIES	
07 EXTERIOR							
BK-4	UPCHURCH KIMBROUGH	BELDEN BRICK	8632, VELOUR	UTILITY SIZE		AMS, REFER TO EXTERIOR ELEVATIONS FOR COURSING	
BK-5	UPCHURCH KIMBROUGH	ENDICOTT CLAY	SIENNA IRONSPOT, VELOUR	UTILITY SIZE		AMS, REFER TO EXTERIOR ELEVATIONS FOR COURSING	
FS-2	METAL COMPOSITE MATERIAL WALL PANEL	ALUCOBOND	ALUCOBOND PLUS - DRY REVEAL	COLOR TO MATCH CLEAR ANODIZED STOREFRONT			
MP-2	IMPACT RESISTANT PANEL	MAPES	MAPESHIELD	STANDARD KYNAR: DARK BRONZE	STANDARD, HARDBOARD SUBSTRATE	AMS, REFER TO FRAME TYPES	
MP-2A	IMPACT RESISTANT PANEL	MAPES	MAPESHIELD	STANDARD KYNAR: DARK BRONZE	CEMENT BOARD SUBSTRATE & STEEL SKIN	AMS, REFER TO FRAME TYPES (AT GYM ONLY)	
PM-2	PRE-FINISHED METAL	BERRIDGE		COLOR: DARK BRONZE		AMS, REFER TO EXTERIOR ELEVATIONS	
STOREFRONT		KAWNEER		PERMADIZE, DARK BRONZE		AMS	
TURF		FIELDTURF, TARKETT	VERTEX PRIME	COLOR: FIELD GREEN/SUMMER GREEN	3 LAYER, PILE HEIGHT 2.25"	HMS & AMS	
WG	WINDOW GRAPHIC (PERFORATED VINYL)	RIOT			REFER TO PERFORATED VINYL WALL GRAPHICS IN SPEC SECTION 09 72 23	HMS & AMS, CUSTOM GRAPHICS BY ARCH.	

FINISH SCHEDULE NOTES

1. REFER TO INTERIOR ELEVATIONS FOR LOCATION, SIZES & TYPES OF INTERIOR FINISHES.
2. PROVIDE FLOOR OR WALL PATTERNS. REFER TO INTERIOR PLANS (A9 SERIES) FOR DESIGN DETAILS.
3. PROVIDE ACOUSTIC PANELS. REFER TO INTERIOR ELEVATIONS FOR SIZES & TYPES.
4. REFER TO REFLECTED CEILING PLAN (A10 SERIES DWGS). FOR PAINTED GYP. BD. AND/OR SPECIALTY PORTIONS OF CEILING.
5. PROVIDE ACCENT TILE. REFER TO INTERIOR ELEVATIONS FOR SIZES & TYPES.
6. PROVIDE ACCENT WALL. REFER TO INTERIOR PLANS FOR ACCENT PAINT LOCATIONS.
7. AT MDF ROOMS, PROVIDE 8'-0"H, 3/4" PLYWOOD ON ALL WALL SURFACES. PAINT SIDES AND EDGES BLACK.
8. AT ALL STORAGE ROOMS. PROVIDE 2" HIGH, CONTINUOUS RED STRIPE 18" BELOW CEILING OR STRUCTURE. AT 6' INTERVALS (AND NOT LESS THAN ONCE PER WALL) STENCIL THE WORDS "NO STORAGE ABOVE LINE."
9. ABOVE CEILING AT ALL FIRE RATED WALLS, PROVIDE 4" HIGH, STENCIL EVERY 8' AND AT LEAST ONE PER WALL READING "FIRE WALL." IN RED PAINT. ALSO PROVIDE STENCIL AT 10' AFF IN MECHANICAL, HOUSEKEEPING, TECHNOLOGY, ELECTRICAL AND STORAGE SPACES THAT DO NOT HAVE A CEILING. STENCIL IS NOT REQUIRED WHERE THE FIRE WALL DOES NOT HAVE AN ADJACENT CEILING AND THE SPACE IS AN OCCUPIED, FINISHED SPACE.

GENERAL NOTES

A. REFER TO REFLECTED CEILING PLAN (A10 SERIES DWGS). FOR CEILING HEIGHTS & ADDITIONAL INFORMATION.

B. ALL FINISHES LISTED IN INTERIOR MATERIAL LEGEND ARE BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR A LIST OF ACCEPTABLE MANUFACTURERS. FINAL SELECTIONS SUBJECT TO ARCHITECTS APPROVAL.

C. REFERENCE FOOD SERVICE DRAWINGS (K SERIES) FOR KITCHEN AND SERVING LINE EQUIPMENT & FINISH INFORMATION.

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

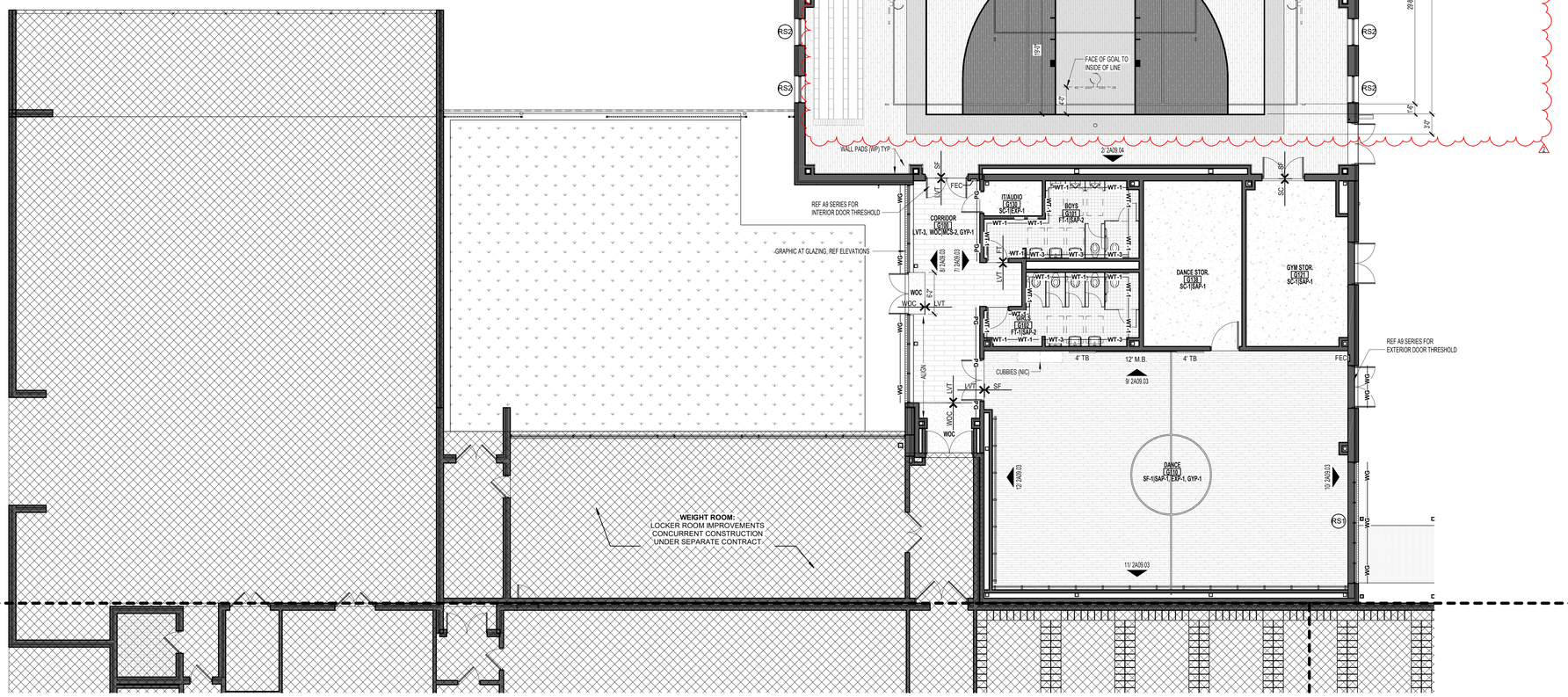
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

Δ	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

2A09.00
AMS - MATERIAL & ROOM FINISH SCHEDULE

6/4/2026 11:32:18 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



MATERIAL FINISH LEGEND

- LUXURY VINYL TILE (LVT-1 AT HMS)
- LUXURY VINYL TILE (LVT-2 AT AMS)
- LUXURY VINYL TILE (LVT-3 AT HMS & AMS)
- 2" X 2" FLOOR TILE (FT-1)
- WOOD ATHLETIC FLOORING (SF)
- FLOOR TILE (FT-2 AT CULINARY LABS)
- WALK-OFF (WF-1 AT HMS AND WF-2 AT AMS)
- CARPET (CPT-1 AT HMS CPT-2 AT AMS)
- SEALED CONCRETE (SC-1)
- EXISTING BUILDING TO REMAIN, NO SCOPE

PROVIDE CONTROL JOINTS (C.J.) AS SHOWN & AT COLOR CHANGES. WHERE CONTROL JOINTS ARE NOT SHOWN, REFER TO STRUCTURAL DWGS

SYMBOLS

- CJ — CONTROL JOINT*
- EJ — EXPANSION JOINT
- CG — CORNER GUARD
- RS-1 — MANUAL ROLLER SHADE
- RS-2 — MOTORIZED ROLLER SHADE
- X-1 — WALL FINISH MATERIAL. REF A09.00
- ROOM 100 / PCON | SAP-1 — CEILING FINISH / FLOOR FINISH

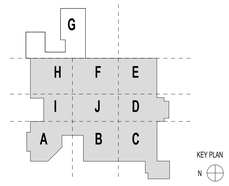
* PROVIDE CONTROL JOINTS AS SHOWN. WHERE CONTROL JOINTS ARE NOT SHOWN, REFER TO STRUCTURAL DWGS. REFER TO STRUCTURAL DWGS FOR DIMENSIONS. AT COLOR TRANSITIONS, PROVIDE SCORE LINE U.N.O.

** REFER TO ROOM FINISH SCHEDULE FOR FULL LIST OF FINISH WITHIN ROOM

TYPICAL FLOOR FINISH NOTES

1. REFER TO A8 SERIES FOR MATERIAL TYPE MARKS AND DEFINITIONS.
2. REFER TO A9 SERIES FOR INTERIOR DETAILS.
3. ALL MUSIC STORAGE UNITS TO RECEIVE END PANELS AS REQUIRED, TYP.
4. FOR ROLLER SHADES, RS-# TAG INDICATES ENTIRE GLAZING WALL RECEIVING ROLLER SHADES. COORDINATE INDIVIDUAL SHADE WIDTHS WITH ARCHITECT.

AMS - FLOOR FINISH PLAN - SEGMENT 'G' 1
SCALE: 1/8" = 1'-0"



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2A09.01G
AMS - FLOOR FINISH PLAN - SEGMENT 'G'

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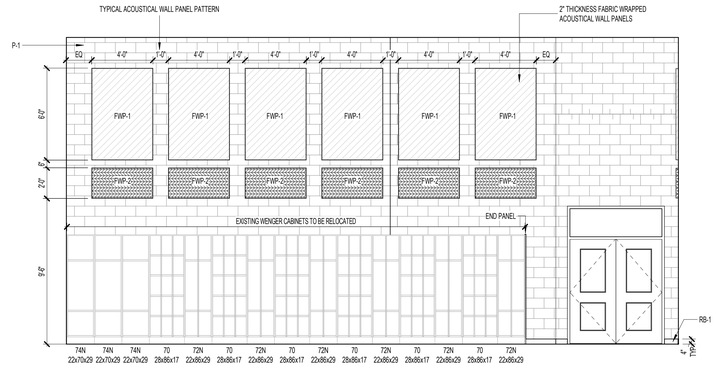
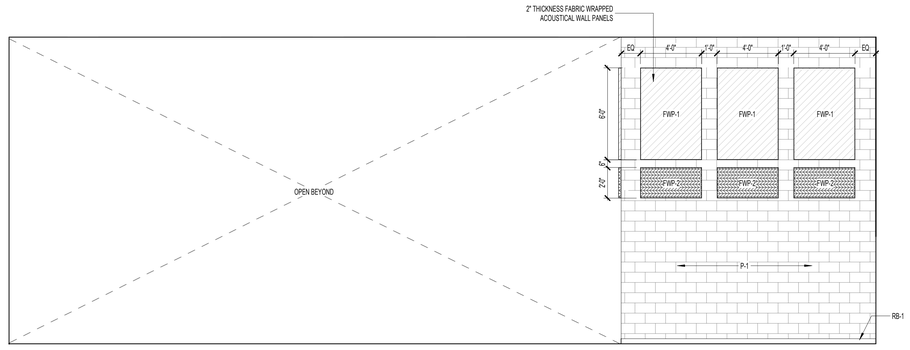


C110 BAND HALL - WEST (RE 9/2A09.05 FOR MEPT PEN. ELEV.) 12

SCALE: 1/4" = 1'-0"



C110 BAND HALL - WEST 11

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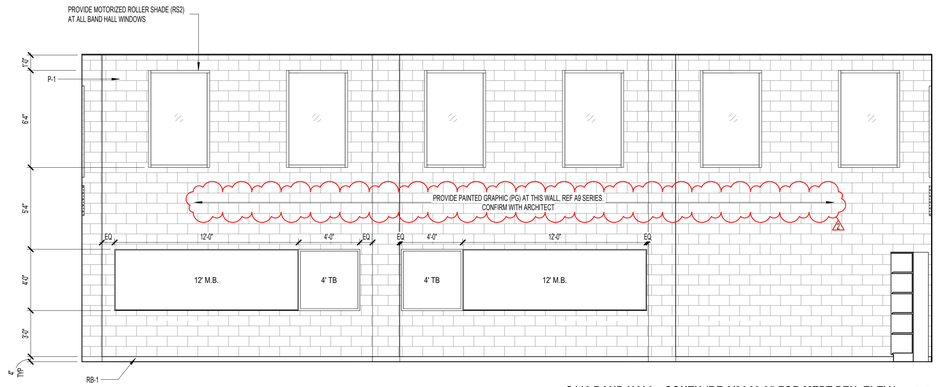

C110 BAND HALL - SOUTH (RE 8/2A09.05 FOR MEPT PEN. ELEV.) 10

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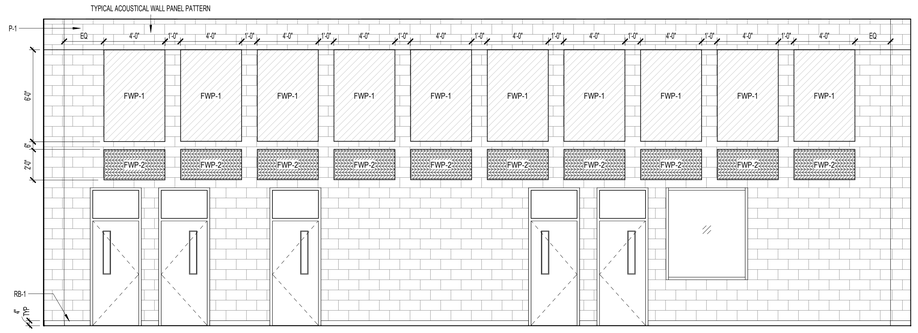
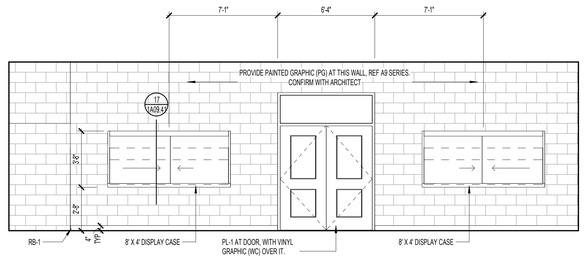


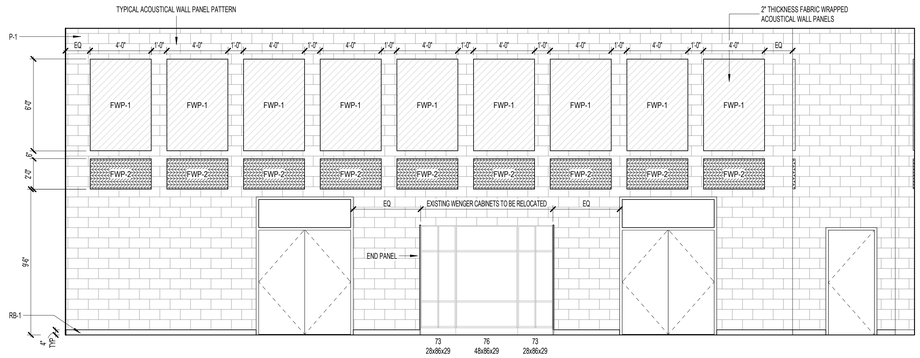
C110 BAND HALL - EAST (RE 7/2A09.05 FOR MEPT PEN. ELEV.) 9

SCALE: 1/4" = 1'-0"



C100 CORRIDOR - WEST (RE 5/2A09.05 FOR MEPT PEN. ELEV.) 7

SCALE: 1/4" = 1'-0"



C110 BAND HALL - NORTH (RE 6/2A09.05 FOR MEPT PEN. ELEV.) 8

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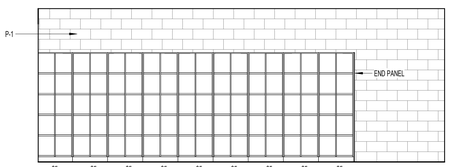
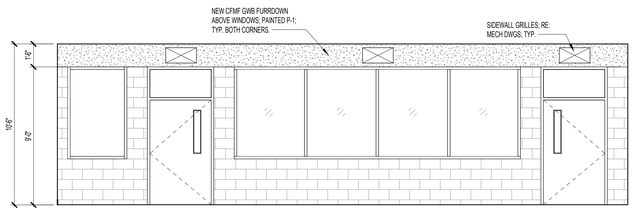


D180 EXISTING INSTRUMENT STORAGE - SOUTH 6

SCALE: 1/4" = 1'-0"



A104 EXISTING WOOD SHOP - SOUTH 5

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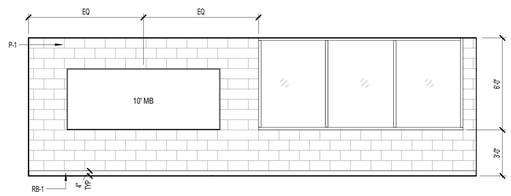

A109 COMPUTER LAB - WEST (RE 4/2A09.05 FOR MEPT PEN. ELEV.) 4

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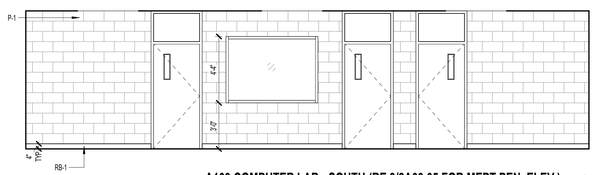

A109 COMPUTER LAB - SOUTH (RE 3/2A09.05 FOR MEPT PEN. ELEV.) 3

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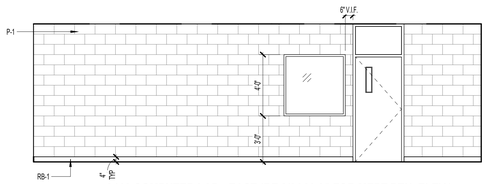

A109 COMPUTER LAB - EAST (RE 2/2A09.05 FOR MEPT PEN. ELEV.) 2

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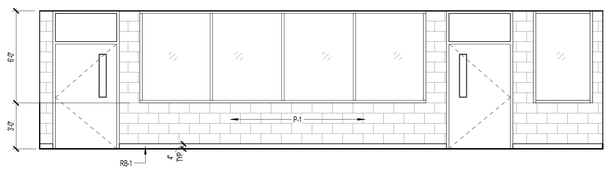

A109 COMPUTER LAB - NORTH (RE 1/2A09.05 FOR MEPT PEN. ELEV.) 1

SCALE: 1/4" = 1'-0"

INTERIOR ELEVATION GENERAL NOTES

1. NUMBERS SHOWN AT CABINETS ARE BASED ON AWI CABINET DESIGN SERIES (CDS) SYSTEM. PROVIDE NUMBER OF SHELVES AS SHOWN.
2. PROVIDE **PLASTIC LAMINATE** ON SPECIFIED CORE AT ALL EXPOSED SURFACES AND EDGES OF CASEWORK, ENDS, ETC. UNLESS OTHERWISE NOTED
3. PROVIDE **PLASTIC LAMINATE** ON COUNTERTOPS, UNLESS OTHERWISE NOTE.
4. **ALL UPPER AND TALL CABINETS THAT DO NOT HAVE A FURR DOWN OVER THEM SHALL HAVE A SLOPED TOP EQUAL TO AWI 426.**
5. EXPOSED WALL UNDER COUNTER TO RECEIVE FINISH AS SCHEDULED
6. ARCHITECT TO SELECT COLORS. CONTRACTOR TO COORDINATE LEAD TIMES FOR ALL MATERIALS TO MAINTAIN PROJECT SCHEDULE
7. ALL SHELVES IN CABINETS AND BOOK CASES SHALL BE ADJUSTABLE, UNLESS NOTED OTHERWISE
8. ALL CABINETS TO INCLUDE LOCKS, UNLESS NOTED OTHERWISE
9. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATING MILLWORK TO ASSURE PROPER FIT W/ AS-BUILT CONDITIONS
10. VERIFY W/ OWNER EXACT SIZE OF ALL EQUIPMENT FURNISHED BY OWNER FOR PROPER FIT W/ CONTRACTOR SUPPLIED MILLWORK & CASEWORK
11. MODIFY MILLWORK/CASEWORK AS REQUIRED FOR COLUMN BUMPOUT AND FURRING TO CONCEAL CONDUITS, PIPES ETC. RE: ARCHITECTURAL, STRUCTURAL AND MEP DRAWINGS FOR POTENTIAL LOCATIONS
12. PROVIDE END PANELS AT ALL LOWER CABINET OPENINGS THAT END WITH AN OPEN SPACE FOR AN APPLIANCE OR KNEE SPACE
13. PROVIDE CONTROL JOINTS AS SHOWN AND SPECIFIED
14. REFERENCE WINDOW AND DOOR TYPES AS SPECIFIED FOR EXACT DIMENSIONS AND TYPES OF EACH ITEM
15. REFERENCE BUILDING SECTIONS FOR ADDITIONAL INFORMATION
16. REFER TO **A03S** FOR SIZES & LOCATIONS OF GRAB BARS & OTHER TOILET ACCESSORIES
17. REFER TO **A00.03** FOR REQUIRED MOUNTING HEIGHTS PER T.A.S

MARKER BOARD / TACKBOARD MOUNTING HEIGHTS

GRADE LEVEL	MOUNTING HT.
PRE-K - 1ST	24" A.F.F. (32" A.F.F. @ CUBBIES)
2ND - 3RD	28" A.F.F.
SPECIALTY CLASSROOMS	30" A.F.F.
CORRIDORS	34" A.F.F.

CASEWORK TAG LEGEND

TYPICAL CASEWORK	SCIENCE LAB CASEWORK	INSTRUMENT STORAGE
AWI "XXX" WIDTH x HEIGHT x DEPTH	CONT COUNTER & BACKSPLASH, UNO	
AWI "XXX" WIDTH x HEIGHT x DEPTH	"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE	#"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE

1. GENERAL CASEWORK MODEL NUMBERS REFERENCE THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) AS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ACCEPTABLE CASEWORK MANUFACTURERS
2. BASE CABINET HEIGHT IS GIVEN TO THE TOP OF THE COUNTER, UNLESS NOTED OTHERWISE
3. REFER TO SHEET A09.00 FOR COLOR SCHED, NOTES, AND FINISHES, TYP.
4. FOR LOCKER TYPES REFER TO SPECIFICATIONS

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REGISTERED ARCHITECT MICHAEL ADAMS 20113 STATE OF TEXAS

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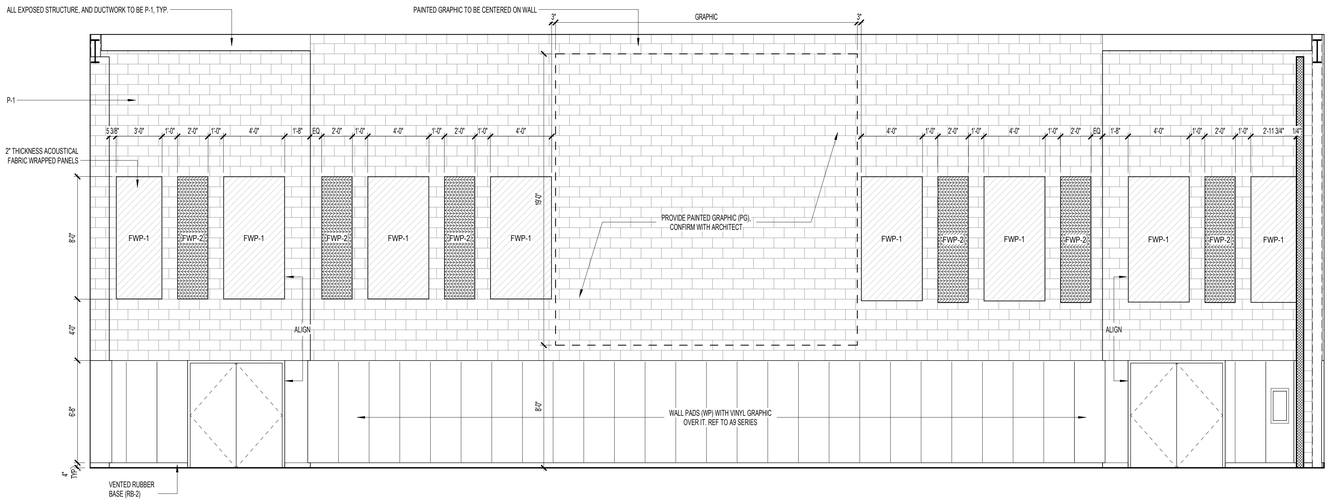
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

2A09.02
AMS - INTERIOR ELEVATIONS

6/4/2026 11:32:25 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE IMS_R24.rvt



G120 GYM - NORTH (RE 6/2A09.06 FOR MEPT PEN. ELEV.) 13

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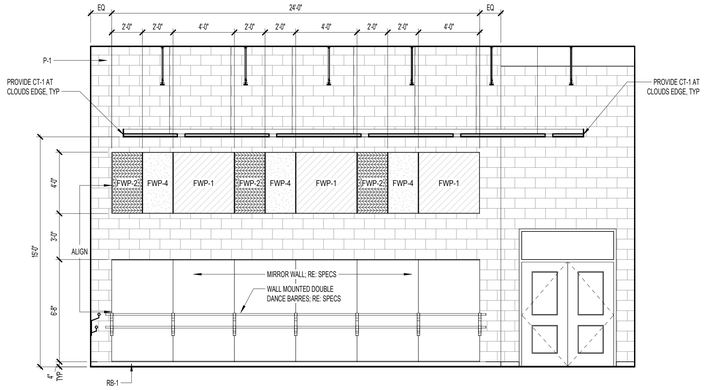

G110 DANCE - WEST (RE 5/2A09.06 FOR MEPT PEN. ELEV.) 12

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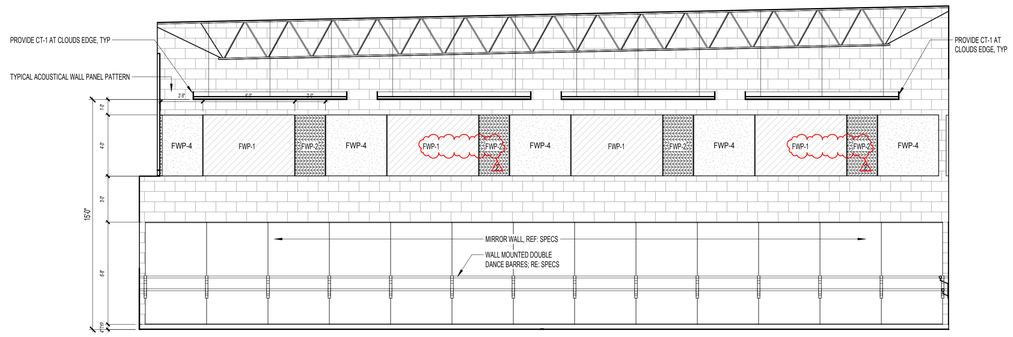

G110 DANCE - SOUTH (RE 4/2A09.06 FOR MEPT PEN. ELEV.) 11

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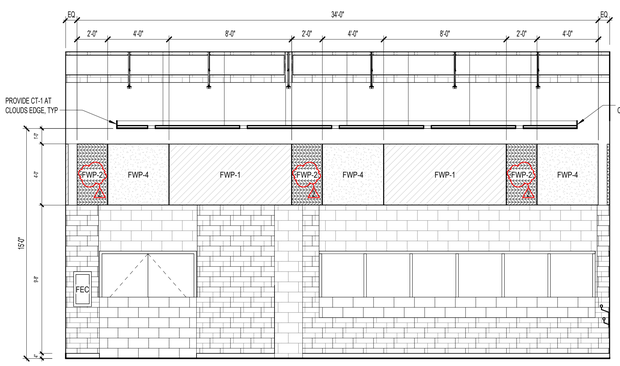

G110 DANCE - EAST (RE 3/2A09.06 FOR MEPT PEN. ELEV.) 10

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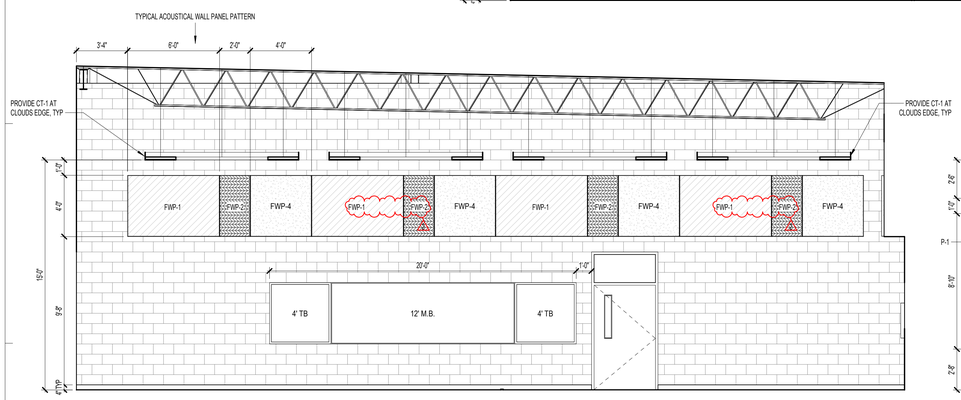
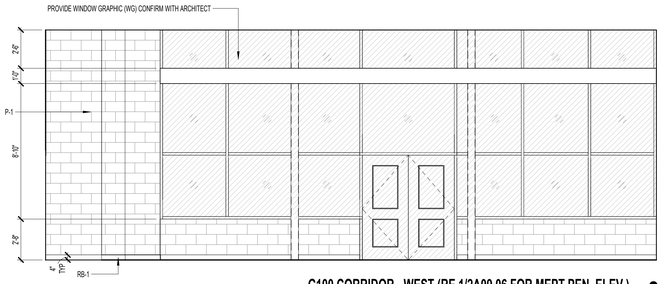


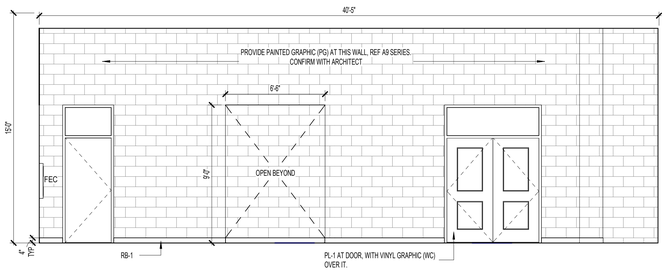
G110 DANCE - NORTH (RE 2/2A09.06 FOR MEPT PEN. ELEV.) 9

SCALE: 1/4" = 1'-0"



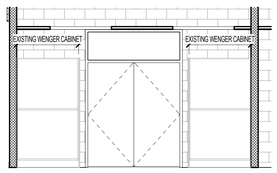
G100 CORRIDOR - WEST (RE 1/2A09.06 FOR MEPT PEN. ELEV.) 8

SCALE: 1/4" = 1'-0"



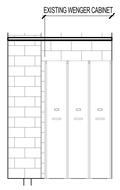
G100 CORRIDOR - EAST (RE 10/2A09.05 FOR MEPT PEN. ELEV.) 7

SCALE: 1/4" = 1'-0"



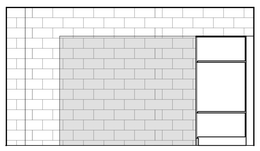
C112 UNIFORM STOR. - EAST 6

SCALE: 1/4" = 1'-0"



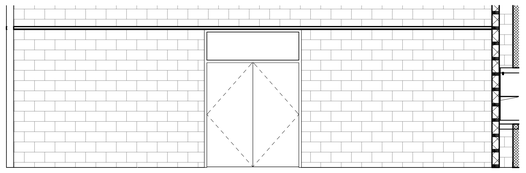
C115 STORAGE - EAST 5

SCALE: 1/4" = 1'-0"



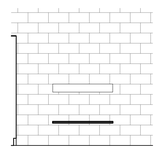
C111 INSTRUMENT STORAGE - WEST 4

SCALE: 1/4" = 1'-0"



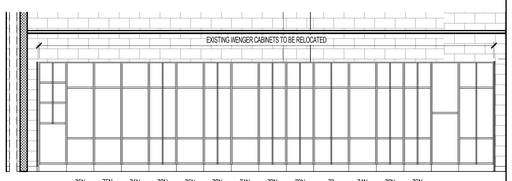
C111 INSTRUMENT STORAGE - SOUTH 3

SCALE: 1/4" = 1'-0"



C111 INSTRUMENT STORAGE - EAST 2

SCALE: 1/4" = 1'-0"



C111 INSTRUMENT STORAGE - NORTH 1

SCALE: 1/4" = 1'-0"

INTERIOR ELEVATION GENERAL NOTES

1. NUMBERS SHOWN AT CABINETS ARE BASED ON AIW CABINET DESIGN SERIES (CDS) SYSTEM. PROVIDE NUMBER OF SHELVES AS SHOWN.
2. PROVIDE **PLASTIC LAMINATE** ON SPECIFIED CORE AT ALL EXPOSED SURFACES AND EDGES OF CASEWORK, ENDS, ETC. UNLESS OTHERWISE NOTED
3. PROVIDE **PLASTIC LAMINATE** ON COUNTERTOPS, UNLESS OTHERWISE NOTE.
4. **ALL UPPER AND TALL CABINETS THAT DO NOT HAVE A FURR DOWN OVER THEM SHALL HAVE A SLOPED TOP EQUAL TO AIW 426.**
5. EXPOSED WALL UNDER COUNTER TO RECEIVE FINISH AS SCHEDULED
6. ARCHITECT TO SELECT COLORS. CONTRACTOR TO COORDINATE LEAD TIMES FOR ALL MATERIALS TO MAINTAIN PROJECT SCHEDULE
7. ALL SHELVES IN CABINETS AND BOOK CASES SHALL BE ADJUSTABLE, UNLESS NOTED OTHERWISE
8. ALL CABINETS TO INCLUDE LOCKS, UNLESS NOTED OTHERWISE
9. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATING MILLWORK TO ASSURE PROPER FIT W/ AS-BUILT CONDITIONS
10. VERIFY W/ OWNER EXACT SIZE OF ALL EQUIPMENT FURNISHED BY OWNER FOR PROPER FIT W/ CONTRACTOR SUPPLIED MILLWORK & CASEWORK
11. MODIFY MILLWORK/CASEWORK AS REQUIRED FOR COLUMN BUMPOUT AND FURRING TO CONCEAL CONDUITS, PIPES ETC. RE: ARCHITECTURAL, STRUCTURAL AND MEP DRAWINGS FOR POTENTIAL LOCATIONS
12. PROVIDE END PANELS AT ALL LOWER CABINET OPENINGS THAT END WITH AN OPEN SPACE FOR AN APPLIANCE OR KNEE SPACE
13. PROVIDE CONTROL JOINTS AS SHOWN AND SPECIFIED
14. REFERENCE WINDOW AND DOOR TYPES AS SPECIFIED FOR EXACT DIMENSIONS AND TYPES OF EACH ITEM
15. REFERENCE BUILDING SECTIONS FOR ADDITIONAL INFORMATION
16. REFER TO **A03.5** FOR SIZES & LOCATIONS OF GRAB BARS & OTHER TOILET ACCESSORIES
17. REFER TO **A00.03** FOR REQUIRED MOUNTING HEIGHTS PER T.A.S

MARKER BOARD / TACKBOARD MOUNTING HEIGHTS

GRADE LEVEL	MOUNTING HT.
PRE-K - 1ST	24" A.F.F. (32" A.F.F. @ CUBBIES)
2ND - 3RD	28" A.F.F.
SPECIALTY CLASSROOMS	30" A.F.F.
CORRIDORS	34" A.F.F.

CASEWORK TAG LEGEND

TYPICAL CASEWORK	SCIENCE LAB CASEWORK	INSTRUMENT STORAGE
AWI "XXX" WIDTH x HEIGHT x DEPTH	CONT COUNTER & BACKSPLASH, UNO	
AWI "XXX" WIDTH x HEIGHT x DEPTH	"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE	#"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE

1. GENERAL CASEWORK MODEL NUMBERS REFERENCE THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) AS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ACCEPTABLE CASEWORK MANUFACTURERS
2. BASE CABINET HEIGHT IS GIVEN TO THE TOP OF THE COUNTER, UNLESS NOTED OTHERWISE
3. REFER TO SHEET A09.00 FOR COLOR SCHED, NOTES, AND FINISHES, TYP.
4. FOR LOCKER TYPES REFER TO SPECIFICATIONS

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

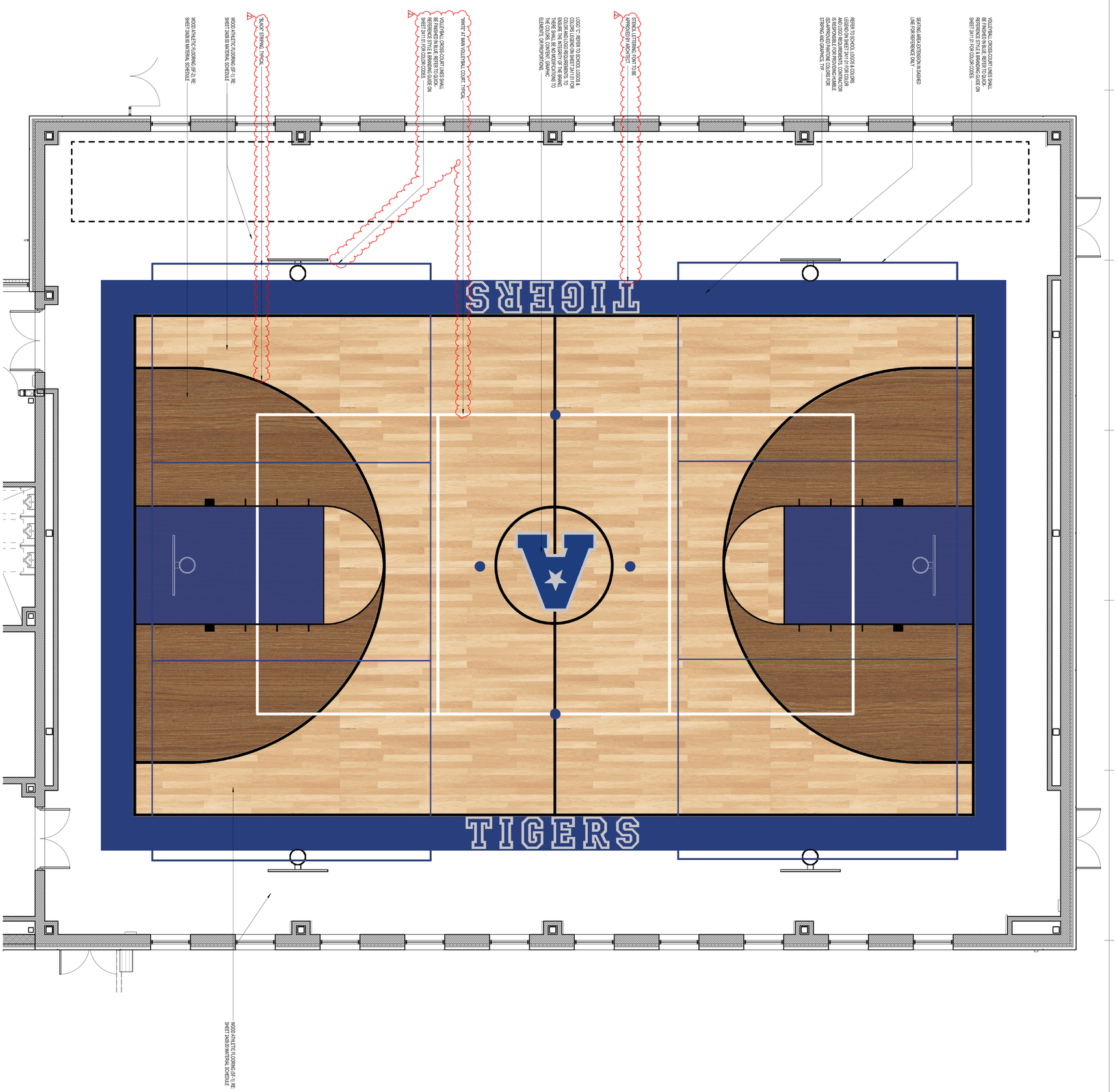
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

Δ	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

2A09.03
AMS - INTERIOR ELEVATIONS

6/4/2026 11:32:29 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



LEVEL 01 - AMS GYM COURT GRAPHICS

SCALE: 1/4" = 1'-0"

1

ISSUE FOR CONSTRUCTION

2A11.02
AMS COURT GRAPHICS

PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH
CHECKED BY: PAH

REVISIONS

	Date	Description
2	06/04/2026	ADDENDUM 02

REGISTERED ARCHITECT
MICHAEL A. PFLUGER
STATE OF TEXAS
DATE: 05/15/2026

HUMBLE INDEPENDENT SCHOOL DISTRICT

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HUMBLE, TX 77338

ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

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DAY VIEW

FONT, SIZE, AND CUSTOM COLOR TO BE CONFIRMED BY THE DISTRICT PRIOR TO FABRICATION. GENERAL CONTRACTOR TO VERIFY COMPLIANCE THROUGH THE SUBMITTAL PROCESS PRIOR TO FABRICATION. ⚠2

512.84"

REFER TO SPEC SECTION 10 14 00.1 FOR DIMENSIONAL SIGNAGE REQUIREMENTS ⚠1

20.00"

ATASCOCITA MIDDLE SCHOOL

2"

wall

NIGHT VIEW

512.84"

20.00"

ATASCOCITA MIDDLE SCHOOL

MATERIAL/FINISHES

Face-lit letters - standard color trim/returns, painted day/night vinyl, remote PS

TYPOGRAPHY ASSIGNED

Dax-Bold

SIZE 20"w X 288.78"h

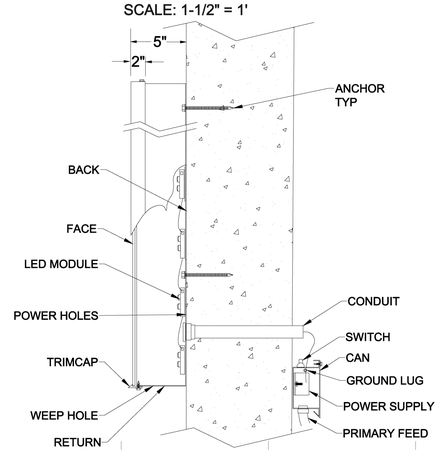
FACE LIT LETTERS

- ☐ - BACKS: .050" WHITE 3003 ALUMINUM
- ☐ - FACES: 3/16" #2447 WHITE CAST ACRYLIC W/ VINYL OVERLAY
- ☐ - TRIM CAP: 1" JEWELITE
- ☐ - RETURNS: 5" X .040" 3003 ALUMINUM
- ☐ - PENETRATIONS: SEALED WITH DOW 795 OR EQUIVALENT
- ☐ - PAINT: SATIN ACRYLIC URETHANE
- ☐ - ANCHORS: MIN 3/8" X 5" MASONRY SCREWS INTO CAST CONCRETE

ELECTRICAL (U.L.)

- ☐ - ILLUMINATION: WHITE HIGH OUTPUT WHITE LED MODULES
- ☐ - POWER SUPPLIES: 12 VOLT 60 WATT ELECTRONIC - REMOTE IN CAN
- ☐ - SWITCH: 20 AMP TOGGLE IN CAN
- ☐ - LOAD: (2.0-1.0) AMPS 120-277V - INSTALL IN ACCORDANCE W/ NEC ARTICLE 600 AND LOCAL CODE INCLUDING GROUNDING AND BONDING REQUIREMENTS

SECTION A-A'
SCALE: 1-1/2" = 1'

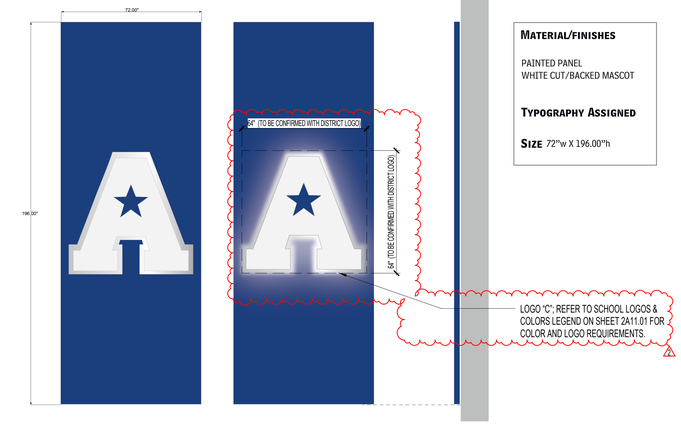


FACE LIT CHANNEL LETTER
BLACK RETURNS & TRIMCAP
#2447 WHITE ACRYLIC FACES W/ PERFORATED VINYL OVERLAY PAINTED TO MATCH
WHITE LED ILLUMINATION

DAY VIEW

NIGHT VIEW

wall

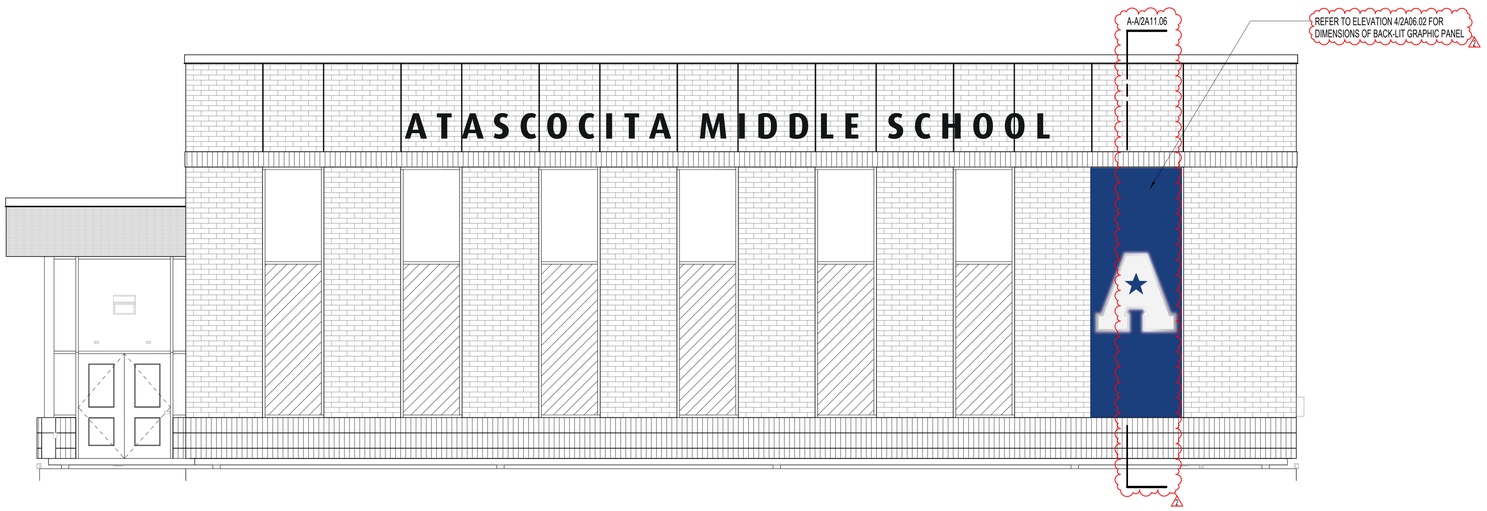


MATERIAL/FINISHES

PAINTED PANEL
WHITE CUT/BACKED MASCOT

TYPOGRAPHY ASSIGNED

SIZE 72"w X 196.00"h



EXTERIOR ELEVATION - WEST - FINE ARTS 1
SCALE: 1/4" = 1'-0"

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS
18810 W LAKE HOUSTON PKWY., HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAMS 20113 STATE OF TEXAS

DATE: 05/15/2026

PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

2A11.06
AMS - SIGNAGE

6/4/2026 11:32:34 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

MECHANICAL KEYED NOTES

M1.40 ALTERNATE NO.1: IF ALTERNATE IS ACCEPTED THEN AIR DEVICES SHALL BE BALANCED TO EXISTING AIRFLOWS. CONTRACTOR SHALL FIELD VERIFY EXISTING AIRFLOWS PRIOR TO REPLACEMENT.

M2.27 PROVIDE THERMAL EXPANSION LOOP AT APPROXIMATE LOCATION SHOWN. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

M2.31 PROVIDE NEW CHILLED WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M2.32 PROVIDE NEW HOT WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M4.3 PROVIDE NOVAERUS 900 UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL ON WALL AT 6'-0" A.F.F. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. 2

1 2M02.02D **MECHANICAL PLAN - FIRST LEVEL - AMS - SEGMENT 'D'**
1/8" = 1'-0"

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

STATE OF TEXAS
JAMES R. KUBALA
110046
LICENSED
PROFESSIONAL ENGINEER
06/04/2026

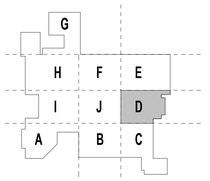
DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUED FOR CONSTRUCTION

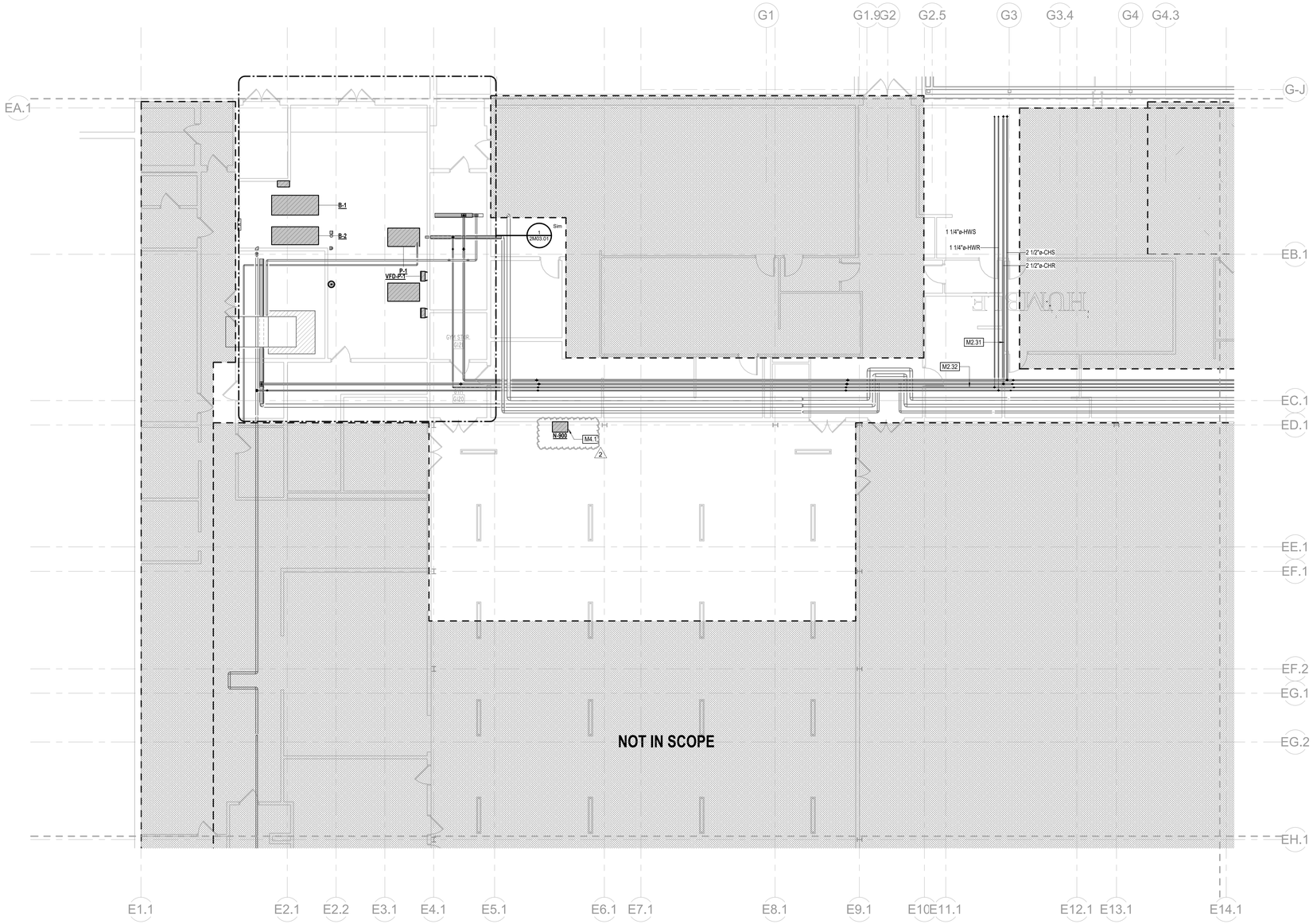
2M02.02D
AMS - MECHANICAL PLAN - SEGMENT 'D'



KEY PLAN
N

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TDLB/MS TN SS/LG

6/4/2026 1:13:30 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_M24.rvt



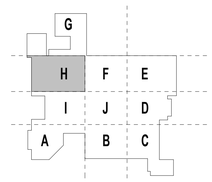
1 2M02.02H **MECHANICAL PLAN - FIRST LEVEL - AMS - SEGMENT 'H'**
1/8" = 1'-0"

MECHANICAL KEYED NOTES

M2.31 PROVIDE NEW CHILLED WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M2.32 PROVIDE NEW HOT WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M4.1 PROVIDE NOVAERUS 900 UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL ON WALL AT 17'-0" A.F.F. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2



KEY PLAN
N

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DBR Project # 240322
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JAMES R. KUBALA
110240
LICENSED PROFESSIONAL ENGINEER
04/04/2026

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

	Date	Description
2	06/04/2026	Addendum 2

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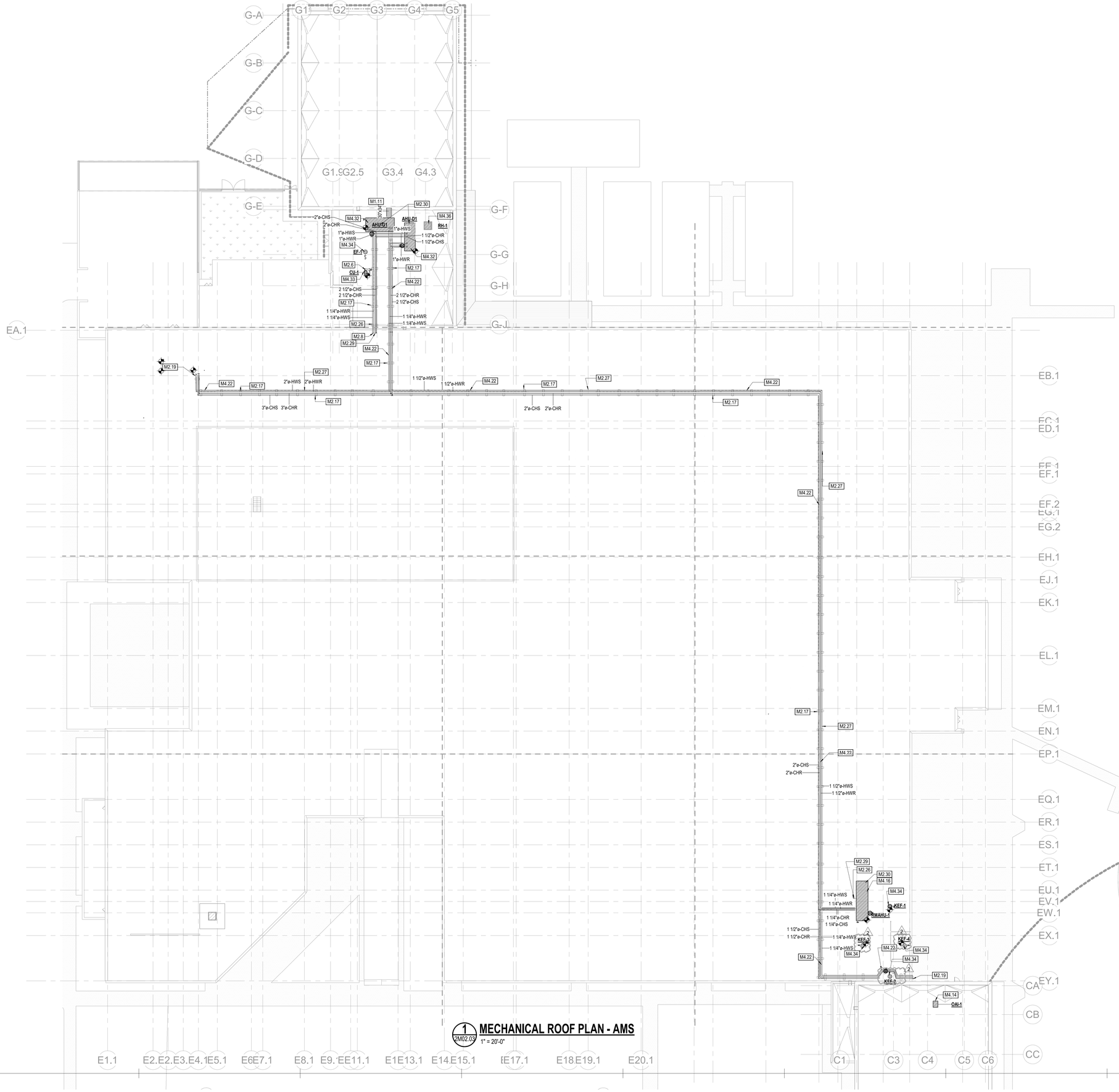
2M02.02H
AMS - MECHANICAL PLAN - SEGMENT 'H'

6/4/2026 1:13:39 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_M24.rvt



1 2M02.03 **MECHANICAL ROOF PLAN - AMS**
1" = 20'-0"

MECHANICAL KEYED NOTES

M1.11 REFER TO SHEET 2M02.02G FOR DUCT CONTINUATION.

M2.6 ROUTE REFRIGERANT PIPING FROM AIR COOLED CONDENSING UNIT DOWN THROUGH ROOF TO INDOOR FAN COIL UNIT. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATIONS. FIELD VERIFY EXACT PIPING ROUTING.

M2.8 REFER TO SHEET 1M02.02H FOR PIPE CONTINUATION.

M2.17 PROVIDE ROOF MOUNTED PIPING SUPPORT AT APPROXIMATE LOCATION SHOWN. TYP. RE: 34/M6.01

M2.19 REFER TO SHEET 2M02.02H FOR PIPE CONTINUATION.

M2.26 BASE BID PIPING TO BE ROUTED TO UNIT.

M2.27 PROVIDE THERMAL EXPANSION LOOP AT APPROXIMATE LOCATION SHOWN. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

M2.29 ROUTE HYDRONIC PIPING (HWS/R AND CHR/S FROM BUILDING AND TO UNIT SERVED. PROVIDE PIPING WITH PROPER SEALING TO AVOID WATER PENETRATION FROM ROOF.

M2.30 ROUTE FULL SIZE CONDENSATE TO NEAREST EXISTING ROOF DRAIN. INSTALL TRAP AS RECOMMENDED BY MANUFACTURER.

M4.14 PROVIDE OUTSIDE AIR INTAKE AT APPROXIMATE LOCATION SHOWN.

M4.16 PROVIDE MAKEUP AIR UNIT AT APPROXIMATE LOCATION SHOWN.

M4.22 ALTERNATE: SCOPE OF WORK IN EXISTING BUILDING TO HAVE NEW CHWR/S & HWR/S TO BE ROUTED ON BUILDING ROOF TO SERVE NEW MECHANICAL EQUIPMENT. ALL WORK PERTAINING TO THE PIPE ROUTING / PENETRATIONS SHALL BE PRICED UNDER DEDUCT ALTERNATE 05. REFER TO ARCHITECTURAL FRONT END SPECIFICATIONS FOR ADDITIONAL INFORMATION.

M4.32 PROVIDE PACKAGED ROOFTOP UNIT ON ROOF AT APPROXIMATE LOCATION SHOWN. PROVIDE UNIT WITH ROOF CURB TO MATCH ROOF SLOPE. PROVIDE ALL CLEARANCES AROUND UNIT AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE FINAL LOCATION WITH STRUCTURAL. RE: DETAIL 15/M6.01.

M4.33 PROVIDE ROOF MOUNTED AIR COOLED CONDENSING UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL UNIT ON ROOF CURB SUPPORTS. PROVIDE ALL CLEARANCES AROUND CONDENSER AS REQUIRED BY EQUIPMENT MANUFACTURER. RE: DETAIL 31/M6.01.

M4.34 PROVIDE ROOF MOUNTED EXHAUST FAN AT APPROXIMATE LOCATION SHOWN. PROVIDE FAN WITH ROOF CURB TO MATCH ROOF SLOPE. RE: 19/M6.01.

M4.36 PROVIDE ROOF MOUNTED RELIEF HOOD AT APPROXIMATE LOCATION SHOWN. PROVIDE HOOD WITH ROOF CURB TO MATCH ROOF SLOPE. RE: 9/M6.01.

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HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
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STATE OF TEXAS
JAMES R. KUBALA
110048
LICENSED
PROFESSIONAL ENGINEER
04/24/2026

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUED FOR CONSTRUCTION

2M02.03
AMS - MECHANICAL ROOF PLAN

KEY PLAN
N
G
H F E
I J D
A B C

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DBR Project # 240322
BM RM/TD LB/MS TN SS/LG

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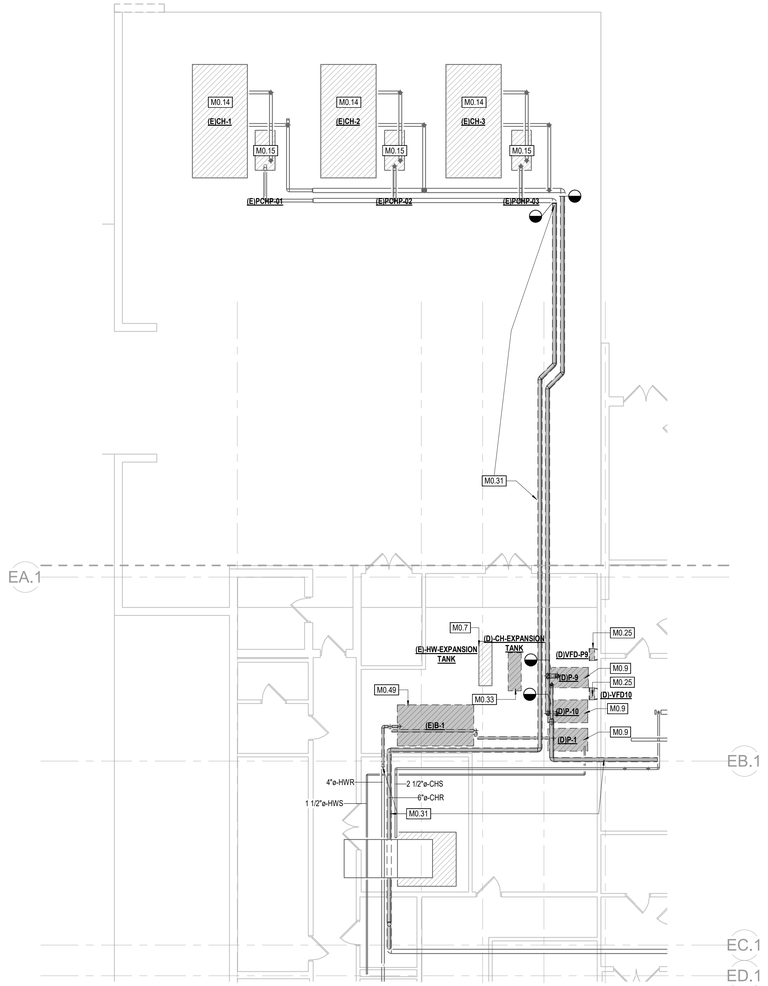
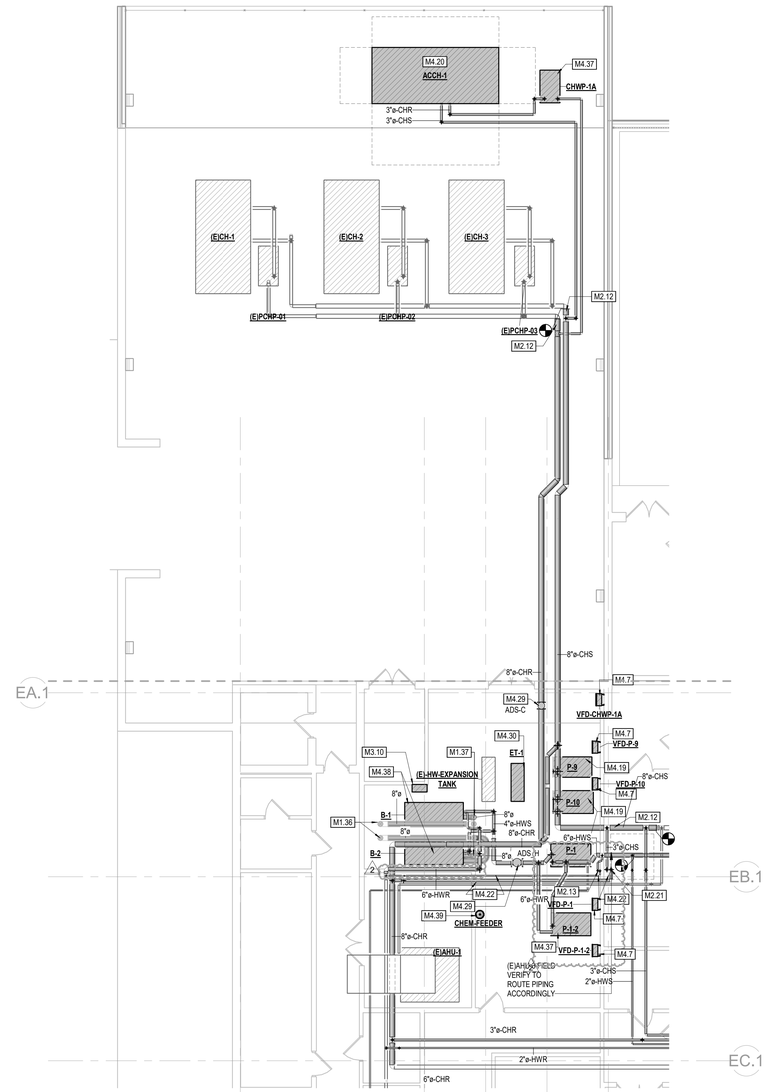


1 2M03.01 DEMOLITION PLAN - FIRST LEVEL - AMS - ENLARGED CENTRAL PLANT

1/8" = 1'-0"

E1.1 E2.1 E2.2 E3.1 E4.1



2 2M03.01 MECHANICAL PLAN - FIRST LEVEL - AMS - ENLARGED CENTRAL PLANT

1/8" = 1'-0"

E1.1 E2.1 E2.2 E3.1 E4.1

MECHANICAL KEYED NOTES

M0.7 EXISTING EQUIPMENT TO REMAIN.

M0.9 DEMOLISH END SUCTION PUMP AT APPROXIMATE LOCATION SHOWN. EXISTING 6" HOUSEKEEPING PAD TO REMAIN.

M0.14 EXISTING CHILLER TO REMAIN.

M0.15 EXISTING PUMP TO REMAIN.

M0.25 DEMOLISH EXISTING VFD CONNECTED TO EXISTING PUMP. INCLUDING ALL WIRING AND VFD RACK.

M0.31 DEMOLISH HYDRONIC WATER PIPING AT APPROXIMATE LOCATION SHOWN.

M0.33 DEMOLISH EXISTING CHILLED WATER EXPANSION TANK. HOUSEKEEPING PAD IS TO REMAIN.

M0.49 DEMOLISH EXISTING BOILER AND ALL ASSOCIATED FLUES, CONNECTIONS, HOUSEKEEPING PAD, CONTROLS AND PIPING.

M1.36 PROVIDE 8" COMBUSTION AIR INTAKE. DIRECT VENTING TO THEIR RESPECTIVE BOILER. FLUE TO PENETRATE THROUGH ROOF FOR NEW OPENING. SEAL AS REQUIRED TO ACCOMMODATE NEW EXHAUST FLUE DIMENSION.

M1.37 PROVIDE 8" STAINLESS STEEL CAT IV EXHAUST FLUE. FLUE TO PENETRATE THROUGH ROOF FOR NEW OPENING. PROVIDE EXHAUST FLUE WITH CONDENSATE NEUTRALIZER AT DRIP LEG AND PROVIDE PIPING ROUTING TO NEAREST FLOOR DRAIN IN BOILER ROOM. PROVIDE NEW ROOF OPENINGS AS REQUIRED FOR NEW FLUES. THE EXISTING OPENING WILL BE REQUIRED TO BE PATCHED, SEALED, AND INSULATED TO MATCH EXISTING ROOF.

M2.12 TIE NEW 8" CHWR/CHWS PIPING INTO EXISTING PIPING AT APPROXIMATE LOCATION SHOWN.

M2.13 REFER TO SHEET 2M01.12 FOR PIPE CONTINUATION.

M2.21 REFER TO SHEET 2M02.03 FOR PIPE CONTINUATION.

M3.10 PROVIDE CO SENSOR AT APPROXIMATE LOCATION SHOWN. COORDINATE WITH BOILER MANUFACTURER AS REQUIRED.

M4.7 PROVIDE VARIABLE FREQUENCY DRIVE AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL LOCATION WITH ELECTRICAL AND CONTROLS CONTRACTORS. MOUNTED TO EXTERIOR BRACKET FOR SUPPORT OF VFD.

M4.19 PROVIDE END SUCTION PUMP AT APPROXIMATE LOCATION SHOWN. REUSE EXISTING 6" HOUSEKEEPING PAD AND MODIFY AS NECESSARY TO ACCOMMODATE REPLACEMENT PUMP.

M4.20 PROVIDE AIR COOLED CHILLER AT APPROXIMATE LOCATION SHOWN. PROVIDE ALL MANUFACTURERS CLEARANCES. PROVIDE 6" HOUSEKEEPING PAD.

M4.22 ALTERNATE: SCOPE OF WORK IN EXISTING BUILDING TO HAVE NEW CHWR'S & HWRS TO BE ROUTED ON BUILDING ROOF TO SERVE NEW MECHANICAL EQUIPMENT. ALL WORK PERTAINING TO THE PIPE ROUTING / PENETRATIONS SHALL BE PRICED UNDER DEDUCT ALTERNATE 05. REFER TO ARCHITECTURAL FRONT END SPECIFICATIONS FOR ADDITIONAL INFORMATION.

M4.29 PROVIDE AIR DIRT SEPARATOR AT APPROXIMATE LOCATION SHOWN.

M4.30 PROVIDE NEW CHILLED WATER EXPANSION TANK AT APPROXIMATE LOCATION SHOWN. RE-USE EXISTING HOUSEKEEPING PAD, MODIFY / EXTEND PAD IF NECESSARY.

M4.37 PROVIDE END SUCTION PUMP AT APPROXIMATE LOCATION SHOWN. PROVIDE ALL MANUFACTURERS CLEARANCES. PROVIDE 6" HOUSEKEEPING PAD.

M4.38 PROVIDE NEW BOILER AS SCHEDULED. PROVIDE NEW 6" HOUSEKEEPING CONCRETE PAD. PROVIDE NEW HOT WATER PIPING AND REQUIRED FITTINGS, CONTROLS/CONTROL VALVES AND CONNECT TO EXISTING MAINS AS SHOWN. ROUTE FLUE CONDENSATE THRU CONDENSATE NEUTRALIZER AND TO NEAREST FLOOR DRAIN. EXISTING MAKE UP WATER LINE IS TO BE TIED INTO NEW BOILER LOOP.

M4.39 PROVIDE CHEM FEEDER AT APPROXIMATE LOCATION SHOWN. ROUTE PIPING TO CHEM FEEDER AS REQUIRED. CONTRACTOR TO FIELD VERIFY IF TANK CAN BE PLACED IN LOCATION SHOWN.

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

JAMES A. KUBALA
110046
LICENSED
PROFESSIONAL ENGINEER
06/04/2026

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM | RM/TQ | LB/MS | TN | SS/LG

ISSUED FOR CONSTRUCTION

2M03.01
AMS - MECHANICAL PLAN - ENLARGED CENTRAL PLANT - DEMO & NEW - SEGMENT 'H'

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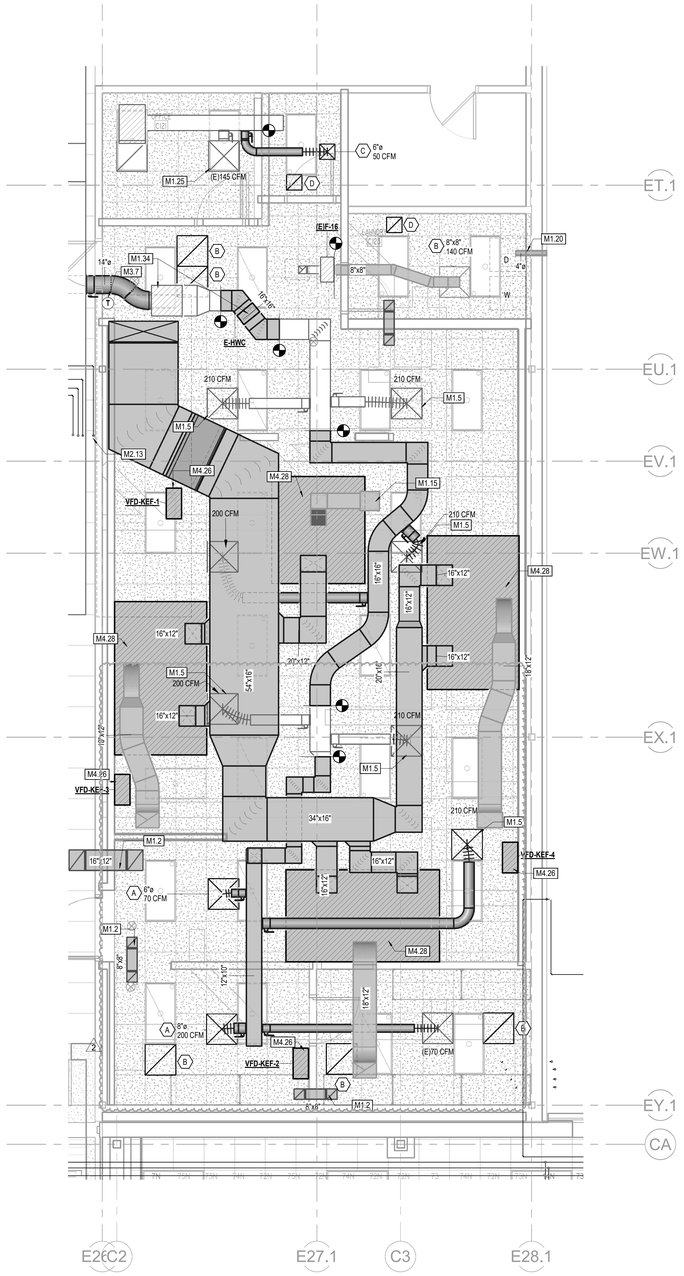
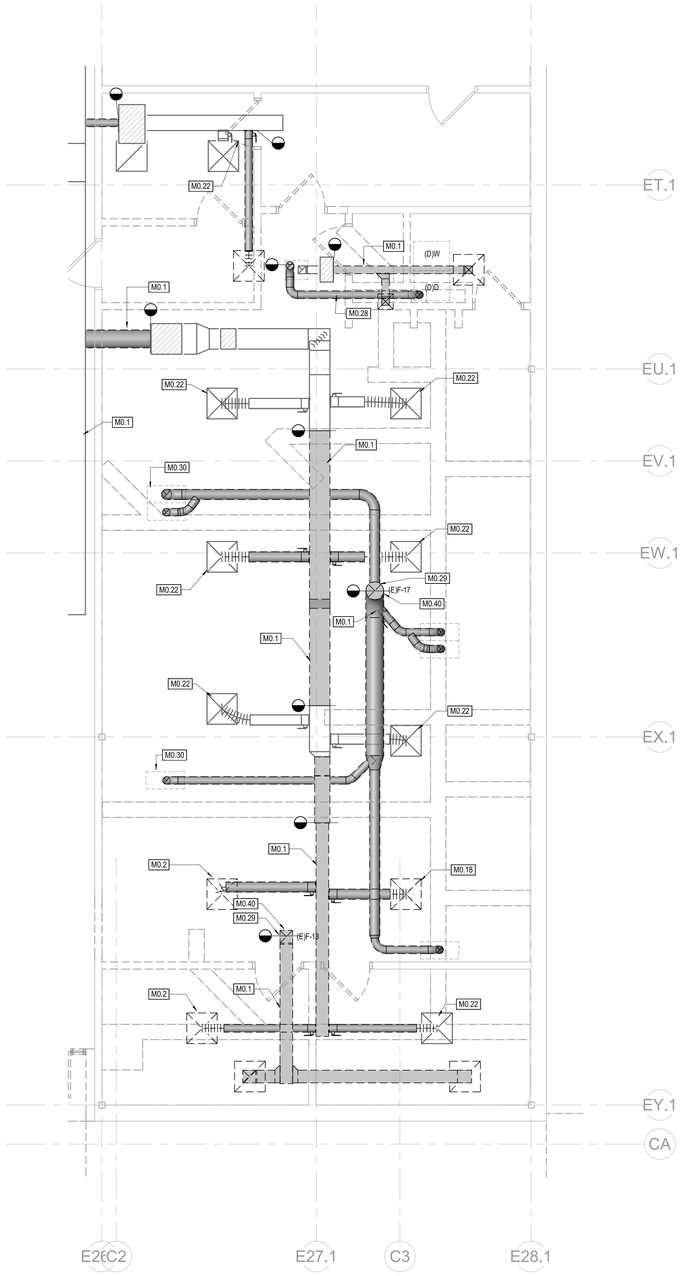


4 2M03.11 MECHANICAL PLAN - FIRST LEVEL - AMS - FOOD SERVICE

1/4" = 1'-0"



3 2M03.11 DEMOLITION MECHANICAL PLAN - AMS - FOOD SERVICE

1/4" = 1'-0"

MECHANICAL KEYED NOTES

M0.1 DEMOLISH ALL ASSOCIATED DUCTWORK, CONTROLS, ELECTRICAL, VALVES, HANGERS, SUPPORTS, AND ACCESSORIES SHALL BE REMOVED.

M0.2 EXISTING SUPPLY DIFFUSER AND ALL ASSOCIATED DAMPERS, HANGERS, AND ACCESSORIES SHALL BE REMOVED BACK TO SUPPLY TRUNK MAIN. CAP, SEAL, AND INSULATE RESULTING DUCT OPENING.

M0.18 RELOCATE EXISTING AIR DEVICE. EXTEND FLEX DUCT AS REQUIRED.

M0.22 EXISTING AIR DIFFUSER TO REMAIN. ACCOMMODATE TO NEW BACKGROUND AS REQUIRED.

M0.28 DEMOLISH EXISTING 6" VENT DUCT FROM DRYER VENT.

M0.29 DEMOLISH DUCTWORK AND ALL ASSOCIATED DUCTWORK, FLEX DUCT, DIFFUSERS, AND ASSOCIATED WIRING. GIVE ROOF MOUNTED EXHAUST FAN BACK TO OWNER.

M0.30 DEMOLISH EXISTING KITCHEN HOOD.

M0.40 PATCH AND SEAL REMAINING ROOF PENETRATION WEATHER TIGHT.

M1.2 PROVIDE RETURN AIR TRANSFER BOOT. SIZE AS INDICATED. RE: DETAIL 6,6/M6.01.

M1.5 RE-BALANCE EXISTING AIR DIFFUSER TO CFM INDICATED ON PLANS.

M1.15 REFER TO SHEET 2M02.03 FOR DUCT CONTINUATION.

