TOMBALL INDEPENDENT SCHOOL DISTRICT

RFP/CSP #1002-26 Issued: June 5th, 2026
REQUEST FOR COMPETITIVE SEALED PROPOSALS
FOR THE CONSTRUCTION OF A NEW
HVAC Control System at the Tomball High School

Addendum No. 03

July 22nd, 2026

This Addendum contains the following:

I. Notes From The Owner
II. Clarification(s), Question(s) and Response(s)
III. Change(s) to the RFP Document
IV. Changes to the Drawings & Specifications

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I. Notes From The Owner

A. Owner's Contingency conflict within RFP sections:
   a. On page 4, it states the Owners Contingency will be $200,000.00.
   b. In Specification Section 2.1.A.1 it states the Owners Contingency is $330,000.00
   c. To resolve the conflict as stated in a.& b. above utilize a contingency of $330,000.00 and it is to be included into your price.

B. In Addendum #2 the due date was extended to August 4th, 2026.
   a. The time was not specified.
   b. The due date time shall be 2pm.

C. The Probable Schedule of Events has been modified as shown in the highlighted fields on the following page.

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PROBABLE SCHEDULE OF EVENTS

	Date	Time	Event
A.	June 5, 2026 June 8, 2026 June 12, 2026		1st Advertisement Posted for this CSP. RFP Posted on TISD Website above. 2nd Advertisement Posted for this CSP.
B.	June 18, 2026	1:00 P.M.	**List of Your References due to:** Chelsea Randle Email: clrandle@lan-inc.com Phone: (713) 821-0395
C.	June 16, 2026	11:00 A.M.	**Pre-Proposal Conference (Optional)** 1110 Baker Drive Tomball, Texas 77375 Site Visit may follow this conference
D.	July 9, 2026	12:00 P.M.	**Deadline for questions**
E.	July 28 2026	2:00 P.M.	**Final Addendum Posted**
F.	August 4, 2026	2:00 P.M.	**Submission of Proposals Due** Attn: Mr. Zachery Boles, CFO 1110 Baker Drive Tomball, Texas 77375
G.	September 14, 2026	5:00 P.M.	**Anticipated approval by Board of Trustees**
H.	September 28, 2026 (approximate)		**Notice to Proceed**
I.	**July 17, 2027**	**11:59 P.M.**	**Substantial Completion Date**

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II. Clarification(s), Questions and Response(s)

None

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III. Changes to the RFP Document

On RFP Page 9

Delete the verbiage between the words "… and austere in form." AND the indented words "1. TAB A – "

Insert the words below in that same location:

"The Proposal should be in the format of a written report and should be prepared on 8-1/2" x 11" sheets (single-sided) unless noted below and bound with coil or three ring binding.

Submit a total of 3 copies of your proposal as follows:

- One (1) original, clearly marked on the cover with the word "Original".
- Two (2) copies, clearly marked on the cover with the word "Copy".
- Submit a flash drive that contains the following:
  - PDF of the entire original copy of the proposal.
  - The completed Microsoft Excel File supplied in the District's RFP website provided in native file format.
    - A PDF of this file may be provided as a record and included on the flash drive with the completed Excel File.

Submit the one (1) original containing an executed version of the following Proposal documents:"

IV. Changes to the Drawings & Specifications

Please see DBR Addendum 03 dated 7/20/2026 below.

SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY

Addendum 03

DATE
07/20/2026

ADDENDUM NO.
3

PROJECT 260018.001| Tomball ISD-Chiller Pkg 2-Tomball HS

The work described herein shall be added to the scope of work defined by the contract documents or it shall modify the scope of work defined by the contract documents as described. This work shall become a part of the contract documents by addendum.

GENERAL

A. Clarified that all existing chilled water and hot water control valve actuators are to be replaced, and if existing control valves are pneumonic valves, they are to be replaced along with their associated control valve actuator.
B. Called for all control panels to be removed and replaced with new control panels and additional components to provide a complete and fully operational control system. Refer to new keyed notes M0.24 and M3.15 and associated sheet revisions described below.
C. Clarified that all existing lighting controls need to be integrated into the new BAS system in order for the owner to locate and control all lighting points. Graphic and schedules to include the location, contactor number, and room number. Updated the drawings to show the rooms that have lighting controls and added keyed note E10.3. Refer to revision descriptions below.

SPECIFICATIONS

Item 01 **Specification 23 09 63 – Energy Management and Controls System (EMCS)**

A. Revised 1.4 ELECTRICAL POWER PROVISIONS Section A.
B. Added items 1. to 7. to Section A of 2.10 SOFTWARE OVERVIEW section.
C. Revised 2.13 HVAC VENTILLATION SHUTDOWN SWITCH.
D. Revised 2.14 LABELING AND WARNING NOTICES.
E. Added 2.24 TIMED LOCAL OVERRIDE SWITCHES.
F. Added item to Section 3.3 INSTALLATION OF COMPONENTS.

Item 02 **Specification Section 23 73 16 – Packaged Air Handling Unit**

A. Removed section in its entirety from project and scope.

Item 03 **Specification Section 23 74 16 – Rooftop Heating and Cooling Units (Electric Cooling – Gas Heating)**

A. Removed section in its entirety from project and scope.

Item 04 **Specification Section 23 74 19 – Rooftop Heating and Cooling Units (Electric Cooling – Electric Heating)**

A. Removed section in its entirety from project and scope.

Item 05 Specification Section 23 74 21 – Variable Air Volume Rooftop Units

A. Removed section in its entirety from project and scope.

DRAWINGS CHANGES – RE-ISSUED SHEETS

Item 06 Sheet 0.0 – COVER SHEET

A. Updated the project sheet index to show the addition of 5 new sheets M2.21, M2.22, E2.21I, E2.21L and E2.21N.
B. Updated 'PROJECT TEAM' section.

Item 07 Sheet M0.11 – MECHANICAL GENERAL NOTES

A. Added "SCOPE OF WORK NOTES" section.

Item 08 Sheet M2.21 – MECHANICAL PLAN LEVEL 1 – OVERALL

A. Added new sheet in its entirety.

Item 01 Sheet M2.21B – MECHANICAL PLAN LEVEL 1 – AREA B

A. Clarified location of existing thermostats to be replaced with combination temperature/humidity sensor for AHU-05.
B. Added DDC in MECHANICAL M-4.
C. Added keyed note M3.3.
D. Added keyed note M3.15 to control panel.

Item 02 Sheet M2.21D – MECHANICAL PLAN LEVEL 1 – AREA D

A. Clarified location of existing thermostats to be replaced for MZU-01.
B. Clarified location of existing thermostats to be replaced for MZU-02.
C. Added DDC in MECH M-8.
D. Added keyed note M0.24 to control panel.
A. Revised keyed note M0.16. Applicable to HWC-10-1, HWC-11-1 and other multi zone hot water coils not listed but located in this area.

Item 03 Sheet M2.21E – MECHANICAL PLAN LEVEL 1 – AREA E

A. Added DDC in MECHANICAL M-18.
B. Clarified location of existing thermostat and humidistat to be replaced with combination temperature/humidity sensor for AHU-14.
C. Clarified location of existing thermostat and humidistat to be replaced with combination temperature/humidity sensor for AHU-15.
D. Added keyed note M0.24 to control panel.
E. Revised keyed note M0.16. Applicable to HWC-22-1 and other multi-zone hot water coils not listed but located in this area.
F. Clarified location of existing thermostat to be replaced in 1512 DRAMA CLASSROOM.

Item 04 Sheet M2.21F – MECHANICAL PLAN LEVEL 1 – AREA F

A. Clarified location of existing thermostats to be replaced in 1255 CUSTODIAN LOUNGE.

Item 05 **Sheet M2.21G – MECHANICAL PLAN LEVEL 1 – AREA G**

A. Clarified location of existing thermostats to be replaced in 1256 DRILL TEAM/DANCE.
B. Clarified location of existing thermostat to be replaced for AHU-07-II.

Item 06 **Sheet M2.21H – MECHANICAL PLAN LEVEL 1 – AREA H**

A. Clarified naming and quantity of EXISTING MZU-03 Hot Water Coils.
B. Clarified location of FCU-09, 10, 11, and 12 existing thermostats to be replaced.
C. Added DDC in MECH M-10, MECH M-11 and MECH M-12.
D. Added keyed note M0.24 to control panels.
E. Added keyed note M3.15.
F. Revised keyed note M0.16. Applicable to HWC- 1.01, HWC- 1.02, HWC- 1.03, HWC- 2.01, HWC- 2.02, HWC- 3.01, HWC- 3.02, HWC- 3.03, HWC-13-1 and any other multi zone hot water coils not listed but located in this area.
G. Clarified location of existing thermostats to be replaced in C13H CORRIDOR.
H. Clarified location of existing thermostat to be replaced in corridor between 1342/1344 RESTROOMS.
I. Clarified location of existing thermostat to be replaced in 1345 SCIENCE PLANNING.
J. Clarified location of existing thermostat to be replaced in1351 SOCIAL STUDIES.
K. Clarified location of existing thermostat to be replaced in 1328 SOCIAL STUDIES RESOURCE CLASSROOM.
L. Clarified location of existing thermostat to be replaced in 1329 SOCIAL STUDIES.

Item 07 **Sheet M2.21I – MECHANICAL PLAN LEVEL 1 – AREA I**

A. Added DDC in MECH UNIFORM STORAGE 1500E.
B. Clarified location of existing thermostats to be replaced for FCU-21 and 22.
C. Added keyed note M3.15 to control panel.

Item 08 **Sheet M2.21J –MECHANICAL PLAN LEVEL 1 – AREA J**

A. Clarified location of FCU-30, 31, 32, 33, and 34 existing thermostats to be replaced.
B. Added keyed note M3.6.

Item 09 **Sheet M2.21K – MECHANICAL PLAN LEVEL 1 – AREA K**

A. Clarified location of existing thermostat to be replaced for AHU-07-II.
B. Added DDC to mechanical room north of BOY'S LOCKER/DRESSING 1402.
C. Added DDC panel to MECH M-13.
D. Added keyed note M0.24 to control panel in mechanical room north of BOY'S LOCKER/DRESSING 1402.
E. Added keyed note M3.15 to control panel in MECH M-13.
F. Revised keyed note M0.16. Applicable to HWCs in M-13 MECH and any other multi zone hot water coils not listed but located in this area.
G. Clarified locations of thermostats (2) associated with AHU-06-II and AHU-26 (Roof).

Item 10 **Sheet M2.21M – MECHANICAL PLAN LEVEL 1 – AREA M**

A. Clarified location of existing thermostats to be replaced.

B. Added DDC to MECH M-15 and MECH M-16.
C. Added keyed note M0.24 to control panels.
D. Clarified location of EXISTING FCU-15,16, and 17.
E. Revised keyed note M0.16. Applicable to HWCs in M-15 MECHANICAL and any other multi zone hot water coils not listed but located in this area.

Item 09 Sheet M2.22 – MECHANICAL PLAN LEVEL 2 – OVERALL

A. Added new sheet in its entirety.

Item 11 Sheet M2.22B – MECHANICAL PLAN LEVEL 2 – AREA B

A. Clarified location of existing thermostat to be replaced for AHU-27.
B. Added keyed note M3.3.
C. Added control panel to MECHANICAL M-20.
D. Added keyed note M0.24 to control panel.
E. Revised keyed note M0.16 . Applicable to HWC-19-1, HWC-18-1 and any other multi-zone hot water coils not listed but located in area.

Item 10 Sheet M2.22I – MECHANICAL PLAN LEVEL 2 – MECH MEZZ MR#2

A. Added DDC panel to MR#2 MECH MEZZ.
B. Added keyed note M3.13 to control panel DDC-RTUS.
C. Added keyed note M3.15 to DDC panel.

Item 12 Sheet M2.22M – MECHANICAL PLAN LEVEL 2 – AREA M

A. Clarified location of existing thermostats and humidistats to be replaced with combination thermostat/humidistat for AHU-01-II and AHU-02-II.
B. Added DDC panel to mechanical mezzanine east of gym.
C. Added DDC panel to mechanical mezzanine plan west of gym.
D. Added keyed note M0.24 to control panel in mechanical mezzanine east of gym.
E. Added keyed note M3.3
F. Added keyed note M3.15 to control panel in mechanical mezzanine plan west of gym.

Item 11 Sheet M2.23 –MECHANICAL ROOF PLAN

A. Added keyed note M3.11.
B. Added keyed note M3.12.

Item 12 Sheet M3.01 – DEMOLITION MECHANICAL PLAN LEVEL 1 – KITCHEN/CAFETERIA ALT 1

A. Added keyed note M0.23.
B. Added keyed note M0.10 “EXISTING HUMIDITY SENSOR AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW. APPLICABLE TO ALL SENSORS UNLESS NOTED OTHERWISE”.
C. Clarified location of existing thermostat and humidistat to be replaced for AHU-14.
D. Clarified location of existing thermostat and humidistat to be replaced for AHU-15.
E. Clarified location of FCU-30, 31, 32, 33, and 34 existing thermostats to be replaced.
F. Clarified approximate location of existing AHU-16 motor starter.
G. Clarified location of existing control panels to be replaced in M-18 MECHANICAL.
H. Added keyed note M0.24 to control panel.

I. Revised keyed note M0.16. Applicable to HWC-15-4, HWC-15-2, HWC-15-3, HWC-15-1 1 and any other multi-zone hot water coils not listed but located in area.

Item 13 Sheet M3.02 –MECHANICAL PLAN LEVEL 1 – KITCHEN/CAFETERIA ALT 1

A. Revised size of new HWC-16.
B. Clarified location of existing thermostat to be replaced with combination temperature/humidity sensor for AHU-14.
C. Clarified location of existing thermostat to be replaced with combination temperature/humidity sensor for AHU-15.
D. Clarified location of FCU-30, 31, 32, 33, and 34 existing thermostats to be replaced.
E. Changed keyed note M4.7.
F. Changed 'VFD-AHU-16' to 'MS-AHU-16'
G. Added DDC to M-18 MECHANICAL.
H. Added keyed note M0.24 to control panel.
I. Revised keyed note M0.16. Applicable to HWC-15-4, HWC-15-2, HWC-15-3, HWC-15-1 1 and any other multi-zone hot water coils not listed but located in area.

Item 13 Sheet M3.04 – MECHANICAL PLAN LEVEL 1 – CENTRAL PLANT

A. Added DDC to BOILER ROOM M-14B.
B. Added keyed note M0.24 to control panel.
C. Added keyed note M0.8 to Existing Chillers (CH-1, CH-2, CH-3, CH-4).
D. Added keyed note M5.1.

Item 14 Sheet M5.01 - MECHANICAL SCHEDULES

A. Revised 'EXISTING CVB SCHEDULE'.

Item 15 Sheet M5.02 - MECHANICAL SCHEDULES

A. Cleaned up 'EXISTING AIR HANDLING UNIT SCHEDULE (OLPHASE II)' and added schedule note 2 and 5.
B. Cleaned up 'EXISTIGN HOT WATER COIL SCHEDULE'

Item 16 Sheet M5.04 - MECHANICAL SCHEDULES

A. Added schedule note 12 to 'ROOF MOUNTED AIR HANDLING UNIT SCHEDULE'.
B. Revised 'DUCT MOUNTED HOT WATER HEATING COIL SCHEDULE'.
C. Revised 'EXISTING COOLING TOWER SCHEDULE'.
D. Revised 'EXISTING BOILER SCHEDULE'.

Item 17 Sheet M7.01 – MECHANICAL CONTROL DIAGRAMS

A. Revised 'IDF and MDF Room Monitoring' section of MISELLANEOUS SYSTEMS control diagram.
B. Removed 'Demand Lighting Program' section of MISCELLANEOUS SYSTEMS control diagram.
C. Added 'Lighting Controls Integration' section to MISCELLANEOUS SYSTEMS control diagram.
D. Added 'BAS Graphics & Operator Interface' section to MISCELLANEOUS SYSTEMS control diagram.
E. Added 'Electric Meter Monitoring' section to MISCELLANEOUS SYSTEMS control diagram.

Item 18 Sheet E2.21I – ELECTRICAL POWER PLAN LEVEL 1 - AREA I

A. Added new sheet in its entirety. Sheet shows location of existing lighting controls and is tagged with keyed note E10.3. Location of existing lighting controls was based on existing controls as-builds.

Item 19 Sheet E2.21L – ELECTRICAL POWER PLAN LEVEL 1 - AREA L

A. Added new sheet in its entirety. Sheet shows location of existing lighting controls and is tagged with keyed note E10.3. Location of existing lighting controls was based on existing controls as-builds.

Item 20 Sheet E2.21N – ELECTRICAL POWER PLAN LEVEL 1 – AREA N

A. Added new sheet in its entirety. Sheet shows location of existing lighting controls and is tagged with keyed note E10.3. Location of existing lighting controls was based on existing controls as-builds.

DRAWINGS CHANGES – WRITTEN REVISIONS ONLY

Item 14 Sheet M2.11A – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA A

A. Clarified location of existing control panels to be replaced in MECH M-1, M-2, and M-3.
B. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.” to control panels.
C. Revised keyed note M0.16 to read “EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.”. Applicable to HWC-1-1, HWC 2-1, HWC-3-1, HWC-4-1 1 and any other multi-zone hot water coils not listed but located in this area.

Item 15 Sheet M2.11B – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA B

A. Clarified location of existing thermostats to be replaced for AHU-05.

Item 16 Sheet M2.11C – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA C

A. Clarified location of existing control panels to be replaced in MECH M-6 and MECH M-7.
B. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.” to control panels.
C. Revised keyed note M0.16 to read “EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH

NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-7-1, HWC-8-1, and HWC-9-1 and any other multi-zone hot water coils not listed but located in this area.

Item 17 Sheet M2.11D – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA D

A. Clarified location of existing control panels to be replaced in MECH M-8.
B. Clarified location of existing thermostats to be replaced for MZU-01.
C. Clarified location of existing thermostats to be replaced for MZU-02.
D. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panels.
E. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-10-1, HWC-11-1 and any other multi zone hot water coils not listed but located in this area.

Item 18 Sheet M2.11E – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA E

A. Clarified location of existing control panels to be replaced in MECHANICAL M-18.
B. Clarified location of existing thermostat and humidistat to be replaced for AHU-16.
C. Clarified location of existing thermostat and humidistat to be replaced for AHU-14.
D. Clarified location of existing thermostat and humidistat to be replaced for AHU-15.
E. Added keyed note M0.10 "EXISTING HUMIDITY SENSOR AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW. APPLICABLE TO ALL SENSORS UNLESS NOTED OTHERWISE".
F. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panels.
G. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-22-1 and any other multi-zone hot water coils not listed but located in this area.

Item 19 Sheet M2.11F – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA F

A. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH

NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-17-1 and any other multi-zone hot water coils not listed but located in this area.

B. Clarified location of existing thermostats to be replaced in 1255 CUSTODIAN LOUNGE.

C. Added keyed note M0.5 "EXISTING THERMOSTAT AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW. APPLICABLE TO ALL SENSORS UNLESS NOTED OTHERWISE."

Item 20 Sheet M2.11G – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA G

A. Clarified location of existing control panels to be replaced in CUST 1257 and mechanical room north of BOY'S LOCKER/DRESSING 1402.

B. Clarified location of existing thermostat to be replaced for AHU-07-II.

C. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panels.

D. Clarified location of existing thermostats to be replaced in 1256 DRILL TEAM/DANCE.

E. Added keyed note M0.5 "EXISTING THERMOSTAT AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW. APPLICABLE TO ALL SENSORS UNLESS NOTED OTHERWISE."

Item 21 Sheet M2.11H – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA H

A. Clarified naming and quantity of EXISTING MZU-03 Hot Water Coils.

B. Clarified locations of EXISTING MZU-03 thermostats.

C. Clarified location of FCU-09, 10, 11, and 12 existing thermostats to be replaced.

D. Clarified location of existing control panels to be replaced in MECH M-10, M-11, M-12.

E. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panels.

F. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC- 1.01, HWC- 1.02, HWC- 1.03, HWC- 2.01, HWC- 2.02, HWC- 3.01, HWC- 3.02, HWC- 3.03 and any other multi zone hot water coils not listed but located in this area.

Item 22 Sheet M2.11I – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA I

A. Clarified location of existing thermostats for FCU-21 and 22.

Item 23 Sheet M2.11J – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA J

A. Clarified location of FCU-30, 31, 32, 33, and 34 existing thermostats to be replaced.

Item 24 Sheet M2.11K – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA K

A. Clarified location of existing thermostat to be replaced for AHU-07-II.
B. Clarified location of existing control panels to be replaced in mechanical room north of BOY'S LOCKER/DRESSING 1402.
C. Clarified locations of thermostats (2) associated with AHU-06-II and AHU-26 (Roof).
D. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.
E. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWCs in M-13 MECH and any other multizone hot water coil not listed but located in this area.

Item 25 Sheet M2.11L – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA L

A. Clarified location of existing control panels to be replaced in mechanical room west of AUDITOIUM ENTRY VESTIBULE 1503C (MECHANICAL ROOM MR#1).
B. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.

Item 26 Sheet M2.11M – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA M

A. Clarified location of existing thermostats to be replaced.
B. Clarified location of existing control panel to be replaced in MECH M-15 and MECH M-16.
C. Clarified location of EXISTING FCU- 15 and associated thermostat.
D. Clarified location of EXISTING FCU- 16 and associated thermostat.
E. Clarified location of EXISTING FCU- 17 and associated thermostat.
F. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.
G. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH

NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWCs in M-15 MECHANICAL and any other multizone hot water coil not listed but located in this area.

Item 27 Sheet M2.11N – DEMOLITION MECHANICAL PLAN LEVEL 1 – AREA N

A. Clarified location of existing control panels to be replaced in M-17 MECHANICAL.
B. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWCs in MECH M-13 and any other multizone hot water coil not listed but located in this area.
C. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.

Item 28 Sheet M2.12B – DEMOLITION MECHANICAL PLAN LEVEL 2 – AREA B

A. Clarified location of existing thermostat to be replaced for AHU-27.
B. Clarified location of existing control panels to be replaced in MECHANICAL M-20.
C. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.
D. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-19-1, HWC-18-1 and other multi-zone hot water coils not listed but located in this area.

Item 29 Sheet M2.12C – DEMOLITION MECHANICAL PLAN LEVEL 2 – AREA C

A. Clarified location of existing control panels to be replaced in MECHANICAL M-21.
B. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.

C. Revised keyed note M0.16 to read “EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.”. Applicable to HWC-20-1, HWC-6-1 and any other multi-zone hot water coils not listed but located in this area.

Item 30 Sheet M2.12D – DEMOLITION MECHANICAL PLAN LEVEL 2 – AREA D

A. Clarified location of existing control panels to be replaced in MECHANICAL M-22.
B. Clarified location of existing thermostats to be replaced for AHU-05.
C. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.” to control panel.
D. Revised keyed note M0.16 to read “EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.”. Applicable to HWC-21-1 and any other multi-zone hot water coils not listed but located in this area.

Item 31 Sheet M2.12M – DEMOLITION MECHANICAL PLAN LEVEL 2 – AREA M

A. Clarified location of existing thermostats to be replaced with combination thermostat/ humidistat for AHU-01-II and AHU-02-II
B. Clarified location of existing control panels to be replaced in mechanical mezzanine east of gym.
C. Added keyed note M0.10 “EXISTING HUMIDITY SENSOR AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW. APPLICABLE TO ALL SENSORS UNLESS NOTED OTHERWISE”.
D. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.” to control panel.

Item 32 Sheet M2.21A – MECHANICAL PLAN LEVEL 1 – AREA A

A. Added DDC in in MECH M-1, M-2, and M-3.
B. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW

CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panels.

C. Revised keyed note M0.16 to include the removal and replacement of both valves and valve actuators associated with hot water coils. Applicable to HWC-1-1, HWC-2-1, HWC-3-1, and HWC-4-1 and any other multizone hot water coil not listed but located in this area.

Item 33 Sheet M2.21C – MECHANICAL PLAN LEVEL 1 – AREA C

A. Added DDC in MECH M-6, MECH M-7, and CUST 1257.

B. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panels.

C. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-7-1, HWC-8-1, and HWC-9-1and any other multizone hot water coil not listed but located in this area.

Item 34 Sheet M2.21F – MECHANICAL PLAN LEVEL 1 – AREA F

A. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-17-1 and other multi-zone hot water coils not listed but located in this area.

Item 35 Sheet M2.21G – MECHANICAL PLAN LEVEL 1 – AREA G

A. Added DDC in CUST 1257 and mechanical room north of BOY'S LOCKER/DRESSING 1402.

B. Clarified location of existing thermostat to be replaced for AHU-07-II.

C. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panels.

Item 36 Sheet M2.21L – MECHANICAL PLAN LEVEL 1 – AREA L

A. Added DDC to mechanical room west of AUDITORIUM ENTRY VESTIBULE 1503C (MECHANICAL ROOM MR#1).

B. Added DDC to mechanical mezzanine above of BRASS STORAGE 1506H (MECHANICAL ROOM MR#4).
C. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.” To control panel in mechanical room west of AUDITORIUM ENTRY VESTIBULE 1503C (MECHANICAL ROOM MR#1).
D. Added keyed note M3.15 "PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel in mechanical mezzanine above of BRASS STORAGE 1506H (MECHANICAL ROOM MR#4).

Item 37 Sheet M2.21N – MECHANICAL PLAN LEVEL 1 – AREA N

A. Added DDC panel to MECH M-13.
B. Added DDC panel to MECH M-17.
C. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.” to control panel in MECH M-17.
D. Added keyed note M3.15 "PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel in MECH M-13.
E. Revised keyed note M0.16 to read “EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.”. Applicable to HWCs in M-13 MECH and any other multi-zone hot water coils not listed but located in area.

Item 38 Sheet M2.22C – MECHANICAL PLAN LEVEL 2 – AREA C

A. Added control panel to MECHANICAL M-21.
B. Added keyed note M0.24 “EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW

CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.

C. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-20-1, HWC-6-1 and any other multi-zone hot water coils not listed but located in area.

Item 39 Sheet M2.22D – MECHANICAL PLAN LEVEL 2 – AREA D

A. Added control panel to MECHANICAL M-22.

B. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.

C. Revised keyed note M0.16 to read "EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.". Applicable to HWC-21-1 and any other multi-zone hot water coils not listed but located in area.

Item 40 Sheet M3.03 – DEMOLITION MECHANICAL PLAN – CENTRAL PLANT

A. Clarified location of existing control panels to be replaced in BOILER ROOM M-14B.

B. Added keyed note M0.24 "EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED." to control panel.

C. Added keyed note M0.8 "EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATIRS TO BE REMOVED AND REPLACED" to Existing Chillers (CH-1, CH-2, CH-3, CH-4).

Item 41 Sheet E0.11 – ELECTRICAL GENERAL NOTES

A. Added new section called "Scope of Work General Notes" that reads:
"A. EXTEND AND RECONNECT ALL EXISTING LIGHTING CONTROL POINTS ON THE EXISTING DIRECT DIGITAL CONTROLS (DDC) PANEL TO THE NEW DDC/BUILDING AUTOMATION SYSTEM (BAS) INCLUDING ALL LIGHTING CONTACTOR CONTROL COILS. FIELD VERIFY ALL EXISTING ELECTRICAL REQUIREMENTS INCLUDING VOLTAGE/PHASE, CONTROL SIGNAL, INPUT/OUTPUT TYPES (N.O/N.C) AND PROGRAMMING SETTINGS TO BE COMPATIBLE WITH THE NEW DDC/BAS. COORDINATE ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR.

B. PROVIDE MAP/GRAPHIC AND TIME SCHEDULES TO MATCH THE EXISTING BUILDING FOR OWNER TO LOCATE AND CONTROL ALL LIGHTING POINTS. INCLUDE THE LOCATION, CONTACTOR NUMBER, AND MECHANICAL ROOM NUMBER ALONG WITH A POINTS LIST PAGE SEPARATED BY INTERIOR AND EXTERIOR. FIELD VERIFY AND COORDINATE ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR.
C. TIE THE EXISTING ELECTRIC METER FROM THE EXISTING BAS (BUILDING AUTOMATION SYSTEM) INTO THE NEW SYSTEM".

Item 42 **Sheet E2.21A – ELECTRICAL POWER PLAN LEVEL 1 – AREA A**

A. Added keyed note E10.3 to Mechanical Room M-1 and Electrical Room 1118C "APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLS. CONNECT EXISTING LIGHTING CONTROLS IN THIS ROOM TO THE NEW BUILDING AUTOMATION SYSTEM (BAS SYSTEM) IN ORDER TO LOCATE AND CONTROL LIGHTS BASED ON SCHEDULE. FIELD VERIFY ALL ELECTRICAL REQUIREMENTS AND PROGRAMMING SETTINGS TO BE COMPATIBLE WITH NEW BAS SYSTEM. VERIFY ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR."

C. Sheet shows the approximate location of existing lighting controls in Mechanical Room M-1 and Electrical Room 1118C. Shown as a junction box. Location of existing lighting controls was based on existing controls as-builds.

Item 43 **Sheet E2.21B – ELECTRICAL POWER PLAN LEVEL 1 - AREA B**

A. Added keyed note E10.3 to Electrical Room 1129D "APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLS. CONNECT EXISTING LIGHTING CONTROLS IN THIS ROOM TO THE NEW BUILDING AUTOMATION SYSTEM (BAS SYSTEM) IN ORDER TO LOCATE AND CONTROL LIGHTS BASED ON SCHEDULE. FIELD VERIFY ALL ELECTRICAL REQUIREMENTS AND PROGRAMMING SETTINGS TO BE COMPATIBLE WITH NEW BAS SYSTEM. VERIFY ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR."

B. Sheet shows the approximate location of existing lighting controls in Electrical Room 1129D. Shown as a junction box. Location of existing lighting controls was based on existing controls as-builds.

Item 44 **Sheet E2.21C – ELECTRICAL POWER PLAN LEVEL 1 - AREA C**

A. Added keyed note E10.3 to Electrical Room 1234 "APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLS. CONNECT EXISTING LIGHTING CONTROLS IN THIS ROOM TO THE NEW BUILDING AUTOMATION SYSTEM (BAS SYSTEM) IN ORDER TO LOCATE AND CONTROL LIGHTS BASED ON SCHEDULE. FIELD VERIFY ALL ELECTRICAL REQUIREMENTS AND PROGRAMMING SETTINGS TO BE COMPATIBLE WITH NEW BAS SYSTEM. VERIFY ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR."

B. Sheet shows the approximate location of existing lighting controls in Electrical Room 1234. Shown as a junction box. Location of existing lighting controls was based on existing controls as-builds.

Item 45 **Sheet E2.21D – ELECTRICAL POWER PLAN LEVEL 1 - AREA D**

A. Added keyed note E10.3 to Mechanical Room M-8 "APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLS. CONNECT EXISTING LIGHTING CONTROLS IN THIS ROOM TO THE NEW BUILDING AUTOMATION SYSTEM (BAS SYSTEM) IN ORDER TO LOCATE AND CONTROL LIGHTS BASED ON SCHEDULE. FIELD VERIFY ALL ELECTRICAL REQUIREMENTS AND PROGRAMMING SETTINGS TO BE COMPATIBLE WITH NEW BAS SYSTEM. VERIFY ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR."

B. Sheet shows the approximate location of existing lighting controls in Mechanical Room M-8. Shown as a junction box. Location of existing lighting controls was based on existing controls as-builds.

END OF ADDENDUM 03.

1. The EMCS contractor shall provide communications integration via BACnet/IP interface to each installed system listed above. BACnet MS/TP is acceptable if IP interface is not available from equipment manufacturer.

2. The EMCS contractor shall coordinate with all vendors providing above systems to obtain communications requirements and points lists. Map all available points to EMCS.

C. Refer to Division 22 for General Plumbing Provisions, domestic water heating systems, domestic water pumping systems, domestic water metering, and natural gas metering.

1. The EMCS contractor shall provide communications integration via BACnet/IP interface to each installed system listed above. BACnet MS/TP is acceptable if IP interface is not available from equipment manufacturer.

2. The EMCS contractor shall coordinate with all vendors providing above systems to obtain communications requirements and points lists. Map all available points to EMCS.

D. Refer to Division 23 for General Mechanical Provisions for equipment such as chillers, cooling towers, boilers, pumps, air-handling units, terminal units, ventilation fans, variable frequency drives, unitary AC units, etc.

1. The EMCS contractor shall provide communications integration via BACnet/IP interface to each installed system listed above. BACnet MS/TP is acceptable if IP interface is not available from equipment manufacturer.

2. The EMCS contractor shall coordinate with all vendors providing above systems to obtain communications requirements and points lists. Map all available points to EMCS.

E. Refer to Division 26 for General Electrical Provisions for equipment such as electrical switchgear control, electrical power monitoring, emergency generators, lighting control system, etc.

1. The EMCS contractor shall provide communications integration via BACnet/IP interface to each installed system listed above. BACnet MS/TP is acceptable if IP interface is not available from equipment manufacturer.

2. The EMCS contractor shall coordinate with all vendors providing above systems to obtain communications requirements and points lists. Map all available points to EMCS.

1.4 ELECTRICAL POWER PROVISIONS

A. Primary power will be provided under Division 26 by the electrical contractor to the panel locations indicated on the mechanical & electrical drawings. Provide all necessary circuit protection devices. Provide fuses for each device located within panel enclosures.

2.10 SOFTWARE OVERVIEW

A. Dynamic Colored Floor plans: Dynamic colored floor plans that compare actual space conditions to setpoints shall be provided on all floorplan graphics displayed on the front-end. Floorplan enlargements shall also use the thermographs to display space conditions. Zones within the set point range shall appear transparent white. As the space gets warmer the zone color shall gradually modulate from transparent white to transparent red to identify a hot zone. As the space conditions get cooler the zone color shall gradually modulate from transparent white to transparent blue to identify a cold zone. Each zone shall indicate the current actual zone temperature within the zone. The floor plans shall use a dynamic scheduling icon to indicate schedule occupancy for each zone and provide direct one-click access to that zones unique schedule. Provide a designated icon or symbol indicating that the zone is in the occupied/unoccupied condition. From the floorplan graphic, the operator shall be able to click on any zone and go directly to the graphic for the piece of equipment controlling that zone. All dynamic floor plans shall be visible via web interface as well as on the LAN. The authorized system operator shall be able to change the zone or system identifier (or name) on the graphic and that change shall be distributed to other associated graphics and to the equipment controller.

1. Provide a dedicated graphics page for all AHUs with virtual HOA (Hand-Off-Auto) controls, allowing operators to remotely start and stop units.

2. Provide a global BAS control point in the graphics to simultaneously close all outside air dampers and disable all outside air units.

3. Provide a dedicated graphics page for all interior and exterior lighting systems.

   a. Label all lighting control points within the graphics with the equipment location and associated contactor number.

4. Provide a dedicated graphics page for all exhaust fans, including equipment labels, physical locations, operating status, and alarms to simplify maintenance and troubleshooting.

5. Display chiller operating status, amperage, and alarms within the BAS graphics.

6. Display pump status, equipment status, and applicable alarms throughout the BAS graphics.

7. All graphics shall clearly identify equipment names, locations, and associated control points for ease of operation and maintenance.

B. Pop up Trends: Provide trend logs that automatically pop up when the operator mouse clicks on the point from the graphic. Provide pop up trends for all dampers, control valves, temperature sensors, carbon dioxide sensors, humidity sensors, airflows, static pressures, flow meters, VFD speeds, etc. The EMCS contractor shall set up all trends for the owner. The pop-up trend shall include a trend tool that allows the operator to modify the trend time scale and sample interval for up to 10 sample values. The trends shall be graphical on the computer screen but shall provide an output as an .xls, .csv, .pdf, HTML, or text file.

3. The sensor shall have an additional single-pole, double throw isolated relay with normally open, normally closed and common outputs. The isolated relay is for use with HVAC control, data logging, and other control options. The sensor shall have an LED indicator that remains active at all times in order to verify detection within the area to be controlled.

2.13 HVAC VENTILATION SHUTDOWN SWITCH

A. The HVAC ventilation shutdown switch shall be a mushroom type switch, STI Series 2000 Stopper Station that complies with the following:

1. Color shall be coordinated with the Owner prior to ordering.

2. Latches when depressed.

3. Twist to reset.

4. Indoor/Outdoor flush type clear plastic cover.

5. Switch label shall read "HVAC VENTILATION SHUTDOWN" or other label approved by the Owner. Coordinate final label text with the Owner prior to ordering.

B. Switch to be located in administartive area front office. Coordinate final location of shutdown switch with the Mechanical Drawings, the Architect, and the Owner prior to installation.

2.14 TIMED LOCAL OVERRIDE SWITCHES

A. Provide lighting override and HVAC override switches. Switches shall be a mushroom type switch, STI Series 2000 Stopper Station that complies with the following:

1. Color shall be coordinated with the Owner prior to ordering.

2. Latches when depressed.

3. Twist to reset.

4. Indoor/Outdoor flush type clear plastic cover.

5. Switch labeles shall read "LIGHTING OVERRIDE" and "HVAC OVERRIDE" or other label approved by the Owner. Coordinate final label text with the Owner prior to ordering.

B. Switches to be located in administartive area front office. Coordinate final location of shutdown switch with the Mechanical Drawings, the Architect, and the Owner prior to installation.

2.23 PANELS AND ENCLOSURES

A. Provide panels and enclosures for all components of the EMCS, which are susceptible to physical or environmental damage.

B. Interior panels and enclosures shall meet be NEMA 1 rated painted steel panels with locking door.

C. Exterior mounted panels and enclosures shall be NEMA 4 painted steel panels with locking door.

D. Panels for USCs shall be mounted on the outside of all unit ventilators and fan coil units with three feet of wall clearance in front of them and no higher than 7 feet to the bottom of the panel.

2.24 LABELING AND WARNING NOTICES

A. Provide labeling for all control panels and enclosures. Control panels to include additional label listing major equipment controlled by associated panel.

B. Provide labeling of all control wires and input/output points at the controller and at the control device; the label at each end of the wire shall be the same Labels shall be machine generated, typed and clearly legible with a maximum of 17 characters. Hand written labels or labels written on the control wire jacket will not be acceptable. Each label shall be unique to its function and shall reference the applicable system. For example “AHU-1 SAT” will indicate the supply air temperature sensor for AHU-1. Improper labeling shall be removed and shall require re-commissioning of the control device and controller to document correct functionality.

C. Provide high voltage warning notices at all equipment controlled by the EMCS and at all associated motor starters when used by equipment controller.

2.25 TUBING AND PIPING

A. Provide tubing and piping as required for the field instrumentation.

B. Tubing within equipment rooms, vertical risers, and penetrations to ductwork shall be either copper pipe or shall be plastic tubing within conduit. Tubing for all water-based instrumentation shall be copper pipe. Identify the type of tubing proposed in the shop drawing submittal.

C. Provide suitable bulk head fittings for duct and panel penetrations.

D. Tubing in plenum rated areas may be plastic tubing. Polyethylene tubing shall meet, at minimum, the following requirements: flame retardant; crack resistant; 300 psi burst pressure.

2.26 CONDUIT AND FITTINGS

A. Provide all conduits, raceways and fittings for the EMCS monitoring, communication and control cabling. All work shall meet all applicable codes.

G. Size of conduit shall be in accordance with the manufacturer's recommendations, specifications of Division 26, and NEC requirements.

H. Secure conduit with conduit clamps fastened to the structure and spaced according to Division 26 and code requirements. Conduit shall not be hung on flexible duct straps or tie rods. Conduit shall not be run on or attached to ductwork.

I. Control wiring located above accessible ceilings may be plenum rated cable. Plenum rated cable shall be neatly bundled and routed parallel or perpendicular to building surfaces.