M1.20 ROUTE DRYER EXHAUST TO EXISTING WALL. PROVIDE WALL CAP FOR END TERMINATION. RE: DETAIL 30 FOR BOTH DETAILS SHEETS.

M1.25 EXISTING SUPPLY AIR DIFFUSER TO REMAIN. REBALANCE TERMINALS TO PREVIOUS CFM. PREVIOUS CFM INDICATED ON PLANS TO AID IN BALANCING.

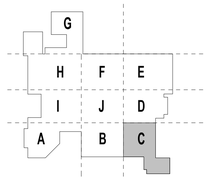
M1.34 FINAL LOCATION OF VAV BOX AND HOT WATER COIL. EXTEND HOT WATER PIPING AS REQUIRED TO RELOCATED HWCS.

M2.13 REFER TO SHEET 2M01.12 FOR PIPE CONTINUATION.

M3.7 RELOCATED EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN.

M4.26 PROVIDE VARIABLE FREQUENCY DRIVE AT APPROXIMATE LOCATION SHOWN IN PLENUM. COORDINATE FINAL LOCATION WITH ELECTRICAL AND CONTROLS CONTRACTORS. VFD TO BE DANFOSS FC1 FOR KITCHEN CONTROLS. COORDINATE WITH FOOD SERVICE CONSULTANT PRIOR TO ORDERING.
2

M4.28 KITCHEN HOOD TO BE PROVIDED BY OTHERS. DIVISION 23 CONTRACTOR TO INSTALL AND MAKE FINAL DUCT CONNECTIONS.



KEY PLAN N

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2	06/04/2026	Addendum 2

ISSUED FOR CONSTRUCTION

2M03.11
AMS - MECHANICAL PLAN - FOOD SERVICE

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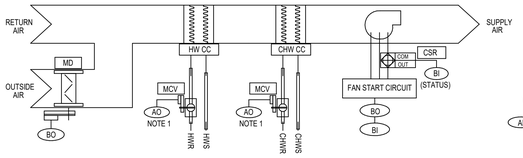


NOTES:
1. Provide 2-way automatic control valve unless otherwise indicated in mechanical schedules or control specifications.

System Off - When the system is off:
The supply air fan shall be off.
The outside air damper shall be closed.
The chilled water coil valve shall be closed.
The hot water coil valve(s) shall be closed.
The control loops shall be disabled.

System Start-up - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Time of Day Schedule.

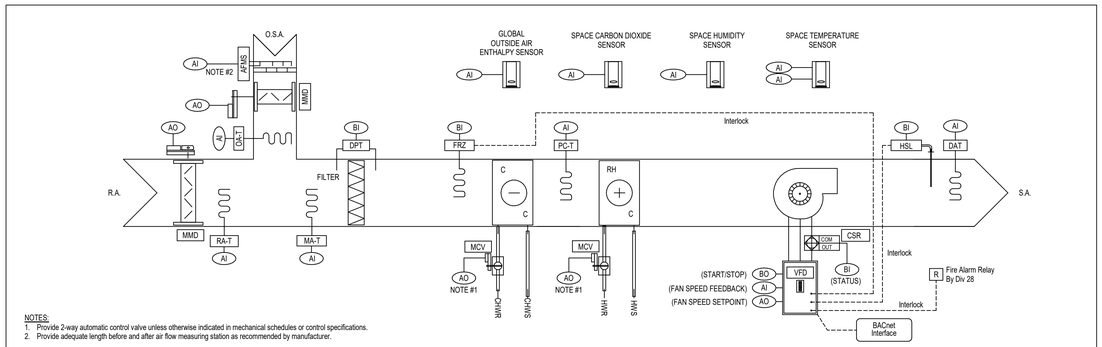
System Operation - When system start-up has been initiated, the following sequences shall be implemented:
The fan coil unit shall be integrated with the EMCS to monitor fan status, schedule run times, and to adjust space temperature setpoints. The outside air motorized isolation damper shall open.

COOLING MODE: When the space temperature is above the Cooling Setpoint, the chilled water coil control valve shall be modulated between 0-100%, to maintain the space temperature within +/- 0.5 °F of the Cooling Setpoint. The chilled water coil discharge temperature shall not be allowed to go below the chilled water coil low-limit setpoint.
HEATING MODE: When the space temperature is below the Heating Setpoint, the hot water coil control valve shall be modulated between 0-100%, to maintain the space temperature within +/- 0.5 °F of the Heating Setpoint.
FREEZE PROTECTION: When the outdoor air temperature drops below the freeze protection setpoint, the EMCS shall open the chilled water control valve(s) to 50% open (adj.) for water circulation through the coil. The control valve shall return to normal operating conditions when the ambient temperature is above the freeze protection setpoint for 10 minutes (adj.). Refer to the Chilled Water System Control Diagram for further information.

System Setpoints - The setpoints for the system shall be set as follows:
The Cooling Setpoint shall be set initially at 75 °F (adjustable).
The Heating Setpoint shall be set initially at 70 °F (adjustable).
The design airflow rates shall be set at the values given in the Mechanical Drawings.
The outdoor air temperature freeze protection setpoint shall be 37°F (adj).

System Alarms - The EMCS shall generate an alarm as follows:
If the space temperature is 5 °F (adj.) above the cooling setpoint.
If the space temperature is 5 °F (adj.) below the heating setpoint.
All alarms shall be inhibited when the supply fan is not operating except the space temperature alarms. The alarms, except the fan failure and the space temperature alarms, shall remain inhibited following startup of the unit for 2 minutes.

2 Fan Coil Unit - Control Schematic and Sequence of Operations
NOT TO SCALE



NOTES:
1. Provide 2-way automatic control valve unless otherwise indicated in mechanical schedules or control specifications.
2. Provide adequate length before and after air flow measuring station as recommended by manufacturer.

System Off - When the system is off:
The outside air damper shall be closed.
The return air damper shall be open.
The supply air fan shall be off.
The chilled water coil valve shall be closed.
The hot water coil valve(s) shall be closed.
The control loops shall be disabled.

System Start-up - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Pre-Start Mode or Night-Setback Mode.

Pre-Start Mode:
The system shall be enabled by an operator entered manual command at the EMCS or automatically by the EMCS based on the Optimal Start/Stop algorithm. Once enabled, the system shall operate per the System Operation section as detailed below. Operation of the system during Pre-Start Mode shall not include ventilation air, with the exception that Economizer mode shall be permitted to operate per the System Operation section as detailed below.
Night-Setback Mode:
The system shall be enabled automatically by the EMCS when the space temperature drifts outside the active Unoccupied Cooling or Heating Setpoint. Once enabled, the system shall operate per the System Operation section as detailed below. Operation of the system during Night-Setback Mode shall not include ventilation air, with the exception that Economizer mode shall be permitted to operate per the System Operation section as detailed below.
System Operation - When system start-up has been initiated:
The variable speed supply air fan shall start. Following a confirmation of fan start status, the supply fan shall initially be indexed to its minimum speed reference value. The speed of the fan shall not be adjusted by more than 20 Hz in any one-minute period.
OUTSIDE AIR CFM AND DAMPER CONTROL: When the system is commanded to start, the EMCS shall index the outside air damper to the scheduled maximum outside airflow rate as measured by the outside airflow measuring station.
OUTSIDE AIR DAMPER / RETURN AIR DAMPER INTEGRATION WITH SUPPLY FAN VFD: The EMCS shall provide dynamic control of the outside air damper and return air damper positions through the full range of the supply fan VFD modulation. The outside air and return air motorized dampers shall modulate in sequence to maintain the active outside air flow rate setpoint. The outside air damper shall first modulate open. If the outside air damper has reached the 100% open position and still cannot achieve the active outside air flow rate setpoint, then the return air damper shall begin to modulate closed. The return air damper position shall have a low limit of 50% (adj) during normal system operation. Damper positions shall not be adjusted by more than 20% (adj) in any one-minute time period.
DEMAND CONTROL VENTILATION: During occupied building hours, the EMCS shall allow the outside air damper to modulate from its scheduled maximum flow rate to its scheduled minimum flow rate. If the space CO2 level is at least 100 ppm (adj) less than its active high limit setpoint for a time period of 10 minutes (adj), the EMCS shall index the outside air damper to maintain its minimum scheduled outside air flow rate. If the space CO2 level rises to within 50 ppm (adj) of its active high limit, the EMCS shall index the outside air damper to maintain its scheduled maximum outside air flow rate.
ECONOMIZER MODE: The EMCS shall enable airside Economizer Mode whenever the outside air enthalpy is less than 28.0 btu/lb, the outside air dry bulb temperature is less than 75°F, and the space temperature sensor calls for cooling. The EMCS shall modulate the outside air and return air dampers such that the unit provides 100% outside air for space cooling and shall modulate the supply fan VFD from its minimum setting to its maximum setting as required to maintain the active space temperature setpoint. Economizer Mode shall be integrated with the cooling coil to modulate the chilled water control valve as required to maintain the chilled water coil discharge air temperature setpoint. If the outside air dry bulb temperature is below chilled water coil discharge air temperature setpoint, the EMCS shall begin to modulate the return air damper open as required to maintain a mixed air temperature of 53°F (adj). If the outside air enthalpy exceeds 28.0 btu/lb or the outside air temperature exceeds 75°F, Economizer Mode shall be disabled. DCV and preheat shall be disabled during Economizer Mode.
COOLING MODE: The EMCS shall modulate the chilled water control valve as required to maintain the active coil discharge air temperature setpoint. The EMCS shall modulate the supply fan VFD from its minimum setting to its maximum setting as required to maintain the active space temperature setpoint.
HEATING MODE: When the supply fan is operating at its minimum setting, the hot water re-heat control valve shall modulate to maintain the active space temperature setpoint. If the space temperature drops below its active setpoint and the unit discharge air temperature is at its active setpoint, then the EMCS shall modulate the supply fan VFD from its minimum setting to its maximum setting as required to maintain the active space temperature setpoint and the hot water re-heat control valve shall modulate to maintain the re-heat coil discharge air temperature setpoint.

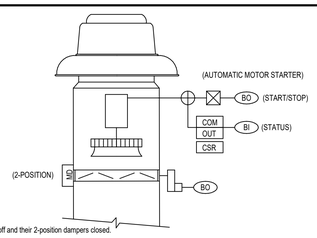
DE-HUMIDIFICATION MODE: When space humidity rises above its active setpoint and the space temperature is below its active setpoint, the EMCS shall modulate the supply fan VFD to its minimum setting and modulate the chilled water control valve to maintain the de-humidification chilled water coil discharge air temperature setpoint. The EMCS shall modulate the hot water re-heat control valve to maintain the space temperature setpoint as required. The unit shall return to cooling mode when the space humidity setpoint has been satisfied for at least 10 minutes (adj).
FREEZE PROTECTION: When the outdoor air temperature drops below the freeze protection setpoint, the EMCS shall open the chilled water control valve(s) to 50% open (adj.) for water circulation through the coil. The control valve shall return to normal operating conditions when the ambient temperature is above the freeze protection setpoint for 10 minutes (adj.). Refer to the Chilled Water System Control Diagram for further information.

System Setpoints - The setpoints for the system shall be determined as follows:
The maximum speed reference value shall be the VFD speed required to obtain the design supply airflow value from the unit schedule on the Mechanical Drawings.
The minimum speed reference value shall be VFD speed required to obtain 50% of the design supply airflow value from the unit schedule on the mechanical drawings but not less than the active outside air flow rate setpoint.
The occupied heating space temperature setpoint shall be set at 70°F (adj) with a low-limit alarm of 66°F (adj).
The occupied cooling space temperature setpoint shall be set at 75°F (adj) with a high-limit alarm of 79°F (adj).
The unoccupied heating space temperature setpoint shall be set at 55°F (adj) with a low-limit alarm of 51°F (adj).
The unoccupied cooling space temperature setpoint shall be set at 85°F (adj) with a high-limit alarm of 89°F (adj).
The chilled water coil discharge air temperature setpoint shall be set at 53°F (adj) with a low-limit alarm of 48°F (adj).
The de-humidification chilled water coil discharge air temperature setpoint shall be set at 50°F (adj) with a low-limit alarm of 45°F (adj).
The re-heat coil discharge air temperature setpoint shall be set at 85°F (adj) with a high-limit alarm of 100°F (adj).
The space humidity setpoint shall be set at 55% RH (adj) with a high-limit alarm of 60% RH (adj).
The minimum outside air flowrate setpoint shall be set at the scheduled minimum flowrate from the unit schedule on the mechanical drawings.
The maximum outside air flowrate setpoint shall be set at the scheduled maximum flowrate from the unit schedule on the mechanical drawings.
The space carbon dioxide high-limit setpoint shall be set at 1000 ppm (adj).
The supply duct static pressure high-limit setpoint shall be set at 2.0 in. wc. (adj).
The air filter pressure differential high-limit setpoint shall be set at 1.0 in. wc. (adj).
The freeze-stat low-limit trip setpoint shall be set at 37°F(adj).
The outdoor air temperature freeze protection setpoint shall be 37°F (adj).

System Shutdown - System shutdown shall be initiated:
By operator entered manual command at the EMCS.
Automatically by the EMCS based on Night-Setback or Time of Day schedule.
Automatically by the high-static pressure shut down.
Automatically by the unit freeze-stat shut down.
Automatically by a supply fan current sensor status failure.
Automatically by the auxiliary fire alarm relay when an alarm condition has been initiated.

System Alarms - The EMCS shall generate an alarm condition for each of the following:
If the space temperature is outside the active low or high-limit for 5 minutes (adj).
If the supply air temperature drops below the chilled water coil discharge air temperature low-limit for 5 minutes (adj).
If the supply air temperature rises above the heating coil discharge air temperature high-limit for 5 minutes (adj).
If the space humidity level exceeds its high-limit for more than 20 minutes (adj).
If the space carbon dioxide level exceeds its high-limit for more than 20 minutes (adj.) or the space carbon dioxide level exceeds the high-limit by 10% or more.
If the supply duct static pressure exceeds the high-limit setpoint.
If the unit freeze-stat trips.
If the filter differential pressure exceeds the trip point.
If the current sensor relay indicates a supply fan failure status.
All alarms shall be inhibited when the supply fan is not operating except the space temperature alarms. The alarms, except the fan failure and the space temperature alarms, shall remain inhibited following startup of the unit for 2 minutes.

1 Single Zone VAV AHU Chilled Water Cooling, Hot Water Heating, De-Humidification, Economizer, Demand Control Ventilation - Control Schematic and Sequence of Operations
NOT TO SCALE



SYSTEM OFF - When the system is off:
Automatically controlled exhaust fans shall be off and their 2-position dampers closed.

SYSTEM START-UP - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Night-Setback or Time of Day schedule.

AUTOMATICALLY CONTROLLED EXHAUST FANS: Upon activation of building occupied mode and start-up of the air handling system, the EMCS shall energize all automatically controlled exhaust fans and open their respective two-position motorized dampers. The EMCS shall monitor the status of each automatically controlled exhaust fan and shall assign the scheduled exhaust numerical CFM value to each fan as indicated on the mechanical equipment schedules. Upon activation of the building unoccupied mode, the automatically controlled building exhaust fans shall be de-energized.

Fan Status:
The controller shall monitor the fan status.

Alarms shall be provided as follows:
Fan Failure: Commanded on, but the status is off.
Fan in Hand: Commanded off, but the status is on.
Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

4 Automatically Controlled Exhaust/Supply Fans - Control Schematic and Sequence of Operations
NOT TO SCALE

AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI/BI	DIGITAL/BINARY INPUT
DO/BO	DIGITAL/BINARY OUTPUT
MD	ON-OFF MOTORIZED DAMPER
MMD	MODULATING TYPE MOTORIZED DAMPER
AFMS	AIR FLOW MEASURING STATION
MCV	CONTROL VALVE MODULATING TYPE
VFD	VARIABLE FREQUENCY DRIVE
CSR	CURRENT SENSING RELAY
FRZ	FREEZESTAT
HSL	HIGH STATIC LIMIT
SPT	STATIC PRESSURE TRANSMITTER
DPT	DIFFERENTIAL PRESSURE TRANSDUCER
FM	FLOW METER
FS	FLOW SWITCH
DAT	DISCHARGE AIR TEMPERATURE SENSOR
S	WALL SENSOR
T	THERMOSTAT
CO2	CARBON DIOXIDE SENSOR
SP	SET POINT
S/A	SUPPLY AIR
R/A	RETURN AIR
O/A	OUTSIDE AIR
HC	HEATING COIL
CC	COOLING COIL
DX	DIRECT EXPANSION COOLING COIL
PICCV	PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE
AFC	AIRFLOW CROSS
DPS	DIFFERENTIAL PRESSURE SWITCH

3 CONTROL SCHEMATIC LEGEND
NOT TO SCALE

Outdoor Air Conditions
The sensors shall be mounted in an area on the north side of the building where the representative temperature and humidity can be monitored, both shall have sun shields. Based on the outdoor air temperature and humidity the EMCS shall calculate the outdoor air enthalpy, wet bulb and dew point temperatures. These outdoor air conditions shall be broadcast as global data points for use by other control programs. These shall be displayed on all major air and water systems graphics.

Electrical Switchgear Power Meter Monitoring
The EMCS shall provide BACnet/IP or Modbus TCP communications to the interface modules to monitor the building power usage. The interface modules shall be provided by the switchgear manufacturer per Division 26. The EMCS shall monitor building kW, kWH, kVAR, Power Factor, 3-Phase Amps and Volts, along with all variables available via this interface. The EMCS shall provide a graphic representation to show the current usage, monthly usage, year to date usage, and time and date of the highest peak demand for the month and year. Demand thresholds may be set to adjust setpoints and shed loads in order to reduce peak consumption.

Electrical Power Meter Monitoring
The EMCS shall provide BACnet/IP communication to each power meter provided by Division 26. Coordinate with Division 26 for all power meter locations. The EMCS shall monitor and record kW, kWH, kVAR, Power Factor, 3-Phase Amps and Volts.

The kW and kWH data acquired from each meter shall be categorized within the EMCS by the following end-uses:
- Total HVAC system loads
- Interior lighting loads
- Exterior lighting loads
- Plug loads
- Process loads
- Building operations and other miscellaneous loads

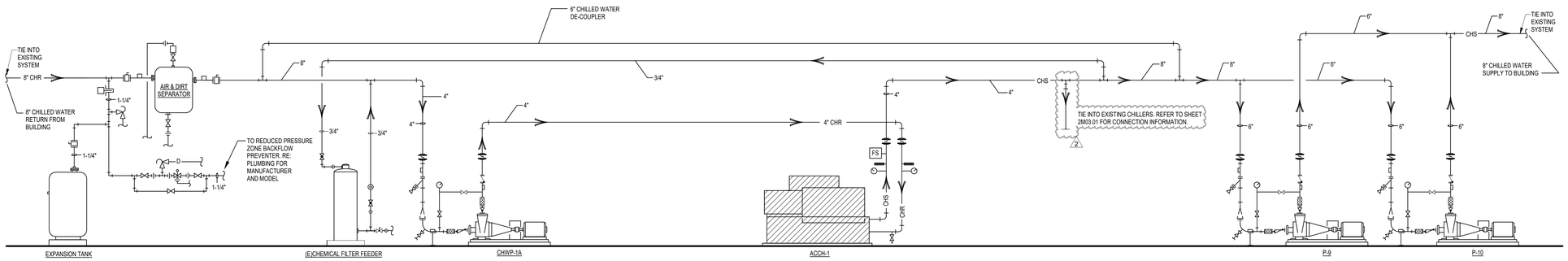
For each end-use category indicated above, the EMCS shall provide a graphic representation to show instantaneous real-time consumption data and shall provide hourly, daily, monthly, and yearly consumption data. Where multiple meters are used to measure an end-use category, the graphic representation for that end-use category shall include data from the individual meters as well as a total for the associated category. The graphic representation shall also include time and date of the highest peak demand for the current month and year as well as prior months and years for stored data. Demand thresholds may be set to adjust and shed loads in order to reduce peak consumption.

All meter data collected shall be stored for a minimum of 36 months and shall have the ability to be trended by building operation and management personnel on a hourly, daily, monthly, and yearly basis using the previous 36 months of stored data.

Intelligent Lighting Controls Integration
The EMCS shall provide BACnet/IP communications to the Lighting Control System interface module to monitor and control the building and site lighting. The interface shall be provided by the manufacturer per Division 26. The EMCS shall monitor and control the lighting circuits as shown on the Electrical Drawings.

IDF and MDF Room Monitoring
The EMCS shall monitor the space temperature and humidity in the IDF and MDF rooms. The primary cooling for IDF and MDF rooms will be supplied by the packaged computer room units. The EMCS shall report high/low temperature/humidity alarms to the computers, pagers, and/or text message compatible devices designated by the Owner. Alarms shall be sent if the space conditions deviate from the following, temperature between 60 °F and 80 °F (adj), humidity between 40% RH and 70% RH (adj), for more than 10 minutes.

5 MISCELLANEOUS SYSTEMS
NOT TO SCALE



6 Chilled water - AC - Dedicated Primary / Headered Secondary System
2M04.07 NOT TO SCALE

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STATE OF TEXAS
JAMES R. KUBALA
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06/04/2026

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
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MECHANICAL SEQUENCES & CONTROLS

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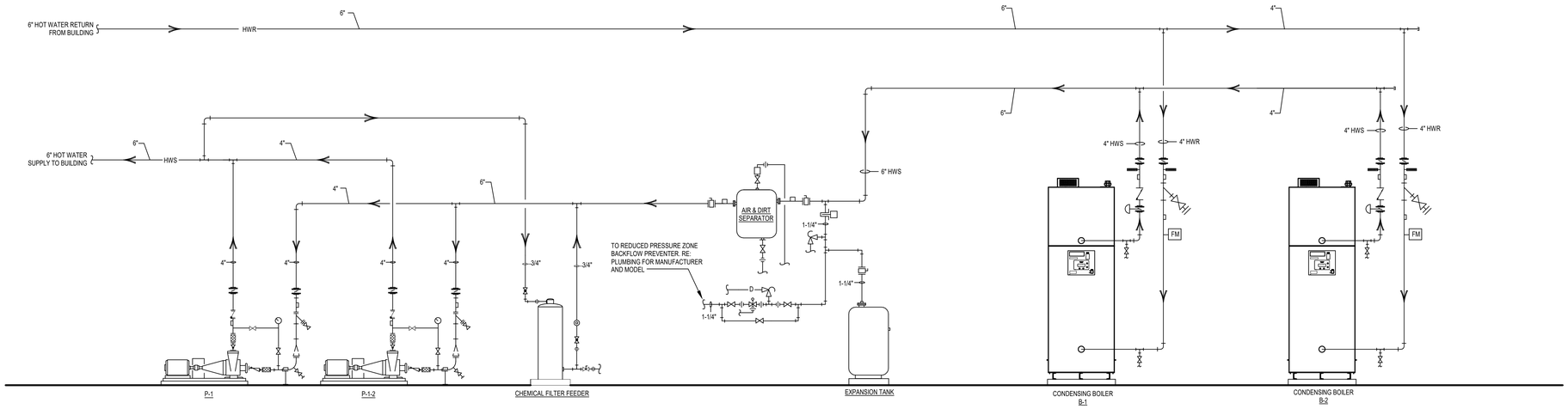
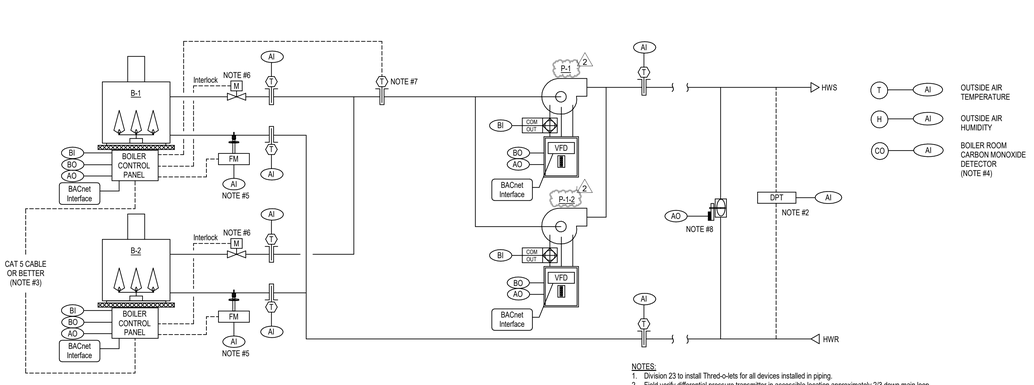


1 **Hot Water - Condensing Boiler Variable Primary System**
NOT TO SCALE



System Off - When the system is off:
The boilers shall be off.
The pumps shall be off.
The bypass valve shall be closed.
The boiler isolation valves shall be closed.
The control loops shall be disabled.

System Startup - System startup shall be initiated:
Manually by an Operator command on the heating water system graphic at the EMCS.
Automatically by the EMCS, when a call for heating has been received.
The heating water system shall be disabled if the outside air temperature is greater than the outside air temperature lockout setpoint unless heating water is required for dehumidification.

System Operation - When system start-up has been initiated:
The outside air temperature must be below the outside air lockout setpoint before the heating water system can be activated. The number of heating requests required and the length of time the requests must be received before activating the heating water system shall be adjustable. The boilers and pumps shall be lead/lag and rotated weekly at a time and on a day of the week when the heating water system is not in operation. Rotation shall be based on accumulated runtime for each type of equipment.

When the heating water system is activated, the boiler system controller shall open the motorized isolation valve on the lead boiler. When the valve end switch has been proven open, the EMCS shall enable the lead pump. A current switch shall prove the pump status at the EMCS, which shall generate an alarm, if the switch is not made within 45 seconds (adjustable). There shall also be a 10 second (adjustable) de-bounce time to prevent nuisance alarms from a bouncing switch. If the pump run status is not proven, the EMCS shall discontinue the enable signal to the pump and rotate pumps. The EMCS shall then energize a lag pump to run in the same manner as described above. That pump shall become the lead pump.

After the pump status has been proven, the EMCS shall send a signal to enable the lead boiler to fire provided all safeties have been met. A contact in the boiler control panel will provide status to the EMCS. If the heating water supply temperature is less than 100 °F (adjustable) or a heating water pump status is not indicating a heating water pump is running, the EMCS control module will broadcast that heating water is not available.

Whenever the boilers are de-activated, the heating water pump will continue to run for 5 minutes (adjustable) to avoid excessive temperature buildup in the boiler.

The boiler room shall be provided with a manual reset type carbon monoxide (CO) detector. The CO detector shall be interlocked with the boiler control panel such that the burners will not operate when the measured level of carbon monoxide in the room rises above 50 ppm. The boiler control panel should also disable the burners in the event that there is a loss of power to the CO detector.

NOTES:
1. Division 23 to install Thred-o-lets for all devices installed in piping.
2. Field verify differential pressure transmitter in accessible location approximately 2/3 down main loop.
3. EMCS contractor shall be responsible for point-to-point ethernet connection between boiler controllers.
4. EMCS contractor shall be responsible for wiring carbon monoxide detector to auxiliary input at lead boiler controller.
5. Integral water flow rate sensor shall be provided by the boiler manufacturer. EMCS contractor shall utilize flow rate from the manufacturer's flow rate sensor to operate the system bypass valve as indicated in the sequence of operations. Division 23 shall provide the flow sensor if the sensor is not a factory option from the boiler manufacturer.
6. Motorized isolation valve shall be provided by the boiler manufacturer and installed by Division 23. Division 23 shall provide the motorized isolation valve if the valve is not a factory option from the boiler manufacturer.
7. Temperature sensor provided by the boiler manufacturer and installed by Division 23. The lead boiler controller shall sequence the boiler system based on this boiler manufacturer provided temperature sensor.
8. Bypass valve shall be sized based on the minimum flow rate of a single boiler. Confirm minimum boiler flow rate with final equipment submittal prior to valve selection.

The EMCS shall receive inputs from temperature sensors located in the boiler heating water supply and return piping. The heating water supply setpoint shall be reset based on the outdoor air temperature, the limits shall be 180 °F when the outdoor air is at 35 °F and 110 °F when the outdoor air temperature is 65 °F (all adjustable). The boiler system controller shall enable the lag boiler if the heating water supply temperature is more than 5 °F (adjustable) below setpoint for 10 minutes (adjustable). If the heating water supply temperature is not more than 5 °F (adjustable) below setpoint and the heating water delta-T is less than 5 °F for 10 minutes (adjustable) the lag boiler shall be disabled.

A differential pressure sensor across the heating water supply and return lines shall monitor building differential pressure. The EMCS shall modulate the speed of the operating heating water pumps to maintain the building heating water differential pressure at setpoint (adjustable). If the differential pressure is 2 psi below setpoint and the active pumps output are above the pump stage-up setpoint for 15 minutes (adjustable), a lag pump shall be enabled. When more than one pump is operating and the active pumps output are below the pump stage-down setpoint for 15 minutes (adjustable), the lag pump shall be de-energized. All active pumps shall be modulated with the same ramp signal.

The EMCS shall monitor the position of all of the heating water valves at the units that the plant serves and the differential pressure setpoint shall be reset based on achieving a target valve position of 90%. There shall be a dead band of 5% to prevent hunting of the reset program. The differential pressure setpoint shall not change by more than 1 psi per 5 minute (adj.) interval. The target valve position, the reset time, the dead band, and the rate of change values shall be operator adjustable.

While only one boiler is in operation, the corresponding flow rate sensor shall be used to maintain the boiler minimum flow rate by modulating the bypass valve open. The heating water flow rate shall not change by more than 10% per minute.

System Setpoints - The setpoints for the system shall be set as follows:
The outside air temperature lockout setpoint shall be 65 °F (adjustable).
The boiler minimum flow rate setpoint shall be --- gpm (adjustable).
The heating water system differential pressure setpoint shall be initially set at 12 psi (adjustable) and shall have reset limits of 8 psi to 16 psi (adjustable).
The pump stage-up setpoint shall be 95% (adjustable).
The pump stage-down setpoint shall be 50% (adjustable).

2 **Hot Water System - All Condensing - Variable Primary Flow with Headered Pumps - Control Schematic and Sequence of Operations**
NOT TO SCALE

3 **ALTERNATE CHILLER-PUMP INTEGRATION:**
IF NEW CHILLER AND ASSOCIATED PUMP ARE PROVIDED, INTEGRATE WITH EMCS FOR CHILLER SYSTEM STAGING AND ROTATION.

2

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DATE: 06/04/2026

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MECHANICAL SEQUENCES & CONTROLS

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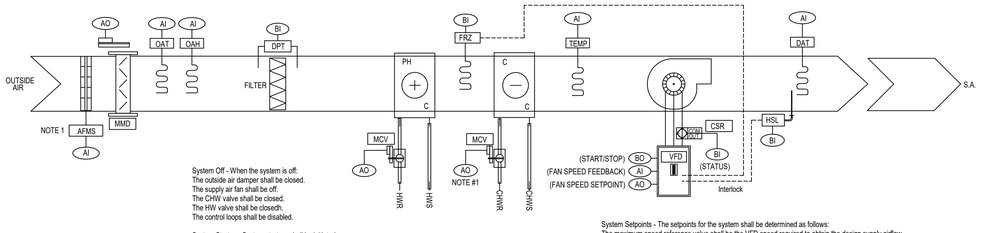
NOTES:
1. Provide adequate spacing before and after air flow measuring station as recommended by manufacturer.



System Off - When the system is off:
The outside air damper shall be closed.
The supply air fan shall be off.
The CHW valve shall be closed.
The HW valve shall be closedh.
The control loops shall be disabled.

System Startup - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Time of Day schedule.
Automatically by the Demand Control Ventilation Hood Control Panel.

System Operation - When system start-up has been initiated:
The outside air damper shall open and the variable speed supply air fan shall start. Following a confirmation of fan start status, the supply fan shall modulated to maintain the scheduled airflow rating. The speed of the fan shall not be adjusted by more than 20% in any one-minute period.

COOLING MODE: When the discharge air temperature is above the DX coil discharge air temperature setpoint, the refrigerant compression shall be staged to maintain the active DX coil discharge air temperature setpoint.

HEATING MODE: When the space temperature is below the heating discharge air temperature setpoint, the refrigerant compression shall be staged to maintain the active heating discharge air temperature setpoint.

To prevent compressor short cycling, the stage shall have a user definable (adj.) minimum runtime. The compressor shall run subject to its own internal safeties and controls.

On cooling and heating mode change, the compressor shall be disabled and remain off until after the reversing valve has changed position.

FREEZE PROTECTION: When the outdoor air temperature drops below the freeze protection setpoint, the EMCS shall open the chilled water control valve(s) to 50% open (adj.) for water circulation through the coil. The control valve shall return to normal operating conditions when the ambient temperature is above the freeze protection setpoint for 10 minutes (adj.). Refer to the Chilled Water System Control Diagram for further information.

NOTES:
1. Provide 2-way automatic control valve unless otherwise indicated in mechanical schedules or control specifications.
2. Provide adequate length before and after air flow measuring station as recommended by manufacturer.

System Setpoints - The setpoints for the system shall be determined as follows:
The maximum speed reference value shall be the VFD speed required to obtain the design supply airflow value from the unit schedule on the Mechanical Drawings.
The minimum speed reference value shall be VFD speed required to obtain the minimum supply airflow value from the unit schedule on the zmechanical Drawings.
The DX coil discharge air temperature setpoint shall be set initially at 75 °F (adjustable).
The heating discharge air temperature setpoint shall be set initially at 50 °F (adjustable).
The minimum outside air flowrate setpoint shall be set at the scheduled minimum flowrate from the unit schedules on the mechanical drawings.
The maximum outside air flowrate setpoint shall be set at the scheduled maximum flowrate from the unit schedule on the mechanical drawings.
The supply duct static pressure high-limit setpoint shall be set at 2.5 in. w.c. (adj).
The air filter pressure differential high-limit shall be set at 1.0 in.wc. (adj).
The freeze-stat low-limit trip setpoint shall be set at 37°F(adj).
The outdoor air temperature freeze protection setpoint shall be 37°F (adj).

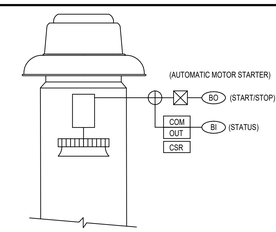
System Shutdown - System shutdown shall be initiated:
By operator entered manual command at the EMCS.
Automatically by the EMCS based on Night-Setback or Time of Day schedule.
Automatically by the Demand Control Ventilation Hood Control Panel.
Automatically by supply fan current sensor status failure.
Automatically by the high-static pressure shut down.
Automatically by the unit freeze-stat shutdown.

System Alarms - The EMCS shall generate an alarm if:
If the supply air temperature drops below the DX coil discharge air temperature low-limit of 65 °F for 5 minutes (adj).
If the supply air temperature rises above the heating discharge air temperature high-limit of 70 °F for 5 minutes (adj).
If the supply duct static pressure exceeds the high-limit setpoint.
If the filter differential pressure exceeds the trip point.
If the current sensor relay indicates a supply fan failure status.
If the unit freeze stat trips

All alarms shall be inhibited when the supply fan is not operating except the space temperature alarms. The alarms, except the fan failure and the space temperature alarms, shall remain inhibited following startup of the unit for 2 minutes.

Notes:
The equipment manufacturer's unit controller shall include controls to perform all equipment functions. The EMCS Contractor shall integrate with the unit controller via BACnet for detailed setpoint adjustments, unit monitoring, alarm inputs, and equipment scheduling.

1 **Heat Pump Makeup Air**
NOT TO SCALE



SYSTEM OFF - When the system is off:
Automatically controlled exhaust fans shall be off.

SYSTEM START-UP - System start-up shall be initiated:
By an operator entered manual command at the EMCS.
Automatically by the EMCS based on Time of Day schedule.
Automatically by the Demand Control Ventilation Hood Control Panel.

AUTOMATICALLY CONTROLLED EXHAUST FANS: The hood control panel is capable of operating in one or more of the following states at any given time:

Automatic: The system operates based on the differential between room temperature and the temperature at the hood cavity or exhaust duct collar. Fans activate at a configurable temperature differential threshold. Depending on the job configuration each fan zone can be configured as static or dynamic. These terms refer to whether a variable motor (such as EC motors or VFD driven motors) modulate with temperature. If the panel is equipped with variable speed fans and the zone is defined as "dynamic", these will modulate within a user-defined range based on the temperature differential. Panels equipped with variable speed fans and a fan zone defined as "static", fans will run at a set speed calculated for the drive. Demand control ventilation systems are capable of modulating exhaust and make up air fan speeds per the requirements outlined in IECC 403.7.5 (2021).

Manual: The system operates based on human input from an hmi.

Schedule: A weekly schedule can be set to run fans for a specified period throughout the day. There are three occupied times per day to allow for the user to set up a time that is suitable to their needs. Any time that is within the defined occupied time, the system will run at modulation mode and follow the fan procedure algorithm based on temperature during this time. During unoccupied time, the system will have an extra offset to prevent unintended activation of the system during a time where the system is not being occupied.

Other: The system operates based on the input from an external source (DDC, EMCS or Hard-wired interlock).

Fire: Upon activation of the hood fire suppression system, the exhaust fan will come on or continue to to run, the hood makeup air will shutdown, and a signal will be sent for activating the shunt trip breaker provided by the electrician. Fuel gas will shut off via a mechanical/electrical gas valve actuated by the hood fire suppression system

Fan Status:
The controller shall monitor the fan status through the hood control panel BACnet interface.

Alarms shall be provided as follows:
Fan Faults: The controller shall monitor the fan faults through the hood control panel BACnet interface.
Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

2 **Controls - Kitchen Fans**
NOT TO SCALE

2

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MECHANICAL SEQUENCES & CONTROLS

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AIR DEVICE SCHEDULE

MARK	MFR. & MODEL	TYPE	REMARKS
A	TITUS TMS-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING.
B	TITUS PAR-AA	PERFORATED FACE RETURN / EXHAUST AIR GRILLE	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. PROVIDE 22"x22" NECK UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE O.B.D. FOR DUCTED EXHAUST OR RETURN.
C	TITUS TMS-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT.
D	TITUS PAR-AA	PERFORATED FACE RETURN / EXHAUST AIR GRILLE	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. PROVIDE 10"Ø NECK UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE O.B.D. FOR DUCTED EXHAUST OR RETURN.
E	TITUS 300FL	SIDEWALL SUPPLY AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, DOUBLE DEFLECTION WITH FRONT BLADES PARALLEL TO LONG DIMENSION. PROVIDE O.B.D.
F	TITUS 350FL	SIDEWALL RETURN AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, 35° DEFLECTION WITH BLADES PARALLEL TO LONG DIMENSION. PROVIDE O.B.D. FOR DUCTED EXHAUST.
G	TITUS TDC-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT.
H	TITUS PAR-AA	PERFORATED FACE RETURN AIR GRILLE	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING. PROVIDE 10"x10" NECK UNLESS OTHERWISE NOTED. PROVIDE O.B.D. FOR DUCTED EXHAUST.
J	TITUS FL-10-HT / FBPI-10	CONTINUOUS 1" Ø; 2-SLOT; 6' LENGTH PLENUMS LINEAR	ALUMINUM CONSTRUCTION; PROVIDE PATTERN CONTROLLERS ENTIRE LENGTH OF SLOT; PROVIDE 6 FOOT EXTERNALLY INSULATED PLENUM; CONNECT PLENUM TO NECK OF SLOT DIFFUSER; PROVIDE ROUND INLET SIZED AS INDICATED ON PLAN; PROVIDE BORDER TYPE 22. PROVIDE REMOTE DAMPER OPERATOR WHEN LOCATED ABOVE INACCESSIBLE CEILINGS. PORTIONS NOT USED FOR SUPPLY SHALL BE OPEN FOR RETURN AND PROVIDED WITH A RETURN AIR LIGHT SHIELD. REFER TO DRAWINGS FOR LENGTH OF SLOT.
K	TITUS FL-10-JT	CONTINUOUS 1" Ø; 2-SLOT JET THROW FLOWBAR	ALUMINUM CONSTRUCTION; PROVIDE PATTERN CONTROLLERS ENTIRE LENGTH OF SLOT; PROVIDE BORDER TYPE 22. PORTIONS OF SLOT NOT USED FOR SUPPLY/RETURN SHALL BE OPEN FOR RETURN AIR; PROVIDE TITUS MODEL FBRI INSULATED RETURN AIR LIGHT SHIELD; REFER TO DRAWINGS FOR LENGTH OF SLOT.

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR FINISH.
2. REFER TO MECHANICAL FLOOR PLAN FOR NECK SIZES.
3. PAINT FACE OF ALL AIR DEVICES TO MATCH CEILING FINISH. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS.
4. INSULATE BACK-PAN OF ALL DEVICES.
5. PROVIDE FRAME TO MATCH CEILING TYPE INDICATED ON ARCHITECTS REFLECTED CEILING PLAN.
6. PAINT INTERIOR SURFACES OF DUCTWORK VISIBLE FROM FACE OF RETURN AIR GRILLES FLAT BLACK.

FAN SCHEDULE

MARK	EF-1	KEF-1	KEF-2	KEF-3	KEF-4
SERVES	BOYS / GIRLS	CULINARY	CULINARY	CULINARY	CULINARY
TYPE/DRIVE	CENT/DIRECT	CENT/DIRECT	CENT/DIRECT	CENT/DIRECT	CENT/DIRECT
INTERLOCK	EMCS	EMCS	EMCS	EMCS	EMCS
CFM	500	1,500	2,100	2,100	2,100
EXT. S.P. (IN. W.G.)	0.60	1.20	1.25	1.25	1.25
HORSEPOWER	1/4	1	1	1	1
FAN SPEED (RPM)	1,446	1,951	1,572	1,572	1,572
SONES (MAX.)	9.4	14.2	16.3	16.3	16.3
VOLTS/PHASE/HERTZ	120 / 1 /60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL NUMBER	G-099-VG	CUE-160XP-VG	CUE-160HP-VG	CUE-160HP-VG	CUE-160HP-VG
NOTES	1,2,3,4	1,2,4,5,6	1,2,4,5,6	1,2,4,5,6	1,2,4,5,6

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO FILTERS, HOUSING, NOR ACCESSORIES.
2. PROVIDE WITH ROOF CURB, WEATHERPROOF DISCONNECT SWITCH, AND ALUMINUM BIRD SCREEN.
3. PROVIDE WITH MOTORIZED DAMPER INTERLOCKED WITH FAN OPERATION SUCH THAT DAMPER SHALL OPEN WHEN FAN IS ENERGIZED AND SHUT WHEN FAN IS DE-ENERGIZED. DAMPER SHALL BE INSTALLED IN ACCESSIBLE LOCATION.
4. PROVIDE WITH TOGGLE SWITCH AND ECM MOTOR.
5. PROVIDE FAN WITH BE UL-705 SUPPLEMENT SC.
6. PROVIDE FAN WITH DRAIN CONNECTION, GREASE TRAP, CLEANOUT PORT AND HINGE KIT.

BOILER SCHEDULE

MARK	B-1, 2
FUEL	NAT. GAS
STYLE	CONDENSING
INPUT CAPACITY (MBH)	2,000
OUTPUT CAPACITY (MBH)	1,901
TURNDOWN RATIO	10:1
GPM	95.1
EWT/LWT (°F)	140 / 180
THERMAL EFFICIENCY	95%
MAX. PRESSURE DROP (FT. HD.)	15
FLUE CATEGORY	IV
FLUE SIZE	6"
VOLTAGE/PHASE/FREQUENCY	208 / 1 / 60
MCA (AMPS)	16
MOCP (AMPS)	20
MANUFACTURER	RBI
MODEL NUMBER	CK2000
OPERATING WEIGHT (LBS)	2,280
NOTES	ALL

NOTES:
1. BOILER MUST MEET LATEST LOW NOx REQUIREMENTS FOR TEXAS.
2. BOILER SHALL BE SEQUENCED WITH AMBIENT OUTDOOR AIR TEMPERATURE RESET. RE-CONTROL DIAGRAMS FOR HOT WATER SYSTEM CONTROL SCHEMATIC AND SEQUENCE OF OPERATION.
3. PROVIDE BOILER WITH COMMUNICATION MODULE FOR BACNET INTERFACE WITH EXISTING EMCS. EXTERNAL POWER SUPPLY, IF REQUIRED, SHALL BE PROVIDED BY BOILER MANUFACTURER. WIRING TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
4. PROVIDE BOILER WITH MANUFACTURER CONDENSATION NEUTRALIZATION KIT, SUPPLIED BY BOILER MANUFACTURER, INSTALLED BY CONTRACTOR.
5. CAT-IV DOUBLE WALL STAINLESS STEEL BOILER FLUE TO BE SUPPLIED.
6. BOILER MANUFACTURER TO PROVIDE FLUE. REFER TO FLOOR PLANS FOR ROUTING. BOILER SHALL BE ORDERED AS A FIRE-TUBE BOILER.
7. PROVIDE MOTORIZED VALVES FOR BOILERS. PROVIDED BY BOILER MANUFACTURER.

PUMP SCHEDULE - ALTERNATE

MARK	P-9,10	P-1, 1-2	CHWP-1A
MANUFACTURER	B & G	B & G	B & G
TYPE	END-SUCTION	END-SUCTION	END-SUCTION
AREA SERVES	BUILDING LOOP	BUILDING LOOP	ACCH-1
MODEL NUMBER	e-1510	e-1510	e-1510
PUMP SIZE	3GB	1.5AD	1.5AD
FLOW GPM	465.7	100.0	95.6
HEAD (FT. H2O)	140	135	40
APPROX. PUMP EFF. (%)	71.6	60.0	71.6
APPROX. IMPELLER DIA. (INCHES)	13.125	5.750	6.75
MOTOR RPM	1,800	3,600	1,800
BRAKE HORSEPOWER	21.8	5.7	1.95
HORSEPOWER	30	10	2
VOLTS/PHASE/HERTZ	480 / 3 / 60	480 / 3 / 60	480 / 3 / 60
NOTES	1,2,3,5,6	1,2,3,5	1,2,4,5,6

NOTES:
1. PUMP SHALL BE NON-OVERLOADING ACROSS ENTIRE GPM RANGE.
2. PROVIDE WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE.
3. PROVIDE WITH PREMIUM EFFICIENCY ODP MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE WITH PREMIUM EFFICIENCY TEFC MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
5. PROVIDE PUMPS WITH SUCTION DIFFUSERS.
6. THIS SCHEDULE IS TO ONLY BE ACCEPTED IF ALTERNATE IS APPROVED. REFER TO ARCHITECTURAL FOR MORE INFORMATION.

AIR COOLED CHILLER SCHEDULE

MARK	ACCH-1
COMPRESSOR TYPE	SCROLL
NOMINAL TONS	150
ACTUAL TONS	59.8
DESIGN GPM	95.7
EWT/LWT (°F)	60 / 45
AMBIENT DESIGN TEMPERATURE (°F)	105
MAX. PRESSURE DROP (FT. HD.)	15
FOULING FACTOR (HR-FT2-°F/BTU)	0.0001
TYPE	VFD
REFRIGERANT TYPE	R-32
EER (AT AHRI CONDITIONS)	8.85
IPLV (AT AHRI CONDITIONS)	17.27
DESIGN EER	10.10
DESING IPLV	13.70
VOLTS/PHASE/HERTZ	460/3/60
CONNECTION TYPE	SINGLE POINT
MINIMUM CIRCUIT AMPACITY (A)	299.1
MAXIMUM OVER-CURRENT PROTECTION (A)	350
MANUFACTURER	CARRIER
DIMENSIONS (W X L X H) (INCHES)	199 x 88 x 99
MODEL NUMBER	30RC-1526S346-D19
OPERATING WEIGHT (LBS)	7,235
NOTES	ALL

NOTES:
1. MAIN CIRCUIT BREAKER SHALL BE RATED AT 65,000 AIC. REFER TO ELECTRICAL.
2. PROVIDE SOUND ATTENUATION PACKAGE ON COMPRESSORS AND CASING AND LOW NOISE CONDENSER FAN OPTION.
3. PROVIDE WITH FACTORY INSTALLED EVAPORATOR WATER FLOW SWITCH.
4. PROVIDE CHILLER WITH LOW AMBIENT HEAD PRESSURE CONTROL.
5. PROVIDE WITH BACNET INTERFACE CARD FOR INTEGRATION WITH EMCS.
6. PROVIDE INTEGRAL NON-FUSED DISCONNECT SWITCH WITH NEMA 3R ENCLOSURE.

RELIEF / OUTSIDE AIR VENTS

MARK	OAI-1	RH-1
TYPE/DRIVE	FABRA HOOD	FABRA HOOD
CFM	150	1,525
THORAT SIZE (IN.)	8 X 12	24 X 32
THORAT VELOCITY (FT/MIN)	280	286
MANUFACTURER	GREENHECK	GREENHECK
MODEL NUMBER	FGI-8X12	FGR-24X32
NOTES	ALL	1,3

NOTES:
1. PROVIDE WITH WEATHERPROOF DISCONNECT SWITCH, AND ALUMINUM BIRD SCREEN.
2. PROVIDE WITH 1" WASHABLE ALUMINUM FILTER.
3. PROVIDE WITH MOTORIZED DAMPER.

DUCTLESS SPLIT A/C SCHEDULE

	MARK	AC-1
INDOOR UNIT	SERVES	IDF ROOM
	MAX SUPPLY AIR (CFM)	450
	TOTAL COOLING CAPACITY (MBH)	18.0
	MCA	1
	FAN MOTOR FLA	0.19
	VOLTS/PHASE/HERTZ	208/1/60
	MODEL NUMBER	PKA-A18LA
	NOTES	1, 2, 3
OUTDOOR UNIT	MARK	CU-1
	SERVES	AC-1
	GRAND TOTAL COOLING (MBH)	18
	AMBIENT TEMP. (°F)	105
	SEER2	20.2
	EER2	10.7
	MCA	11
	MOCP	28
	VOLTS/PHASE/HERTZ	208/1/60
	MODEL NUMBER	PUY-A18NKA7
	NOTES	1 -4
	MANUFACTURER	MITSUBISHI

NOTES:
1. PROVIDE WITH SINGLE POINT POWER TO INCLUDE CONDENSING UNIT AND REMOTE THERMOSTAT. INDOOR UNIT SHALL BE POWERED FROM OUTDOOR UNIT.
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
3. REFRIGERANT LINES TO BE SIZED BY MANUFACTURER.
4. PROVIDE SINGLE CIRCUIT CONDENSING UNIT.

EXPANSION TANK SCHEDULE

MARK	ET-1
SERVES	CHILLED WATER
TANK CONFIGURATION	VERTICAL FLOOR MOUNTED
TYPE	ASME RATED PRECHARGED BLADDER
SERVES	CHILLED WATER SYSTEM
TANK CAPACITY - GALLONS	-
TANK DIAMETER - INCHES	-
TANK HEIGHT - INCHES	-
WORKING PRESSURE - PSI	125
MFG	B&G
MODEL	B100
NOTES	ALL

NOTES:
1. PROVIDE TANK WITH REPLACEABLE HEAVY DUTY BUTYL RUBBER BLADDER.
2. TANK IS FACTORY PRE-CHARGED AT 12 PSI.
3. PROVIDE TANK WITH SIGHT GLASS AND SEISMIC RESTRAINT.
4. ALLOW A MINIMUM OF 18" CLEARANCE FOR SYSTEM PIPING.
5. PROVIDE TANK WITH LIFTING RINGS AND A FLOOR MOUNTING SKIRT FOR VERTICAL INSTALLATION.

FAN COIL UNIT SCHEDULE

	MARK	FCU-1
FAN	SERVES	BAND STORAGE
	DISCHARGE	HORIZONTAL
	DESIGN SUPPLY AIR (CFM)	1,370
	DESIGN OUTDOOR AIR (CFM)	150
	EXT. S.P. (IN. W.G.)	0.45
	FLA	3.10
	MOTOR / DRIVE	ECM
	MCA	3.90
	MOCP	6.00
	FAN MOTOR HORSEPOWER	1.0
	VOLTS/PHASE/HERTZ	460 / 3 / 60
	MAX. FAN RPM	1,800
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	1,370
	EAT DB (°F)	63.9
	LAT DB (°F)	85.0
	TOTAL HEATING CAPACITY (MBH)	34.3
	EWT/LWT (°F)	180 / 140
	COIL WATER FLOW (GPM)	1.7
	MAX. WATER P.D. (FT. HD.)	15.0
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	1,370
	EAT DB/WB (°F)	75.3 / 63.2
	LAT DB/WB (°F)	55.0 / 54.0
	TOTAL COOLING CAPACITY (MBH)	37.2
	SENSIBLE COOLING CAPACITY (MBH)	30.0
	EWT/LWT (°F)	45 / 60
	COIL WATER FLOW (GPM)	5.0
	MAX. WATER P.D. (FT. HD.)	15.0
MANUFACTURER		CARRIER
MODEL NUMBER		39LC03AA-CNEAJK3A9
OPERATING WEIGHT (LBS.)		406
NOTES		ALL

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
2. UNIT SHALL BE SUSPENDED FROM STRUCTURE ABOVE. PROVIDE WITH VIBRATION ISOLATION PER SPECIFICATIONS.
3. PROVIDEGALVANIZED STEEL SECONDARY DRAIN PAN WITH FLOAT SWITCH TO DE-ENERGIZE UNIT WHEN PRIMARY DRAIN BECOMES RESTRICTED.
4. REUSE CHILLED WATER 2-WAY AUTOMATIC CONTROL VALVE.
5. REUSE HOT WATER 3-WAY AUTOMATIC CONTROL VALVE.
6. PROVIDE UNIT WITH MERV-13 FILTER(S) AND FILTER RACK ON BACK OF UNIT. FILTER MUST BE READILY ACCESSIBLE. ANY QUESTIONABLE MEANS OF ACCESS WILL BE REPALCED AT NO ADDITIONAL COST TO THE OWNER.
7. REUSE BIPOLAR IONIZATION KIT ON REPLACEMENT AHU. MODIFY AS REQUIRED AND FOLLOW BIPOLAR IONIZATION KIT MANUFACTURER'S RECOMMENDATIONS. IF UNABLE TO REUSE, PROVIDE NEW.

PUMP SCHEDULE

MARK	P-9,10	P-1,1-2	CHWP-1A
MANUFACTURER	B & G	B & G	B & G
TYPE	END-SUCTION	END-SUCTION	END-SUCTION
AREA SERVES	BUILDING LOOP	BUILDING LOOP	ACCH-1
MODEL NUMBER	e-1510	e-1510	e-1510
PUMP SIZE	3GB	1.5AD	1.5AD
FLOW GPM	465.7	100.0	95.6
HEAD (FT. H2O)	135	135	40
APPROX. PUMP EFF. (%)	71.5	60.0	71.6
APPROX. IMPELLER DIA. (INCHES)	12.5	5.750	6.75
MOTOR RPM	1,800	3,600	1,800
BRAKE HORSEPOWER	20.5	5.7	1.95
HORSEPOWER	25	10	2
VOLTS/PHASE/HERTZ	480 / 3 / 60	480 / 3 / 60	480 / 3 / 60
NOTES	1,2,3,5	1,2,3,5	1,2,4,5

NOTES:
1. PUMP SHALL BE NON-OVERLOADING ACROSS ENTIRE GPM RANGE.
2. PROVIDE WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE.
3. PROVIDE WITH PREMIUM EFFICIENCY ODP MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE WITH PREMIUM EFFICIENCY TEFC MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
5. PROVIDE PUMPS WITH SUCTION DIFFUSERS.

AIR DIRT SEPARATOR SCHEDULE

MARK	ADS-C	ADS-H
SERVES	CHILLED WATER	HOT WATER
MAX. PRESSURE DROP (FT. W.G.)	4.0	4.0
FLOW RATE (GPM)	910	316
SYS. CONNECTION SIZE	8"ø	6"ø
FLOODED WEIGHT (LBS.)	655	366
MFG	BELL AND GOSSETT	BELL AND GOSSETT
MODEL	CRS-8F	CRSN-6F
NOTES	1,2	1,2

NOTES:
1. SEPARATOR SHALL MEET ASME SECTION VIII DIV. 1 PRESSURE VESSEL CODE.
2. PROVIDE WITH FLANGED CONNECTIONS AND REMOVABLE HEAD.

SINGLE ZONE PRETREATED AIR HANDLING UNIT SCHEDULE

	MARK	AHU-B1	AHU-D1	AHU-G1
FAN	SERVES	BAND	DANCE HALL	GYM
	TYPE	SZ	SZ	SZ
	UNIT CONFIGURATION	HORIZONTAL	HORIZONTAL	HORIZONTAL
	DISCHARGE	VERTICAL	VERTICAL	HORIZONTAL SUPPLY / VERTICAL RETURN
	DESIGN SUPPLY AIR (CFM)	3,125	4,230	10,125
	MINIMUM SUPPLY AIR (CFM)	1,250	1,695	4,050
	DESIGN OUTDOOR AIR (CFM)	915	910	1,855
	MINIMUM OUTSIDE AIR (CFM)	460	455	930
	EXT. S.P. (IN. W.G.)	0.80	0.80	1.00
	FAN MOTOR HORSEPOWER (HP / # OF FANS)	(1.5 / 2)	(2 / 2)	(5 / 2)
	VOLTS/PHASE/HERTZ	480 / 3 / 60	480 / 3 / 60	480 / 3 / 60
	MAX. FAN RPM	1,800	1,800	1,800
	FULL LOAD AMPS (FLA) (EACH)	2.2	2.9	7.3
	MCA/MOP	2.75 / 15	3.6 / 15	9.2 / 30
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500	500	500
	MINIMUM COIL ROWS	4	4	4
	MAX. FINS PER INCH	11	11	11
	COIL CFM	3,125	4,230	10,125
	EAT DB/WB (°F)	79.5 / 67.0	77.8 / 65.47	77.1 / 64.8
	LAT DB/WB (°F)	55 / 54	55 / 54	55 / 54
	TOTAL COOLING CAPACITY (MBH)	125.6	147.1	329.4
	SENSIBLE COOLING CAPACITY (MBH)	82.7	104.1	241.4
	EWT/LWT (°F)	45 / 60	45 / 60	45 / 60
	COIL WATER FLOW (GPM)	16.7	19.6	43.9
	CHW BRANCH PIPING SIZE	1-1/2"	1-1/2"	2"
	CONDENSATE LINE SIZE (IN)	1"	1"	1-1/4"
	MAX. WATER P.D. (FT. HD.)	15.0	15.0	15.0
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	700	700	700
	MINIMUM COIL ROWS	2	2	2
	MAX. FINS PER INCH	12	12	12
	COIL CFM	3,125	4,230	10,125
	EAT (°F)	52.6	57.2	59.1
	LAT (°F)	85.0	85.0	85.0
	EWT/LWT (°F)	180 / 140	180 / 140	180 / 140
	HEATING CAPACITY (MBH)	120.3	139.6	311.5
	COIL WATER FLOW (GPM)	6.0	7.0	15.6
	HW BRANCH PIPING SIZE	1"	1"	1-1/4"
	MAX. WATER P.D. (FT. HD.)	15.0	15.0	15.0
MANUFACTURER		CARRIER	CARRIER	CARRIER
UNIT DIMENSIONS (WXLXH) (IN)		69 X 161 X 42	69 X 179 X 56	88 X 182 X 62
MODEL NUMBER		39MW	39MW	39MW
OPERATING WEIGHT (LBS.)		2527	2914	4414
NOTES		ALL	ALL	ALL

NOTES:
1. PROVIDE UNIT WITH DRAW THRU DIRECT DRIVE PLENUM FAN SECTION, CHILLED WATER COIL SECTION, RE- HOT WATER COIL SECTION, AND 2" FLAT FILTER SECTION.
2. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
3. TIE UNIT INTO VARIABLE FREQUENCY DRIVE.
4. PROVIDE CHILLED WATER COIL WITH 2-WAY AUTOMATIC CONTROL VALVE.
5. PROVIDE HOT WATER COIL WITH 2-WAY AUTOMATIC CONTROL VALVE.
6. PROVIDE UNIT WITH INTEGRAL RETURN AIR DAMPERS AND OUTSIDE AIR DAMPERS FOR MODULATION, AND DEMAND CONTROL VENTILATION.
7. PROVIDE UNIT WITH SINGLE POINT ELECTRICAL CONNECTION.
8. PROVIDE FLOAT SWITCH IN PRIMARY DRAIN PAN TO DE-ENERGIZE THE UNIT WHEN PRIMARY DRAIN LINE BECOMES RESTRICTED.
9. PROVIDE UNIT WITH DUCT MOUNTED SMOKE DETECTORS IN SUPPLY DUCTWORK FOR ALL UNITS DISCHARGING IN EXCESS OF 2,000 CFM.
10. PROVIDE UNIT WITH A MINIMUM SHORT CIRCUIT CURRENT RATING (SCCR) OF 65,000 AIC.
11. PROVIDE UNIT WITH BIPOLAR IONIZATION KIT (GPS-FC[CFM]-AC). PROVIDE MODEL AS APPLICABLE WITH ASSOCIATED AHU AIRFLOW.

ROOF MOUNTED MAKEUP AIR UNIT SCHEDULE

	MARK	RMAHU-1
FAN	SERVES	CULINARY
	DISCHARGE	HORIZONTAL
	DESIGN SUPPLY AIR (CFM)	7,020
	DESIGN OUTDOOR AIR (CFM)	7,020
	EXT. S.P. (IN. W.G.)	1.50
	FLA	6.6
	MOTOR / DRIVE	EXTERNAL VFD / DIRECT
	HP / #	5 / 2
	MCA / MOCP	5.28 / 25
	VOLTS/PHASE/HERTZ	460 / 3 / 60
	MAX. FAN RPM	1,800
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	7,020
	EAT DB (°F)	20.0
	LAT DB (°F)	60.0
	COIL WATER FLOW (GPM)	16.7
	HEATING CAPACITY (MBH)	333.6
	MAX. WATER P.D. (FT. HD.)	15.0
	EWT/LWT (°F)	180 / 140
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	7,020
	EAT DB/WB (°F)	95 / 79
	LAT DB/WB (°F)	85 / 77
	TOTAL COOLING CAPACITY (MBH)	78.7
	SENSIBLE COOLING CAPACITY (MBH)	75.8
	EWT/LWT (°F)	45 / 60
	CONDENSATE DRAIN LINE SIZE (IN)	3/4
	COIL WATER FLOW (GPM)	10.5
	MAX. WATER P.D. (FT. HD.)	15.0
MANUFACTURER		CARRIER
MODEL NUMBER		39MW
OPERATING WEIGHT (LBS.)		2856
NOTES		ALL

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
2. UNIT SHALL BE ROOF MOUNTED. PROVIDE WITH PREFABRICATED ROOF CURB.
3. PROVIDE FLOAT SWITCH IN PRIMARY DRAIN PAN TO DE-ENERGIZE UNIT WHEN PRIMARY DRAIN BECOMES RESTRICTED.
4. PROVIDE CHILLED WATER 2-WAY AUTOMATIC CONTROL VALVE.
5. PROVIDE HOT WATER 3-WAY AUTOMATIC CONTROL VALVE.
6. PROVIDE UNIT WITH MERV-13 FILTER(S) AND FILTER RACK ON BACK OF UNIT. FILTER MUST BE READILY ACCESSIBLE. ANY QUESTIONABLE MEANS OF ACCESS WILL BE REPALCED AT NO ADDITIONAL COST TO THE OWNER.
7. PROVIDE UNIT WITH DRAW THRU DIRECT DRIVE PLENUM FAN SECTION, CHILLED WATER COIL SECTION, PRE-HEAT HOT WATER COIL SECTION, AND 2" FLAT FILTER SECTION.
8. PROVIDE UNIT WITH BIPOLAR IONIZATION KIT (GPS-FC[CFM]-AC) PRIOR TO HYDRONIC COILS. PROVIDE MODEL AS APPLICABLE WITH ASSOCIATED AHU AIRFLOW.

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS
18810 W LAKE HOUSTON PKWY, HOUSTON TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

STATE OF TEXAS
JAMES R. KUBALA
110340
LICENSED PROFESSIONAL ENGINEER
04/24/2026

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

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MECHANICAL SCHEDULES

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TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TOL B/MS TN SS/LG

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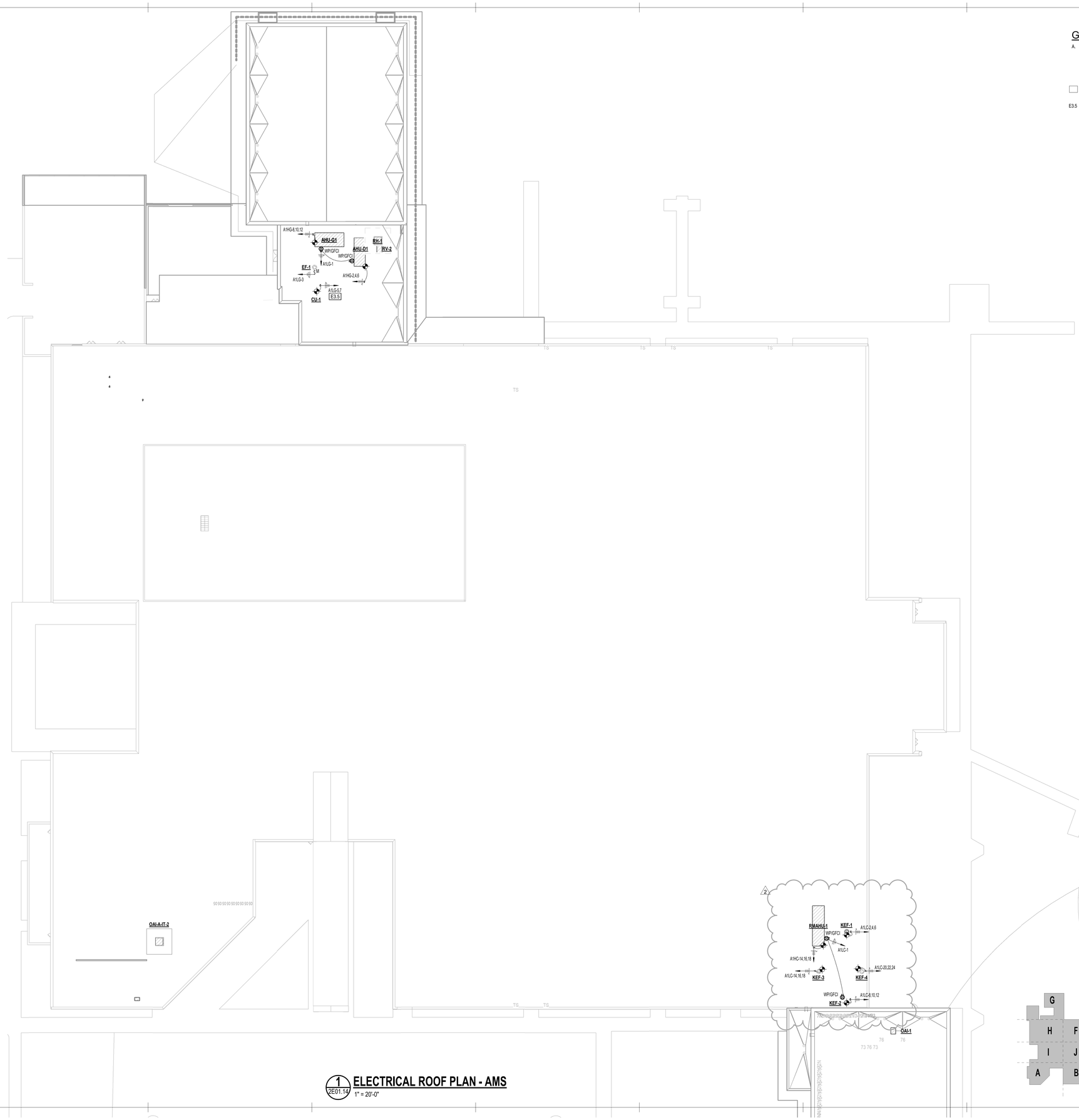

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E3.5 PROVIDE SINGLE POINT OF POWER AT CONDENSING UNIT FOR SPLIT DX SYSTEM INDOOR UNIT SHALL BE POWERED FROM OUTDOOR UNIT. PROVIDE DISCONNECTING MEANS FOR BOTH PIECES OF EQUIPMENT. REFERENCE DUCTLESS SPLIT ELECTRICAL CONNECTION DETAIL.

1 2E01.14 **ELECTRICAL ROOF PLAN - AMS**
1" = 20'-0"

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HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE
117260
LICENSED
PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
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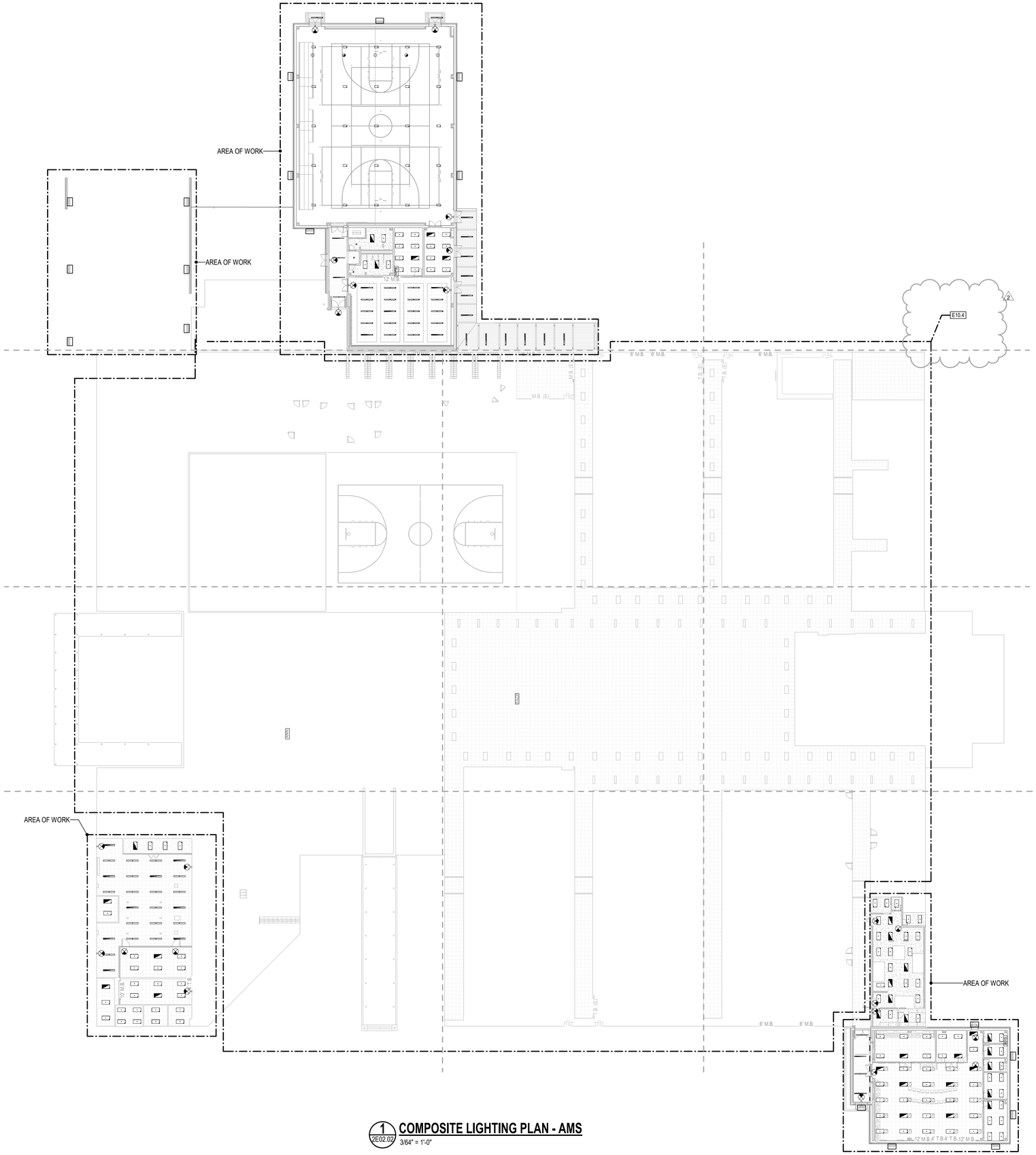


GENERAL ELECTRICAL NOTES:

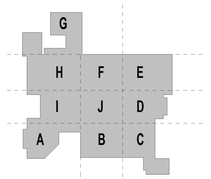
A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E10.4 PROVIDE NEW UL924 EMERGENCY LOAD CONTROL RELAY FOR ALL EXISTING EGRESS AND EXIT LIGHTING FIXTURE(S) IN ENTIRETY OF SCHOOL. CONNECT TO NEW EMERGENCY CIRCUIT(S) IN PANEL EHA AND MAKE FINAL CONNECTION TO LIGHT FIXTURE(S) AS REQUIRED. ROUTE AN UNSWITCHED HOT LEG TO ALL LIGHT FIXTURES DESIGNATED AS EMERGENCY FIXTURES. HOT LEG SHALL ORIGINATE FROM CIRCUIT SERVING NORMAL LIGHTING FIXTURES IN THAT SPACE. UNSWITCHED HOT LEG SHALL CONNECT TO THE NORMAL POWER SENSING LUG ON THE GENERATOR TRANSFER DEVICE. REFER TO GENERATOR TRANSFER DEVICE WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.

1 2E02.02 COMPOSITE LIGHTING PLAN - AMS

3/64" = 1'-0"



KEY PLAN N

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2	06/04/2026	Addendum 2

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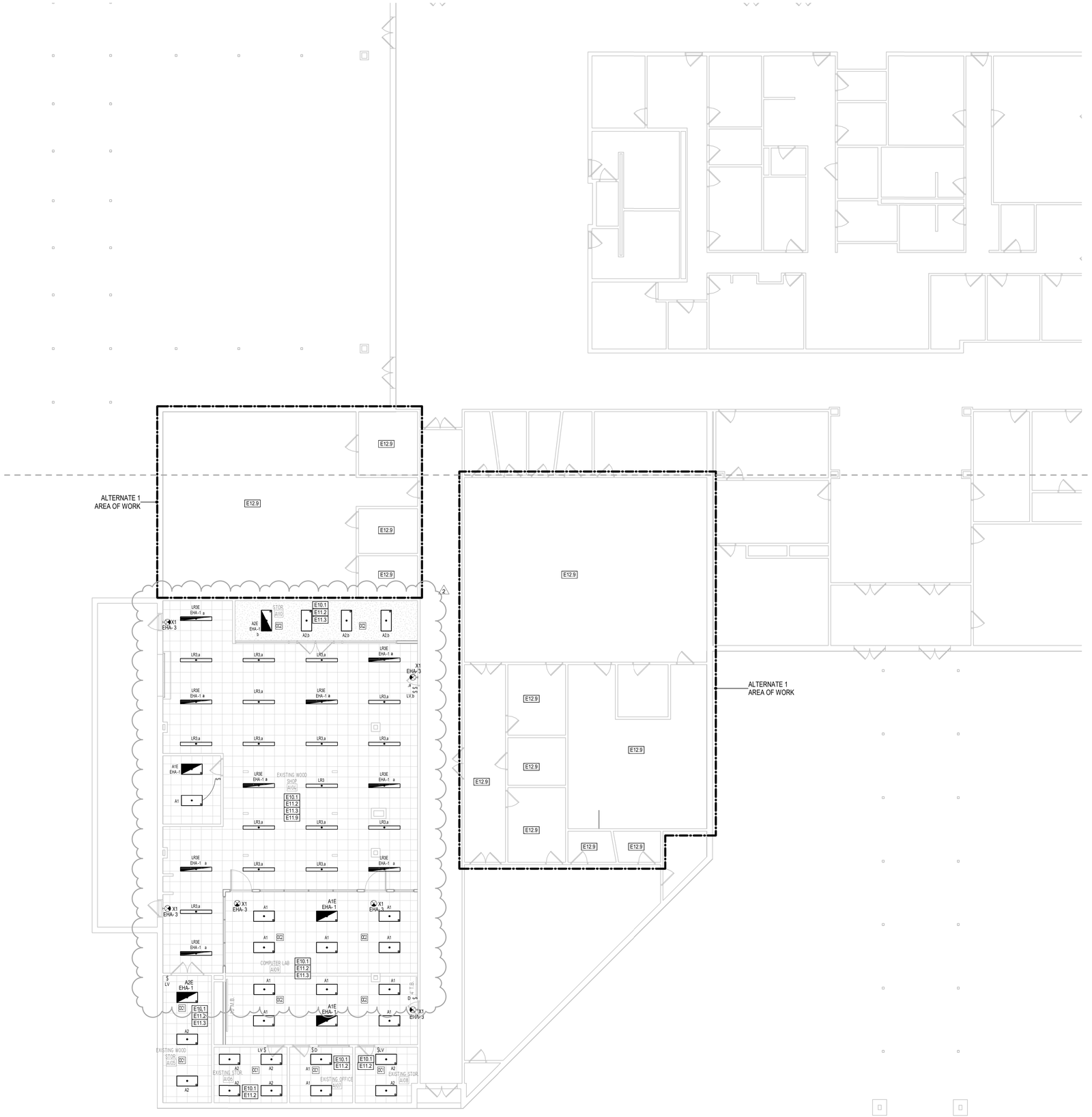

1 2E02.02A **LIGHTING PLAN - FIRST LEVEL - AMS - SEGMENTS 'A' & 'I'**

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E10.1 PROVIDE NEW LIGHTING CONTROLS IN THIS SPACE. PROVIDE NUMBER OF CONTROL ZONES PER PLANS. LOCATE NEW CONTROLS IN SAME LOCATION AS EXISTING CONTROLS BEING DEMO. REFERENCE DEMO PLANS. ALL EXISTING CONTROL LOCATIONS SHALL BE FIELD VERIFIED, CONTROLS SHOWN FOR REFERENCE ONLY.

E11.2 PROVIDE NEW LED LIGHTING IN THIS SPACE. RECONNECT TO EXISTING NORMAL POWER LIGHTING CIRCUIT AND TO NEW CONTROLS. EXTEND CONDUIT CONDUCTORS AS REQUIRED.

E11.3 NEW EMERGENCY LED LIGHT(S) IN THIS SPACE SHALL BE PROVIDED WITH NEW UL924 DEVICE AND CONNECTED TO NEW EMERGENCY CIRCUIT AND PROVIDE VOLTAGE SENSING WIRE CONNECTED TO EXISTING NORMAL CIRCUIT SERVING FIXTURES IN RESPECTIVE CONTROL ZONE. PROVIDE NEW CONDUIT AND FEEDERS SERVING NEW EMERGENCY FIXTURE(S) TO NEW EMERGENCY LIGHTING CIRCUIT AS NOTED ON PLANS.

E11.9 ALL LIGHTS IN EXISTING INDUST TECH/ EXISTING WOOD SHOP ROOMS SHALL BE RECESSED. FIXTURES IN THESE SPACES SHALL NOT BE SUSPENDED.

E12.9 ALTERNATE 1: CEILING TILES IN THIS SPACE SHALL BE REPLACED. ALL CEILING MOUNTED DEVICES OTHER THAN LIGHTING FIXTURES AND AIR DEVICES SHALL BE UNINSTALLED/REINSTALLED AS REQUIRED FOR CEILING TILES REPLACEMENT. REFER TO SHEET 1E02.01A FOR HUMBLE MS ADDITIONAL INFORMATION AND SHEET 2E02.01A FOR ATASCOCITA MS ADDITIONAL INFORMATION.