J. Where plenum rated cable is installed without conduit, it shall be supported from or secured to the building structure. Cables shall be supported independently by cable hooks and shall not be supported by or secured to ductwork, electrical conduits, piping, or ceiling suspension systems. Multiple cables are to be dressed every 5 ft. to 7 ft. Cables shall be supported at a maximum of 10 ft. intervals with a maximum cable sag of 6" between supports.

K. Control wiring located in underground conduits shall be provided with direct-burial-rated insulation.

L. When communication bus enters or exits a building, a surge suppressor shall be installed. The surge suppressor shall be installed according to the controls manufacturer's instructions.

M. Provide sleeves for all cable and conduit passing through walls, partitions, structural components, floors and roof. Maintain fire rating at all penetrations through fire rated construction.

N. All communication wiring shall be labeled to indicate origination and destination data.

O. All sensor wiring shall be labeled to indicate the origination (at the device) and destination of data (at the control panel). The description shall indicate the type and location of the control device such as "AHU-1 SA temp" or "VAV 1-1 space temp".

P. Wall temp sensors at 48" above the finished floor to comply with ADA requirements and to match the height of the light switches. Mount humidity sensor at equal height to wall temperature sensor.

Q. Outdoor pressure sensors shall be installed a minimum of five feet above the roof surface and shall be free of immediate obstructions and sources of turbulence that could affect pressure readings. Sensors shall be attached to the top of roof mounted equipment or provided with stand-alone vertical support if no roof mounted equipment is available. Sensor tubing shall be routed into the building through a sealed weathertight penetration. Provide a heat trap loop in the sensor tubing immediately below the roof.

R. Provide fuses for each output from a contoller to a controlled device. Fuses shall be located within the associated panel enclosure.

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade
RFP #1002-6

Tomball High School
30330 Quinn Rd.
Tomball, TX, 77375

TOMBALL ISD
DESTINATION EXCELLENCE

PROJECT TEAM:

DBR Inc.
9990 Richmond Ave.
South Building. Suite 300
Houston, Texas 77042
713-914-0888

MEP Engineer
Adam Jones, P.E.
ajones@dbrinc.com

Tomball ISD
310 S. Cherry St.
Tomball, TX 77375
281-357-3100

1 Director of Maintenance and Construction
Mitchel Lee

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APPLICABLE CODES:

2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2023 NATIONAL ELECTRICAL CODE

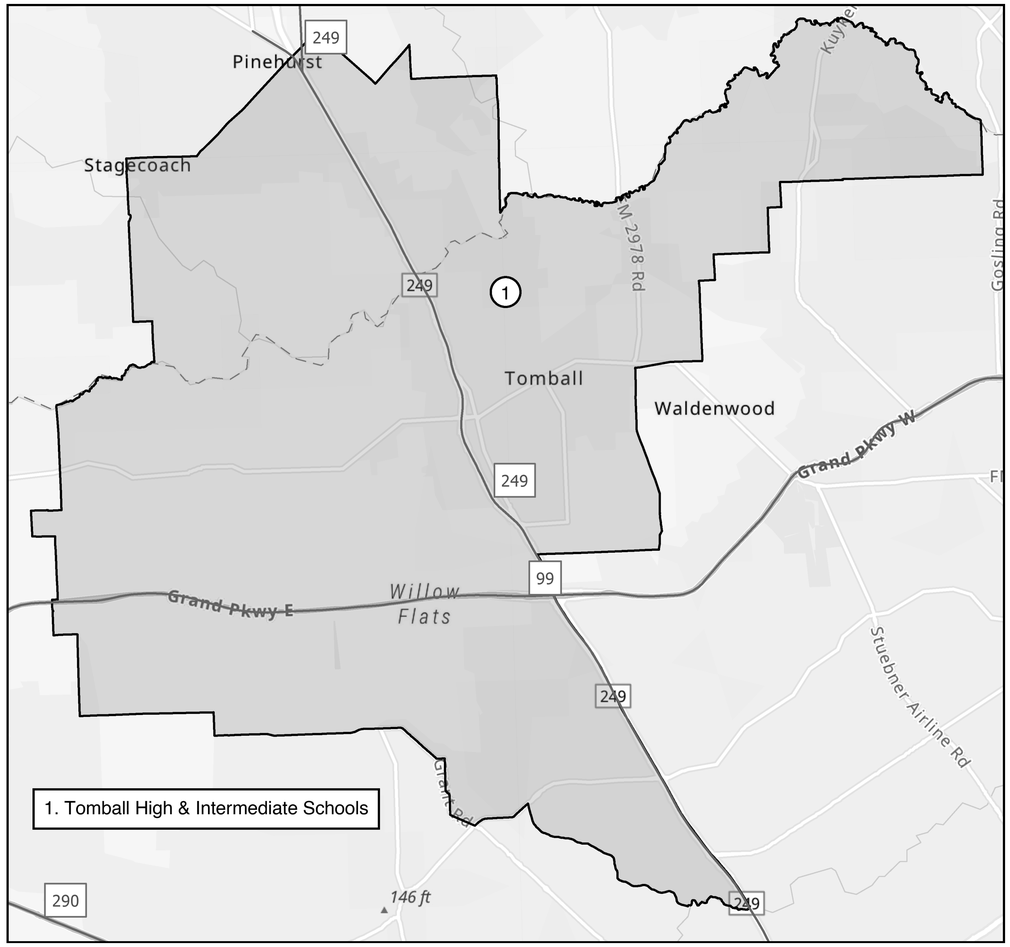
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VICINITY MAP



DBR
SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY
9990 Richmond Avenue
South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.9260 f

REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES
110008
LICENSED
PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

TBPE Firm Registration No. 2234

DATE: 05/29/2026
DRAWN BY: DBR
CHECKED BY: DBR
PROJECT NUMBER 260018.001
SHEET TITLE: COVER SHEET
SHEET NUMBER: 0.0

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DEMOLITION & RENOVATION MECHANICAL GENERAL NOTES

A. MECHANICAL DEMOLITION DRAWINGS ARE GENERALLY DIAGRAMMATIC AND IT IS THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS THAT ALL MECHANICAL SYSTEMS SHALL REMAIN UNLESS NOTED TO BE REMOVED OR DEMOLISHED. VERIFY EXACT LOCATIONS AND CONDITIONS AND COORDINATE WITH GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO REMOVING ANY EXISTING ITEMS. DO NOT ABANDON ANY ITEMS IN PLACE.

B. EQUIPMENT, DUCTWORK, PIPING, ETC. INDICATED AS EXISTING (E) SHALL REMAIN AND BE RE-USED IN EXISTING LOCATIONS. IF EXISTING ITEMS CONFLICT WITH NEW CONSTRUCTION, CONTRACTOR SHALL RELOCATE, REWORK, REROUTE, RECONNECT, AND REINSTALL COMPLETELY AS REQUIRED AS IF NEW AT NO ADDITIONAL COST. COORDINATE WITH GENERAL CONTRACTOR, OWNER'S REPRESENTATIVE, ETC. PRIOR TO RELOCATION. REFER TO APPLICABLE NOTES FOR NEW ITEMS.

C. EQUIPMENT, DUCTWORK, PIPING ETC. INDICATED AS EXISTING TO BE DEMOLISHED (D) SHALL BE REMOVED IN THEIR ENTIRETY. ALL APPURTENANCES, RELATED COMPONENTS, INCLUDING ALL DUCTWORK, PIPING, SUPPORTS, HANGERS, CONTROLS, ETC. ASSOCIATED WITH EACH ITEM SHALL BE REMOVED UNLESS NOTED OTHERWISE. CAP ALL DUCTWORK AND PIPING AS REQUIRED SERVING EACH ITEM AT BUILDING MAINS. VERIFY EXACT LOCATIONS AND CONDITIONS AND COORDINATE WITH GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO REMOVING ANY EXISTING ITEMS. DO NOT ABANDON ANY ITEMS IN PLACE.

D. WHERE CONSTRUCTION, EXISTING DUCTWORK, MECHANICAL / PLUMBING / FIRE SPRINKLER PIPING, ELECTRICAL CONDUIT, CABLING, ETC. WHICH MUST REMAIN AS PART OF AN ACTIVE SYSTEM CONFLICTS WITH NEW CONSTRUCTION, CONTRACTOR SHALL RELOCATE, REWORK, REROUTE, RECONNECT, AND REINSTALL COMPLETELY AS REQUIRED AS IF NEW AT NO ADDITIONAL COST. COORDINATE WITH GENERAL CONTRACTOR, OWNER'S REPRESENTATIVE, ETC. PRIOR TO RELOCATION. REFER TO APPLICABLE NOTES FOR NEW ITEMS.

E. CONTRACTOR SHALL COORDINATE WITH EACH TRADE CONTRACTOR FOR REMOVAL OF EXISTING ELECTRICAL AND PLUMBING SERVICES INCLUDING ALL CONDUIT, WIRING, PIPING, INSULATION, APPURTENANCES, RELATED COMPONENTS, ETC. ASSOCIATED WITH REMOVAL OF EXISTING MECHANICAL EQUIPMENT. VERIFY EXACT LOCATIONS AND CONDITIONS AND COORDINATE WITH GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO REMOVING ANY EXISTING ITEMS. DO NOT ABANDON ANY ITEMS IN PLACE.

F. THESE DRAWINGS WERE PREPARED FROM THE BEST INFORMATION AVAILABLE. ORIGINAL DRAWINGS, FIELD OBSERVATIONS, ETC., BUT MAY NOT INDICATE THE EXACT LOCATION OF ALL EXISTING MECHANICAL COMPONENTS. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE EXISTING CONDITIONS SURROUNDING THE INSTALLATION OF THEIR WORK PRIOR TO PROCEEDING WITH THIS INSTALLATION. MODIFICATIONS REQUIRED DUE TO EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER / OWNER FOR REVIEW BY WAY OF SHOP DRAWINGS OR SKETCHES DETAILING THE EXISTING CONDITIONS AND THE PROPOSED REVISION.

G. CONTRACTOR SHALL BE RESPONSIBLE TO VISIT THE JOBSITE, COMPLETELY REVIEW CONTRACT DOCUMENTS, AND FIELD VERIFY EXTENT OF WORK AND EXACT LOCATIONS AND CONDITIONS OF ALL NEW AND EXISTING CONSTRUCTION, ELEVATIONS, SERVICE POINTS, ETC. AS REQUIRED FOR A COMPLETE AND CORRECTLY OPERATING SYSTEM. CONTACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR, OWNER'S REPRESENTATIVE, AND REPORT IN WRITING ANY CONFLICTS, PROBLEMS, OR ANY CONDITION THAT MAY ADVERSELY AFFECT THE PROPER EXECUTION OF THE WORK THAT IS NOT INDICATED ON THE DRAWINGS. THIS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR MAKING ANY CORRECTIONS OR ALTERATIONS DEEMED NECESSARY TO COMPLETE THE WORK AND SHALL INCLUDE ALL ASSOCIATED COSTS IN THEIR BID WITH NO ADDITIONAL EXPENSE.

H. CONTRACTOR SHALL COORDINATE ALL CUTTING AND PATCHING OF EXISTING WALLS, CEILINGS, ROOF AND FLOOR REQUIRED FOR THEIR WORK WITH GENERAL CONTRACTOR, STRUCTURAL ENGINEER, AND OWNER'S REPRESENTATIVE. ALL PENETRATIONS SHALL BE SEALED AND RESTORED TO THE ORIGINAL CONDITIONS, STRUCTURAL PROPERTIES, AND FINISHED IN SAME MATERIALS AND MANNER AS ADJACENT AREAS. ALL ROOF PENETRATIONS, ROOF PIPE SUPPORTS, FLASHINGS, ETC. SHALL BE MADE WATERTIGHT AND AS RECOMMENDED BY THE ROOF MANUFACTURER. ALL EXISTING PENETRATIONS WHICH ARE NOT TO BE REUSED SHALL BE PROPERLY SEALED OFF TO MAINTAIN THE STRUCTURAL, WATERPROOF, AND FIREPROOF INTEGRITY OF THE WALL, FLOOR, OR ROOF SYSTEM PENETRATED.

J. COORDINATE ALL RENOVATIONS / REMODEL / DEMOLITION WORK WITH THE OWNER'S REPRESENTATIVE, BUILDING ENGINEER / MAINTENANCE PERSONNEL AND OTHER TRADES PERFORMING WORK IN THE BUILDING PRIOR TO THE REMOVAL OF ANY ITEMS OF MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT, FIXTURES, OR SYSTEMS THAT WILL AFFECT OTHER SYSTEM WITHIN THE AREA OF CONSTRUCTION, OR OTHER AREAS OF THE BUILDING. CONTRACTOR SHALL NOTE THAT THE BUILDING IS OCCUPIED, AND WILL REMAIN SO DURING CONSTRUCTION; AND, THEREFORE, UTILITIES / BUILDING SYSTEMS MUST REMAIN IN OPERATION. ANY REQUIRED OUTAGES MUST BE COORDINATED WITH GENERAL CONTRACTOR, OWNER'S REPRESENTATIVE AND BUILDING ENGINEER / MAINTENANCE PERSONNEL. PROVIDE TEMPORARY CONNECTIONS OF UTILITIES AND AIR CONDITIONING AS NECESSARY TO FACILITATE THE PHASING OF CONSTRUCTION.

K. ALL WORK SHALL BE SCHEDULED AND PERFORMED IN STRICT COORDINATION WITH CONSTRUCTION PHASING AND WITH OWNERS' SCHEDULES, OCCUPANCIES, ETC. PROVIDE ADDITIONAL VALVES, TAPS, TEMPORARY DUCTWORK, PIPING, ETC. AS NECESSARY TO PROVIDE UNINTERRUPTED SERVICE TO AREAS OUTSIDE OF THE PHASE IN WHICH WORK IS BEING PERFORMED. ALL NECESSARY SHUTDOWNS OR OUT OF PHASE WORK SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE.

L. PRIOR TO THE REMOVAL OF ANY MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT, FIXTURES, OR SYSTEMS, THE CONTRACTOR MUST VERIFY THE ORIGIN AND TERMINATION OF THOSE SYSTEM AND CONFIRM THAT THE ITEMS BEING REMOVED DO NOT SERVE ANY ITEMS THAT ARE TO REMAIN (INCLUDING THOSE IN AREAS OUTSIDE THE CONTRACT LIMITS). WHEN RENOVATION / REMODEL / DEMOLITION WORK IS PERFORMED, THE CONTRACTOR SHALL EXERCISE CARE IN PROTECTING EXISTING ITEMS TO REMAIN AND EXISTING ITEMS TO BE REMOVED AND RELOCATED. PROTECT ALL EXISTING BUILDING COMPONENTS, WALLS, FLOORS, FINISHES, FURNISHINGS, ADJACENT EQUIPMENT, LIGHTING, ETC. ANY ITEMS DAMAGED OR WHERE FINISHES HAVE BEEN MARRIED, SHALL BE REPAIRED AND REFINISHED TO ORIGINAL CONDITION AT NO COST TO THE OWNER. ALL ITEMS SOILED IN THE PROGRESS OF THE WORK SHALL BE CLEANED TO THEIR PRE- EXISTING CONDITIONS.

M. ALL EXISTING EQUIPMENT REMOVED SHALL BE PROTECTED FROM DAMAGE IN SO FAR AS PRACTICAL. THESE ITEMS SHALL BE STORED ON SITE FOR A MINIMUM OF TWO (2) WEEKS UNLESS INDICTED OTHERWISE BY THE OWNER'S REPRESENTATIVE TO ALLOW INSPECTION BY THE OWNER. ALL ITEMS RETAINED BY THE OWNER SHALL BE TAGGED AND STORED ON SITE UNTIL DIRECTED OTHERWISE BY OWNER. ALL ITEMS NOT RETAINED BY THE OWNER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND DISPOSED OF PROPERLY.

N. REWORK AND REPAIR ALL DUCTWORK AND PIPING INSULATION DAMAGED OR REMOVED DURING RENOVATION / REMODEL / DEMOLITION AS REQUIRED TO MATCH EXISTING.

O. EQUIPMENT INGRESS AND EGRESS ROUTES FOR THE RENOVATION WORK SHALL BE COORDINATED WITH THE OWNER. COORDINATE TIMES, DATES, AND DURATIONS WITH OWNER A MINIMUM OF 2 WEEKS IN ADVANCE TO ENSURE THERE ARE NO CONFLICTS IN USAGE OF EQUIPMENT/SPACES.

P. ALL EXISTING EQUIPMENT THAT INCLUDES A REFRIGERATION CIRCUIT THAT IS TO BE DEMOLISHED OR RELOCATED SHALL HAVE THE REFRIGERANT CHARGE RECOVERED PRIOR TO DEMOLITION OR RELOCATION. REFRIGERANT RECOVERY SHALL COMPLY WITH EPA, STATE, AND LOCAL JURISDICTION REQUIREMENTS. RECOVERED REFRIGERANTS SHALL NOT BE USED IN ANY SYSTEM, NEW OR EXISTING, UNLESS THE REFRIGERANT HAS BEEN RECLAIMED AND FOUND TO MEET THE PURITY REQUIREMENTS OF AHRI 700.

Q. EXISTING EQUIPMENT BEING RELOCATED SHALL BE VERIFIED TO BE IN PROPER OPERATING CONDITION PRIOR TO EQUIPMENT RELOCATION. VERIFICATION SHALL BE PERFORMED BY EQUIPMENT MANUFACTURER'S AUTHORIZED SERVICE REPRESENTATIVE. IF EXISTING EQUIPMENT IS FOUND TO BE DEFICIENT, THE SERVICE REPRESENTATIVE SHALL NOTIFY THE ENGINEER AND OWNER AND PROVIDE RECOMMENDATIONS TO RESTORE EQUIPMENT TO PROPER OPERATING CONDITION.

MECHANICAL GENERAL NOTES

A. MECHANICAL DRAWINGS AND SPECIFICATIONS ARE DIAGRAMMATIC IN NATURE AND INTENDED TO DESCRIBE AND ILLUSTRATE SYSTEMS THAT WILL NOT INTERFERE WITH THE ARCHITECTURAL / STRUCTURAL CONDITIONS OF THE BUILDING AND WILL FIT INTO AVAILABLE SPACES. CONTRACTOR SHALL COORDINATE ALL WORK TO CONFORM TO THE ARCHITECTURAL, STRUCTURAL, FINISH CONDITIONS, EQUIPMENT MANUFACTURER / FIXTURE CUTSHEETS AND WITH OTHER TRADES, TO AVOID OBSTRUCTIONS, AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM. EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER'S DRAWINGS AND CUTSHEETS PRIOR TO FABRICATING OF DUCTWORK, PIPING, OR POURING OF CONCRETE HOUSEKEEPING PADS. CONTRACTOR SHALL OBTAIN ALL ARCHITECTURAL DRAWINGS AND STRUCTURAL DATA, LOCATIONS OF PIERS, BEAMS, COLUMNS, JOISTS, ETC., FROM STRUCTURAL DRAWINGS AND PROVIDE OFFSETS, RELOCATIONS, ETC., AS REQUIRED TO MEET THIS INTENT AT NO ADDITIONAL COST. PROVIDE ALL NECESSARY PIPING, DUCTWORK, FITTING, INSULATION, AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.

B. CONTRACTOR SHALL BE RESPONSIBLE TO EXAMINE ALL THE CONTRACT DOCUMENTS CAREFULLY BEFORE SUBMITTING THEIR BID, WITH PARTICULAR ATTENTION TO ERRORS, OMISSIONS, CONFLICTS WITH PROVISIONS OF LAWS AND CODES HAVING JURISDICTION, CONFLICTS BETWEEN DRAWINGS OR DRAWINGS AND SPECIFICATIONS, AND AMBIGUOUS DEFINITION OF THE EXTENT OF COVERAGE BETWEEN CONTRACTS. ANY SUCH DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO ATTENTION FOR CORRECTION. SHOULD ANY OF THESE ERRORS, OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST, THE CONTRACTOR SHALL HAVE THEM EXPLAINED AND AT THEIR EXPENSE, SUPPLY THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DAMAGE OR DEFECTS IN THEIR WORK OR THE RESULTS OBTAINED THEREFORE, CAUSED BY SUCH DISCREPANCY. THE CONTRACTOR SHALL MAKE A CAREFUL EXAMINATION OF THE PREMISES AND THOROUGHLY FAMILIARIZE THEMSELF WITH THE REQUIREMENTS OF THE CONTRACT. UPON COMMENCEMENT OF THE CONSTRUCTION FOR THE WORK INCLUDED IN THIS CONTRACT, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH A STUDY OR EXAMINATION AND ACCEPTS ALL CONDITIONS.

C. WHEREVER CONFLICTS OCCUR BETWEEN DIFFERENT PARTS OF THE CONTRACT DOCUMENTS (SUCH AS DRAWINGS AND SPECIFICATIONS), THE GREATER QUANTITY, THE BETTER QUALITY, THE LARGER SIZE, OR THE VALUE WITH THE GREATEST COST IMPACT SHALL PREVAIL UNLESS THE ARCHITECT INFORMS THE CONTRACTOR OTHERWISE IN WRITING. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DATA: DIMENSIONS, GAUGE THICKNESS, TEMPERATURES, PRESSURE, BTUH, SCHEDULE / TIME DURATION, ELECTRICAL RATING, MATERIAL, SAFETY RATING, ENERGY EFFICIENCY, ETC.

D. CONTRACTOR SHALL PROVIDE A MECHANICAL INSTALLATION THAT IS COMPLETE AND ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLY INCIDENTAL, OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, SUPERVISION AND SERVICE NECESSARY SO AS TO PROVIDE A COMPLETE, FUNCTIONING MECHANICAL SYSTEM.

E. ALL EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL BE LOCATED APPROXIMATELY IN GENERAL LOCATIONS SHOWN AND SHALL CONFORM TO ALL ARCHITECTURAL AND STRUCTURAL CONDITIONS. PROVIDE ANY ADDITIONAL SUPPORTS, HANGERS, OPENINGS, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS AND IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. WIRING THAT ACCESS PANELS ARE NOT BLOCKED. EXPERIENCED CRAFTSMEN SHALL MAKE THE INSTALLATION OF ALL EQUIPMENT IN A NEAT WORKMANSHIP-LIKE MANNER. EQUIPMENT SHALL BE AS SCHEDULED OR APPROVED EQUAL. EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES HAVING JURISDICTION. COORDINATE BETWEEN ALL TRADES PRIOR TO STARTING ANY WORK. PROVIDE ADEQUATE CLEARANCE FOR PROPER OPERATION, SERVICE/ MAINTENANCE, AIR FLOW, ETC. PIPING AND DUCTWORK ARE NOT PERMITTED IN ELECTRICAL, ELEVATOR MACHINE, TELECOM, IT, AND COMMUNICATION ROOMS. ALL ELEVATIONS INDICATED IN THIS WAY (8' – 4") ARE THE ELEVATIONS FROM THE FINISHED FLOOR DIRECTLY BELOW TO THE BOTTOM OF THE BARE PIPE OR DUCT.

F. EXECUTE ALL WORK FOLLOWING LOCAL, STATE AND/OR NATIONAL CODES, ORDINANCES AND REGULATIONS GOVERNING THE PARTICULAR CLASS OF WORK INVOLVED. THE GOVERNING CODES ARE MINIMUM REQUIREMENTS. THE DRAWINGS AND/OR SPECIFICATIONS SHALL PREVAIL WHERE THE DRAWINGS ARE/OR ACCOMPANYING SPECIFICATIONS EXCEED THE CODE REQUIREMENTS.

G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING AND PAYING ALL FEES AND OBTAINING NECESSARY PERMITS AND CERTIFICATES OF INSPECTION. THE CONTRACTOR SHALL DELIVER ALL CERTIFICATES OF INSPECTION TO OWNER/CONSTRUCTION MANAGER INCLUDING COPIES WITH MAINTENANCE MANUALS.

H. CONTRACTOR SHALL PROVIDE DETAILED AND DIMENSIONED HVAC DUCTWORK AND PIPING FABRICATION SHOP DRAWINGS FOR APPROVAL BY THE ENGINEER. DURING THE INSTALLATIONS OF THE WORK, THE CONTRACTOR SHALL KEEP DETAILED RECORDS OF ANY AND ALL CHANGES MADE FROM THE WORK AS ACTUALLY INSTALLED. THESE RECORD DRAWINGS SHALL BE NOTED "AS-BUILT", AND SUBMITTED TO THE ARCHITECT / ENGINEER FOR REVIEW WITH ALL O&M MANUALS.

I. PROPERLY SUPPORT ALL EQUIPMENT, DUCTWORK AND PIPING WITHIN THE BUILDING AND PROVIDE ADEQUATE PROVISIONS FOR SLOPE AND ANCHORAGE. CONTRACTOR SHALL USE HANGERS, RODS AND INSERTS LISTED BY UNDERWRITERS' LABORATORIES FOR THE SERVICE INTENDED, SECURELY SUPPORTED BY STRUCTURAL MEMBERS WHICH IN TURN ARE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE.

J. CLEARANCE REQUIREMENTS BETWEEN MECHANICAL COMPONENTS AND SWITCHBOARDS, PANELBOARDS, POWER PANELS, MOTOR CONTROL CENTERS AND TRANSFORMERS SHALL CONFORM TO THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE.

K. DUCTWORK AND PIPING SHALL BE INSTALLED CONCEALED ABOVE CEILINGS, INSIDES CHASES / WALLS, ETC. IN GENERAL LOCATIONS SHOWN, UNLESS NOTED OTHERWISE. CONFORM TO ALL ARCHITECTURAL, STRUCTURAL, AND FINISH CONDITIONS OF THE BUILDING. WHEREVER CONDITIONS ARISE WHICH WILL CAUSE NORMALLY CONCEALED MATERIALS TO BE EXPOSED, IMMEDIATELY CALL THIS FACT TO THE ARCHITECT AND STOP WORK IN THOSE AREAS UNTIL THE ARCHITECT DIRECTS THE RESUMPTION OF THE WORK AND THE PROCEDURES TO BE FOLLOWED. ALL DUCTWORK, PIPING AND ASSOCIATED ACCESSORIES IN OCCUPIED AREAS THAT ARE EXPOSED TO VIEW SHALL BE PAINTED. REFER TO ARCHITECT FOR COLOR. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS. IN ANY CASE WHERE A PIPE OR DUCT SHOWN ON THE PLAN SHEET DIFFERS FROM THAT SHOWN IN A SCHEMATIC OR DETAIL, PROVIDE THE LARGER OF THE TWO SIZES SHOWN.

L. SLOPE AND ARRANGE HVAC PIPING TO ESTABLISH HIGH POINTS FOR AIR ELIMINATION AND LOW POINTS TO PERMIT PROPER DRAINAGE. PROVIDE AIR VENTS AT HIGH POINTS AND DRAIN VALVES AT LOW POINTS. ALL PIPING SHOWN ON FLOOR PLANS SHALL BE ROUTED ABOVE THE CEILING ON THE FLOOR WHERE IT IS SHOWN, UNLESS OTHERWISE NOTED. ARRANGE PIPING CONNECTIONS TO ALL EQUIPMENT TO ALLOW EASY REMOVAL OF EQUIPMENT, COILS, FANS, MOTORS, FILTERS, ACCESS PANELS, ETC. PROVIDE UNIONS, FLANGES, AND VALVES AT CONNECTIONS. ALL EXTERIOR PIPING SHALL BE INSULATED AND JACKETED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. PIPING RUN-OUTS TO TERMINAL UNITS SHALL BE 3/4" UNLESS OTHERWISE NOTED. MINIMUM PIPE SIZE FOR THE PROJECT SHALL BE 3/4".

M. WALL MOUNTED THERMOSTATS / HUMIDISTATS / SENSORS SHALL BE MOUNTED AT 42" A.F.F. APPROX. WHERE INDICATED ON PLANS, UNLESS OTHERWISE NOTED. SENSOR LOCATION SHALL BE MAX 12" FROM END OF WALL AND/OR DOOR JAMB. COORDINATE EXACT LOCATIONS WITH ARCHITECT, ELECTRICAL CONTRACTOR, AND BETWEEN OTHER TRADES PRIOR TO MOUNTING. DO NOT MOUNT ABOVE DIMMERS. THERMOSTATS ON EXTERIOR WALLS OR WALLS SEPARATING CONDITIONED SPACE FROM UNCONDITIONED SPACE SHALL BE INSULATED. THERMOSTATS / HUMIDISTATS / SENSORS SHALL NOT BE INSTALLED ON DECORATIVE WALLS.

N. FIRE, SMOKE, AND FIRE/SMOKE DAMPERS SHALL BE INSTALLED AS INDICATED AND WHERE OTHERWISE REQUIRED BY LOCAL CODES AND ORDINANCES. REFER TO ARCHITECTURAL DRAWINGS / BUILDING CODE SUMMARY / LIFE SAFETY PLANS FOR LOCATIONS OF ALL FIRE RESISTANT / RATED WALLS, CEILINGS, CHASES, SHAFTS, SMOKE COMPARTMENTS, AND LOCATIONS OF EGRESS CORRIDORS. DAMPER SIZES INDICATED ARE CLEAR INSIDE AIRSTREAM DIMENSIONS. PROVIDE MEANS TO ADEQUATELY SERVICE THE DAMPER'S FUSIBLE LINKS. PROVIDE 12" X 12" MINIMUM METAL ACCESS DOORS IN ALL GYPBOARD AND PLASTER CEILINGS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND UL LISTING FOR SERVICE INTENDED. PROVIDE METAL SLEEVES AS REQUIRED. PROVIDE ACCESS DOORS IN DUCTWORK AT ALL FIRE, SMOKE, AND FIRE/SMOKE DAMPERS. ALL SMOKE AND FIRE/SMOKE DAMPERS REQUIRE INTEGRAL SMOKE DETECTORS AND SHALL BE INSTALLED BY THE MECHANCIAL CONTRACTOR. IDENTIFY ACCESS DOORS IN ACCORDANCE WITH SPECIFICATIONS AND CODE.

O. ALL DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION. IN NO CASE SHALL THE DUCTWORK BE LESS THAN 26 GAUGE FOR LOW PRESSURE DUCTWORK AND 24 GAUGE FOR MEDIUM PRESSURE DUCTWORK. ALL DUCTWORK SHALL BE CONSTRUCTED TO SEAL CLASS 'A' AS REFERENCED IN SMACNA STANDARDS. ALL NON-WELDED JOINTS AND SEAMS SHALL BE SEALED. THIS INCLUDES BUT IS NOT LIMITED TO TRANSVERSE JOINTS, LONGITUDINAL SEAMS, DUCT WALL PENETRATIONS, SPIN-INS, TAPS, AND OTHER BRANCH CONNECTIONS, ACCESS DOORS, ACCESS PANELS, AND DUCT CONNECTIONS TO EQUIPMENT. OPENINGS FOR ROTATING SHAFTS SHALL ALSO BE SEALED WITH BUSHINGS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

P. ALL OUTSIDE AIR, SUPPLY AIR, AND RETURN AIR DUCTWORK AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION WHERE LOCATED OUTSIDE THE BUILDING. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

Q. CEILING-MOUNTED AIR DEVICES SHALL BE LOCATED APPROXIMATELY AS SHOWN. COORDINATE FRAME MOUNTING TYPES FOR AIR DEVICES WITH CEILING TYPES INDICATED ON ARCHITECTURAL REFLECTED CEILING PLAN. ALL CEILING DIFFUSERS TO BE 4-WAY TYPE, UNLESS NOTED OTHERWISE BY AIRFLOW ARROWS ON FLOOR PLAN. INSULATE THE BACKSIDE OF ALL CEILING AIR DEVICES. REFER TO PLANS AND AIR DEVICE SCHEDULE FOR SIZE OF DUCT RUNOUT AND AIR DEVICE CONNECTION SIZE. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS, OF ALL CEILING FEATURES, LIGHTS, AIR DEVICES, FINISHES, CEILING HEIGHTS AND ELECTRICAL DRAWINGS FOR SPEAKERS, DETECTORS, POWER OUTLETS, ETC, AND FIRE PROTECTION SHOP DRAWINGS FOR FIRE SPRINKLER HEADS. COORDINATE FINAL LOCATIONS WITH EXISTING CONDITIONS AND BETWEEN TRADES PRIOR TO MOUNTING. ALL CEILING MOUNTED AND WALL MOUNTED AIR DEVICE FINISHES SHALL MATCH ADJACENT ARCHITECTURAL SURFACE UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL COORDINATE COLOR WITH OWNER.

R. BRANCH DUCT RUN-OUTS TO AIR DEVICES SHALL BE SAME SIZE AS NECK, UNLESS NOTED OTHERWISE. PROVIDE A SPIN-IN TAP WITH MANUAL VOLUME DAMPER AT MAIN DUCT TAP AND EXTEND AS SHOWN. EXTEND FLEX DUCTWORK A MAXIMUM OF 5'-0" FROM AIR DEVICES. INSTALL AS STRAIGHT AS POSSIBLE WITH LONG RADIUS BENDS WITH CLAMPS TO BE USED AT BOTH ENDS. ALL DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS SHALL BE PROVIDED WITH REMOTE DAMPER OPERATORS.

S. TURNING VANES SHALL BE INSTALLED IN ALL MITERED ELBOWS AND AIR EXTRACTORS. PROVIDE ADEQUATE ACCESS AND MEANS TO ADJUST / BALANCE ALL AIR EXTRACTORS. TURNING VANES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION.

T. MEDIUM PRESSURE BRANCH DUCT RUN-OUTS TO AIR TERMINAL UNITS SHALL BE SAME SIZE AS AIR TERMINAL UNIT INLET, UNLESS NOTED OTHERWISE. INCREASE DUCT SIZE BY 2" IF THE DISTANCE BETWEEN THE MAIN DUCT AND THE TERMINAL UNIT INLET IS GREATER THAN 6'-0" AND / OR UTILIZES MORE THAN 2-90 DEGREE ELBOWS. PROVIDE A SPIN-IN FLARED CONICAL TAP AT MEDIUM PRESSURE DUCT MAIN AND EXTEND AS SHOWN. FLEXIBLE DUCTWORK SHALL NOT BE USED TO MAKE CHANGES IN DIRECTION IN MEDIUM PRESSURE DUCT.

U. ACCESS PANELS SHALL BE PROVIDED FOR EACH LOCATION WHERE EQUIPMENT, MANUAL VALVES, AUTOMATIC CONTROL VALVES, AUTOMATIC DAMPER MECHANISMS, FIRESMOKE DAMPERS, ETC., ARE INSTALLED BEHIND FURRINGS, CHASES, OR ABOVE INACCESSIBLE CEILINGS. SIZE AND POSITION EACH ACCESS PANEL SO THAT THE CONCEALED EQUIPMENT CAN BE PROPERLY SERVICED, MINIMUM SIZE SHALL BE 18" X 18" UNLESS FIELD CONDITIONS DICTATE OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS / SPECIFICATIONS AND COORDINATE WITH GENERAL CONTRACTOR FOR EXACT LOCATION, CONDITIONS, SIZES, FINISHES, ETC.

V. PROVIDE REMOTE DAMPER OPERATORS FOR EACH LOCATION WHERE VOLUME DAMPERS ARE INSTALLED BEHIND FURRINGS, CHASES, OR ABOVE INACCESSIBLE CEILINGS. SIZE AND POSITION REMOTE DAMPER OPERATOR SO THAT THE CONCEALED VOLUME DAMPERS CAN BE ADJUSTED. REMOTE OPERATOR SHALL BE A STRAIGHT SOLID SHAFT EXTENSION IN-LINE FOR DIRECT CONNECTION TO VOLUME DAMPER SHAFT WITHOUT GEAR MECHANISM, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. COORDINATE WITH ARCHITECT AND GENERAL CONTRACTOR FOR APPROVAL, EXACT LOCATION, CONDITIONS, SIZES, FINISHES, ETC.

W. HVAC SYSTEMS SHALL BE INSTALLED COMPLETE WITH ALL BALANCING AND REGULATING DEVICES NECESSARY FOR THE TAB CONTRACTOR TO PERFORM THEIR WORK. COORDINATE WITH THE TAB CONTRACTOR TO DETERMINE THEIR EXACT REQUIREMENTS. ALL HVAC SYSTEMS SHALL BE STARTED PER MANUFACTURER'S START-UP INSTRUCTIONS. REPLACE FILTERS, BELTS, SHEAVES, DAMPERS, VALVES, STARTERS AND HEATERS AS NECESSARY PRIOR TO TAB.

X. CONTRACTOR SHALL PROVIDE ALL TESTING, ADJUSTING, AND BALANCING WORK TO INCLUDE, BUT NOT LIMITED TO, ADJUSTMENT OF DAMPERS, BALANCE AIR DEVICES. VERIFY CORRECT SETPOINT AND CALIBRATION OF THERMOSTATS. VERIFY ALL SEQUENCE OF OPERATION, STAGING OF COOLING/ HEATING AS APPLICABLE, BALANCE OF CONDENSER AND HEATING WATER SYSTEMS, PUMPS, BOILERS, COOLING TOWERS, NOTE DEFICIENCIES IN MECHANICAL SYSTEM, ETC. FOR A CORRECTLY OPERATING MECHANICAL SYSTEM. CONTRACTOR SHALL REPLACE ALL FILTERS AND CLEAN ALL STRAINERS. TESTING AND BALANCING SUBCONTRACTOR MUST BE A MEMBER IN GOOD STANDING OF AABC AND SUBMIT REPORT ON AABC OR SMACNA FORMS FOR APPROVAL BY THE ENGINEER, PROVIDE A TEST AND BALANCE REPORT TO THE MECHANICAL INSPECTOR AT TIME OF HEATING FINAL INSPECTION. TAB CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO LOCATE DP SENSORS IN PIPING FOR PUMPING SYSTEMS AND STATIC PRESSURE SENSORS IN DUCTWORK FOR FAN SYSTEMS.

Y. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS. CONTRACTOR SHALL ENSURE THE FURNISHING AND INSTALLATION OF ALL BRANCH ELECTRICAL CIRCUIT WIRING, CONDUITS, PROTECTIVE DEVICES, DISCONNECTS, AND ACCESSORIES FOR ALL ELECTRICAL CONTROL POWER REQUIREMENTS. THE DRAWINGS AND/OR SPECIFICATIONS SHALL PREVAIL WHERE THE DRAWINGS ARE/OR ACCOMPANYING SPECIFICATIONS EXCEED THE CODE REQUIREMENTS. INCLUDE, BUT NOT LIMITED TO CONTROL PANELS, ADDRESSES FOR ALL ELECTRICAL CONTROL DEVICES, SMOKE DETECTORS, MONITORING SENSORS, CONTROL / MOTORIZED DAMPER, PRESSURE MONITORS, FIRE/SMOKE DAMPERS, VARIABLE FREQUENCY DRIVES, VAV TERMINALS (24V TRANSFORMER) AND ALL OTHER 120V CONTROLS AS REQUIRED FOR A COMPLETE CONTROL SYSTEM WHETHER SHOWN TO BE PERFORMED BY OTHER OR NOT. ALL ELECTRICAL WORK SHALL BE INSTALLED IN FULL ACCORDANCE WITH REQUIREMENTS OF ELECTRICAL SPECIFICATIONS AND THE NATIONAL ELECTRICAL CODE.

Z. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING FINISHES AND FURNISHINGS FROM DAMAGE DURING WORK.

AA. CONTRACTOR TO PROVIDE TEMPORARY SPACE CONDITIONING DURING ALL HVAC EQUIPMENT OUTAGES AND PRIOR TO HVAC EQUIPMENT START-UP.