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No	Date	Description
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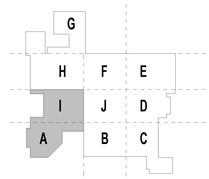

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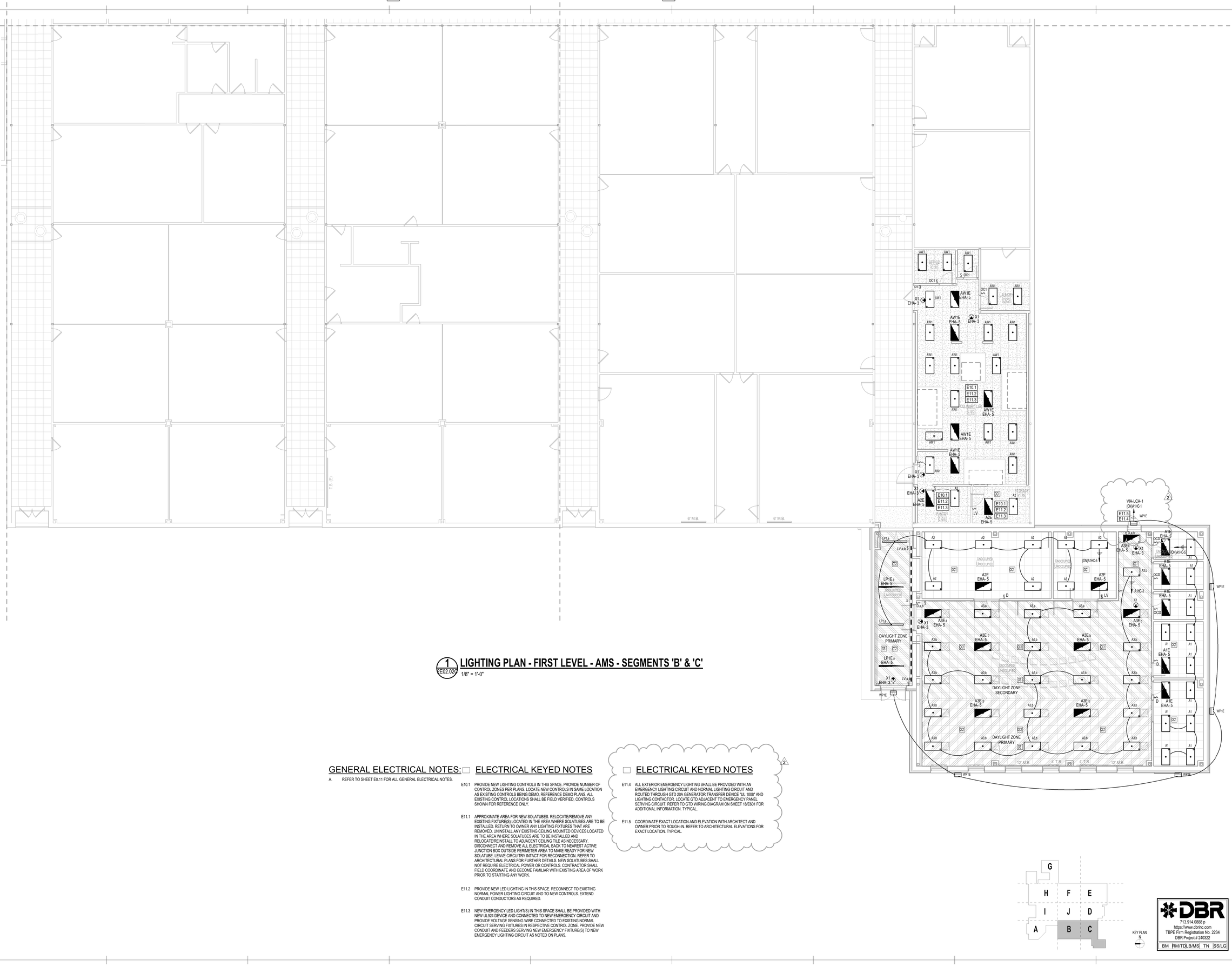
DBR Project # 240322
BM RM/TD LB/MS TN SS/LG

ISSUE FOR CONSTRUCTION

2E02.02A
AMS - ELECTRICAL LIGHTING PLAN - SEGMENTS 'A' & 'I'

6/4/2026 2:22:29 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_E24.rvt



1 2E02.02C LIGHTING PLAN - FIRST LEVEL - AMS - SEGMENTS 'B' & 'C'

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E10.1 PROVIDE NEW LIGHTING CONTROLS IN THIS SPACE. PROVIDE NUMBER OF CONTROL ZONES PER PLANS. LOCATE NEW CONTROLS IN SAME LOCATION AS EXISTING CONTROLS BEING DEMO, REFERENCE DEMO PLANS. ALL EXISTING CONTROL LOCATIONS SHALL BE FIELD VERIFIED, CONTROLS SHOWN FOR REFERENCE ONLY.

E11.1 APPROXIMATE AREA FOR NEW SOLATUBES. RELOCATE/REMOVE ANY EXISTING FIXTURE(S) LOCATED IN THE AREA WHERE SOLATUBES ARE TO BE INSTALLED. RETURN TO OWNER ANY LIGHTING FIXTURES THAT ARE REMOVED. UNINSTALL ANY EXISTING CEILING MOUNTED DEVICES LOCATED IN THE AREA WHERE SOLATUBES ARE TO BE INSTALLED AND RELOCATE/REINSTALL TO ADJACENT CEILING TILE AS NECESSARY. DISCONNECT AND REMOVE ALL ELECTRICAL BACK TO NEAREST ACTIVE JUNCTION BOX OUTSIDE PERIMETER AREA TO MAKE READY FOR NEW SOLATUBE. LEAVE CIRCUITRY INTACT FOR RECONNECTION. REFER TO ARCHITECTURAL PLANS FOR FURTHER DETAILS. NEW SOLATUBES SHALL NOT REQUIRE ELECTRICAL POWER OR CONTROLS. CONTRACTOR SHALL FIELD COORDINATE AND BECOME FAMILIAR WITH EXISTING AREA OF WORK PRIOR TO STARTING ANY WORK.

E11.2 PROVIDE NEW LED LIGHTING IN THIS SPACE. RECONNECT TO EXISTING NORMAL POWER LIGHTING CIRCUIT AND TO NEW CONTROLS. EXTEND CONDUIT CONDUCTORS AS REQUIRED.

E11.3 NEW EMERGENCY LED LIGHT(S) IN THIS SPACE SHALL BE PROVIDED WITH NEW UL924 DEVICE AND CONNECTED TO NEW EMERGENCY CIRCUIT AND PROVIDE VOLTAGE SENSING WIRE CONNECTED TO EXISTING NORMAL CIRCUIT SERVING FIXTURES IN RESPECTIVE CONTROL ZONE. PROVIDE NEW CONDUIT AND FEEDERS SERVING NEW EMERGENCY FIXTURE(S) TO NEW EMERGENCY LIGHTING CIRCUIT AS NOTED ON PLANS.

ELECTRICAL KEYED NOTES

E11.4 ALL EXTERIOR EMERGENCY LIGHTING SHALL BE PROVIDED WITH AN EMERGENCY LIGHTING CIRCUIT AND NORMAL LIGHTING CIRCUIT AND ROUTED THROUGH GTD 20A GENERATOR TRANSFER DEVICE "UL 1008" AND LIGHTING CONTACTOR. LOCATE GTD ADJACENT TO EMERGENCY PANEL SERVING CIRCUIT. REFER TO GTD WIRING DIAGRAM ON SHEET 18/E601 FOR ADDITIONAL INFORMATION. TYPICAL.

E11.5 COORDINATE EXACT LOCATION AND ELEVATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION. TYPICAL.

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE
117260
LICENSED PROFESSIONAL ENGINEER
DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

Δ	Date	Description
2	06/04/2026	Addendum 2

ISSUE FOR CONSTRUCTION

2E02.02C
AMS - ELECTRICAL LIGHTING PLAN - SEGMENTS 'B' & 'C'

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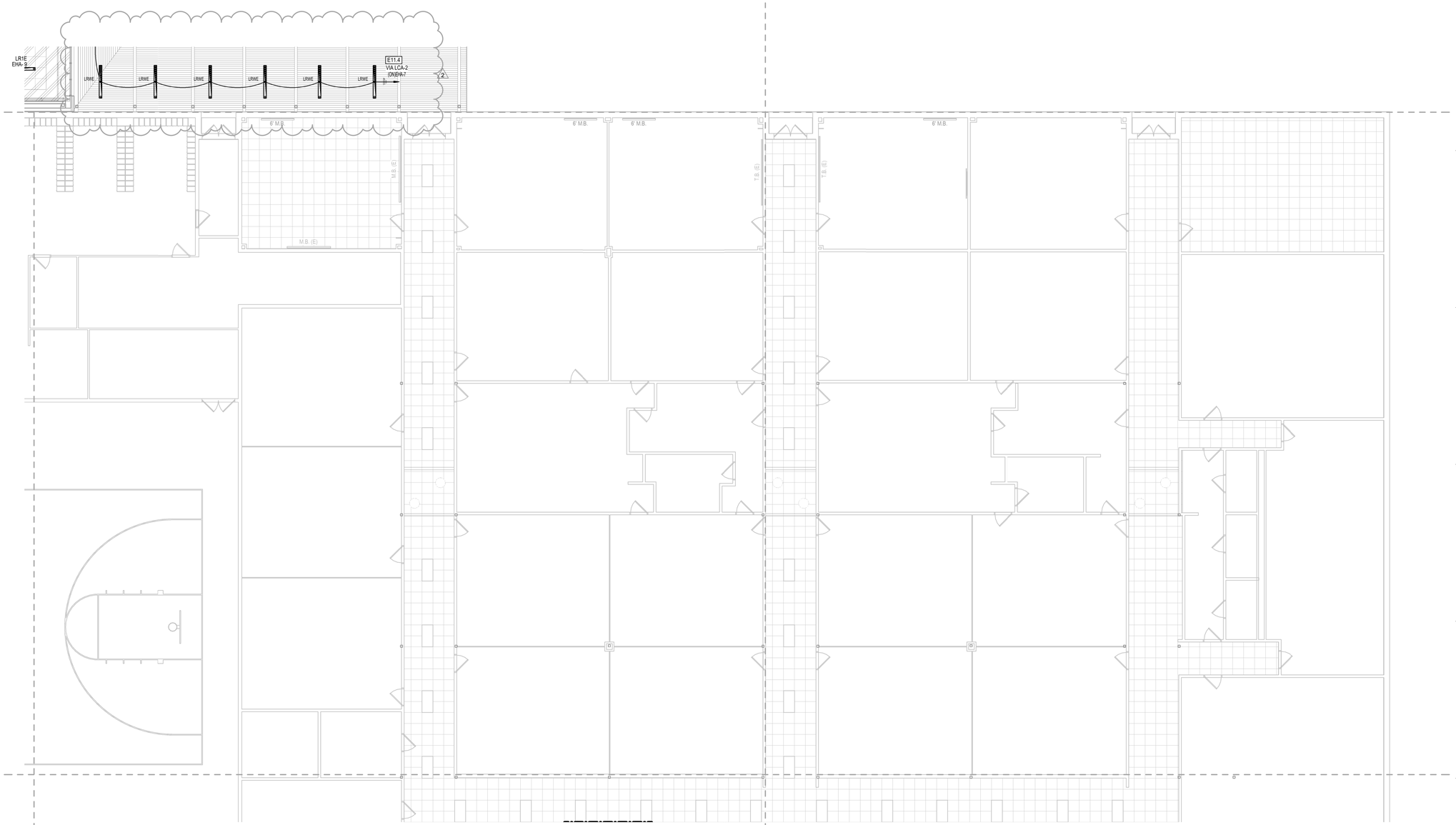


1 2E02.02E LIGHTING PLAN - FIRST LEVEL - AMS - SEGMENTS 'E' & 'F'

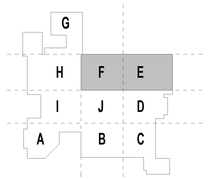
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E11.4 ALL EXTERIOR EMERGENCY LIGHTING SHALL BE PROVIDED WITH AN EMERGENCY LIGHTING CIRCUIT AND NORMAL LIGHTING CIRCUIT AND ROUTED THROUGH GTD 20A GENERATOR TRANSFER DEVICE "UL 1008" AND LIGHTING CONTACTOR. LOCATE GTD ADJACENT TO EMERGENCY PANEL SERVING CIRCUIT. REFER TO GTD WIRING DIAGRAM ON SHEET 19/E601 FOR ADDITIONAL INFORMATION. TYPICAL.



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DBR Project # 240322
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18810 W LAKE HOUSTON PKWY, HOUSTON TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

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ISSUE FOR CONSTRUCTION

2E02.02E
AMS - ELECTRICAL LIGHTING PLAN - SEGMENTS 'E' & 'F'

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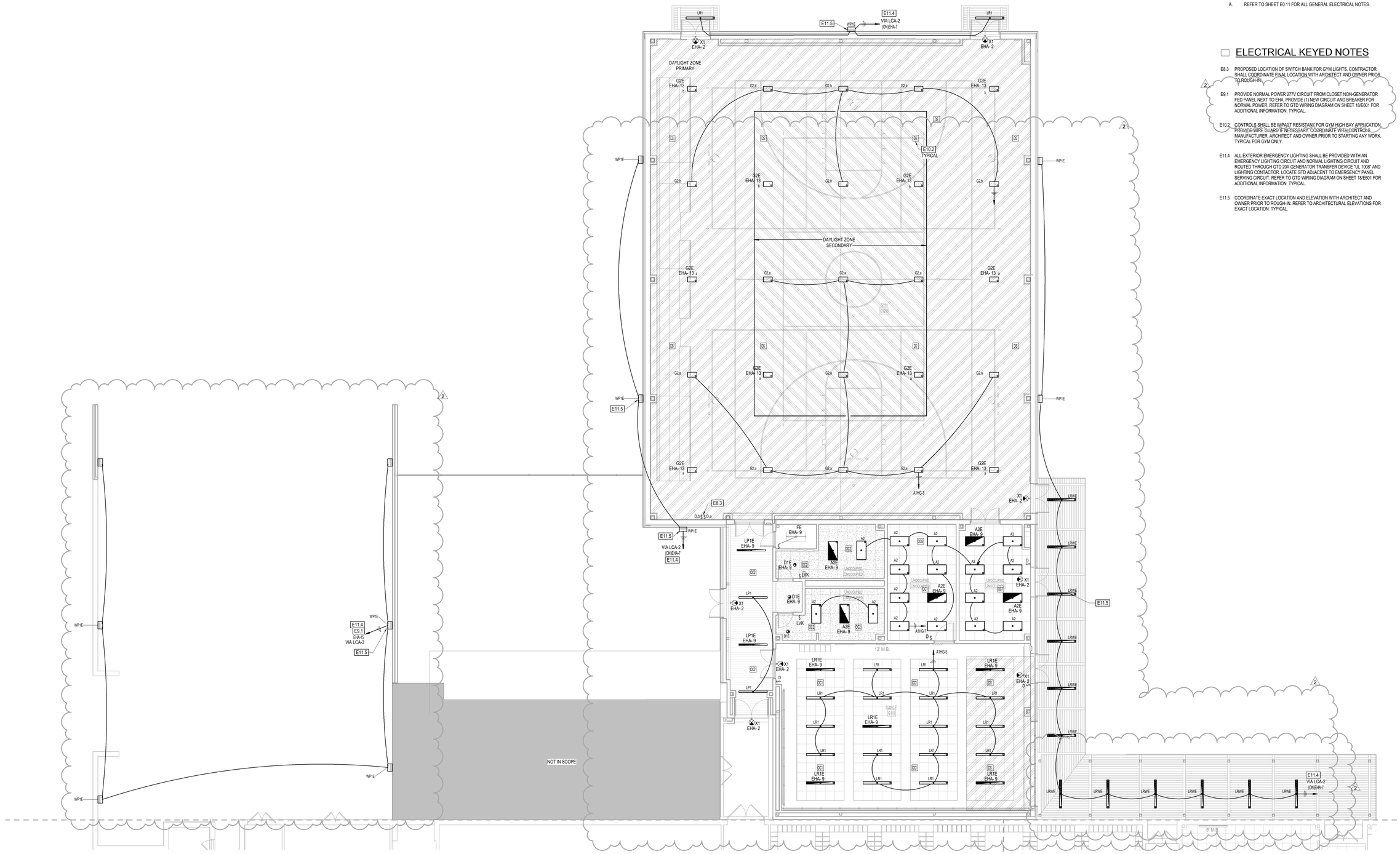

1 2E02.02G **LIGHTING PLAN - FIRST LEVEL - AMS - SEGMENT 'G'**
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E8.3 PROPOSED LOCATION OF SWITCH BANK FOR GYM LIGHTS. CONTRACTOR SHALL COORDINATE FINAL LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E9.1 PROVIDE NORMAL POWER 277V CIRCUIT FROM CLOSET NON-GENERATOR FED PANEL NEXT TO EHA. PROVIDE (1) NEW CIRCUIT AND BREAKER FOR NORMAL POWER. REFER TO GTD WIRING DIAGRAM ON SHEET 18/E601 FOR ADDITIONAL INFORMATION. TYPICAL.

E10.2 CONTROLS SHALL BE IMPACT RESISTANT FOR GYM HIGH BAY APPLICATION. PROVIDE WIRE GUARD IF NECESSARY. COORDINATE WITH CONTROLS MANUFACTURER, ARCHITECT AND OWNER PRIOR TO STARTING ANY WORK. TYPICAL FOR GYM ONLY.

E11.4 ALL EXTERIOR EMERGENCY LIGHTING SHALL BE PROVIDED WITH AN EMERGENCY LIGHTING CIRCUIT AND NORMAL LIGHTING CIRCUIT AND ROUTED THROUGH GTD 20A GENERATOR TRANSFER DEVICE "UL 1008" AND LIGHTING CONTACTOR. LOCATE GTD ADJACENT TO EMERGENCY PANEL SERVING CIRCUIT. REFER TO GTD WIRING DIAGRAM ON SHEET 18/E601 FOR ADDITIONAL INFORMATION. TYPICAL.

E11.5 COORDINATE EXACT LOCATION AND ELEVATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION. TYPICAL.

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HUMBLE, TX 77338

BRENT B. MOE 117260 LICENSED PROFESSIONAL ENGINEER
DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

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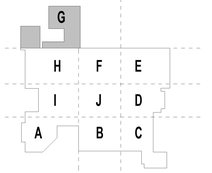
2E02.02G
AMS - ELECTRICAL LIGHTING PLAN - SEGMENT 'G'



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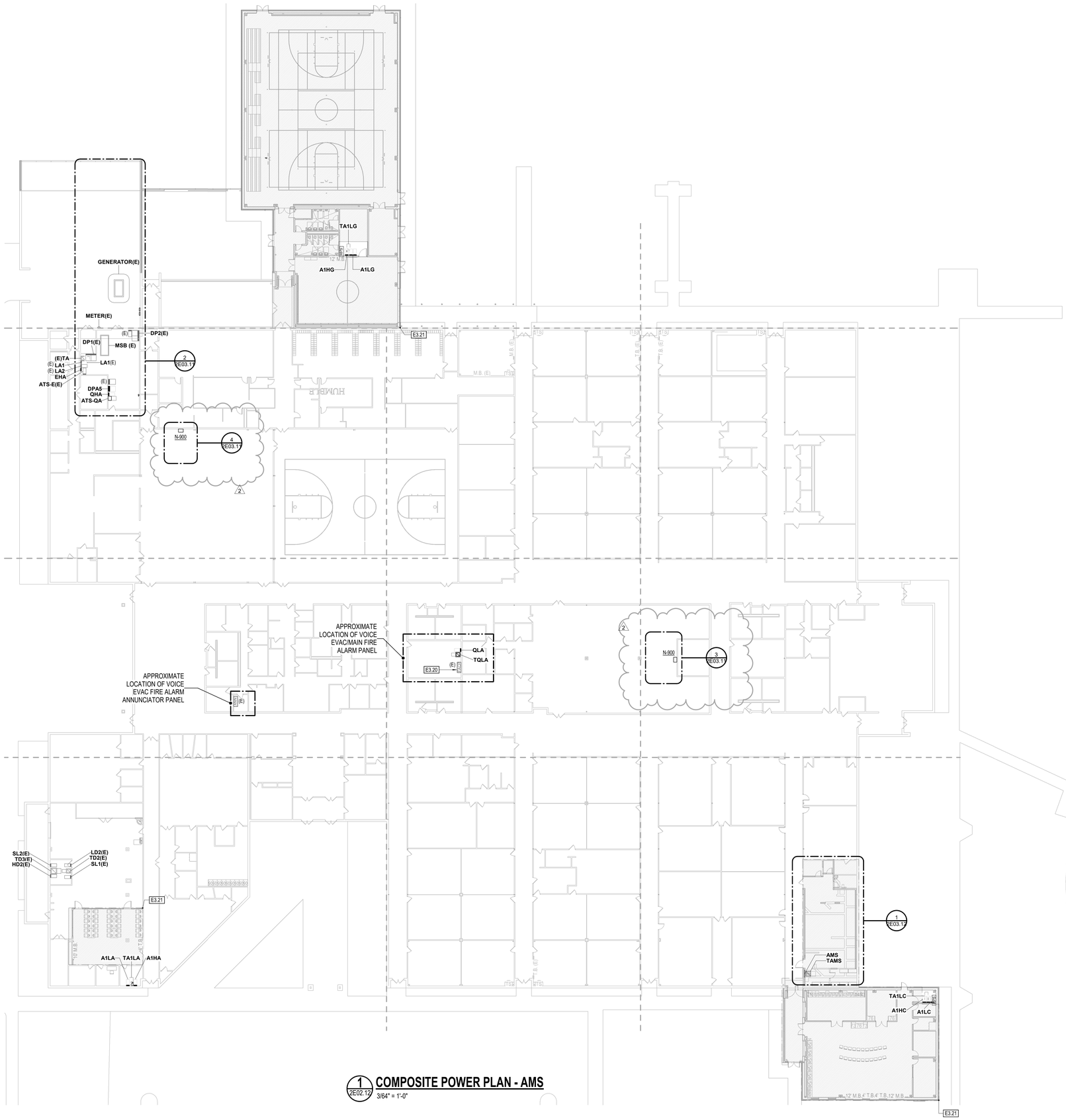


1 2E02.12 COMPOSITE POWER PLAN - AMS

3/64" = 1'-0"

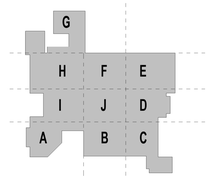
GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E3.20 APPROXIMATE LOCATION OF EXISTING NOTIFIER BY HONEYWELL VOICE EVAC/MAIN FIRE ALARM PANEL IN EXISTING BUILDING. EXPAND EXISTING NOTIFIER BY HONEYWELL FIRE ALARM PANEL AS REQUIRED TO INTERFACE WITH THE NEW BUILDING ADDITIONS AND RENOVATED AREAS. PROVIDE ADDITIONAL EQUIPMENT/COMPONENTS AS REQUIRED TO ACCOMMODATE NEW INTERFACE.

E3.21 PROVIDE NEW FIRE ALARM DEVICES TO COMPLY WITH NFPA 72 REQUIREMENTS AND LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS. REFERENCE PERFORMANCE SPECIFICATION FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



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10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

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AMS - COMPOSITE POWER PLAN

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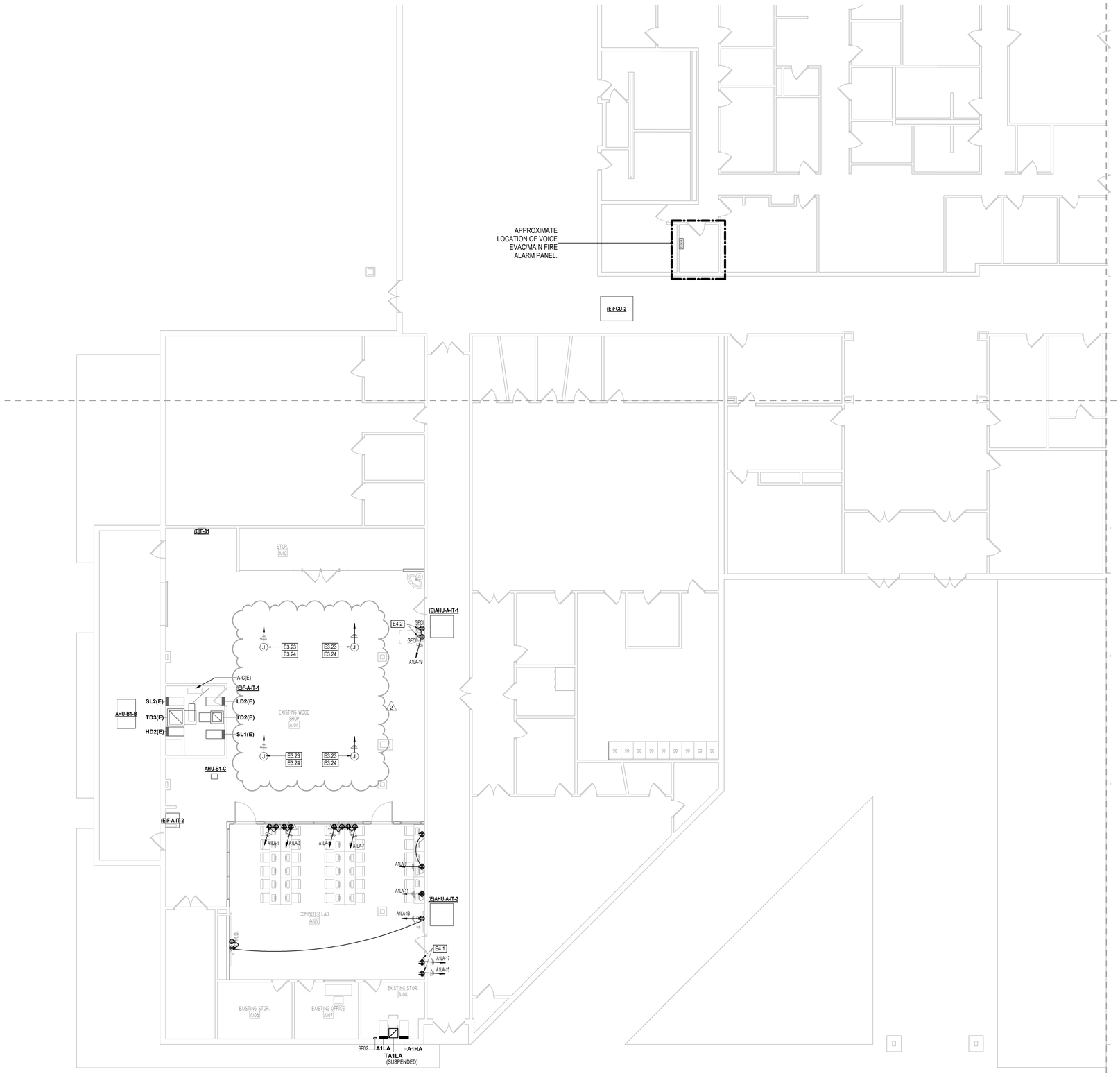


GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E3.23 POWER REQUIREMENTS/CONNECTIONS FOR ALL NEW EQUIPMENT IN 'EXISTING SHOP' ROOMS SHALL BE CONFIRMED PRIOR TO ORDERING OF EQUIPMENT AND COMMENCEMENT OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT AND DEVICE LOCATIONS WITH ARCHITECT AND OWNER PRIOR TO STARING ANY WORK. CONTRACTOR SHALL CONFIRM PROPER NEMA CONFIGURATION FOR NEW EQUIPMENT RECEPTACLES PRIOR TO ORDERING AND INSTALLING EQUIPMENT. CONTRACTOR SHALL FIELD COORDIANTE WITH ARCHITECT AND OWNER PRIOR TO ORDERING NEW EQUIPMENT. CONTRACTOR SHALL FIELD COORDINATE AND BECOME FAMILIAR WITH EXISTING ELECTRICAL EQUIPMENT, EXISTING ELECTRICAL PANELS SERVING 'EXISTING SHOP' ROOM AND ELECTRICAL PANEL(S) PROVISIONS PRIOR TO STARTING ANY WORK.

E3.24 ALL NEW EQUIPMENT IN 'EXISTING SHOP' ROOMS SHALL BE PROVIDED WITH A SHUNT TRIP AND ROUTED THROUGH AN 'EPO' BUTTON. EPO BUTTON SHALL SHUNT POWER TO PANELS OR BREAKERS SERVING ALL NEW EQUIPMENT, DE-ENERGIZING ALL RECEPTACLES/DISCONNECTS PROVIDING POWER TO NEW EQUIPMENT.

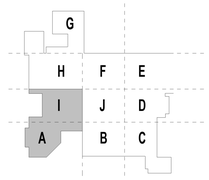
E4.1 PROVIDE POWER FOR CHARGING STATION. COORDINATE EXACT POWER REQUIREMENTS, EXACT LOCATION AND INSTALLATION DETAILS WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E4.2 PROVIDE RECEPTACLE FOR DRINKING FOUNTAIN AT THIS LOCATION. PROVIDE REMOTE GFCI TEST BUTTON ADJACENT TO DRINKING FOUNTAIN AT NORMAL RECEPTACLE HEIGHT IN AN ACCESSIBLE LOCATION. RE: 2/E6.01 FOR ELECTRICAL DRINKING FOUNTAIN DETAILS.

1 POWER PLAN - FIRST LEVEL - AMS - SEGMENTS 'A' & 'I'

2E02.12A

1/8" = 1'-0"



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2E02.12A

AMS - ELECTRICAL POWER PLAN - SEGMENTS 'A' & 'I'

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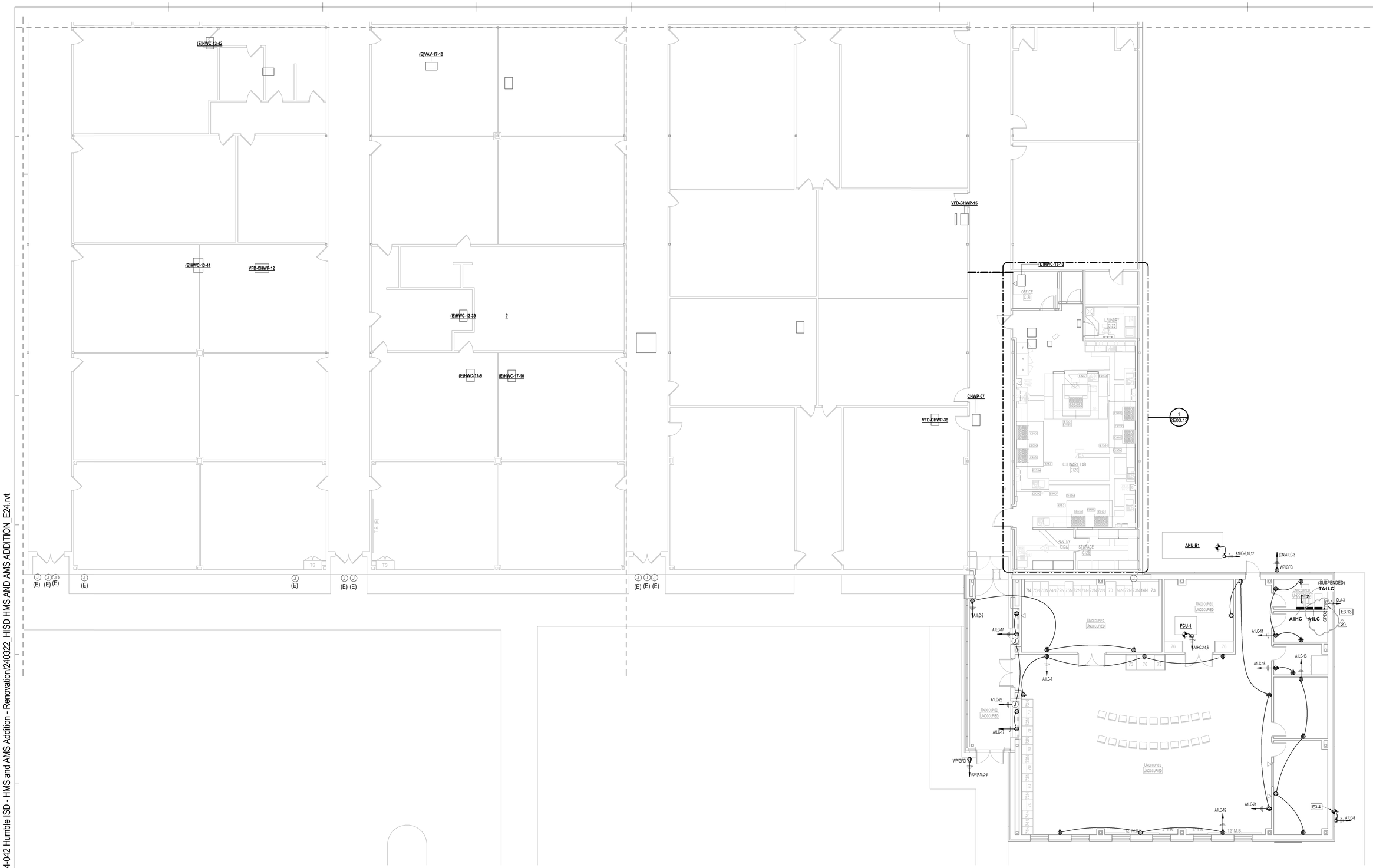


1 2E02.12B POWER PLAN - FIRST LEVEL - AMS - SEGMENTS 'B' & 'C'

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

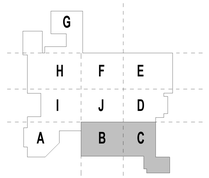
A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E3.4 PROVIDE 120V POWER TO BACK-LIT LETTERING. CONTRACTOR SHALL COORDINATE EXACT POWER REQUIREMENTS, CONTROL REQUIREMENTS, QUANTITY OF CONNECTION POINTS AND INSTALLATION DETAILS WITH MANUFACTURER/INSTALLER, ARCHITECT, AND OWNER PRIOR TO ROUGH-IN OF ANY CONDUIT/CONDUCTORS.

E3.13 PROVIDE 120V POWER TO FIRE ALARM REMOTE POWER SOURCE. VERIFY FINAL LOCATION WITH FIRE ALARM SHOP DRAWINGS AND MAKE FINAL CONNECTION.

ELECTRICAL KEYED NOTES



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BRENT B. MOE
117260
LICENSED PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
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REVISIONS:

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ISSUE FOR CONSTRUCTION

2E02.12B
AMS - ELECTRICAL POWER PLAN - SEGMENTS 'B' & 'C'

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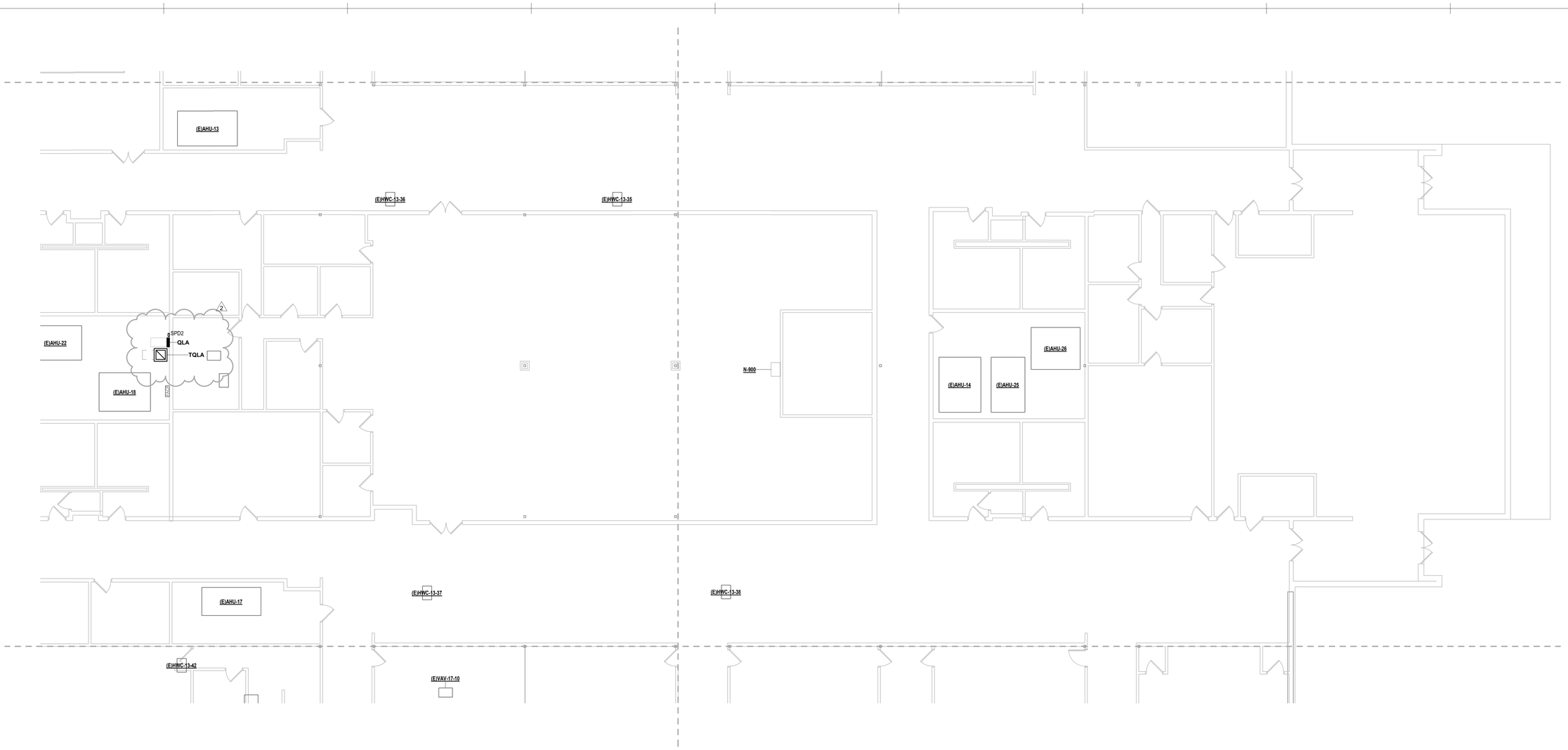
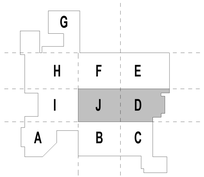


1 2E02.12D POWER PLAN - FIRST LEVEL - AMS - SEGMENTS 'D' & 'J'

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES: ☐ ELECTRICAL KEYED NOTES

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.



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STATE OF TEXAS
BRENT B. MOE
117260
LICENSED
PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
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2E02.12D
AMS - ELECTRICAL POWER PLAN - SEGMENTS 'D' & 'J'

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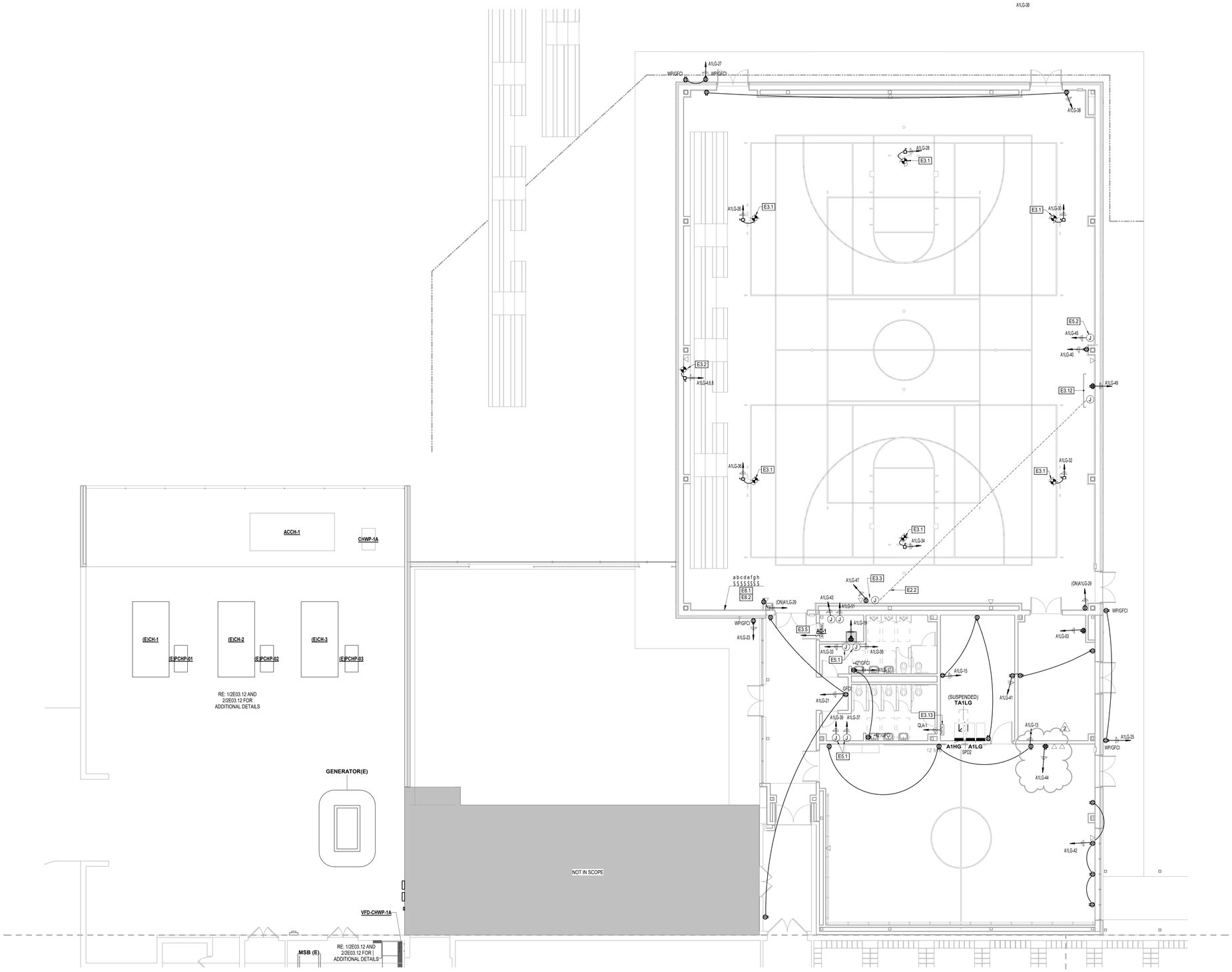


GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E2.2 PROVIDE MINIMUM 1" CONDUIT FOR SCOREBOARD CONTROL CABLING. COORDINATE EXACT POWER REQUIREMENTS, EXACT LOCATION AND INSTALLATION DETAILS WITH SCOREBOARD PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E3.1 PROVIDE 120V POWER FOR BASKETBALL GOALS. COORDINATE EXACT POWER REQUIREMENTS AND INSTALLATION DETAILS WITH BASKETBALL GOALS PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR APPROXIMATE LOCATION OF SWITCHES FOR BASKETBALL GOALS.

E3.2 PROVIDE 208V, 3 PHASE POWER FOR BLEACHERS. MAKE ALL FINAL CONNECTIONS TO BLEACHER CONTROL PANEL. COORDINATE EXACT POWER REQUIREMENTS AND INSTALLATION DETAILS WITH BLEACHERS PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR APPROXIMATE LOCATION OF SWITCH FOR BLEACHERS.

E3.3 PROVIDE 120V POWER FOR SCOREBOARD. COORDINATE EXACT POWER REQUIREMENTS, EXACT LOCATION AND INSTALLATION DETAILS WITH SCOREBOARD PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E3.5 PROVIDE SINGLE POINT OF POWER AT CONDENSING UNIT FOR SPLIT DX SYSTEM INDOOR UNIT SHALL BE POWERED FROM OUTDOOR UNIT. PROVIDE DISCONNECTING MEANS FOR BOTH PIECES OF EQUIPMENT. REFERENCE DUCTLESS SPLIT ELECTRICAL CONNECTION DETAIL.

E3.12 PROPOSED SCORER'S TABLE LOCATION. PROVIDE POWER AND DATA AS REQUIRED. COORDINATE WITH TABLE INSTALLER/MANUFACTURER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E3.13 PROVIDE 120V POWER TO FIRE ALARM REMOTE POWER SOURCE. VERIFY FINAL LOCATION WITH FIRE ALARM SHOP DRAWINGS AND MAKE FINAL CONNECTION.

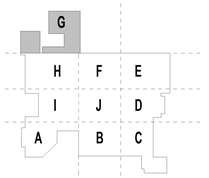
E5.1 PROVIDE 120V POWER FOR ELECTRIC HAND DRYER ON INDICATED CIRCUIT. CONFIRM EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

E5.2 120V JUNCTION BOX CONNECTION FOR PARTITION DIVIDER. COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR ADDITIONAL DETAILS.

E8.1 PROPOSED LOCATION OF SWITCH BANK FOR BASKETBALL GOALS AND BLEACHERS. PROVIDE (6) KEYED SWITCHES FOR BASKETBALL GOALS - 1 PER GOAL AND PROVIDE ENGRAVING IDENTIFYING SWITCHES AS "BASKETBALL GOAL". PROVIDE (1) KEYED SWITCH FOR ALL BLEACHERS AND PROVIDE ENGRAVING IDENTIFYING SWITCH AS "BLEACHERS". PROVIDE (1) KEYED SWITCH FOR PARTITION DIVIDER AND PROVIDE ENGRAVING IDENTIFYING SWITCH AS "PARTITION DIVIDER". COORDINATE EXACT NUMBER OF SWITCHES PRIOR TO ROUGH-IN. COORDINATE EXACT POWER REQUIREMENTS AND INSTALLATION DETAILS WITH EQUIPMENT MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN. FIELD COORDINATE FINAL LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E8.2 PROVIDE (3) REMOTES IN ADDITION TO THE LOCAL CONTROL SWITCHES FOR BASKETBALL GOALS. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR ADDITIONAL DETAILS. FIELD COORDINATE FINAL LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

1 2E02.12G **POWER PLAN - FIRST LEVEL - AMS - SEGMENT 'G'**
1/8" = 1'-0"



KEY PLAN N

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS
18810 W LAKE HOUSTON PKWY, HOUSTON TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

LICENSED PROFESSIONAL ENGINEER
BRENT B. MOE
117260
STATE OF TEXAS

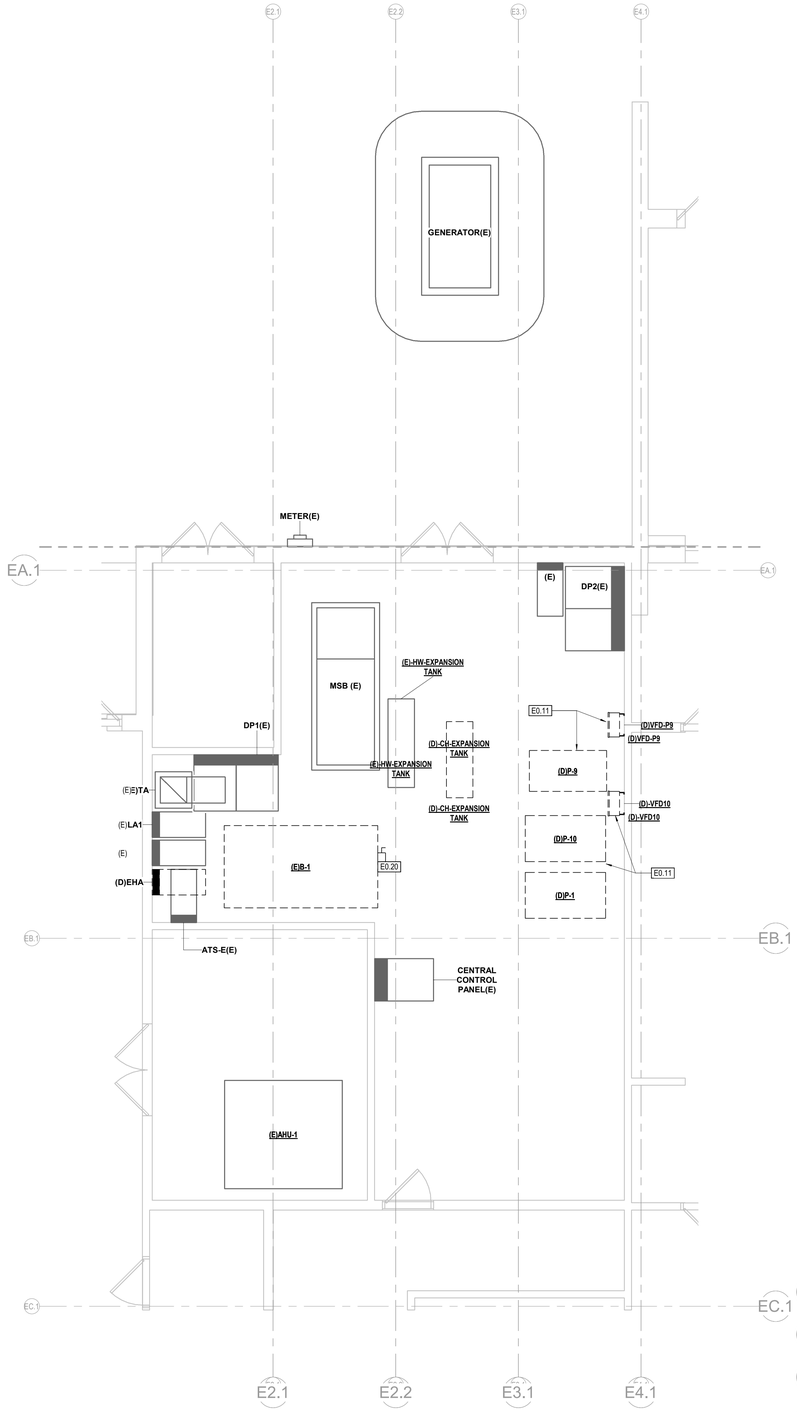
DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

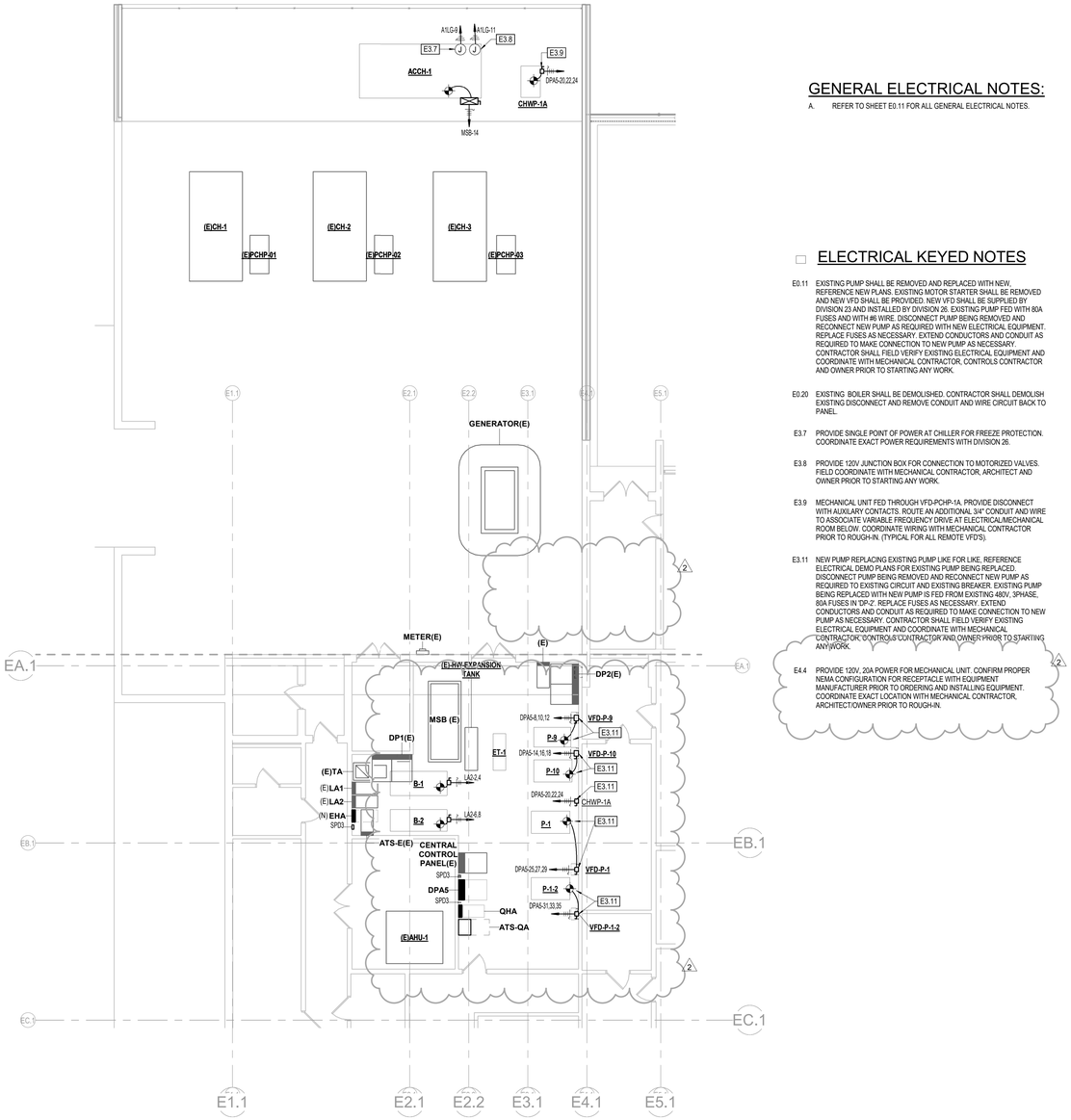
ISSUE FOR CONSTRUCTION

2E02.12G
AMS - ELECTRICAL POWER PLAN - SEGMENT 'G'



1 2E03.11 POWER PLAN - FIRST LEVEL - AMS - ENLARGED CENTRAL PLANT - DEMO

1/4" = 1'-0"



2 2E03.11 POWER PLAN - FIRST LEVEL - AMS - ENLARGED CENTRAL PLANT - NEW

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E0.11 EXISTING PUMP SHALL BE REMOVED AND REPLACED WITH NEW, REFERENCE NEW PLANS. EXISTING MOTOR STARTER SHALL BE REMOVED AND NEW VFD SHALL BE PROVIDED. NEW VFD SHALL BE SUPPLIED BY DIVISION 23 AND INSTALLED BY DIVISION 26. EXISTING PUMP FED WITH 80A FUSES AND WITH #8 WIRE. DISCONNECT PUMP BEING REMOVED AND RECONNECT NEW PUMP AS REQUIRED WITH NEW ELECTRICAL EQUIPMENT. REPLACE FUSES AS NECESSARY. EXTEND CONDUCTORS AND CONDUIT AS REQUIRED TO MAKE CONNECTION TO NEW PUMP AS NECESSARY. CONTRACTOR SHALL FIELD VERIFY EXISTING ELECTRICAL EQUIPMENT AND COORDINATE WITH MECHANICAL CONTRACTOR, CONTROLS CONTRACTOR AND OWNER PRIOR TO STARTING ANY WORK.

E0.20 EXISTING BOILER SHALL BE DEMOLISHED. CONTRACTOR SHALL DEMOLISH EXISTING DISCONNECT AND REMOVE CONDUIT AND WIRE CIRCUIT BACK TO PANEL.

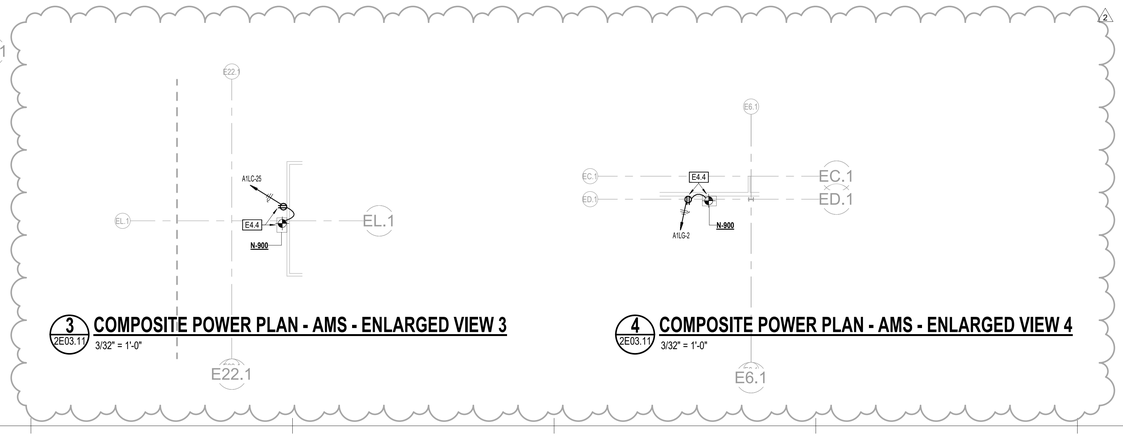
E3.7 PROVIDE SINGLE POINT OF POWER AT CHILLER FOR FREEZE PROTECTION. COORDINATE EXACT POWER REQUIREMENTS WITH DIVISION 26.

E3.8 PROVIDE 120V JUNCTION BOX FOR CONNECTION TO MOTORIZED VALVES. FIELD COORDINATE WITH MECHANICAL CONTRACTOR, ARCHITECT AND OWNER PRIOR TO STARTING ANY WORK.

E3.9 MECHANICAL UNIT FED THROUGH VFD-PCHP-1A. PROVIDE DISCONNECT WITH AUXILARY CONTACTS. ROUTE AN ADDITIONAL 3/4" CONDUIT AND WIRE TO ASSOCIATE VARIABLE FREQUENCY DRIVE AT ELECTRICAL/MECHANICAL ROOM BELOW. COORDINATE WIRING WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. (TYPICAL FOR ALL REMOTE VFD'S).

E3.11 NEW PUMP REPLACING EXISTING PUMP LIKE FOR LIKE, REFERENCE ELECTRICAL DEMO PLANS FOR EXISTING PUMP BEING REPLACED. DISCONNECT PUMP BEING REMOVED AND RECONNECT NEW PUMP AS REQUIRED TO EXISTING CIRCUIT AND EXISTING BREAKER. EXISTING PUMP BEING REPLACED WITH NEW PUMP IS FED FROM EXISTING 480V, 3PHASE, 80A FUSES IN 'DP-2'. REPLACE FUSES AS NECESSARY. EXTEND CONDUCTORS AND CONDUIT AS REQUIRED TO MAKE CONNECTION TO NEW PUMP AS NECESSARY. CONTRACTOR SHALL FIELD VERIFY EXISTING ELECTRICAL EQUIPMENT AND COORDINATE WITH MECHANICAL CONTRACTOR, CONTROLS CONTRACTOR AND OWNER PRIOR TO STARTING ANY WORK.

E4.4 PROVIDE 120V, 20A POWER FOR MECHANICAL UNIT. CONFIRM PROPER NEMA CONFIGURATION FOR RECEPTACLE WITH EQUIPMENT MANUFACTURER PRIOR TO ORDERING AND INSTALLING EQUIPMENT. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR, ARCHITECT/OWNER PRIOR TO ROUGH-IN.



3 2E03.11 COMPOSITE POWER PLAN - AMS - ENLARGED VIEW 3

3/32" = 1'-0"

4 2E03.11 COMPOSITE POWER PLAN - AMS - ENLARGED VIEW 4

3/32" = 1'-0"

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2E03.11
AMS - ENLARGED ELECTRICAL POWER PLANS

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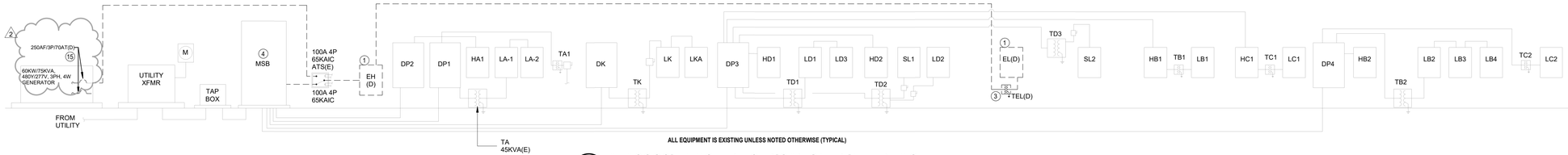
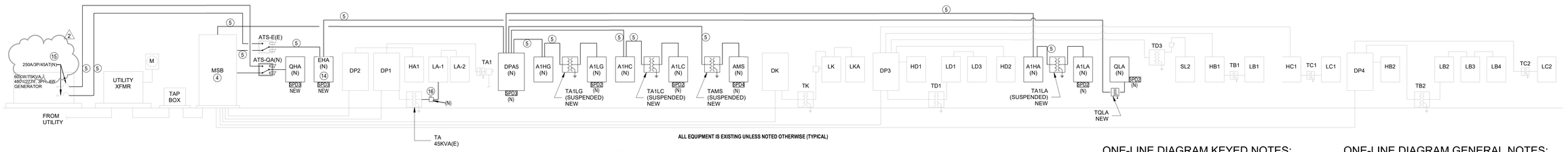
6/4/2026 2:29:01 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_E24.rvt



ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

1 2E04.01 ATASCOSITA MS - ELECTRICAL ONE-LINE - DEMO

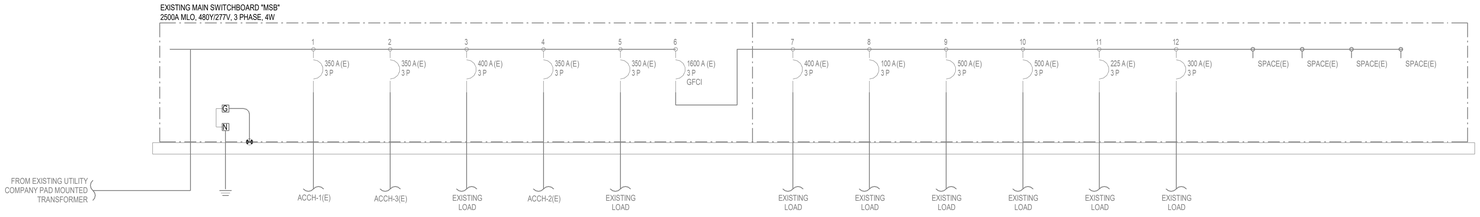
NOT TO SCALE



ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

2 2E04.01 ATASCOSITA MS - ELECTRICAL ONE-LINE - NEW

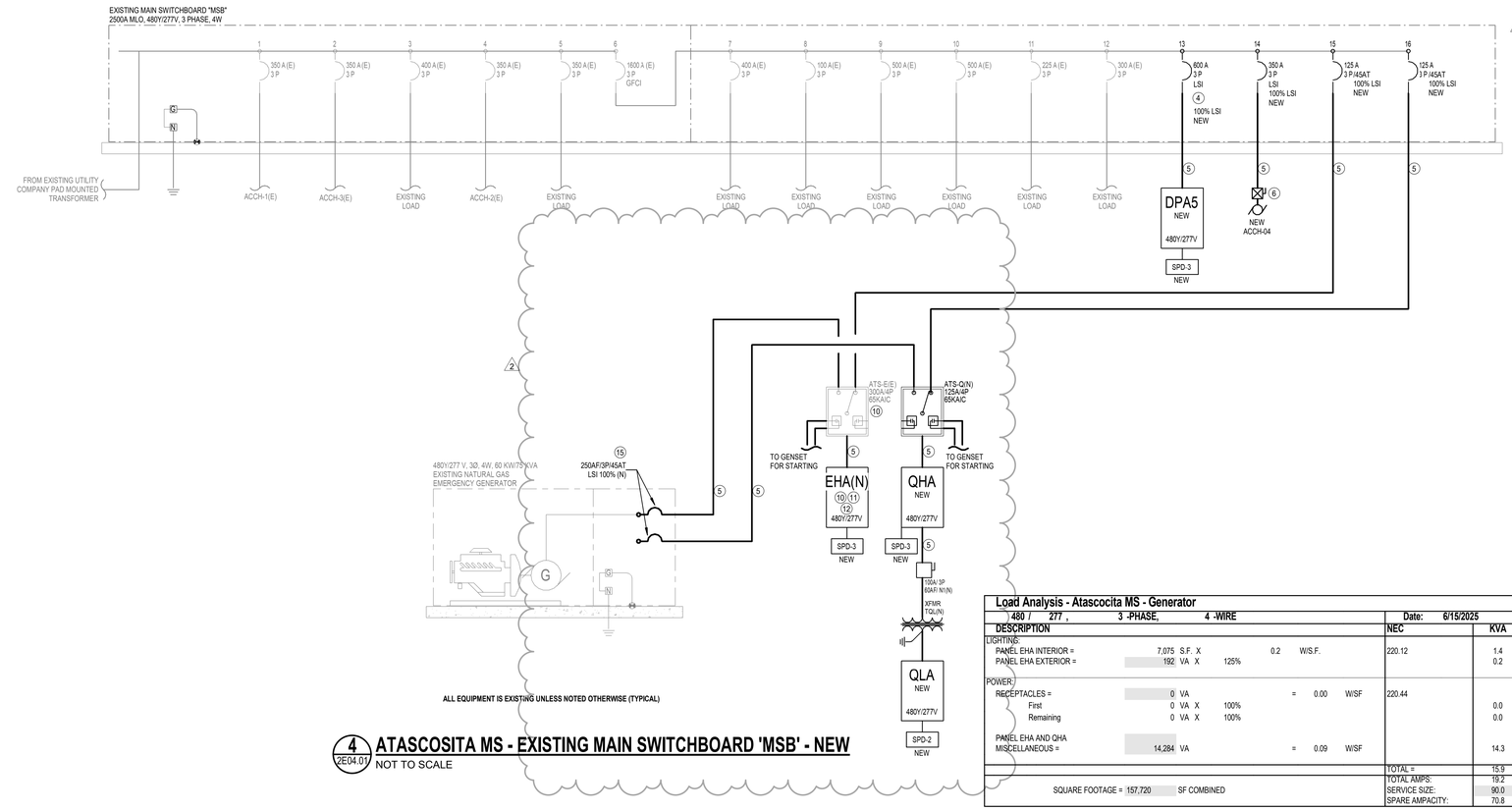
NOT TO SCALE



ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

3 2E04.01 ATASCOSITA MS - EXISTING MAIN SWITCHBOARD 'MSB' - DEMO

NOT TO SCALE



ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

4 2E04.01 ATASCOSITA MS - EXISTING MAIN SWITCHBOARD 'MSB' - NEW

NOT TO SCALE

Load Analysis - Atascosita MS - Generator

480 / 277 , 3 -PHASE, 4 -WIRE — Date: 6/15/2025

DESCRIPTION						NEC	KVA
LIGHTING:							
PANEL EHA INTERIOR =	7,075	S.F.	X	0.2	W/S.F.	220.12	1.4
PANEL EHA EXTERIOR =	192	VA	X 125%				0.2
POWER:							
RECEPTACLES =	0	VA		= 0.00	W/SF	220.44	
First	0	VA	X 100%				0.0
Remaining	0	VA	X 100%				0.0
PANEL EHA AND QHA MISCELLANEOUS =	14,284	VA		= 0.09	W/SF		14.3
						TOTAL =	15.9
SQUARE FOOTAGE = 157,720 SF COMBINED						TOTAL AMPS:	19.2
						SERVICE SIZE:	90.0
						SPARE AMPACITY:	70.8

Load Analysis - Atascocita MS

480 / 277 , 3 -PHASE, 4 -WIRE — Date: 1/3/2026

DESCRIPTION						NEC	KVA
EXISTING LOAD:							
PEAK KVA FROM CPE =	736,000	VA	X 125%			220.87	920.0
REMOVED LOAD:							
LIGHTING:							
INTERIOR =	1,016	VA	X 125%			220.12	-1.3
EXTERIOR =	0	VA	X 125%			220.12	0.0
POWER:							
RECEPTACLES =	5,400	VA				220.44	
First	10,000	VA	X 100%				-10.0
Remaining	(4,600)	VA	X 50%				2.3
KITCHEN	66,550	VA					-66.6
HVAC							
COOLING/FANS =	66,510	VA					-66.5
P-6 & P-7							
ADDED LOAD:							
LIGHTING:							
INTERIOR =	10,048	VA	X 125%	= 0.06	W/SF	220.12	12.6
EXTERIOR =	960	VA	X 125%			220.12	1.2
POWER:							
RECEPTACLES =	18,540	VA		= 0.12	W/SF	220.44	
First	10,000	VA	X 100%				10.0
Remaining	8,540	VA	X 50%				4.3
MISCELLANEOUS=	25,970	VA					26.0
KITCHEN =	28,812	VA	X 65%			220.56	18.7
HVAC:							
ACCH-04	198,932	VA	X 100%				198.9
P-CHWP-1A	2,827	VA	X 100%				2.8
P-1	17,459	VA	X 100%				17.5
P-9	33,255	VA	X 100%				33.3
P-10	33,255	VA	X 100%				33.3
AC-1/CU-1	1,830	VA	X 100%				1.8
HEATING =	0	VA	X 0%				0.0
ALL FANS =	34,238	VA					34.2
PLUMBING:							
WATER HEATER =	0	VA					0.0
						TOTAL =	1172.5
SQUARE FOOTAGE = 157,720						TOTAL AMPS:	1410.3
						SERVICE SIZE:	1600.0
						SPARE AMPACITY:	189.7

ONE-LINE DIAGRAM KEYED NOTES:

1. EXISTING PANEL SHALL BE DEMOLISHED AND REPLACED WITH NEW IN EXISTING SPACE. ALL CIRCUITS IN PANEL SHALL BE RELOCATED TO NEW PANE. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-NEW' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
2. EXISTING PANEL SHALL BE DEMOLISHED. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-NEW' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
3. EXISTING TRANSFORMER SHALL BE DEMOLISHED. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-NEW' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
4. REFER TO 03/2E04.01 AND 04/2E04.01 FOR ADDITIONAL 'MSB' DETAILS.
5. REFER TO FEEDER SCHEDULE.
6. ALL VFDS, MOTOR STARTERS, OR DISCONNECT SWITCHES SHALL BE SUPPLIED BY DIVISION 23 AND INSTALLED BY DIVISION 26 UNLESS NOTED OTHERWISE. ELECTRICAL CONNECTIONS SHALL BE PROVIDED BY DIVISION 26. DIVISION 26 SHALL COORDINATE WITH DIVISION 23 PRIOR TO ROUGH-IN.
7. RELOCATED SUSPENDED TRANSFORMER AND ASSOCIATED SECONDARY FUSED DISCONNECT.
8. REWORK FEEDER CONDUIT AND CONDUCTORS ASSOCIATED WITH RELOCATION OF TRANSFORMER AND ASSOCIATED DISCONNECT. INTERCEPT AND EXTEND TO NEW LOCATION AND PULL NEW WIRING. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-DEMO' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
9. PROVIDE NEW DISCONNECT AT PRIMARY SIDE OF TRANSFORMER. REFER TO ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
10. LIFE SAFETY SYSTEM SHALL BE FULLY COORDINATED TO COMPLY WITH 2023 NEC ARTICLE 700.32. PROVIDE BREAKERS AND FUSES TO COMPLY.
11. PROVIDE (2) SETS OF MAIN LUGS AND FEED THRU LUGS.
12. EXISTING EMERGENCY PANEL 'EH' SHALL BE RENAMED 'QH'. ALL LIGHTING CIRCUITS IN PANEL SHALL BE RELOCATED TO NEW PANEL 'EH'. ONLY LIGHTING CIRCUITS SHALL BE RELOCATED. REFER TO ELECTRICAL ONE-LINE DIAGRAMS, ELECTRICAL SCHEDULES, AND ELECTRICAL POWER PLANS FOR ADDITIONAL DETAILS.
13. EXISTING AUTOMATIC TRANSFER SWITCH 'ATS' SHALL BE RENAMED 'ATS-G'. REFER TO ELECTRICAL ONE-LINE DIAGRAMS, ELECTRICAL SCHEDULES, AND ELECTRICAL POWER PLANS FOR ADDITIONAL DETAILS.
14. NEW EMERGENCY LIFE SAFETY PANEL 'EH'. REFER TO ELECTRICAL ONE-LINE DIAGRAMS, ELECTRICAL SCHEDULES, AND ELECTRICAL POWER PLANS FOR ADDITIONAL DETAILS.
15. REPLACE EXISTING BREAKERS WITH NEW 250AF/3P/45AT, 100% LSI BREAKERS. CONTRACTOR SHALL FIELD COORDIANTE WITH GENERATOR MANUFACTURER, ARCHITECT AND OWNER PRIOR TO ORDERING NEW EQUIPMENT OR STARTING ANY WORK. CONTRACTOR SHALL FIELD COORDINATE AND BECOME FAMILIAR WITH EXISTING ELECTRICAL EQUIPMENT PRIOR TO STARTING ANY WORK.
16. PROVIDE NEW 200A/3P/150AF/N1 DISCONNECT.

ONE-LINE DIAGRAM GENERAL NOTES:

A. MANUFACTURER OF ELECTRICAL GEAR SHALL PROVIDE A COORDINATION STUDY FOR THE ENTIRE ELECTRICAL SYSTEM IN ORDER TO SET BREAKERS. REFER TO SPECIFICATIONS. MANUFACTURER SHALL PROVIDE AN ARC FLASH & SHORT CIRCUIT STUDY FOR THE ENTIRE ELECTRICAL SYSTEM IN ORDER TO SELECT INTERRUPTING RATINGS OF ALL CIRCUIT BREAKERS, DISTRIBUTION PANELBOARDS, PANELBOARDS, ETC. A SERIES RATED SYSTEM SHALL BE USED. SUBMIT INTERRUPTING RATING FOR ALL ELECTRICAL GEAR IN SUBMITTALS. CONTRACTOR SHALL SUPPLY WITH THEIR SUBMITTALS ON ALL NEW EQUIPMENT THE MANUFACTURERS UL DATA LISTING THE SERIES RATING OF ALL EQUIPMENT. THIS SWITCHBOARD AND ALL NEW EQUIPMENT CONNECTED DOWNSTREAM SHALL BEAR LABELS INDICATING "SERIES RATED EQUIPMENT" ON THEIR EXTERIOR AS SPECIFIED IN THE SPECIFICATIONS. CONTRACTOR SHALL INSTRUCT MANUFACTURER TO INCLUDE IN THEIR SUBMITTALS ALL TRIP CURVES AND ALL LITERATURE INDICATING THE INTERRUPTING RATING CHARACTERISTICS OF EQUIPMENT BEING SUPPLIED. CONTRACTOR SHALL SUBMIT STUDIES FOR REVIEW BEFORE SUBMITTING ELECTRICAL DISTRIBUTION EQUIPMENT FOR REVIEW. REFER TO SPECIFICATION SECTION 26 05 73.

B. ALL CONDUCTORS SHALL BE COPPER.

C. CONTRACTOR SHALL INSTALL FEEDERS BASED ON THE OVERCURRENT DEVICE RATING UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE FEEDER SCHEDULE TO OBTAIN AND INSTALL THE FEEDERS REQUIRED.

D. SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2" X 3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.

E. PRIOR TO INSTALLATION OF UNDERGROUND FEEDERS, THE ELECTRICAL CONTRACTOR SHALL SUBMIT AN UNDERGROUND ROUTING PLAN TO THE ENGINEER OF RECORD., INDICATING THE EXACT ROUTING PATH FOR ALL UNDERGROUND CONDUIT. INDICATE STUB-UP LOCATIONS, SIZE AND QUANTITY OF CONDUIT. ALL ELECTRICAL PANELS AND EQUIPMENT SHALL BE SHOWN ON THIS PLAN FOR REFERENCE OF CONDUIT TERMINATION.

F. ALL EQUIPMENT IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

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HUMBLE INDEPENDENT SCHOOL DISTRICT

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BRENT B. MOE 117260 LICENSED PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
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ISSUE FOR CONSTRUCTION

2E04.01
AMS - ELECTRICAL ONE-LINE DIAGRAM

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TD LB/MS TN SS/LG

6/4/2026 3:00:18 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_E24.rvt

Distribution Panelboard DPA5

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MLO | 0 A -- 600 A BUS (Copper) -- | LUGS: SINGLE -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	5580 VA	Spare; R; SP	A1HA	3	100 A	1 2 / 3 4 / 5 6	30 A	10	SPD3	SP	0 VA	
	35402 VA	Spare; L; R; SP; ...	A1HC	4/0	225 A	7 8 / 9 10 / 11 12	100 A	3	P-9	M	33254 VA	
	43660 VA	Spare; L; R; F; C...	A1HG	4/0	225 A	13 14 / 15 16 / 17 18	100 A	3	P-10	M	33254 VA	
	39424 VA	Spare; L; R; SP; ...	TAMS	250	250 A	19 20 / 21 22 / 23 24	15 A	12	CHWP-1A	M	2827 VA	
	17459 VA	M	P-1	6	60 A	25 26 / 27 28 / 29 30	350 A	500	SPARE PROVISION	--	0 VA	
	11639 VA	M	P-1-2	8	35 A	31 32 / 33 34 / 35 36	150 A	1/0	SPARE PROVISION	--	0 VA	
	0 VA	--	SPARE PROVISION	1/0	150 A	37 38 / 39 40 / 41 42	150 A	1/0	SPARE PROVISION	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	19620 VA	75.48%	14810 VA	210.20A	(L)Lighting	5913 VA	125.00%	7391 VA
220.56	(K)Kitchen	28812 VA	65.00%	18728 VA		(EL)Ext. Ltg.	864 VA	125.00%	1080 VA
220.60	(C)Cooling	4422 VA	100.00%	4422 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	35463 VA	100.00%	35463 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	127405 VA	100.00%	127405 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 222499 VA VA = 268 A
Total Load (Diversified): 209299 VA VA = 252 A
Location of Panel: Room-2 G119-2

Panelboard A1HG

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 225 A MCB -- 225 A BUS (Copper) -- | LUGS: -- -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	0 VA	--	Spare	12	20 A	1 2						
	540 VA	L	LIGHTING	12	20 A	3 4	15 A	12	AHU-D1	F	2993 VA	
	720 VA	L	LIGHTING	12	20 A	5 6						
	1076 VA	L	LIGHTING	12	20 A	7 8						
	360 VA	L	LIGHTING	12	20 A	9 10	30 A	10	AHU-G1	F	7649 VA	
	0 VA	--	Spare	12	20 A	11 12						
	0 VA	--	Spare	12	20 A	13 14	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	15 16	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	17 18	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	19 20	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	21 22	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	23 24	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	25 26	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	27 28	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	29 30	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	31 32	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	33 34	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	35 36	--	12	Space	--	0 VA	
	30322 VA	Spare; R; F; C;...	TA1LG	4	70 A	37 38 / 39 40 / 41 42	--	12	Space	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	7200 VA	100.00%	7200 VA	210.20A	(L)Lighting	2696 VA	125.00%	3370 VA
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling	3126 VA	100.00%	3126 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	11338 VA	100.00%	11338 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	19300 VA	100.00%	19300 VA		(SP)Sub Pnl.			
					630.11B	(W) Welders			

Total Connected Load: 43660 VA VA = 53 A
Total Load (Diversified): 44334 VA VA = 53 A
Location of Panel: DANCE STOR.-1 G157-1

Panelboard A1LG

10000 A AIC Rating
X New
Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 2 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 150 A MCB -- 225 A BUS (Copper) -- | LUGS: -- FEED THRU | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	360 VA	R	EXTERIOR RECEPTACLE	12	20 A	1 2	10		N-900	R; C	1476 VA	
	696 VA	F	EF-1	12	15 A	3 4						
	1830 VA	C	AC-1/ CU-1	10	30 A	5 6 / 7 8	20 A	12	BLEACHERS	MT; M	720 VA	
	720 VA	M	FREEZE PROTECTION	12	20 A	9 10	20 A	12	Spare	--	0 VA	
	720 VA	M	MOTORIZED VALVES	12	20 A	11 12	20 A	12	Spare	--	0 VA	
	540 VA	R	RC - RM.G155	12	20 A	13 14	20 A	12	Spare	--	0 VA	
	540 VA	R	R	12	20 A	15 16	20 A	12	Spare	--	0 VA	
	360 VA	R	R	12	20 A	17 18	20 A	12	Spare	--	0 VA	
	360 VA	R	DATA SOUND RACK	12	20 A	19 20	20 A	12	Spare	--	0 VA	
	540 VA	R	R	12	20 A	21 22	20 A	12	Spare	--	0 VA	
	180 VA	R	EXTERIOR RECEPTACLE	12	20 A	23 24	20 A	12	Spare	--	0 VA	
	360 VA	R	EXTERIOR RECEPTACLE	12	20 A	25 26	20 A	12	BASKETBALL GOALS	M	1380 VA	
	360 VA	R	EXTERIOR RECEPTACLE	12	20 A	27 28	20 A	12	BASKETBALL GOALS	M	1380 VA	
	360 VA	R	RC- RM.G154	12	20 A	29 30	20 A	12	BASKETBALL GOALS	M	1380 VA	
	1500 VA	M	SCOREBOARD	12	20 A	31 32	20 A	12	BASKETBALL GOALS	M	1380 VA	
	1000 VA	M	HANDRYER	12	20 A	33 34	20 A	12	BASKETBALL GOALS	M	1380 VA	
	1000 VA	M	HANDRYER	12	20 A	35 36	20 A	12	BASKETBALL GOALS	M	1380 VA	
	1000 VA	M	HANDRYER	12	20 A	37 38	20 A	12	RC- RM.G154	R	360 VA	
	1000 VA	M	HANDRYER	12	20 A	39 40	20 A	12	RC- RM.G154	R	180 VA	
	540 VA	R	R	12	20 A	41 42	20 A	12	R DANCE G155	R	720 VA	
	1500 VA	M	M	12	20 A	43 44	20 A	12	R DANCE G155	R	360 VA	
	360 VA	M	M	12	20 A	45 46	20 A	12	Spare	--	0 VA	
	180 VA	R	R GYM G154	12	20 A	47 48	20 A	12	Spare	--	0 VA	
	360 VA	R	R GYM G154	12	20 A	49 50	20 A	12	Spare	--	0 VA	
	1500 VA	M	M	12	20 A	51 52	20 A	12	Spare	--	0 VA	
	360 VA	R	R	12	20 A	53 54	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	55 56	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	57 58	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	59 60	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	61 62	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	63 64	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	65 66	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	67 68	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	69 70	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	71 72	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	73 74	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	75 76	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	77 78	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	79 80	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	81 82	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	83 84	--	12	Space	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	7200 VA	100.00%	7200 VA	210.20A	(L)Lighting			
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling	3126 VA	100.00%	3126 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	696 VA	100.00%	696 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	19300 VA	100.00%	19300 VA		(SP)Sub Pnl.			
					630.11B	(W) Welders			

Total Connected Load: 30322 VA VA = 84 A
Total Load (Diversified): 30322 VA VA = 84 A
Location of Panel: DANCE STOR.-1 G157-1

Panelboard A1HC

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 225 A MCB -- 225 A BUS (Copper) -- | LUGS: -- -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	144 VA	EL	EXTERIOR LIGHTING	12	20 A	1 2						
	1200 VA	L	LIGHTING	12	20 A	3 4	15 A	12	FCU-1	F	2577 VA	
	1256 VA	L	LIGHTING	12	20 A	5 6						
	1 VA	L	EXIT LIGHTS	12	20 A	7 8						
	0 VA	--	Spare	12	20 A	9 10	15 A	12	AHU-B1	F	3658 VA	
	0 VA	--	Spare	12	20 A	11 12						
	0 VA	--	Spare	12	20 A	13 14						
	0 VA	--	Spare	12	20 A	15 16	25 A	10	MUA-1	F	10974 VA	
	0 VA	--	Spare	12	20 A	17 18						
	0 VA	--	Spare	12	20 A	19 20	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	21 22	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	23 24	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	25 26	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	27 28	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	29 30	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	31 32	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	33 34	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	35 36	--	12	Space	--	0 VA	
	15592 VA	Spare; L; R; SP; ...	TA1LC	4	70 A	37 38 / 39 40 / 41 42	--	12	Space	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	6300 VA	100.00%	6300 VA	210.20A	(L)Lighting	2917 VA	125.00%	3521 VA
220.56	(K)Kitchen					(EL)Ext. Ltg.	864 VA	125.00%	1080 VA
220.60	(C)Cooling	1296 VA	100.00%	1296 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	24125 VA	100.00%	24125 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.					(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 35402 VA VA = 43 A
Total Load (Diversified): 36322 VA VA = 44 A
Location of Panel: UNIFORM STORAGE C102

Panelboard A1LA

10000 A AIC Rating
X New
Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 100 A MCB -- 100 A BUS (Copper) -- | LUGS: -- -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	720 VA	R	RC - RM.A109	12	20 A	1 2	20 A	12	Spare	--	0 VA	
	720 VA	R	RC - RM.A109	12	20 A	3 4	20 A	12	Spare	--	0 VA	
	720 VA	R	RC - RM.A109	12	20 A	5 6	20 A	12	Spare	--	0 VA	
	720 VA	R	RC - RM.A109	12	20 A	7 8	20 A	12	Spare	--	0 VA	
	720 VA	R	RC - RM.A109	12	20 A	9 10	20 A	12	Spare	--	0 VA	
	360 VA	R	RC - RM.A109	12	20 A	11 12	20 A	12	Spare	--	0 VA	
	540 VA	R	RC - RM.A109	12	20 A	13 14	20 A	12	Spare	--	0 VA	
	360 VA	R	RC - RM.A109	12	20 A	15 16	20 A	12	Spare	--	0 VA	
	360 VA	R	RC - RM.A109	12	20 A	17 18	20 A	12	Spare	--	0 VA	
	360 VA	R	R WOOD SHOP-2 A104-2	12	20 A	19 20	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	21 22	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	23 24	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	25 26	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	20 A	27 28	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	20 A	29 30	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	--	31 32	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	33 34	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	35 36	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	37 38	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	39 40	30 A	10	SPD2	SP	0 VA	
	0 VA	--	Space	12	--	41 42						

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	5580 VA	100.00%	5580 VA	210.20A	(L)Lighting			
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans				220.50	(MT)Lrg. Motor			
	(M)Misc.					(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 5580 VA VA = 15 A
Total Load (Diversified): 5580 VA VA = 15 A
Location of Panel: STOR.-2 A108-2

Panelboard QHA

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MLO | 0 A -- 125 A BUS (Copper) -- | LUGS: SINGLE -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	0 VA	--	Space	12	--	1 2	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	3 4	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	5 6	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	7 8	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	9 10	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	11 12	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	13 14	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	15 16	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	17 18	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	19 20	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	21 22	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	23 24	--	12	Space	--	0 VA	
	6720 VA	SP; M	TQLA	10	25 A	25 26 / 27 28 / 29 30	30 A	10	SPD3	SP	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle				210.20A	(L)Lighting			
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans				220.50	(MT)Lrg. Motor			
	(M)Misc.	6720 VA	100.00%	6720 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 6720 VA VA = 8 A
Total Load (Diversified): 6720 VA VA = 8 A
Location of Panel: Room-2 G119-2

Panelboard A1HA

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 100 A MCB -- 100 A BUS (Copper) -- | LUGS: -- -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	0 VA	--	Spare	12	20 A	1 2	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	3 4	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	5 6	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	7 8	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	20 A	9 10	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	20 A	11 12	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	13 14	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	15 16	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	17 18	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	19 20						
	0 VA	--	Space	12	--	21 22	45 A	8	T1LA	Spare; R; SP	5580 VA	
	0 VA	--	Space	12	--	23 24						

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	5580 VA	100.00%	5580 VA	210.20A	(L)Lighting			
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans				220.50	(MT)Lrg. Motor			
	(M)Misc.					(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 5580 VA VA = 7 A
Total Load (Diversified): 5580 VA VA = 7 A
Location of Panel: STOR.-2 A108-2

Panelboard EHA

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MLO | 0 A -- 125 A BUS (Copper) -- | LUGS: DOUBLE FEED THRU | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	748 VA	L	EMERGENCY LTG	12	20 A	1 2	20 A	12	EXIT LIGHTS	L	8 VA	
	13 VA	L	EMERGENCY LTG	12	20 A	3 4	20 A	12	EXISTING LOAD	L	1000 VA	
	1376 VA	L	EMERGENCY LTG	12	20 A	5 6	20 A	12	EXISTING LOAD	L	1000 VA	
	984 VA	L; EL	EXTERIOR LIGHTING	12	20 A	7 8	20 A	12	EXISTING LOAD	L	1000 VA	
	813 VA	L	EMERGENCY LTG	12	20 A	9 10						
	84 VA	L	EMERGENCY LTG	12	20 A	11 12	40 A	8	EXISTING LOAD	M	7564 VA	
	600 VA	L	EMERGENCY LTG	12	20 A	13 14						
	144 VA	EL	EXTERIOR EMERGENCY LTG	12	20 A	15 16	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	17 18	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	19 20	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	21 22	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	23 24	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	25 26						
	0 VA	--	Space	12	--	27 28	30 A	10	SPD3	SP	0 VA	
	0 VA	--	Space	12	--	29 30						

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle				210.20A	(L)Lighting	7482 VA	125.00%	9353 VA
220.56	(K)Kitchen					(EL)Ext. Ltg.	288 VA	125.00%	360 VA
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans				220.50	(MT)Lrg. Motor			
	(M)Misc.	7564 VA	100.00%	7564 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 15334 VA VA = 18 A
Total Load (Diversified): 17277 VA VA = 21 A
Location of Panel: Room-2 G119-2

Panelboard QLA

10000 A AIC Rating
X New
Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 60 A MCB -- 100 A BUS (Copper) -- | LUGS: -- -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
5	360 VA	M	RPS	12	20 A	1 2	20 A	12	EXISTING LOAD	M	500 VA	5
5	360 VA	M	EXISTING LOAD	12	20 A	3 4	20 A	12	EXISTING LOAD	M	500 VA	5
5	500 VA	M	EXISTING LOAD	12	20 A	5 6	20 A	12	EXISTING LOAD	M	500 VA	5
5	500 VA	M	EXISTING LOAD	12	20 A	7 8	20 A	12	EXISTING LOAD	M	500 VA	5
5	500 VA	M	EXISTING LOAD	12	20 A	9 10	20 A	12	EXISTING LOAD	M	500 VA	5
5	500 VA	M	EXISTING LOAD	12	20 A	11 12	20 A	12	EXISTING LOAD	M	500 VA	5
5	500 VA	M	EXISTING LOAD	12	20 A	13 14	--	12	Space	--	0 VA	
5	500 VA	M	EXISTING LOAD	12	20 A	15 16	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	17 18	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	19 20						
	0 VA	--	Space	12	--	21 22	30 A	10	SPD2	SP	0 VA	
	0 VA	--	Space	12	--	23 24						

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle				210.20A	(L)Lighting			
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans				220.50	(MT)Lrg. Motor			
	(M)Misc.	6720 VA	100.00%	6720 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 6720 VA VA = 19 A
Total Load (Diversified): 6720 VA VA = 19 A
Location of Panel: Room-2 H136-2

Panelboard LA1

10000 A AIC Rating
New
X Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 225 A MCB -- 225 A BUS (Copper) -- | LUGS: -- FEED THRU | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
1	0 VA	--	Spare	12	20 A	1 2	20 A	12	Spare	--	0 VA	1
1	0 VA	--	Spare	10	30 A	3 4						
1	0 VA	--	Spare	10	30 A	5 6	20 A	12	Spare	--	0 VA	1
1	0 VA	--	Spare	12	20 A	7 8						
1	0 VA	--	Spare	12	20 A	9 10	20 A	12	Spare	--	0 VA	1
1	0 VA	--	Spare	12	20 A	11 12						
1	0 VA	--	Spare	12	20 A	13 14	20 A	12	Spare	--	0 VA	1
1	0 VA	--	Spare	12	20 A	15 16	--	12	Spare	--	0 VA	1
1	0 VA	--	Spare	12	20 A	17 18	--	12	Space	--	0 VA	1
1	0 VA	--	Spare	12	20 A	19 20	--	12	Space	--	0 VA	1
1	0 VA	--	Spare	12	20 A	21 22	--	12	Space	--	0 VA	1
1	0 VA	--	Spare	12	20 A	23 24	20 A	12	Spare	--	0 VA	1
1	0 VA	--	Spare	12	20 A	25 26	20 A	12	Spare	--	0 VA	1
1	0 VA	--	Spare	12	20 A	27 28	--	12	Space	--	0 VA	1
1	0 VA	--	Spare	12	20 A	29 30	20 A	12	Spare	--	0 VA	1
1	0 VA	--	Spare	12	--	31 32

FEEDER SCHEDULE
COPPER ONLY

RATING	SETS	CONDUCTOR SIZE	CONDUIT
30A	1	4#10, 1#10 G.	3/4"
40A	1	4#8, 1#10 G.	1"
50A	1	4#8, 1#10 G.	1"
60A	1	4#6, 1#10 G.	1"
70A	1	4#4, 1#8 G.	1 1/4"
80A	1	4#4, 1#8 G.	1 1/4"
90A	1	4#3, 1#8 G.	1 1/4"
100A	1	4#3, 1#8 G.	1 1/4"
125A	1	4#1, 1#6 G.	1 1/2"
150A	1	4#1/0, 1#6 G.	1 1/2"
175A	1	4#2/0, 1#6 G.	2"
200A	1	4#3/0, 1#6 G.	2"
225A	1	4#4/0, 1#4 G.	2 1/2"
250A	1	4#250, 1#4 G.	2 1/2"
300A	1	4#350, 1#4 G.	3"
350A	1	4#500, 1#3 G.	3 1/2"
400A	1	4#600, 1#3 G.	4"
450A	2	4#4/0, 1#2 G.	2 1/2"
500A	2	4#250, 1#2G.	2 1/2"
600A	2	4#350, 1#1G.	3"
700A	2	4#500, 1#1/0G.	4"
800A	2	4#600, 1#1/0G.	4"
1000A	3	4#500, 1#2/0G.	4"
1200A	4	4#350, 1#3/0G.	3"
1600A	4	4#600, 1#4/0G.	4"
	5	4#500, 1#4/0G.	4"
2000A	5	4#600, 1#250 G.	4"
	6	4#500, 1#250 G.	4"
2500A	6	4#600, 1#350 G.	4"
	7	4#500, 1#350 G.	4"
3000A	8	4#500, 1#400 G.	4"
3500A	9	4#600, 1#500 G.	4"
	10	4#500, 1#500 G.	4"
4000A	10	4#600, 1#500 G.	4"
	11	4#500, 1#500 G.	4"
5000A	12	4#600, 1#750 G.	4"
	14	4#500, 1#750 G.	4"

1. ELECTRICAL CONTRACTOR SHALL PROVIDE THE NUMBER OF LUGS AND PROPER LUG SIZES TO ACCEPT CONDUCTOR SIZES SHOWN.
2. GROUND NOT REQUIRED AT SERVICE LATERAL.

TRANSFORMER FEEDER SCHEDULE - GENERAL PURPOSE - 3 PHASE

PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	GND. ELEC. SIZE
3	3 #12, 1 #12G.	3/4"	15A/3P	4 #12, 1 #8G.	3/4"	15A/3P	#8
6	3 #12, 1 #12G.	3/4"	15A/3P	4 #10, 1 #8G.	3/4"	25A/3P	#8
9	3 #12, 1 #12G.	3/4"	15A/3P	4 #10, 1 #8G.	3/4"	30A/3P	#8
15	3 #10, 1 #10G.	3/4"	25A/3	4 #6, 1 #8G.	1"	60A/3P	#8
30	3 #8, 1 #10G.	1"	45A/3P	4 #3, 1 #8G.	1 1/4"	100A/3P	#8
45	3 #4, 1 #8G.	1"	70A/3P	4 #1/0, 1 #6G.	1 1/2"	150A/3P	#6
75	3 #1, 1 #6G.	1 1/4"	125A/3P	4 #250, 1 #2G.	2 1/2"	250A/3P	#2
75	3 #3, 1 #8G.	1"	100A/3P	4 #4/0, 1#2G.	2 1/2"	225A/3P	#2
112.5	3 #2/0, 1 #6G.	1 1/2"	175A/3P	4 #600, 1 #1/0G.	4"	400A/3P	#1/0
150	3 #4/0, 1 #4G.	2"	225A/3P	(2) SETS OF 4 #250, 1 #1/0G.	2 1/2"	500A/3P	#1/0
225	3 #500, 1 #3G.	3"	350A/3P	(2) SETS OF 4 #600, 1 #3/0G.	4"	800A/3P	#3/0
300	(2) SETS OF 3 #4/0, 1 #2G.	2 1/2"	450A/3P	(3) SETS OF 4 #500, 1 #3/0G.	3 1/2"	1000A/3P	#3/0
400	(2) SETS OF 3 #350, 1 #1G.	2 1/2"	600A/3P	(4) SETS OF 4 #500, 1 #250G.	4"	1600AF/1400AT/3P	#3/0
500	(2) SETS OF 3 #500, 1 #1/0G.	3"	800A/3P	(5) SETS OF 4 #500, 1 #350G.	4"	2000AF/1800AT/3P	#3/0

NOTE:
-ALL CONDUCTORS SHALL BE COPPER

TRANSFORMER FEEDER SCHEDULE - HARMONIC MITIGATING - 3 PHASE

PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	G.E.C. SIZE
15	3 #10, 1 #10 G.	3/4"	25A/3P	3 #6, 1 #4N, 1 #8G.	1"	60A/3P	#8
30	3 #8, 1 #10 G.	1"	45A/3	3 #3, 1 #1/0N, 1 #8G.	1 1/4"	100A/3P	#8
45	3 #4, 1 #8 G.	1"	70A/3P	3 #1/0, 1 #4/0N, 1 #6G.	2"	150A/3P	#6
75	3 #1, 1 #6 G.	1 1/4"	125A/3P	3 #250, 2 #3/0N, 1 #2G.	3"	250A/3P	#2
112.5	3 #2/0, 1 #6 G.	1 1/2"	175A/3P	3 #600, 2 #300N, 1 #1/0G.	4"	400A/3P	#1/0
150	3 #4/0, 1 #4 G.	2"	225A/3P	(2) SETS OF 3 #250, 2 #3/0N, 1 #1/0G.	3"	500A/3P	#1/0
225	3 #500, 1 #3 G.	3"	350A/3P	(2) SETS OF 3 #600, 2 #300N, 1 #3/0G.	4"	800A/3P	#3/0
300	(2) SETS OF 3 #4/0, 1#2G	2 1/2"	450A/3P	(3) SETS OF 3 #500, 2 #250N, 1 #3/0G.	3 1/2"	1000A/3P	#3/0
500	(2) SETS OF 3 #500, 1#1/0G	3"	800A/3P	(5) SETS OF 3 #500, 2 #300N, 1 #350G.	3 1/2"	1800A/3P	#3/0

NOTE:
-ALL CONDUCTORS SHALL BE COPPER

2

TRANSFORMER SCHEDULE

MARK	KVA	PRI. VOLTAGE	SECONDARY VOLTAGE	MOUNTING	ENCLOSURE	REMARKS
T1LK	75.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	General Purpose.
TA1LA	30.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TA1LC	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TA1LG	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TAMS	75.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	General Purpose.
TD3 (R)	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	RELOCATED TRANSFORMER.
TL5A	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TL6A	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	PAD	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TQL	30.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TQLA	15.0	480V, 3PH.	208Y/120V, 3PH., 4W	PAD	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.

1. PROVIDE ALL TRANSFORMERS WITH ALUMINUM WINDING, UNLESS NOTED OTHERWISE.
2. PQI SHALL SELECT 0, 20, 30 AND 40 PHASE SHIFTS TO PROVIDE THE BEST PHASE ANGLES TO MITIGATE HARMONIC CURRENTS. SUBMIT FOR REVIEW.

SURGE PROTECTION DEVICE (SPD) SCHEDULE

MARK	MANUFACTURER	MODEL	VOLTAGE	PHASE	SURGE RATING PER MODE	BREAKER SIZE	TIERGUIDE CABLE SIZE
SPD2	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S	208/120V	3	100/200kA	30A/3P	INCLUDED
SPD3	SOUTHERN TIER TECHNOLOGIES	T45277Y100AWAJ2S	480/277V	3	100/200kA	30A/3P	INCLUDED
SPD4	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S-FMK	208/120V	3	100/200kA	30A/3P	INCLUDED

*ALL T45 SERIES SPD ENCLOSURES INSTALLED IN FOOD SERVICE AREAS (IE. KITCHENS, SNACK BARS, FOOD LABS, CULINARY ARTS ROOMS AND LIFE SKILLS ROOMS) SHALL BE RECESSED IN THE WALL. PROVIDE RECESSED WALL KIT #RKSS.

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY., HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE
117260
LICENSED
PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUE FOR CONSTRUCTION

E4.01
ELECTRICAL ONE-LINE SCHEDULES

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TDLB/MS TN SS/LG

6/4/2026 2:30:52 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_E24.rvt

LIGHTING CONTROLS DEVICE SCHEDULE

TYPE	DESCRIPTION	COMMENTS
S S^3 S^4 S^K	LINE VOLTAGE SWITCH.	'3' INDICATES THREE WAY SWITCHING. '4' INDICATES FOUR WAY SWITCHING. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
S^{MC}	LINE VOLTAGE MOMENTARY CONTACT SWITCH.	
S^{DR}	LINE VOLTAGE DIMMER SWITCH	DIMMER FOR USE IN DWELLING UNIT. COORDINATE DIMMING TYPE WITH FINAL FIXTURE AND LAMP SELECTION TO ENSURE COMPATIBILITY.
$S^{3,D}$	LINE VOLTAGE DIMMER WITH 3-WAY SWITCH.	3-WAY DIMMER FOR USE IN DWELLING UNIT. COORDINATE DIMMING TYPE WITH FINAL FIXTURE AND LAMP SELECTION TO ENSURE COMPATIBILITY.
S^{F}	MULTI-SPEED FAN CONTROLLER WITH LINE VOLTAGE SWITCH.	
S^{T}	LINE VOLTAGE TIMER SWITCH WITH DIGITAL TIMER.	RATED FOR 120/277VAC. PROVIDE WITH AUDIBLE & VISUAL ALERTS. USER PROGRAMMABLE FOR 5MIN-12HR TIME-OUT SETTINGS.
S^{OC1}	LINE VOLTAGE WALL MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR	SENSOR SHALL BE SET TO VACANCY MODE
S^{OC2}	LINE VOLTAGE WALL MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR WITH DUAL RELAYS.	SENSOR SHALL BE SET TO VACANCY MODE. ONE RELAY SHALL SERVE 120 VOLT LIGHTING IN AREA INDICATED, AND ONE RELAY SHALL SERVE 277 VOLT LIGHTING.
S^{OCD}	LOW VOLTAGE OC SENSOR SWITCH WITH 0-10V DIMMER	SENSOR SHALL BE SET TO VACANCY MODE
S^{LV} S^{LVK}	LOW VOLTAGE MANUAL CONTROL.	CONNECT TO POWER PACK OR ROOM CONTROLLER IF OCCUPANCY SENSORS ARE INDICATED ON PLAN. PROVIDE MULTI-BUTTON SWITCH AS REQUIRED PER SWITCH LEGS SHOWN ON PLANS. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
S^{ORK} S^{ORK}	LOW VOLTAGE MANUAL CONTROL.	CONNECT TO RELAY PANEL OR TIME CLOCK FOR TIME OF DAY OVERRIDE AS NOTED ON PLANS. PROVIDE MULTI-BUTTON SWITCH AS NOTED ON PLANS. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
S^{D}	LOW VOLTAGE SWITCH WITH 0-10V DIMMER	PROVIDE MULTI-BUTTON SWITCH AS REQUIRED PER SWITCH LEGS SHOWN ON PLANS. PROVIDE POWER PACKS OR ROOM CONTROLLERS AS REQUIRED.
OC1	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO VACANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC2	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO OCCUPANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC3	CEILING MOUNTED ULTRASONIC OR MICROPHONIC OCCUPANCY SENSOR.	SET TO OCCUPANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC4	CORNER MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO VACANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC5	WET LOCATION PIR OCCUPANCY SENSOR.	CONNECT GARAGE OCCUPANCY SENSORS TO RELAY PANEL SERVING AREA. PROVIDE POWER PACKS FOR CONTROL WHERE NOT LOCATED IN THE GARAGE.
OC6	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR FOR HIGH BAY APPLICATION.	SET TO VACANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
PC	DIGITAL PHOTOSENSOR	CONNECT TO ROOM CONTROLLER OR RELAY PANEL AS NOTED ON PLANS.
DS	DAYLIGHT HARVESTING SENSOR	CONNECT TO ROOM CONTROLLER OR INDIVIDUAL LIGHT FIXTURE FOR DAYLIGHT HARVESTING DIMMING CONTROL.

NOTES:
1. WATTSTOPPER IS THE BASIS OF DESIGN.
2. THE LIGHTING CONTROLS SCHEDULED ARE THE BASIS OF DESIGN. IT IS NOT INTENDED TO LIMIT COMPETITION FROM EQUAL MANUFACTURERS. ALL BIDDERS SHALL SUBMIT THEIR PROPOSED LIGHTING CONTROLS IN SUBMITTAL FORM A MINIMUM OF 10 BUSINESS DAYS PRIOR TO BID DATE FOR REVIEW. APPROVED LIGHTING CONTROL SYSTEMS WILL BE ISSUED IN AN ADDENDUM.
3. BASIS OF DESIGN SHALL BE A HARD-WIRED TYPE SYSTEM, UNLESS NOTED OTHERWISE.

2018 IECC STANDARD SEQUENCE OF OPERATIONS

ROOM TYPE	AUTO ON	MANUAL ON (VACANCY)	AUTO OFF (20MIN MAX)	PARTIAL OFF AT NORMAL HOURS	AUTO OFF AFTER HOURS (30MIN MAX)	TIME ON	TIME OFF	ASTRONOMIC OR PHOTOCELL ON/OFF	AUTO STEP CONTROL WITH OFF	AUTO CONTINUOUS DIM WITH OFF	MANUAL BI-LEVEL REDUCTION CONTROL	MANUAL CONTINUOUS DIM CONTROL	MANUAL ON/OFF SWITCH	MANUAL DIMMER SWITCH	DISPLAY, ACCENT, TASK CONTROL	SEQUENCE OF OPERATION V0.2 - 01022019
	OCCUPANCY SENSOR					TIME SWITCH			DAYLIGHT CTL		LT REDUCT		MANUAL CONTROL			
Spaces (≤ 300 sq ft)	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
"Enclosed Offices "	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
"Open Plan Office Areas ≤600SqFt zones"	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls. Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Class/Lecture/Training Room	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Conference/Meeting Room	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Copy/Print Room	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Restroom	100%		20 MIN										•			Auto On 100%. Occupancy sensor Auto Off; Manual control.
Lunch/Break Rooms/Lounges	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Corridor	100%		20 MIN							D		D	•	D	•	Auto On 100%. Occupancy sensor Auto Off; Manual control device; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Stairwell	100%		20 MIN							D		D	•	D		Auto On 100%; Occupancy sensor Auto Off; Manual control; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Storage Room	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Cafeteria / Gym		•					11PM			D	•	D	•	D		Manual On; Time Off with closing hours. After hours 2 hour override from manual control device; Where ≥150W in daylight area, continuous dimming daylighting control with dimmer switch.
Multipurpose Rooms	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Locker Room	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Lab	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off switches. Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
"Warehouse Aisle (Racks)"	50%			50% 20 MIN	20 MIN	OPEN	CLOSE			D	•	D	•			Time On 50%; Occupancy sensor Partial Off ≥50%; Manual control device; After hour occupancy sensor Auto On/Off; Where ≥150W in daylight area, continuous dimming daylighting control.
"Warehouse Open Area"				50% 20 MIN	20 MIN	OPEN	CLOSE			D	•	D	•	•		Time On 50%; Occupancy sensor Partial Off ≥50%; Local control device; After hour occupancy sensor Auto On/Off; Where ≥150W in daylight area, continuous dimming daylighting control.
Restaurant / Dining							CLOSE			D		D				Manual On; Time Off with closing hours. After hours 2 hour override from manual control device; Where ≥150W in daylight area, continuous dimming daylighting control with dimmer switch.
Building Façade / Landscape (Decorative)						CLOSE	OPEN	•								Dusk Auto On with astro time switch or photocell; Evening Time Auto Off no later than one hour after business close. Morning Time Auto On no earlier than one hour before business open; Dawn Auto Off.
"Exterior / Parking Lots / Site Lighting (Setback)"						6AM	12AM	•								Dusk Auto On with astro time switch or photocell; Reduce at least 30% from midnight or up to one hour after business close. Auto On to full at 6:00AM or up to one hour before business open. Dawn Auto Off.
Parking Garage						OPEN	CLOSE									Time On 100% when open. Time Off when closed.

•= Designation for code compliant default control design for spaces without daylighting control
D= Where daylighting control is required, "D" designation indicates controls required in the space for code compliance design
CK= Captive Key Switch system for use in Hotel/Motel and Guest Suites

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL	MOUNTING	LAMPS	VOLTAGE	WATTAGE	DESCRIPTION
	PINNACLE	EV3DPM2-A-840HO-PATTERN-FL-U-OL2-1-0-X	SURFACE	4000K LED	277 V	64 VA	3" PERIMETER W/ 2" REGRESS LENS. LENGTHS AND PATTERNS SHOWN ON DRAWINGS
A1	DAYBRITE	2FPZ48L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
A1E	DAYBRITE	2FPZ48L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
A2	DAYBRITE	2FPZ42B840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (LOW OUTPUT)
A2E	DAYBRITE	2FPZ42B840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (LOW OUTPUT). PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
A3	DAYBRITE	2FPZ60L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (HIGH OUTPUT)
A3E	DAYBRITE	2FPZ60L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (HIGH OUTPUT). PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
AW1	ALKCO	2ESG-70L-940-4-125CP-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 ARCHITECTURAL, LISTED FOR WET LOCATIONS
AW1E	ALKCO	2ESG-70L-940-4-125CP-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 ARCHITECTURAL, LISTED FOR WET LOCATIONS. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
B1E	DAYBRITE	2FPZ38L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
C1	PINNACLE	EV3DPM2-A-840HO-PATTERN-FL-U-OL2-1-0-X	SURFACE	4000K LED	277 V	64 VA	3" PERIMETER W/ 2" REGRESS LENS. LENGTHS AND PATTERNS SHOWN ON DRAWINGS
D1E	LIGHTOLIER	6RN / C6L15840WZ10U / C6RDLCC	RECESSED	4000K LED	277 V	26 VA	6" RECESSED ROUND APERTURE LED DOWNLIGHT, LISTED FOR WET LOCATIONS. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
FE	DAYBRITE	FSS4-55L-840-UNV-DIM / FSSWG4	SURFACE / CHAIN	4000K LED	277 V	45 VA	4' LED STRIP FIXTURE, CHAIN HUNG IN ROOMS WITHOUT CEILINGS, PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
G1	DAYBRITE	FHG12L840-UNV-W	RECESSED	4000K LED	277 V	121 VA	HIGH CEILING 1X2 LED FIXTURE WITH WIRE GUARD
G1E	DAYBRITE	FHG12L840-UNV-W	SURFACE	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
G2	DAYBRITE	FHG18L840-UNV-W	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
G2-ALT	DAYBRITE	FBY-18L-840-UNV-LFA / FBY-WG	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
G2E	DAYBRITE	FHG18L840-UNV-W	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
G2E-ALT	DAYBRITE	FBY-18L-840-UNV-LFA / FBY-WG	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
LP1	PINNACLE	EX4D-A-N-840-XX-U-OL2-1-X-FINISH	<varies>	4000K LED	277 V	58 VA	SUSPENDED 4' SATINE FLAT LENS LINEAR
LP1E	PINNACLE	EX4D-A-N-840-XX-U-OL2-1-X-FINISH	<varies>	4000K LED	277 V	58 VA	SUSPENDED 4' SATINE FLAT LENS LINEAR. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
LR1	PINNACLE	EV4D-A-840HO-XX-U-OL2-1-X-FINISH	RECESSED	4000K LED	277 V	60 VA	RECESSED 4" SATINE FLAT LENS LINEAR (HIGH OUTPUT)
LR1E	PINNACLE	EV4D-A-840HO-XX-U-OL2-1-X-FINISH	RECESSED	4000K LED	277 V	60 VA	RECESSED 4" SATINE FLAT LENS LINEAR (HIGH OUTPUT) PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
LR3	PINNACLE	EV4D-A-840VHO-LENGTH-X-U-OL2-1-X-FINISH	SURFACE / CHAIN	4000K LED	277 V	50 VA	4' LED STRIP FIXTURE, CHAIN HUNG IN ROOMS WITHOUT CEILINGS, PROVIDE WIREGUARD
LR3E	DAYBRITE	FSS4-55L-840-UNV-DIM / FSSWG4	SURFACE / CHAIN	4000K LED	277 V	50 VA	4' LED STRIP FIXTURE, CHAIN HUNG IN ROOMS WITHOUT CEILINGS, PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
LRWE	AXIS	EXAR-500-8040-SO-4-FINISH-UNV-DP-1-DF	RECESSED	4000K LED	277 V	60 VA	4" RECESSED LINEAR W/ FLANGE, LISTED FOR WET LOCATIONS. PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
WP1E	GARCO	GCM-A05-740-T3M-UNV-FINISH	SURFACE	4000K LED	277 V	24 VA	FULL CUTOFF WALL PACK WITH TYPE 3 OPTIC SYSTEM, LISTED FOR WET LOCATIONS. PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
X1	EMERGI-LITE	AAP SERIES	UNIVERSAL	LED	277 V	1 VA	PRECEPTOR SERIES, DIE-CAST ALUMINUM LED EXIT SIGN.

NOTES:
1. LIGHTING FIXTURE CATALOG NUMBERS AND DESCRIPTIONS ARE SCHEDULED FOR ESTABLISHING QUALITY, APPEARANCE AND PERFORMANCE OF THE FIXTURES AS REQUIRED BY THE DESIGN. EXACT CATALOG NUMBERS DESCRIBING MOUNTING CONDITIONS, FINISHES AND REQUIREMENTS RELATED TO TRIMS AND LENS FOR ALL FIXTURES SHALL BE CONFIRMED (BY THE CONTRACTOR) WITH THE ROOM FINISH SCHEDULE AND REFLECTED CEILING PLANS, INCLUDING GRID TYPES, ON THE ARCHITECTURAL DRAWINGS PRIOR TO BIDDING. FIXTURES SHALL BE SUBMITTED ACCORDING TO THE CONDITIONS INDICATED ON THE ARCHITECTURAL PLANS. REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. THE NEW LIGHT FIXTURES SCHEDULED ARE THE BASIS OF DESIGN. IT IS NOT INTENDED TO LIMIT COMPETITION FROM EQUAL MANUFACTURERS. ALL BIDDERS SHALL SUBMIT THEIR PROPOSED LIGHT FIXTURES IN SUBMITTAL FORM A MINIMUM OF 10 BUSINESS DAYS PRIOR TO BID DATE FOR REVIEW. APPROVED LIGHT FIXTURES WILL BE ISSUED IN AN ADDENDUM.

HMS LIGHTING CONTACTOR SCHEDULE

MARK	POLES	AMPS/ POLES	COIL VOLTAGE	AREA SERVED	CIRCUIT NO.
LCH-1	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCH-2	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCH-3	2	20	120	BACK-LIT LETTERING	SEE PLANS
LCH-4	2	20	120	EXTERIOR LIGHTS	SEE PLANS

LIGHTING CONTACTOR NOTES:
1. ALL LIGHTING CONTACTORS SHALL BE CONTROLLED VIA BAS WITH OWNER PROVIDED SCHEDULE AND SEQUENCE OF OPERATIONS PROVIDED ON THE LIGHTING PLANS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTROLS CONTRACTOR TO PROVIDE ADDITIONAL BAS CONTROL POINTS TO EACH LIGHTING CONTACTOR AS REQUIRED.
2. EACH CONTACTOR SHALL HAVE HAND-OFF-AUTO (H-O-A) SWITCH ADJACENT TO CONTACTOR.
3. EACH CONTACTOR SHALL BE PROVIDED WITH A MINIMUM OF 2 SPARE POLES, IN ADDITION TO THE QUANTITY OF POLES INDICATED ABOVE.
4. CONTACTORS SHALL BE LOCATED IN THE ELECTRICAL ROOMS WHERE THE ASSOCIATED CIRCUITS ORIGINATE FROM. LOCATE ADJACENT TO ASSOCIATED PANEL.

AMS LIGHTING CONTACTOR SCHEDULE

MARK	POLES	AMPS/ POLES	COIL VOLTAGE	AREA SERVED	CIRCUIT NO.
LCA-1	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCA-2	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCA-3	2	20	120	EXTERIOR LIGHTS	SEE PLANS

LIGHTING CONTACTOR NOTES:
1. ALL LIGHTING CONTACTORS SHALL BE CONTROLLED VIA BAS WITH OWNER PROVIDED SCHEDULE AND SEQUENCE OF OPERATIONS PROVIDED ON THE LIGHTING PLANS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTROLS CONTRACTOR TO PROVIDE ADDITIONAL BAS CONTROL POINTS TO EACH LIGHTING CONTACTOR AS REQUIRED.
2. EACH CONTACTOR SHALL HAVE HAND-OFF-AUTO (H-O-A) SWITCH ADJACENT TO CONTACTOR.
3. EACH CONTACTOR SHALL BE PROVIDED WITH A MINIMUM OF 2 SPARE POLES, IN ADDITION TO THE QUANTITY OF POLES INDICATED ABOVE.
4. CONTACTORS SHALL BE LOCATED IN THE ELECTRICAL ROOMS WHERE THE ASSOCIATED CIRCUITS ORIGINATE FROM. LOCATE ADJACENT TO ASSOCIATED PANEL.

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ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS
18810 W LAKE HOUSTON PKWY, HOUSTON TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

	Date	Description
2	06/04/2026	Addendum 2

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E5.01
ELECTRICAL SCHEDULES

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TBPE Firm Registration No. 2234
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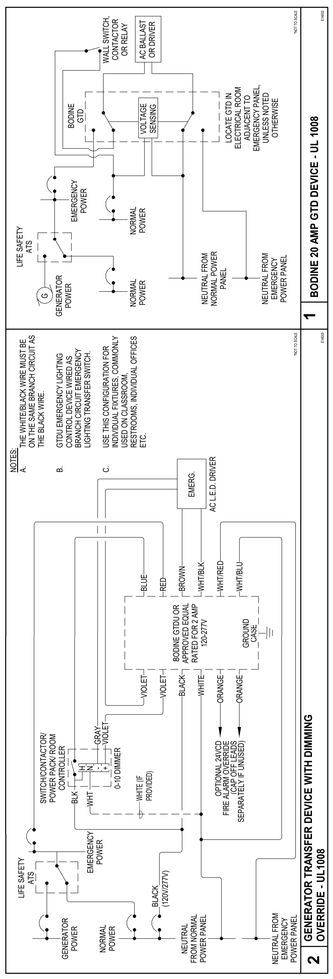

ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

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BRENT B. MOE
117260
LICENSED
PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS
Δ Date Description
2 06/04/2026 Addendum 2

2

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E6.02
ELECTRICAL DETAILS

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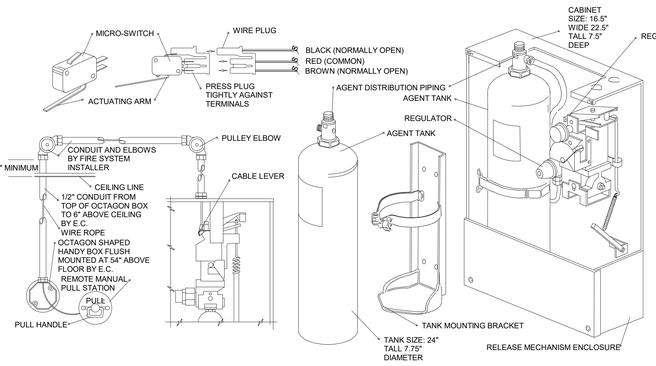
TBPE Firm Registration No. 2234
DBR Project # 240322

BIM RM/TDB/BAMS TN SSS/LG



ANSUL MODEL R-102 FIRE PROTECTION SYSTEM AND TANK(S)

ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL POWER DISCONNECT DEVICES FOR ALL EQUIPMENT BELOW THE HOOD, SHUTTING OFF ALL SERVICE, INCLUDING CONTROL VOLTAGE, UPON ACTIVATION OF THE FIRE PROTECTION SYSTEM.

MICRO-SWITCH FURNISHED WITH SYSTEM TO BE INTERWIRED TO THE SHUT-OFF DEVICES FOR THE COOKING EQUIPMENT BY THE ELECTRICAL CONTRACTOR.

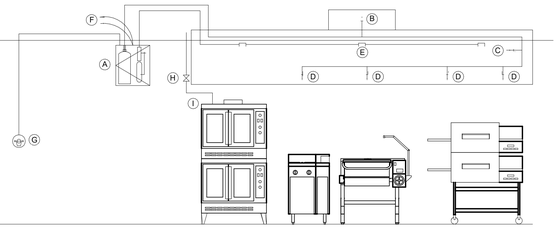
ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL AN OCTAGON SHAPED HANDY BOX FOR THE PULL STATION AT 48" ABOVE THE FLOOR WITH 1/2" CONDUIT FROM THE TOP OF THE BOX TO 6" ABOVE THE CEILING.

GAS SHUT-OFF VALVE FURNISHED WITH THE SYSTEM (IF REQUIRED) TO BE INSTALLED IN THE GAS LINE SERVING THE COOKING EQUIPMENT BY THE PLUMBING CONTRACTOR. VERIFY SIZE OF GAS LINE.

ALL EXPOSED PIPEWORK TO BE STAINLESS STEEL OR CHROME WHERE EXPOSED.

VERIFY LOCATION OF REMOTE MANUAL PULL STATION. UNIT MUST BE PLACED WITHIN EASY ACCESS OF EXIT DOOR.

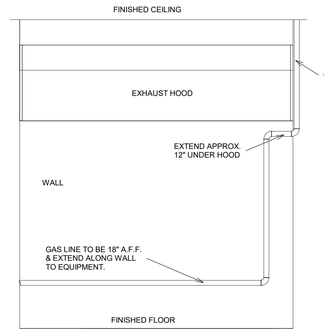
5 2P03.01 AMS - FIRE PROTECTION SYSTEM DETAIL
NOT TO SCALE



NOTE:
REFER TO FDP EQUIPMENT PLAN FOR SPECIFIC COMPONENTS UNDER HOOD. ALL EQUIPMENT SHOWN HERE FOR GRAPHICAL REPRESENTATION ONLY.

- A S/S ENCLOSURE W/AGENT TANK AND NITROGEN CARTRIDGE
- B DUCT NOZZLE(S)
- C PLENUM NOZZLE(S)
- D SURFACE PROTECTION NOZZLE(S)
- E FUSIBLE LINK(S)
- F (2) W/RES FROM FIRE SYSTEM TO SHUNT TRIP BREAKERS FOR SHUT DOWN OF ELECTRICAL CONNECTIONS LOCATED BENEATH EXHAUST HOOD DURING FIRE MODE
- G REMOTE FIRE PULL
- H GAS VALVE
- I GAS SUPPLY (AS REQUIRED)

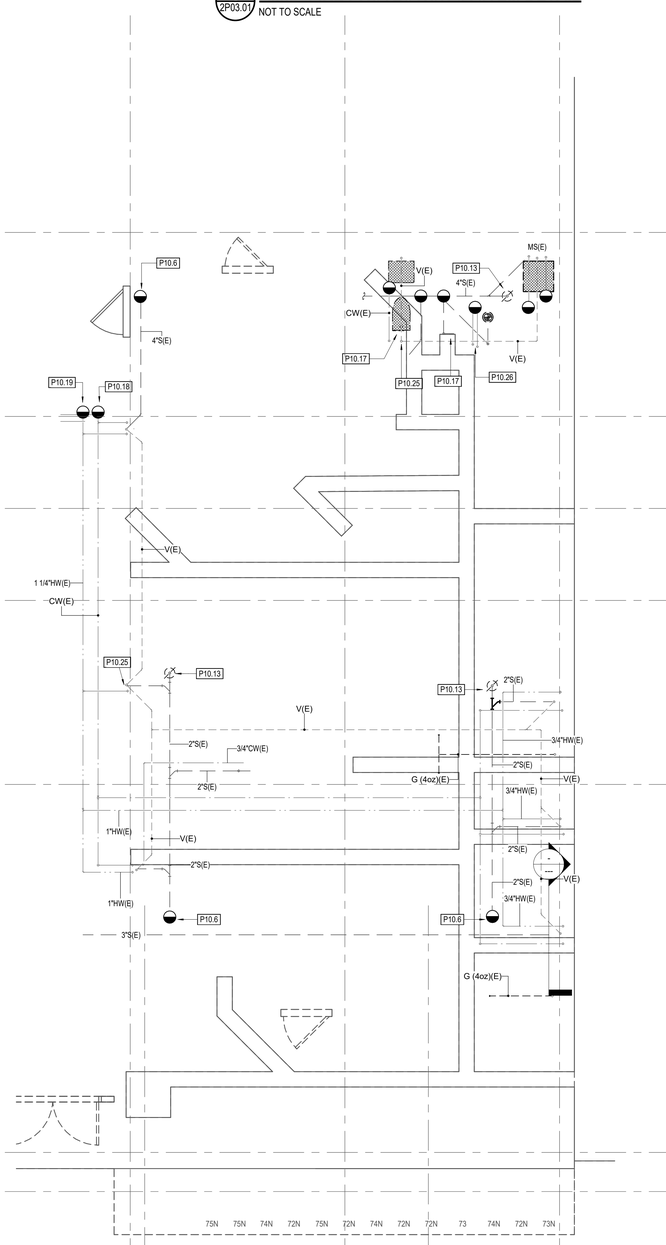
6 2P03.01 AMS - FIRE PROTECTION SYSTEM TYPICAL DETAIL
NOT TO SCALE



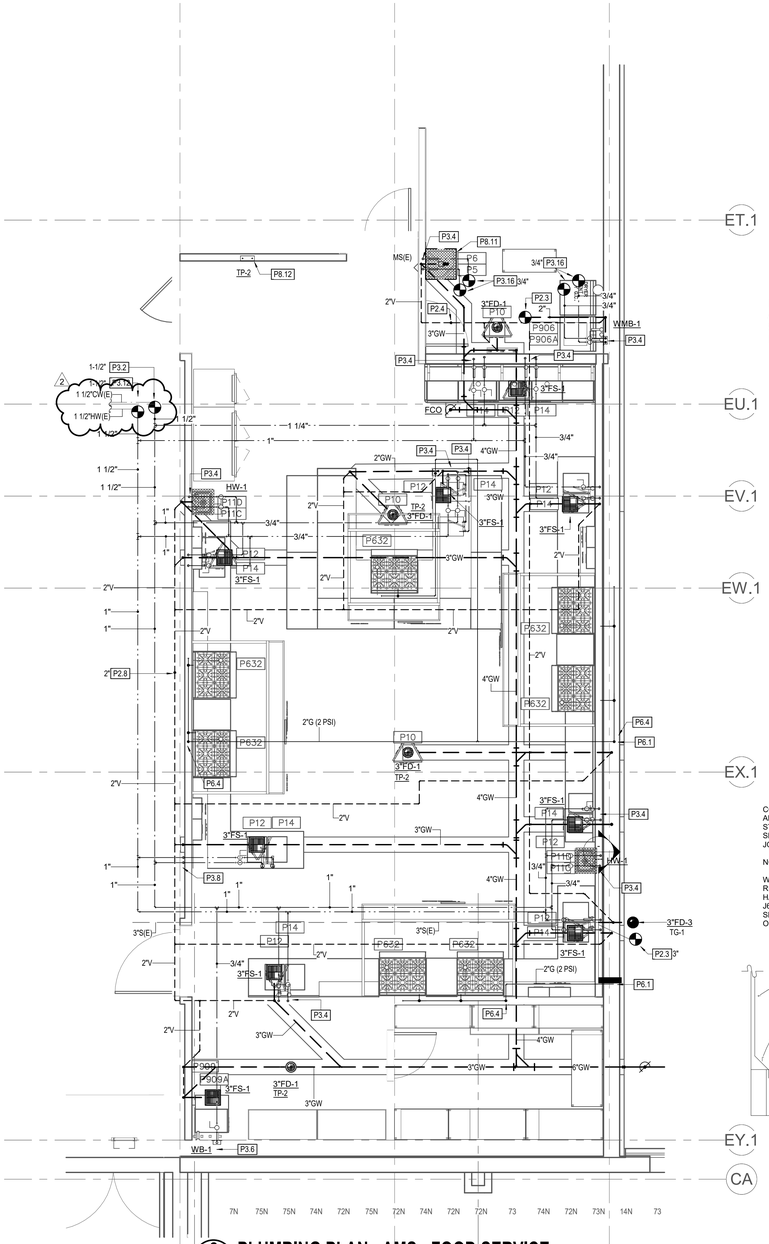
4 2P03.01 AMS - EXHAUST HOOD - GAS LINE ROUTING DETAIL
NOT TO SCALE

PLUMBING KEYED NOTES

- P2.3 MODIFY AS REQUIRED AND CONNECT NEW SANITARY WASTE BELOW FLOOR TO EXISTING OF EQUAL OR GREATER SIZE.
- P2.4 MODIFY AS REQUIRED AND CONNECT NEW VENT ABOVE CEILING TO EXISTING OF EQUAL OR GREATER SIZE.
- P2.8 MODIFY AS REQUIRED AND CONNECT NEW VENT ABOVE CEILING TO EXISTING VTR. SIZE AS NOTED.
- P3.2 MODIFY AS REQUIRED AND CONNECT NEW COLD WATER ABOVE CEILING. SIZE AS NOTED.
- P3.4 DROP AND EXTEND 3/4" HOT AND COLD WATER TO SERVE FIXTURE(S).
- P3.6 DROP AND EXTEND 3/4" COLD WATER TO SERVE FIXTURE(S).
- P3.8 DROP COLD WATER DOWN INSIDE CHASE/WALL AND EXTEND TO SERVE ADJACENT FIXTURE(S). SIZE AS NOTED.
- P3.12 MODIFY AS REQUIRED AND CONNECT NEW HOT WATER ABOVE CEILING. SIZE AS NOTED.
- P3.16 MODIFY AS REQUIRED AND CONNECT NEW HOT AND COLD WATER ABOVE CEILING TO EXISTING. SIZE AS NOTED.
- P6.1 2" GAS (4 OZ) DOWN IN EXISITING HOODED ROOF PENETRATION TO KITCHEN EQUIPMENTS. SIZE AS NOTED.
- P6.4 2" GAS (4 OZ) DOWN TO MANIFOLD 40" A.F.F. BEHIND EQUIPMENT. ROUTE GAS LINE THRU MANUAL VALVE AND ANSUL VALVE. THEN ROITE PIPE EXPOSED LOW ON FACE OF THE WALL TO SERVE COOKLINE EQUIPMENT. PROVIDE LINE SIZED SHUTOFF VALVE AND FLEXIBLE CONNECTION AT EACH APPLIANCE GAS INLET.
- P8.11 EXISTING MOP SINK IN NEW LOCATION.
- P8.12 CONTRACTOR SHALL DETERMINE THE NUMBER OF ELECTRONIC TRAPS TO BE INSTALLED. RE: 22/P801.
- P10.6 EXISTING SANITARY WASTE TO BE DEMOLISHED TO THIS POINT AND CAPPED FOR ABANDONMENT.
- P10.13 EXISTING FLOOR CLEANOUT TO BE DEMOLISHED.
- P10.17 DEMOLISH EXISTING FIXTURE(S) INCLUDING ALL ASSOCIATED PIPING, FITTINGS AND APPURTENANCES. CAP SERVICES BACK TO MAIN. FIELD VERIFY FOR EXACT LOCATION.
- P10.18 EXISTING DOMESTIC COLD WATER LINE TO BE REMOVED BACK TO THIS POINT AND CAPPED FOR FUTURE TIE IN.
- P10.19 EXISTING DOMESTIC HOT WATER LINE TO BE REMOVED BACK TO THIS POINT AND CAPPED FOR FUTURE TIE IN.
- P10.25 ALL VENTING PIPING TO BE DEMOLISHED BEFORE VERTICAL PIPING TO VTR. VTR TO REMAIN AND CAPPED FOR FUTURE TIE IN. RE: NEW PLANS.
- P10.26 EXISTING WASHING MACHINE WALL BOX TO BE DISCONNECTED. ALL ASSOCIATED PIPING TO BE DEMOLISHED BACK TO MAIN AND CAPPED FOR ABANDONMENT.



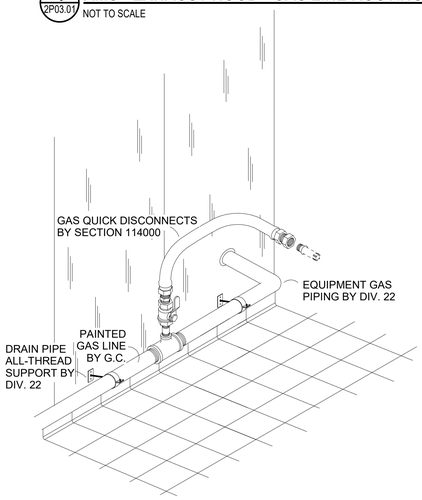
1 2P03.01 DEMOLITION PLUMBING PLAN - AMS - FOOD SERVICE
1/4" = 1'-0"



2 2P03.01 PLUMBING PLAN - AMS - FOOD SERVICE
1/4" = 1'-0"

HW	HOT WATER	IW	INDIRECT WASTE (EXTEND TO F.D.)
CW	COLD WATER	FFD	FUNNEL FLOOR DRAIN
HTW	180 F HOT WATER	EVC	EXHAUST VENT CONNECTION
CWS	CHILLED WATER	SVC	SUPPLY VENT CONNECTION
G	GAS SUPPLY	FR	DIRECT-CONNECTED FLUE RISER
SS	STEAM SUPPLY	PS	PIPE SLEEVE
CR	CONDENSATE RETURN	AFF	ABOVE FINISHED FLOOR
DR	DRAIN	ST	STUB UP/OUT
FD	FLOOR DRAIN	BTC	BRANCH TO CONN. ON EQUIP
FS	FLOOR SINK	DFA	DROP FROM ABOVE
		CA	COMPRESSED AIR

9 2P03.01 AMS - PLUMBING SYMBOLS
NOT TO SCALE



7 2P03.01 AMS - GAS DISCONNECT DETAIL
NOT TO SCALE

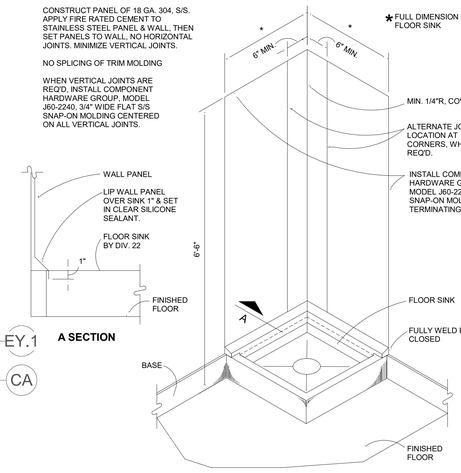
FOODSERVICE PLUMBING SCHEDULE

FDP PNO	FDP PSIZE	FDP PCONN	FDP PSERVICE TO	FDP PLOC	FDP PAFF	FDP PREMARKS
P5	3/4"	H & C WATER	JANITOR SINK	WALL	48"	JANITOR SINK BY PLUMBER
P6	4"	FLOOR DRAIN	JANITOR SINK	FLOOR	VERIFY	JANITOR SINK BY PLUMBER
P10	VERIFY	FLOOR DRAIN	GENERAL AREA DRAIN	FLOOR	VERIFY	LOCATE PER ENGINEER'S DRAWING
P11C	1/2"	H & C WATER	FAUCET	WALL	18"	FURNISHED & INSTALLED BY DIV. 22
P11D	1 1/2"	DIRECT DRAIN	HAND SINK	WALL	15"	FURNISHED & INSTALLED BY DIV. 22
P12	12"SQ.	FLOOR SINK	EQUIPMENT	FLOOR	0"	3/4 GRATE
P14	3/4"	H & C WATER	FAUCET	WALL	18"	BTC; S/S FLEX HOSE TO MIXING VALVE
P632	3/4"	NATURAL GAS	RANGE	WALL	18"	BTC: RE: NOTE #3 & #9 - 184 MBTU/HR
P906	3/4"	H & C WATER	CLOTHES WASHER	WALL	48"	BTC; VALVE BOX
P906A	2"	INDIRECT DRAIN	CLOTHES WASHER	WALL	48"	VALVE BOX
P909	3/4"	COLD WATER	WATER/ ICE	WALL	60"	BTC
P909A	12" SQ.	FLOOR SINK	ICE MACHINE	FLOOR	0"	FULL GRATE

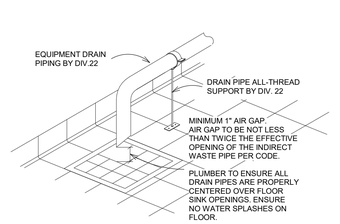
CONSTRUCT PANEL OF 18 GA. 304, S/S. APPLY FIRE RATED CEMENT TO STAINLESS STEEL PANEL & WALL, THEN SET PANELS TO WALL. NO HORIZONTAL JOINTS. MINIMIZE VERTICAL JOINTS.

NO SPLICING OF TRIM MOLDING

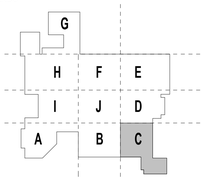
WHEN VERTICAL JOINTS ARE REQ'D, INSTALL COMPONENT HARDWARE GROUP, MODEL J60-2240, 3/4" WIDE FLAT S/S SNAP-ON MOLDING CENTERED ON ALL VERTICAL JOINTS.



8 2P03.01 AMS - JANITOR SINK - WALL PANEL DETAIL
NOT TO SCALE



3 2P03.01 AMS - DRAIN PIPING FASTENER DETAIL
NOT TO SCALE



KEY PLAN

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DBR Project # 240322
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HUMBLE, TX 77338

STATE OF TEXAS
ANTHONY S. JASPAL
95728
LICENSED PROFESSIONAL ENGINEER
05/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
1	05/30/2025	CDH ETJ COMMENTS
2	06/04/2026	Addendum 2

ISSUE FOR CONSTRUCTION
2P03.01
AMS - PLUMBING PLAN - FOOD SERVICE

Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_P24.rvt
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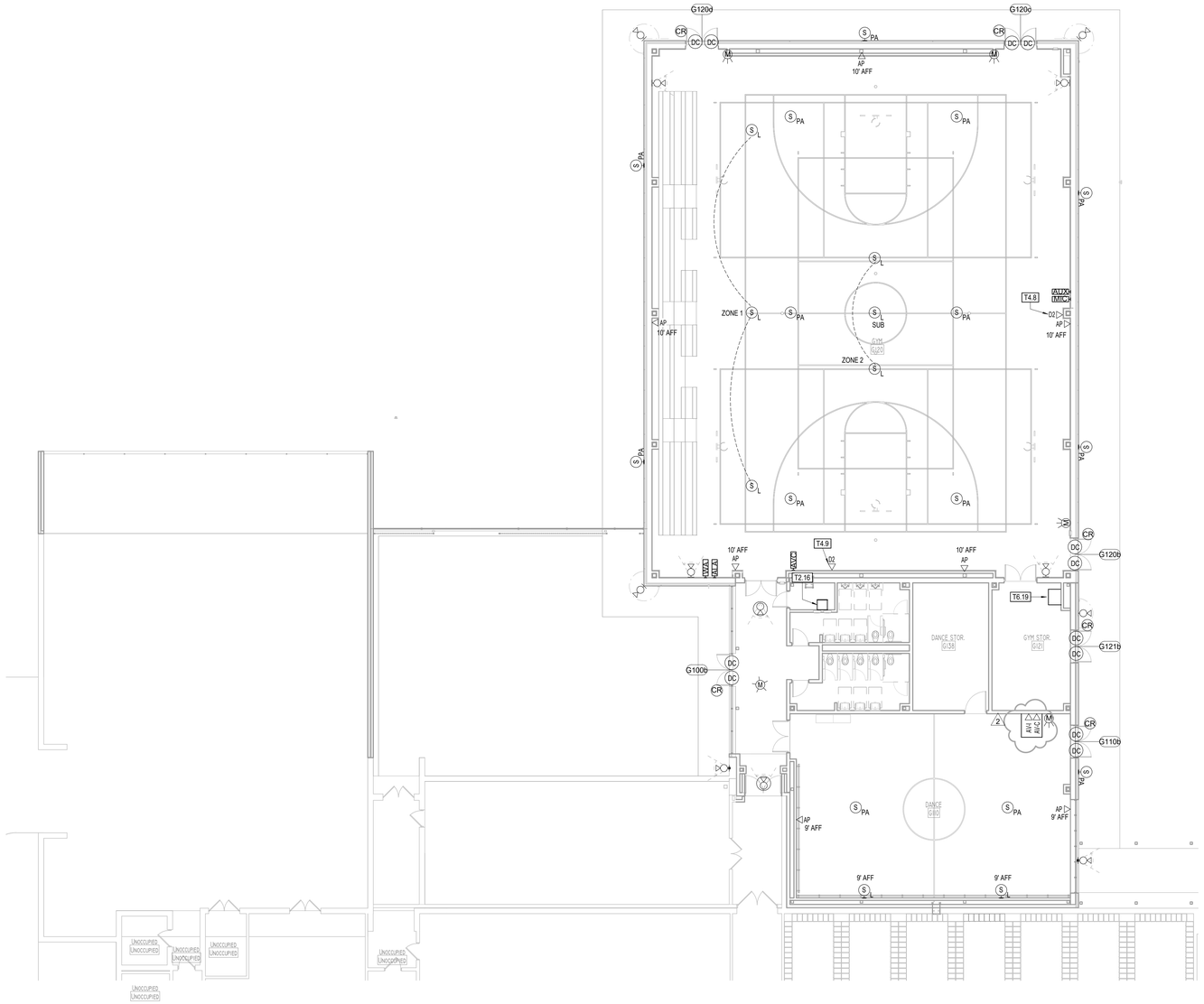


1 TECHNOLOGY PLAN - FIRST LEVEL - AMS - SEGMENT 'G'

2T02.02G

3/32" = 1'-0"

GENERAL FLOOR PLAN NOTES:

1. ALL TECHNOLOGY DEVICES, OUTLETS AND CABLE/CONDUIT PATHWAYS SHOWN ARE DIAGRAMMATIC ONLY AND ARE NOT MEANT TO SHOW THE EXACT LOCATION OR ROUTE. CONTRACTOR SHALL VERIFY WITH ARCHITECT AND OWNER FOR EXACT ROUTE, MOUNTING HEIGHT, AND LOCATION BEFORE INSTALLATION, AND SHALL COORDINATE WITH OTHER TRADES TO MAKE ANY FIELD ADJUSTMENTS AS NECESSARY TO AVOID COLLISIONS AND MEET THE PROJECT REQUIREMENTS.
2. CONDUITS AND BACKBOXES, SIZED PER DIV 27/28 SPECIFICATIONS, SHALL BE PROVIDED (BY DIV 26) FOR ALL TECHNOLOGY SYSTEM DEVICES MOUNTED ON WALL, FLOOR, AND OPEN OR SOLID FINISH CEILING. CONDUITS/SLEEVES SHALL BE PROVIDED FOR ALL CABLES ROUTED IN WALLS, OR THROUGH FULL HEIGHT PARTITIONS, OR THROUGH INACCESSIBLE CEILING PLENUM, OR THROUGH SPACES WITH EXPOSED CEILING DECK.
3. UTP CABLES OF DIFFERENT RATING (CAT 6, CAT 6A, CLASS 4 POWER) OR JACKETING (SHIELDED OR COLORED SHEATH) OR DIFFERENT MEDIA TYPE CABLES (UTP, FIBER, COAX, ETC.) SHALL BE ROUTED IN SEPARATE J-HOOKS, CONDUITS, SLEEVES, CORES, DUCTS, ETC. THROUGHOUT THE ENTIRE PATHWAY. INSTRUMENTATION, SIGNAL, AND TELECOMMUNICATIONS CABLING (INCLUDING CLASS 4 POWER), SHALL BE SEPARATED FROM POWER CABLING WITH A SEPARATE CABLE TRAY OR BY A DIVIDER WITHIN A CABLE TRAY.
4. BUSHINGS SHALL BE INSTALLED AT EACH END OF THE CONDUITS BEFORE CABLES BEING PULLED THROUGH. PROVIDE PULL STRING IN EACH CONDUIT INSTALLED AND LEAVE ONE FOR FUTURE PULLING AFTER CABLE INSTALLATION IS COMPLETE.
5. NO NETWORK DATA CABLE RUN SHALL EXCEED 295 FEET IN TOTAL LENGTH INCLUDING UP/DOWN AND SERVICE LOOPS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT AND ENGINEER. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PROPER PATHWAY PLANNING.

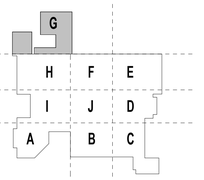
TECHNOLOGY KEYED NOTES

T2.16 PROPOSED LOCATION OF NEW WALL MOUNTED NETWORK ENCLOSURE FROM WHICH ALL NEW CAT6 CABLING REQUIRED FOR THIS SECTION OF THE ADDITION IS TO ORIGINATE FROM. CONTRACTOR SHALL PROVIDE ONE (1) 12-STRAND MULTI-MODE FIBER FROM MDF TO THIS NETWORK ENCLOSURE.

T4.8 INDICATED DATA DROP IS RESERVED FOR SCOREBOARD CONTROL. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

T4.9 INDICATED DATA DROP IS RESERVED FOR SCOREBOARD. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

T6.19 PROVIDE WALL MOUNTED CABINET RESERVED FOR GYMNASIUM LOCAL SOUND SYSTEM. REFERENCE SPECIFICATIONS FOR MORE INFORMATION.



KEY PLAN N

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REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Adam Calisch
BICSI ID # 332200
EXPIRES 12-31-26
RCDD

DATE: 06/04/2026

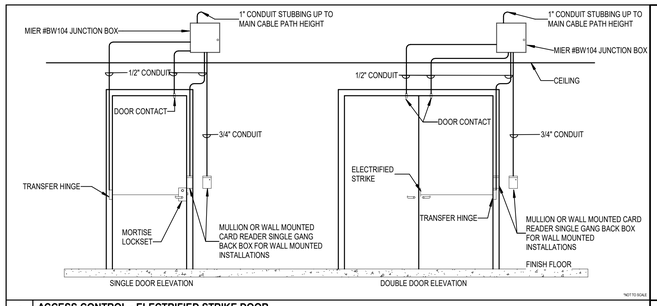
PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	ADDENDUM 2

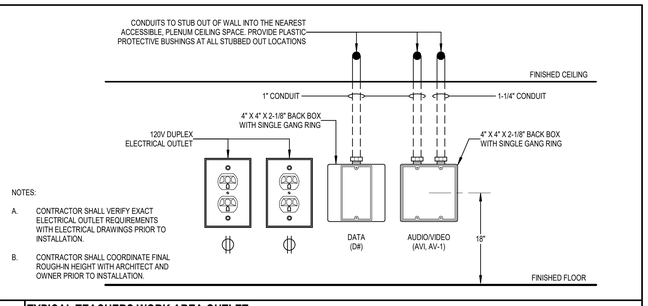
ISSUE FOR CONSTRUCTION

2T02.02G
AMS - TECHNOLOGY PLAN - SEGMENT 'G'

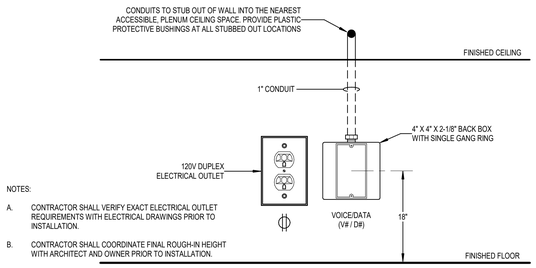
6/4/2026 1:44:28 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_T24.rvt



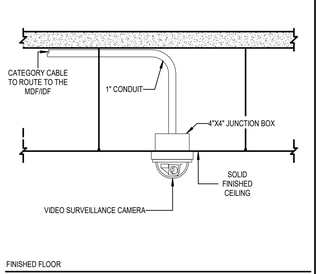
1 ACCESS CONTROL - ELECTRIFIED STRIKE DOOR ELEVATION
NOT TO SCALE



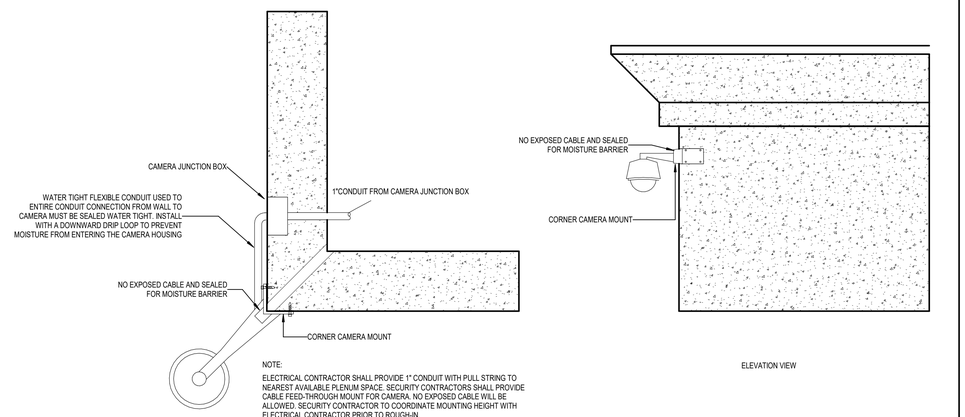
2 TYPICAL TEACHERS WORK AREA OUTLET
NOT TO SCALE



3 RACEWAY DETAIL - TYPICAL VOICE/DATA OUTLET
NOT TO SCALE



4 EXTERIOR/INTERIOR SOLID CEILING MOUNT CAMERA
NOT TO SCALE



5 LVVSS-05 - CORNER MOUNTING DETAIL
NOT TO SCALE

pfluger
office: 713.222.1141 | fax: 713.222.1174
2 Greenway Plaza #460
Houston, Texas 77046
pflugerarchitects.com

ATASCOCITA MIDDLE SCHOOL ADDITIONS & RENOVATIONS

18810 W LAKE HOUSTON PKWY, HOUSTON, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Adam Collisch
BICSI ID # 333200
EXPIRES 12-31-26
RCDD

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

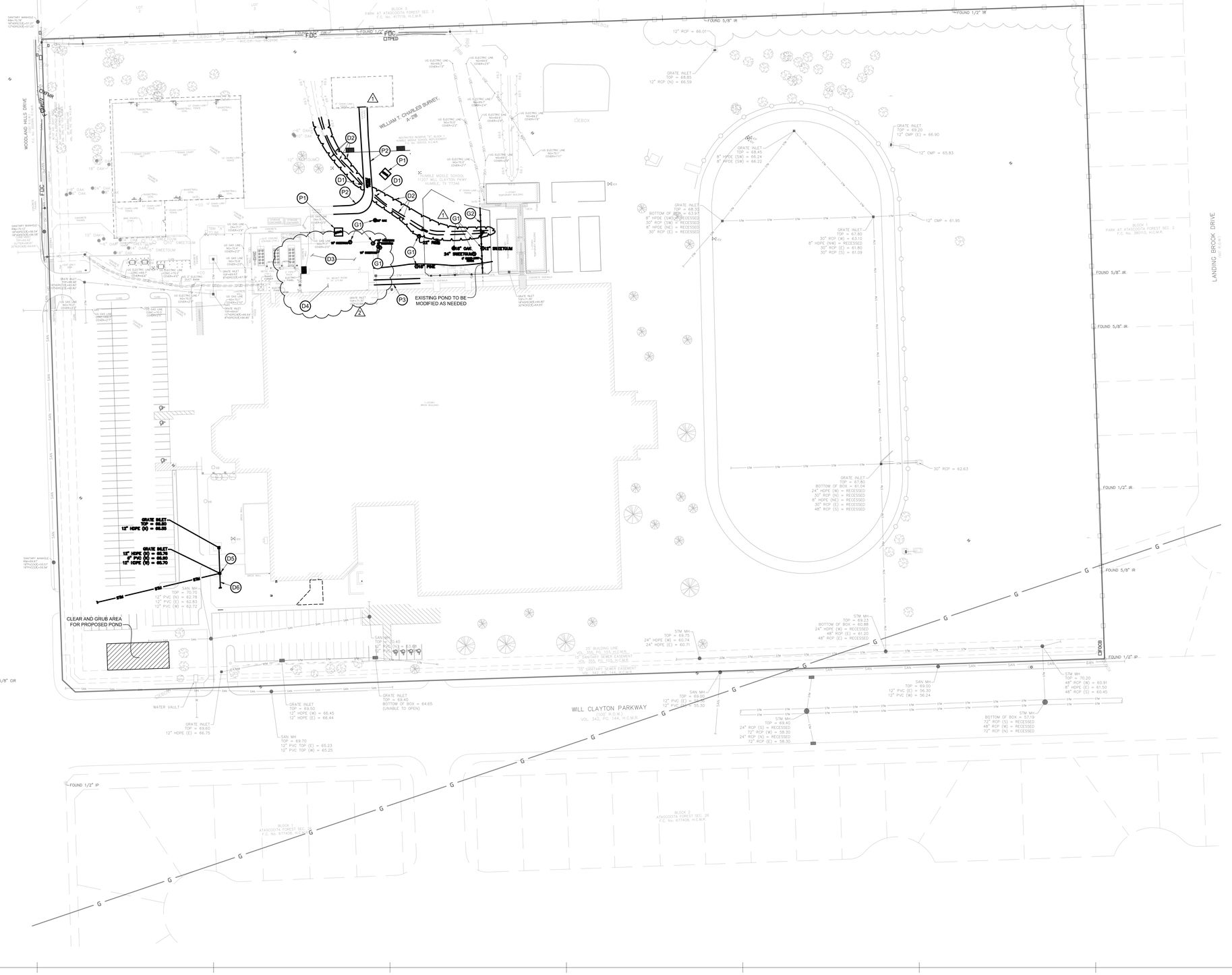
No.	Date	Description
2	06/04/2026	ADDENDUM 2

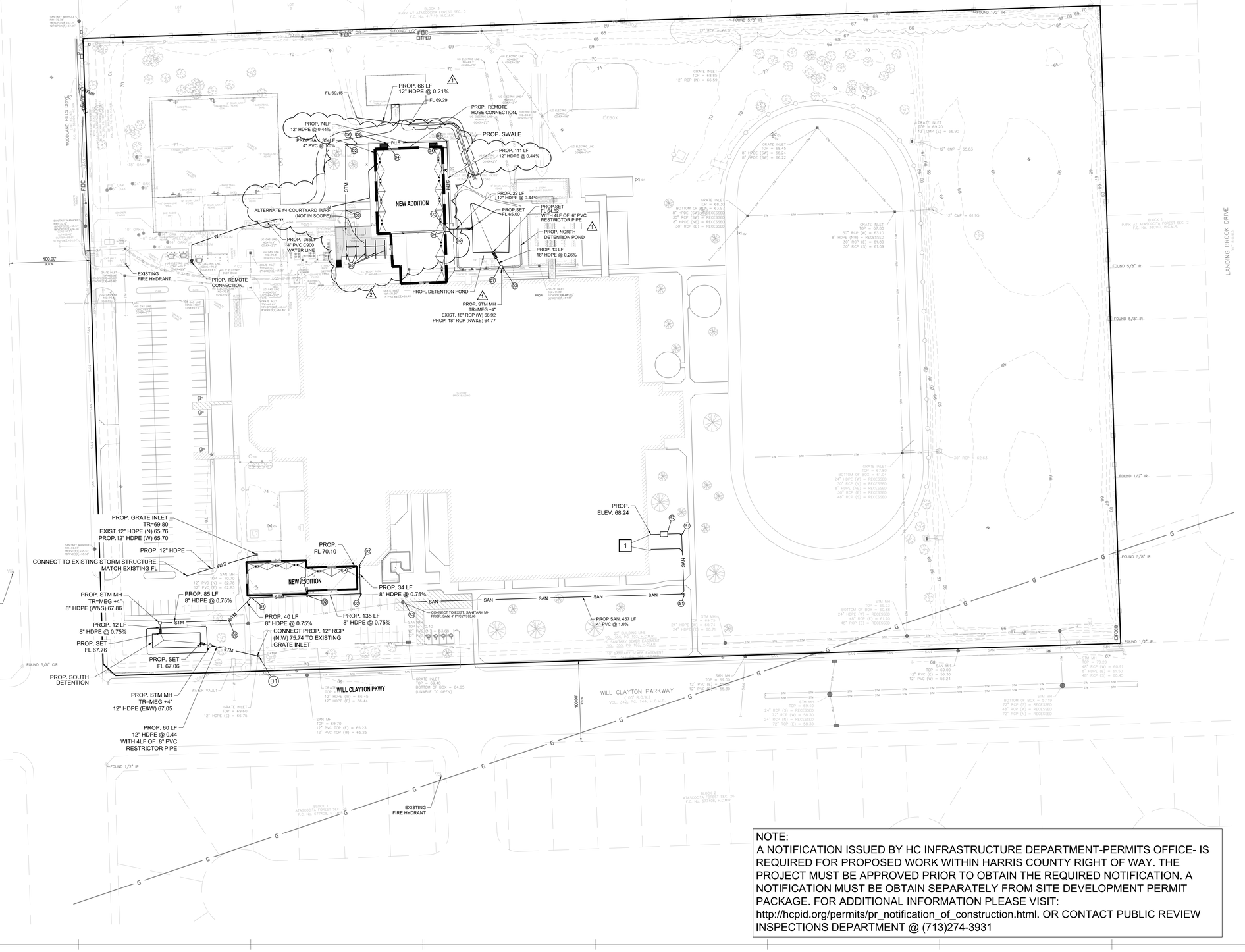
ISSUE FOR CONSTRUCTION

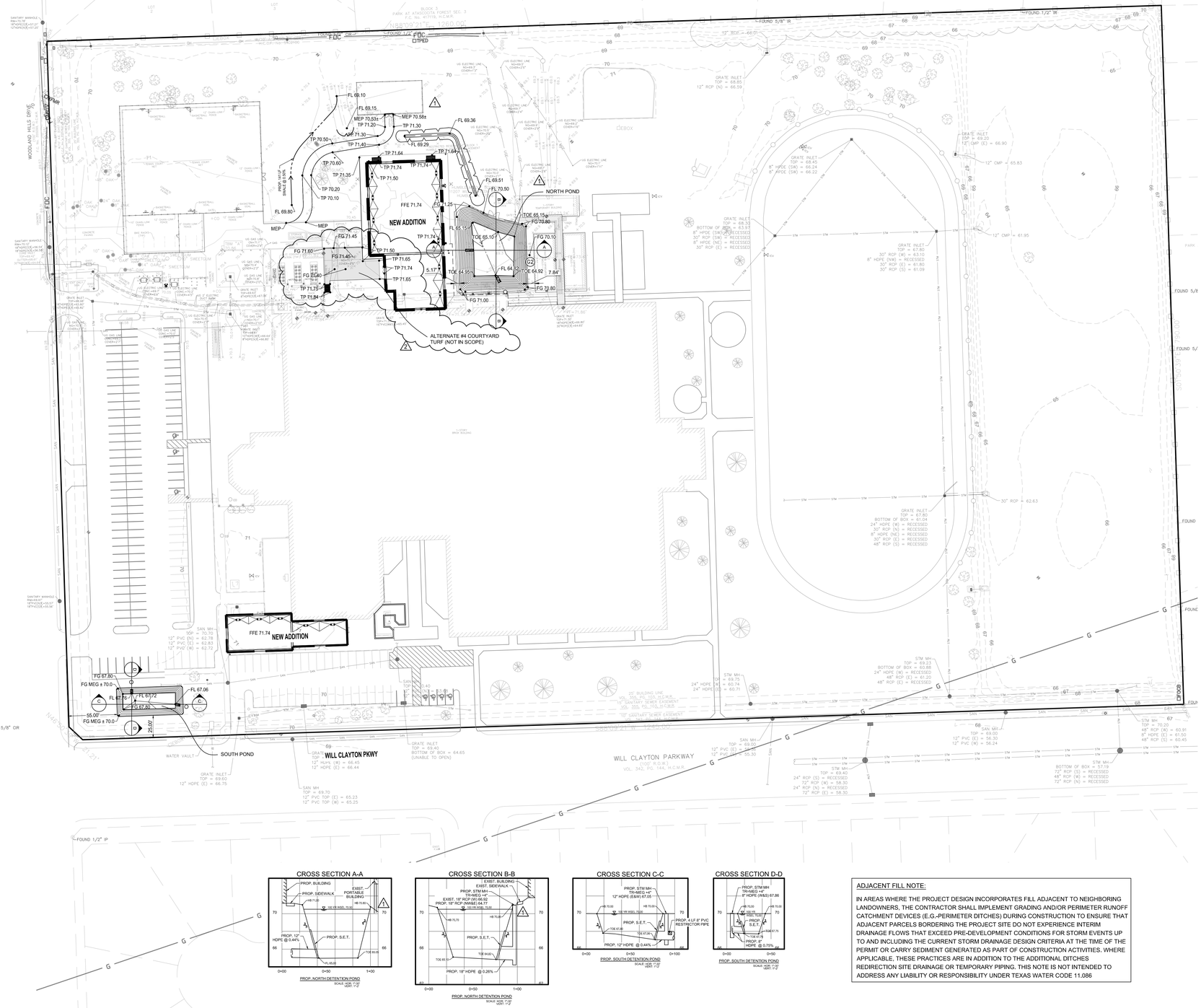
T6.01
TECHNOLOGY DETAILS

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TD LB/MS TN SS/LG

6/4/2026 1:44:24 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_T24.rvt


WILLIAM T. CHARLES SURVEY A-28
HUMBLE MIDDLE SCHOOL 11207 WILL CLAYTON PKWY HUMBLE, TX 77346
EXISTING POND TO BE MODIFIED AS NEEDED
CLEAR AND GRUB AREA FOR PROPOSED POND
WILL CLAYTON PARKWAY
VOL. 342, PG. 144, H.C.M.R.
WOODLAND HILLS DRIVE
LANDING BROOK DRIVE
BLOCK 3 PARK AT ATASCOSITA FOREST SEC. 3 F.C. No. 477118, H.C.M.R.
BLOCK 1 PARK AT ATASCOSITA FOREST SEC. 2 F.C. No. 380103, H.C.M.R.
BLOCK 1 ATASCOSITA FOREST SEC. 26 F.C. No. 677408, H.C.M.R.
BLOCK 2 ATASCOSITA FOREST SEC. 26 F.C. No. 677408, H.C.M.R.
GRATE INLET TOP = 68.85 12" RCP (N) = 66.59
GRATE INLET TOP = 68.45 8" HDPE (SW) = 66.24
GRATE INLET TOP = 69.20 12" CMP (E) = 66.90
12" CMP = 65.83
GRATE INLET TOP = 68.32 BOTTOM OF BOX = 63.97 8" HDPE (SW) = RECESSED 30" RCP (SW) = RECESSED 8" HDPE (NE) = RECESSED 30" RCP (E) = RECESSED
GRATE INLET TOP = 67.80 30" RCP (W) = 63.10 8" HDPE (NW) = RECESSED 30" RCP (E) = 61.80 30" RCP (S) = 61.09
12" CMP = 61.95
30" RCP = 62.63
GRATE INLET TOP = 67.80 BOTTOM OF BOX = 61.04 24" HDPE (W) = RECESSED 30" RCP (N) = RECESSED 8" HDPE (NE) = RECESSED 33" RCP (E) = RECESSED 48" RCP (S) = RECESSED
GRATE INLET TOP = 66.55 12" HDPE (W) = 66.55
GRATE INLET TOP = 65.79 6" PVC (W) = 65.80 12" HDPE (W) = 65.79
SAN MH TOP = 70.78 12" PVC (N) = 62.78 12" PVC (E) = 62.82 12" PVC (W) = 62.72
SAN MH TOP = 70.40 12" PVC (N) = 63.08
GRATE INLET TOP = 69.40 BOTTOM OF BOX = 64.65 (UNABLE TO OPEN)
GRATE INLET TOP = 69.50 12" HDPE (W) = 66.45 12" HDPE (E) = 66.44
GRATE INLET TOP = 69.60 12" HDPE (E) = 66.75
SAN MH TOP = 69.70 12" PVC TOP (E) = 65.23 12" PVC TOP (W) = 65.25
STM MH TOP = 69.23 24" HDPE (W) = 60.74 24" HDPE (E) = 60.71
STM MH TOP = 69.75 24" HDPE (W) = RECESSED 24" HDPE (E) = RECESSED 48" RCP (E) = 61.20 48" RCP (E) = RECESSED
SAN MH TOP = 69.00 12" PVC (E) = 56.30 12" PVC (W) = 56.24
STM MH TOP = 69.40 72" RCP (S) = RECESSED 72" RCP (W) = 58.30 24" RCP (N) = RECESSED 72" RCP (E) = 58.30
STM MH TOP = 70.20 48" RCP (W) = 60.91 8" HDPE (E) = 61.50 48" RCP (S) = 60.45
STM MH TOP = 67.19 72" RCP (S) = RECESSED 48" RCP (W) = RECESSED 72" RCP (N) = RECESSED
FOUND 5/8" IR
FOUND 1/2" IR
FOUND 1/2" IP
FOUND 5/8" OIR
FOUND 1/2" PIPE
FOUND 1/2" IP
FOUND 5/8" IR
FOUND 5/8" IR
FOUND 1/2" IR
FOUND 5/8" IR
FOUND 1/2" IP
FOUND 1/2" IP
FOUND 1/2" IP
FOUND 5/8" OIR
FOUND 1/2" IP
FOUND 1/2" IP
FOUND 1/2" IP