BB. COMMISSIONING OF THE MECHANICAL SYSTEMS ON THIS PROJECT IS PART OF THE SCOPE OF WORK. DOCUMENTATION AND TESTING OF THESE SYSTEMS, AS WELL AS TRAINING OF THE OWNER'S OPERATION / MAINTENANCE PERSONNEL, IS REQUIRED IN COOPERATION WITH THE OWNER'S REPRESENTATIVE AND THE COMMISSIONING AGENT. PROJECT

MECHANICAL KEYED NOTES

M3.12 INTEGRATE ALL EXISTING EQUIPMENT AND ASSOCIATED CONTROL POINTS INTO NEW BUILDING AUTOMATION SYSTEM IN AREA O OF BUILDING. ALL EXISTING CONTROLS HARDWARE AND INFRASTRUCTURE TO REMAIN, INCLUDING ALL END DEVICES, FILED DEVICES, CONTROLLERS, SENSORS, ECT. LOCATE AND INTEGRATE EXISTING BUILDING CONTROL PANEL INTO NEW MAIN CAMPUS BAS SYSTEM.

M3.14 EXISTING AREA P BAS SYSTEM AND SCHEDULE TO REMAIN. LINK EXISTING CONTROLS GRAPHICS INTO NEW MAIN BUILDING CONTROL SYSTEM.



1 **MECHANICAL PLAN LEVEL 1 - OVERALL**
1" = 40'-0"

DBR
SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY
9990 Richmond Avenue
South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.9260 f

REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

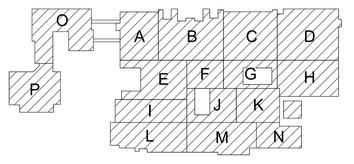
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - OVERALL

SHEET NUMBER: M2.21

KEY PLAN



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MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.7 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M2.6 EXISTING PIPING TO REMAIN.

M2.7 CONNECT NEW 3/4" HOT WATER HYDRONIC PIPING FROM NEW FAN POWERED TERMINAL UNITS TO EXISTING HOT WATER MAINS AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL PIPE ROUTING WITH EXISTING CONDITIONS.

M3.3 PROVIDE COMBINATION TEMPERATURE/HUMIDITY SENSOR AT APPROXIMATE LOCATION SHOWN. SENSOR SHALL BE INSTALLED AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE FINAL LOCATION WITH ARCHITECT AND OTHER TRADES TO AVOID CONFLICTS.

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

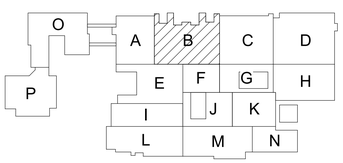
M3.15 PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M4.1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN AS PART OF ALTERNATE 2. SUPPORT UNIT FROM STRUCTURE. PROVIDE ALL CLEARANCES AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH ADJACENT PIPING, WALLS, CONDUIT, STRUCTURAL MEMBERS, ETC. RE: DETAIL 10/M6.01.

1 MECHANICAL PLAN LEVEL 1 - AREA B

1/8" = 1'-0"

KEY PLAN



PN

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9990 Richmond Avenue
South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.9260 f

REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA B

SHEET NUMBER: M2.21B

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MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.7 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

1 M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

1 M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M2.7 CONNECT NEW 3/4" HOT WATER HYDRONIC PIPING FROM NEW FAN POWERED TERMINAL UNITS TO EXISTING HOT WATER MAINS AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL PIPE ROUTING WITH EXISTING CONDITIONS.

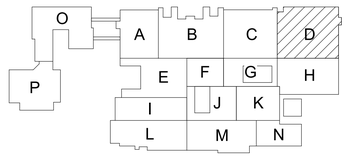
M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

M4.1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN AS PART OF ALTERNATE 2, SUPPORT UNIT FROM STRUCTURE. PROVIDE ALL CLEARANCES AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH ADJACENT PIPING, WALLS, CONDUIT, STRUCTURAL MEMBERS, ETC. RE: DETAIL 10/M6.01.

1 **MECHANICAL PLAN LEVEL 1 - AREA D**
1/8" = 1'-0"

KEY PLAN



PN

DBR
SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY
9990 Richmond Avenue
South Building, Suite 300
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713.914.0888 p 713.914.9260 f

REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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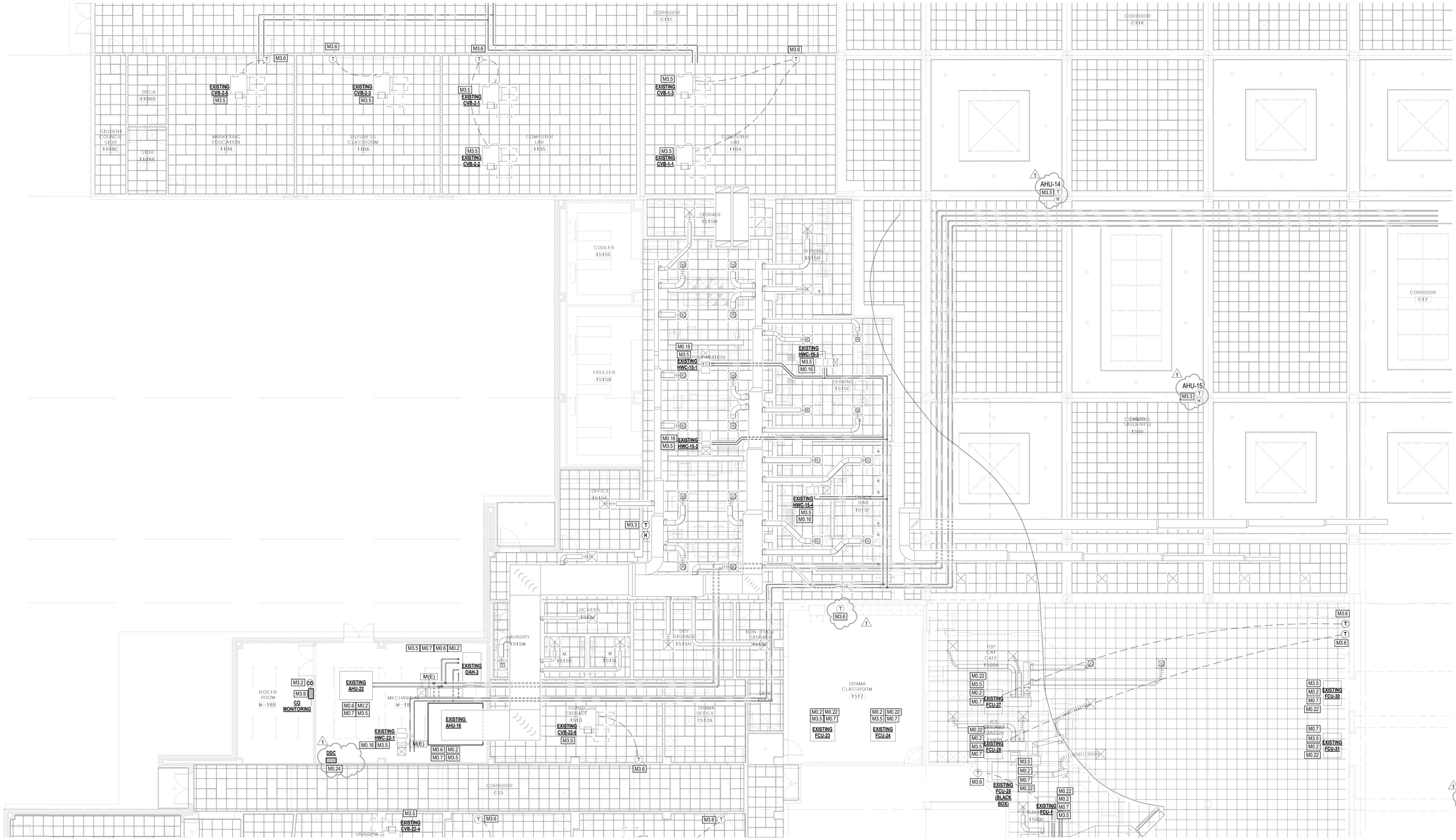
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA D

SHEET NUMBER: M2.21D

7/21/2026 10:38:29 AM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt



1 MECHANICAL PLAN LEVEL 1 - AREA E

1/8" = 1'-0"

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.6 EXISTING UNIT'S ASSOCIATED DUCTWORK TO REMAIN. ASSOCIATED DAMPER ACTUATORS TO BE REMOVED AND REPLACED.

M0.7 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE ACTUATORS TO BE REMOVED AND REPLACED.

1 M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

MECHANICAL KEYED NOTES

1 M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M3.2 PROVIDE CARBON MONOXIDE SENSOR (MACURCO CM-6 OR APPROVED EQUAL) AT APPROXIMATELY THIS LOCATION. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. SENSOR SHALL MONITOR CARBON MONOXIDE LEVELS IN BOILER ROOM AS DESCRIBED IN HOT WATER SYSTEM CONTROL SEQUENCE

M3.3 PROVIDE COMBINATION TEMPERATURE/HUMIDITY SENSOR AT APPROXIMATE LOCATION SHOWN. SENSOR SHALL BE INSTALLED AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE FINAL LOCATION WITH ARCHITECT AND OTHER TRADES TO AVOID CONFLICTS.

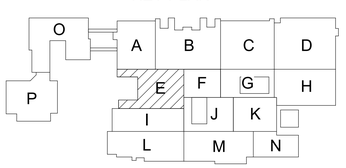
MECHANICAL KEYED NOTES

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

M3.9 PROVIDE CARBON MONOXIDE MONITORING CONTROL PANEL AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL LOCATION WITH ARCHITECT AND OTHER TRADES TO AVOID CONFLICTS.

KEY PLAN



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REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA E

SHEET NUMBER: M2.21E

7/21/2026 10:40:02 AM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

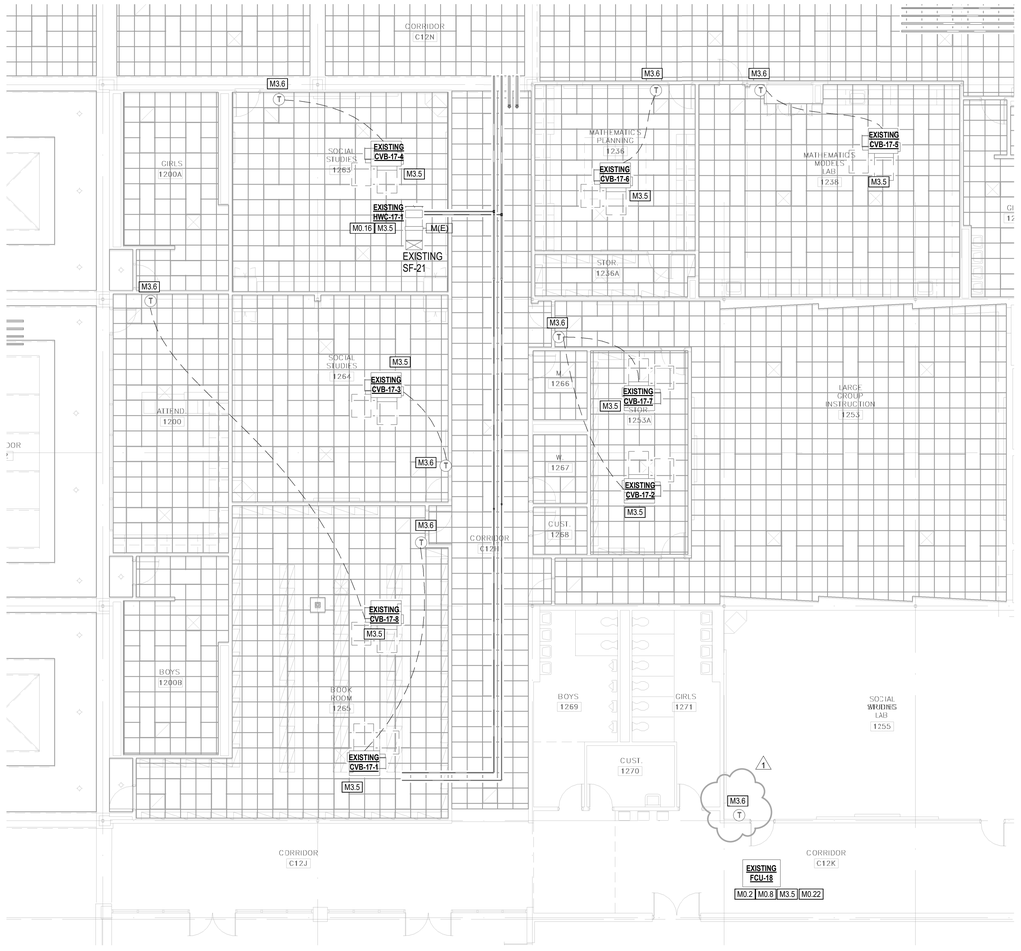
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M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.



1 MECHANICAL PLAN LEVEL 1 - AREA F

1/8" = 1'-0"

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1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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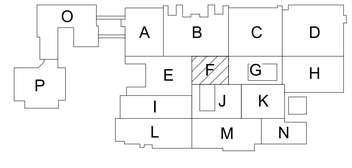
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA F

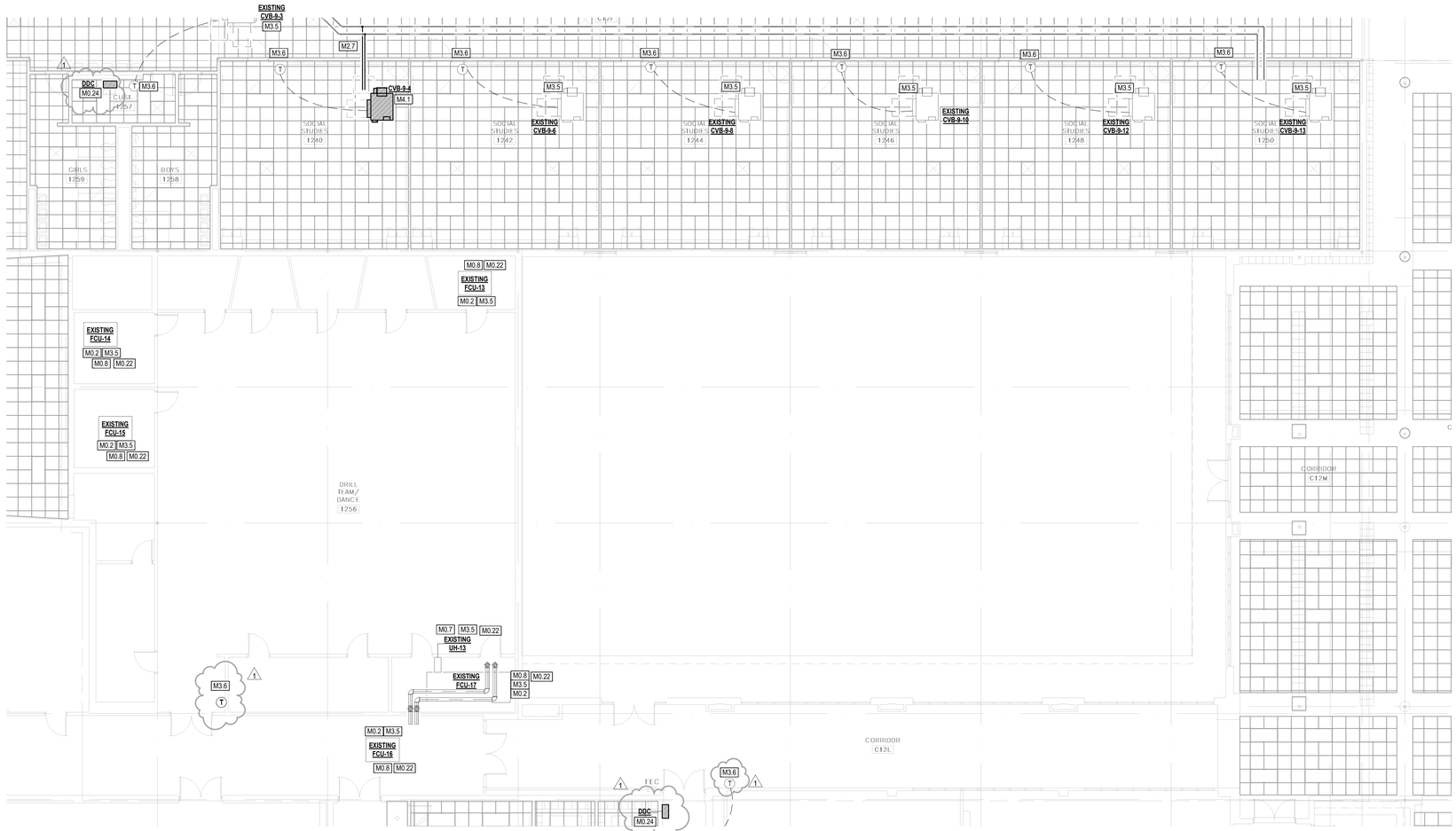
SHEET NUMBER: M2.21F

KEY PLAN



PN

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1 MECHANICAL PLAN LEVEL 1 - AREA G

1/8" = 1'-0"

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.7 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

1 M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M2.7 CONNECT NEW 3/4" HOT WATER HYDRONIC PIPING FROM NEW FAN POWERED TERMINAL UNITS TO EXISTING HOT WATER MAINS AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL PIPE ROUTING WITH EXISTING CONDITIONS.

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

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M4.1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN AS PART OF ALTERNATE 2, SUPPORT UNIT FROM STRUCTURE. PROVIDE ALL CLEARANCES AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH ADJACENT PIPING, WALLS, CONDUIT, STRUCTURAL MEMBERS, ETC. RE: DETAIL 1/M6.01.

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1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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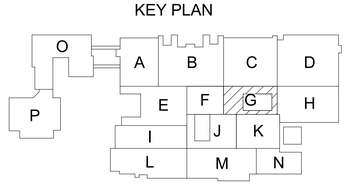
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA G

SHEET NUMBER: M2.21G

KEY PLAN



PN

7/21/2026 10:41:35 AM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.6 EXISTING UNIT'S ASSOCIATED DUCTWORK TO REMAIN. ASSOCIATED DAMPER ACTUATORS TO BE REMOVED AND REPLACED.

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

1 M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

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M2.7 CONNECT NEW 3/4" HOT WATER HYDRONIC PIPING FROM NEW FAN POWERED TERMINAL UNITS TO EXISTING HOT WATER MAINS AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL PIPE ROUTING WITH EXISTING CONDITIONS.

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

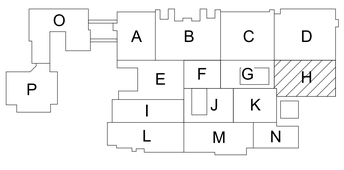
M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

1 M3.15 PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M4.1 PROVIDE FAN POWERED TERMINAL UNIT AT APPROXIMATE LOCATION SHOWN AS PART OF ALTERNATE 2, SUPPORT UNIT FROM STRUCTURE. PROVIDE ALL CLEARANCES AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE WITH ADJACENT PIPING, WALLS, CONDUIT, STRUCTURAL MEMBERS, ETC. RE: DETAIL 10/M6.01.