PROP. 66 LF
12" HDPE @ 0.21%
FL 69.15
FL 69.29
PROP. REMOTE
HOSE CONNECTION.
PROP. 74LF
12" HDPE @ 0.44%
PROP. SAN. 354 LF
4" PVC @ 1.0%
PROP. SWALE
PROP. 111 LF
12" HDPE @ 0.44%
NEW ADDITION
ALTERNATE #4 COURTYARD TURF
(NOT IN SCOPE)
PROP. 22 LF
12" HDPE @ 0.44%
PROP.SET
FL 64.82
WITH 4LF OF 6" PVC
RESTRICTOR PIPE
PROP. NORTH
DETENTION POND
PROP. 13 LF
18" HDPE @ 0.26%
PROP. 360LF
4" PVC C900
WATER LINE
EXISTING
FIRE HYDRANT
PROP. REMOTE
CONNECTION.
PROP. DETENTION POND
PROP. STM MH
TR=MEG +4"
EXIST. 18" RCP (W) 66.92
PROP. 18" RCP (W/&E) 64.77
100.00'
R.O.W.
WOODLAND HILLS DRIVE
(60' R.O.W.)
VOL. 3, PG. 14, H.C.M.R.
FOUND 1/2" IRF
FOUND 5/8" IR
FOUND 1/2" IR
FOUND 5/8" IR
FOUND 5/8" IR
FOUND 1/2" IP
FOUND 5/8" CIR
FOUND 1/2" IP
LANDING BROOK DRIVE
(50' R.O.W.)
PROP. GRATE INLET
TR=69.80
EXIST.12" HDPE (N) 65.76
PROP.12" HDPE (W) 65.70
PROP. 12" HDPE
CONNECT TO EXISTING STORM STRUCTURE.
MATCH EXISTING FL
PROP. STM MH
TR=MEG +4"
8" HDPE (W&S) 67.86
PROP. 85 LF
8" HDPE @ 0.75%
PROP. 12 LF
8" HDPE @ 0.75%
PROP. SET
FL 67.76
PROP. SET
FL 67.06
PROP. SOUTH
DETENTION
PROP. STM MH
TR=MEG +4"
12" HDPE (E&W) 67.05
PROP. 60 LF
12" HDPE @ 0.44
WITH 4LF OF 8" PVC
RESTRICTOR PIPE
PROP. 40 LF
8" HDPE @ 0.75%
CONNECT PROP. 12" RCP
(N.W) 75.74 TO EXISTING
GRATE INLET
PROP. 135 LF
8" HDPE @ 0.75%
PROP. 34 LF
8" HDPE @ 0.75%
PROP.
FL 70.10
PROP.
ELEV. 68.24
PROP SAN. 457 LF
4" PVC @ 1.0%
CONNECT TO EXIST. SANITARY MH
PROP. SAN. 4" PVC (W) 63.06
EXISTING
FIRE HYDRANT
EXISTING
FIRE HYDRANT
WILL CLAYTON PKWY
(100' R.O.W.)
VOL. 342, PG. 144, H.C.M.R.
WILL CLAYTON PKWY
BLOCK 3
PARK AT ATASCOCITA FOREST SEC. 3
F.C. No. 477159, H.C.M.R.
BLOCK 1
PARK AT ATASCOCITA FOREST SEC. 2
F.C. No. 380103, H.C.M.R.
BLOCK 1
ATASCOCITA FOREST SEC. 2B
F.C. No. 677408, H.C.M.R.
BLOCK 2
ATASCOCITA FOREST SEC. 2B
F.C. No. 677408, H.C.M.R.
GRATE INLET
TOP = 68.85
12" RCP (N) = 66.59
GRATE INLET
TOP = 68.45
8" HPDE (SW) = 66.24
8" HPDE (SW) = 66.22
GRATE INLET
TOP = 68.32
BOTTOM OF BOX = 63.57
30" RCP (SW) = RECESSED
8" HPDE (NE) = RECESSED
30" RCP (E) = RECESSED
GRATE INLET
TOP = 67.80
30" RCP (W) = 63.10
8" HPDE (NW) = RECESSED
30" RCP (E) = 61.80
30" RCP (S) = 61.09
GRATE INLET
TOP = 69.20
12" CMP (E) = 66.90
12" CMP = 65.83
12" CMP = 61.95
30" RCP = 62.63
GRATE INLET
TOP = 69.40
12" HDPE (W) = 66.45
12" HDPE (E) = 66.44
GRATE INLET
TOP = 69.60
12" HDPE (E) = 66.75
GRATE INLET
TOP = 69.40
BOTTOM OF BOX = 64.65
(UNABLE TO OPEN)
SAN MH
TOP = 69.70
12" PVC TOP (E) = 65.23
12" PVC TOP (W) = 65.25
SAN MH
TOP = 70.70
12" PVC (N) = 62.78
12" PVC (S) = 62.82
SAN MH
TOP = 69.00
12" PVC (E) = 55.30
SAN MH
TOP = 69.00
12" PVC (E) = 56.30
12" PVC (W) = 56.24
STM MH
TOP = 69.23
BOTTOM OF BOX = 60.88
24" HDPE (W) = RECESSED
48" RCP (E) = RECESSED
STM MH
TOP = 69.78
24" HDPE (W) = 60.74
24" HDPE (E) = 60.71
STM MH
TOP = 70.20
48" RCP (W) = 60.91
8" HDPE (E) = 61.50
48" RCP (S) = 60.45
STM MH
TOP = 69.40
24" RCP (S) = RECESSED
72" RCP (W) = 58.50
24" RCP (N) = RECESSED
72" RCP (E) = 58.50
STM MH
TOP = 69.40
72" RCP (S) = RECESSED
48" RCP (W) = RECESSED
72" RCP (N) = RECESSED
STM MH
TOP = 69.40
72" RCP (S) = RECESSED
48" RCP (W) = RECESSED
72" RCP (N) = RECESSED
25' BUILDING LINE
VOL. 700, PG. 160, D.R.M.C.
15' SANITARY SEWER EASEMENT
VOL. 700, PG. 160, D.R.M.C.
10' SANITARY SEWER EASEMENT
VOL. 700, PG. 160, D.R.M.C.
100.00'
R.O.W.
WATER VAULT
SANITARY MANHOLE
RIM=70.70'
12"PVC(N)=62.78'
12"PVC(S)=62.82'
SANITARY MANHOLE
RIM=69.23'
12"PVC(W)=60.88'
12"PVC(E)=60.91'
SANITARY MANHOLE
RIM=69.78'
12"PVC(W)=60.74'
12"PVC(E)=60.71'
SANITARY MANHOLE
RIM=69.20'
12"PVC(W)=60.91'
8"PVC(E)=61.50'
48"RCP(S)=60.45'
SANITARY MANHOLE
RIM=69.40'
12"PVC(W)=58.50'
12"PVC(E)=58.50'
48"RCP(S)=58.45'
SANITARY MANHOLE
RIM=69.00'
12"PVC(E)=55.30'
SANITARY MANHOLE
RIM=69.00'
12"PVC(E)=56.30'
12"PVC(W)=56.24'
SANITARY MANHOLE
RIM=69.40'
72"RCP(S)=58.50'
24"RCP(W)=58.50'
72"RCP(E)=58.50'
SANITARY MANHOLE
RIM=69.40'
72"RCP(S)=58.45'
48"RCP(W)=58.45'
72"RCP(N)=58.45'
SANITARY MANHOLE
RIM=69.70'
12"PVC(N)=65.23'
12"PVC(S)=65.25'
SANITARY MANHOLE
RIM=69.60'
12"PVC(E)=66.45'
12"PVC(W)=66.44'
SANITARY MANHOLE
RIM=69.60'
12"PVC(E)=66.75'
SANITARY MANHOLE
RIM=69.80'
12"PVC(N)=65.76'
12"PVC(W)=65.70'
SANITARY MANHOLE
RIM=69.40'
12"PVC(N)=63.06'
12"PVC(S)=63.08'
SANITARY MANHOLE
RIM=69.40'
12"PVC(N)=63.08



CROSS SECTION A-A

PROP. NORTH DETENTION POND
SCALE: HOR. 1"=50'
VERT. 1"=5'

CROSS SECTION B-B

PROP. NORTH DETENTION POND
SCALE: HOR. 1"=50'
VERT. 1"=5'

CROSS SECTION C-C

PROP. SOUTH DETENTION POND
SCALE: HOR. 1"=50'
VERT. 1"=5'

CROSS SECTION D-D

PROP. SOUTH DETENTION POND
SCALE: HOR. 1"=50'
VERT. 1"=5'

ADJACENT FILL NOTE:

IN AREAS WHERE THE PROJECT DESIGN INCORPORATES FILL ADJACENT TO NEIGHBORING LANDOWNERS, THE CONTRACTOR SHALL IMPLEMENT GRADING AND/OR PERIMETER RUNOFF CATCHMENT DEVICES (E.G.-PERIMETER DITCHES) DURING CONSTRUCTION TO ENSURE THAT ADJACENT PARCELS BORDERING THE PROJECT SITE DO NOT EXPERIENCE INTERIM DRAINAGE FLOWS THAT EXCEED PRE-DEVELOPMENT CONDITIONS FOR STORM EVENTS UP TO AND INCLUDING THE CURRENT STORM DRAINAGE DESIGN CRITERIA AT THE TIME OF THE PERMIT OR CARRY SEDIMENT GENERATED AS PART OF CONSTRUCTION ACTIVITIES. WHERE APPLICABLE, THESE PRACTICES ARE IN ADDITION TO THE ADDITIONAL DITCHES REDIRECTION SITE DRAINAGE OR TEMPORARY PIPING. THIS NOTE IS NOT INTENDED TO ADDRESS ANY LIABILITY OR RESPONSIBILITY UNDER TEXAS WATER CODE 11.086

LEGEND	
	PROPOSED BUILDING LIMITS
FFE	FINISHED FLOOR ELEVATION
FL	FLOW LINE
FG	FINISHED GRADE
HB	HIGH BANK
MEC	MATCH EXISTING CURB
MEG	MATCH EXISTING GRADE
MEP	MATCH EXISTING PAVEMENT
TC	TOP OF CURB
TG	TOP OF GRATE
TOE	TOE OF SLOPE
TP	TOP OF PAVEMENT

GENERAL CONSTRUCTION NOTES :

1. ALL UNDERGROUND UTILITIES SHOWN ARE NOT GUARANTEED TO BE COMPLETE OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE.
2. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IF DISCREPANCIES OCCUR.
3. THE LOCATION OF ALL UTILITIES PRESENTED ON THESE DRAWINGS IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
4. CAUTION!!! THERE ARE OVERHEAD POWER LINES IN THE WORK AREA. CONTRACTOR SHALL FOLLOW CITY, STATE AND FEDERAL GUIDELINES WHEN WORKING AROUND EXISTING POWER LINES.
5. CONTRACTOR TO OBTAIN ALL PERMITS AND APPROVALS REQUIRED PRIOR TO STARTING CONSTRUCTION.
6. SIDEWALKS SHALL HAVE A RUN SLOPE NO GREATER THAN 5% AND A CROSS SLOPE NO GREATER THAN 2%, UNLESS OTHERWISE NOTED.
7. ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
8. ALL DIMENSIONS ARE PERPENDICULAR OR PARALLEL TO THEIR RESPECTIVE PROPERTY LINES UNLESS OTHERWISE NOTED.
9. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING DIMENSIONS.
10. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE STAGING AND TRAFFIC CONTROL PLANS WITH OWNER.
11. ALL DISTURBED AREAS NOT TO BE PAVED OR LANDSCAPED SHALL BE SODDED UPON COMPLETION.
12. CONTRACTOR PERFORMING THE WORK SHALL BE RESPONSIBLE FOR SECURING ALL UTILITY PERMITS, PRIOR TO INSTALLATION OF ANY UTILITIES INCLUDING WATER, SEWER, ELECTRIC, CABLE TELEVISION AND GAS.

GRADING KEY NOTES:

(G1) GRADE TO DRAIN TO NEAREST INLET.

(G2) CONTRACTOR TO GRADE AREA FOR POSITIVE DRAINAGE.

1

STAGE STORAGE TABLE							
ELEV	AREA (sq. ft.)	DEPT H (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)	
65,000	1,661.06	N/A	N/A	0.00	N/A	0.00	
65,500	2,658.67	0.500	1079.93	1079.93	1070.20	1070.20	
66,000	2,948.14	0.500	1401.70	2481.63	1401.08	2471.28	
66,500	3,251.39	0.500	1549.88	4031.52	1549.26	4020.54	
67,000	3,568.44	0.500	1704.96	5736.48	1704.34	5724.89	
67,500	3,899.29	0.500	1866.93	7603.41	1866.32	7591.21	
68,000	4,243.92	0.500	2035.80	9639.21	2035.19	9626.41	
68,500	4,602.35	0.500	2211.57	11850.78	2210.96	11837.37	
69,000	4,974.58	0.500	2394.23	14245.01	2393.63	14231.00	
69,500	5,360.59	0.500	2583.79	16828.81	2583.19	16814.19	
70,000	5,760.40	0.500	2780.25	19609.06	2779.65	19593.84	
70,500	6,177.48	0.500	2984.47	22593.53	2983.86	22577.71	100-YR WSE
71,000	992.93	0.500	1792.60	24386.13	1607.84	24185.55	

NORTH POND STAGE STORAGE TABLE							
ELEV	AREA (sq. ft.)	DEPT H (ft)	AVG END INC. VOL. (cu. ft.)	AVG END TOTAL VOL. (cu. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)	
65,000	1,776.92	N/A	N/A	0.00	N/A	0.00	
65,500	2,688.61	0.500	1116.38	1116.38	1108.55	1108.55	
66,000	3,004.15	0.500	1423.19	2539.57	1422.46	2531.01	
66,500	3,336.13	0.500	1585.07	4124.64	1584.34	4115.35	
67,000	3,684.56	0.500	1755.17	5879.81	1754.45	5869.80	
67,500	4,049.43	0.500	1933.50	7813.31	1932.78	7802.58	
68,000	4,430.75	0.500	2120.04	9933.35	2119.33	9921.91	
68,500	4,828.51	0.500	2314.82	12248.17	2314.10	12236.01	
69,000	5,242.72	0.500	2517.81	14765.98	2517.10	14753.11	
69,500	5,673.38	0.500	2729.03	17495.01	2728.32	17481.43	
70,000	6,120.49	0.500	2948.47	20443.47	2947.76	20429.19	100-YR WSE
70,500	1,908.34	0.500	2007.21	22450.68	1907.74	22336.93	
71,000	170.48	0.500	519.71	22970.39	441.54	22778.46	

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pflugerarchitects.com

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STRUCTURAL ENGINEERS
9800 Richmond Avenue, Suite 460
Houston, Texas 77042 | 713 337 8881
TEXAS REGISTERED ENGINEERING FIRM F-3426
D + A PROJECT No. C24-047-00

HUMBLE MIDDLE SCHOOL ADD / RENO
11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

FRED DALLY
90904
LICENSED
PROFESSIONAL ENGINEER
06/04/2026
DALLY + ASSOCIATES
TEXAS REG. NO: F-3426
DATE: 12/15/2025

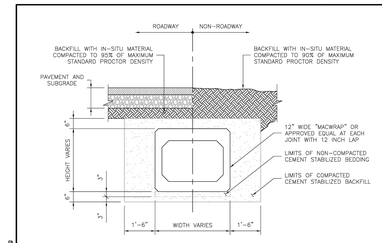
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: JG CHECKED BY: JG
REVISIONS:

No.	Date	Description
1	2026.05.26	ADDENDUM 01
2	2026.06.04	ADDENDUM 02

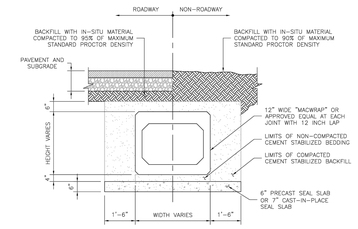
ISSUED FOR CONSTRUCTION

C9.0
GRADING PLAN

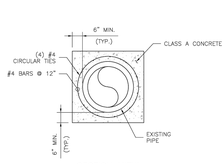
10/21/2024 3:23:59 PM P:\2024 - Daily + Associates - Civil\C24-047-00 Humble ISD AMS and HMS\CONSULTANTS\Architectural\2024-10-21 Arch BG BIM Download\24-042_ARCH_HUMBLE MS_R24.rvt



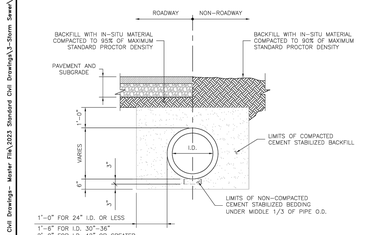
REINFORCED CONCRETE BOX CULVERT



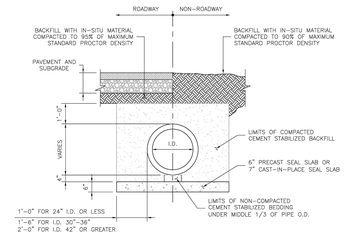
REINFORCED CONCRETE BOX CULVERT WITH SEAL SLAB



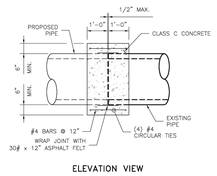
SECTION VIEW



PIPE



PIPE WITH SEAL SLAB



ELEVATION VIEW

TYPICAL CONCRETE COLLAR FOR 36" & SMALLER RCP

GENERAL NOTES:

1. FOR RCP LARGER THAN 36" DIAMETER, CONCRETE COLLARS MUST BE DESIGNED BY THE ENGINEER OF RECORD.

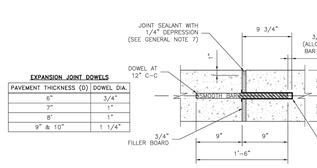
NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

HARRIS COUNTY ENGINEERING DEPARTMENT

FOR INTERIM REVIEW ONLY
DOCUMENT INCOMPLETE; NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ENGINEER: NAME
P.E. SERIAL No.: NUMBER
DATE: / /

PROJECT TITLE:
SHEET DESIGNATION: STORM SEWER CONSTRUCTION DETAILS
CHD STANDARD: SSC
DRAWN BY: JDZ
CHECK BY: PDG
SCALE: 1" = 1'-6"
DATE: 10/10/23
SHEET NO.: /

J:\Engineering Space\HC Standard Civil Drawings- Master File\2023 Standard Civil Drawings\3-Storm Sewer\SSC_23.10.10.dwg



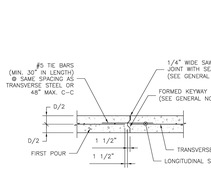
EXPANSION JOINT DOWELS

PAVEMENT THICKNESS (D)	DOWEL DIA.
6"	3/4"
7"	1"
8"	1"
9" & 10"	1 1/4"

DOWEL TYPE EXPANSION JOINT
SCALE: 1" = 1'-0"

NOTES FOR DOWEL EXPANSION JOINT:

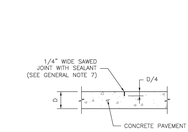
1. EXPANSION JOINT SHALL BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 80 FEET.
2. CENTER DOWEL HORIZONTALLY ON JOINT.
3. EXPANSION JOINT BARS SHALL BE HELD PARALLEL TO THE FINISHED CONCRETE SURFACE.



LONGITUDINAL CONSTRUCTION JOINT
SCALE: 1" = 1'-6"

NOTES FOR CONSTRUCTION JOINT:

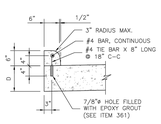
1. SAWED JOINTS SHALL BE CLEANED IN ACCORDANCE WITH SPECIFICATION ITEM 438 "JOINT SEALANTS."
2. JOINT SEALANT SHALL FILL THE JOINT FROM BOTTOM TO 1/4" BELOW CONCRETE PAVEMENT SURFACE.



CONTRACTION JOINT (SAWED)
SCALE: 1" = 1'-6"

NOTES FOR CONTRACTION JOINT:

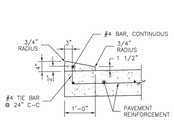
1. 20'-0" MAXIMUM SPACING BETWEEN TRANSVERSE CONTRACTION JOINTS.
2. SAWED JOINTS SHALL BE CLEANED IN ACCORDANCE WITH SPECIFICATION ITEM 438 "JOINT SEALANTS."
3. JOINT SEALANT SHALL FILL THE JOINT FROM BOTTOM TO 1/4" BELOW CONCRETE PAVEMENT SURFACE.



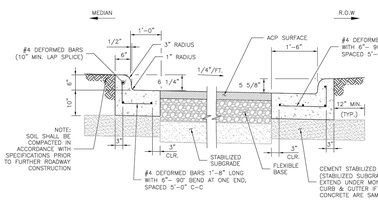
DRILLED-IN CONCRETE CURB FOR CONCRETE PAVEMENT
SCALE: 1" = 1'-0"

NOTES FOR CURB:

1. AT EACH PAVEMENT CONTRACTION JOINT, PROVIDE A 1/4" THICK PRE-MOLDED EXPANSION JOINT AT THE FULL WIDTH AND HEIGHT OF THE CURB.
2. FOR EACH PAVEMENT EXPANSION JOINT, THE PRE-MOLDED EXPANSION JOINT FILLER MATERIAL SHALL BE THE FULL WIDTH AND HEIGHT OF THE CURB.



4" X 12" CURB
SCALE: 1" = 1'-0"



6" COMBINED CURB AND GUTTER
SCALE: 1" = 1'-0"

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
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HARRIS COUNTY ENGINEERING DEPARTMENT

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DOCUMENT INCOMPLETE; NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ENGINEER: NAME
P.E. SERIAL No.: NUMBER
DATE: / /

PROJECT TITLE:
SHEET DESIGNATION: CONCRETE PAVEMENT DETAILS
CHD STANDARD: CP-24
DRAWN BY: JDZ
CHECK BY: PDG
SCALE: AS NOTED
DATE: 10/10/23
SHEET NO.: /

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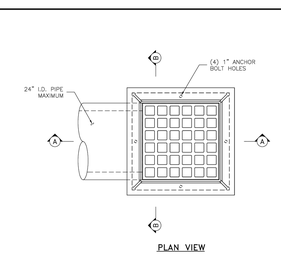
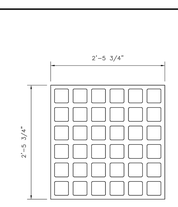
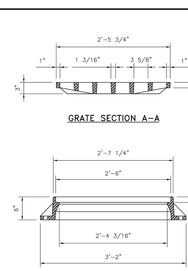
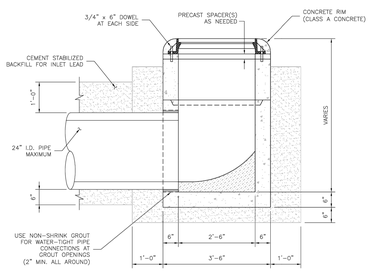
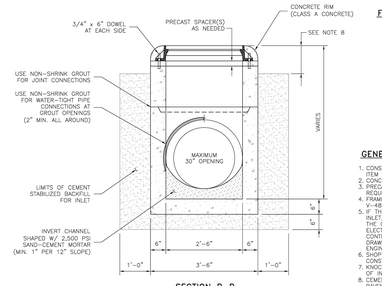








SECTION A-A



SECTION B-B

GENERAL NOTES:

1. CONSTRUCTION AND MATERIALS SHALL MEET REQUIREMENTS OF ITEM 466, "INLETS."
2. CONCRETE FOR INLET: MINIMUM 4,000 PSI IN 28 DAYS.
3. PRECAST INLET DESIGN SHALL MEET OR EXCEED ASTM C913 REQUIREMENTS.
4. FRAME AND GRATE SHALL BE EAST JORDAN IRON WORKS MODEL V-4880-1 (OPEN AREA 473 SQ. IN.) OR APPROVED EQUAL.
5. IF THE ENGINEER OF RECORD SPECIFIES A CAST-IN-PLACE INLET, HE/SHE SHALL INCORPORATE A DETAILED DRAWING INTO THE CONTRACT DOCUMENTS. HOWEVER, IF THE CONTRACTOR ELECTS TO CONSTRUCT A CAST-IN-PLACE INLET INSTEAD OF A PRECAST INLET, THE RESPONSIBLE PARTY PROVIDING A DETAILED DRAWING, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS.
6. SHOP DRAWINGS SHALL BE REQUIRED FOR PRECAST CONSTRUCTION OF INLET.
7. KNOCK-OUTS ARE NOT PERMISSIBLE FOR PRECAST CONSTRUCTION OF INLET.
8. CEMENT STABILIZED BACKFILL SHALL EXTEND TO THE BOTTOM OF PAVEMENT OR CONCRETE RIPRAP, OR 12 INCHES BELOW THE SURFACE IF INLET IS LOCATED IN AN UNPAVED AREA.

NO.	REVISIONS	DATE	NAME
1			
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3			
4			
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HARRIS COUNTY ENGINEERING DEPARTMENT

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DOCUMENT INCOMPLETE; NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES
ENGINEER: NAME
P.E. SERIAL No.: NUMBER
DATE: / /

PROJECT TITLE:
SHEET DESIGNATION: TYPE "A" INLET DETAILS FOR MAXIMUM 30" O.D. PIPE
CHD STANDARD: INL-A
DRAWN BY: JDZ
CHECK BY: PDG
SCALE: 1" = 1'-0"
DATE: 10/10/23
SHEET NO.: /

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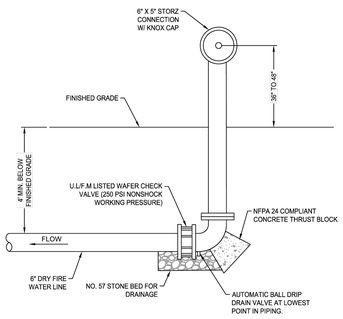

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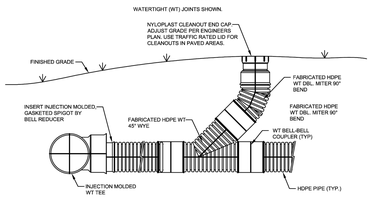

STORM SEWER CLEANOUT DETAIL
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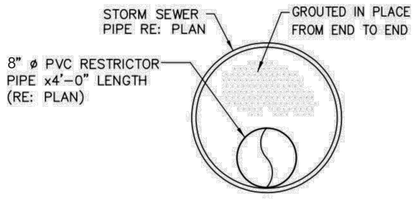
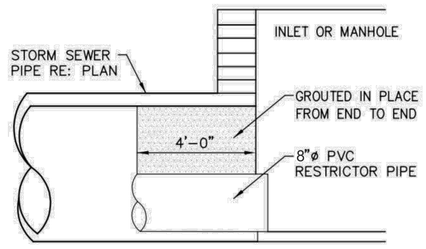
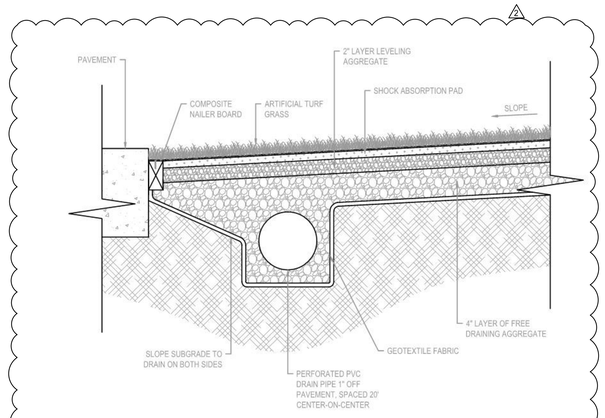






A ARTIFICIAL TURF DETAIL
SCALE: NO SCALE

pfluger
office: 713.222.1141 | fax: 713.222.1174
3411 Richmond Avenue, Suite 725
Houston, Texas 77046
pflugerarchitects.com

Dally + ASSOCIATES
STRUCTURAL | CIVIL
9800 Richmond Avenue, Suite 460
Houston, Texas 77042 | 713 337 8881
TEXAS REGISTERED ENGINEERING FIRM F-3426
D + A PROJECT No. C24-047-00

HUMBLE MIDDLE SCHOOL ADD / RENO
11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

STATE OF TEXAS
FRED DALLY
90904
LICENSED PROFESSIONAL ENGINEER
06/04/2026
DALLY + ASSOCIATES
TEXAS REG. NO: F-3426
DATE: 12/15/2025

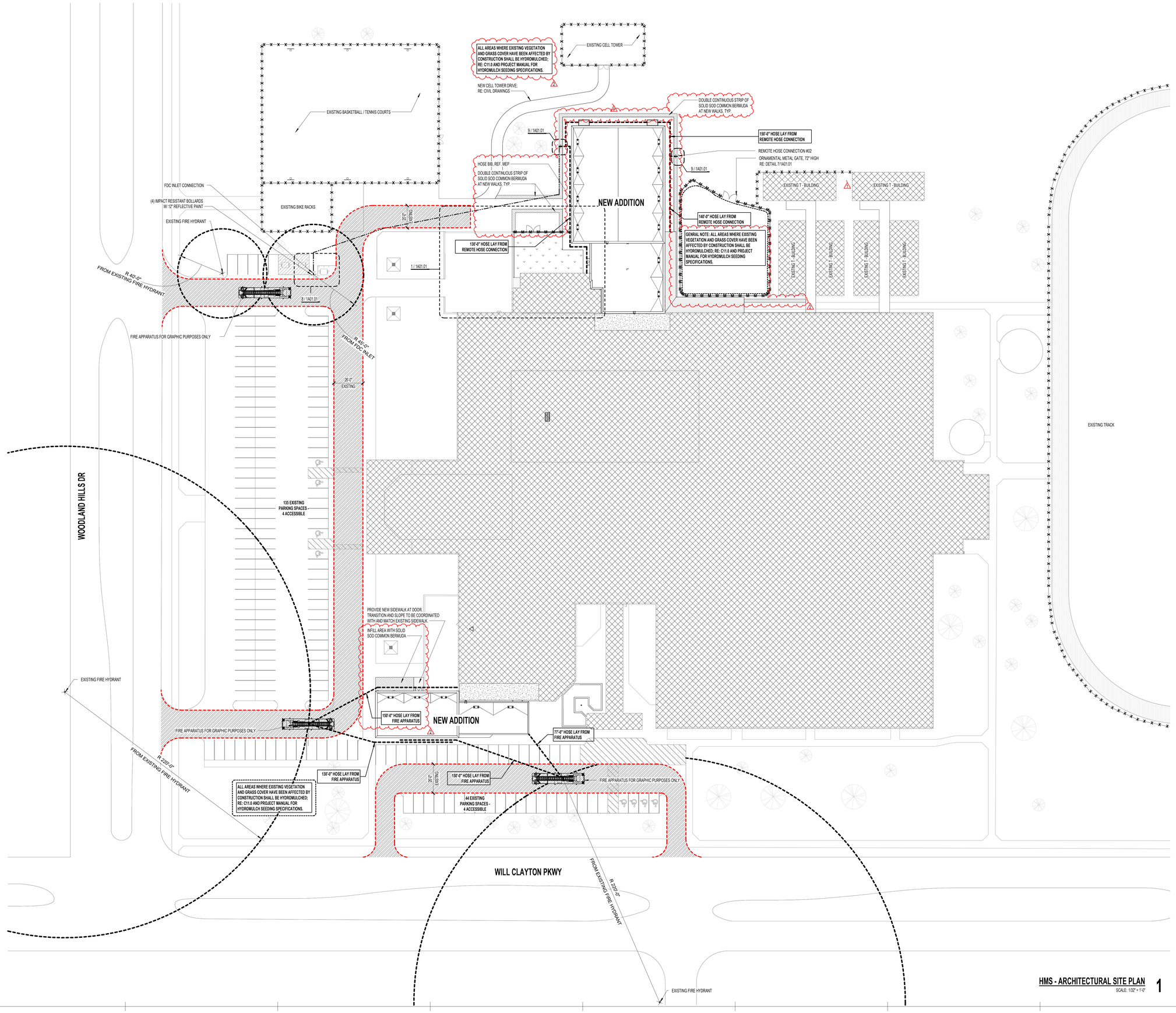
PROJECT NO. 24-042
DATE: 05/15/2025
DRAWN BY: JG
CHECKED BY: JG
REVISIONS:

	Date	Description
2	2026.06.04	ADDENDUM 02

ISSUED FOR CONSTRUCTION

C13.0
SITE DETAILS

10/21/2024 3:23:59 PM P:\2024 - Daily + Associates - Civil\C24-047-00 Humble ISD AMS and HMS\CONSULTANTS\Architectural\2024-10-21 Arch BG BIM Download\24-042_ARCH_HUMBLE MS_R24.rvt



SITE PLAN GENERAL NOTES

1. REFER TO SHEET A00.00 FOR ADDITIONAL GENERAL NOTES.
2. RE: 1G00.07 & 1G00.08 SHEETS FOR MORE TAS REQUIREMENTS
3. PROVIDE KNOX PADLOCKS AT ALL VEHICULAR GATES. PROVIDE BOLLARDS AT LATCH SIDES OF VEHICULAR GATES WHEN THEY ARE OPEN AND HASP TO LOCK OPEN GATE TO BOLLARD.
4. ALL FENCING SHALL BE VINYL COATED CHAIN LINK, 48" HIGH UNO.
5. PROVIDE 48" HIGH, 4" DIA. CONCRETE FILLED STEEL BOLLARDS SPACED 8' O.C. AROUND SIDES AND BACK OF DUMPSTER YARDS, AROUND ELECTRICAL TRANSFORMER AS REQUIRED BY ELECTRICAL PROVIDER; AND AT BOTH SIDES OF EXTERIOR ROLL-UP/GARAGE DOORS.
6. ALL DISTURBED AREAS SHALL BE FINISH GRADED, REVEGETATED, AND IRRIGATED. COORDINATE WITH CIVIL DRAWINGS.
7. ALL EXIT GATES SHALL BE PROVIDED WITH PANIC HARDWARE AND WIRED FOR CARD READERS AND ELECTRIFIED HARDWARE.
8. PROVIDE 24" CONCRETE MOW STRIP AROUND PERIMETER OF ALL BUILDINGS WHERE NO OTHER PAVING IS CALLED FOR. PROVIDE 12" MOW STRIP CENTERED ON ALL FENCING.

SITE PLAN LEGEND

- EXISTING VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- NEW VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- ORNAMENTAL METAL FENCE, 72" HIGH UNO.
- BUILDING SECTION TAG (1 / A101 SIM)
- WALL SECTION TAG (1 / A101 SIM)
- ENLARGED CALL OUT (21 / A101 SIM)
- EXISTING FIRE LANE
- AREA OUT OF SCOPE
- AREA TO RECEIVE SOLID SOD COMMON BERMUDA
- FDC LINE REF. CIVIL
- FIRE HOSE LAY
- PROPOSED SWALE; REF. CIVIL
- PROPOSED DETENTION POND; REF. CIVIL

HMS - ARCHITECTURAL SITE PLAN 1
SCALE: 1/32" = 1'-0"

KEY PLAN: G; H F E; I J D; A B C

pfluger
office: 713.222.1141 | fax: 713.222.1174
2 Greenway Plaza, Suite 460
Houston, Texas 77046
pflugerarchitects.com

HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

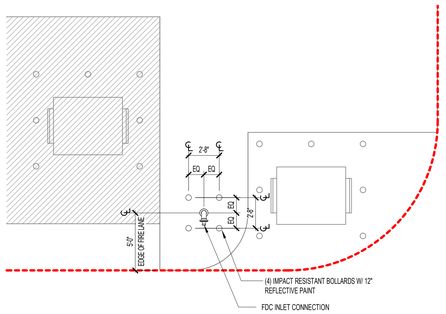
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

No.	Date	Description
1	05/26/2026	ADDENDUM 01
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

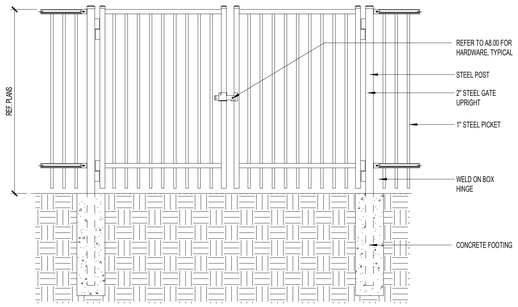
1A01.00
HMS - ARCHITECTURAL SITE PLAN

6/4/2026 11:41:29 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



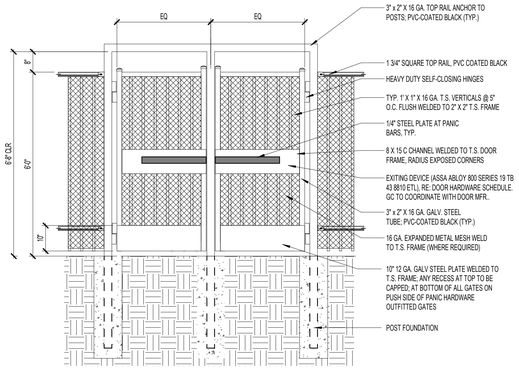
ENLARGED SITE PLAN - FDC INLET 8

SCALE: 3/16" = 1'-0"



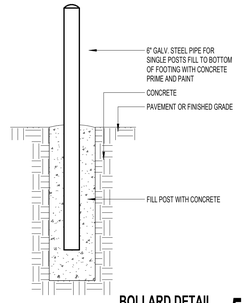
ORNAMENTAL STEEL GATE DETAIL, TYPICAL 7

SCALE: 1/2" = 1'-0"



STEEL GATE DETAIL, GATES WITH PANIC HARDWARE 6

SCALE: 1/2" = 1'-0"



BOLLARD DETAIL 5

SCALE: 1/2" = 1'-0"

SITE PLAN GENERAL NOTES

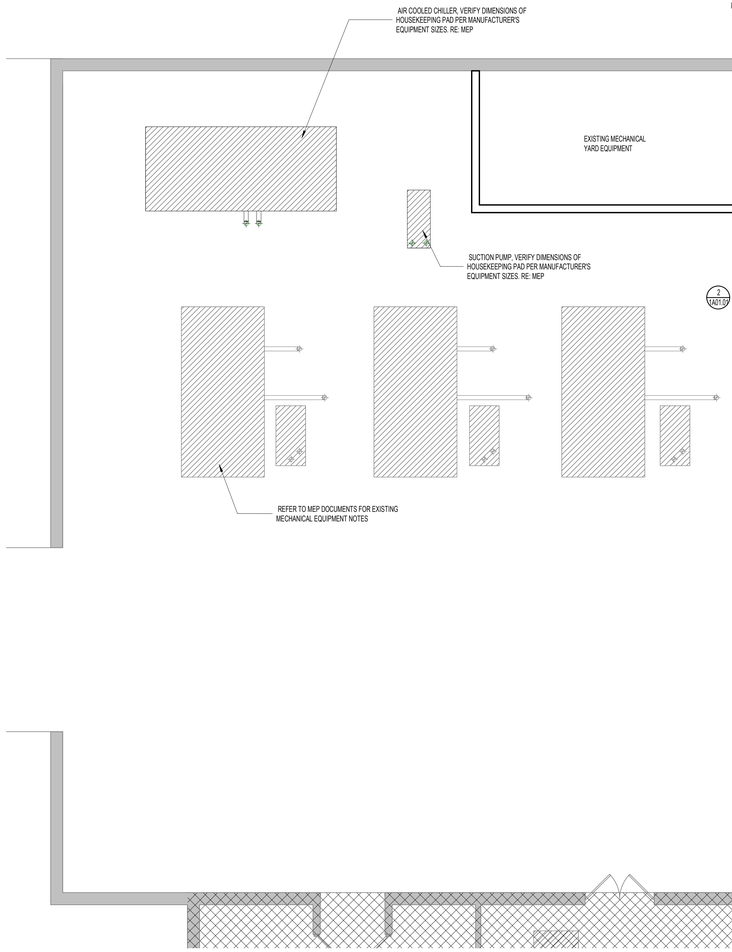
1. REFER TO SHEET A00.00 FOR ADDITIONAL GENERAL NOTES.
2. RE: 1G00.07 & 1G00.08 SHEETS FOR MORE TAS REQUIREMENTS
3. PROVIDE KNOX PADLOCKS AT ALL VEHICULAR GATES. PROVIDE BOLLARDS AT LATCH SIDES OF VEHICULAR GATES WHEN THEY ARE OPEN AND HASP TO LOCK OPEN GATE TO BOLLARD.
4. ALL FENCING SHALL BE VINYL COATED CHAIN LINK, 48" HIGH UNO.
5. PROVIDE 48" HIGH, 4" DIA. CONCRETE FILLED STEEL BOLLARDS SPACED 8' O.C. AROUND SIDES AND BACK OF DUMPSTER YARDS, AROUND ELECTRICAL TRANSFORMER AS REQUIRED BY ELECTRICAL PROVIDER, AND AT BOTH SIDES OF EXTERIOR ROLL-UP/GARAGE DOORS.
6. ALL DISTURBED AREAS SHALL BE FINISH GRADED, REVEGETATED, AND IRRIGATED. COORDINATE WITH CIVIL DRAWINGS.
7. ALL EXIT GATES SHALL BE PROVIDED WITH PANIC HARDWARE AND WIRED FOR CARD READERS AND ELECTRIFIED HARDWARE.
8. PROVIDE 24" CONCRETE MOW STRIP AROUND PERIMETER OF ALL BUILDINGS WHERE NO OTHER PAVING IS CALLED FOR. PROVIDE 12" MOW STRIP CENTERED ON ALL FENCING.

SITE PLAN LEGEND

- EXISTING VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- NEW VINYL COATED CHAIN LINK FENCE, 72" HIGH UNO.
- ORNAMENTAL METAL FENCE, 72" HIGH UNO.
- BUILDING SECTION TAG (1 / A101 SIM)
- WALL SECTION TAG (1 / A101 SIM)
- ENLARGED CALL OUT (21 / A101 SIM)
- EXISTING FIRE LANE
- AREA OUT OF SCOPE
- AREA TO RECEIVE SOLID SOD COMMON BERMUDA
- FDC LINE REF. CIVIL
- FIRE HOSE LAY
- PROPOSED SWALE; REF. CIVIL
- PROPOSED DETENTION POND; REF. CIVIL

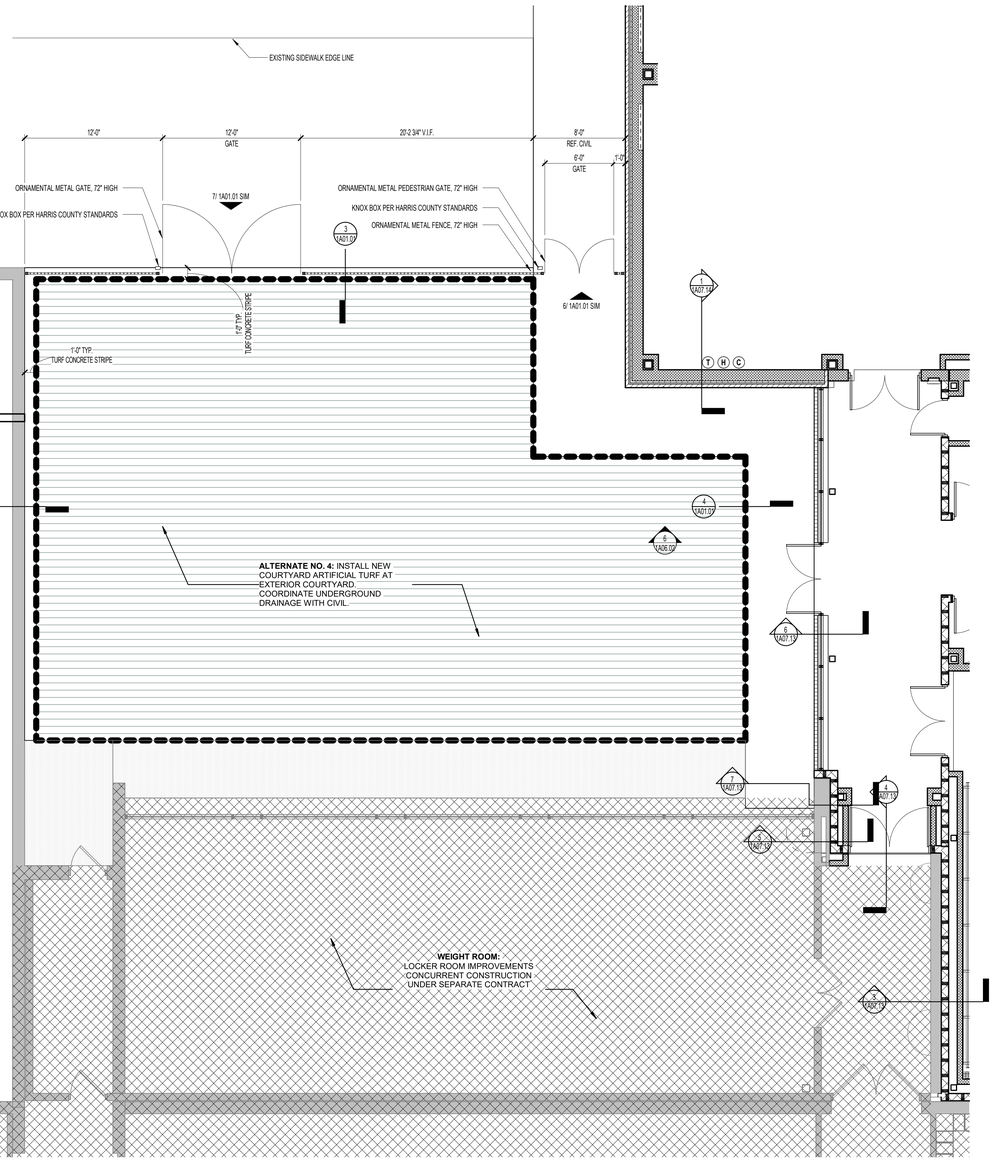
ENLARGED SITE PLAN - FDC INLET 9

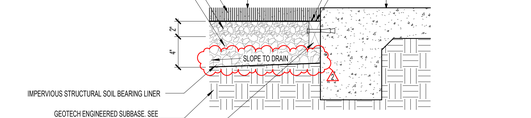
SCALE: 3/16" = 1'-0"



ENLARGED SITE PLAN - CHILLER YARD 1

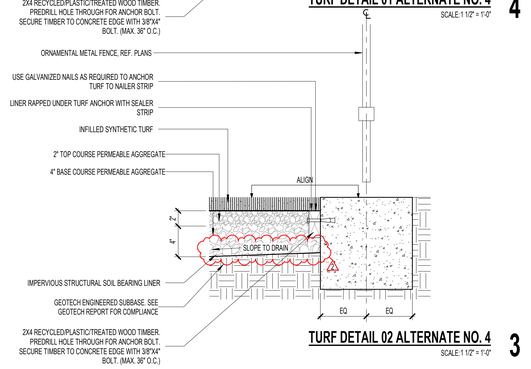
SCALE: 3/16" = 1'-0"





TURF DETAIL 01 ALTERNATE NO. 4 4

SCALE: 1 1/2" = 1'-0"



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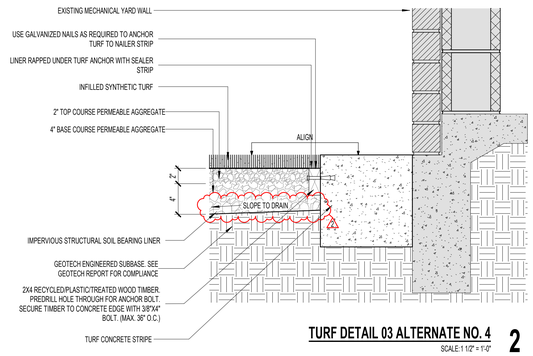

TURF DETAIL 03 ALTERNATE NO. 4 2

SCALE: 1 1/2" = 1'-0"

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

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HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

PROJECT NO. 24-042
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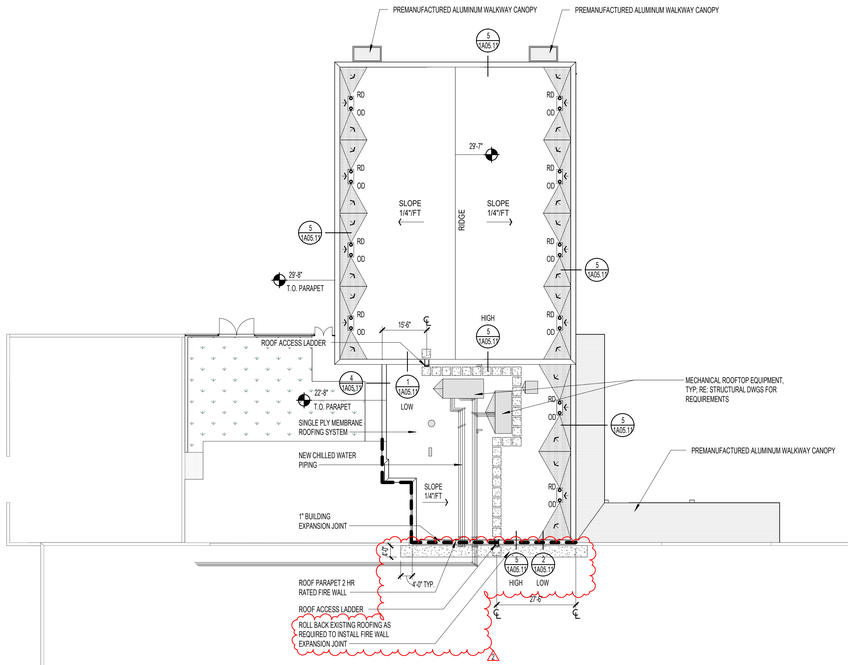
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

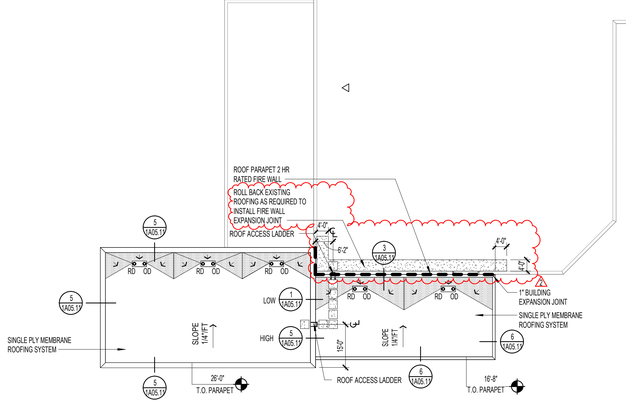
Δ	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

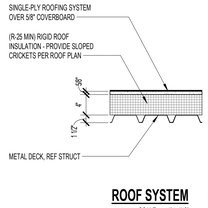
1A01.01
HMS - SITE DETAILS

6/4/2026 11:41:32 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt





OVERALL ROOF PLAN 2
SCALE: 3/64" = 1'-0"



ROOF SYSTEM 1
SCALE: 1" = 1'-0"

ROOF PLAN GENERAL NOTES

1. FOR TYPICAL ROOF PENETRATIONS AND PIPE SUPPORTS DETAILS REFER TO SHEET **1A05.10**
2. FOR ADDITIONAL ROOF PENETRATION DETAILS: REFER TO MEP DOCS.
3. REFER MEP DOCUMENTS FOR ROOFTOP EQUIPMENT NOT SHOWN. MECHANICAL, ELECTRICAL AND PLUMBING ROOF EQUIPMENT DEPICTED ON THIS SHEET IS FOR GENERAL ARCHITECTURAL INFORMATION ONLY. REFER TO THE MEP DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND COORDINATION. REFER STRUCTURAL DOCUMENTS FOR EQUIPMENT SUPPORTS.
4. REF. **1A05.10** FOR ROOF LADDER DETAILS
5. EXPOSED METAL FLASHING/TRIM PIECES ARE TO BE PREFIN GALV STL, UON. PAINT EXPOSED METAL FLASHING/TRIM PIECES THAT ARE NOT PREFIN, AS WELL AS ALL EXPOSED MISC STL PIECES. REFER FINISH SCHEDULE AND NOTES, SHEET A9.00A

   TAPERED INSULATION SHALL BE 1/4"/FT MIN SLOPE TO DRAIN. ROOF PLAN SHOWS TAPERED INSUL AT NTS AND IS GRAPHIC ONLY, TO SHOW SLOPE AND APPROX LOCATION. (VERIFY INSULATION REQD TO MAINTAIN SLOPE, PRIOR TO INSTALLATION).
6. PROVIDE TAPERED INSULATION CRICKETS (1/4"/FT MIN SLOPE) AT HIGH SIDE OF ALL MECH UNITS, SKYLIGHTS, ROOF HATCHES, AND MISC ROOF PENETRATIONS, TO SHED WATER AROUND, AND TO INSURE POSITIVE ROOF DRAINAGE.
7. WOOD BLOCKING AT ROOF EDGES, RIDGES, ETC SHALL BE FABRICATED FROM CONT MIN 2x6s PTWD BLOCKING. PROVIDE LARGER 2X PTWDS REQD PER DETAIL DIMENSIONS. REFER ROOFING MANUF RECOMMENDATIONS.
8. WHERE WOOD BLOCKING EXCEEDS 8" THICKNESS AT TAPERED INSULATION, PROVIDE STEM WALL CONSTRUCTED OF 6" GALV CFMF AT 16"OC W/ CONT TRACK TOP AND BOTTOM AND W/ 3/4" PT EXT GR PLYWOOD AT EA SIDE, TOP TO SLOPE W/ TAPERED INSULATION.
9. PROVIDE STEP FLASHING AND COVER PLATE AT SLOPED ROOF HI/LO CONDITIONS.
10. VERIFY ELEVATION OF ROOF DRAIN RELATIVE TO OVERFLOW SCUPPER PRIOR TO INSTALLATION OF SCUPPERS.
11. STRUCTURAL SLOPES SHOWN ON PLAN ARE FOR GENERAL CONCEPT ONLY. REFER STRUCTURAL DRAWINGS FOR EXACT TOS/BOD ELEVATIONS.
12. REFER PLUMBING DOCUMENTS FOR ROOF DRAIN LEADERS, CONNECTIONS TO STORM DRAIN, AND NOZZLES.
13. FOR TYPICAL ROOF PENETRATION DETAILS: PROVIDE MTL ROOF MFRS STD ROOF CURBS AND PENETRATION DETAILS. FOR LOCATIONS, WEIGHTS, AND ANY OTHER ADDITIONAL INFO REFER TO MEP DOCS. COORDINATE FINAL SIZE.

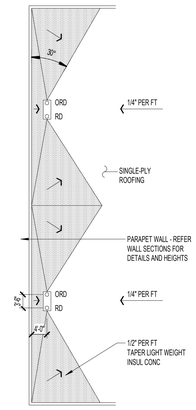
    A. PROVIDE CURBS AND ALL SUPPORTS NOT INDICATED ON THE STRUCTURAL DOCUMENTS FOR NEW ROOF TOP MECH EQUIPMENT, INCLUDING BUT NOT LIMITED TO RTUS, CONDENSERS, AND FANS. REFER STRUCTURAL AND MEP DOCUMENTS.

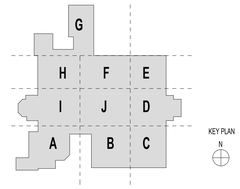
    B. PROVIDE SUPPORTS AND FLASHING AS REQUIRED AT NEW GAS PIPING ON THE ROOF.
14. PROVIDE STD EAVE CLOSURES, AND MISC TRIM REQUIRED FOR COMPLETE ASSEMBLY.
15. CONTRACTOR MAY DELETE WOOD BLOCKING SHOWN IN ROOFING DETAILS AS ALLOWED BY ROOFING MANUFACTURER RECOMMENDATIONS AND FACTORY MUTUAL WIND UPLIFT REQUIREMENTS.

ROOF PLAN LEGEND

- 1:12 — ROOF SLOPE DIRECTION (1/4"/FT MIN)
- EXISTING ROOF
- SINGLE-PLY ROOF SYSTEM
- CRICKETS AT 1/2" / 1'-0" SLOPE
- ALUMINUM WALKWAY COVER DECK
- 36" WIDE ROOF WALK PADS TO EACH ROOF ACCESS POINT AND SERVICE SIDE OF EACH MECH UNIT
- MECHANICAL ROOFTOP EQUIPMENT
- EXPANSION JOINT - TRANSITIONS TO BE FACTORY MANUFACTURED, TYP.
- NEW TUBULAR DAYLIGHT DEVICE - G.C. TO FIELD VERIFY EXISTING STEEL ROOF JOIST/BEAM LOCATIONS PRIOR TO INSTALLATION, MODIFY LOCATION AS REQUIRED, NOTIFY ARCHITECT FOR FINAL APPROVED LOCATION.

TYPICAL NOTES AT ROOF EDGE/ ROOF DRAIN LOCATIONS





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1A05.01
HMS - ROOF PLAN

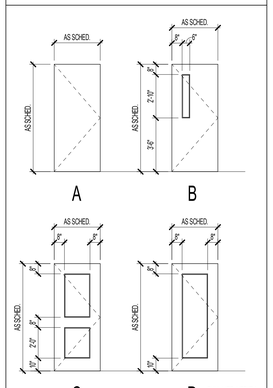
6/4/2026 11:41:36 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

6/4/2026 11:41:36 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

DOOR SCHEDULE - HUMBLE MIDDLE SCHOOL

NUMBER	PANEL PAIR	PANEL WIDTH	PANEL HEIGHT	PANEL TYPE	PANEL MATERIAL	FRAME TYPE	FRAME MATERIAL	FIRE RATING	GLAZING	HARDWARE	DETAILS HEAD	DETAILS JAMB	DETAILS THRESHOLD	PLAQUE TYPES	COMMENTS
A100a	PAIR	3'-0"	6'-10"	C	AL	B	AL	-	GL2	0.1	6/A05.11	3/A04.02	14/A08.03	D	1, 5
A100b	PAIR	3'-0"	6'-10"	C	AL	C	AL	-	GL2	0.1	6/A05.11	2/A04.02	14/A08.03	D	1, 5
A100c	PAIR	4'-0"	6'-10"	A	SCW	HM3	HM	90	-	15.0	5/A08.02	3/A08.02	-	C	5, 7
A101	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	20	-	17.1	5/A08.02	3/A08.02	-	C	5
A102	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	-	-	17.2	5/A08.02	3/A08.02	-	C	5
A110a	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 2, 5
A110b	PAIR	3'-0"	6'-10"	C	SCW	HM2	HM	20	GL1	15.4	5/A08.02	3/A08.02	-	C	5
A111	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
A112	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
A113	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
A114	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	27.1	5/A08.02	3/A08.02	-	C	
A121a	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	31.2	7/A08.02	3/A08.02	-	C	
A121b	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	31.2	7/A08.02	3/A08.02	-	C	
C160	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	31.2	5/A08.02	3/A08.02	-	C	
C162	-	3'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	20.0	5/A08.02	3/A08.02	-	C	
C163	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	-	-	17.2	5/A08.02	3/A08.02	-	C	5
G100a	PAIR	3'-5"	6'-10"	A	SCW	HM3	HM	90	-	15.2	5/A08.02	3/A08.02	-	C	5, 7
G100b	PAIR	3'-0"	6'-10"	C	AL	C	AL	-	GL2	0.1	4/A07.14	8/A04.02	14/A08.03	D	1, 5
G101	-	3'-0"	6'-10"	A	SCW	HM3	HM	20	-	36.0	5/A08.02	3/A08.02	-	A	
G102	-	3'-0"	6'-10"	A	SCW	HM3	HM	20	-	36.0	5/A08.02	3/A08.02	-	A	
G110a	PAIR	3'-0"	6'-10"	C	SCW	HM3	HM	20	GL1	15.4	5/A08.02	3/A08.02	-	C	5
G110b	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G111	-	4'-0"	6'-10"	B	SCW	HM3	HM	-	GL1	19.0	5/A08.02	3/A08.02	-	C	
G120a	PAIR	3'-0"	6'-10"	C	SCW	HM3	HM	20	GL1	15.4	5/A08.02	3/A08.02	-	C	5
G120b	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G120c	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G120d	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G121a	PAIR	3'-0"	6'-10"	A	SCW	HM3	HM	-	-	17.0	5/A08.02	3/A08.02	-	C	5
G121b	PAIR	3'-0"	6'-10"	A	SCW	HM1	HM	-	-	1.0	10/A08.03	5/A08.03	1/A08.03	D	1, 5
G130	-	3'-0"	6'-10"	A	SCW	HM3	HM	20	-	34.0	5/A08.02	3/A08.02	-	C	

DOOR PANEL TYPES



DOOR SCHEDULE ABBREVIATIONS

AL: ALUMINUM
MIN: MINUTES
HM: HOLLOW METAL
HW: HARDWARE
SCW: SOLID CORE WOOD

GENERAL NOTES - DOORS AND WINDOWS

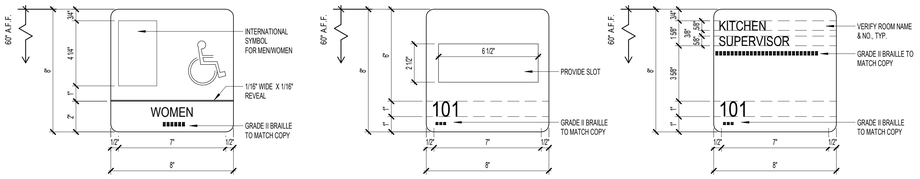
1. REFER TO SHEETS 1A08.00 & 2A08.00 FOR DOOR SCHEDULE AND FOR DOOR SIGNAGE TYPES.
2. REFER TO SHEETS 1A08.00 & 2A08.00 FOR LINTEL SCHEDULES AND DOOR AND WINDOW JAMB STUD FRAMING DETAILS.
3. ALL DOORS TO BE 1 3/4" THICK (UON)
4. ALL STL FRAMES TO HAVE A 2" FACE DIMENSION UON, W/ 5/8" STOP. 3/4" STOP REQUIRED FOR FIRE RATED FRAMES.
5. STEEL FRAME DEPTHS INDICATED IN THE DETAILS ARE NOMINAL. PROVIDE STANDARD WIDTH FRAME WITH THROAT OPENING APPROPRIATE TO PARTITION TYPE.
6. COORDINATE WITH MECH DOCUMENTS FOR DOOR UNDERCUTS AND DOOR LOUVERS, IF ANY.
7. ALL LIGHTS IN DOORS TO HAVE SAFETY GLAZING (UON).
8. EXTERIOR DOORS TO HAVE TINTED GLAZING (UON) AND INTERIOR DOORS TO HAVE CLEAR GLAZING.
9. FIELD VERIFY DIMENSIONS PRIOR TO FABRICATING FRAMES.
10. REFER TO DTLS A0.02 & 3/1A08.00 FOR TYP WINDOW AND DOOR CONTROL JOINTS IN MASONRY WALLS.
11. FLOOR MATERIAL CHANGES BETWEEN ROOMS TO OCCUR UNDER DOOR.
12. DOOR HARDWARE (CLOSER, LEVERS, PANIC HARDWARE, ETC.) SHALL NOT CONFLICT WITH THE GLASS OR TRIM FOR THE LITE.
13. REFER TO THE SPECIFICATIONS FOR HARDWARE DESCRIPTIONS.
14. REFER TO SHEETS 1/A08.01 & 2/A08.01 AND SPECIFICATIONS FOR GLAZING TYPES.
15. ALL DOORS IN SMOKE RESISTANT PARTITIONS TO HAVE POSITIVE LATCHING AND BE SMOKE TIGHT (ST).
16. ALL DOORS TO HAVE BOXED HEADERS UNLESS STEEL CHANNELS ARE INDICATED IN THE COMMENT COLUMN OF THE DOOR SCHEDULE OR UNLESS OTHERWISE INDICATED BY HEAD DETAIL.
17. ALL CLOSER TO BE LOCATED ON THE ROOM SIDE OF THE DOOR WHERE INSTALLED AT CORRIDORS. IN NON CORRIDORS, CLOSER TO BE INSTALLED AT THE ROOM SIDE FOR THE ROOM BEING SERVED BY THE OPENER.
18. ALL FIRE RATINGS NOTED IN MINUTES.
19. ALL EXTERIOR DOORS WITH LITES OR GLAZING TO HAVE GL2 GLAZING TYPE.
20. PROVIDE 9" X 9" ALUMINUM SIGNS AT ALL EXTERIOR DOORS STARTING WITH THE FRONT DOOR WHICH SHALL BEAR THE NUMBER "1" AND PROCEED CLOCKWISE AROUND THE BUILDING TO ENSURE ALL EXTERIOR DOORS ARE NUMBERED. REF. 4/1A08.00 & 4/2A08.00 FOR EXTERIOR DOOR SIGNAGE DETAIL.
22. INTERIOR DOORS SHALL BE ON HOLD-OPEN. SEE HARDWARE SPECIFICATIONS.

DOOR SCHEDULE REMARKS

1. PROVIDE ACCESS CONTROL (CARD READER) REFER TO ELECTRICAL DOCUMENTS FOR POWER FOR CARD KEY ACCESS. AT DOUBLE DOORS PROVIDE ELECTRIC STRIKE AT REMOVABLE MULLION.
2. PROVIDE DRIP AT HEAD OF DOOR.
3. PROVIDE PEEP HOLE AND DOOR BELL.
4. MANUAL FOLDING PANEL PARTITION.
5. PROVIDE REMOVABLE MULLION.
6. MOTORIZED OVERHEAD COILING DOOR.
7. HOLD-OPEN DOOR.

ROOM IDENTIFICATION PLAQUE NOTES

1. REFER TO A8.00 FOR ROOM IDENTIFICATION PLAQUES.
2. PROVIDE FULL CONCEALED BACK PIECE FOR PLAQUES MOUNTED ON GLASS.
3. PROVIDE EXTERIOR GRADE PLAQUE AT ALL EXTERIOR DOORS.
4. PROVIDE PLAQUE TYPE "F" AT BAND HALL A110, DANCE G110, AND GYM G120.



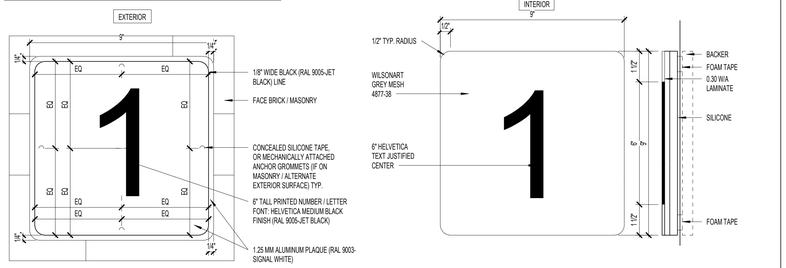
SIGN TYPE 'A' | SIGN TYPE 'B' | SIGN TYPE 'C'

SIGN TYPE 'D' | SIGN TYPE 'E' | SIGN TYPE 'F'

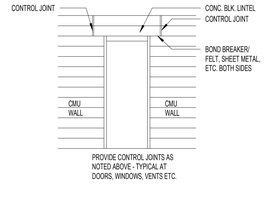
NOTES:
1. PROVIDE SIGN AT EACH EXIT POINT.
2. COORDINATE ON SITE TO COMPLY WITH THE REQUIREMENTS

ROOM IDENTIFICATION PLAQUE TYPES 5
SCALE: 3" = 1'-0"

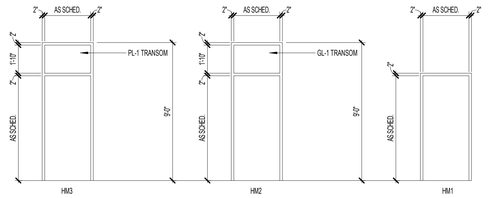
NOTE:
-INTERIOR AND EXTERIOR SIGN SHALL BE MOUNTED BACK TO BACK ON STOREFRONT WHEN APPLICABLE. ALL SIGNS MOUNTED ON GLASS W/ BLACK BACKER PLATE ON OTHER SIDE OF GLASS.
-COORDINATE AND CONFIRM LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
-ALL SIGNS TO BE MOUNTED 7'-6" AFF, CENTERED ON DOOR OPENING.



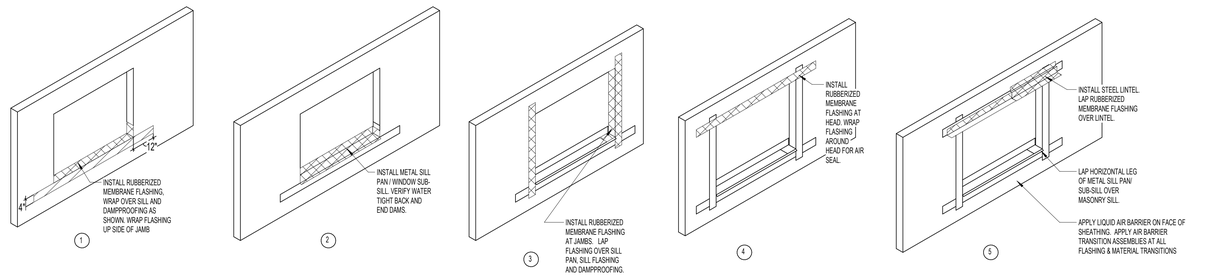
EXTERIOR DOOR SIGNAGE DETAIL 4
SCALE: 1 : 3



DOOR FRAME DETAIL @ MASONRY 3
SCALE: 1/4" = 1'-0"



HOLLOW METAL FRAME TYPES 2
SCALE: 1/4" = 1'-0"



WINDOW FLASHING SEQUENCE 1
SCALE: 3/8" = 1'-0"

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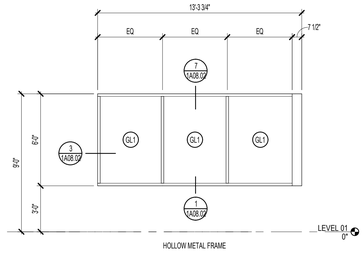
HMS - DOOR SCHEDULE



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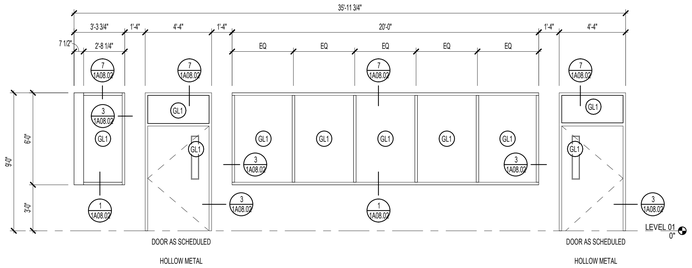

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1

INTERIOR FRAME TYPES

GLAZING KEY:

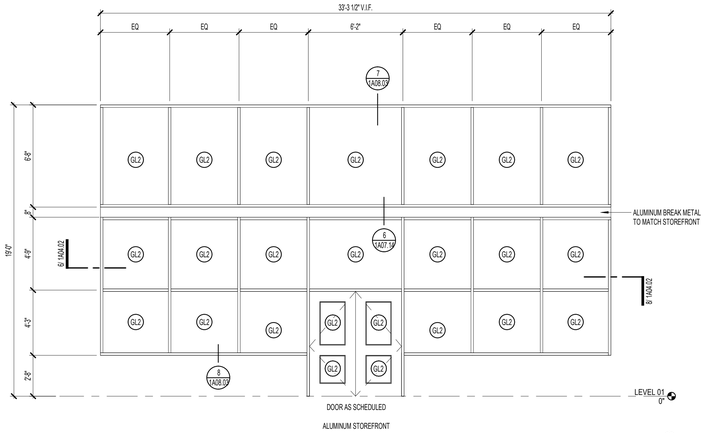
NAME/SYMBOL	DESCRIPTION
GL1	CLEAR GLAZING (TEMPERED) GLASS, 1/4" THICK, TYP. UON (INTERIOR)
GL2	INSULATED TINTED SAFETY (TEMPERED) LOW 'E' GLASS, CLEAR + CLEAR (EXTERIOR). APPLY SECURITY FILM ON INTERIOR SIDE OF THE WINDOW - SURFACE 4 (BOD: 3M SAFETY S140, 14MIL THICK PRODUCT). GRAPHICS TO BE APPLIED ON EXTERIOR SIDE OF WINDOW (SURFACE 1) - REFER TO SHEET A11.01 FOR GRAPHIC LOCATIONS.
MP-1	IMPACT RESISTANT PANEL
MP-1A	IMPACT RESISTANT PANEL - GYM ONLY

GLAZING TYPE GL2: SHGC: 0.23 U-FACTOR: 0.29

NOTE: REFER TO SPECIFICATIONS FOR GLAZING TYPES

INTERIOR ALUMINUM (STOREFRONT):
BOD DESIGN: KAWNEER 451T, 1 1/2" x 2" MULLIONS)

EXTERIOR ALUMINUM (STOREFRONT):
BOD DESIGN: KAWNEER 451T, 1 1/2" x 2" MULLIONS)



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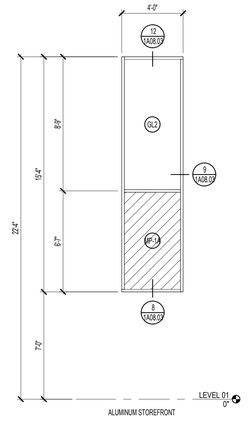

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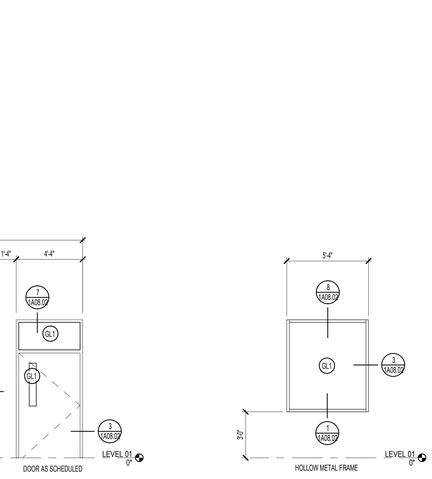

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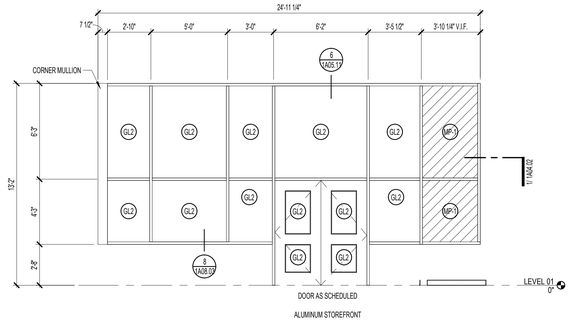

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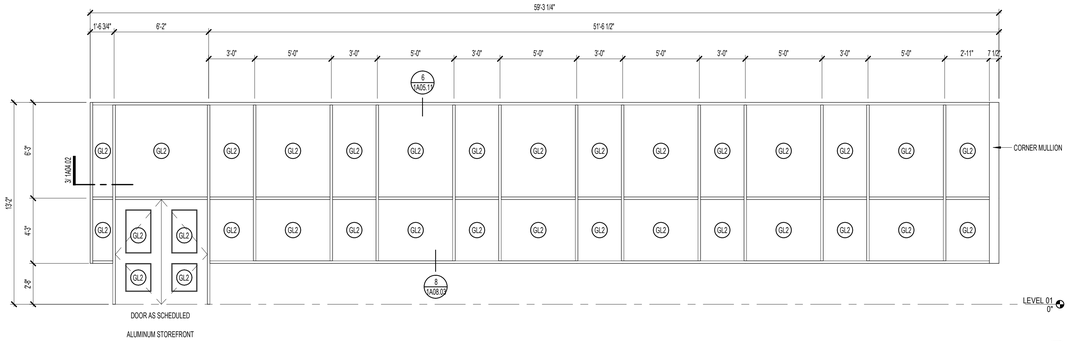

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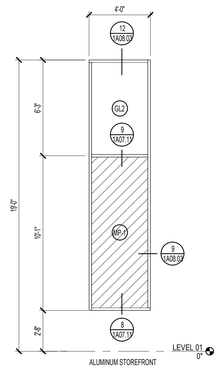

A

EXTERIOR FRAME TYPES

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT
MICHAEL ADAME
20113
STATE OF TEXAS

DATE: 05/15/2026

PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

Date	Description

ISSUE FOR CONSTRUCTION

1A08.01
HMS - FRAME TYPES

6/4/2026 11:41:39 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt

HUMBLE MIDDLE SCHOOL - ROOM FINISH SCHEDULE - SEGMENT "A"

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	Ceiling Finish	REMARKS	REVISION DELTA NO
A100	CORRIDOR	LVT-3, WOC	RB-1	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	P-1	MCS-1, GYP-1	X	
A101	UNIFORM STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	X	
A102	INSTRUMENT STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	X	
A110	BAND HALL	LVT-1	RB-1	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	SAP-3	X	
A111	PRACTICE	LVT-1	RB-1	P-1	P-1	P-1	P-2	SAP-3	X	
A112	PRACTICE	LVT-1	RB-1	P-1	P-1	P-1	P-2	SAP-3	X	
A113	PRACTICE	LVT-1	RB-1	P-1	P-1	P-1	P-2	SAP-3	X	
A114	OFFICE	CPT-1	RB-1	P-1	P-1	P-1	P-2	SAP-1	X	
A121	COMPUTER LAB	LVT-1	RB-1	P-1	P-2	P-1	P-2	SAP-1	X	

HUMBLE MIDDLE SCHOOL - ROOM FINISH SCHEDULE - SEGMENT "C"

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	Ceiling Finish	REMARKS	REVISION DELTA NO
C160	CULINARY LAB	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	X	
C161	PANTRY	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	X	
C162	STORAGE	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	X	
C163	CUSTODIAL	FT-2	TB-2	WT-4	WT-4	WT-4	WT-4	SAP-2	X	

HUMBLE MIDDLE SCHOOL - ROOM FINISH SCHEDULE - SEGMENT "G"

ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	Ceiling Finish	REMARKS	REVISION DELTA NO
G100	CORRIDOR	LVT-3, WOC	RB-1	P-1	REFER TO ELEVATION	P-1	REFER TO ELEVATION	MCS-1, GYP-1	X	
G101	BOYS RR	FT-1	TB-1	WT-1	WT-1	WT-2	WT-1	SAP-2	X	
G102	GIRLS RR	FT-1	TB-1	WT-1	WT-1	WT-2, WT-1	WT-1	SAP-2	X	
G110	DANCE	SF-1	RB-2	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	SAP-1, EXP-1, GYP-1	X	
G111	DANCE STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	X	
G120	GYM	SF-1	RB-2	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	REFER TO ELEVATION	EXP-1	X	
G121	GYM STOR.	SC-1	RB-1	P-1	P-1	P-1	P-1	SAP-1	X	

HUMBLE MIDDLE SCHOOL - MATERIAL SCHEDULE

MARK	MATERIAL	MANUFACTURER	STYLE	COLORS	SPECS	COMMENTS
01 FLOOR FINISH						
CPT-1	CARPET/POWERBOND	TARKETT	10887 GEOKNIT	42716 PURPLE SAGE	BROADLOOM ROLL	OFFICE & COMPUTER LAB HMS
FT-1	FLOOR TILE	DALTILE	KEYSTONE	SUEDE GRAY SPECKLE D208	2" X 2" MOSAIC	RR FLOORS, HMS & AMS
FT-2	FLOOR TILE	CROSSVILLE	CROSS COLOR MINGLES	MERCURY	12" X 12", CROSS-TREAD (CTS) FINISH: THIN SET	CULINARY LAB, HMS & AMS
LVT-1	LUXURY VINYL TILE	TARKETT	CONTOUR/METHOD	11131 PRETTY AMAZING	9" X 36", VERTICAL ASHLAR (PLANK)	BAND HALL AND PRACTICE ROOMS HMS
LVT-3	LUXURY VINYL TILE	TARKETT	CONTOUR/COLOR BEAM	C121 FLANNEL	9" X 36", VERTICAL ASHLAR (PLANK)	CORRIDOR FIELD, HMS & AMS
SC-1	SEALED CONCRETE					
SF-1	WOOD ATHLETIC FLOORING	TARKETT	CLUTCH COURT PERFORMANCE SYSTEM	SECOND GRADE MAPLE	CLEAR FINISH, NATURAL MAPLE	GYMNASIUM & DANCE ROOM, HMS & AMS
SF-2	WOOD ATHLETIC FLOORING	TARKETT	CLUTCH COURT PERFORMANCE SYSTEM	SECOND GRADE MAPLE	MFMA-APPROVED TRANSPARENT PIGMENTED ATHLETIC FINISH FOR DARKER MAPLE APPEARANCE; GRAIN VISIBLE	GYMNASIUM, HMS & AMS; ARCHITECT TO APPROVE FINAL COLOR & TONE
WF-1	WALK-OFF CARPET	TARKETT	ASSERTIVE ACTION	26218 ETCH	BROADLOOM ROLL	HMS, AT EACH EXTERIOR DOORWAY
02 BASE						
RB-1	RUBBER BASE	JOHNSONITE	4" COVE	COLOMATCH, 48 GREY WG		FIELD BASE - HMS & AMS
RB-2	VENTED RUBBER BASE	JOHNSONITE	4" COVE	COLOMATCH, 48 GREY WG		GYMNASIUM & DANCE ROOM - HMS & AMS
TB-1	TILE BASE	DALTILE	KEYSTONE	SUEDE GRAY SPECKLE D208	COVE BASE	RESTROOMS HMS & AMS
TB-2	TILE BASE	CROSSVILLE	CROSS COLOR MINGLES	MERCURY	COVE BASE 6X8	CULINARY LAB HMS & AMS
03 WALL FINISH						
EP-1	EPOXY PAINT	SHERWIN WILLIAMS		MATCH FIELD PAINT, U.N.O.		
P-1	PAINT	SHERWIN WILLIAMS		SW7653 SILVERPOINTE		FIELD PAINT HMS & AMS
P-2	PAINT	SHERWIN WILLIAMS		SW7066 GRAY MATTERS		ACCENT PAINT HMS & AMS
P-3	PAINT	SHERWIN WILLIAMS		SW6983 FULLY PURPLE		PURPLE ACCENT HMS
P-4	PAINT	SHERWIN WILLIAMS		SW6258 TRICORN BLACK		ACCENT HMS & AMS
WC	WALL COVERING (VINYL)	RIOT			REFER TO CUSTOM DIGITAL WALL COVERING IN SPEC SECTION 09 72 23	HMS & AMS, CUSTOM GRAPHICS BY ARCH.
WT-1	WALL TILE	DALTILE	COLOR WHEEL LINEAR	X114 DESERT GRAY	4" X 4", SEMI-GLOSS	RR WALL FIELD -HMS & AMS
WT-2	WALL TILE	AMERICAN OLEAN	COLOR STORY WALL	0086 DEVOTION	3" X 6" GLOSSY	RR WALL ACCENT TILE-HMS
WT-4	WALL TILE	DALTILE	COLOR WHEEL LINEAR	0100 ARCTIC WHITE	4" x 12" SEMI-GLOSS	AT CULINARY LAB, REF FINISH PLANS
04 CEILING						
CCT-1	CEILING CLOUD TRIM	ARMSTRONG	AXIOM CLASSIC TRIM	COLOR: WHITE, U.N.O	8" STRAIGHT	AT CEILING CLOUDS
EXP-1	EXPOSED STRUCTURE-PAINTED					TO BE PAINTED (P-1) U.N.O.
GYP-1	PAINTED GYPSUM BOARD					TO BE PAINTED (P-1) U.N.O.
MCS-1	METAL CEILING SYSTEM	CERTAINTEED	LINEAR BOX 6 SYSTEM	COLOR: LIGHT PECAN (WOOD LOOK)	INTERIOR (PERFORATED #160, OPEN REVEAL)	HMS, REFER TO RCP
SAP-1	SUSPENDED ACOUSTICAL TILE	ARMSTRONG	SCHOOL ZONE FINE FISSURED, NRC 0.70	COLOR: WHITE, U.N.O	2' X 2', SQUARE LAY-IN	FIELD
SAP-2	SUSPENDED ACOUSTICAL TILE W/PLASTIC FILM FINISH	CERTAINTEED	VINYLROCK TYPE XX SMOOTH	COLOR: WHITE, U.N.O	2' X 2', SQUARE LAY-IN	AT WET AREAS (CULINARY, RESTROOMS WITH HOLD-DOWN CLIPS)
SAP-3	SUSPENDED ACOUSTICAL TILE W/ HIGHER NRC	ARMSTRONG	FINE FISSURED HIGH NRC, NRC 0.75	COLOR: WHITE, U.N.O	2' X 2', SQUARE LAY-IN	HMS & AMS BAND HALL
05 MISC FINISHES						
	SECURITY FILM	3M	SAFETY S140		14MIL THICKNESS	INTERIOR SIDE OF WINDOW (SURFACE 4)
CG-1	CORNER GUARD	INPRO			STAINLESS STEEL	AT CULINARY LAB, REF FINISH PLANS
FWP-1	ACOUSTICAL WALL PANELS	GUILFORD OF MAINE		ANCHORAGE, ASTEROID 2053	2" THICKNESS, FABRIC WRAPPED	BAND HALL, DANCE AND GYM, DIMENSIONS TO BE V.I.F.
FWP-2	ACOUSTICAL WALL PANELS	GUILFORD OF MAINE		ANCHORAGE, GRAPHITE 2079	2" THICKNESS, FABRIC WRAPPED	BAND HALL, DANCE AND GYM, DIMENSIONS TO BE V.I.F.
FWP-3	ACOUSTICAL WALL PANELS	GUILFORD OF MAINE		WHISPER, MYSTERY 1299	2" THICKNESS, FABRIC WRAPPED	ACCENT, SCHOOL COLOR. DIMENSIONS TO BE V.I.F.
PG	PAINTED GRAPHIC	RIOT			REFER TO PAINTED WALL GRAPHICS IN SPEC SECTION 09 72 23	HMS & AMS, CUSTOM GRAPHICS BY ARCH.
PL-1	PLASTIC LAMINATE	WILSONART		COLOR: DOVE GREY D92-60, MATTE		TYP AT DOORS HMS & AMS
06 SPECIALTIES						
	BLEACHERS	IRWIN SEATING	VERSA TRACT WITH INFINITY SEAT MODULES	SEAT: DVT DEEP VIOLET		GYM AT HMS
	TOILET PARTITIONS	ASI	COLOR-THRU PHENOLIC	COLOR: DARK GREY 3871	FLOOR MOUNTED	RESTROOMS AT HMS AND AMS
	RECESSED DISPLAY CASES	CLARIDGE	370 SERIES	SIZE: 4' x 8', 18" DEEP	MODEL: 374, LIGHT FIXTURE INCLUDED	
	PORCELAIN WHITE BOARDS	CLARIDGE		SIZE- REFER TO PLAN, MARKER TRAY TO BE INCLUDED		
	CORK TACK BOARDS	CLARIDGE		SIZE- REFER TO PLAN		
	SCOREBOARD					GYM
RS-1	MOTORIZED ROLLER SHADES	MECHOSHADE	ELECTRO SHADE MOTORIZED	FABRIC: WHITE GREY		EXTERIOR WINDOWS, 3% OPENNESS
RS-2	MANUAL ROLLER SHADES	MECHOSHADE		FABRIC: WHITE GREY		INTERIOR WINDOWS, 3% OPENNESS
TR-1	TRANSITION	SCHLUTER	QUADEC			OUTSIDE CORNERS OF TILED SURFACES PROVIDE END CAP
TR-2	TRANSITION	SCHLUTER	VINPRO-S			RT TO CPT
TR-3	TRANSITION	SCHLUTER	VINPRO-U			RT TO SC, CPT TO SC
TR-4	TRANSITION	SCHLUTER	RENO-U			T TO RS, T TO SC, T TO CPT, TZ TO RS, TZ TO SC, TZ TO CPT
TR-5	TRANSITION	SCHLUTER	JOLLY			EDGE PROTECTION AT TILE EDGES, PROVIDE END CAP
WP	WALL PADS	PORTER		BLACK WITH GRAPHICS		GYM AT HMS AND AMS, REFER TO A9 SERIES
07 EXTERIOR						
BK-1	UPCHURCH KIMBROUGH	ENDICOTT	ROSE BLEND, SMOOTH	UTILITY SIZE		HMS, REFER TO EXTERIOR ELEVATIONS FOR COURSING
BK-2	UPCHURCH KIMBROUGH	HEBRON BRICK	CHAMPAGNE, VELOUR	UTILITY SIZE		HMS, REFER TO EXTERIOR ELEVATIONS FOR COURSING
BK-3	UPCHURCH KIMBROUGH	HEBRON BRICK	SEA GRAY #6, SMOOTH	UTILITY SIZE		HMS, REFER TO EXTERIOR ELEVATIONS FOR COURSING
FS-1	METAL COMPOSITE MATERIAL WALL PANEL	ALUCOBOND	ALUCOBOND PLUS - DRY REVEAL	COLOR TO MATCH CLEAR ANODIZED STOREFRONT		
MP-1	IMPACT RESISTANT PANEL	MAPES	MAPESHIELD	CLEAR ANODIZED	STANDARD, HARDBOARD SUBSTRATE	HMS, REFER TO FRAME TYPES
MP-1A	IMPACT RESISTANT PANEL	MAPES	MAPESHIELD	CLEAR ANODIZED	CEMENT BOARD SUBSTRATE & STEEL SKIN	HMS, REFER TO FRAME TYPES (AT GYM ONLY)
PM-1	PRE-FINISHED METAL	BERRIDGE		COLOR: ZINC-COTE		HMS, REFER TO EXTERIOR ELEVATIONS
STOREFRONT		KAWNEER		PERMANODIC, CLEAR ANODIZED		HMS
TURF		FIELDTURF, TARKETT	VERTEX PRIME	COLOR: FIELD GREEN/SUMMER GREEN	3 LAYER, PILE HEIGHT 2.25"	HMS & AMS
WG	WINDOW GRAPHIC (PERFORATED VINYL)	RIOT			REFER TO PERFORATED VINYL WALL GRAPHICS IN SPEC SECTION 09 72 23	HMS & AMS, CUSTOM GRAPHICS BY ARCH.

FINISH SCHEDULE NOTES

1. REFER TO INTERIOR ELEVATIONS FOR LOCATION, SIZES & TYPES OF INTERIOR FINISHES.
2. PROVIDE FLOOR OR WALL PATTERNS. REFER TO INTERIOR PLANS (A9 SERIES) FOR DESIGN DETAILS.
3. PROVIDE ACOUSTIC PANELS. REFER TO INTERIOR ELEVATIONS FOR SIZES & TYPES.
4. REFER TO REFLECTED CEILING PLAN (A10 SERIES DWGS). FOR PAINTED GYP. BD. AND/OR SPECIALTY PORTIONS OF CEILING.
5. PROVIDE ACCENT TILE. REFER TO INTERIOR ELEVATIONS FOR SIZES & TYPES.
6. PROVIDE ACCENT WALL. REFER TO INTERIOR PLANS FOR ACCENT PAINT LOCATIONS.
7. AT MDF ROOMS, PROVIDE 8'-0"H, 3/4" PLYWOOD ON ALL WALL SURFACES. PAINT SIDES AND EDGES BLACK.
8. AT ALL STORAGE ROOMS. PROVIDE 2" HIGH, CONTINUOUS RED STRIPE 18" BELOW CEILING OR STRUCTURE. AT 6' INTERVALS (AND NOT LESS THAN ONCE PER WALL) STENCIL THE WORDS "NO STORAGE ABOVE LINE."
9. ABOVE CEILING AT ALL FIRE RATED WALLS, PROVIDE 4" HIGH, STENCIL EVERY 8' AND AT LEAST ONE PER WALL READING "FIRE WALL." IN RED PAINT. ALSO PROVIDE STENCIL AT 10' AFF IN MECHANICAL, HOUSEKEEPING, TECHNOLOGY, ELECTRICAL AND STORAGE SPACES THAT DO NOT HAVE A CEILING. STENCIL IS NOT REQUIRED WHERE THE FIRE WALL DOES NOT HAVE AN ADJACENT CEILING AND THE SPACE IS AN OCCUPIED, FINISHED SPACE.

GENERAL NOTES

A. REFER TO REFLECTED CEILING PLAN (A10 SERIES DWGS). FOR CEILING HEIGHTS & ADDITIONAL INFORMATION.

B. ALL FINISHES LISTED IN INTERIOR MATERIAL LEGEND ARE BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR A LIST OF ACCEPTABLE MANUFACTURERS. FINAL SELECTIONS SUBJECT TO ARCHITECTS APPROVAL.

C. REFERENCE FOOD SERVICE DRAWINGS (K SERIES) FOR KITCHEN AND SERVING LINE EQUIPMENT & FINISH INFORMATION.

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

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10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT
MICHAEL ADAME
20113
STATE OF TEXAS

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DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

No.	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

1A09.00
HMS - MATERIAL & ROOM FINISH SCHEDULE

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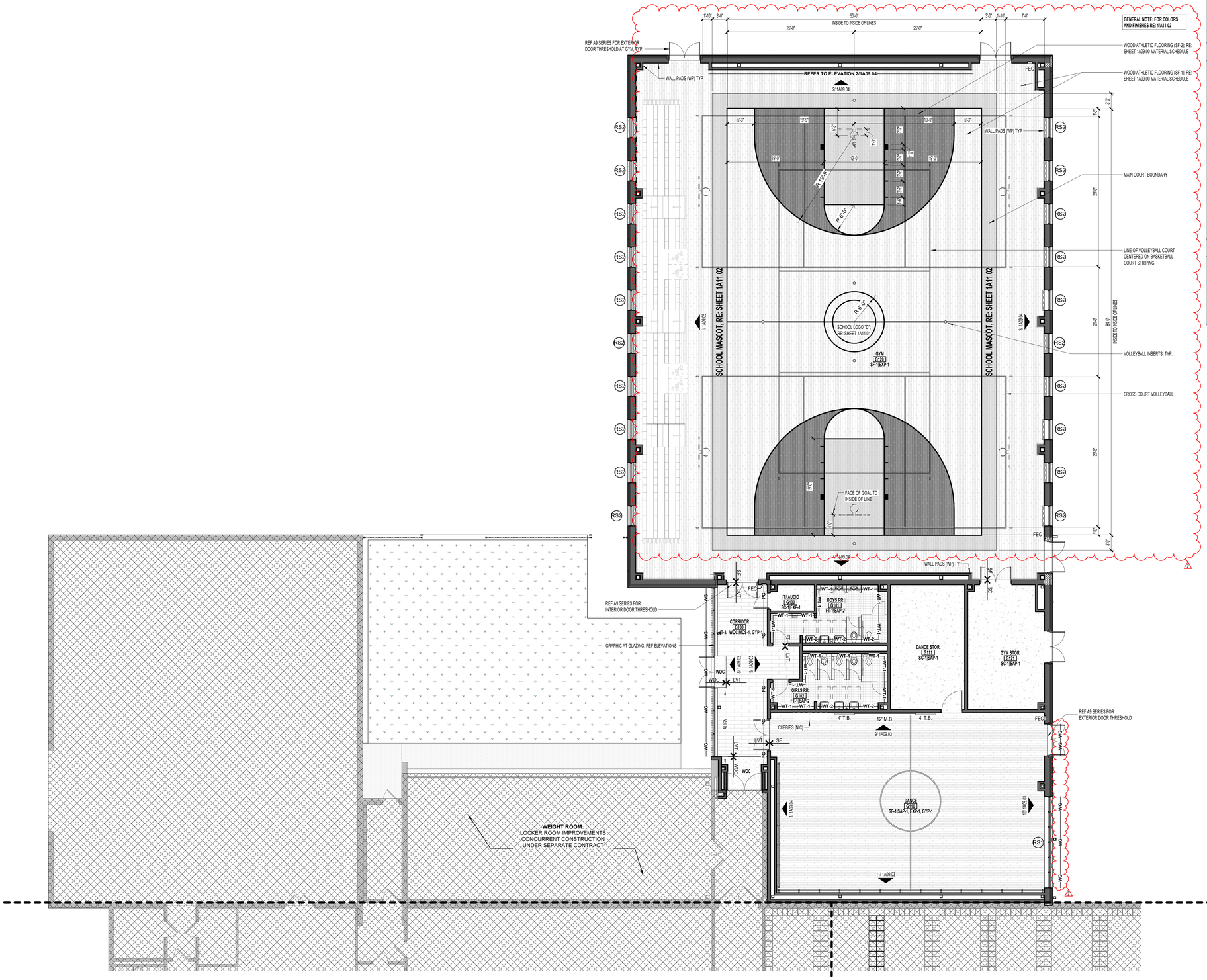


MATERIAL FINISH LEGEND

- LUXURY VINYL TILE (LVT-1 AT HMS)
- LUXURY VINYL TILE (LVT-2 AT AMS)
- LUXURY VINYL TILE (LVT-3 AT HMS & AMS)
- 2" X 2" FLOOR TILE (FT-1)
- WOOD ATHLETIC FLOORING (SF)
- FLOOR TILE (FT-2 AT CULINARY LABS)
- WALK-OFF (WF-1 AT HMS AND WF-2 AT AMS)
- CARPET (CPT-1 AT HMS CPT-2 AT AMS)
- SEALED CONCRETE (SC-1)
- EXISTING BUILDING TO REMAIN, NO SCOPE

PROVIDE CONTROL JOINTS (C.J.) AS SHOWN & AT COLOR CHANGES. WHERE CONTROL JOINTS ARE NOT SHOWN, REFER TO STRUCTURAL DWGS

SYMBOLS

- CJ — CONTROL JOINT*
- EJ — EXPANSION JOINT
- CG — CORNER GUARD
- RS1 — MANUAL ROLLER SHADE
- RS2 — MOTORIZED ROLLER SHADE
- X-1 — WALL FINISH MATERIAL. REF A09.00
- ROOM 100 / PCON | SAP-1 — CEILING FINISH / FLOOR FINISH

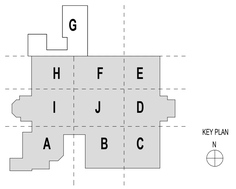
* PROVIDE CONTROL JOINTS AS SHOWN. WHERE CONTROL JOINTS ARE NOT SHOWN, REFER TO STRUCTURAL DWGS. REFER TO STRUCTURAL DWGS FOR DIMENSIONS. AT COLOR TRANSITIONS, PROVIDE SCORE LINE U.N.O.

** REFER TO ROOM FINISH SCHEDULE FOR FULL LIST OF FINISH WITHIN ROOM

TYPICAL FLOOR FINISH NOTES

1. REFER TO A9 SERIES FOR MATERIAL TYPE MARKS AND DEFINITIONS.
2. REFER TO A9 SERIES FOR INTERIOR DETAILS.
3. ALL MUSIC STORAGE UNITS TO RECEIVE END PANELS AS REQUIRED, TYP.
4. FOR ROLLER SHADES, RS-# TAG INDICATES ENTIRE GLAZING WALL RECEIVING ROLLER SHADES. COORDINATE INDIVIDUAL SHADE WIDTHS WITH ARCHITECT.

HMS - FLOOR FINISH PLAN - SEGMENT 'G' 1
SCALE: 1/8" = 1'-0"



KEY PLAN N

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REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

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2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

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HMS - FLOOR FINISH PLAN - SEGMENT 'G'

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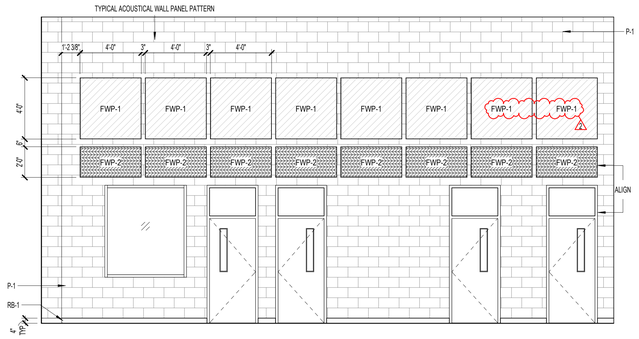
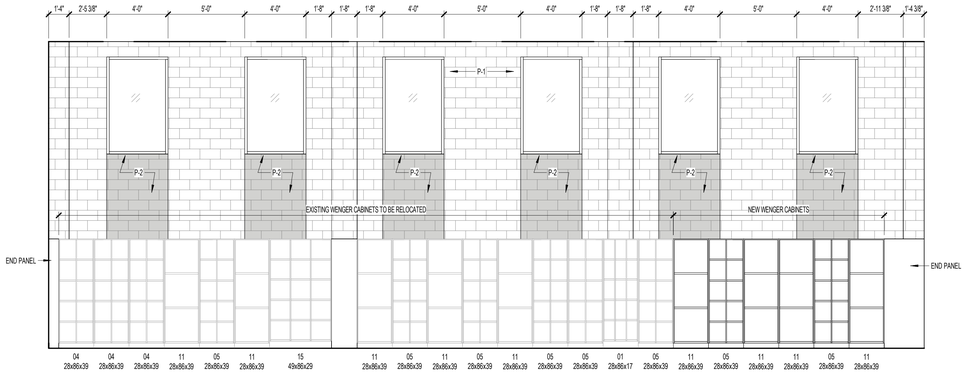


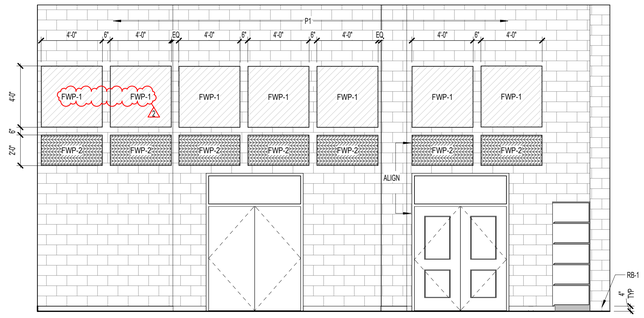
A110 BAND HALL - WEST (RE 8/1A09.06 FOR MEPT PEN. ELEV.) 10

SCALE: 1/4" = 1'-0"



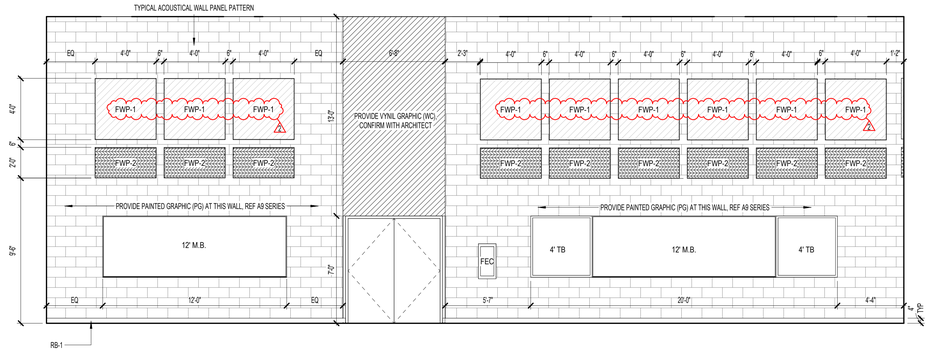
A110 BAND HALL - SOUTH (RE 7/1A09.06 FOR MEPT PEN. ELEV.) 9

SCALE: 1/4" = 1'-0"



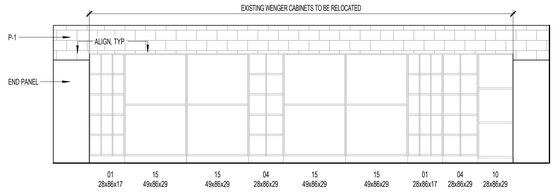
A110 BAND HALL - EAST (RE 6/1A09.06 FOR MEPT PEN. ELEV.) 8

SCALE: 1/4" = 1'-0"



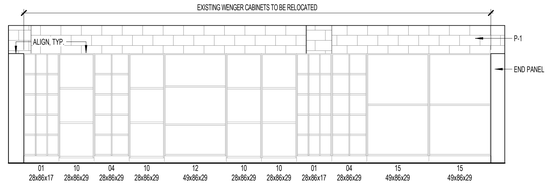
A110 BAND HALL - NORTH (RE 5/1A09.06 FOR MEPT PEN. ELEV.) 7

SCALE: 1/4" = 1'-0"



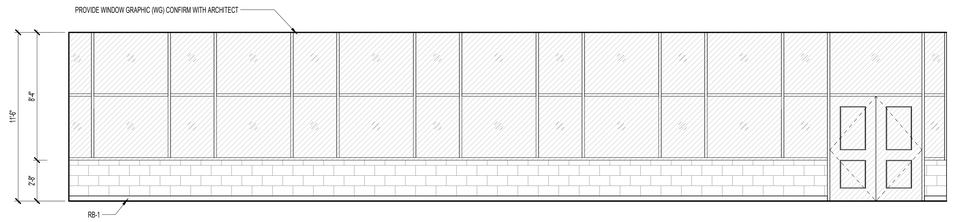
A102 INSTRUMENT STORAGE - SOUTH 6

SCALE: 1/4" = 1'-0"



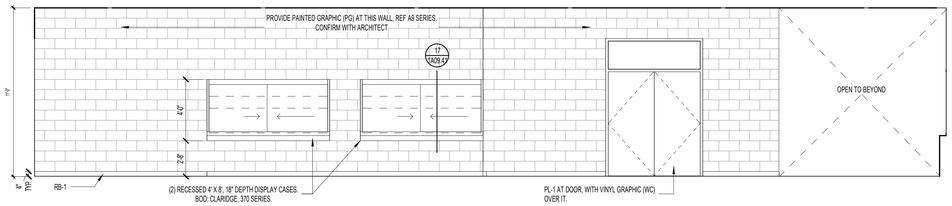
A102 INSTRUMENT STORAGE - NORTH 5

SCALE: 1/4" = 1'-0"



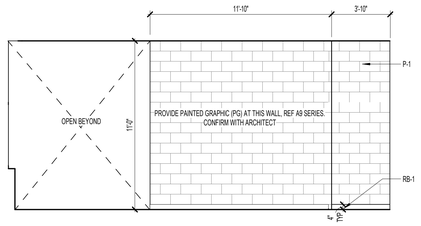
A100 CORRIDOR - SOUTH (RE 4/1A09.06 FOR MEPT PEN. ELEV.) 4

SCALE: 1/4" = 1'-0"



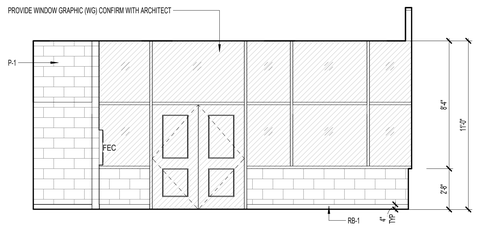
A100 CORRIDOR - NORTH (RE 3/1A09.06 FOR MEPT PEN. ELEV.) 3

SCALE: 1/4" = 1'-0"



A100 CORRIDOR - WEST (RE 2/1A09.06 FOR MEPT PEN. ELEV.) 2

SCALE: 1/4" = 1'-0"



A100 CORRIDOR - EAST (RE 1/1A09.06 FOR MEPT PEN. ELEV.) 1

SCALE: 1/4" = 1'-0"

INTERIOR ELEVATION GENERAL NOTES

1. NUMBERS SHOWN AT CABINETS ARE BASED ON AWI CABINET DESIGN SERIES (CDS) SYSTEM. PROVIDE NUMBER OF SHELVES AS SHOWN.
2. PROVIDE **PLASTIC LAMINATE** ON SPECIFIED CORE AT ALL EXPOSED SURFACES AND EDGES OF CASEWORK, ENDS, ETC. UNLESS OTHERWISE NOTED
3. PROVIDE **PLASTIC LAMINATE** ON COUNTERTOPS, UNLESS OTHERWISE NOTE.
4. **ALL UPPER AND TALL CABINETS THAT DO NOT HAVE A FURR DOWN OVER THEM SHALL HAVE A SLOPED TOP EQUAL TO AWI 426.**
5. EXPOSED WALL UNDER COUNTER TO RECEIVE FINISH AS SCHEDULED
6. ARCHITECT TO SELECT COLORS. CONTRACTOR TO COORDINATE LEAD TIMES FOR ALL MATERIALS TO MAINTAIN PROJECT SCHEDULE
7. ALL SHELVES IN CABINETS AND BOOK CASES SHALL BE ADJUSTABLE, UNLESS NOTED OTHERWISE
8. ALL CABINETS TO INCLUDE LOCKS, UNLESS NOTED OTHERWISE
9. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATING MILLWORK TO ASSURE PROPER FIT W/ AS-BUILT CONDITIONS
10. VERIFY W/ OWNER EXACT SIZE OF ALL EQUIPMENT FURNISHED BY OWNER FOR PROPER FIT W/ CONTRACTOR SUPPLIED MILLWORK & CASEWORK
11. MODIFY MILLWORK/CASEWORK AS REQUIRED FOR COLUMN BUMPOUT AND FURRING TO CONCEAL CONDUITS, PIPES ETC. RE: ARCHITECTURAL, STRUCTURAL AND MEP DRAWINGS FOR POTENTIAL LOCATIONS
12. PROVIDE END PANELS AT ALL LOWER CABINET OPENINGS THAT END WITH AN OPEN SPACE FOR AN APPLIANCE OR KNEE SPACE
13. PROVIDE CONTROL JOINTS AS SHOWN AND SPECIFIED
14. REFERENCE WINDOW AND DOOR TYPES AS SPECIFIED FOR EXACT DIMENSIONS AND TYPES OF EACH ITEM
15. REFERENCE BUILDING SECTIONS FOR ADDITIONAL INFORMATION
16. REFER TO **A033** FOR SIZES & LOCATIONS OF GRAB BARS & OTHER TOILET ACCESSORIES
17. REFER TO **A00.03** FOR REQUIRED MOUNTING HEIGHTS PER T.A.S

MARKER BOARD / TACKBOARD MOUNTING HEIGHTS

GRADE LEVEL	MOUNTING HT.
PRE-K - 1ST	24" A.F.F. (32" A.F.F. @ CUBBIES)
2ND - 3RD	28" A.F.F.
SPECIALTY CLASSROOMS	30" A.F.F.
CORRIDORS	34" A.F.F.

CASEWORK TAG LEGEND

TYPICAL CASEWORK	SCIENCE LAB CASEWORK	INSTRUMENT STORAGE
AWI "XXX" WIDTH x HEIGHT x DEPTH	CONT COUNTER & BACKSPLASH, UNO	
AWI "XXX" WIDTH x HEIGHT x DEPTH	"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE	#"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE

1. GENERAL CASEWORK MODEL NUMBERS REFERENCE THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) AS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ACCEPTABLE CASEWORK MANUFACTURERS
2. BASE CABINET HEIGHT IS GIVEN TO THE TOP OF THE COUNTER, UNLESS NOTED OTHERWISE
3. REFER TO SHEET A09.00 FOR COLOR SCHED, NOTES, AND FINISHES, TYP.
4. FOR LOCKER TYPES REFER TO SPECIFICATIONS

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Houston, Texas 77046
pflugerarchitects.com

HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

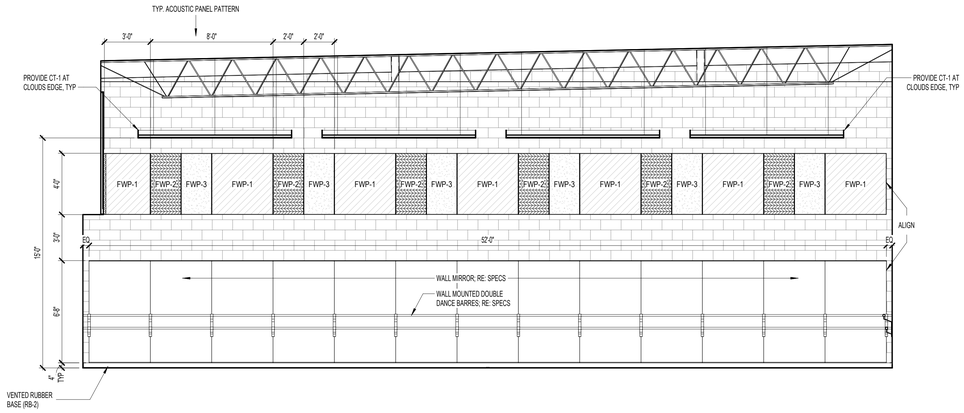
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

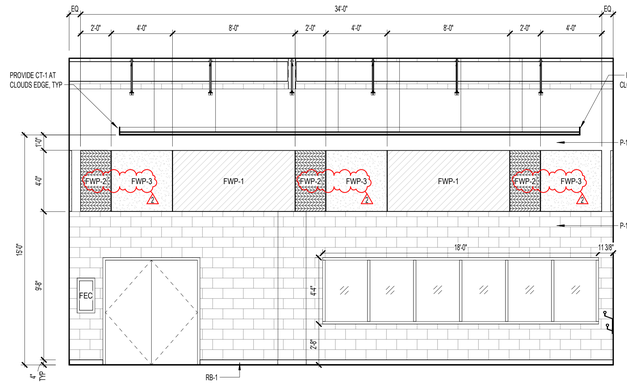
1A09.02
HMS - INTERIOR ELEVATIONS

6/4/2026 11:41:50 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



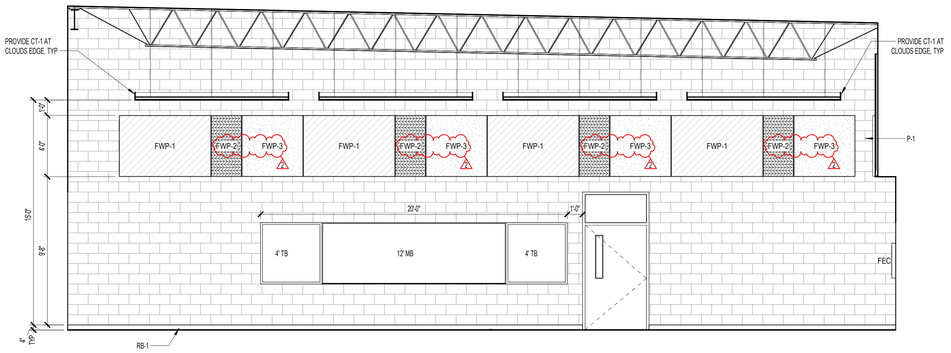
G110 DANCE - SOUTH (RE 7/1A09.07 FOR MEPT PEN. ELEV.) 11

SCALE: 1/4" = 1'-0"



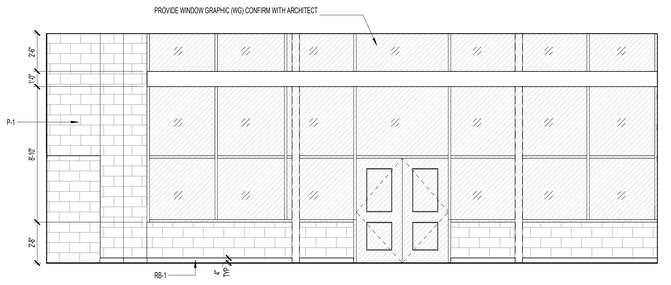
G110 DANCE - EAST (RE 6/1A09.07 FOR MEPT PEN. ELEV.) 10

SCALE: 1/4" = 1'-0"



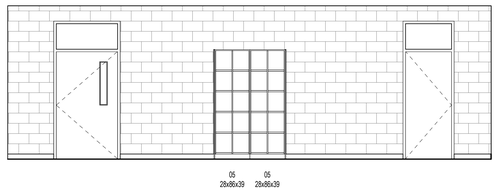
G110 DANCE - NORTH (5/1A09.07 FOR MEPT PEN. ELEV.) 9

SCALE: 1/4" = 1'-0"



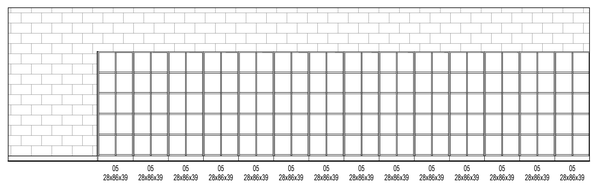
G100 CORRIDOR - WEST (RE 4/1A09.07 FOR MEPT PEN. ELEV.) 8

SCALE: 1/4" = 1'-0"



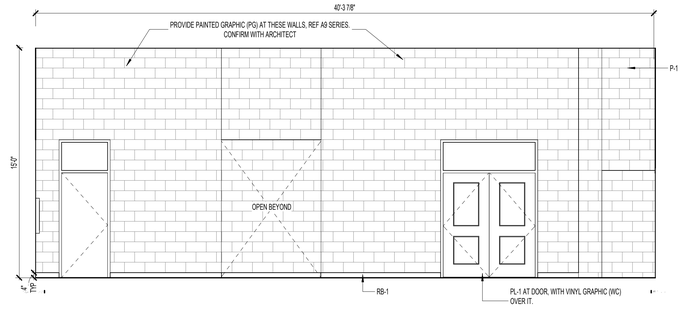
EXIST. INSTRUMENT STORAGE - NORTH 7

SCALE: 1/4" = 1'-0"



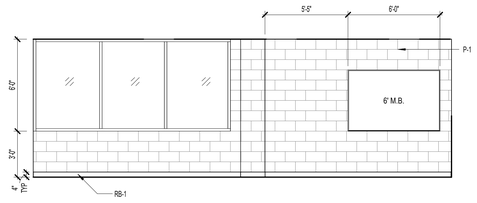
EXIST. INSTRUMENT STORAGE - EAST 6

SCALE: 1/4" = 1'-0"



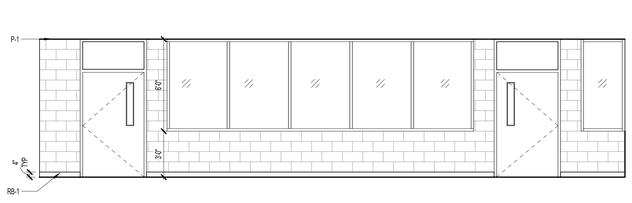
G100 CORRIDOR - EAST (RE 3/1A09.07 FOR MEPT PEN. ELEV.) 5

SCALE: 1/4" = 1'-0"



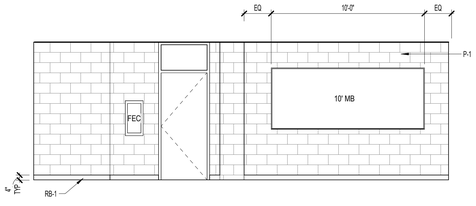
A121 COMPUTER LAB - WEST (RE 2/1A09.07 FOR MEPT PEN. ELEV.) 4

SCALE: 1/4" = 1'-0"



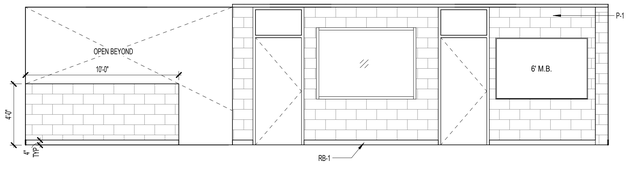
A121 COMPUTER LAB - SOUTH (RE 1/1A09.07 FOR MEPT PEN. ELEV.) 3

SCALE: 1/4" = 1'-0"



A121 COMPUTER LAB - EAST (RE 10/1A09.06 FOR MEPT PEN. ELEV.) 2

SCALE: 1/4" = 1'-0"



A121 COMPUTER LAB - NORTH (RE 9/1A09.06 FOR MEPT PEN. ELEV.) 1

SCALE: 1/4" = 1'-0"

INTERIOR ELEVATION GENERAL NOTES

1. NUMBERS SHOWN AT CABINETS ARE BASED ON AIW CABINET DESIGN SERIES (CDS) SYSTEM. PROVIDE NUMBER OF SHELVES AS SHOWN.
2. PROVIDE **PLASTIC LAMINATE** ON SPECIFIED CORE AT ALL EXPOSED SURFACES AND EDGES OF CASEWORK, ENDS, ETC. UNLESS OTHERWISE NOTED
3. PROVIDE **PLASTIC LAMINATE** ON COUNTERTOPS, UNLESS OTHERWISE NOTE.
4. **ALL UPPER AND TALL CABINETS THAT DO NOT HAVE A FURR DOWN OVER THEM SHALL HAVE A SLOPED TOP EQUAL TO AIW 426.**
5. EXPOSED WALL UNDER COUNTER TO RECEIVE FINISH AS SCHEDULED
6. ARCHITECT TO SELECT COLORS. CONTRACTOR TO COORDINATE LEAD TIMES FOR ALL MATERIALS TO MAINTAIN PROJECT SCHEDULE
7. ALL SHELVES IN CABINETS AND BOOK CASES SHALL BE ADJUSTABLE, UNLESS NOTED OTHERWISE
8. ALL CABINETS TO INCLUDE LOCKS, UNLESS NOTED OTHERWISE
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10. VERIFY W/ OWNER EXACT SIZE OF ALL EQUIPMENT FURNISHED BY OWNER FOR PROPER FIT W/ CONTRACTOR SUPPLIED MILLWORK & CASEWORK
11. MODIFY MILLWORK/CASEWORK AS REQUIRED FOR COLUMN BUMPOUT AND FURRING TO CONCEAL CONDUITS, PIPES ETC. RE: ARCHITECTURAL, STRUCTURAL AND MEP DRAWINGS FOR POTENTIAL LOCATIONS
12. PROVIDE END PANELS AT ALL LOWER CABINET OPENINGS THAT END WITH AN OPEN SPACE FOR AN APPLIANCE OR KNEE SPACE
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14. REFERENCE WINDOW AND DOOR TYPES AS SPECIFIED FOR EXACT DIMENSIONS AND TYPES OF EACH ITEM
15. REFERENCE BUILDING SECTIONS FOR ADDITIONAL INFORMATION
16. REFER TO **A03S** FOR SIZES & LOCATIONS OF GRAB BARS & OTHER TOILET ACCESSORIES
17. REFER TO **A00.03** FOR REQUIRED MOUNTING HEIGHTS PER T.A.S

MARKER BOARD / TACKBOARD MOUNTING HEIGHTS

GRADE LEVEL	MOUNTING HT.
PRE-K - 1ST	24" A.F.F. (32" A.F.F. @ CUBBIES)
2ND - 3RD	28" A.F.F.
SPECIALTY CLASSROOMS	30" A.F.F.
CORRIDORS	34" A.F.F.

CASEWORK TAG LEGEND

TYPICAL CASEWORK	SCIENCE LAB CASEWORK	INSTRUMENT STORAGE
AIW "XXX" WIDTH x HEIGHT x DEPTH	CONT COUNTER & BACKSPLASH, UNO	
AIW "XXX" WIDTH x HEIGHT x DEPTH	"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE	#"XX" MANUFACTURER'S MODEL NUMBER, REF SCHEDULE

1. GENERAL CASEWORK MODEL NUMBERS REFERENCE THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) AS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ACCEPTABLE CASEWORK MANUFACTURERS
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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

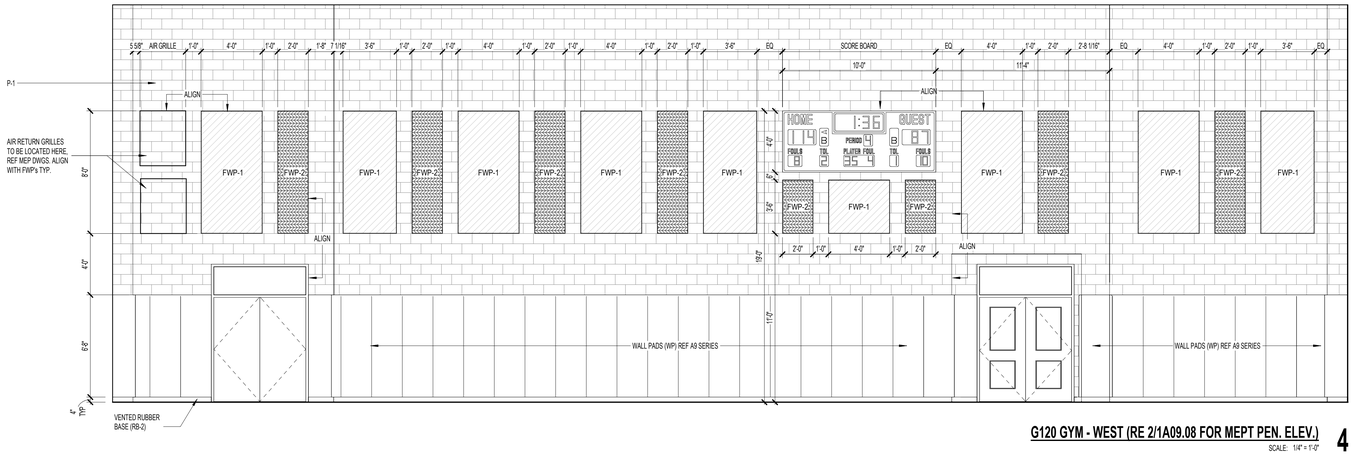
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

No.	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

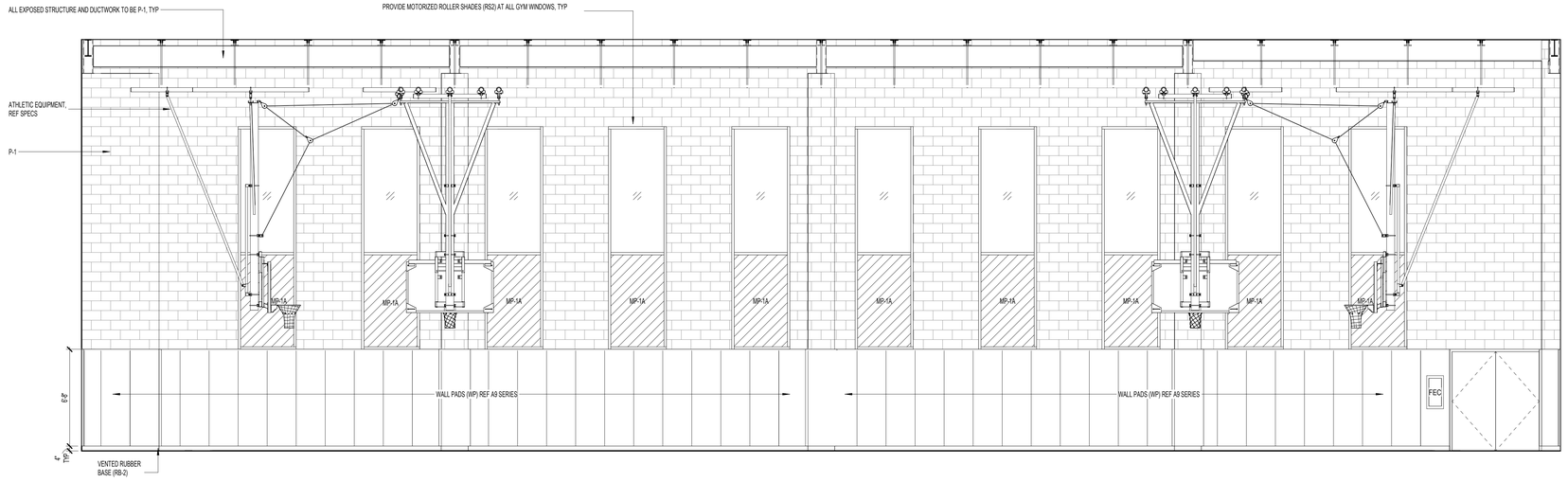
1A09.03
HMS - INTERIOR ELEVATIONS

6/4/2026 11:41:55 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



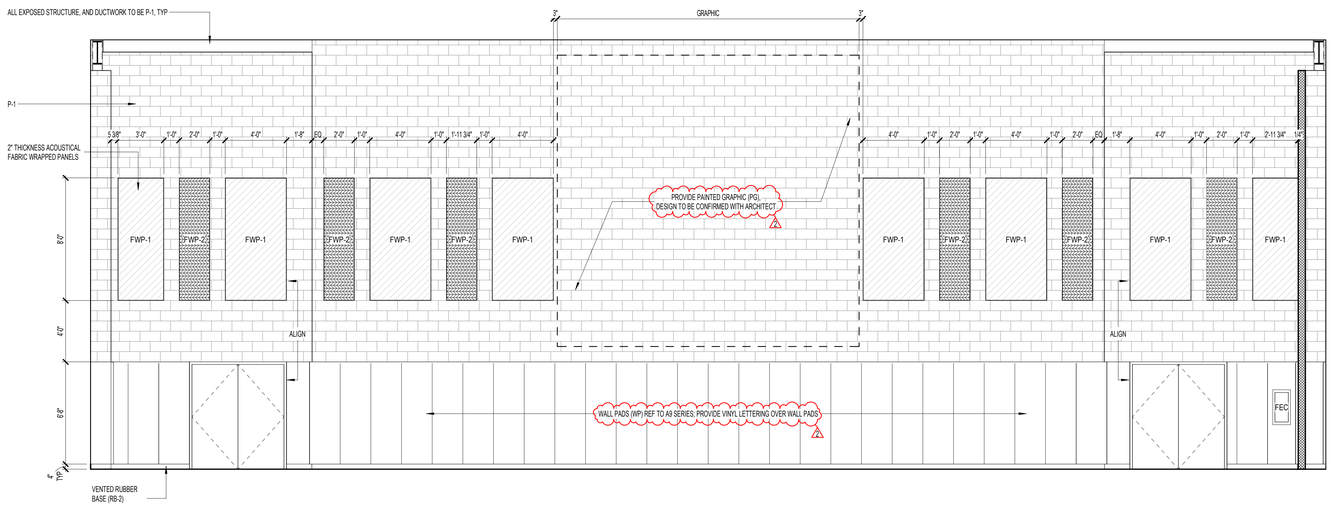
G120 GYM - WEST (RE 2/1A09.08 FOR MEPT PEN. ELEV.) 4

SCALE: 1/4" = 1'-0"



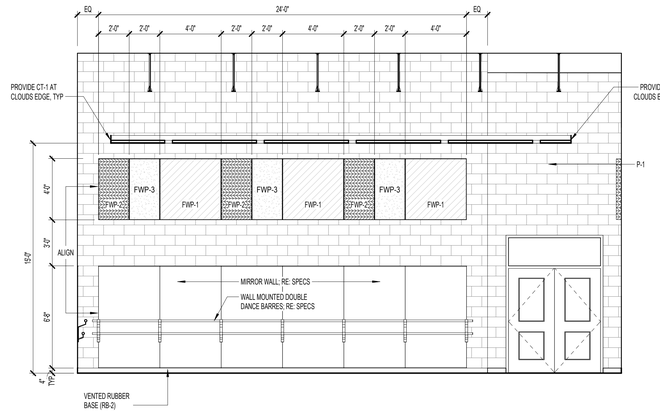
G120 GYM - EAST (RE 1/1A09.08 FOR MEPT PEN. ELEV.) 3

SCALE: 1/4" = 1'-0"



G120 GYM - NORTH (RE 9/1A09.07 FOR MEPT PEN. ELEV.) 2

SCALE: 1/4" = 1'-0"



G110 DANCE - WEST (RE 8/1A09.07 FOR MEPT PEN. ELEV.) 1

SCALE: 1/4" = 1'-0"

INTERIOR ELEVATION GENERAL NOTES

1. NUMBERS SHOWN AT CABINETS ARE BASED ON AIW CABINET DESIGN SERIES (CDS) SYSTEM. PROVIDE NUMBER OF SHELVES AS SHOWN.
2. PROVIDE **PLASTIC LAMINATE** ON SPECIFIED CORE AT ALL EXPOSED SURFACES AND EDGES OF CASEWORK, ENDS, ETC. UNLESS OTHERWISE NOTED
3. PROVIDE **PLASTIC LAMINATE** ON COUNTERTOPS, UNLESS OTHERWISE NOTE.
4. **ALL UPPER AND TALL CABINETS THAT DO NOT HAVE A FURR DOWN OVER THEM SHALL HAVE A SLOPED TOP EQUAL TO AIW 426.**
5. EXPOSED WALL UNDER COUNTER TO RECEIVE FINISH AS SCHEDULED
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MARKER BOARD / TACKBOARD MOUNTING HEIGHTS

GRADE LEVEL	MOUNTING HT.
PRE-K - 1ST	24" A.F.F. (32" A.F.F. @ CUBBIES)
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CORRIDORS	34" A.F.F.

CASEWORK TAG LEGEND

TYPICAL CASEWORK	SCIENCE LAB CASEWORK	INSTRUMENT STORAGE
AIW "XXX" WIDTH x HEIGHT x DEPTH	CONT COUNTER & BACKSPLASH, UNO	
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HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
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REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

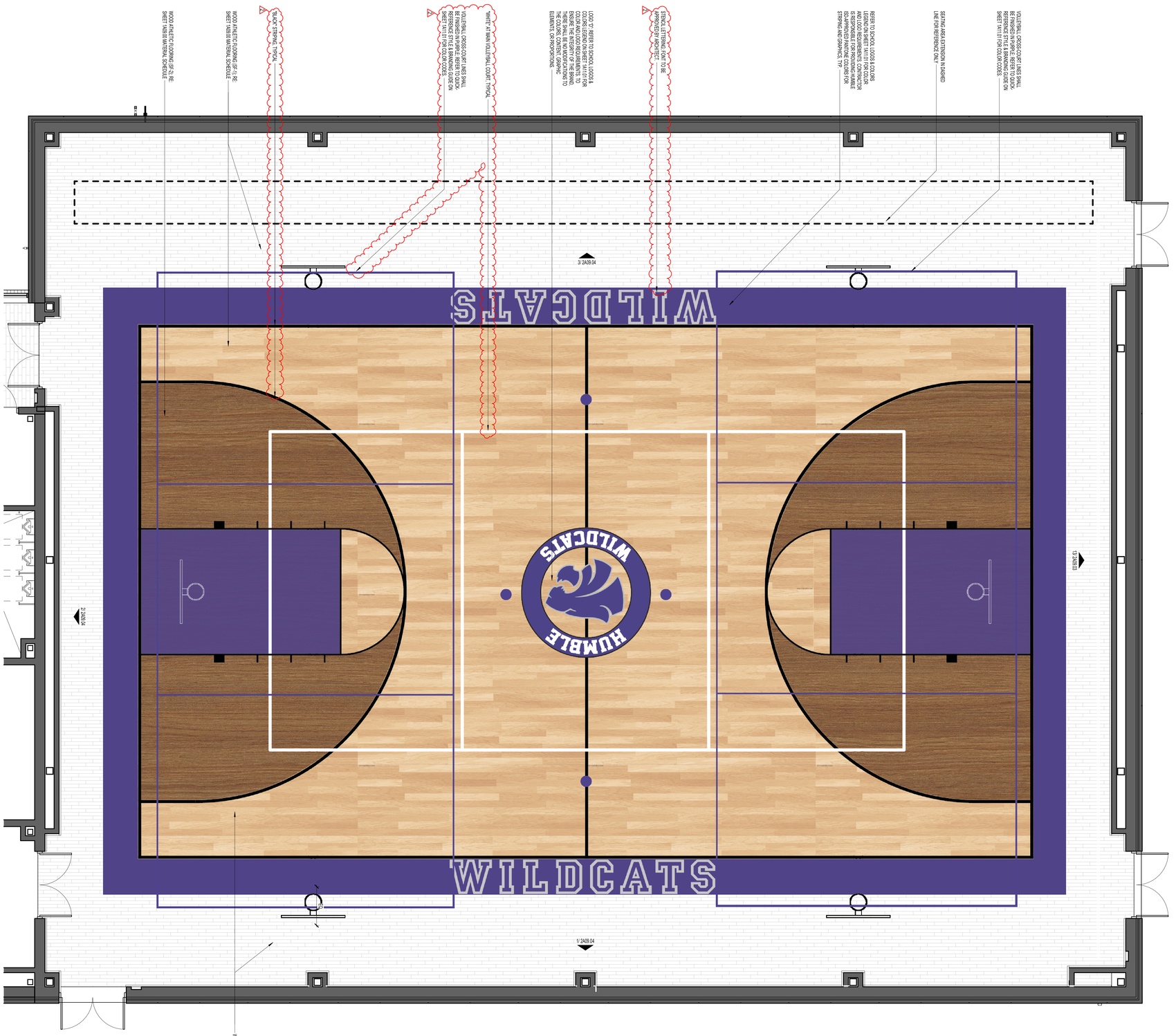
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

No.	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

1A09.04
HMS - INTERIOR ELEVATIONS

6/4/2026 11:41:58 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



LEVEL 01 - HMS - GYM COURT GRAPHICS
SCALE 1/4" = 1'-0"
1

ISSUE FOR CONSTRUCTION 1A11.02 HMS COURT GRAPHICS	PROJECT NO. 24-042 DATE 05/15/2026 DRAWN BY PKH CHECKED BY PKH REVISIONS 2 05/04/2026 ADDENDUM 02	DATE: 05/15/2026	HUMBLE INDEPENDENT SCHOOL DISTRICT 10203 BIRCHRIDGE DRIVE HUMBLE, TX 77338	HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS 11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

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DAY VIEW

FONT, SIZE, AND CUSTOM COLOR TO BE CONFIRMED BY THE DISTRICT PRIOR TO FABRICATION. GENERAL CONTRACTOR TO VERIFY COMPLIANCE THROUGH THE SUBMITTAL PROCESS PRIOR TO FABRICATION.

479.78"

REFER TO SPEC SECTION 10 14 00.1 FOR DIMENSIONAL SIGNAGE REQUIREMENTS

20.00"

2"

HUMBLE MIDDLE SCHOOL

NIGHT VIEW

wall

479.78"

20.00"

HUMBLE MIDDLE SCHOOL

MATERIAL/FINISHES

Face-lit letters - standard color trim/returns, painted day/night vinyl, remote PS

TYPOGRAPHY ASSIGNED

Dax-Bold

SIZE 20"w X 288.78"h

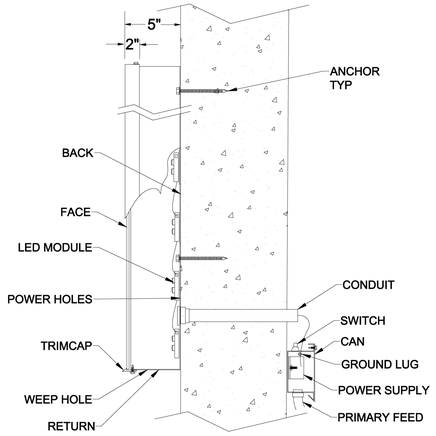
FACE LIT LETTERS

- ☐ - BACKS: .050" WHITE 3003 ALUMINUM
- ☐ - FACES: 3/16" #2447 WHITE CAST ACRYLIC W/ VINYL OVERLAY
- ☐ - TRIM CAP: 1" JEWELITE
- ☐ - RETURNS: 5" X .040" 3003 ALUMINUM
- ☐ - PENETRATIONS: SEALED WITH DOW 795 OR EQUIVALENT
- ☐ - PAINT: SATIN ACRYLIC URETHANE
- ☐ - ANCHORS: MIN 3/8" X 5" MASONRY SCREWS INTO CAST CONCRETE

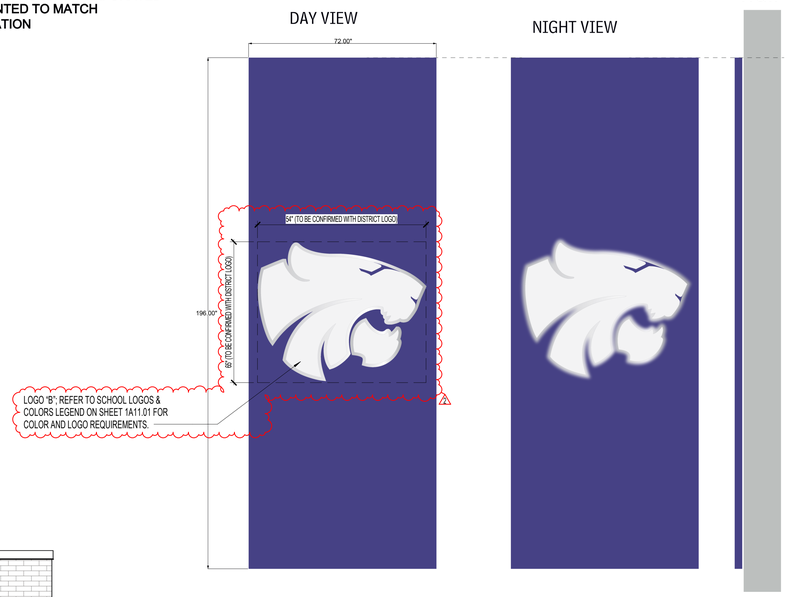
ELECTRICAL (U.L.)

- ☐ - ILLUMINATION: WHITE HIGH OUTPUT WHITE LED MODULES
- ☐ - POWER SUPPLIES: 12 VOLT 60 WATT ELECTRONIC - REMOTE IN CAN
- ☐ - SWITCH: 20 AMP TOGGLE IN CAN
- ☐ - LOAD: (2.0-1.0) AMPS 120-277V - INSTALL IN ACCORDANCE W/ NEC ARTICLE 600 AND LOCAL CODE INCLUDING GROUNDING AND BONDING REQUIREMENTS

SECTION A-A'
SCALE: 1-1/2" = 1'



FACE LIT CHANNEL LETTER
BLACK RETURNS & TRIMCAP
#2447 WHITE ACRYLIC FACES W/ PERFORATED VINYL OVERLAY PAINTED TO MATCH
WHITE LED ILLUMINATION



MATERIAL/FINISHES

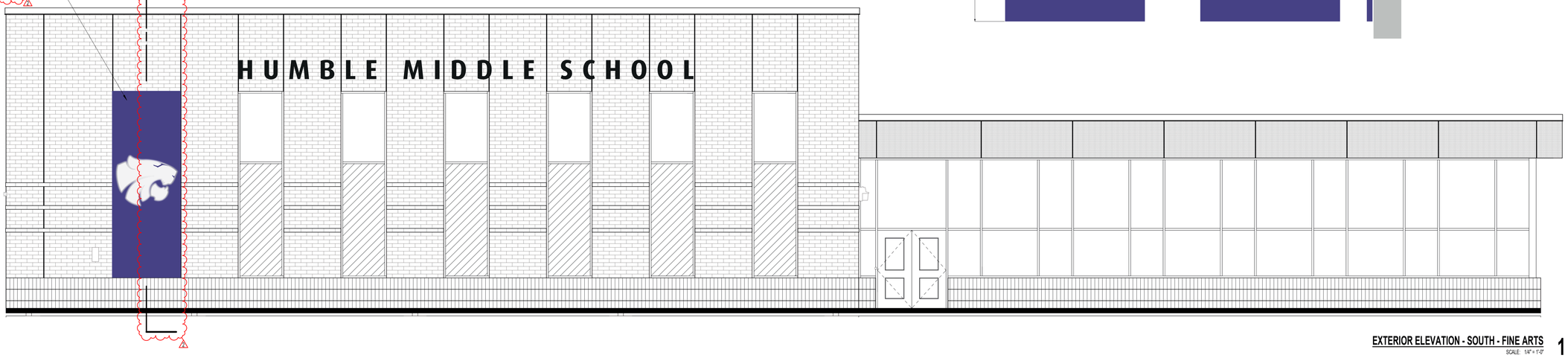
PAINTED PANEL
WHITE CUT/BACKED MASCOT

TYPOGRAPHY ASSIGNED

SIZE 72"w X 196.00"h

REFER TO ELEVATION 5/1A06.02 FOR DIMENSIONS OF BACK-LIT GRAPHIC PANEL

A-A/1A11.06



EXTERIOR ELEVATION - SOUTH - FINE ARTS 1
SCALE: 1/4" = 1'-0"

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS
11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

REGISTERED ARCHITECT MICHAEL ADAME 20113 STATE OF TEXAS

DATE: 05/15/2026

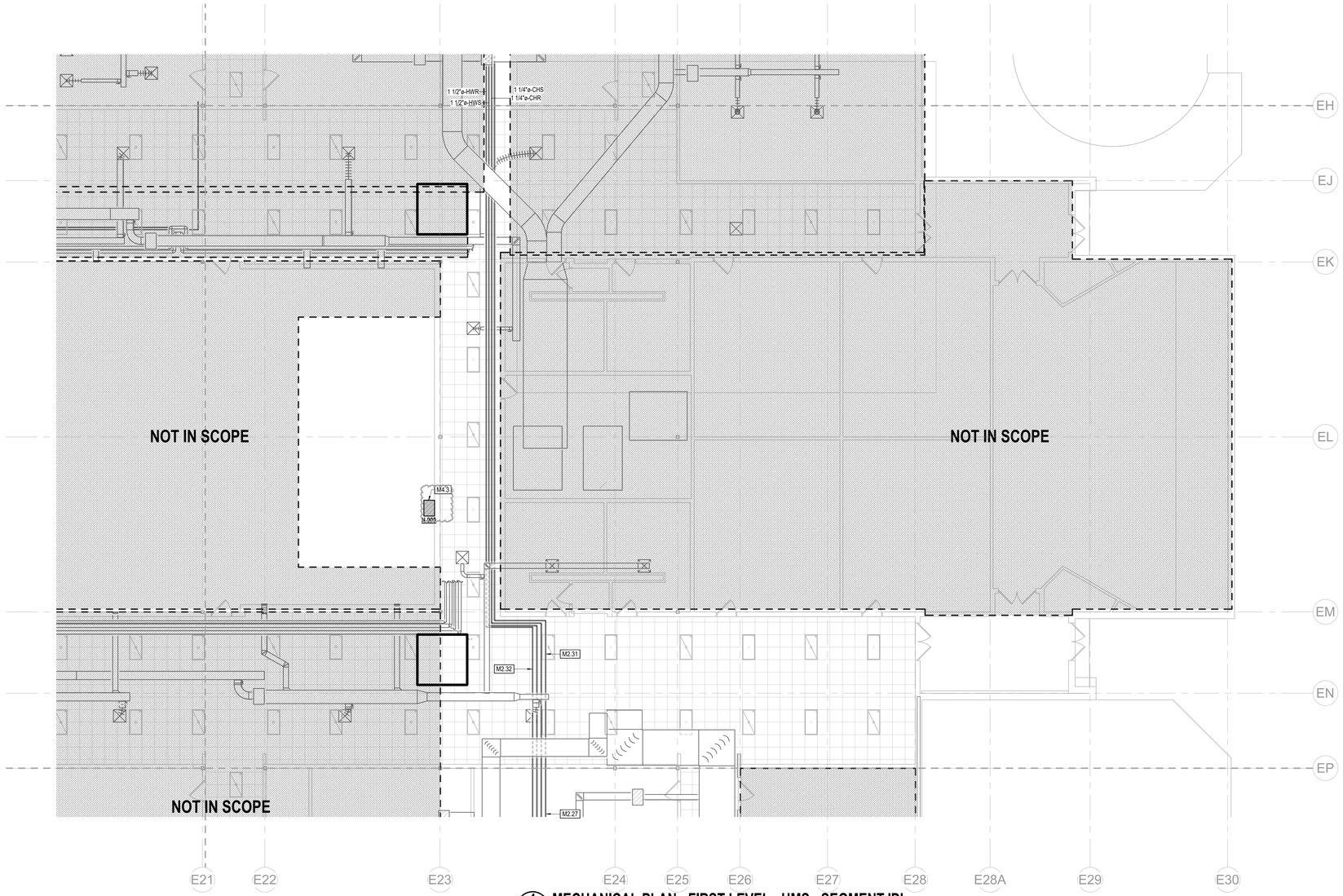
PROJECT NO. 24-042
DATE: 05/15/2026
DRAWN BY: PAH CHECKED BY: PAH
REVISIONS:

	Date	Description
2	06/04/2026	ADDENDUM 02

ISSUE FOR CONSTRUCTION

1A11.06
HMS - SIGNAGE

6/4/2026 11:42:05 AM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/24-042_ARCH_HUMBLE MS_R24.rvt



1 M02.02D **MECHANICAL PLAN - FIRST LEVEL - HMS - SEGMENT 'D'**
1/8" = 1'-0"

MECHANICAL KEYED NOTES

M2.27 PROVIDE THERMIAL EXPANSION LOOP AT APPROXIMATE LOCATION SHOWN. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

M2.31 PROVIDE NEW CHILLED WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M2.32 PROVIDE NEW HOT WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M4.3 PROVIDE NOVAERUS 900 UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL ON WALL AT 6'-0" A.F.F. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. 2

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

STATE OF TEXAS
JAMES R. MURALT
110240
LICENSED
PROFESSIONAL ENGINEER
06/04/2026

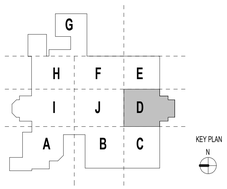
DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUED FOR CONSTRUCTION

1M02.02D
HMS - MECHANICAL PLAN - SEGMENT 'D'



KEY PLAN N

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DBR Project # 240322
BM RM/TDLB/MS TN SS/LG

6/4/2026 1:13:03 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_M24.rvt

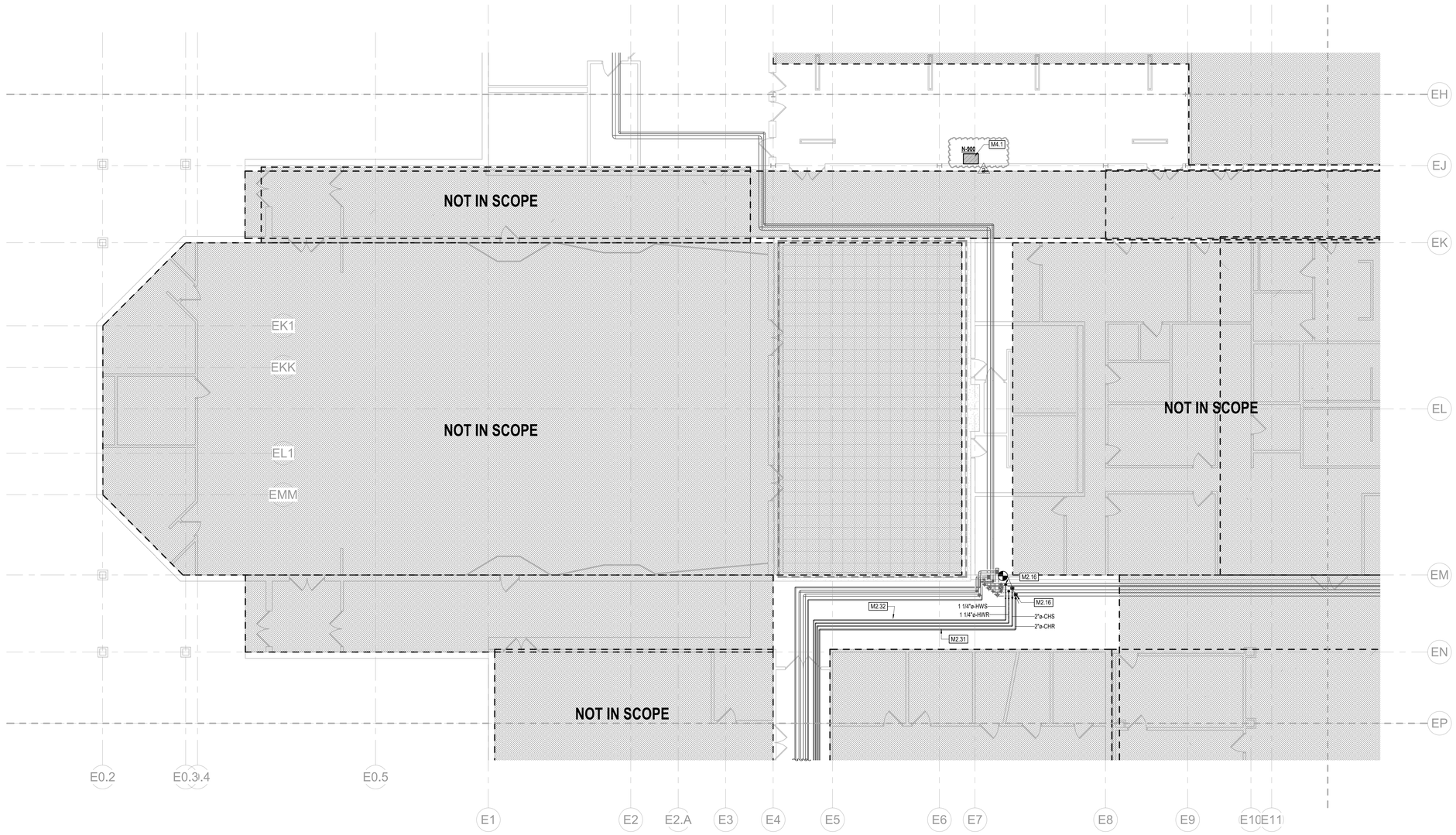
MECHANICAL KEYED NOTES

M2.16 PROVIDE NEW PIPING AT APPROXIMATE LOCATION SHOWN. TIE NEW PIPING INTO EXISTING PIPE. REFER TO SIZE ON PLANS.

M2.31 PROVIDE NEW CHILLED WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M2.32 PROVIDE NEW HOT WATER SUPPLY AND RETURN PIPING AND CONNECT TO EXISTING MAIN PIPING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT ROUTING TO COORDINATE WITH EXISTING INFRASTRUCTURE.

M4.1 PROVIDE NOVAERUS 900 UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL ON WALL AT 17'-0" A.F.F. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. 2



1 / 1M02.02 **MECHANICAL PLAN - FIRST LEVEL - HMS - SEGMENT 'I'**
1/8" = 1'-0"

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

STATE OF TEXAS — JAMES R. KUBALA — 110240 — LICENSED PROFESSIONAL ENGINEER — 04/04/2026

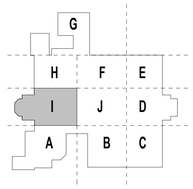
DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

	Date	Description
2	06/04/2026	Addendum 2

ISSUED FOR CONSTRUCTION

1M02.02I
HMS - MECHANICAL PLAN - SEGMENT 'I'



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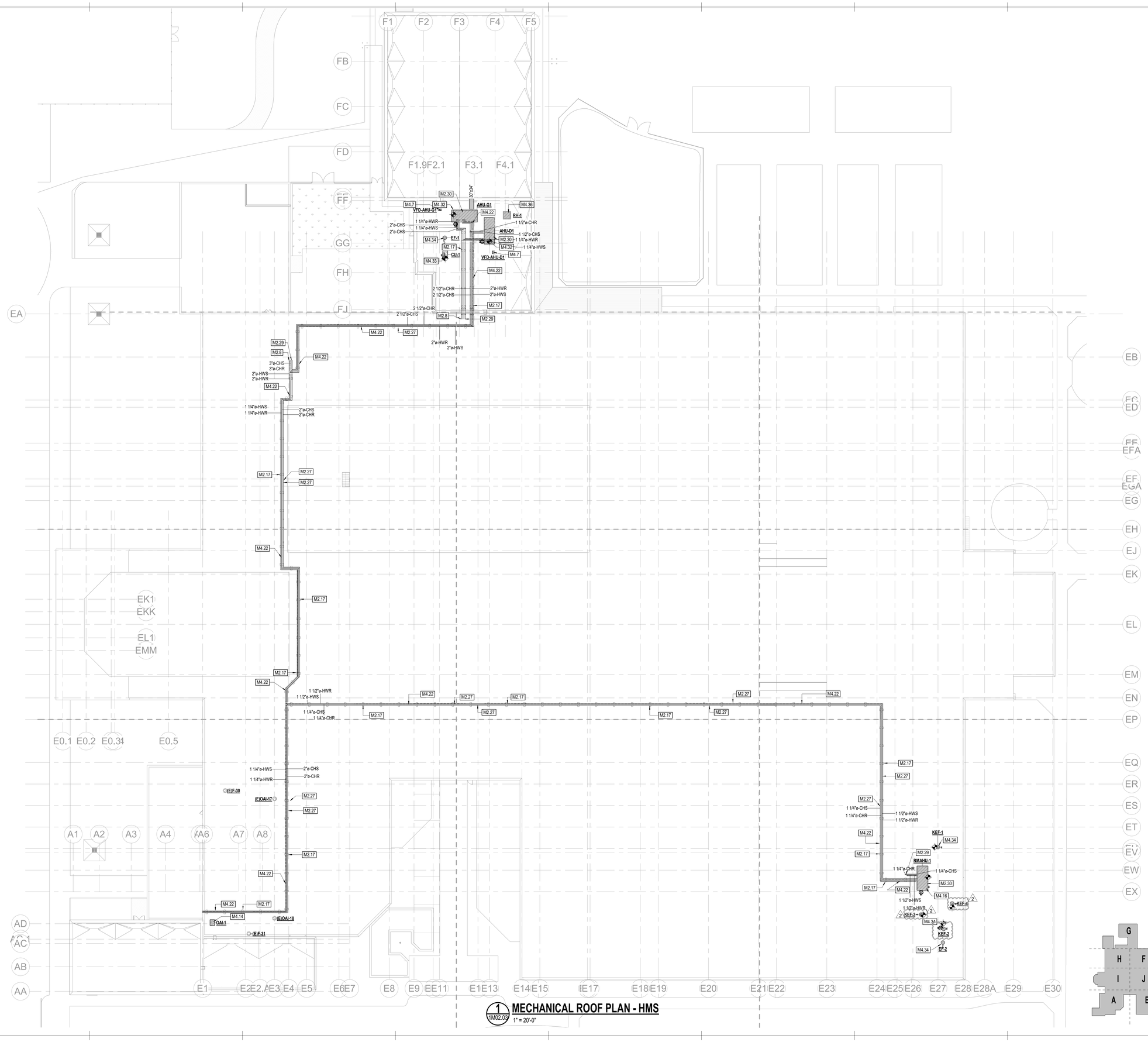

1 1M02.03 **MECHANICAL ROOF PLAN - HMS**
1" = 20'-0"

MECHANICAL KEYED NOTES

M2.8 REFER TO SHEET 1M02.02H FOR PIPE CONTINUATION.

M2.17 PROVIDE ROOF MOUNTED PIPING SUPPORT AT APPROXIMATE LOCATION SHOWN. TYP. RE: 34/M6.01

M2.27 PROVIDE THERMAL EXPANSION LOOP AT APPROXIMATE LOCATION SHOWN. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

M2.29 ROUTE HYDRONIC PIPING (HWS/R AND CHR/S FROM BUILDING AND TO UNIT SERVED. PROVIDE PIPING WITH PROPER SEALING TO AVOID WATER PENETRATION FROM ROOF.

M2.30 ROUTE FULL SIZE CONDENSATE TO NEAREST EXISTING ROOF DRAIN. INSTALL TRAP AS RECOMMENDED BY MANUFACTURER.

M4.7 PROVIDE VARIABLE FREQUENCY DRIVE AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL LOCATION WITH ELECTRICAL AND CONTROLS CONTRACTORS. MOUNTED TO EXTERIOR BRACKET FOR SUPPORT OF VFD.

M4.14 PROVIDE OUTSIDE AIR INTAKE AT APPROXIMATE LOCATION SHOWN.

M4.16 PROVIDE MAKEUP AIR UNIT AT APPROXIMATE LOCATION SHOWN.

M4.22 ALTERNATE: SCOPE OF WORK IN EXISTING BUILDING TO HAVE NEW CHWR/S & HWR/S TO BE ROUTED ON BUILDING ROOF TO SERVE NEW MECHANICAL EQUIPMENT. ALL WORK PERTAINING TO THE PIPE ROUTING / PENETRATIONS SHALL BE PRICED UNDER DEDUCT ALTERNATE 05. REFER TO ARCHITECTURAL FRONT END SPECIFICATIONS FOR ADDITIONAL INFORMATION.