1 **MECHANICAL PLAN LEVEL 1 - AREA H**
1/8" = 1'-0"

KEY PLAN



PN

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REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA H

SHEET NUMBER: M2.21H

7/21/2026 10:43:03 AM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.7 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

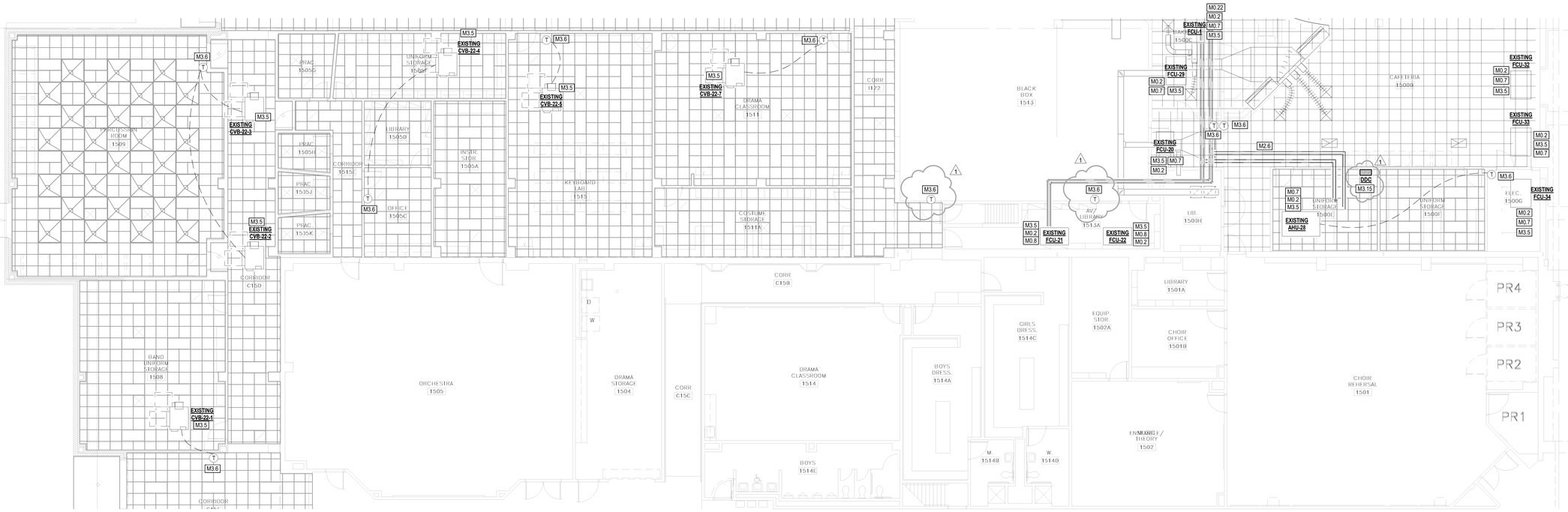
M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

M2.6 EXISTING PIPING TO REMAIN.

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

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1 **MECHANICAL PLAN LEVEL 1 - AREA I**
1/8" = 1'-0"

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Houston, Texas 77042
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REVISION:

No.	DATE	DESCRIPTION
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1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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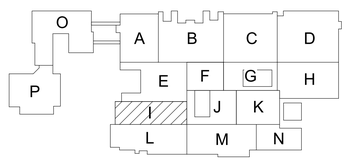
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA I

SHEET NUMBER: M2.21I

KEY PLAN



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7/21/2026 10:43:54 AM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

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M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

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1 **MECHANICAL PLAN LEVEL 1 - AREA J**
1/8" = 1'-0"

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REVISION:

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1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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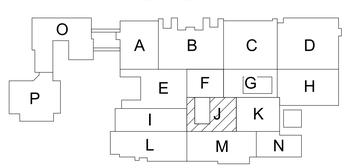
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA J

SHEET NUMBER: M2.21J

KEY PLAN



PN

7/21/2026 10:44:42 AM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.6 EXISTING UNIT'S ASSOCIATED DUCTWORK TO REMAIN. ASSOCIATED DAMPER ACTUATORS TO BE REMOVED AND REPLACED.

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.14 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN.

M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW BAS.

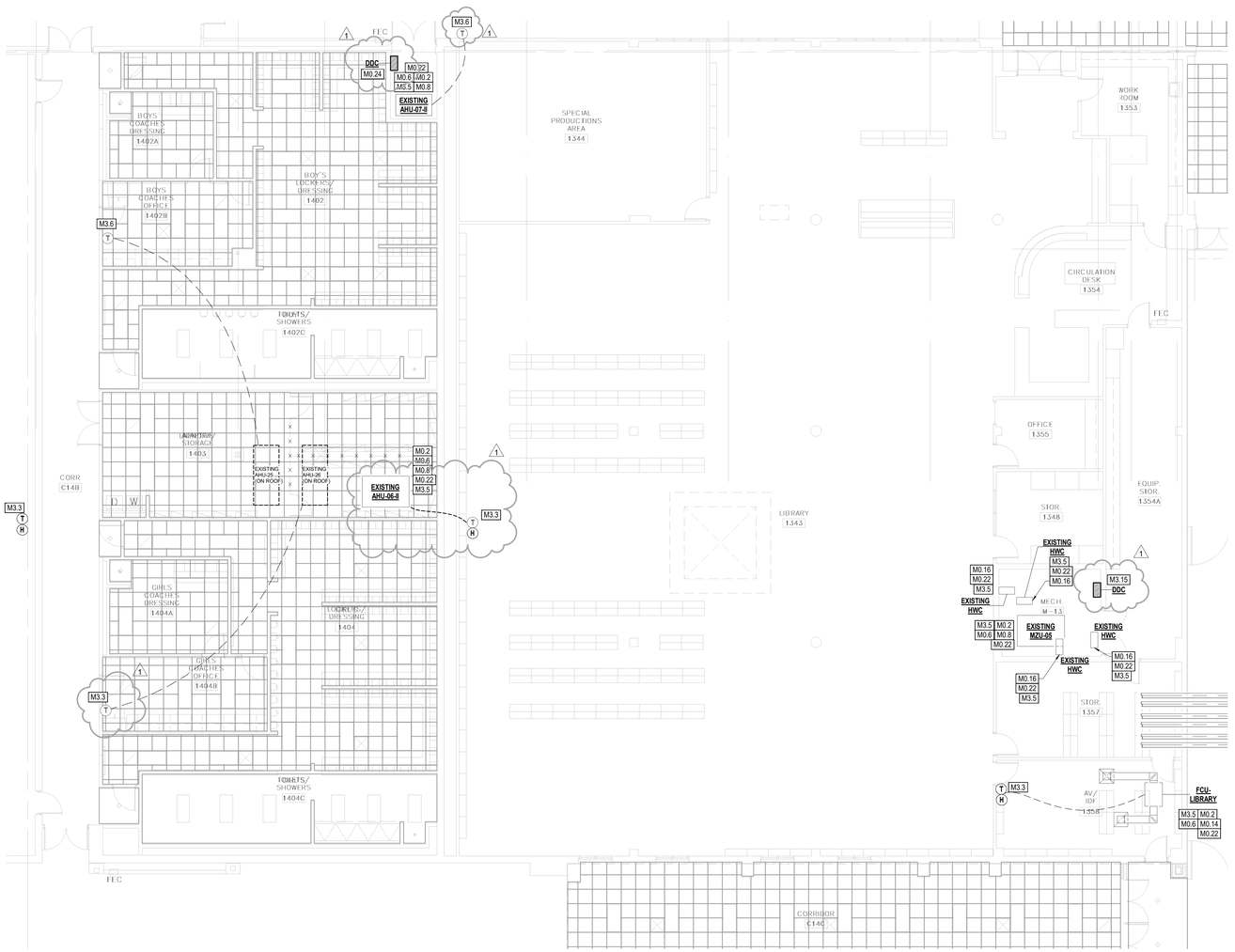
M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M3.3 PROVIDE COMBINATION TEMPERATURE/HUMIDITY SENSOR AT APPROXIMATE LOCATION SHOWN. SENSOR SHALL BE INSTALLED AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE FINAL LOCATION WITH ARCHITECT AND OTHER TRADES TO AVOID CONFLICTS.

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

M3.15 PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.



1 **MECHANICAL PLAN LEVEL 1 - AREA K**
1/8" = 1'-0"

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REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

Tomball ISD Chiller Package 1(b) - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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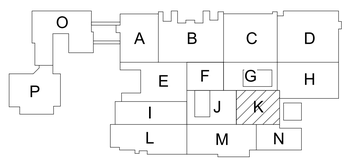
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA K

SHEET NUMBER: M2.21K

KEY PLAN



PN

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Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

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M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

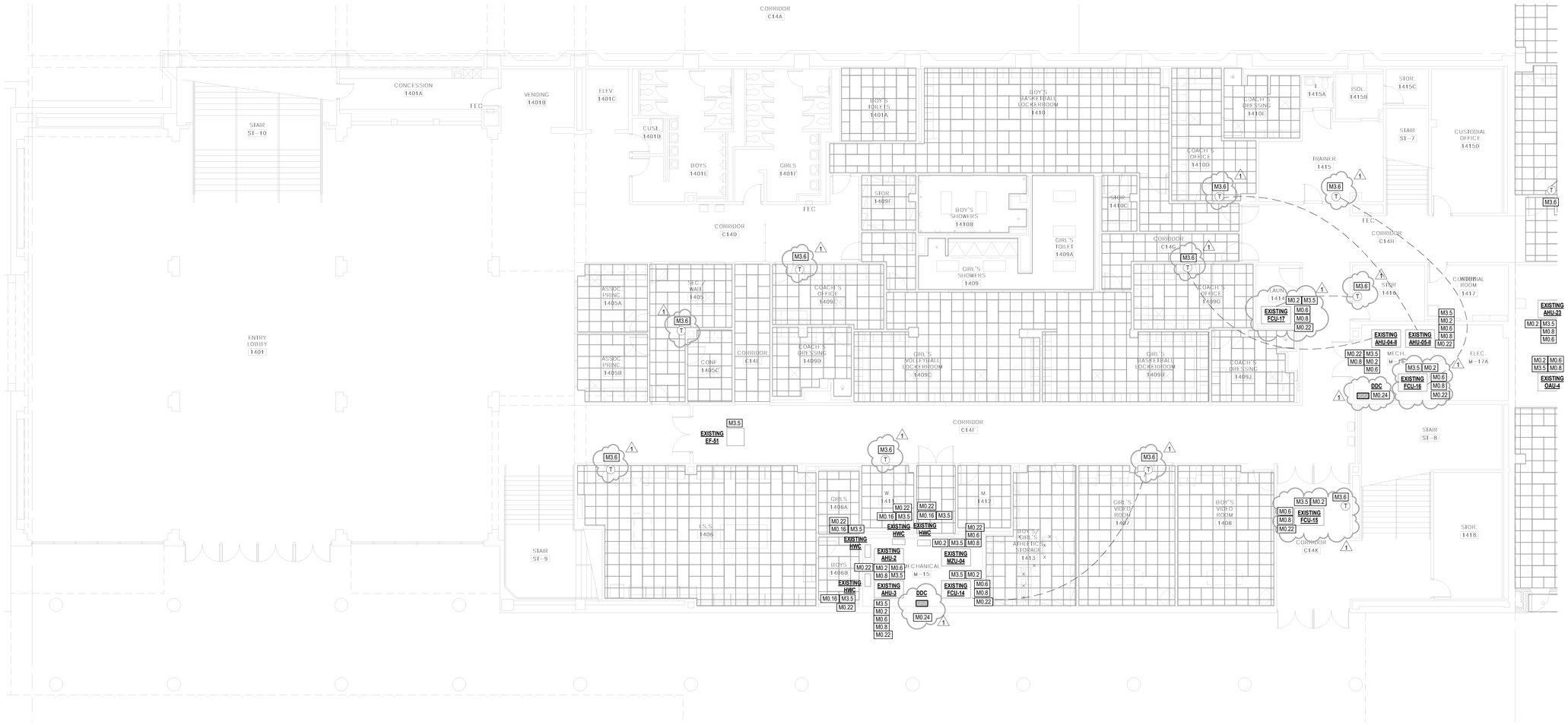
1 M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW, APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.22 FIELD VERIFY ALL CONTROL POINT VALUES (INCLUDING BUT NOT LIMITED TO CFMS, GPMS, PIPE SIZING, FPM, ETC)NECESSARY TO ACHIEVE NECESSARY CONTROLS UPGRADE FOR EQUIPMENT PRIOR TO INTEGRATION WITH NEW GAS.

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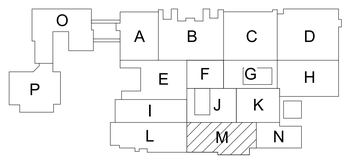
M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.



1 MECHANICAL PLAN LEVEL 1 - AREA M

1/8" = 1'-0"

KEY PLAN



PN

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1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

Tomball ISD Chiller Package 1(b) - Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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PROJECT NUMBER 260018.001

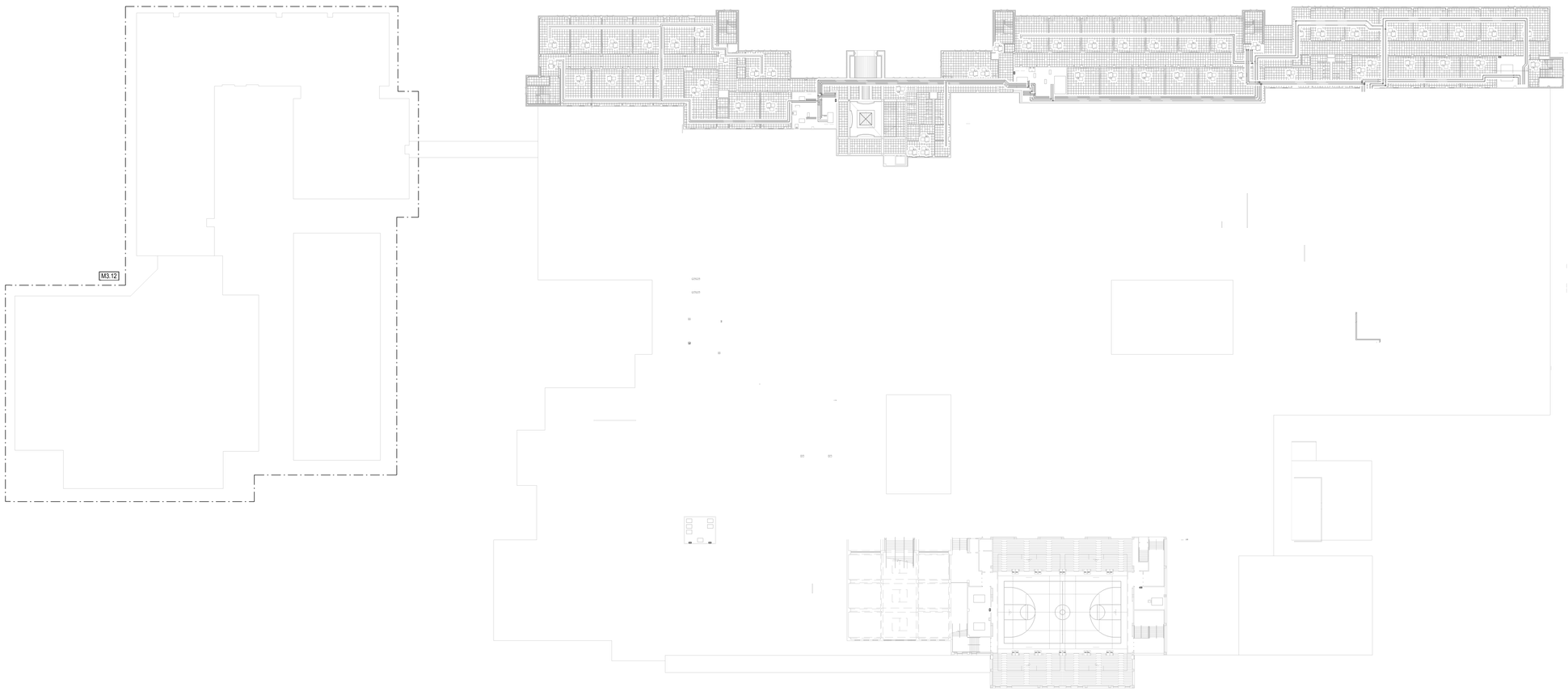
SHEET TITLE: MECHANICAL PLAN LEVEL 1 - AREA M

SHEET NUMBER: M2.21M

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Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M3.12 INTEGRATE ALL EXISTING EQUIPMENT AND ASSOCIATED CONTROL POINTS INTO NEW BUILDING AUTOMATION SYSTEM IN AREA O OF BUILDING. ALL EXISTING CONTROLS HARDWARE AND INFRASTRUCTURE TO REMAIN, INCLUDING ALL END DEVICES, FILED DEVICES, CONTROLLERS, SENSORS, ECT. LOCATE AND INTEGRATE EXISTING BUILDING CONTROL PANEL INTO NEW MAIN CAMPUS BAS SYSTEM.



1 **MECHANICAL PLAN LEVEL 2 -OVERALL**
1" = 40'-0"

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SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 01/01/2023

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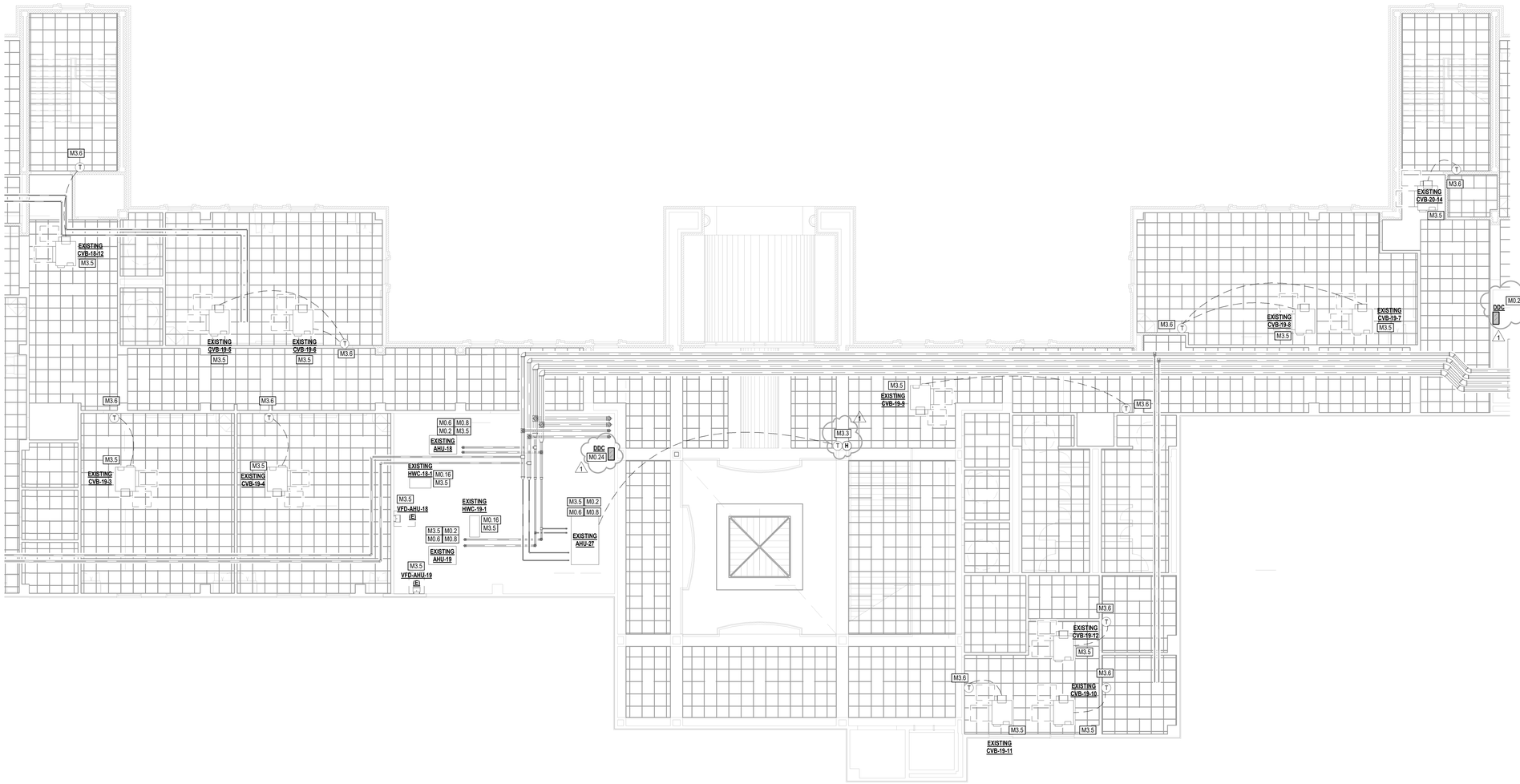
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 2 -OVERALL

SHEET NUMBER: M2.22

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1 MECHANICAL PLAN LEVEL 2 - AREA B

1/8" = 1'-0"

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

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M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

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SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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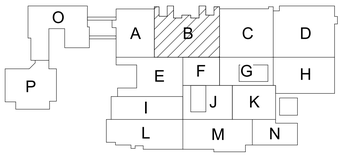
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 2 - AREA B

SHEET NUMBER: M2.22B

KEY PLAN



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MECHANICAL KEYED NOTES

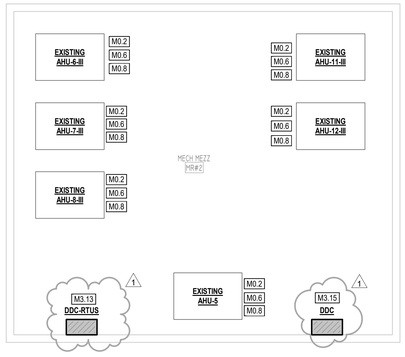
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M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M3.13 PROVIDE DDC PANEL WITHIN MECHANICAL MEZZANINE TO SERVE NEW ROOF TOP UNITS AS PART OF ALTERNATE 1. FIELD COORDINATE FINAL LOCATION TO ENSURE PROPER CLEARANCES ARE MET FOR NEW AND EXISTING UNITS.

M3.15 PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.



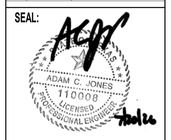
1 **ENLARGED MECHANICAL PLAN - MR#2 MECH MEZZ**
1/4" = 1'-0"

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SEAL:



Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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PROJECT NUMBER 260018.001

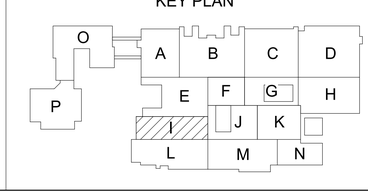
SHEET TITLE:

MECHANICAL PLAN
LEVEL 2 - MECH MEZZ
MR#2

SHEET NUMBER:

M2.22I

KEY PLAN



PN

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Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

MECHANICAL KEYED NOTES

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

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1 M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

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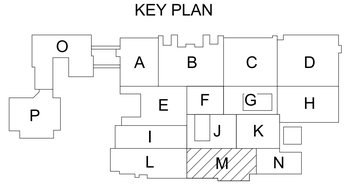
M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

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1 **MECHANICAL PLAN LEVEL 2 - AREA M**
1/8" = 1'-0"

KEY PLAN



PN

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SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 2 - AREA M

SHEET NUMBER: M2.22M

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M2.4 ROUTE CONDENSATE DRAIN LINE FROM ROOFTOP UNIT TO NEAREST ROOF DRAIN. SIZE AS INDICATED. FIELD COORDINATE EXACT ROUTING. PROVIDE PIPE ROOF SUPPORTS AT A MAXIMUM OF 10' O.C. RE: DETAIL 14/M6.01.

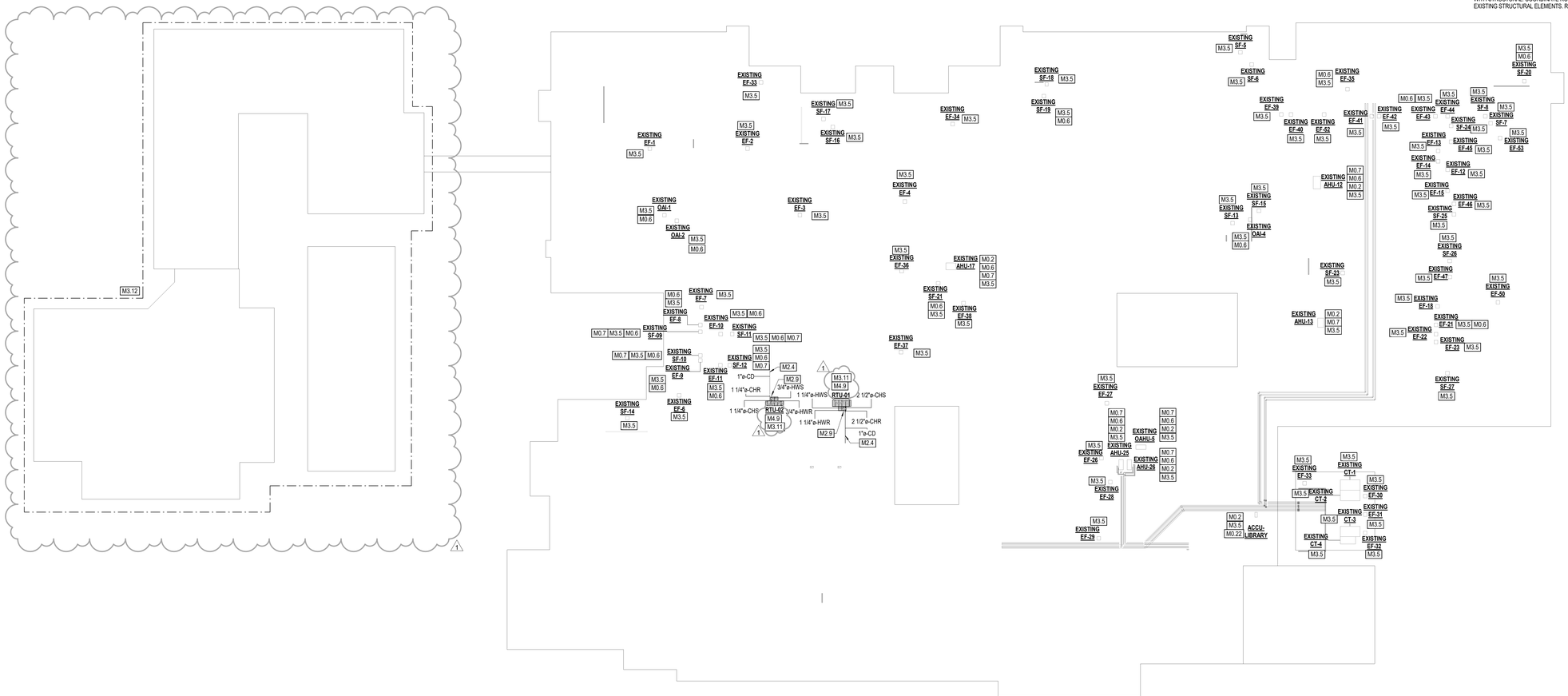
M2.9 ROUTE NEW ROOF UNIT HYDRONIC PIPING DOWN INTO BUILDING AND CONNECT TO EXISTING PIPING. COORDINATE ROOF PENETRATIONS AND ROUTING WITH EXISTING STRUCTURAL ELEMENTS. RE: M3.02. FOR APPROXIMATE ROUTING. FIELD VERIFY FINAL ROUTING. RE: DETAIL 11,12,13/M6.01.

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

1 M3.11 PROVIDE UNIT WITH FACTORY MOUNTED VFD IN UNIT. CONTROLS CONTRACTOR TO COORDINATE WITH VENDOR FOR CONTROLS.

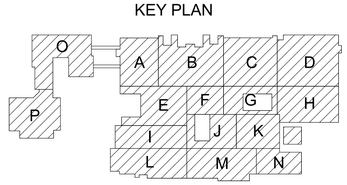
M3.12 INTEGRATE ALL EXISTING EQUIPMENT AND ASSOCIATED CONTROL POINTS INTO NEW BUILDING AUTOMATION SYSTEM IN AREA O OF BUILDING. ALL EXISTING CONTROLS HARDWARE AND INFRASTRUCTURE TO REMAIN, INCLUDING ALL END DEVICES, FILED DEVICES, CONTROLLERS, SENSORS, ECT. LOCATE AND INTEGRATE EXISTING BUILDING CONTROL PANEL INTO NEW MAIN CAMPUS BAS SYSTEM.

M4.9 PROVIDE ROOF MOUNTED AIR HANDLING UNIT AT APPROXIMATE LOCATION SHOWN AS PART OF ALTERNATE 1. PROVIDE UNIT WITH ROOF CURB TO MATCH ROOF SLOPE. PROVIDE ALL CLEARANCES AROUND UNIT AS REQUIRED BY EQUIPMENT MANUFACTURER. COORDINATE FINAL LOCATION WITH STRUCTURAL. COORDINATE ROOF PENETRATIONS AND ROUTING WITH EXISTING STRUCTURAL ELEMENTS. RE: DETAIL 09/M6.01.



1 **MECHANICAL ROOF PLAN**
1" = 40'-0"

KEY PLAN



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SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) - Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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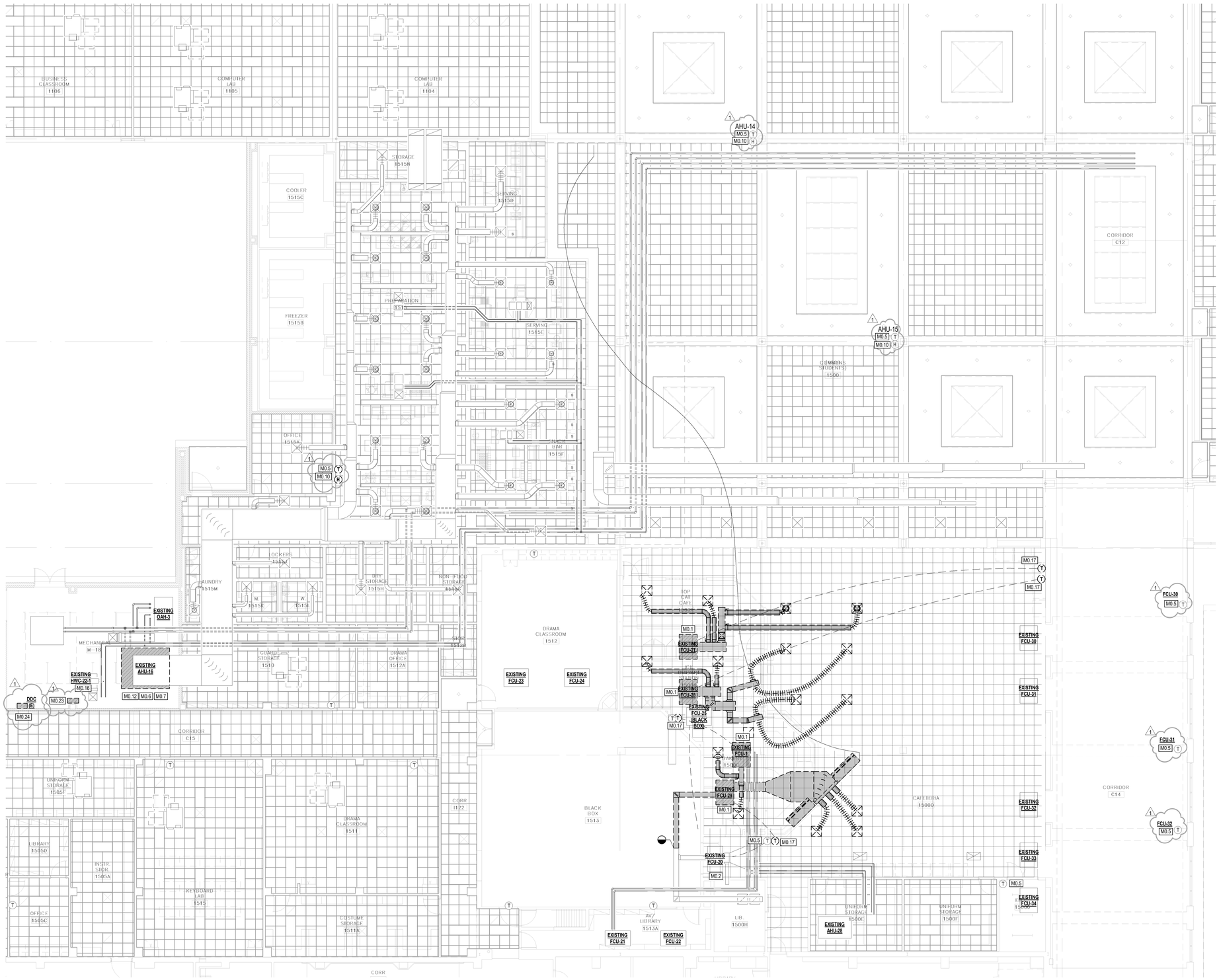
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL ROOF PLAN

SHEET NUMBER: M2.23

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Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt



1 DEMOLITION MECHANICAL PLAN LEVEL 1 - KITCHEN

1/8" = 1'-0"

MECHANICAL KEYED NOTES

M0.1 EXISTING EQUIPMENT AND ALL ASSOCIATED DUCTWORK, DIFFUSERS, PIPING, CONTROLS, ELECTRICAL, VALVES, HANGERS, SUPPORTS, AND ACCESSORIES SHALL BE REMOVED IN ITS ENTIRETY AS PART OF ALTERNATE 1.

M0.2 EXISTING UNIT TO REMAIN. ASSOCIATED SENSORS AND END DEVICES TO BE REMOVED AND REPLACED. TYPICAL ALL EQUIPMENT UNLESS NOTED OTHER WISE. REFER TO ASSOCIATED CONTROL DIAGRAM FOR EQUIPMENT CONTROL POINTS.

M0.5 EXISTING THERMOSTAT AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW. APPLICABLE TO ALL SENSORS UNLESS NOTED OTHERWISE.

M0.6 EXISTING UNIT'S ASSOCIATED DUCTWORK TO REMAIN. ASSOCIATED DAMPER ACTUATORS TO BE REMOVED AND REPLACED.

M0.7 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE ACTUATORS TO BE REMOVED AND REPLACED.

1 M0.10 EXISTING HUMIDITY SENSOR AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW. APPLICABLE TO ALL SENSORS UNLESS NOTED OTHERWISE.

M0.12 EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED MOTOR STARTERS, CONTROLS, ELECTRICAL, VALVES, AND ACCESSORIES SHALL BE REMOVED IN ITS ENTIRETY AS PART OF ALTERNATE 1.

1 M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MDU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.17 EXISTING THERMOSTAT AND ALL ASSOCIATED WIRING SHALL BE REMOVED IN THEIR ENTIRETY.

1 M0.23 EXISTING AHU-16 MOTOR STARTER TO BE REMOVED AS PART OF ALTERNATE 1.

M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

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ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

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DATE: 05/29/2026

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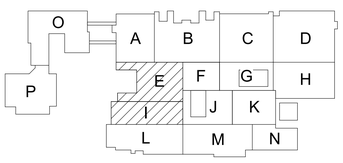
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PROJECT NUMBER 260018.001

SHEET TITLE: DEMOLITION MECHANICAL PLAN LEVEL 1 - KITCHEN/CAFETERIA - ALT 1

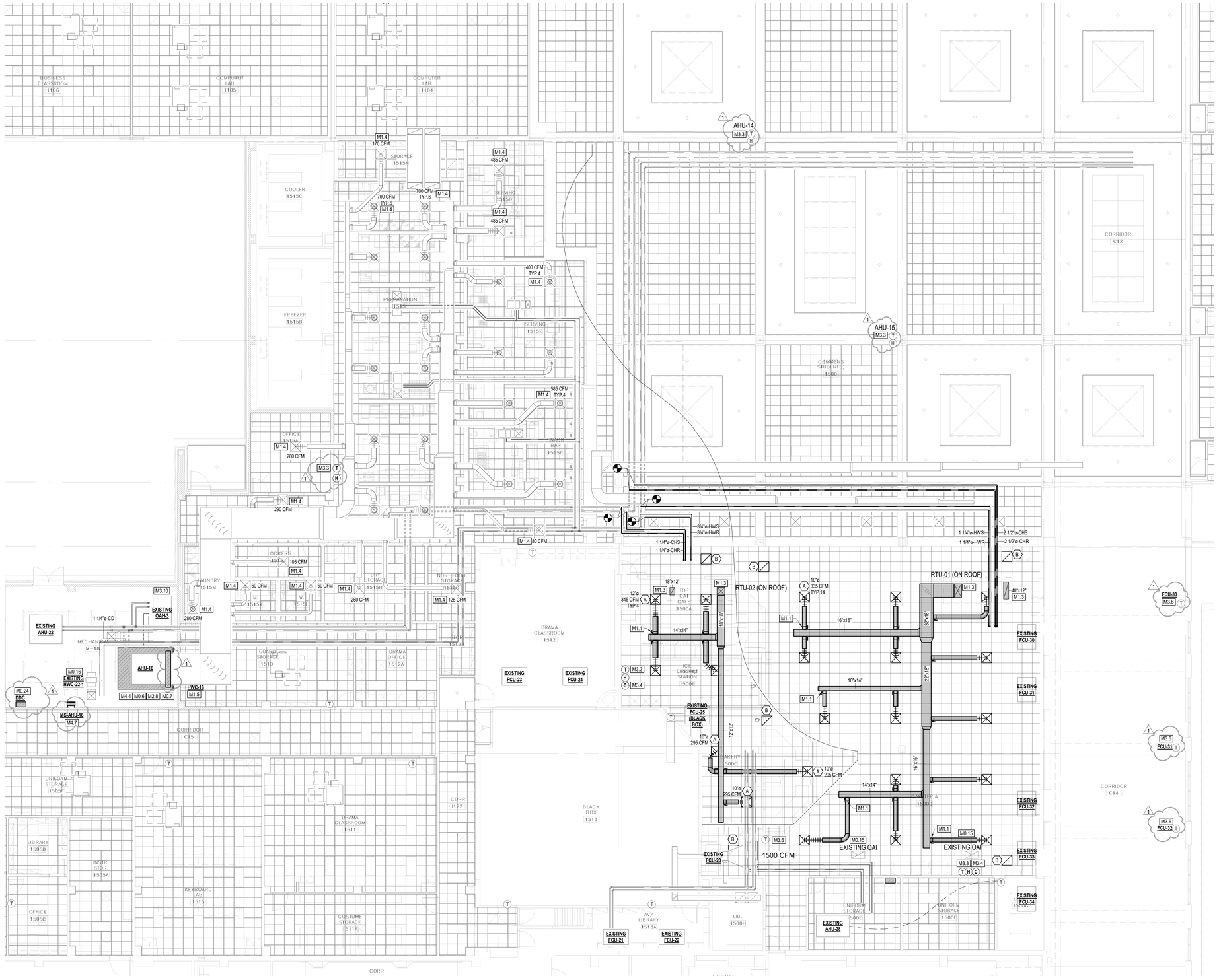
SHEET NUMBER: M3.01

KEY PLAN



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1 MECHANICAL PLAN LEVEL 1 - KITCHEN
1/8" = 1'-0"

MECHANICAL KEYED NOTES

M0.6 EXISTING UNIT'S ASSOCIATED DUCTWORK TO REMAIN. ASSOCIATED DAMPER ACTUATORS TO BE REMOVED AND REPLACED.

M0.7 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.15 LOCATE EXISTING OUTSIDE AIR INTAKE FOR CAFETERIA 1500D AND CAP EXISTING CURB AS PART OF ALTERNATE 1.

1 M0.16 EXISTING HOT WATER COIL AND ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED WITH NEW. APPLICABLE TO ALL HOT WATER COILS ASSOCIATED WITH EXISTING MZU-AHUS AND FANS. FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF HOT WATER COILS NOT LOCATED WITHIN MECHANICAL ROOM.

M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M1.1 PROVIDE SPIN-IN FITTING WITH LOCKING QUADRANT BUTTERFLY DAMPER FOR ALL ROUND DUCT CONNECTIONS TO RECTANGULAR DUCT. TYPICAL. RE: 06/M6.01.

M1.3 DUCTWORK TO ROUTE UP THROUGH ROOF TO NEW ROOF MOUNTED AIR HANDLING UNIT FOR ALTERNATE 1. COORDINATE ROOF PENETRATIONS AND ROUTING WITH EXISTING STRUCTURAL ELEMENTS.

M1.4 EXISTING DIFFUSER TO REMAIN. RE-BALANCE TO CFM INDICATED AS PART OF ALTERNATE 1.

M1.5 PROVIDE DUCT MOUNTED HOT WATER COIL AS SCHEDULED AS PART OF ALTERNATE 1. TRIM EXISTING DUCTWORK AND PROVIDE TRANSITIONS AS NECESSARY. INTERLOCK HOT WATER COIL WITH AHU-16

M2.8 RECONNECT EXISTING CHILLED AND HOT WATER HYDRONIC PIPING TO NEW UNIT. TRIM/EXTEND EXISTING PIPING AS NECESSARY. ROUTE COOLING COIL CONDENSATE DRAIN LINE TO FLOOR DRAIN WITHIN MECHANICAL ROOM. SIZE AS INDICATED ON DRAWING. FIELD COORDINATE ROUTING AND EXACT LOCATION OF FLOOR DRAIN. RE: DETAIL 14/M6.01.