M4.32 PROVIDE PACKAGED ROOFTOP UNIT ON ROOF AT APPROXIMATE LOCATION SHOWN. PROVIDE UNIT WITH ROOF CURB TO MATCH ROOF SLOPE. PROVIDE ALL CLEARANCES AROUND UNIT AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE FINAL LOCATION WITH STRUCTURAL. RE: DETAIL 15/M6.01.

M4.33 PROVIDE ROOF MOUNTED AIR COOLED CONDENSING UNIT AT APPROXIMATE LOCATION SHOWN. INSTALL UNIT ON ROOF CURB SUPPORTS. PROVIDE ALL CLEARANCES AROUND CONDENSER AS REQUIRED BY EQUIPMENT MANUFACTURER. RE: DETAIL 31/M6.01.

M4.34 PROVIDE ROOF MOUNTED EXHAUST FAN AT APPROXIMATE LOCATION SHOWN. PROVIDE FAN WITH ROOF CURB TO MATCH ROOF SLOPE. RE: 19/M6.01.

M4.36 PROVIDE ROOF MOUNTED RELIEF HOOD AT APPROXIMATE LOCATION SHOWN. PROVIDE HOOD WITH ROOF CURB TO MATCH ROOF SLOPE. RE: 9/M6.01.

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

JAMES R. KUBALA 110346 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS 06/04/2026

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
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1M02.03
HMS - MECHANICAL ROOF PLAN

KEY PLAN
G H F E I J D A B C

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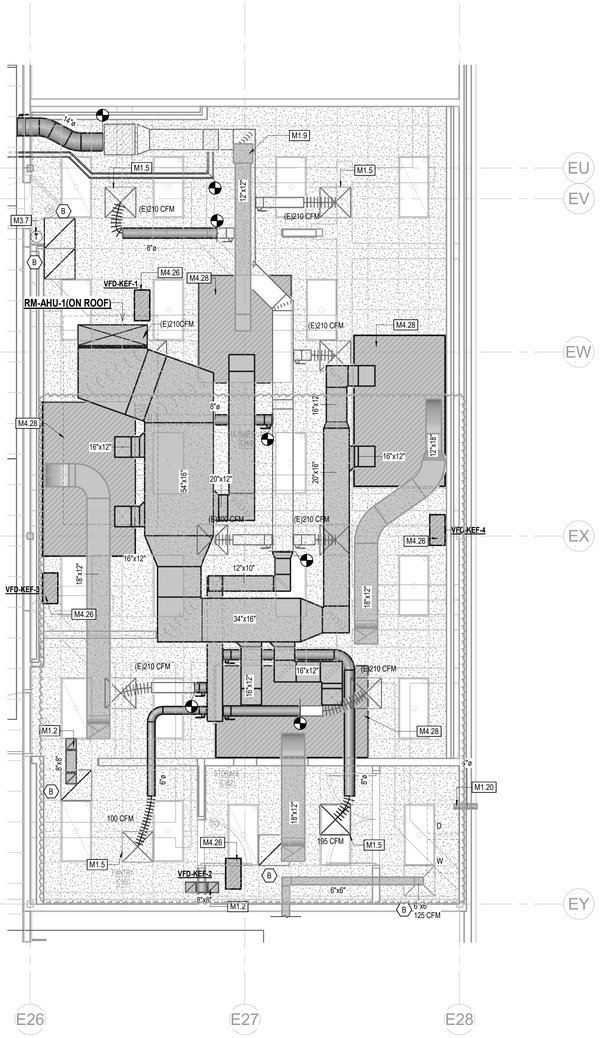
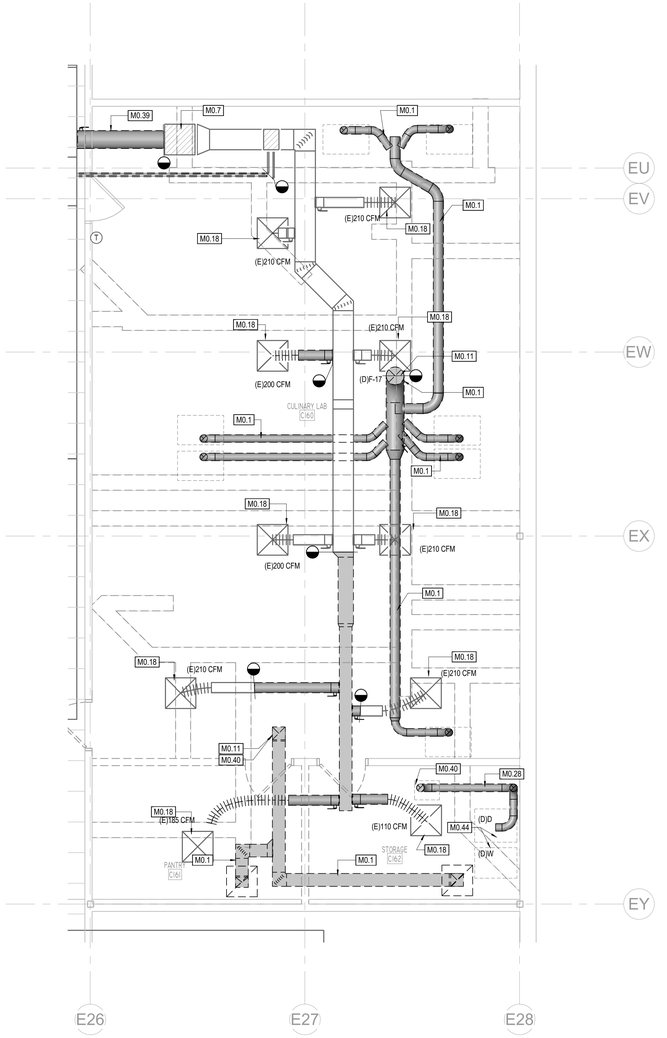


1 1M03.11 MECHANICAL PLAN - FIRST LEVEL - HMS - FOOD SERVICE

1/4" = 1'-0"



2 1M03.11 DEMOLITION MECHANICAL PLAN - HMS - FOOD SERVICE

1/4" = 1'-0"

MECHANICAL KEYED NOTES

M0.1 DEMOLISH ALL ASSOCIATED DUCTWORK, CONTROLS, ELECTRICAL, VALVES, HANGERS, SUPPORTS, AND ACCESSORIES SHALL BE REMOVED.

M0.7 EXISTING EQUIPMENT TO REMAIN.

M0.11 DEMOLISH EXISTING ROOFTOP FAN.

M0.18 RELOCATE EXISTING AIR DEVICE. EXTEND FLEX DUCT AS REQUIRED.

M0.28 DEMOLISH EXISTING 6" VENT DUCT FROM DRYER VENT.

M0.39 DEMOLISH EXISTING DUCTWORK. REFER TO NEW PLANS FOR FURTHER SCOPE.

M0.40 PATCH AND SEAL REMAINING ROOF PENETRATION WEATHER TIGHT.

M0.44 REMOVE EXISTING DRYER AND WASHER AT APPROXIMATE LOCATION SHOWN. TO BE REPLACED WITH NEW.

M1.2 PROVIDE RETURN AIR TRANSFER BOOT. SIZE AS INDICATED. RE: DETAIL 6,8/M6.01.

M1.5 RE-BALANCE EXISTING AIR DIFFUSER TO CFM INDICATED ON PLANS.

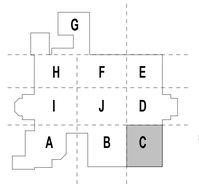
M1.9 REFER TO SHEET 1M02.03 FOR DUCT CONTINUATION.

M1.20 ROUTE DRYER EXHAUST TO EXISTING WALL. PROVIDE WALL CAP FOR END TERMINATION. RE: DETAIL 30 FOR BOTH DETAILS SHEETS.

M3.7 RELOCATED EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN.

M4.26 PROVIDE VARIABLE FREQUENCY DRIVE AT APPROXIMATE LOCATION SHOWN IN PLENUM. COORDINATE FINAL LOCATION WITH ELECTRICAL AND CONTROLS CONTRACTORS. VFD TO BE DANFOSS FC1 FOR KITCHEN CONTROLS: COORDINATE WITH FOOD SERVICE CONSULTANT PRIOR TO ORDERING. 2

M4.28 KITCHEN HOOD TO BE PROVIDED BY OTHERS. DIVISION 23 CONTRACTOR TO INSTALL AND MAKE FINAL DUCT CONNECTIONS.



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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

DATE: 06/04/2026

PROJECT NO. 24-042
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DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

	Date	Description
2	06/04/2026	Addendum 2

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1M03.11
HMS - MECHANICAL PLAN - FOOD SERVICE

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AIR DEVICE SCHEDULE

MARK	MFR. & MODEL	TYPE	REMARKS
A	TITUS TMS-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING.
B	TITUS PAR-AA	PERFORATED FACE RETURN / EXHAUST AIR GRILLE	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. PROVIDE 22"x22" NECK UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE O.B.D. FOR DUCTED EXHAUST OR RETURN.
C	TITUS TMS-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT.
D	TITUS PAR-AA	PERFORATED FACE RETURN / EXHAUST AIR GRILLE	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING OR HARD CEILING, DEPENDING ON CEILING TYPE. PROVIDE 10"Ø NECK UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE O.B.D. FOR DUCTED EXHAUST OR RETURN.
E	TITUS 300FL	SIDEWALL SUPPLY AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, DOUBLE DEFLECTION WITH FRONT BLADES PARALLEL TO LONG DIMENSION. PROVIDE O.B.D.
F	TITUS 350FL	SIDEWALL RETURN AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, 35° DEFLECTION WITH BLADES PARALLEL TO LONG DIMENSION. PROVIDE O.B.D. FOR DUCTED EXHAUST.
G	TITUS TDC-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT.
H	TITUS PAR-AA	PERFORATED FACE RETURN AIR GRILLE	12"x12" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR LAY-IN CEILING. PROVIDE 10"x10" NECK UNLESS OTHERWISE NOTED. PROVIDE O.B.D. FOR DUCTED EXHAUST.
J	TITUS FL-15-HT / FBPI-15	CONTINUOUS 1.5" Ø; 2-SLOT; 6' LENGTH PLENUMS LINEAR	ALUMINUM CONSTRUCTION; PROVIDE PATTERN CONTROLLERS ENTIRE LENGTH OF SLOT; PROVIDE 6 FOOT EXTERNALLY INSULATED PLENUM; CONNECT PLENUM TO NECK OF SLOT DIFFUSER; PROVIDE ROUND INLET SIZED AS INDICATED ON PLAN; PROVIDE BORDER TYPE 22. PROVIDE REMOTE DAMPER OPERATOR WHEN LOCATED ABOVE INACCESSIBLE CEILINGS. PORTIONS NOT USED FOR SUPPLY SHALL BE OPEN FOR RETURN AND PROVIDED WITH A RETURN AIR LIGHT SHIELD. REFER TO DRAWINGS FOR LENGTH OF SLOT.
K	TITUS FL-15-JT	CONTINUOUS 1.5" Ø; 2-SLOT JET THROW FLOWBAR	ALUMINUM CONSTRUCTION; PROVIDE PATTERN CONTROLLERS ENTIRE LENGTH OF SLOT; PROVIDE BORDER TYPE 22. PORTIONS OF SLOT NOT USED FOR SUPPLY/RETURN SHALL BE OPEN FOR RETURN AIR; PROVIDE TITUS MODEL FBRI INSULATED RETURN AIR LIGHT SHIELD; REFER TO DRAWINGS FOR LENGTH OF SLOT.

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR FINISH.
2. REFER TO MECHANICAL FLOOR PLAN FOR NECK SIZES.
3. PAINT FACE OF ALL AIR DEVICES TO MATCH CEILING FINISH. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS.
4. INSULATE BACK-PAN OF ALL DEVICES.
5. PROVIDE FRAME TO MATCH CEILING TYPE INDICATED ON ARCHITECTS REFLECTED CEILING PLAN.
6. PAINT INTERIOR SURFACES OF DUCTWORK VISIBLE FROM FACE OF RETURN AIR GRILLES FLAT BLACK.

FAN SCHEDULE

MARK	EF-1	EF-2	KEF-1	KEF-2	KEF-3	KEF-4
SERVES	BOYS / GIRLS	MOP SINK / DRYER ROOM	CULINARY	CULINARY	CULINARY	CULINARY
TYPE/DRIVE	CENT/DIRECT	CENT/DIRECT	CENT/DIRECT	CENT/DIRECT	CENT/DIRECT	CENT/DIRECT
INTERLOCK	EMCS	EMCS	EMCS	EMCS	EMCS	EMCS
CFM	600	125	1,500	2,100	2,100	2,100
EXT. S.P. (IN. W.G.)	0.60	0.40	1.20	1.25	1.25	1.25
HORSEPOWER	1/4	1/4	1	1	1	1
FAN SPEED (RPM)	1,319	1,081	1,951	1,572	1,572	1,572
SONES (MAX.)	8.2	4.3	14.2	16.3	16.3	16.3
VOLTS/PHASE/HERTZ	120 / 1 /60	120 / 1 /60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL NUMBER	G-099-VG	G-097-VG	CUE-160XP-VG	CUE-160HP-VG	CUE-160HP-VG	CUE-160HP-VG
NOTES	1,2,3,4	1,2,4,6	1,2,4,5,7	1,2,4,5,7	1,2,4,5,7	1,2,4,5,7

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO FILTERS, HOUSING, NOR ACCESSORIES.
2. PROVIDE WITH ROOF CURB, WEATHERPROOF DISCONNECT SWITCH, AND ALUMINUM BIRD SCREEN.
3. PROVIDE WITH MOTORIZED DAMPER INTERLOCKED WITH FAN OPERATION SUCH THAT DAMPER SHALL OPEN WHEN FAN IS ENERGIZED AND SHUT WHEN FAN IS DE-ENERGIZED. DAMPER SHALL BE INSTALLED IN ACCESSIBLE LOCATION.
4. PROVIDE WITH TOGGLE SWITCH AND ECM MOTOR.
5. PROVIDE FAN WITH BE U.L.-705 SUPPLEMENT SC COMPLIANCE.
6. PROVIDE WITH BACKDRAFT DAMPER.
7. PROVIDE FAN WITH DRAIN CONNECTION, GREASE TRAP, CLEANOUT PORT AND HINGE KIT.

PUMP SCHEDULE - ALTERNATE

MARK	P-CHWP-1	P-1	P-6,7
MANUFACTURER	B & G	B & G	B & G
TYPE	END-SUCTION	END-SUCTION	END-SUCTION
AREAS SERVES	CHILLED WATER	HOT BUILDING LOOP	CHILLED BLDING LOOP
MODEL NUMBER	e-1510	e-1510	e-1510
FLOW GPM	102.4	195.0	490.0
PUMP SIZE	1.5AD-es	2GB	3GB
HEAD (FT. H2O)	38	135	135
APPROX. PUMP EFF. (%)	71.9	59.2	72.5
APPROX. IMPELLER DIA. (INCHES)	6.750	12.0	13.125
MOTOR RPM	1,800	1,800	1,800
BRAKE HORSEPOWER (HP)	1.32	9.9	22.1
HORSEPOWER (HP)	2	15	30
VOLTS/PHASE/HERTZ	480 / 3 /60	480 / 3 / 60	480 / 3 /60
NOTES	1,2,3,4	1,2,4,5	1,2,4,5

NOTES:
1. PUMP SHALL BE NON-OVERLOADING ACROSS ENTIRE GPM RANGE.
2. PROVIDE WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE.
3. PROVIDE WITH PREMIUM EFFICIENCY TEFC MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE PUMPS WITH SUCTION DIFFUSERS.
5. PROVIDE WITH PREMIUM EFFICIENCY ODP MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
6. THIS SCHEDULE IS ONLY BE ACCEPTED IF ALTERNATE IS APPROVED. REFER TO ARCHITECTURAL SHEETS FOR MORE INFORMATION.

ROOF MOUNTED MAKEUP AIR UNIT SCHEDULE

	MARK	RMAHU-1
FAN	SERVES	CULINARY
	DISCHARGE	HORIZONTAL
	DESIGN SUPPLY AIR (CFM)	7,020
	DESIGN OUTDOOR AIR (CFM)	7,020
	EXT. S.P. (IN. W.G.)	1.50
	FLA (EACH FAN)	6.6
	MOTOR / DRIVE	EXTERNAL VFD
	MOTOR HORSEPOWER (HP / # OF FANS)	(5 / 2)
	MCA / MOCP	5.28 / 25
	VOLTS/PHASE/HERTZ	460 / 3 / 60
	MAX. FAN RPM	1,800
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	7,020
	EAT DB (°F)	20.0
	LAT DB (°F)	60.0
	COIL WATER FLOW (GPM)	16.7
	HEATING CAPACITY (MBH)	333.6
	MAX. WATER P.D. (FT. HD.)	15.0
	EWT/LWT (°F)	180 / 140
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	7,020
	EAT DB/WB (°F)	95 / 79
	LAT DB/WB (°F)	85 / 77
	TOTAL COOLING CAPACITY (MBH)	78.7
	SENSIBLE COOLING CAPACITY (MBH)	75.8
	EWT/LWT (°F)	42 / 57
	CONDENSATE LINE SIZE (IN)	3/4"
	COIL WATER FLOW (GPM)	10.5
	MAX. WATER P.D. (FT. HD.)	15.0
MANUFACTURER		CARRIER
MODEL NUMBER		39MW
OPERATING WEIGHT (LBS.)		2856
NOTES		ALL

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
2. UNIT SHALL BE INTERLOCKED WITH HOOD FIRE SUPPRESSION SUCH THAT UNIT WILL DEACTIVATE UPON DETECTION OF FIRE.
3. PROVIDE FLOAT SWITCH IN PRIMARY DRAIN PAN TO DE-ENERGIZE UNIT WHEN PRIMARY DRAIN BECOMES RESTRICTED.
4. PROVIDE CHILLED WATER 2-WAY AUTOMATIC CONTROL VALVE.
5. PROVIDE HOT WATER 3-WAY AUTOMATIC CONTROL VALVE.
6. PROVIDE UNIT WITH MERV-13 FILTER(S) AND FILTER RACK ON BACK OF UNIT. FILTER MUST BE READILY ACCESSIBLE. ANY QUESTIONABLE MEANS OF ACCESS WILL BE REPALCED AT NO ADDITIONAL COST TO THE OWNER.
7. PROVIDE WITH DRAW THRU DIRECT DRIVE PLENUM FAN SECTION, CHILLED WATER COIL SECTION, PRE-HEAT HOT WATER COIL SECTION, AND 2" FLAT FILTER SECTION.
8. PROVIDE UNIT WITH BIPOLAR IONIZATION KIT (GPS-FC[CFM]-AC) PRIOR TO HYDRONIC COIL. PROVIDE MODEL AS APPLICABLE WITH ASSOCIATED AHU AIRFLOW.

RELIEF / OUTSIDE AIR VENTS

MARK	OAI-1	RH-1
TYPE/DRIVE	FABRA HOOD	FABRA HOOD
CFM	160	1,525
THORAT SIZE (IN.)	8 X 12	24 X 32
THORAT VELOCITY (FT/MIN)	280	286
MANUFACTURER	GREENHECK	GREENHECK
MODEL NUMBER	FGI-8X12	FGR-24X32
NOTES	1,2,3	4,5

NOTES:
1. PROVIDE WITH ROOF CURB ADAPTER AND ALUMINUM BIRD SCREEN.
2. PROVIDE WITH 1" WASHABLE ALUMINUM FILTER.
3. PROVIDE MOTORIZED DAMPER.
4. PROVIDE WITH ALUMINUM BIRD SCREEN.
5. PROVIDE WITH BAROMETRIC RELIEF DAMPER.

AIR COOLED CHILLER SCHEDULE

MARK	ACCH-04
COMPRESSOR TYPE	SCROLL
NOMINAL TONS	150
ACTUAL TONS	64.0
DESIGN GPM	102.4
MINIMUM GPM	--
EWT/LWT (°F)	57 / 42
AMBIENT DESIGN TEMPERATURE (°F)	105
MAX. PRESSURE DROP (FT. HD.)	15
FOULING FACTOR (HR-FT2-°F/BTU)	0.0001
TYPE	VFD
REFRIGERANT TYPE	R-513A
EER (AT AHRI CONDITIONS)	10.10
IPLV (AT AHRI CONDITIONS)	14.00
DESIGN EER	8.52
DESIGN IPLV	17.27
VOLTS/PHASE/HERTZ	460/3/60
CONNECTION TYPE	SINGLE POINT
MINIMUM CIRCUIT AMPACITY (A)	299.1
MAXIMUM OVER-CURRENT PROTECTION (A)	350
MANUFACTURER	CARRIER
DIMENSIONS (W X L XH) (INCHES)	88 X 199 X 99
MODEL NUMBER	30RC
OPERATING WEIGHT (LBS)	7,235
NOTES	ALL

NOTES:
1. MAIN CIRCUIT BREAKER SHALL BE RATED AT 65,000 AIC. REFER TO ELECTRICAL.
2. PROVIDE SOUND ATTENUATION PACKAGE ON COMPRESSORS AND CASING AND LOW NOISE CONDENSER FAN OPTION.
3. PROVIDE WITH FACTORY INSTALLED EVAPORATOR WATER FLOW SWITCH.
4. PROVIDE CHILLER WITH LOW AMBIENT HEAD PRESSURE CONTROL.
5. PROVIDE WITH BACNET INTERFACE CARD FOR INTEGRATION WITH EMCS.
6. PROVIDE INTEGRAL NON-FUSED DISCONNECT SWITCH WITH NEMA 3R ENCLOSURE.

FAN COIL UNIT SCHEDULE

	MARK	FCU-1
FAN	SERVES	BAND STORAGE
	DISCHARGE	HORIZONTAL
	DESIGN SUPPLY AIR (CFM)	2,180
	DESIGN OUTDOOR AIR (CFM)	160
	EXT. S.P. (IN. W.G.)	0.45
	FLA	2.2
	MOTOR / DRIVE	ECM
	MCA	2.8
	VOLTS/PHASE/HERTZ	460 / 3 / 60
	MAX. FAN RPM	1,800
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	2,180
	EAT DB (°F)	65.7
	LAT DB (°F)	85.0
	TOTAL HEATING CAPACITY (MBH)	50.0
	EWT/LWT (°F)	180 / 140
	COIL WATER FLOW (GPM)	2.5
	MAX. WATER P.D. (FT. HD.)	15.0
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	COIL CFM	2,180
	EAT DB/WB (°F)	74.6 / 62.5
	LAT DB/WB (°F)	55.0 / 54.0
	TOTAL COOLING CAPACITY (MBH)	65.2
	SENSIBLE COOLING CAPACITY (MBH)	46.1
	EWT/LWT (°F)	42 / 57
	COIL WATER FLOW (GPM)	8.7
	MAX. WATER P.D. (FT. HD.)	15.0
MANUFACTURER		CARRIER
MODEL NUMBER		42HD
OPERATING WEIGHT (LBS.)		405
NOTES		ALL

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
2. UNIT SHALL BE SUSPENDED FROM STRUCTURE ABOVE. PROVIDE WITH VIBRATION ISOLATION PER SPECIFICATIONS.
3. PROVIDE GALVANIZED STEEL SECONDARY DRAIN PAN WITH FLOAT SWITCH TO DE-ENERGIZE...
4. PROVIDE CHILLED WATER 2-WAY AUTOMATIC CONTROL VALVE.
5. PROVIDE HOT WATER 3-WAY AUTOMATIC CONTROL VALVE.
6. PROVIDE UNIT WITH MERV-13 FILTER(S) AND FILTER RACK ON BACK OF UNIT. FILTER MUST BE READILY ACCESSIBLE. ANY QUESTIONABLE MEANS OF ACCESS WILL BE REPALCED AT NO ADDITIONAL COST TO THE OWNER.
7. PROVIDE NEW BIPOLAR IONIZATION KIT. FOLLOW BIPOLAR IONIZATION KIT MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE UNIT WITH DUCT MOUNTED SMOKE DETECTORS IN SUPPLY DUCTWORK FOR ALL UNITS DISCHARGING IN EXCESS OF 2,000 CFM.

DUCTLESS SPLIT A/C SCHEDULE

	MARK	AC-1
INDOOR UNIT	SERVES	IDF ROOM
	MAX SUPPLY AIR (CFM)	450
	TOTAL COOLING CAPACITY (MBH)	18.0
	MCA	1
	FAN MOTOR FLA	0.19
	VOLTS/PHASE/HERTZ	208/1/60
	MODEL NUMBER	PKA-A18LA
	NOTES	1, 2, 3
OUTDOOR UNIT	MARK	CU-1
	SERVES	AC-1
	GRAND TOTAL COOLING (MBH)	18
	AMBIENT TEMP. (°F)	105
	S.E.E.R.2	20.2
	E.E.R.2	10.7
	MCA	11
	MOCP	28
	VOLTS/PHASE/HERTZ	208/1/60
	MODEL NUMBER	PUY-A18NKA7
	NOTES	1 -4
	MANUFACTURER	MITSUBISHI

NOTES:
1. PROVIDE WITH SINGLE POINT POWER TO INCLUDE CONDENSING UNIT AND REMOTE THERMOSTAT. INDOOR UNIT SHALL BE POWERED FROM OUTDOOR UNIT.
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
3. REFRIGERANT LINES TO BE SIZED BY MANUFACTURER.
4. PROVIDE SINGLE CIRCUIT CONDENSING UNIT.

AIR DIRT SEPARATOR SCHEDULE

MARK	ADS-C
SERVES	CHILLED WATER
MAX. PRESSURE DROP (FT. W.G.)	4.0
FLOW RATE (GPM)	850
SYS. CONNECTION SIZE	8"ø
FLOODED WEIGHT (LBS.)	655
MFG	BELL AND GOSSETT
MODEL	CRS-8F
NOTES	1,2

NOTES:
1. SEPARATOR SHALL MEET ASME SECTION VIII DIV. 1 PRESSURE VESSEL CODE.
2. PROVIDE WITH FLANGED CONNECTIONS AND REMOVABLE HEAD.

SINGLE ZONE PRETREATED AIR HANDLING UNIT SCHEDULE

	MARK	AHU-B1	AHU-D1	AHU-G1
FAN	SERVES	BAND	DANCE HALL	GYM
	TYPE	SZ	SZ	SZ
	UNIT CONFIGURATION	HORIZONTAL	HORIZONTAL	HORIZONTAL
	DISCHARGE	VERTICAL	VERTICAL	HORIZONTAL SA & VERTICAL RA
	DESIGN SUPPLY AIR (CFM)	3,100	5,330	10,150
	MINIMUM SUPPLY AIR (CFM)	1,240	2,135	4,060
	DESIGN OUTDOOR AIR (CFM)	800	910	1,855
	MINIMUM OUTSIDE AIR (CFM)	400	455	930
	EXT. S.P. (IN. W.G.)	1.00	1.00	1.00
	FAN MOTOR HORSEPOWER (HP / # OF FANS)	(1.5 / 2)	(3 / 2)	(5 / 2)
	VOLTS/PHASE/HERTZ	480 / 3 / 60	480 / 3 / 60	480 / 3 / 60
	MAX. FAN RPM	1,800	1,800	1,800
	FULL LOAD AMPS (FLA) (EACH)	2.2	4.1	6.6
	MCA/MOP	1.76 / 15	3.28 / 15	5.28 / 25
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500	500	500
	MINIMUM COIL ROWS	4	4	4
	MAX. FINS PER INCH	11	11	11
	COIL CFM	3,100	5,330	10,150
	EAT DB/WB (°F)	78.8 / 66.3	76.8 / 64.6	77.1 / 64.8
	LAT DB/WB (°F)	55 / 54	55 / 54	55 / 54
	TOTAL COOLING CAPACITY (MBH)	117.0	168.9	330.2
	SENSIBLE COOLING CAPACITY (MBH)	79.5	125.5	241.9
	EWT/LWT (°F)	42 / 57	42 / 57	42 / 57
	COIL WATER FLOW (GPM)	15.6	22.5	44.0
	CONDENSATE LINE SIZE (IN)	3/4"	1"	1-1/4"
	CHW BRANCH PIPING SIZE	1-1/4"	1-1/2"	2"
	MAX. WATER P.D. (FT. HD.)	15.0	15.0	15.0
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	700	700	700
	MINIMUM COIL ROWS	2	2	2
	MAX. FINS PER INCH	12	12	12
	COIL CFM	3,100	5,330	10,150
	EAT (°F)	54.6	59.9	59.2
	LAT (°F)	85.0	85.0	85.0
	EWT/LWT (°F)	180 / 140	180 / 140	180 / 140
	HEATING CAPACITY (MBH)	112.0	158.9	311.1
	COIL WATER FLOW (GPM)	5.6	7.9	15.6
	HW BRANCH PIPING SIZE	1"	1"	1-1/4"
	MAX. WATER P.D. (FT. HD.)	15.0	15.0	15.0
MANUFACTURER		CARRIER	CARRIER	CARRIER
UNIT DIMENSIONS (WXLXH) (IN)		56 X 152 X 41	69 X 178 X 63	81 X 171 X 62
MODEL NUMBER		39MW	39MW	39MW
OPERATING WEIGHT (LBS.)		2168	3179	3804
NOTES		ALL	ALL	ALL

NOTES:
1. PROVIDE UNIT WITH DRAW THRU DIRECT DRIVE PLENUM FAN SECTION, CHILLED WATER COIL SECTION, RE-HEAT HOT WATER COIL SECTION, AND 2" FLAT FILTER SECTION.
2. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
3. TIE UNIT INTO VARIABLE FREQUENCY DRIVE.
4. PROVIDE CHILLED WATER COIL WITH 2-WAY AUTOMATIC CONTROL VALVE.
5. PROVIDE HOT WATER COIL WITH 2-WAY AUTOMATIC CONTROL VALVE.
6. PROVIDE UNIT WITH INTEGRAL RETURN AIR DAMPERS AND OUTSIDE AIR DAMPERS FOR MODULATION, AND DEMAND CONTROL VENTILATION
7. PROVIDE UNIT WITH SINGLE POINT ELECTRICAL CONNECTION.
8. PROVIDE FLOAT SWITCH IN PRIMARY DRAIN PAN TO DE-ENERGIZE THE UNIT WHEN PRIMARY DRAIN LINE BECOMES RESTRICTED.
9. PROVIDE UNIT WITH DUCT MOUNTED SMOKE DETECTORS IN SUPPLY DUCTWORK FOR ALL UNITS DISCHARGING IN EXCESS OF 2,000 CFM.
10. PROVIDE UNIT WITH A MINIMUM SHORT CIRCUIT CURRENT RATING (SCCR) OF 65,000 AIC.
11. PROVIDE UNIT WITH BIPOLAR-IONIZATION KIT (GPS-FC[CFM]-AC). PROVIDE MODEL AS APPLICABLE WITH ASSOCIATED AHU AIRFLOW.

PUMP SCHEDULE

MARK	P-CHWP-1	P-1	P-6,7
MANUFACTURER	B & G	B & G	B & G
TYPE	END-SUCTION	END-SUCTION	END-SUCTION
AREAS SERVES	CHILLED WATER	HOT BUILDING LOOP	CHILLED BLDING LOOP
MODEL NUMBER	e-1510	e-1510	e-1510
FLOW GPM	102.4	195.0	490.0
PUMP SIZE	1.5AD-es	2GB	3GB
HEAD (FT. H2O)	38	135	135
APPROX. PUMP EFF. (%)	71.9	59.2	72.5
APPROX. IMPELLER DIA. (INCHES)	6.750	12.0	13.125
MOTOR RPM	1,800	1,800	1,800
BRAKE HORSEPOWER (HP)	1.32	9.9	22.1
HORSEPOWER (HP)	2	15	30
VOLTS/PHASE/HERTZ	480 / 3 /60	480 / 3 / 60	480 / 3 /60
NOTES	1,2,3,4	1,2,4,5	1,2,4,5

NOTES:
1. PUMP SHALL BE NON-OVERLOADING ACROSS ENTIRE GPM RANGE.
2. PROVIDE WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE.
3. PROVIDE WITH PREMIUM EFFICIENCY TEFC MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.
4. PROVIDE PUMPS WITH SUCTION DIFFUSERS.
5. PROVIDE WITH PREMIUM EFFICIENCY ODP MOTOR FOR OPERATION WITH VARIABLE FREQUENCY DRIVE.

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PARKWAY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 06/04/2026
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

Δ	Date	Description
2	06/04/2026	Addendum 2

ISSUED FOR CONSTRUCTION

1M05.01
MECHANICAL SCHEDULES

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM | RM/TD | LB/MS | TN | SS/LG

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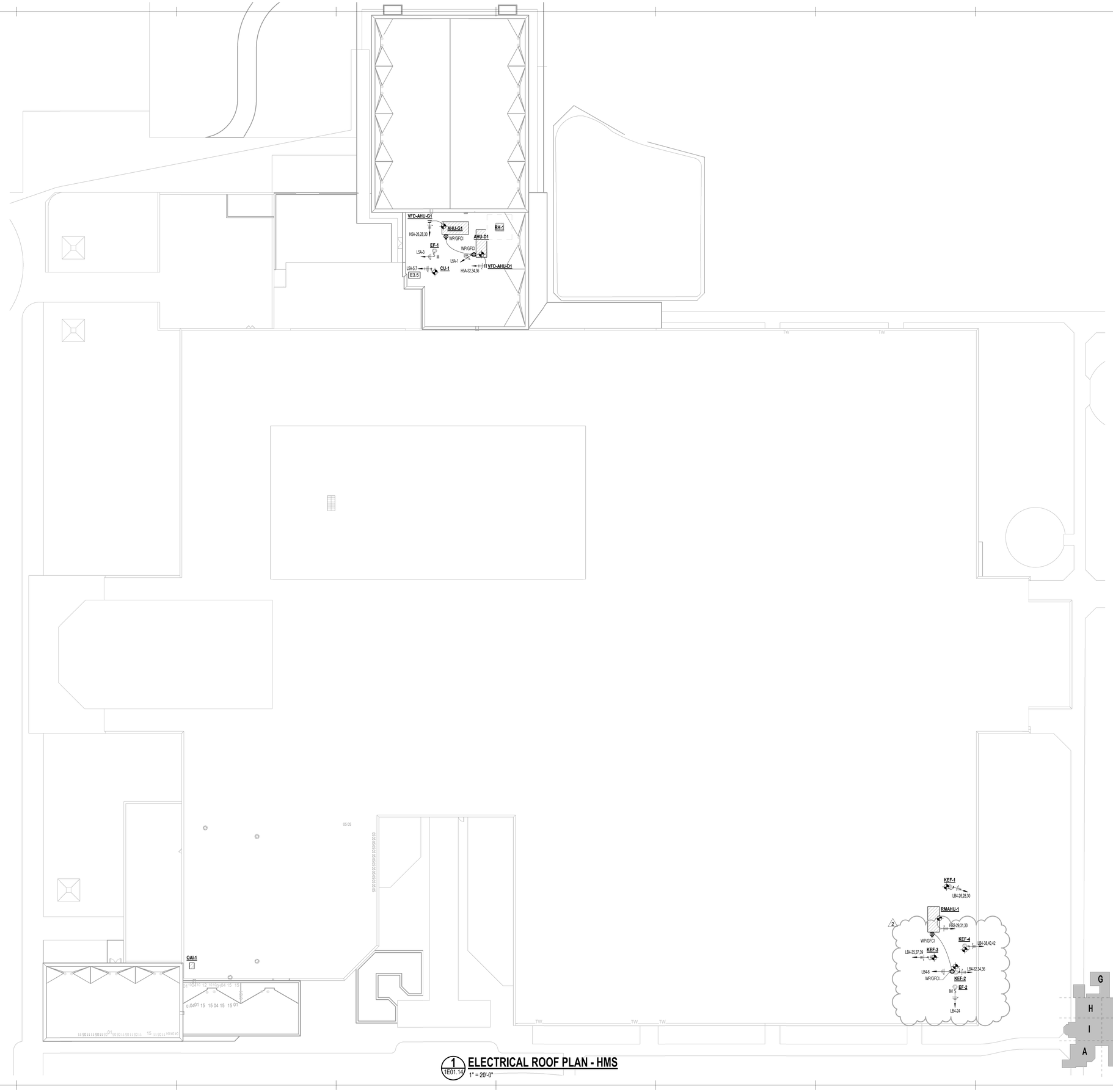

1 1E01.14 **ELECTRICAL ROOF PLAN - HMS**
1" = 20'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E3.5 PROVIDE SINGLE POINT OF POWER AT CONDENSING UNIT FOR SPLIT DX SYSTEM INDOOR UNIT SHALL BE POWERED FROM OUTDOOR UNIT. PROVIDE DISCONNECTING MEANS FOR BOTH PIECES OF EQUIPMENT. REFERENCE DUCTLESS SPLIT ELECTRICAL CONNECTION DETAIL.

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE
117260
LICENSED
PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

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1E01.14
HMS - ELECTRICAL ROOF PLAN

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GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

2

E10.3 PROVIDE NEW UL924 EMERGENCY LOAD CONTROL RELAY FOR ALL EXISTING EGRESS AND EXIT LIGHTING FIXTURE(S) IN ENTIRETY OF SCHOOL. CONNECT TO NEW EMERGENCY CIRCUIT(S) IN PANEL EH AND MAKE FINAL CONNECTION TO LIGHT FIXTURE(S) AS REQUIRED. ROUTE AN UNSWITCHED HOT LEG TO ALL LIGHT FIXTURES DESIGNATED AS EMERGENCY FIXTURES. HOT LEG SHALL ORIGINATE FROM CIRCUIT SERVING NORMAL LIGHTING FIXTURES IN THAT SPACE. UNSWITCHED HOT LEG SHALL CONNECT TO THE NORMAL POWER SENSING LUG ON THE GENERATOR TRANSFER DEVICE. REFER TO GENERATOR TRANSFER DEVICE WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.

E41.7 ALTERNATE 6: PROVIDE NEW TYPE 'C1' LED PERIMETER LIGHTING AT AUDITORIUM ENTRANCE. RECONNECT TO EXISTING NORMAL POWER LIGHTING CIRCUIT AND TO EXISTING CONTROLS. EXTEND CONDUIT CONDUCTORS AS REQUIRED.

AREA OF WORK

AREA OF WORK

4 T.B. 12 M.B. 4 T.S.

6" M.B. 6" M.B.

6" M.B. 6" M.B.

E10.3

ALTERNATE 6
AREA OF WORK

1 1E03.14

E11.7 C1

AREA OF WORK

AREA OF WORK

1 COMPOSITE LIGHTING PLAN - FIRST LEVEL - HMS

1E02.02 3/64" = 1'-0"

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE
117260
LICENSED PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

G H F E I J D A B C

KEY PLAN N

DBR
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TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TD LB/MS TN SS/LG

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1E02.02
HMS - COMPOSITE ELECTRICAL LIGHTING PLAN

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ALTERNATE 6
AREA OF WORK
E11.7

ALTERNATE 1
AREA OF WORK

ALTERNATE 1
AREA OF WORK

E12.9

EXISTING MATERIAL STORAGE D183
EXISTING COMPUTER D184
EXISTING OFFICE D185
EXISTING DR D186
COMPUTER LAB A101
EXISTING INDUST TECH D176
EXISTING ELEC D182
STOR D181
STOR D180
STOR D179
STOR D178
EXISTING PROJ. ROOM D177
UNIFORM STOR A101
CORRIDOR A100
DAYLIGHT ZONE
DAYLIGHT ZONE-SECONDARY
DAYLIGHT ZONE-PRIMARY
PRACTICE A113
UNOCCUPIED
OFFICE A112

E11.4 VIA LCH-1 (ON)EH-6
E11.5
WP1E
(ON)EH-6 VIA LCH-1 E11.4

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E10.1 PROVIDE NEW LIGHTING CONTROLS IN THIS SPACE. PROVIDE NUMBER OF CONTROL ZONES PER PLANS. LOCATE NEW CONTROLS IN SAME LOCATION AS EXISTING CONTROLS BEING DEMO. REFERENCE DEMO PLANS. ALL EXISTING CONTROL LOCATIONS SHALL BE FIELD VERIFIED, CONTROLS SHOWN FOR REFERENCE ONLY.

E11.2 PROVIDE NEW LED LIGHTING IN THIS SPACE. RECONNECT TO EXISTING NORMAL POWER LIGHTING CIRCUIT AND TO NEW CONTROLS. EXTEND CONDUIT CONDUCTORS AS REQUIRED.

E11.3 NEW EMERGENCY LED LIGHT(S) IN THIS SPACE SHALL BE PROVIDED WITH NEW UL924 DEVICE AND CONNECTED TO NEW EMERGENCY CIRCUIT AND PROVIDE VOLTAGE SENSING WIRE CONNECTED TO EXISTING NORMAL CIRCUIT SERVING FIXTURES IN RESPECTIVE CONTROL ZONE. PROVIDE NEW CONDUIT AND FEEDERS SERVING NEW EMERGENCY FIXTURE(S) TO NEW EMERGENCY LIGHTING CIRCUIT AS NOTED ON PLANS.

E11.4 ALL EXTERIOR EMERGENCY LIGHTING SHALL BE PROVIDED WITH AN EMERGENCY LIGHTING CIRCUIT AND NORMAL LIGHTING CIRCUIT AND ROUTED THROUGH GTD 20A GENERATOR TRANSFER DEVICE "UL 1008" AND LIGHTING CONTACTOR. LOCATE GTD ADJACENT TO EMERGENCY PANEL SERVING CIRCUIT. REFER TO GTD WIRING DIAGRAM ON SHEET 18/E601 FOR ADDITIONAL INFORMATION. TYPICAL.

E11.5 COORDINATE EXACT LOCATION AND ELEVATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION. TYPICAL.

E11.6 CHAIN LINK FENCE/WIRE PARTITION OPEN TO STORAGE AREA

E11.7 ALTERNATE 6: PROVIDE NEW TYPE "C1" LED PERIMETER LIGHTING AT AUDITORIUM ENTRANCE. RECONNECT TO EXISTING NORMAL POWER LIGHTING CIRCUIT AND TO EXISTING CONTROLS. EXTEND CONDUIT CONDUCTORS AS REQUIRED.

E11.9 ALL LIGHTS IN EXISTING INDUST TECH/ EXISTING WOOD SHOP ROOMS SHALL BE RECESSED. FIXTURES IN THESE SPACES SHALL NOT BE SUSPENDED.

E12.9 ALTERNATE 1: CEILING TILES IN THIS SPACE SHALL BE REPLACED. ALL CEILING MOUNTED DEVICES OTHER THAN LIGHTING FIXTURES AND AIR DEVICES SHALL BE UNINSTALLED/REINSTALLED AS REQUIRED FOR CEILING TILES REPLACEMENT. REFER TO SHEET 1E02.01A FOR HUMBLE MS ADDITIONAL INFORMATION AND SHEET 2E02.01A FOR ATASCOCITA MS ADDITIONAL INFORMATION.

1 E02.02A **LIGHTING PLAN - FIRST LEVEL - HMS - SEGMENTS 'A' & 'I'**
1/8" = 1'-0"

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE 117260 LICENSED PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

G H F E I J D A B C
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1E02.02A
HMS - ELECTRICAL LIGHTING PLAN - SEGMENTS 'A' & 'I'

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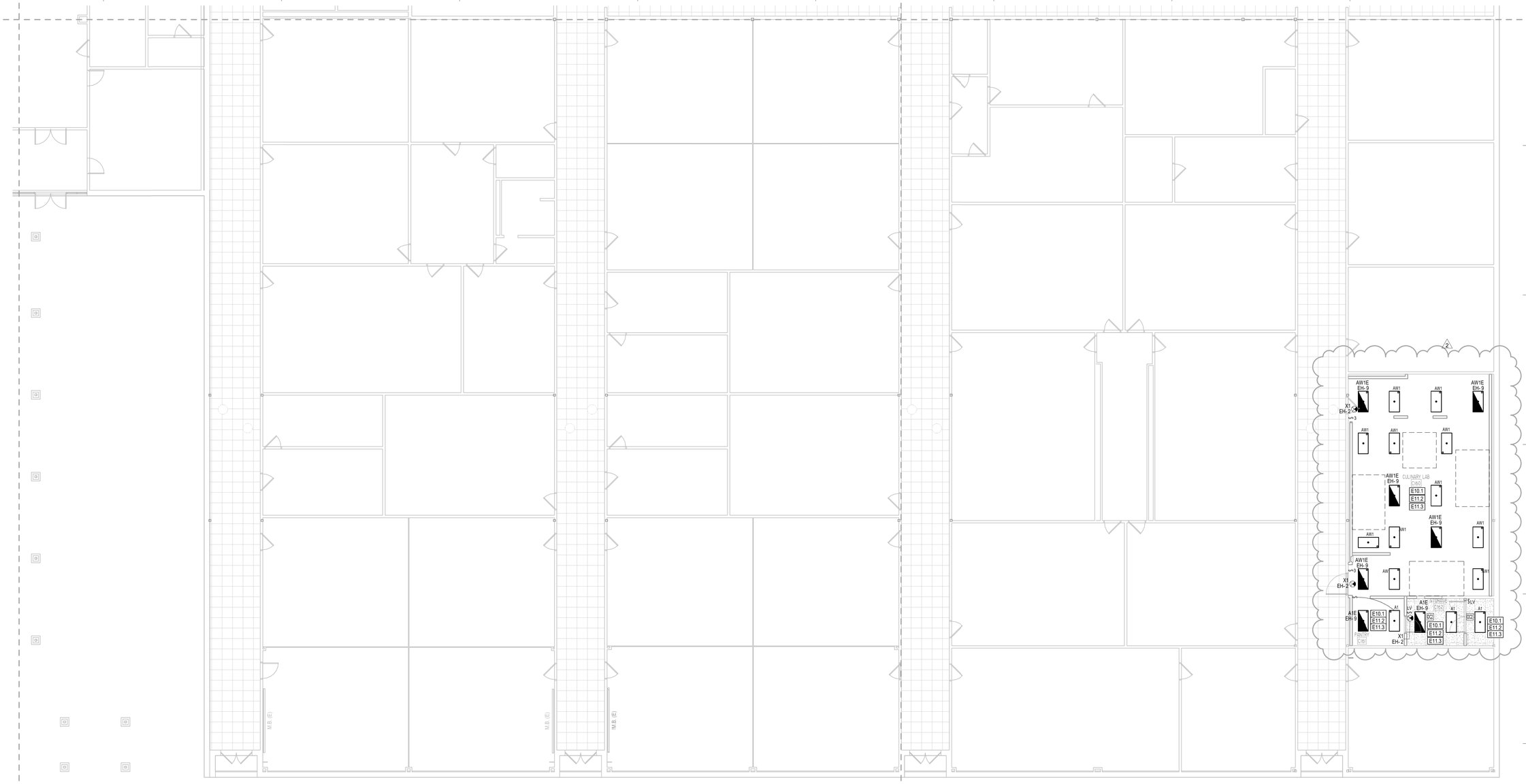


1 / 1E02.02B LIGHTING PLAN - FIRST LEVEL - HMS - SEGMENTS 'B' & 'C'

1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

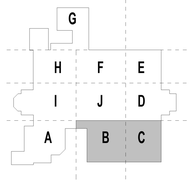
A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E10.1 PROVIDE NEW LIGHTING CONTROLS IN THIS SPACE. PROVIDE NUMBER OF CONTROL ZONES PER PLANS. LOCATE NEW CONTROLS IN SAME LOCATION AS EXISTING CONTROLS BEING DEMO, REFERENCE DEMO PLANS. ALL EXISTING CONTROL LOCATIONS SHALL BE FIELD VERIFIED, CONTROLS SHOWN FOR REFERENCE ONLY.

E11.2 PROVIDE NEW LED LIGHTING IN THIS SPACE. RECONNECT TO EXISTING NORMAL POWER LIGHTING CIRCUIT AND TO NEW CONTROLS. EXTEND CONDUIT CONDUCTORS AS REQUIRED.

E11.3 NEW EMERGENCY LED LIGHT(S) IN THIS SPACE SHALL BE PROVIDED WITH NEW UL924 DEVICE AND CONNECTED TO NEW EMERGENCY CIRCUIT AND PROVIDE VOLTAGE SENSING WIRE CONNECTED TO EXISTING NORMAL CIRCUIT SERVING FIXTURES IN RESPECTIVE CONTROL ZONE. PROVIDE NEW CONDUIT AND FEEDERS SERVING NEW EMERGENCY FIXTURE(S) TO NEW EMERGENCY LIGHTING CIRCUIT AS NOTED ON PLANS.



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BRENT B. MOE
117260
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PROFESSIONAL ENGINEER

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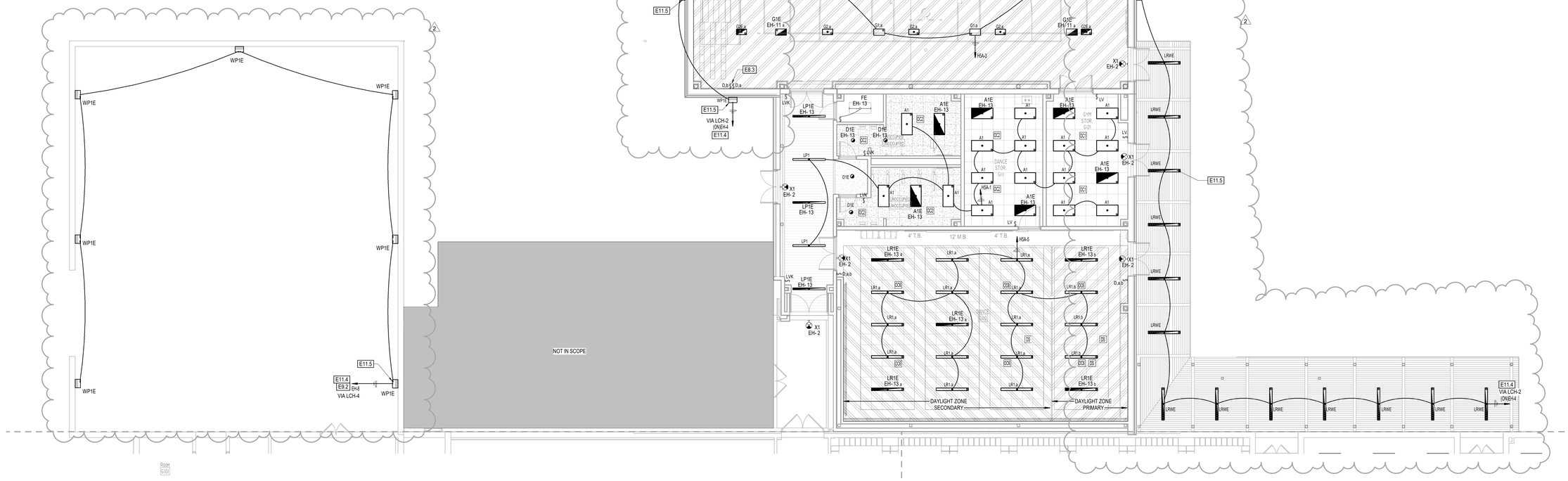
1E02.02B
HMS - ELECTRICAL LIGHTING PLAN - SEGMENTS 'B' & 'C'



1 E02.02G **LIGHTING PLAN - FIRST LEVEL - HMS - SEGMENT 'G'**
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E8.3 PROPOSED LOCATION OF SWITCH BANK FOR GYM LIGHTS. CONTRACTOR SHALL COORDINATE FINAL LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E9.2 PROVIDE NORMAL POWER 277V CIRCUIT FROM CLOSET NON-GENERATOR FED PANEL NEXT TO EH. PROVIDE (1) NEW CIRCUIT AND BREAKER FOR NORMAL POWER. REFER TO GTD WIRING DIAGRAM ON SHEET 18/E601 FOR ADDITIONAL INFORMATION. TYPICAL.

E10.2 CONTROLS SHALL BE IMPACT RESISTANT FOR GYM HIGH BAY APPLICATION. PROVIDE WIRE GUARD IF NECESSARY. COORDINATE WITH CONTROLS MANUFACTURER, ARCHITECT AND OWNER PRIOR TO STARTING ANY WORK. TYPICAL FOR GYM ONLY.

E11.4 ALL EXTERIOR EMERGENCY LIGHTING SHALL BE PROVIDED WITH AN EMERGENCY LIGHTING CIRCUIT AND NORMAL LIGHTING CIRCUIT AND ROUTED THROUGH GTD 20A GENERATOR TRANSFER DEVICE "UL 1008" AND LIGHTING CONTACTOR. LOCATE GTD ADJACENT TO EMERGENCY PANEL SERVING CIRCUIT. REFER TO GTD WIRING DIAGRAM ON SHEET 18/E601 FOR ADDITIONAL INFORMATION. TYPICAL.

E11.5 COORDINATE EXACT LOCATION AND ELEVATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION. TYPICAL.

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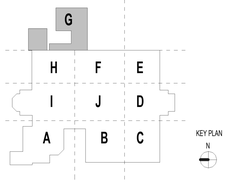
1E02.02G
HMS - ELECTRICAL LIGHTING PLAN - SEGMENT 'G'



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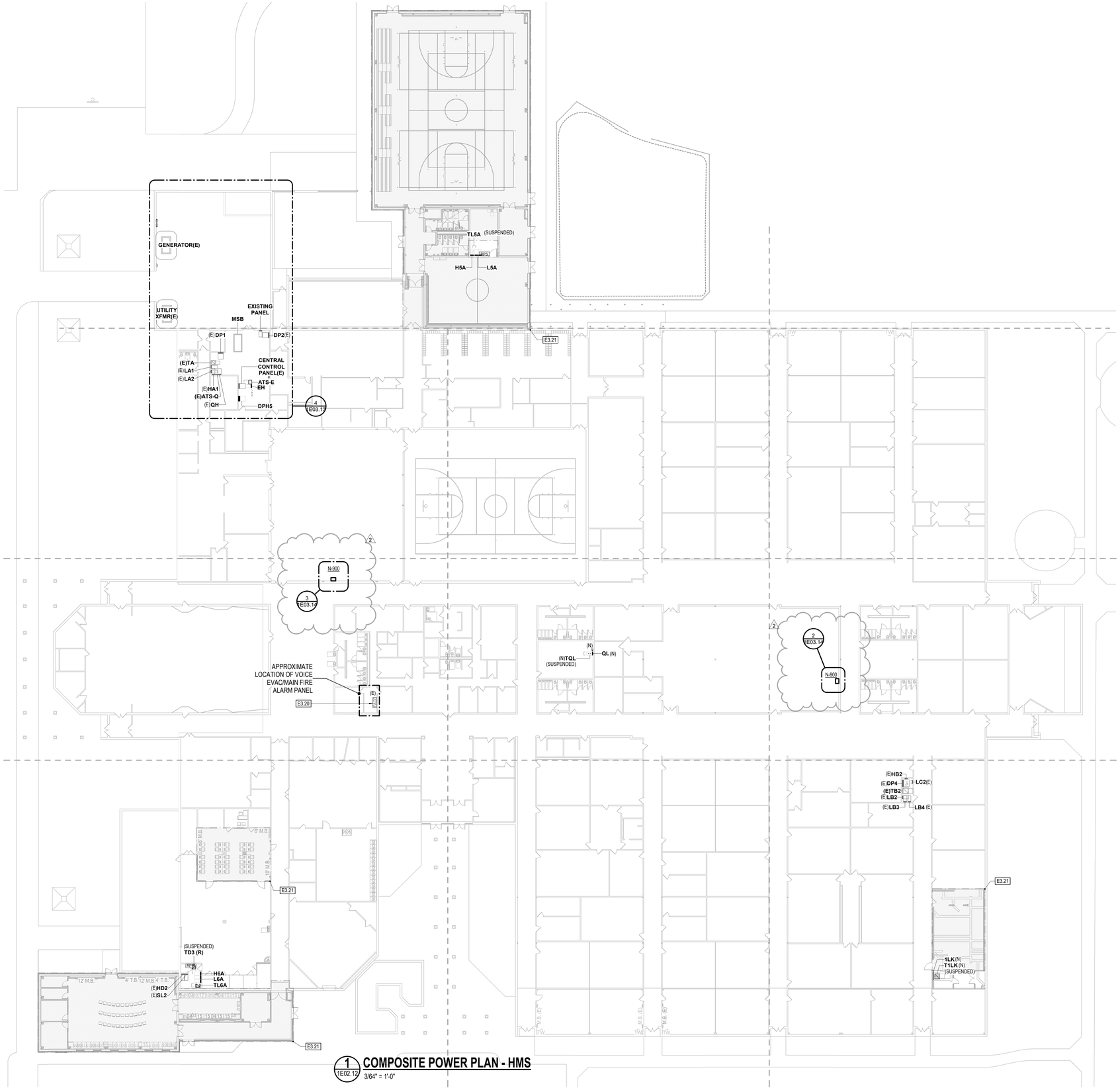


1 1E02.12 **COMPOSITE POWER PLAN - HMS**
3/64" = 1'-0"

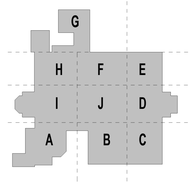
GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E3.20 APPROXIMATE LOCATION OF EXISTING NOTIFIER BY HONEYWELL VOICE EVAC/MAIN FIRE ALARM PANEL IN EXISTING BUILDING. EXPAND EXISTING NOTIFIER BY HONEYWELL FIRE ALARM PANEL AS REQUIRED TO INTERFACE WITH THE NEW BUILDING ADDITIONS AND RENOVATED AREAS. PROVIDE ADDITIONAL EQUIPMENT/COMPONENTS AS REQUIRED TO ACCOMMODATE NEW INTERFACE.

E3.21 PROVIDE NEW FIRE ALARM DEVICES TO COMPLY WITH NFPA 72 REQUIREMENTS AND LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS. REFERENCE PERFORMANCE SPECIFICATION FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



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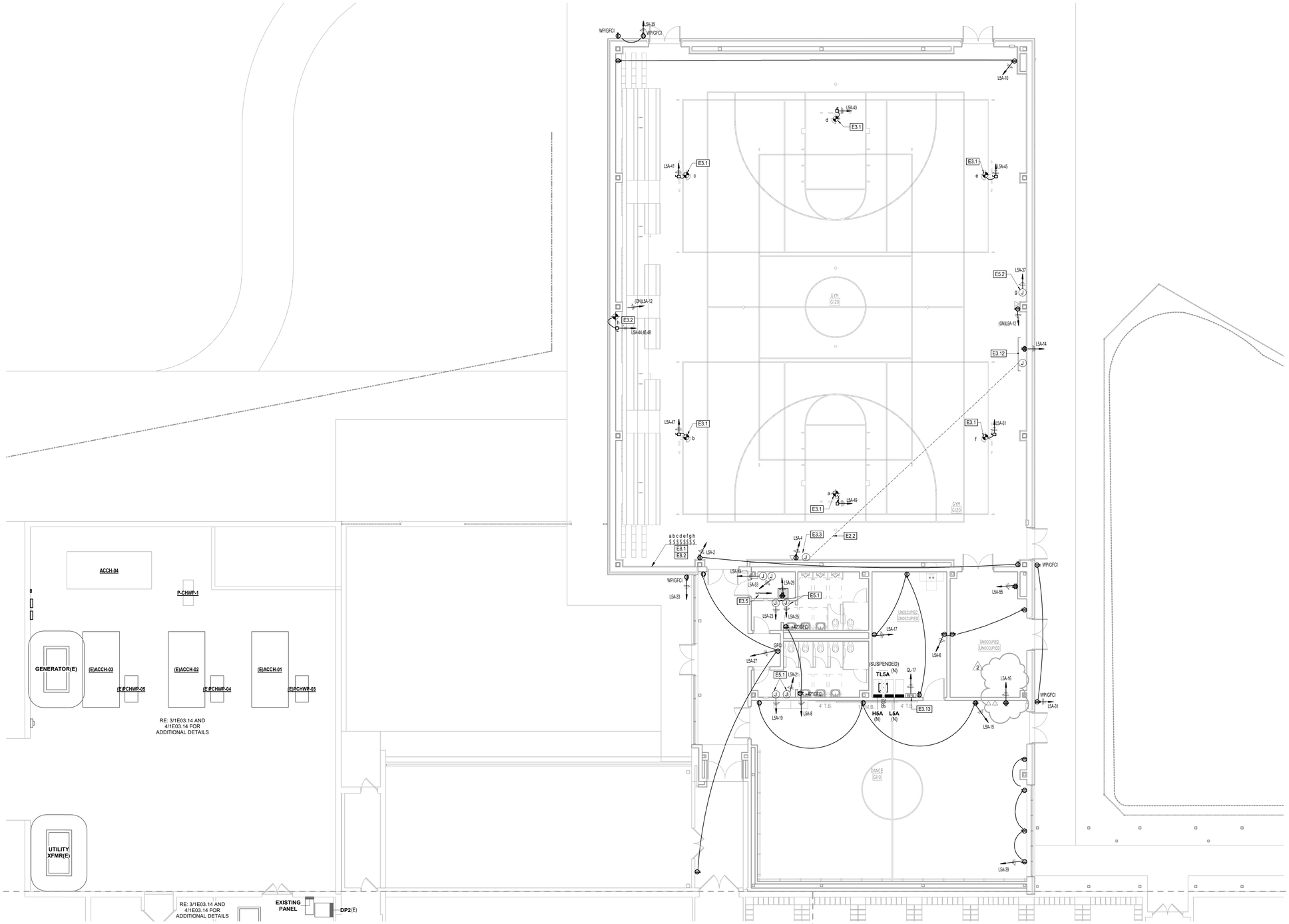
1E02.12
HMS - COMPOSITE POWER PLAN



GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E2.2 PROVIDE MINIMUM 1" CONDUIT FOR SCOREBOARD CONTROL CABLING. COORDINATE EXACT POWER REQUIREMENTS, EXACT LOCATION AND INSTALLATION DETAILS WITH SCOREBOARD PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E3.1 PROVIDE 120V POWER FOR BASKETBALL GOALS. COORDINATE EXACT POWER REQUIREMENTS AND INSTALLATION DETAILS WITH BASKETBALL GOALS PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR APPROXIMATE LOCATION OF SWITCHES FOR BASKETBALL GOALS.

E3.2 PROVIDE 208V, 3 PHASE POWER FOR BLEACHERS. MAKE ALL FINAL CONNECTIONS TO BLEACHER CONTROL PANEL. COORDINATE EXACT POWER REQUIREMENTS AND INSTALLATION DETAILS WITH BLEACHERS PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, ARCHITECT AND OWNER PRIOR TO ROUGH-IN. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR APPROXIMATE LOCATION OF SWITCH FOR BLEACHERS.

E3.3 PROVIDE 120V POWER FOR SCOREBOARD. COORDINATE EXACT POWER REQUIREMENTS, EXACT LOCATION AND INSTALLATION DETAILS WITH SCOREBOARD PRODUCT SPECIFICATIONS, MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E3.5 PROVIDE SINGLE POINT OF POWER AT CONDENSING UNIT FOR SPLIT DX SYSTEM INDOOR UNIT SHALL BE POWERED FROM OUTDOOR UNIT. PROVIDE DISCONNECTING MEANS FOR BOTH PIECES OF EQUIPMENT. REFERENCE DUCTLESS SPLIT ELECTRICAL CONNECTION DETAIL.

E3.12 PROPOSED SCORER'S TABLE LOCATION. PROVIDE POWER AND DATA AS REQUIRED. COORDINATE WITH TABLE INSTALLER/MANUFACTURER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E3.13 PROVIDE 120V POWER TO FIRE ALARM REMOTE POWER SOURCE. VERIFY FINAL LOCATION WITH FIRE ALARM SHOP DRAWINGS AND MAKE FINAL CONNECTION.

E5.1 PROVIDE 120V POWER FOR ELECTRIC HAND DRYER ON INDICATED CIRCUIT. CONFIRM EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

E5.2 120V JUNCTION BOX CONNECTION FOR PARTITION DIVIDER. COORDINATE EXACT LOCATION AND ADDITIONAL REQUIREMENTS WITH EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR ADDITIONAL DETAILS.

E8.1 PROPOSED LOCATION OF SWITCH BANK FOR BASKETBALL GOALS AND BLEACHERS. PROVIDE (6) KEYED SWITCHES FOR BASKETBALL GOALS - 1 PER GOAL AND PROVIDE ENGRAVING IDENTIFYING SWITCHES AS "BASKETBALL GOAL". PROVIDE (1) KEYED SWITCH FOR ALL BLEACHERS AND PROVIDE ENGRAVING IDENTIFYING SWITCH AS "BLEACHERS". PROVIDE (1) KEYED SWITCH FOR PARTITION DIVIDER AND PROVIDE ENGRAVING IDENTIFYING SWITCH AS "PARTITION DIVIDER". COORDINATE EXACT NUMBER OF SWITCHES PRIOR TO ROUGH-IN. COORDINATE EXACT POWER REQUIREMENTS AND INSTALLATION DETAILS WITH EQUIPMENT MANUFACTURER/INSTALLER, DIVISION 27, ARCHITECT AND OWNER PRIOR TO ROUGH-IN. FIELD COORDINATE FINAL LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

E8.2 PROVIDE (3) REMOTES IN ADDITION TO THE LOCAL CONTROL SWITCHES FOR BASKETBALL GOALS. REFER TO ELECTRICAL KEYED NOTE E8.1 FOR ADDITIONAL DETAILS. FIELD COORDINATE FINAL LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

1 E02.12G **POWER PLAN - FIRST LEVEL - HMS - SEGMENT 'G'**
1/8" = 1'-0"

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HUMBLE INDEPENDENT SCHOOL DISTRICT
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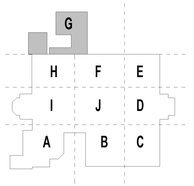
1E02.12G
HMS - ELECTRICAL POWER PLAN - SEGMENT 'G'



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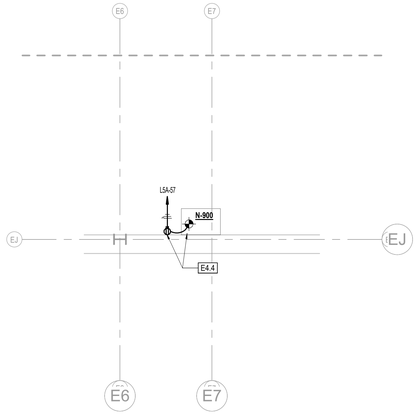
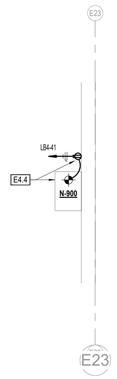
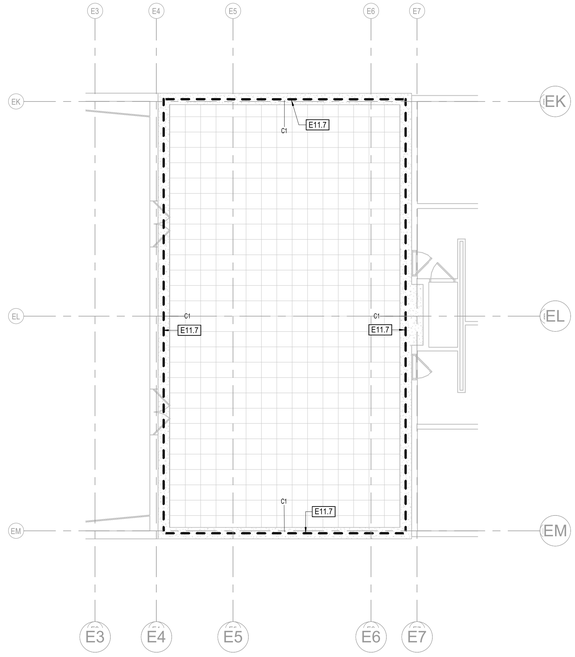


3 1E03.14 **COMPOSITE POWER PLAN - HMS - ENLARGED VIEW 3**
1/4" = 1'-0"



2 1E03.14 **COMPOSITE POWER PLAN - HMS - ENLARGED VIEW 2**
1/4" = 1'-0"



1 1E03.14 **ENLARGED LIGHTING PLAN - AUDITORIUM ENTRANCE**
1/8" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. REFER TO SHEET E0.11 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYED NOTES

E4.4 PROVIDE 120V, 20A POWER FOR MECHANICAL UNIT. CONFIRM PROPER NEMA CONFIGURATION FOR RECEPTACLE WITH EQUIPMENT MANUFACTURER PRIOR TO ORDERING AND INSTALLING EQUIPMENT. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR, ARCHITECT/OWNER PRIOR TO ROUGH-IN.

E11.7 ALTERNATE 6: PROVIDE NEW TYPE "C1" LED PERIMETER LIGHTING AT AUDITORIUM ENTRANCE. RECONNECT TO EXISTING NORMAL POWER LIGHTING CIRCUIT AND TO EXISTING CONTROLS. EXTEND CONDUIT CONDUCTORS AS REQUIRED.

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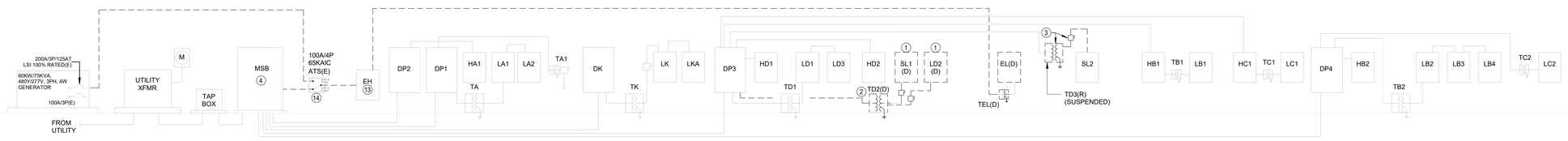
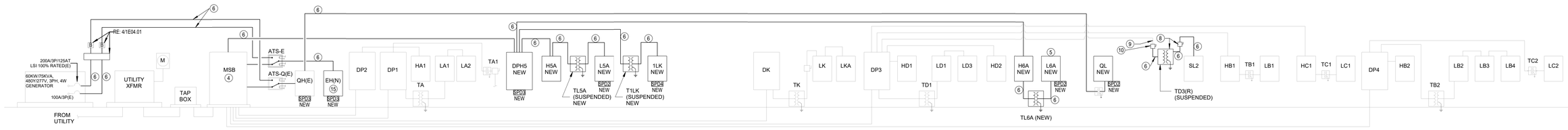


ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

1 1E04.01 HUMBLE MS - ELECTRICAL ONE-LINE - DEMO

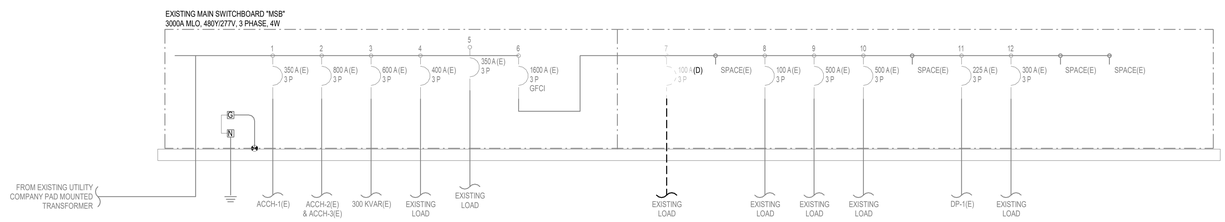
NOT TO SCALE



ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

2 1E04.01 HUMBLE MS - ELECTRICAL ONE-LINE - NEW

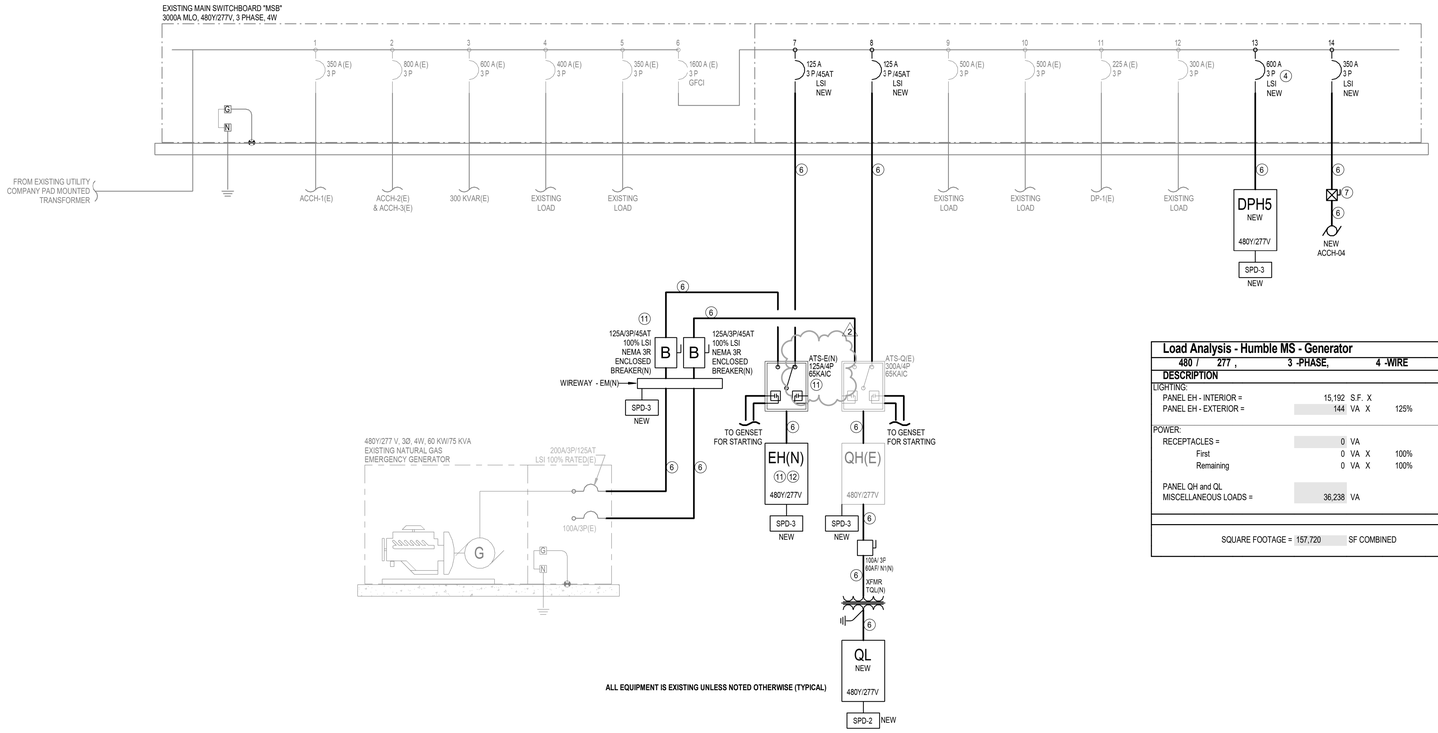
NOT TO SCALE



ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

3 1E04.07 HUMBLE MS - EXISTING MAIN SWITCHBOARD 'MSB' - DEMO

NOT TO SCALE



ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE (TYPICAL)

4 1E04.01 HUMBLE MS - EXISTING MAIN SWITCHBOARD 'MSB' - NEW

NOT TO SCALE

ONE-LINE DIAGRAM KEYED NOTES:

1. EXISTING PANEL SHALL BE DEMOLISHED. ALL CIRCUITS IN PANEL SHALL BE RELOCATED TO NEW PANEL 'L6A'. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-NEW' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
2. EXISTING TRANSFORMER SHALL BE DEMOLISHED AND REPLACED WITH NEW. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-NEW' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
3. EXISTING SUSPENDED TRANSFORMER AND ASSOCIATED SECONDARY FUSED DISCONNECT SHALL BE RELOCATED. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-NEW' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
4. REFER TO 03/1E04.01 AND 04/1E04.01 FOR ADDITIONAL 'MSB' DETAILS.
5. ALL CIRCUITS IN EXISTING PANELS 'SL1' AND 'LD2' SHALL BE RELOCATED TO NEW PANEL 'L6A'. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-DEMO' AND ELECTRICAL DEMO POWER PLANS FOR FURTHER DETAILS. EXTEND BRANCH CIRCUITING AS REQUIRED TO TERMINATE ON NEW PANEL.
6. NEW FEEDER - REFER TO FEEDER SCHEDULE.
7. ALL VFDS, MOTOR STARTERS, OR DISCONNECT SWITCHES SHALL BE SUPPLIED BY DIVISION 23 AND INSTALLED BY DIVISION 26 UNLESS NOTED OTHERWISE. ELECTRICAL CONNECTIONS SHALL BE PROVIDED BY DIVISION 26. DIVISION 26 SHALL COORDINATE WITH DIVISION 23 PRIOR TO ROUGH-IN.
8. RELOCATED SUSPENDED TRANSFORMER AND ASSOCIATED SECONDARY FUSED DISCONNECT.
9. REWORK FEEDER CONDUIT AND CONDUCTORS ASSOCIATED WITH RELOCATION OF TRANSFORMER AND ASSOCIATED DISCONNECT. INTERCEPT AND EXTEND TO NEW LOCATION AND PULL NEW WIRING. REFER TO 'ELECTRICAL ONE-LINE DIAGRAM-DEMO' AND ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
10. PROVIDE NEW DISCONNECT AT PRIMARY SIDE OF TRANSFORMER. REFER TO ELECTRICAL POWER PLANS FOR FURTHER DETAILS.
11. LIFE SAFETY SYSTEM SHALL BE FULLY COORDINATED TO COMPLY WITH 2023 NEC ARTICLE 700.32. PROVIDE BREAKERS AND FUSES TO COMPLY.
12. PROVIDE (2) SETS OF MAIN LUGS AND FEED THRU LUGS.
13. EXISTING EMERGENCY PANEL 'EH' SHALL BE RENAMED 'QH'. ALL LIGHTING CIRCUITS IN PANEL SHALL BE RELOCATED TO NEW PANEL 'EH'. ONLY LIGHTING CIRCUITS SHALL BE RELOCATED. REFER TO ELECTRICAL ONE-LINE DIAGRAMS, ELECTRICAL SCHEDULES, AND ELECTRICAL POWER PLANS FOR ADDITIONAL DETAILS.
14. EXISTING AUTOMATIC TRANSFER SWITCH 'ATS' SHALL BE RENAMED 'ATS-Q'. REFER TO ELECTRICAL ONE-LINE DIAGRAMS, ELECTRICAL SCHEDULES, AND ELECTRICAL POWER PLANS FOR ADDITIONAL DETAILS.
15. NEW EMERGENCY LIFE SAFETY PANEL 'EH'. REFER TO ELECTRICAL ONE-LINE DIAGRAMS, ELECTRICAL SCHEDULES, AND ELECTRICAL POWER PLANS FOR ADDITIONAL DETAILS.

ONE-LINE DIAGRAM GENERAL NOTES:

A. MANUFACTURER OF ELECTRICAL GEAR SHALL PROVIDE A COORDINATION STUDY FOR THE ENTIRE ELECTRICAL SYSTEM IN ORDER TO SET BREAKERS. REFER TO SPECIFICATIONS. MANUFACTURER SHALL PROVIDE AN ARC FLASH & SHORT CIRCUIT STUDY FOR THE ENTIRE ELECTRICAL SYSTEM IN ORDER TO SELECT INTERRUPTING RATINGS OF ALL CIRCUIT BREAKERS, DISTRIBUTION PANELBOARDS, PANELBOARDS, ETC. A SERIES RATED SYSTEM SHALL BE USED. SUBMIT INTERRUPTING RATING FOR ALL ELECTRICAL GEAR IN SUBMITTALS. CONTRACTOR SHALL SUPPLY WITH THEIR SUBMITTALS ON ALL NEW EQUIPMENT THE MANUFACTURERS UL DATA LISTING THE SERIES RATING OF ALL EQUIPMENT. THIS SWITCHBOARD AND ALL NEW EQUIPMENT CONNECTED DOWNSTREAM SHALL BEAR LABELS INDICATING "SERIES RATED EQUIPMENT" ON THEIR EXTERIOR AS SPECIFIED IN THE SPECIFICATIONS. CONTRACTOR SHALL INSTRUCT MANUFACTURER TO INCLUDE IN THEIR SUBMITTALS ALL TRIP CURVES AND ALL LITERATURE INDICATING THE INTERRUPTING RATING CHARACTERISTICS OF EQUIPMENT BEING SUPPLIED. CONTRACTOR SHALL SUBMIT STUDIES FOR REVIEW BEFORE SUBMITTING ELECTRICAL DISTRIBUTION EQUIPMENT FOR REVIEW. REFER TO SPECIFICATION SECTION 26 05 73.

B. ALL CONDUCTORS SHALL BE COPPER.

C. CONTRACTOR SHALL INSTALL FEEDERS BASED ON THE OVERCURRENT DEVICE RATING UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE FEEDER SCHEDULE TO OBTAIN AND INSTALL THE FEEDERS REQUIRED.

D. SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2" X 3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.

E. PRIOR TO INSTALLATION OF UNDERGROUND FEEDERS, THE ELECTRICAL CONTRACTOR SHALL SUBMIT AN UNDERGROUND ROUTING PLAN TO THE ENGINEER OF RECORD., INDICATING THE EXACT ROUTING PATH FOR ALL UNDERGROUND CONDUIT. INDICATE STUB-UP LOCATIONS, SIZE AND QUANTITY OF CONDUIT. ALL ELECTRICAL PANELS AND EQUIPMENT SHALL BE SHOWN ON THIS PLAN FOR REFERENCE OF CONDUIT TERMINATION.

F. ALL EQUIPMENT IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

Load Analysis - Humble MS - Generator

480 / 277 , 3 -PHASE, 4 -WIRE — Date: 6/15/2025

DESCRIPTION							NEC	KVA
LIGHTING:								
PANEL EH - INTERIOR =	15,192	S.F.	X		0.2	W/S.F.	220.12	3.0
PANEL EH - EXTERIOR =	144	VA	X	125%				0.2
POWER:								
RECEPTACLES =	0	VA			= 0.00	W/SF	220.44	
First	0	VA	X	100%				0.0
Remaining	0	VA	X	100%				0.0
PANEL QH and QL								
MISCELLANEOUS LOADS =	36,238	VA			= 0.23	W/SF		36.2
							TOTAL =	39.5
							TOTAL AMPS:	47.5
SQUARE FOOTAGE = 157,720 SF COMBINED							SERVICE SIZE:	90.0
							SPARE AMPACITY:	42.5

Load Analysis - Humble MS

480 / 277 , 3 -PHASE, 4 -WIRE — Date: 1/2/2026

DESCRIPTION							NEC	KVA
EXISTING LOAD:								
PEAK KVA FROM CPE =	733,000	VA	X	125%			220.87	916.3
REMOVED LOAD:								
LIGHTING:								
INTERIOR =	1,016	VA	X	125%			220.12	-1.3
EXTERIOR =	0	VA	X	125%			220.12	0.0
POWER:								
RECEPTACLES =	5,400	VA					220.44	
First	10,000	VA	X	100%				-10.0
Remaining	(4,600)	VA	X	50%				2.3
KITCHEN	66,550	VA						-66.6
HVAC								
P-6 & P-7	66,510	VA						-66.5
ADDED LOAD:								
LIGHTING:								
INTERIOR =	5,914	VA	X	125%	= 0.04	W/SF	220.12	7.4
EXTERIOR =	720	VA	X	125%			220.12	0.9
POWER:								
RECEPTACLES =	19,080	VA			= 0.12	W/SF	220.44	
First	10,000	VA	X	100%				10.0
Remaining	9,080	VA	X	50%				4.5
MISCELLANEOUS=	33,128	VA						33.1
KITCHEN =	27,852	VA	X	65%			220.56	18.1
LAUNDRY	0	VA						0.0
HVAC:								
ACCH-04	198,932	VA	X	100%				198.9
P-CHWP-1	2,827	VA	X	100%				2.8
P-1	17,459	VA	X	100%				17.5
P-6	33,255	VA	X	100%				33.3
P-7	33,255	VA	X	100%				33.3
AC-1/CU-1	1,830	VA	X	100%				1.8
HEATING =	0	VA	X	0%				0.0
ALL FANS =	16,665	VA						16.7
PLUMBING:								
WATER HEATER =	4,150	VA						4.2
							TOTAL =	1156.7
							TOTAL AMPS:	1391.2
SQUARE FOOTAGE = 157,720							SERVICE SIZE:	1600.0
							SPARE AMPACITY:	208.8

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Houston, Texas 77046
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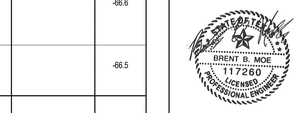
HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338



DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUE FOR CONSTRUCTION

1E04.01
HMS - ELECTRICAL ONE-LINE DIAGRAM

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TDL BJB/MS TN SS/LG

6/4/2026 2:20:59 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_E24.rvt

Distribution Panelboard DPH5

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MLO | 0 A -- | 600 A BUS (Copper) | -- | LUGS: SINGLE | -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	24043 VA	Spare; L: R; SP:;	H6A	4/0	225 A	1 2 / 3 4 / 5 6	30 A	10	SPD3	SP	0 VA	
	39348 VA	Spare; L: R; SP:;	H5A	4/0	225 A	7 8 / 9 10 / 11 12	100 A	3	P-7/ VFD-P 7	M	33255 VA	
	37564 VA	Spare; L: SP; K: M	T1LK	250	250 A	13 14 / 15 16 / 17 18	100 A	3	P-6/ VFD-P 6	M	33255 VA	
	2827 VA	M	P-CHWP-1/ CHWP-06	12	20 A	19 20 / 21 22 / 23 24	350 A	500	PROVISION SPACE	--	0 VA	
	17459 VA	M	P-1/ VFD-P-1	6	60 A	25 26 / 27 28 / 29 30	60 A	6	PROVISION SPACE	--	0 VA	
	0 VA	--	PROVISION SPACE	1/0	150 A	31 32 / 33 34 / 35 36	150 A	1/0	PROVISION SPACE	--	0 VA	
	0 VA	--	PROVISION SPACE	1/0	150 A	37 38 / 39 40 / 41 42	150 A	1/0	PROVISION SPACE	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	19260 VA	75.96%	14630 VA	210.20A	(L)Lighting	6768 VA	125.00%	8460 VA
220.56	(K)Kitchen	27852 VA	65.00%	18104 VA		(EL)Ext. Ltg.	720 VA	125.00%	900 VA
220.60	(C)Cooling	3126 VA	100.00%	3126 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	11928 VA	100.00%	11928 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	118097 VA	100.00%	118097 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 187751 VA VA = 226 A
Total Load (Diversified): 175245 VA VA = 211 A

Location of Panel: MECH. A119

Panelboard H6A

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 225 A MCB | 225 A BUS (Copper) | -- | LUGS: -- | -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	1078 VA	L	LIGHTING	12	20 A	1 2						
	1360 VA	L	LIGHTING	12	20 A	3 4	15 A	12	FCU-1	F	1829 VA	
	4150 VA	M	IWH-1	12	20 A	5 6						
	0 VA	--	Spare	12	20 A	7 8						
	0 VA	--	Spare	12	20 A	9 10	15 A	12	AHU-B1	F	2286 VA	
	0 VA	--	Spare	12	20 A	11 12						
	0 VA	--	Space	12	--	13 14	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	15 16	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	17 18	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	19 20	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	21 22	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	23 24	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	25 26	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	27 28	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	29 30	--	12	Space	--	0 VA	
	0 VA	--	Space	12	20 A	31 32	--	12	Space	--	0 VA	
	0 VA	--	Space	12	20 A	33 34	--	12	Space	--	0 VA	
	0 VA	--	Space	12	20 A	35 36	--	12	Space	--	0 VA	
	0 VA	--	Space	12	20 A	37 38				Spare; L: R; SP:;		
	0 VA	--	Space	12	20 A	39 40	70 A	4	TL6A		13320 VA	
	0 VA	--	Space	12	20 A	41 42						

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	11700 VA	92.74%	10850 VA	210.20A	(L)Lighting	2818 VA	125.00%	3523 VA
220.56	(K)Kitchen					(EL)Ext. Ltg.	720 VA	125.00%	900 VA
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	4115 VA	100.00%	4115 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	4690 VA	100.00%	4690 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 24043 VA VA = 29 A
Total Load (Diversified): 24078 VA VA = 29 A

Location of Panel: STOR. A127

Panelboard L6A

10000 A AIC Rating
X New
Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 2 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 150 A MCB | 225 A BUS (Copper) | -- | LUGS: -- | FEED THRU | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	540 VA	R	RC - RM.A111,112	12	20 A	1 2	20 A	12	RC - RM.A121	R	720 VA	
	540 VA	R	RC - RM.A113,114	12	20 A	3 4	20 A	12	RC - RM.A121	R	720 VA	
	720 VA	R	RC - RM.A110	12	20 A	5 6	20 A	12	RC - RM.A121	R	360 VA	
	540 VA	R	RC - RM.A110	12	20 A	7 8	20 A	12	RC - RM.A121	R	360 VA	
	540 VA	R	RC - RM.A110	12	20 A	9 10	20 A	12	RC - RM.A121	R	360 VA	
	720 VA	R	RC - RM.A100,101,102	12	20 A	11 12	20 A	12	RC - RM.A121	R	720 VA	
	360 VA	R	DATA SOUND RACK	12	20 A	13 14	20 A	12	RC - RM.A121	R	720 VA	
	720 VA	R	EXTERIOR RECEPTACLE	12	20 A	15 16	20 A	12	RC - RM.A121	R	720 VA	
	720 VA	EL	BACK-LIT SIGNAGE	12	20 A	17 18	20 A	12	RC - RM.A121	R	720 VA	
	720 VA	R	R Room A112, A111	12	20 A	19 20	20 A	12	RC - RM.A121	R	180 VA	
	540 VA	M	MOTOR DAMPERS	12	20 A	21 22	20 A	12	Spare	--	0 VA	
	720 VA	R	R	12	20 A	23 24	20 A	12	Spare	--	0 VA	
	360 VA	L	L	12	20 A	25 26						
	0 VA	--	Spare	12	20 A	27 28	30 A	10	SPD2	SP	0 VA	
	0 VA	--	Spare	12	20 A	29 30						
	0 VA	--	Spare	12	20 A	31 32	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	33 34	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	35 36	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	37 38	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	39 40	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	41 42	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	43 44	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	45 46	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	47 48	20 A	12	Spare	--	0 VA	
	0 VA	--	Space	12	--	49 50	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	51 52	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	53 54	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	55 56	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	57 58	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	59 60	--	12	Space	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	11700 VA	92.74%	10850 VA	210.20A	(L)Lighting	360 VA	125.00%	450 VA
220.56	(K)Kitchen					(EL)Ext. Ltg.	720 VA	125.00%	900 VA
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans				220.50	(MT)Lrg. Motor			
	(M)Misc.	540 VA	100.00%	540 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 13320 VA VA = 37 A
Total Load (Diversified): 12740 VA VA = 35 A

Location of Panel: STOR. A127

Panelboard H5A

65000 A AIC Rating
X New
Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 225 A MCB | 225 A BUS (Copper) | -- | LUGS: -- | FEED THRU | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	1016 VA	L	LIGHTING	12	20 A	1 2	20 A	12	LIGHTING	L	968 VA	
	726 VA	L	LIGHTING	12	20 A	3 4	20 A	12	Spare	--	0 VA	
	840 VA	L	LIGHTING	12	20 A	5 6	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	7 8	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	9 10	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	11 12	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	13 14	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	15 16	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	17 18	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	19 20	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	20 A	21 22	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	20 A	23 24	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	25 26						
	0 VA	--	Space	12	--	27 28	25 A	10	AHU-G1	F	4390 VA	
	0 VA	--	Space	12	--	29 30						
	0 VA	--	Space	12	--	31 32						
	0 VA	--	Space	12	--	33 34	15 A	12	AHU-D1	F	2727 VA	
	0 VA	--	Space	12	--	35 36						
	0 VA	--	Space	12	--	37 38	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	39 40	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	41 42	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	43 44	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	45 46	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	47 48	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	49 50	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	51 52	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	53 54	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	55 56	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	57 58	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	59 60	--	12	Space	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	7560 VA	100.00%	7560 VA	210.20A	(L)Lighting	3550 VA	125.00%	4438 VA
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling	3126 VA	100.00%	3126 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	7812 VA	100.00%	7812 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	17300 VA	100.00%	17300 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 39348 VA VA = 47 A
Total Load (Diversified): 40236 VA VA = 48 A

Location of Panel: DANCE STOR.-1 F111-1

Panelboard L5A

10000 A AIC Rating
X New
Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 2 Section | Type 1 -Nema Rating -- | Mains Type: MCB | 150 A MCB | 250 A BUS (Copper) | -- | LUGS: -- | FEED THRU | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	360 VA	R	EXTERIOR RECEPTACLE	12	20 A	1 2	20 A	12	RC - RM.G120	R	360 VA	
	696 VA	F	EF-1	12	15 A	3 4	20 A	12	SCOREBOARD	R; M	1680 VA	
	1830 VA	C	AC-1/ CU-1	10	30 A	5 6	20 A	12	RECEP	R	540 VA	
						7 8	20 A	12	RECEP	R	360 VA	
	720 VA	M	FREEZE PROTECTION	10	20 A	9 10	20 A	12	RC - RM.G120	R	360 VA	
	720 VA	M	MOTORIZED VALVES	10	20 A	11 12	20 A	12	RC - RM.G120	R	360 VA	
	500 VA	M	M	12	20 A	13 14	20 A	12	RC - RM.G120	R	360 VA	
	720 VA	R	R DANCE-1 F110-1	12	20 A	15 16	20 A	12	R DANCE-1 F110-1	R	360 VA	
	540 VA	R	RECEP	12	20 A	17 18						
	1000 VA	M	HAND DRYER	12	20 A	19 20	20 A	12	Spare	--	0 VA	
	1000 VA	M	HAND DRYER	12	20 A	21 22	20 A	12	Spare	--	0 VA	
	1000 VA	M	HAND DRYER	12	20 A	23 24	20 A	12	Spare	--	0 VA	
	1000 VA	M	HAND DRYER	12	20 A	25 26	20 A	12	Spare	--	0 VA	
	540 VA	R	RECEP	12	20 A	27 28	20 A	12	Spare	--	0 VA	
	360 VA	R	DATA SOUND RACK	12	20 A	29 30	20 A	12	Spare	--	0 VA	
	360 VA	R	EXTERIOR RECEPTACLE	12	20 A	31 32	20 A	12	Spare	--	0 VA	
	180 VA	R	EXTERIOR RECEPTACLE	12	20 A	33 34	20 A	12	Spare	--	0 VA	
	360 VA	R	EXTERIOR RECEPTACLE	12	20 A	35 36	20 A	12	Spare	--	0 VA	
	360 VA	M	PARTITION DIVIDER	12	20 A	37 38						
	720 VA	R	R DANCE-1 F110-1	12	20 A	39 40	30 A	10	SPD2	SP	0 VA	
	1380 VA	M	BASKETBALL GOALS	12	20 A	41 42						
	1380 VA	M	BASKETBALL GOALS	12	20 A	43 44						
	1380 VA	M	BASKETBALL GOALS	12	20 A	45 46	20 A	12	BLEACHERS	M	720 VA	
	1380 VA	M	BASKETBALL GOALS	12	20 A	47 48						
	1380 VA	M	BASKETBALL GOALS	12	20 A	49 50	20 A	12	Spare	--	0 VA	
	1380 VA	M	BASKETBALL GOALS	12	20 A	51 52	20 A	12	Spare	--	0 VA	
	500 VA	M	M	12	20 A	53 54	20 A	12	Spare	--	0 VA	
	360 VA	R	R	12	20 A	55 56	20 A	12	Spare	--	0 VA	
	1476 VA	R; C	N-900	10	20 A	57 58	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	59 60	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	61 62	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	63 64	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	65 66	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	67 68	--	12	Space	--	0 VA	
	0 VA	--	Spare	12	20 A	69 70	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	71 72	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	73 74	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	75 76	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	77 78	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	79 80	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	81 82	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	83 84	--	12	Space	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle	7560 VA	100.00%	7560 VA	210.20A	(L)Lighting			
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling	3126 VA	100.00%	3126 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	696 VA	100.00%	696 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	17300 VA	100.00%	17300 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 28682 VA VA = 80 A
Total Load (Diversified): 28682 VA VA = 80 A

Location of Panel: DANCE STOR.-1 F111-1

Panelboard 1LK

10000 A AIC Rating
X New
Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 2 Section | Type 4X -Nema Rating -- | Mains Type: MCB | 250 A MCB | 250 A BUS (Copper) | -- | LUGS: -- | FEED THRU | Mounting Stye: RECESSED

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
	100 VA	L	HOOD LIGHTS (E153)	12	20 A	1 2	20 A	12	GENERAL REC (E900D)	K	360 VA	
	100 VA	L	HOOD LIGHTS (E153)	12	20 A	3 4	--	12	SHUNT	--	0 VA	
	100 VA	L	HOOD LIGHTS (E153)	12	20 A	5 6	20 A	12	GENERAL REC (E900D)	K	360 VA	
	100 VA	L	HOOD LIGHTS (E153)	12	20 A	7 8	--	12	SHUNT	--	0 VA	
	600 VA	M	HEAT SENSOR (E153M)	12	20 A	9 10	20 A	12	GENERAL REC (E900D)	K	360 VA	
	600 VA	M	HEAT SENSOR (E153M)	12	20 A	11 12	--	12	SHUNT	--	0 VA	
	600 VA	M	HEAT SENSOR (E153M)	12	20 A	13 14	20 A	12	RANGE (E910)	K	120 VA	
	600 VA	M	HEAT SENSOR (E153M)	12	20 A	15 16	--	12	SHUNT	--	0 VA	
	720 VA	K	GENERAL REC (E900A)	12	20 A	17 18	20 A	12	RANGE (E910)	K	120 VA	
	720 VA	K	GENERAL REC (E900A)	12	20 A	19 20	--	12	SHUNT	--	0 VA	
	720 VA	K	GENERAL REC (E900A)	12	20 A	21 22	20 A	12	RANGE (E910)	K	120 VA	
	720 VA	K	GENERAL REC (E900B)	12	20 A	23 24	--	12	SHUNT	--	0 VA	
	720 VA	K	GENERAL REC (E900B)	12	20 A	25 26	20 A	12	RANGE (E910)	K	120 VA	
	720 VA	K	GENERAL REC (E900B)	12	20 A	27 28	--	12	SHUNT	--	0 VA	
	720 VA	K	GENERAL REC (E900B)	12	20 A	29 30	20 A	12	RANGE (E910)	K	120 VA	
	720 VA	K	GENERAL REC (E900B)	12	20 A	31 32	--	12	SHUNT	--	0 VA	
	720 VA	K	GENERAL REC (E900B)	12	20 A	33 34	20 A	12	RANGE (E910)	K	120 VA	
	720 VA	K	GENERAL REC (E900A&C)	12	20 A	35 36	--	12	SHUNT	--	0 VA	
	1200 VA	K	TEACHING DISPLAY (E900F)	12	20 A	37 38	20 A	12	RANGE (E910)	K	120 VA	
	1788 VA	K	FREEZER (E903)	12	20 A	39 40	--	12	SHUNT	--	0 VA	
	984 VA	K	FREEZER (E904)	12	20 A	41 42	20 A	12	Spare	--	0 VA	
	1920 VA	M	CLOTHES WASHER (E906)	12	20 A	43 44						
	4992 VA	M	CLOTHES DRYER (E907A)	10	30 A	45 46 47 48	60 A	6	LOAD CENTER (E920)	K	12972 VA	
	1428 VA	K	ICE MACHINE (E909)	12	20 A	49 50	20 A	12	FIRE PRO. SYSTEM (E925)	K	120 VA	
						51 52	20 A	12	FIRE PRO. SYSTEM (E925)	K	120 VA	
	0 VA	--	Spare	12	20 A	53 54	20 A	12	FIRE PRO. SYSTEM (E925)	K	120 VA	
	0 VA	--	Spare	12	20 A	55 56	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	57 58	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	59 60	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	61 62	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	63 64	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	65 66	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	67 68	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	69 70	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	20 A	71 72	20 A	12	Spare	--	0 VA	
	0 VA	--	Spare	12	--	73 74	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	75 76	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	77 78	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	79 80						
	0 VA	--	Space	12	--	81 82	30 A	10	SPD4	SP	0 VA	
	0 VA	--	Space	12	--	83 84						

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle				210.20A	(L)Lighting	400 VA	125.00%	500 VA
220.56	(K)Kitchen	27852 VA	65.00%	18104 VA		(EL)Ext. Ltg.			
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans				220.50	(MT)Lrg. Motor			
	(M)Misc.	9312 VA	100.00%	9312 VA		(SP)Sub Pnl.	0 VA	Not Computed	0 VA
					630.11B	(W) Welders			

Total Connected Load: 37564 VA VA = 104 A
Total Load (Diversified): 27916 VA VA = 77 A

Location of Panel: PANTRY C165

Panelboard HB2

65000 A AIC Rating
New
X Existing

480/277 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MLO | 0 A -- | 225 A BUS (Copper) | -- | LUGS: SINGLE | -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
1	3324 VA	L	EXISTING LOAD	12	20 A	1 2	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	3 4	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	5 6	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	7 8	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	9 10	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	11 12	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	13 14	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	15 16	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	17 18	20 A	12	EXISTING LOAD	L	3324 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	19 20						
1	7482 VA	M	EXISTING LOAD	12	15 A	21 22 23 24 25 26	15 A	12	EXISTING LOAD	M	7482 VA	1
1	3324 VA	L	EXISTING LOAD	12	20 A	27 28	15 A	12	EXISTING LOAD	M	7482 VA	1
3	10974 VA	F	MUA-1	10	25 A	29 30 31 32	60 A	6	EXISTING LOAD	M	29929 VA	1
	0 VA	--	Space	12	--	33 34	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	35 36						
	0 VA	--	Space	12	--	37 38	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	39 40	--	12	Space	--	0 VA	
	0 VA	--	Space	12	--	41 42	--	12	Space	--	0 VA	

NEC REF:	Load Type	Conn.	Fct.	Diversity	NEC REF:	Load Type	Conn.	Fct.	Diversity
220.47	(R)Receptacle				210.20A	(L)Lighting			
220.56	(K)Kitchen					(EL)Ext. Ltg.			
220.60	(C)Cooling			0 VA	620.14	(E)Elevators			
220.60	(H)Heating			0 VA		(WH)Wat. Htr.			
220.60	(F)Fans	10974 VA	100.00%	10974 VA	220.50	(MT)Lrg. Motor			
	(M)Misc.	52375 VA	100.00%	52375 VA		(SP)Sub Pnl.			
					630.11B	(W) Welders			

Total Connected Load: 129829 VA VA = 156 A
Total Load (Diversified): 146449 VA VA = 176 A

Location of Panel: ELEC. C151A

Panelboard LB4

10000 A AIC Rating
New
X Existing

120/208 Wye Volt, 3 Phase, 4 Wire | 1 Section | Type 1 -Nema Rating -- | Mains Type: MLO | 0 A -- | 400 A BUS (Copper) | -- | LUGS: SINGLE | -- | Mounting Stye: SURFACE

NOTE	LOAD (VA)	TYPE	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	TYPE	LOAD (VA)	NOTE
1	0 VA	--	EXISTING LOAD	12	20 A	1 2	20 A	12	EXISTING LOAD	--	0 VA	1
1	0 VA	--	EXISTING LOAD	12	20

FEEDER SCHEDULE
COPPER ONLY

RATING	SETS	CONDUCTOR SIZE	CONDUIT
30A	1	4#10, 1#10 G.	3/4"
40A	1	4#8, 1#10 G.	1"
50A	1	4#8, 1#10 G.	1"
60A	1	4#6, 1#10 G.	1"
70A	1	4#4, 1#8 G.	1 1/4"
80A	1	4#4, 1#8 G.	1 1/4"
90A	1	4#3, 1#8 G.	1 1/4"
100A	1	4#3, 1#8 G.	1 1/4"
125A	1	4#1, 1#6 G.	1 1/2"
150A	1	4#1/0, 1#6 G.	1 1/2"
175A	1	4#2/0, 1#6 G.	2"
200A	1	4#3/0, 1#6 G.	2"
225A	1	4#4/0, 1#4 G.	2 1/2"
250A	1	4#250, 1#4 G.	2 1/2"
300A	1	4#350, 1#4 G.	3"
350A	1	4#500, 1#3 G.	3 1/2"
400A	1	4#600, 1#3 G.	4"
450A	2	4#4/0, 1#2 G.	2 1/2"
500A	2	4#250, 1#2G.	2 1/2"
600A	2	4#350, 1#1G.	3"
700A	2	4#500, 1#1/0G.	4"
800A	2	4#600, 1#1/0G.	4"
1000A	3	4#500, 1#2/0G.	4"
1200A	4	4#350, 1#3/0G.	3"
1600A	4	4#600, 1#4/0G.	4"
	5	4#500, 1#4/0G.	4"
2000A	5	4#600, 1#250 G.	4"
	6	4#500, 1#250 G.	4"
2500A	6	4#600, 1#350 G.	4"
	7	4#500, 1#350 G.	4"
3000A	8	4#500, 1#400 G.	4"
3500A	9	4#600, 1#500 G.	4"
	10	4#500, 1#500 G.	4"
4000A	10	4#600, 1#500 G.	4"
	11	4#500, 1#500 G.	4"
5000A	12	4#600, 1#750 G.	4"
	14	4#500, 1#750 G.	4"

1. ELECTRICAL CONTRACTOR SHALL PROVIDE THE NUMBER OF LUGS AND PROPER LUG SIZES TO ACCEPT CONDUCTOR SIZES SHOWN.
2. GROUND NOT REQUIRED AT SERVICE LATERAL.

TRANSFORMER FEEDER SCHEDULE - GENERAL PURPOSE - 3 PHASE

PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	GND. ELEC. SIZE
3	3 #12, 1 #12G.	3/4"	15A/3P	4 #12, 1 #8G.	3/4"	15A/3P	#8
6	3 #12, 1 #12G.	3/4"	15A/3P	4 #10, 1 #8G.	3/4"	25A/3P	#8
9	3 #12, 1 #12G.	3/4"	15A/3P	4 #10, 1 #8G.	3/4"	30A/3P	#8
15	3 #10, 1 #10G.	3/4"	25A/3	4 #6, 1 #8G.	1"	60A/3P	#8
30	3 #8, 1 #10G.	1"	45A/3P	4 #3, 1 #8G.	1 1/4"	100A/3P	#8
45	3 #4, 1 #8G.	1"	70A/3P	4 #1/0, 1 #6G.	1 1/2"	150A/3P	#6
75	3 #1, 1 #6G.	1 1/4"	125A/3P	4 #250, 1 #2G.	2 1/2"	250A/3P	#2
75	3 #3, 1 #8G.	1"	100A/3P	4 #4/0, 1#2G.	2 1/2"	225A/3P	#2
112.5	3 #2/0, 1 #6G.	1 1/2"	175A/3P	4 #600, 1 #1/0G.	4"	400A/3P	#1/0
150	3 #4/0, 1 #4G.	2"	225A/3P	(2) SETS OF 4 #250, 1 #1/0G.	2 1/2"	500A/3P	#1/0
225	3 #500, 1 #3G.	3"	350A/3P	(2) SETS OF 4 #600, 1 #3/0G.	4"	800A/3P	#3/0
300	(2) SETS OF 3 #4/0, 1 #2G.	2 1/2"	450A/3P	(3) SETS OF 4 #500, 1 #3/0G.	3 1/2"	1000A/3P	#3/0
400	(2) SETS OF 3 #350, 1 #1G.	2 1/2"	600A/3P	(4) SETS OF 4 #500, 1 #250G.	4"	1600AF/1400AT/3P	#3/0
500	(2) SETS OF 3 #500, 1 #1/0G.	3"	800A/3P	(5) SETS OF 4 #500, 1 #350G.	4"	2000AF/1800AT/3P	#3/0

NOTE:
-ALL CONDUCTORS SHALL BE COPPER

TRANSFORMER FEEDER SCHEDULE - HARMONIC MITIGATING - 3 PHASE

PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	G.E.C. SIZE
15	3 #10, 1 #10 G.	3/4"	25A/3P	3 #6, 1 #4N, 1 #8G.	1"	60A/3P	#8
30	3 #8, 1 #10 G.	1"	45A/3	3 #3, 1 #1/0N, 1 #8G.	1 1/4"	100A/3P	#8
45	3 #4, 1 #8 G.	1"	70A/3P	3 #1/0, 1 #4/0N, 1 #6G.	2"	150A/3P	#6
75	3 #1, 1 #6 G.	1 1/4"	125A/3P	3 #250, 2 #3/0N, 1 #2G.	3"	250A/3P	#2
112.5	3 #2/0, 1 #6 G.	1 1/2"	175A/3P	3 #600, 2 #300N, 1 #1/0G.	4"	400A/3P	#1/0
150	3 #4/0, 1 #4 G.	2"	225A/3P	(2) SETS OF 3 #250, 2 #3/0N, 1 #1/0G.	3"	500A/3P	#1/0
225	3 #500, 1 #3 G.	3"	350A/3P	(2) SETS OF 3 #600, 2 #300N, 1 #3/0G.	4"	800A/3P	#3/0
300	(2) SETS OF 3 #4/0, 1#2G	2 1/2"	450A/3P	(3) SETS OF 3 #500, 2 #250N, 1 #3/0G.	3 1/2"	1000A/3P	#3/0
500	(2) SETS OF 3 #500, 1#1/0G	3"	800A/3P	(5) SETS OF 3 #500, 2 #300N, 1 #350G.	3 1/2"	1800A/3P	#3/0

NOTE:
-ALL CONDUCTORS SHALL BE COPPER

2

TRANSFORMER SCHEDULE

MARK	KVA	PRI. VOLTAGE	SECONDARY VOLTAGE	MOUNTING	ENCLOSURE	REMARKS
T1LK	75.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	General Purpose.
TA1LA	30.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TA1LC	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TA1LG	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TAMS	75.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	General Purpose.
TD3 (R)	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	RELOCATED TRANSFORMER.
TL5A	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TL6A	45.0	480V, 3PH.	208Y/120V, 3PH., 4W	PAD	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TQL	30.0	480V, 3PH.	208Y/120V, 3PH., 4W	SUSPENDED	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.
TQLA	15.0	480V, 3PH.	208Y/120V, 3PH., 4W	PAD	Type 3R	PQ DV SERIES HARMONIC MITIGATING TRANFORMER WITH ALUMINUM WINDING.

1. PROVIDE ALL TRANSFORMERS WITH ALUMINUM WINDING, UNLESS NOTED OTHERWISE.
2. PQI SHALL SELECT 0, 20, 30 AND 40 PHASE SHIFTS TO PROVIDE THE BEST PHASE ANGLES TO MITIGATE HARMONIC CURRENTS. SUBMIT FOR REVIEW.

SURGE PROTECTION DEVICE (SPD) SCHEDULE

MARK	MANUFACTURER	MODEL	VOLTAGE	PHASE	SURGE RATING PER MODE	BREAKER SIZE	TIERGUIDE CABLE SIZE
SPD2	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S	208/120V	3	100/200kA	30A/3P	INCLUDED
SPD3	SOUTHERN TIER TECHNOLOGIES	T45277Y100AWAJ2S	480/277V	3	100/200kA	30A/3P	INCLUDED
SPD4	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S-FMK	208/120V	3	100/200kA	30A/3P	INCLUDED

*ALL T45 SERIES SPD ENCLOSURES INSTALLED IN FOOD SERVICE AREAS (IE. KITCHENS, SNACK BARS, FOOD LABS, CULINARY ARTS ROOMS AND LIFE SKILLS ROOMS) SHALL BE RECESSED IN THE WALL. PROVIDE RECESSED WALL KIT #RKSS.

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE
117260
LICENSED
PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUE FOR CONSTRUCTION

E4.01
ELECTRICAL ONE-LINE SCHEDULES

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TDLB/MS TN SS/LG

6/4/2026 2:30:52 PM Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_E24.rvt

LIGHTING CONTROLS DEVICE SCHEDULE

TYPE	DESCRIPTION	COMMENTS
S S^3 S^4 S^K	LINE VOLTAGE SWITCH.	'3' INDICATES THREE WAY SWITCHING. '4' INDICATES FOUR WAY SWITCHING. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
S^{MC}	LINE VOLTAGE MOMENTARY CONTACT SWITCH.	
S^{DR}	LINE VOLTAGE DIMMER SWITCH	DIMMER FOR USE IN DWELLING UNIT. COORDINATE DIMMING TYPE WITH FINAL FIXTURE AND LAMP SELECTION TO ENSURE COMPATIBILITY.
$S^{3,D}$	LINE VOLTAGE DIMMER WITH 3-WAY SWITCH.	3-WAY DIMMER FOR USE IN DWELLING UNIT. COORDINATE DIMMING TYPE WITH FINAL FIXTURE AND LAMP SELECTION TO ENSURE COMPATIBILITY.
S^{F}	MULTI-SPEED FAN CONTROLLER WITH LINE VOLTAGE SWITCH.	
S^{T}	LINE VOLTAGE TIMER SWITCH WITH DIGITAL TIMER.	RATED FOR 120/277VAC. PROVIDE WITH AUDIBLE & VISUAL ALERTS. USER PROGRAMMABLE FOR 5MIN-12HR TIME-OUT SETTINGS.
S^{OC1}	LINE VOLTAGE WALL MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR	SENSOR SHALL BE SET TO VACANCY MODE
S^{OC2}	LINE VOLTAGE WALL MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR WITH DUAL RELAYS.	SENSOR SHALL BE SET TO VACANCY MODE. ONE RELAY SHALL SERVE 120 VOLT LIGHTING IN AREA INDICATED, AND ONE RELAY SHALL SERVE 277 VOLT LIGHTING.
S^{OCD}	LOW VOLTAGE OC SENSOR SWITCH WITH 0-10V DIMMER	SENSOR SHALL BE SET TO VACANCY MODE
S^{LV} S^{LVK}	LOW VOLTAGE MANUAL CONTROL.	CONNECT TO POWER PACK OR ROOM CONTROLLER IF OCCUPANCY SENSORS ARE INDICATED ON PLAN. PROVIDE MULTI-BUTTON SWITCH AS REQUIRED PER SWITCH LEGS SHOWN ON PLANS. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
S^{ORK} S^{ORK}	LOW VOLTAGE MANUAL CONTROL.	CONNECT TO RELAY PANEL OR TIME CLOCK FOR TIME OF DAY OVERRIDE AS NOTED ON PLANS. PROVIDE MULTI-BUTTON SWITCH AS NOTED ON PLANS. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
S^{D}	LOW VOLTAGE SWITCH WITH 0-10V DIMMER	PROVIDE MULTI-BUTTON SWITCH AS REQUIRED PER SWITCH LEGS SHOWN ON PLANS. PROVIDE POWER PACKS OR ROOM CONTROLLERS AS REQUIRED.
OC1	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO VACANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC2	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO OCCUPANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC3	CEILING MOUNTED ULTRASONIC OR MICROPHONIC OCCUPANCY SENSOR.	SET TO OCCUPANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC4	CORNER MOUNTED DUAL TECH OCCUPANCY SENSOR.	SET TO VACANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
OC5	WET LOCATION PIR OCCUPANCY SENSOR.	CONNECT GARAGE OCCUPANCY SENSORS TO RELAY PANEL SERVING AREA. PROVIDE POWER PACKS FOR CONTROL WHERE NOT LOCATED IN THE GARAGE.
OC6	CEILING MOUNTED DUAL TECH OCCUPANCY SENSOR FOR HIGH BAY APPLICATION.	SET TO VACANCY MODE. PROVIDE ROOM CONTROLS/ POWER PACKS AS NEEDED.
PC	DIGITAL PHOTOSENSOR	CONNECT TO ROOM CONTROLLER OR RELAY PANEL AS NOTED ON PLANS.
DS	DAYLIGHT HARVESTING SENSOR	CONNECT TO ROOM CONTROLLER OR INDIVIDUAL LIGHT FIXTURE FOR DAYLIGHT HARVESTING DIMMING CONTROL.

NOTES:
1. WATTSTOPPER IS THE BASIS OF DESIGN.
2. THE LIGHTING CONTROLS SCHEDULED ARE THE BASIS OF DESIGN. IT IS NOT INTENDED TO LIMIT COMPETITION FROM EQUAL MANUFACTURERS. ALL BIDDERS SHALL SUBMIT THEIR PROPOSED LIGHTING CONTROLS IN SUBMITTAL FORM A MINIMUM OF 10 BUSINESS DAYS PRIOR TO BID DATE FOR REVIEW. APPROVED LIGHTING CONTROL SYSTEMS WILL BE ISSUED IN AN ADDENDUM.
3. BASIS OF DESIGN SHALL BE A HARD-WIRED TYPE SYSTEM, UNLESS NOTED OTHERWISE.

2018 IECC STANDARD SEQUENCE OF OPERATIONS

V0.2 - 01022019

ROOM TYPE	AUTO ON	MANUAL ON (VACANCY)	AUTO OFF (20MIN MAX)	PARTIAL OFF AT NORMAL HOURS	AUTO OFF AFTER HOURS (30MIN MAX)	TIME ON	TIME OFF	ASTRONOMIC OR PHOTOCELL ON/OFF	AUTO STEP CONTROL WITH OFF	AUTO CONTINUOUS DIM WITH OFF	MANUAL BI-LEVEL REDUCTION CONTROL	MANUAL CONTINUOUS DIM CONTROL	MANUAL ON/OFF SWITCH	MANUAL DIMMER SWITCH	DISPLAY, ACCENT, TASK CONTROL	SEQUENCE OF OPERATION
	OCCUPANCY SENSOR					TIME SWITCH			DAYLIGHT CTL		LT REDUCT		MANUAL CONTROL			
Spaces (≤ 300 sq ft)	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
"Enclosed Offices "	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
"Open Plan Office Areas ≤600SqFt zones"	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls. Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Class/Lecture/Training Room	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Conference/Meeting Room	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Copy/Print Room	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Restroom	100%		20 MIN										•			Auto On 100%. Occupancy sensor Auto Off; Manual control.
Lunch/Break Rooms/Lounges	50%		20 MIN							D	•	D	•	D	•	Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Corridor	100%		20 MIN							D		D	•	D	•	Auto On 100%. Occupancy sensor Auto Off; Manual control device; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Stairwell	100%		20 MIN							D		D	•	D		Auto On 100%; Occupancy sensor Auto Off; Manual control; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Storage Room	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Cafeteria / Gym		•					11PM			D	•	D	•	D		Manual On; Time Off with closing hours. After hours 2 hour override from manual control device; Where ≥150W in daylight area, continuous dimming daylighting control with dimmer switch.
Multipurpose Rooms	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Locker Room	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off controls; Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
Lab	50%		20 MIN							D	•	D	•	D		Auto On 50%; Occupancy sensor Auto Off; Manual control and ≥50% light reduction with two on/off switches. Where ≥150W in daylight area, use continuous dimming daylighting control and dimmer switch.
"Warehouse Aisle (Racks)"	50%			50% 20 MIN	20 MIN	OPEN	CLOSE			D	•	D	•			Time On 50%; Occupancy sensor Partial Off ≥50%; Manual control device; After hour occupancy sensor Auto On/Off; Where ≥150W in daylight area, continuous dimming daylighting control.
"Warehouse Open Area"				50% 20 MIN	20 MIN	OPEN	CLOSE			D	•	D	•	•		Time On 50%; Occupancy sensor Partial Off ≥50%; Local control device; After hour occupancy sensor Auto On/Off; Where ≥150W in daylight area, continuous dimming daylighting control.
Restaurant / Dining							CLOSE			D		D				Manual On; Time Off with closing hours. After hours 2 hour override from manual control device; Where ≥150W in daylight area, continuous dimming daylighting control with dimmer switch.
Building Façade / Landscape (Decorative)						CLOSE	OPEN	•								Dusk Auto On with astro time switch or photocell; Evening Time Auto Off no later than one hour after business close. Morning Time Auto On no earlier than one hour before business open; Dawn Auto Off.
"Exterior / Parking Lots / Site Lighting (Setback)"						6AM	12AM	•								Dusk Auto On with astro time switch or photocell; Reduce at least 30% from midnight or up to one hour after business close. Auto On to full at 6:00AM or up to one hour before business open. Dawn Auto Off.
Parking Garage						OPEN	CLOSE									Time On 100% when open. Time Off when closed.

•= Designation for code compliant default control design for spaces without daylighting control
D= Where daylighting control is required, "D" designation indicates controls required in the space for code compliance design
CK= Captive Key Switch system for use in Hotel/Motel and Guest Suites

2

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL	MOUNTING	LAMPS	VOLTAGE	WATTAGE	DESCRIPTION
	PINNACLE	EV3DPM2-A-840HO-PATTERN-FL-U-OL2-1-0-X	SURFACE	4000K LED	277 V	64 VA	3" PERIMETER W/ 2" REGRESS LENS. LENGTHS AND PATTERNS SHOWN ON DRAWINGS
A1	DAYBRITE	2FPZ48L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
A1E	DAYBRITE	2FPZ48L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
A2	DAYBRITE	2FPZ42B840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (LOW OUTPUT)
A2E	DAYBRITE	2FPZ42B840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (LOW OUTPUT). PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
A3	DAYBRITE	2FPZ60L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (HIGH OUTPUT)
A3E	DAYBRITE	2FPZ60L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL (HIGH OUTPUT). PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
AW1	ALKCO	2ESG-70L-940-4-125CP-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 ARCHITECTURAL, LISTED FOR WET LOCATIONS
AW1E	ALKCO	2ESG-70L-940-4-125CP-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 ARCHITECTURAL, LISTED FOR WET LOCATIONS. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
B1E	DAYBRITE	2FPZ38L840-4-DS-UNV-DIM	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
C1	PINNACLE	EV3DPM2-A-840HO-PATTERN-FL-U-OL2-1-0-X	SURFACE	4000K LED	277 V	64 VA	3" PERIMETER W/ 2" REGRESS LENS. LENGTHS AND PATTERNS SHOWN ON DRAWINGS
D1E	LIGHTOLIER	6RN / C6L15840WZ10U / C6RDLCC	RECESSED	4000K LED	277 V	26 VA	6" RECESSED ROUND APERTURE LED DOWNLIGHT, LISTED FOR WET LOCATIONS. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
FE	DAYBRITE	FSS4-55L-840-UNV-DIM / FSSWG4	SURFACE / CHAIN	4000K LED	277 V	45 VA	4' LED STRIP FIXTURE, CHAIN HUNG IN ROOMS WITHOUT CEILINGS, PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
G1	DAYBRITE	FHG12L840-UNV-W	RECESSED	4000K LED	277 V	121 VA	HIGH CEILING 1X2 LED FIXTURE WITH WIRE GUARD
G1E	DAYBRITE	FHG12L840-UNV-W	SURFACE	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
G2	DAYBRITE	FHG18L840-UNV-W	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
G2-ALT	DAYBRITE	FBY-18L-840-UNV-LFA / FBY-WG	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
G2E	DAYBRITE	FHG18L840-UNV-W	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
G2E-ALT	DAYBRITE	FBY-18L-840-UNV-LFA / FBY-WG	RECESSED	4000K LED	277 V	60 VA	RECESSED LED 2X4 FLAT PANEL
LP1	PINNACLE	EX4D-A-N-840-XX-U-OL2-1-X-FINISH	<varies>	4000K LED	277 V	58 VA	SUSPENDED 4" SATINE FLAT LENS LINEAR
LP1E	PINNACLE	EX4D-A-N-840-XX-U-OL2-1-X-FINISH	<varies>	4000K LED	277 V	58 VA	SUSPENDED 4" SATINE FLAT LENS LINEAR. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
LR1	PINNACLE	EV4D-A-840HO-XX-U-OL2-1-X-FINISH	RECESSED	4000K LED	277 V	60 VA	RECESSED 4" SATINE FLAT LENS LINEAR (HIGH OUTPUT)
LR1E	PINNACLE	EV4D-A-840HO-XX-U-OL2-1-X-FINISH	RECESSED	4000K LED	277 V	60 VA	RECESSED 4" SATINE FLAT LENS LINEAR (HIGH OUTPUT) PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
LR3	PINNACLE	EV4D-A-840VHO-LENGTH-X-U-OL2-1-X-FINISH	SURFACE / CHAIN	4000K LED	277 V	50 VA	4' LED STRIP FIXTURE, CHAIN HUNG IN ROOMS WITHOUT CEILINGS, PROVIDE WIREGUARD
LR3E	DAYBRITE	FSS4-55L-840-UNV-DIM / FSSWG4	SURFACE / CHAIN	4000K LED	277 V	50 VA	4' LED STRIP FIXTURE, CHAIN HUNG IN ROOMS WITHOUT CEILINGS, PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
LRWE	AXIS	EXAR-500-8040-SO-4-FINISH-UNV-DP-1-DF	RECESSED	4000K LED	277 V	60 VA	4" RECESSED LINEAR W/ FLANGE, LISTED FOR WET LOCATIONS. PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
WP1E	GARCO	GCM-A05-740-T3M-UNV-FINISH	SURFACE	4000K LED	277 V	24 VA	FULL CUTOFF WALL PACK WITH TYPE 3 OPTIC SYSTEM, LISTED FOR WET LOCATIONS. PROVIDE WIREGUARD. PROVIDE WITH "GTD" BY LIGHTING CONTROLS MANUFACTURER.
X1	EMERGI-LITE	AAP SERIES	UNIVERSAL	LED	277 V	1 VA	PRECEPTOR SERIES, DIE-CAST ALUMINUM LED EXIT SIGN.

NOTES:
1. LIGHTING FIXTURE CATALOG NUMBERS AND DESCRIPTIONS ARE SCHEDULED FOR ESTABLISHING QUALITY, APPEARANCE AND PERFORMANCE OF THE FIXTURES AS REQUIRED BY THE DESIGN. EXACT CATALOG NUMBERS DESCRIBING MOUNTING CONDITIONS, FINISHES AND REQUIREMENTS RELATED TO TRIMS AND LENS FOR ALL FIXTURES SHALL BE CONFIRMED (BY THE CONTRACTOR) WITH THE ROOM FINISH SCHEDULE AND REFLECTED CEILING PLANS, INCLUDING GRID TYPES, ON THE ARCHITECTURAL DRAWINGS PRIOR TO BIDDING. FIXTURES SHALL BE SUBMITTED ACCORDING TO THE CONDITIONS INDICATED ON THE ARCHITECTURAL PLANS. REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. THE NEW LIGHT FIXTURES SCHEDULED ARE THE BASIS OF DESIGN. IT IS NOT INTENDED TO LIMIT COMPETITION FROM EQUAL MANUFACTURERS. ALL BIDDERS SHALL SUBMIT THEIR PROPOSED LIGHT FIXTURES IN SUBMITTAL FORM A MINIMUM OF 10 BUSINESS DAYS PRIOR TO BID DATE FOR REVIEW. APPROVED LIGHT FIXTURES WILL BE ISSUED IN AN ADDENDUM.

2

HMS LIGHTING CONTACTOR SCHEDULE

MARK	POLES	AMPS/ POLES	COIL VOLTAGE	AREA SERVED	CIRCUIT NO.
LCH-1	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCH-2	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCH-3	2	20	120	BACK-LIT LETTERING	SEE PLANS
LCH-4	2	20	120	EXTERIOR LIGHTS	SEE PLANS

LIGHTING CONTACTOR NOTES:
1. ALL LIGHTING CONTACTORS SHALL BE CONTROLLED VIA BAS WITH OWNER PROVIDED SCHEDULE AND SEQUENCE OF OPERATIONS PROVIDED ON THE LIGHTING PLANS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTROLS CONTRACTOR TO PROVIDE ADDITIONAL BAS CONTROL POINTS TO EACH LIGHTING CONTACTOR AS REQUIRED.
2. EACH CONTACTOR SHALL HAVE HAND-OFF-AUTO (H-O-A) SWITCH ADJACENT TO CONTACTOR.
3. EACH CONTACTOR SHALL BE PROVIDED WITH A MINIMUM OF 2 SPARE POLES, IN ADDITION TO THE QUANTITY OF POLES INDICATED ABOVE.
4. CONTACTORS SHALL BE LOCATED IN THE ELECTRICAL ROOMS WHERE THE ASSOCIATED CIRCUITS ORIGINATE FROM. LOCATE ADJACENT TO ASSOCIATED PANEL.

AMS LIGHTING CONTACTOR SCHEDULE

MARK	POLES	AMPS/ POLES	COIL VOLTAGE	AREA SERVED	CIRCUIT NO.
LCA-1	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCA-2	2	20	120	EXTERIOR LIGHTS	SEE PLANS
LCA-3	2	20	120	EXTERIOR LIGHTS	SEE PLANS

LIGHTING CONTACTOR NOTES:
1. ALL LIGHTING CONTACTORS SHALL BE CONTROLLED VIA BAS WITH OWNER PROVIDED SCHEDULE AND SEQUENCE OF OPERATIONS PROVIDED ON THE LIGHTING PLANS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTROLS CONTRACTOR TO PROVIDE ADDITIONAL BAS CONTROL POINTS TO EACH LIGHTING CONTACTOR AS REQUIRED.
2. EACH CONTACTOR SHALL HAVE HAND-OFF-AUTO (H-O-A) SWITCH ADJACENT TO CONTACTOR.
3. EACH CONTACTOR SHALL BE PROVIDED WITH A MINIMUM OF 2 SPARE POLES, IN ADDITION TO THE QUANTITY OF POLES INDICATED ABOVE.
4. CONTACTORS SHALL BE LOCATED IN THE ELECTRICAL ROOMS WHERE THE ASSOCIATED CIRCUITS ORIGINATE FROM. LOCATE ADJACENT TO ASSOCIATED PANEL.

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS
11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT
10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE 117260 LICENSED PROFESSIONAL ENGINEER
DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

Δ	Date	Description
2	06/04/2026	Addendum 2

DBR
713.914.0888 p
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TD LB/MS TN SS/LG

ISSUE FOR CONSTRUCTION

E5.01
ELECTRICAL SCHEDULES

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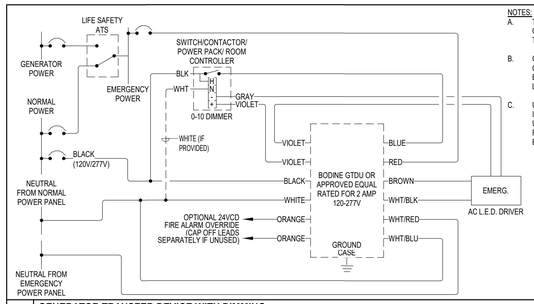


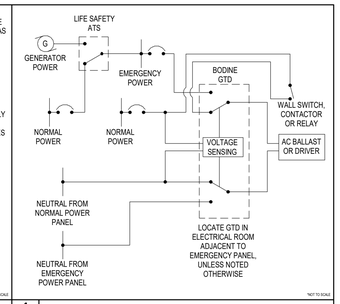
NOTES:

A. THE WHITE/BLACK WIRE MUST BE ON THE SAME BRANCH CIRCUIT AS THE BLACK WIRE.

B. GTDU EMERGENCY LIGHTING CONTROL DEVICE WIRED AS BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH.

C. USE THIS CONFIGURATION FOR INDIVIDUAL FIXTURES. COMMONLY USED ON CLASSROOM, RESTROOMS, INDIVIDUAL OFFICES ETC.

2 **GENERATOR TRANSFER DEVICE WITH DIMMING OVERRIDE - UL1008**



1 **BODINE 20 AMP GTD DEVICE - UL 1008**

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS

11207 WILL CLAYTON PKWY, HUMBLE, TX 77346

HUMBLE INDEPENDENT SCHOOL DISTRICT

10203 BIRCHRIDGE DRIVE
HUMBLE, TX 77338

BRENT B. MOE
117260
LICENSED
PROFESSIONAL ENGINEER

DATE: 06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUE FOR CONSTRUCTION

E6.02
ELECTRICAL DETAILS

DBR
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TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TDLB/MS TN SS/LG

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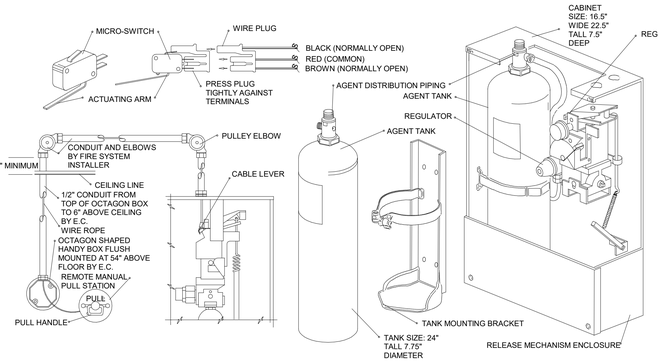


ANSUL MODEL R-102 FIRE PROTECTION SYSTEM AND TANK(S)

ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL POWER DISCONNECT DEVICES FOR ALL EQUIPMENT BELOW THE HOOD, SHUTTING OFF ALL SERVICE, INCLUDING CONTROL VOLTAGE, UPON ACTIVATION OF THE FIRE PROTECTION SYSTEM.

MICRO-SWITCH FURNISHED WITH SYSTEM TO BE INTERWIRED TO THE SHUT-OFF DEVICES FOR THE COOKING EQUIPMENT BY THE ELECTRICAL CONTRACTOR.

ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL AN OCTAGON SHAPED HANDY BOX FOR THE PULL STATION AT 48" ABOVE THE FLOOR WITH 1/2" CONDUIT FROM THE TOP OF THE BOX TO 6" ABOVE THE CEILING.

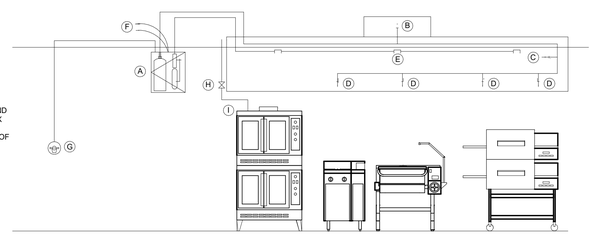
GAS SHUT-OFF VALVE FURNISHED WITH THE SYSTEM (IF REQUIRED) TO BE INSTALLED IN THE GAS LINE SERVING THE COOKING EQUIPMENT BY THE PLUMBING CONTRACTOR. VERIFY SIZE OF GAS LINE.

ALL EXPOSED PIPEWORK TO BE STAINLESS STEEL OR CHROME WHERE EXPOSED.

VERIFY LOCATION OF REMOTE MANUAL PULL STATION. UNIT MUST BE PLACED WITHIN EASY ACCESS OF EXIT DOOR.

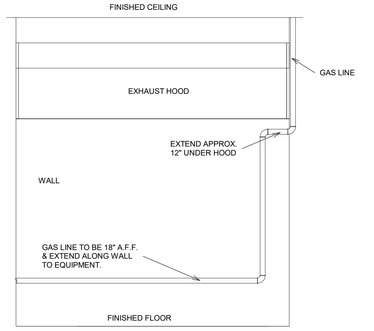
5 1P03.01 HMS - FIRE PROTECTION SYSTEM DETAIL
NOT TO SCALE

NOTE:
REFER TO FDP EQUIPMENT PLAN
FOR SPECIFIC COMPONENTS UNDER HOOD.
ALL EQUIPMENT SHOWN HERE FOR GRAPHICAL REPRESENTATION ONLY.



- (A) S/S ENCLOSURE W/AGENT TANK AND NITROGEN CARTRIDGE
- (B) DUCT NOZZLE(S)
- (C) PLENUM NOZZLE(S)
- (D) SURFACE PROTECTION NOZZLE(S)
- (E) FUSIBLE LINK(S)
- (F) (2) WIRES FROM FIRE SYSTEM TO SHUNT TRIP BREAKERS FOR SHUT DOWN OF ELECTRICAL CONNECTIONS LOCATED BENEATH EXHAUST HOOD DURING FIRE MODE
- (G) REMOTE FIRE PULL
- (H) GAS VALVE
- (I) GAS SUPPLY (AS REQUIRED)

6 1P03.01 HMS - FIRE PROTECTION SYSTEM TYPICAL DETAIL
NOT TO SCALE



4 1P03.01 HMS - EXHAUST HOOD - GAS LINE ROUTING DETAIL
NOT TO SCALE

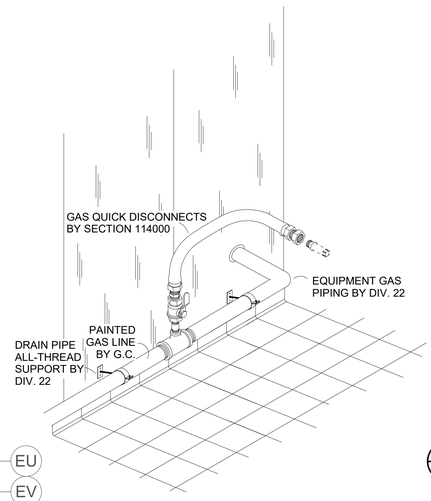
PLUMBING KEYED NOTES

- P2.4 MODIFY AS REQUIRED AND CONNECT NEW VENT ABOVE CEILING TO EXISTING OF EQUAL OR GREATER SIZE.
- P3.2 MODIFY AS REQUIRED AND CONNECT NEW COLD WATER ABOVE CEILING. SIZE AS NOTED.
- P3.4 DROP AND EXTEND 3/4" HOT AND COLD WATER TO SERVE FIXTURE(S).
- P3.6 DROP AND EXTEND 3/4" COLD WATER TO SERVE FIXTURE(S).
- P3.8 DROP COLD WATER DOWN INSIDE CHASE/WALL AND EXTEND TO SERVE ADJACENT FIXTURE(S). SIZE AS NOTED.
- P3.12 MODIFY AS REQUIRED AND CONNECT NEW HOT WATER ABOVE CEILING. SIZE AS NOTED.
- P3.16 MODIFY AS REQUIRED AND CONNECT NEW HOT AND COLD WATER ABOVE CEILING TO EXISTING. SIZE AS NOTED.
- P6.1 2" GAS (4 OZ) DOWN IN EXISITING HOODED ROOF PENETRATION TO KITCHEN EQUIPMENTS. SIZE AS NOTED.
- P6.4 2" GAS (4 OZ) DOWN TO MANIFOLD 40" A.F.F. BEHIND EQUIPMENT. ROUTE GAS LINE THRU MANUAL VALVE AND ANSUL VALVE. THEN ROITE PIPE EXPOSED LOW ON FACE OF THE WALL TO SERVE COOKLINE EQUIPMENT. PROVIDE LINE SIZED SHUTOFF VALVE AND FLEXIBLE CONNECTION AT EACH APPLIANCE GAS INLET.
- P8.8 INSTALL NEW PLUMBING FIXTURE IN THIS LOCATION AND CONNECT TO EXISTING/REWORKED/ADJUSTED/REPLACED WATER RISER. PROVIDE NEW TRIMS AND ACCESSORIES (FLEX CONNECRON, STOPS, P-TRAPS, WAX RING, INSULATION).
- P8.11 EXISTING MOP SINK IN NEW LOCATION.
- P10.3 EXISTING DOMESTIC COLD WATER LINE TO BE REMOVED BACK TO MAIN AND CAPPED FOR ABANDONMENT.
- P10.6 EXISTING SANITARY WASTE TO BE DEMOLISHED TO THIS POINT AND CAPPED FOR ABANDONMENT.
- P10.7 EXISTING FLOOR SINK TO BE DEMOLISHED.
- P10.8 EXISTING MOP SINK TO BE DISCONNECTED AND RELOCATED. RE: NEW PLANS.
- P10.9 EXISTING DOMESTIC COLD WATER AND HOT WATER PIPING TO BE DEMOLISHED BACK TO THE MAIN AND CAPPED FOR FUTURE TIE IN.
- P10.11 EXISTING HOT WATER TO BE REMOVED BACK TO MAIN AND CAPPED FOR ABANDONMENT.
- P10.13 EXISTING FLOOR CLEANOUT TO BE DEMOLISHED.
- P10.23 EXISTING GAS LINE (4 OZ) DROP DOWN FROM ROOF. EXISTING GAS LINE TO BE REMOVED BACK UP TO ROOF.

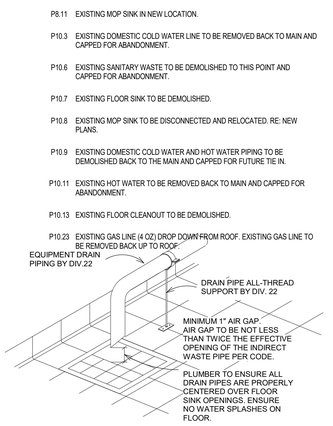
FOODSERVICE PLUMBING SCHEDULE						
FDP PNO	FDP PSIZE	FDP PCONN	FDP PSERVICE TO	FDP PLOC	FDP PAFF	FDP PREMARKS
P5	3/4"	H & C WATER	JANITOR SINK	WALL	48"	JANITOR SINK BY PLUMBER
P6	4"	FLOOR DRAIN	JANITOR SINK	FLOOR	VERIFY	JANITOR SINK BY PLUMBER
P10	VERIFY	FLOOR DRAIN	GENERAL AREA DRAIN	FLOOR	VERIFY	LOCATE PER ENGINEER'S DRAWING
P11C	1/2"	H & C WATER	FAUCET	WALL	18"	FURNISHED & INSTALLED BY DIV. 22
P11D	1 1/2"	DIRECT DRAIN	HAND SINK	WALL	15"	FURNISHED & INSTALLED BY DIV. 22
P12	12"SQ.	FLOOR SINK	EQUIPMENT	FLOOR	0"	3/4 GRATE
P14	3/4"	H & C WATER	FAUCET	WALL	18"	BTC; S/S FLEX HOSE TO MIXING VALVE
P632	3/4"	NATURAL GAS	RANGE	WALL	18"	BTC: RE: NOTE #3 & #9 - 184 MBTU/HR
P906	3/4"	H & C WATER	CLOTHES WASHER	WALL	48"	BTC; VALVE BOX
P906A	2"	INDIRECT DRAIN	CLOTHES WASHER	WALL	48"	VALVE BOX
P909	3/4"	COLD WATER	WATER/ ICE	WALL	60"	BTC
P909A	12" SQ.	FLOOR SINK	ICE MACHINE	FLOOR	0"	FULL GRATE

HW	HOT WATER		IW	INDIRECT WASTE (EXTEND TO F.D.)
CW	COLD WATER		FFD	FUNNEL FLOOR DRAIN
HTW	180 F HOT WATER		EVC	EXHAUST VENT CONNECTION
CWS	CHILLED WATER		SVC	SUPPLY VENT CONNECTION
G	GAS SUPPLY		FR	DIRECT-CONNECTED FLUE RISER
SS	STEAM SUPPLY		PS	PIPE SLEEVE
CR	CONDENSATE RETURN		AFF	ABOVE FINISHED FLOOR
DR	DRAIN		ST	STUB UP/OUT
FD	FLOOR DRAIN		BTC	BRANCH TO CONN. ON EQUIP
FS	FLOOR SINK		DFA	DROP FROM ABOVE
			CA	COMPRESSED AIR

9 1P03.01 HMS - PLUMBING SYMBOLS
NOT TO SCALE



7 HMS - GAS DISCONNECT DETAIL
1P03.01 NOT TO SCALE

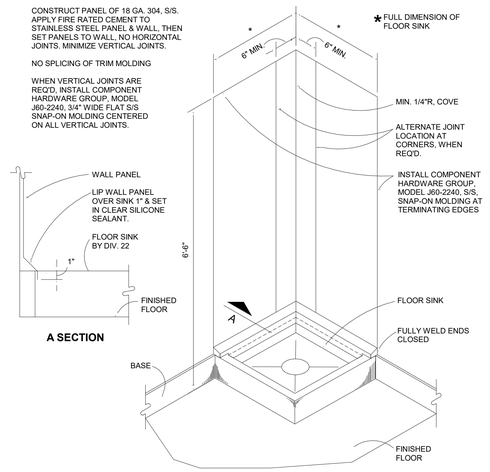


3 1P03.01 HMS - DRAIN PIPING FASTENER DETAIL
NOT TO SCALE

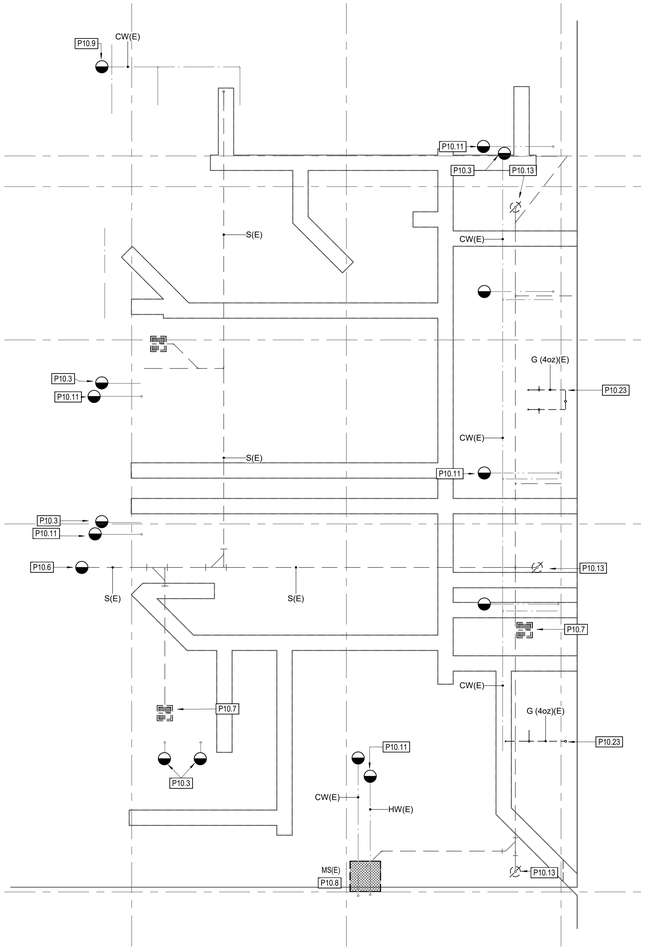
CONSTRUCT PANEL OF 18 GA. 304, S/S. APPLY FIRE RATED CEMENT TO STAINLESS STEEL PANEL & WALL, THEN SET PANELS TO WALL. NO HORIZONTAL JOINTS. MINIMIZE VERTICAL JOINTS.

NO SPLICING OF TRIM MOLDING

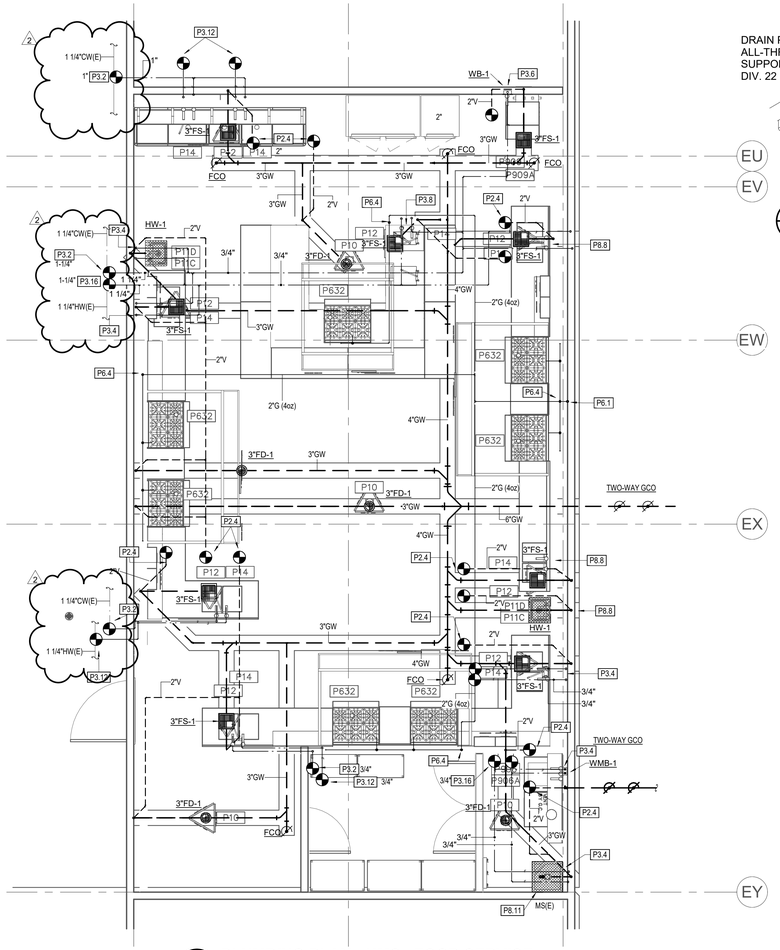
WHEN VERTICAL JOINTS ARE REQ'D, INSTALL COMPONENT HARDWARE GROUP, MODEL J60-2240, 3/4" WIDE FLAT S/S SNAP-ON MOLDING CENTERED ON ALL VERTICAL JOINTS.



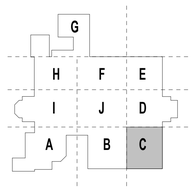
8 1P03.01 HMS - JANITOR SINK - WALL PANEL DETAIL
NOT TO SCALE



1 1P03.01 DEMOLITION PLUMBING PLAN - HMS - FOOD SERVICE
1/4" = 1'-0"



2 1P03.01 PLUMBING PLAN - HMS - FOOD SERVICE
1/4" = 1'-0"



KEY PLAN

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HUMBLE MIDDLE SCHOOL ADDITIONS & RENOVATIONS
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HUMBLE INDEPENDENT SCHOOL DISTRICT
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HUMBLE, TX 77338

STATE OF TEXAS
ANTHONY S. JASPAL
95728
LICENSED
PROFESSIONAL ENGINEER
06/04/2026

PROJECT NO. 24-042
DATE: 12/19/2025
DRAWN BY: DBR CHECKED BY: DBR
REVISIONS:

No.	Date	Description
2	06/04/2026	Addendum 2

ISSUE FOR CONSTRUCTION

1P03.01
HMS - PLUMBING PLAN - FOOD SERVICE

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TBPE Firm Registration No. 2234
DBR Project # 240322
BM RM/TDLB/MS TN SS/LG

Autodesk Docs://24-042 Humble ISD - HMS and AMS Addition - Renovation/240322_HISD HMS AND AMS ADDITION_P24.rvt
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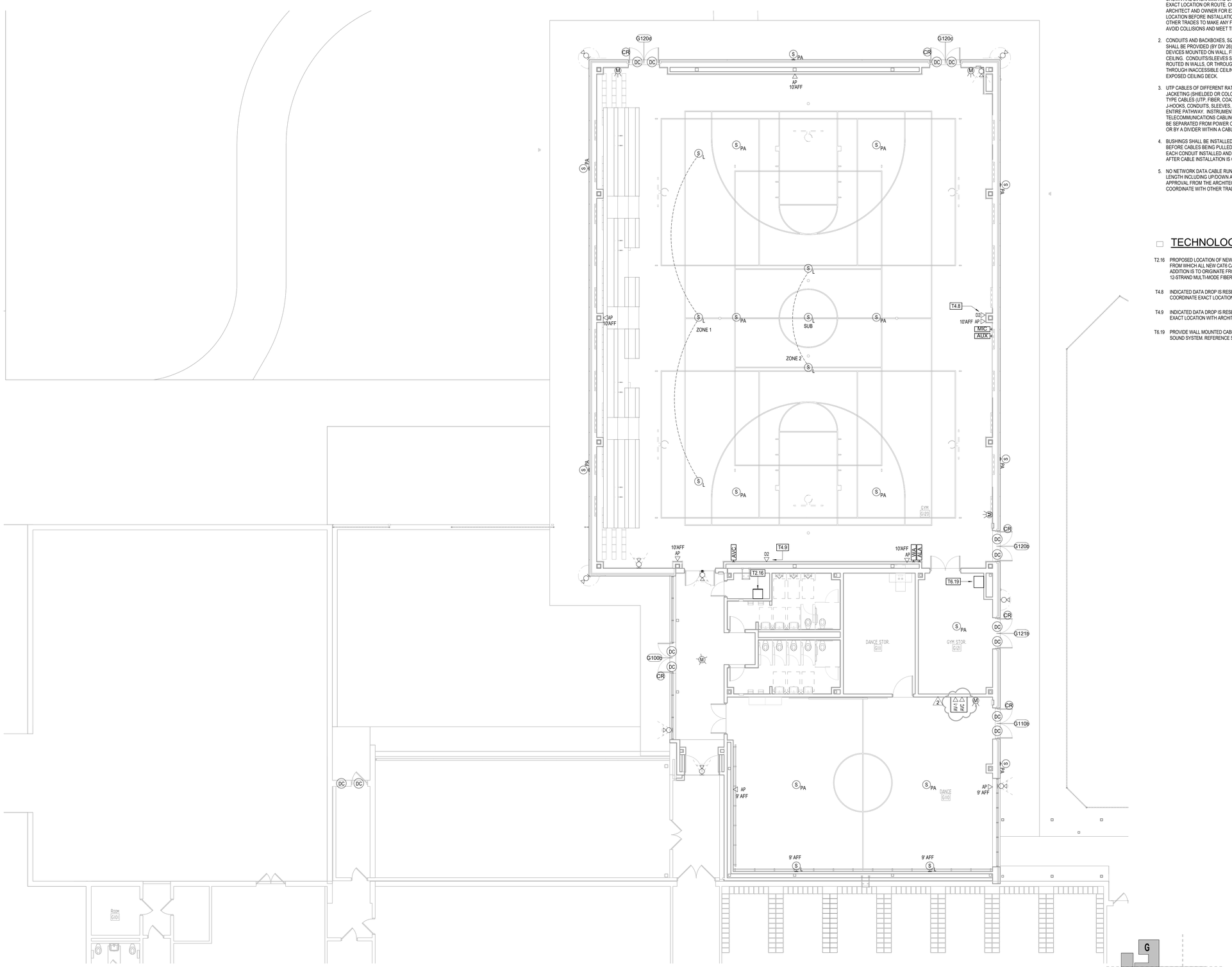
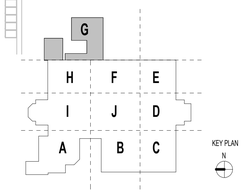


1 T02.02G **TECHNOLOGY PLAN - FIRST LEVEL - HMS - SEGMENT 'G'**
1/8" = 1'-0"



KEY PLAN N

GENERAL FLOOR PLAN NOTES:

1. ALL TECHNOLOGY DEVICES, OUTLETS AND CABLE/CONDUIT PATHWAYS SHOWN ARE DIAGRAMMATIC ONLY AND ARE NOT MEANT TO SHOW THE EXACT LOCATION OR ROUTE. CONTRACTOR SHALL VERIFY WITH ARCHITECT AND OWNER FOR EXACT ROUTE, MOUNTING HEIGHT, AND LOCATION BEFORE INSTALLATION, AND SHALL COORDINATE WITH OTHER TRADES TO MAKE ANY FIELD ADJUSTMENTS AS NECESSARY TO AVOID COLLISIONS AND MEET THE PROJECT REQUIREMENTS.
2. CONDUITS AND BACKBOXES, SIZED PER DIV 27/28 SPECIFICATIONS, SHALL BE PROVIDED (BY DIV 26) FOR ALL TECHNOLOGY SYSTEM DEVICES MOUNTED ON WALL, FLOOR, AND OPEN OR SOLID FINISH CEILING. CONDUITS/SLEEVES SHALL BE PROVIDED FOR ALL CABLES ROUTED IN WALLS, OR THROUGH FULL HEIGHT PARTITIONS, OR THROUGH INACCESSIBLE CEILING PLENUM, OR THROUGH SPACES WITH EXPOSED CEILING DECK.
3. UTP CABLES OF DIFFERENT RATING (CAT 6, CAT 6A, CLASS 4 POWER) OR JACKETING (SHIELDED OR COLORED SHEATH) OR DIFFERENT MEDIA TYPE CABLES (UTP, FIBER, COAX, ETC.) SHALL BE ROUTED IN SEPARATE J-HOOKS, CONDUITS, SLEEVES, CORES, DUCTS, ETC. THROUGHOUT THE ENTIRE PATHWAY. INSTRUMENTATION, SIGNAL, AND TELECOMMUNICATIONS CABLING (INCLUDING CLASS 4 POWER), SHALL BE SEPARATED FROM POWER CABLING WITH A SEPARATE CABLE TRAY OR BY A DIVIDER WITHIN A CABLE TRAY.
4. BUSHINGS SHALL BE INSTALLED AT EACH END OF THE CONDUITS BEFORE CABLES BEING PULLED THROUGH. PROVIDE PULL STRING IN EACH CONDUIT INSTALLED AND LEAVE ONE FOR FUTURE PULLING AFTER CABLE INSTALLATION IS COMPLETE.
5. NO NETWORK DATA CABLE RUN SHALL EXCEED 295 FEET IN TOTAL LENGTH INCLUDING UP/DOWN AND SERVICE LOOPS WITHOUT PRIOR APPROVAL FROM THE ARCHITECT AND ENGINEER. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PROPER PATHWAY PLANNING.

TECHNOLOGY KEYED NOTES

T2.16 PROPOSED LOCATION OF NEW WALL MOUNTED NETWORK ENCLOSURE FROM WHICH ALL NEW CAT6 CABLING REQUIRED FOR THIS SECTION OF THE ADDITION IS TO ORIGINATE FROM. CONTRACTOR SHALL PROVIDE ONE (1) 12-STRAND MULTI-MODE FIBER FROM MDF TO THIS NETWORK ENCLOSURE.

T4.8 INDICATED DATA DROP IS RESERVED FOR SCOREBOARD CONTROL. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

T4.9 INDICATED DATA DROP IS RESERVED FOR SCOREBOARD. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

T6.19 PROVIDE WALL MOUNTED CABINET RESERVED FOR GYMNASIUM LOCAL SOUND SYSTEM. REFERENCE SPECIFICATIONS FOR MORE INFORMATION.

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REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Adam Collech
BICSI ID # 333200
EXPIRES 12-31-26
RCDD

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HMS - TECHNOLOGY PLAN - SEGMENT 'G'

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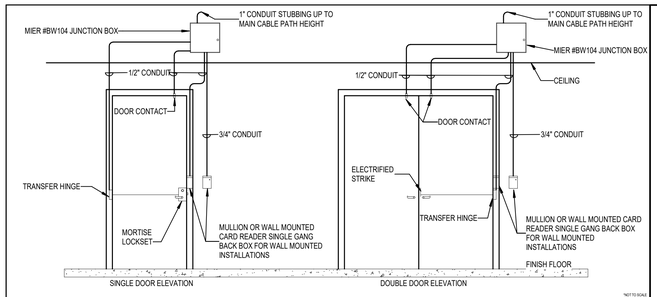
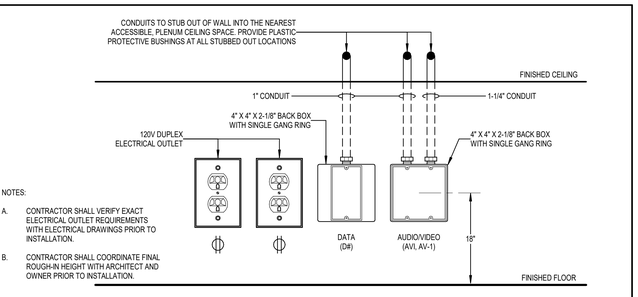
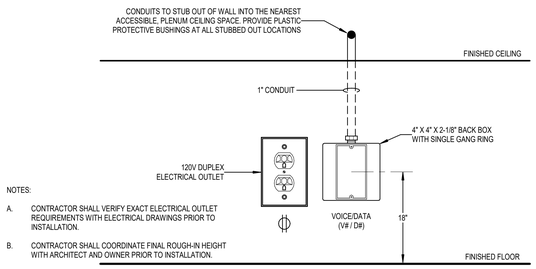


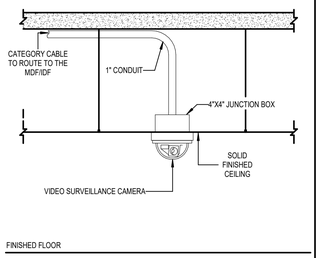
1 ACCESS CONTROL - ELECTRIFIED STRIKE DOOR ELEVATION
NOT TO SCALE



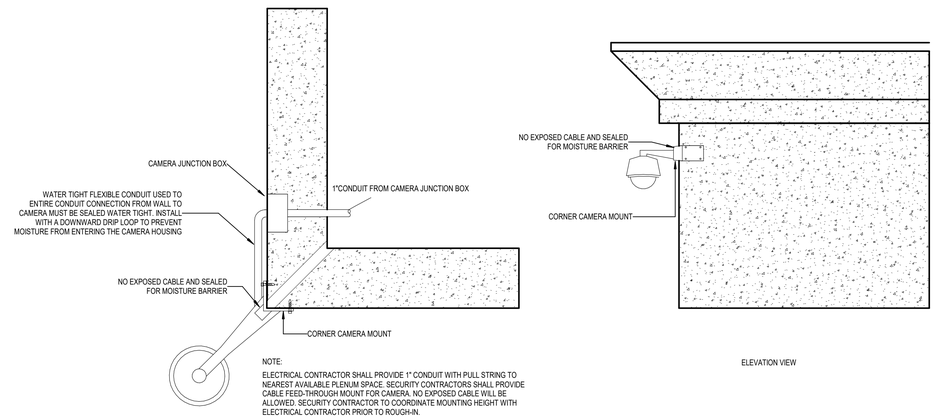
2 TYPICAL TEACHERS WORK AREA OUTLET
NOT TO SCALE



3 RACEWAY DETAIL - TYPICAL VOICE/DATA OUTLET
NOT TO SCALE



4 EXTERIOR/INTERIOR SOLID CEILING MOUNT CAMERA
NOT TO SCALE



5 LVVSS-05 - CORNER MOUNTING DETAIL
NOT TO SCALE

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