M3.3 PROVIDE COMBINATION TEMPERATURE/HUMIDITY SENSOR AT APPROXIMATE LOCATION SHOWN. SENSOR SHALL BE INSTALLED AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE FINAL LOCATION WITH ARCHITECT AND OTHER TRADES TO AVOID CONFLICTS.

M3.4 PROVIDE WALL MOUNTED CO2 SENSOR AT APPROXIMATE LOCATION SHOWN. CO2 SENSOR SHALL BE INSTALLED AT SAME ELEVATION AS LIGHT SWITCHES. COORDINATE FINAL LOCATION WITH ARCHITECT AND OTHER TRADES TO AVOID CONFLICTS. CO2 SENSOR SHALL MONITOR SPACE CO2 CONCENTRATION AND SHALL BE UTILIZED TO CONTROL OUTSIDE AIRFLOW SETPOINT AS INDICATED IN THE ASSOCIATED AIR HANDLING UNIT SEQUENCE OF OPERATIONS.

M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

M3.10 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. INTERLOCK WITH NEW AHU-16 AS PART OF ALTERNATE 1. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

1 M4.4 PROVIDE AIR HANDLING UNIT AT APPROXIMATE LOCATION SHOWN AS PART OF ALTERNATE 1. PROVIDE ALL CLEARANCES AS REQUIRED BY EQUIPMENT MANUFACTURER. INSTALL UNIT ON EXISTING HIGH HOUSEKEEPING PAD. TRIM/EXTEND PAD AS NECESSARY. CONNECT EXISTING DUCTWORK TO NEW AHU. PROVIDE TRANSITIONS AS NECESSARY.

M4.7 PROVIDE NEW MOTOR STARTER AT SAME LOCATION AS EXISTING MOTOR STARTER AS PART OF ALTERNATE 1. COORDINATE FINAL LOCATION WITH ELECTRICAL AND CONTROLS CONTRACTORS.

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1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

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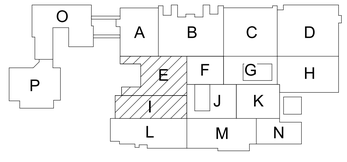
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - KITCHEN/CAFETERIA - ALT 1

SHEET NUMBER: M3.02

KEY PLAN



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1 ENLARGED MECHANICAL PLAN - CENTRAL PLANT

1/4" = 1'-0"

MECHANICAL KEYED NOTES

M0.8 EXISTING UNIT'S ASSOCIATED PIPING TO REMAIN. ASSOCIATED VALVE AND VALVE ACTUATORS TO BE REMOVED AND REPLACED.

M0.24 EXISTING DIGITAL CONTROL PANEL SHALL BE REPLACED. PROVIDE NEW CONTROL PANELS COMPLETE WITH ALL REQUIRED CONTROLLERS, POWER SUPPLIES, COMMUNICATION MODULES, RELAYS, TERMINAL BLOCKS, TRANSFORMERS, AND ANCILLARY COMPONENTS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. SIZE AND CONFIGURE THE NEW CONTROL PANELS TO ACCOMMODATE ALL EXISTING AND NEW CONTROL POINTS AS REQUIRED TO IMPLEMENT THE SEQUENCE OF OPERATION SPECIFIED FOR THE EQUIPMENT SERVED.

M3.2 PROVIDE CARBON MONOXIDE SENSOR (MACURCO CMX8 OR APPROVED EQUAL) AT APPROXIMATELY THIS LOCATION. MOUNT AT SAME ELEVATION AS LIGHT SWITCHES. SENSOR SHALL MONITOR CARBON MONOXIDE LEVELS IN BOILER ROOM AS DESCRIBED IN HOT WATER SYSTEM CONTROL SEQUENCE

M3.5 INTEGRATE EXISTING EQUIPMENT INTO NEW BUILDING CONTROLS. TYPICAL FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE. REFER TO EXISTING SCHEDULE FOR CORRESPONDING UNIT CONTROL SEQUENCE.

M3.6 PROVIDE NEW THERMOSTAT IN SAME LOCATION AS EXISTING THERMOSTAT AT APPROXIMATE LOCATION SHOWN. INTERLOCK THERMOSTAT WITH INDICATED EQUIPMENT. INTEGRATE INTO NEW BUILDING CONTROLS. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO ROUGH-IN.

M3.8 INTEGRATE EXISTING CHEMICAL TREATMENT INTO NEW BUILDING CONTROLS. PROVIDE BACNET INTEGRATION WITH ALARMS AND MONITORING SYSTEM STATUS.

M3.9 PROVIDE CARBON MONOXIDE MONITORING CONTROL PANEL AT APPROXIMATE LOCATION SHOWN. COORDINATE FINAL LOCATION WITH ARCHITECT AND OTHER TRADES TO AVOID CONFLICTS.

M5.1 PROVIDE CABLING TO CENTRAL PLANT EQUIPMENT AND ASSOCIATED VFDS TO ENSURE BACNET CAPABILITY FOR FUTURE INTEGRATION.

M5.11 PROVIDE AN "OFF ONLY" GLASS BREAK-TYPE EMERGENCY SWITCH TO DE-ENERGIZE CHILLERS, PUMPS, AND ELECTRICAL EQUIPMENT WITHIN CHILLER ROOM. EMERGENCY SWITCH SHALL HAVE MANUAL RESET ONLY INSTALL SWITCH WITHIN 2'-0" OF THE DOOR.

M5.12 PROVIDE AN "ON ONLY" GLASS BREAK TYPE EMERGENCY SWITCH WHICH SHALL ENERGIZE EMERGENCY EXHAUST FAN AND INITIATE AUDIBLE/VISUAL ALARMS. EMERGENCY SWITCH SHALL HAVE MANUAL RESET ONLY. INSTALL SWITCH WITHIN 2'-0" OF THE DOOR.

M5.13 PROVIDE REFRIGERANT SENSOR (CAPABLE OF SENSING MULTIPLE REFRIGERANTS) TO ENERGIZE EMERGENCY EXHAUST FAN FOR EMERGENCY VENTILATION AND ACTIVATE AUDIBLE/VISUAL ALARMS AND DE-ENERGIZE CHILLERS, PUMPS, AND ELECTRICAL EQUIPMENT IN CHILLER ROOM WHEN THE CONCENTRATION OF REFRIGERANT VAPOR EXCEEDS THE QUANTITY ALLOWED BY MECHANICAL CODE.

M5.14 PROVIDE AUDIBLE AND VISUAL REFRIGERANT ALARM FOR REFRIGERANT LEAK DETECTION SYSTEM.

M5.15 PROVIDE VISUAL REFRIGERANT ALARM FOR REFRIGERANT LEAK DETECTION SYSTEM.

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SEAL:

ADAM C. JONES 110008 LICENSED MECHANICAL ENGINEER

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30330 Quinn Rd.
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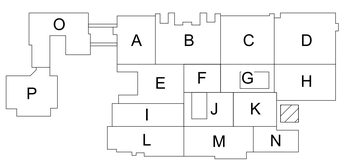
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PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL PLAN LEVEL 1 - CENTRAL PLANT

SHEET NUMBER: M3.04

KEY PLAN



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EXISTING AIR HANDLING UNIT SCHEDULE

	MARK	EXISTING AHU-1	EXISTING AHU-2	EXISTING AHU-3	EXISTING AHU-4	EXISTING AHU-5	EXISTING AHU-6	EXISTING AHU-7	EXISTING AHU-8	EXISTING AHU-9	EXISTING AHU-10	EXISTING AHU-11	EXISTING AHU-12	EXISTING AHU-13	EXISTING AHU-14	EXISTING AHU-15	EXISTING AHU-16	EXISTING AHU-17
	LOCATION	MECHANICAL M-1	MECHANICAL M-1	MECHANICAL M-2	MECHANICAL M-2	MECHANICAL M-4	MECHANICAL M-21	MECHANICAL M-7	MECHANICAL M-7	MECHANICAL M-6	MECHANICAL M-8	MECHANICAL M-8	ROOF ABOVE 1314B	ROOF ABOVE H109	MECHANICAL M-3	MECHANICAL M-3	MECHANICAL M-18	ROOF ABOVE COR.-C12H
FAN	DESIGN SUPPLY AIR FLOW RATE (CFM)	14975	14240	7365	10935	3280	13445	13000	19260	16415	10850	10835	11370	12510	10830	12220	15130	11845
	MINIMUM SUPPLY AIR FLOW RATE (CFM)	5,990	5,700	2,950	4,375	1,315	5,380	5,200	7,705	6,570	4,340	4,335	4,550	5,005	4,335	4,890	6,055	4,740
	DESIGN OUTDOOR AIR FLOW RATE (CFM)	3125	2600	1290	2155	0	3860	4490	4375	3870	2655	1695	2510	2855	3345	4715	2345	2260
	MINIMUM OUTSIDE AIR FLOW RATE (CFM)	1,565	1,300	645	1,080	0	1,930	2,245	2,190	1,935	1,330	850	1,255	1,430	1,675	2,360	1,175	1,130
	EXT. S.P. (IN. W.G.)	1.4	1	0.8	1.3	1.2	1.5	1.2	1.6	1.3	1.2	1.5	1	1	1	1.1	0.9	0.8
	FAN MOTOR HORSEPOWER (HP / # OF FANS)	15	15	7.5	10	5	15	15	20	20	15	10	15	15	15	15	20	10
	VOLTS/PHASE/HERTZ	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	EAT DB (°F)	80.2	79	77.1	79.4	75	82	82.2	80.1	80.4	80.6	79.6	80.1	80.3	82.1	83.9	75.8	80.2
	EAT WB (°F)	67.7	66	64.4	66.2	62.5	69.5	69.8	67.8	67.4	67.9	66.3	67.3	67.5	69.6	70.8	63.3	66.8
	LAT DB (°F)	54.9	54.6	55.2	54.8	56.5	54.4	55.1	56	54.3	54	54.2	54.8	54.7	54.4	54.2	56.2	53.8
	LAT WB (°F)	54.1	53.8	54.4	54	55.7	53.5	54.3	55.2	53.5	53	53.4	54	53.9	53.6	53.3	55.3	53
	EWT/LWT (°F)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	COIL WATER FLOW RATE (GPM)	113	92	37	68	11	109	108	127	117	81	71	78	87	92	115	61	81
	PIPE SIZE (IN.)	3"	3"	2"	2-1/2"	1-1/4"	3"	3"	3"	3"	3"	2-1/2"	3"	3"	3"	3"	2-1/2"	3"
	MAX. WATER P.D. (FT. HD.)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)																	
	EAT (°F)	-	-	-	-	72	-	-	-	-	-	-	-	-	55	55	-	-
	LAT (°F)	-	-	-	-	100	-	-	-	-	-	-	-	-	95	95	-	-
	EWT (°F)	-	-	-	-	160	-	-	-	-	-	-	-	-	160	160	-	-
	COIL WATER FLOW RATE (GPM)	-	-	-	-	18.3	-	-	-	-	-	-	-	-	25	35	-	-
	PIPE SIZE (IN.)	-	-	-	-	1-1/2"	-	-	-	-	-	-	-	-	2"	2"	-	-
	MAX. WATER P.D. (FT. HD.)	-	-	-	-	10	-	-	-	-	-	-	-	-	10	10	-	-
MANUFACTURER		TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE
MODEL NUMBER		MCCA035	MCCA030	MCCA017	MCCA025	MCCA008	MCCA030	MCCA030	MCCA040	MCCA035	MCCA025	MCCA025			MCCA025	MCCA025	MCCA035	
UNIT TYPE		VAV AHU W/ EF	VAV AHU	VAV AHU W/ EF	VAV AHU W/ EF	SZ AHU	VAV AHU W/ EF	VAV AHU	VAV AHU W/ EF	VAV AHU	VAV AHU	VAV AHU	VAV AHU	VAV AHU	SZ AHU	SZ AHU	SZ AHU	VAV-AHU
NOTES		1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 3	1, 3	1, 3	1,2

NOTES:

1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.
2. TWO-WAY CHILLED WATER AND HEATING WATER CONTROL VALVES.
3. THREE-WAY CHILLED WATER AND HEATING WATER CONTROL VALVES.

EXISTING AIR HANDLING UNIT SCHEDULE

	MARK	EXISTING AHU-18	EXISTING AHU-19	EXISTING AHU-20	EXISTING AHU-21	EXISTING AHU-22	EXISTING AHU-23	EXISTING AHU-24	EXISTING AHU-25	EXISTING AHU-26	EXISTING AHU-27	EXISTING AHU-28	EXISTING OAHU-1	EXISTING OAHU-2	EXISTING OAHU-3	EXISTING OAHU-4	EXISTING OAHU-5
	LOCATION	MECHANICAL M-20	MECHANICAL M-20	MECHANICAL M-21	MECHANICAL M-22	MECHANICAL M-17	MECHANICAL M-17	ROOF ABOVE M-17	ROOF ABOVE RM.1403	ROOF ABOVE RM. 1403	MECHANICAL M-20	1500E	MECHANICAL M-3	MECHANICAL M-3	MECHANICAL M-18	MECHANICAL M-17	ROOF ABOVE RM.1403
FAN	DESIGN SUPPLY AIR FLOW RATE (CFM)	12500	12775	17670	19900	11495	5690	10120	3215	2370	4115	945	3345	4715	2345	1130	1410
	MINIMUM SUPPLY AIR FLOW RATE (CFM)	5,000	5,110	7,070	7,960	4,600	2,280	4,050	1,290	950	1,650	380	3,345	4,715	2,345	1,130	1130
	DESIGN OUTDOOR AIR FLOW RATE (CFM)	4180	2105	4180	4020	2490	1110	1130	765	645	0	0	3345	4715	2345	1130	1410
	MINIMUM OUTSIDE AIR FLOW RATE (CFM)	2,090	1,055	2,090	2,010	1,245	555	565	385	325	0	0	1675	2360	1175	565	705
	EXT. S.P. (IN. W.G.)	1.4	1.2	1.6	1.6	0.9	0.8	0.9	0.7	0.7	0.7	0.5	0.1	0.1	0.1	0.1	0.1
	FAN MOTOR HORSEPOWER (HP / # OF FANS)	15	15	20	20	15	7.5	15	5	3	5	1	5	5	3	2	2
	VOLTS/PHASE/HERTZ	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500	500	500	500	500	500	500	500	500	500	500	450	450	450	450	450
	EAT DB (°F)	77.8	80.4	81.7	79.4	79.3	79.6	77.5	80.4	81.2	78.9	75	98	98	98	98	98
	EAT WB (°F)	65	67.6	68.7	66.8	66.1	66.4	65.9	67	68	63.3	62.5	78	78	78	78	78
	LAT DB (°F)	54.4	54.1	54.6	54.9	54	54.3	57	54.7	55.2	56.5	56.5	55	55	55	55	55
	LAT WB (°F)	53.5	53.3	53.8	54.1	53.2	53.4	56.2	53.9	54.4	55.7	55.7	54	54	54	54	54
	EWT (°F)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	COIL WATER FLOW RATE (GPM)	72	92	135	130	75	37	52	22	17	16	4	23	28	18	15	15
	PIPE SIZE (IN.)	2-1/2"	3"	3"	3"	2-1/2"	2"	2"	1-1/2"	1-1/2"	1-1/4"	3/4"	1-1/2"	2"	1-1/2"	1-1/4"	1-1/4"
	MAX. WATER P.D. (FT. HD.)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)												-	-	-	-	-
	EAT (°F)	-	-	-	-	-	-	57.3	57.5	55	75	75	27	27	27	27	27
	LAT (°F)	-	-	-	-	-	-	95	95	95	95	95	55.0	55.0	55.0	55.0	55.0
	EWT (°F)	-	-	-	-	-	-	160	160	160	160	160	160.0	160.0	160.0	160.0	160.0
	COIL WATER FLOW RATE (GPM)	-	-	-	-	-	-	22	11	8	7	2	10	15	7	5	5
	PIPE SIZE (IN.)							1-1/2"	1-1/4"	1-1/4"	1"	3/4"	1-1/4"	1-1/4"	1"	1"	1"
	MAX. WATER P.D. (FT. HD.)	-	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10
MANUFACTURER		TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE
MODEL NUMBER		MCCA025	MCCA030	MCCA040	MCCA040	MCAA	MCAA012	MCAA025	MCAA025		MCCA010		MCCA008	MCCA012	MCCA006	MCCA003	
UNIT TYPE		VAV AHU	VAV AHU	VAV AHU	VAV AHU	VAV AHU	VAV AHU	SZ AHU	SZ AHU W/ EF	SZ AHU W/ EF	SZ AHU	SZ AHU	OUTSIDE AIR	OUTSIDE AIR W/ EF	OUTSIDE AIR	OUTSIDE AIR	
NOTES		1, 2	1,2	1,2	1,2	1,3	1,2	1,2	1,2	1,2	1,2	1,2	1,3	1,3	1,3	1,2	1,2

NOTES:

1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.
2. TWO-WAY CHILLED WATER AND HEATING WATER CONTROL VALVES.
3. THREE-WAY CHILLED WATER AND HEATING WATER CONTROL VALVES.

EXISTING CVB SCHEDULE

MARK	PRIMARY AIR CFM MAX.	PRIMARY AIR CFM MIN.	VALVE SIZE	HOT WATER GPM	1
EXISTING CVB-1-1	1,000	225	0.5"	2.7	
EXISTING CVB-1-2	1,265	285	-	-	
EXISTING CVB-1-3	1,000	225	0.5"	2.7	
EXISTING CVB-1-4	1455	325	-	-	
EXISTING CVB-1-5	1465	330	-	-	
EXISTING CVB-1-6	680	150	-	-	
EXISTING CVB-1-7	1305	295	-	-	
EXISTING CVB-1-8	1140	255	-	-	
EXISTING CVB-1-9	480	110	-	-	
EXISTING CVB-1-10	1140	255	0.5"	3.0	
EXISTING CVB-1-11	1315	295	0.5"	3.5	
EXISTING CVB-1-12	1365	305	0.5"	3.6	
EXISTING CVB-1-13	1180	265	0.5"	3.1	
EXISTING CVB-1-14	435	100	0.5"	1.2	
EXISTING CVB-2-1	1000	185	0.5"	2.6	
EXISTING CVB-2-2	1000	185	0.5"	2.6	
EXISTING CVB-2-3	1130	210	0.5"	2.9	
EXISTING CVB-2-4	1010	185	0.5"	2.6	
EXISTING CVB-2-5	1450	265	0.5"	3.7	
EXISTING CVB-2-6	950	170	0.5"	2.5	
EXISTING CVB-2-7	950	170	0.5"	2.5	
EXISTING CVB-2-8	970	180	-	-	
EXISTING CVB-2-9	970	180	-	-	
EXISTING CVB-2-10	1030	190	0.5"	2.7	
EXISTING CVB-2-11	950	170	0.5"	2.5	
EXISTING CVB-2-12	950	170	0.5"	2.5	
EXISTING CVB-2-13	1195	220	0.5"	3.0	
EXISTING CVB-3-1	1195	225	0.5"	3.1	
EXISTING CVB-3-2	1370	260	0.5"	3.5	
EXISTING CVB-3-3	1440	270	0.5"	3.7	
EXISTING CVB-3-4	355	65	0.5"	3.7	
EXISTING CVB-3-5	370	70	0.5"	1.0	
EXISTING CVB-3-6	765	145	0.5"	2.0	
EXISTING CVB-3-7	1165	220	0.5"	3.0	
EXISTING CVB-3-8	725	135	0.5"	1.9	
EXISTING CVB-4-1	820	165	-	-	
EXISTING CVB-4-2	1410	285	-	-	
EXISTING CVB-4-3	1410	285	-	-	
EXISTING CVB-4-4	1495	305	-	-	
EXISTING CVB-4-5	680	140	-	-	

MARK	PRIMARY AIR CFM MAX.	PRIMARY AIR CFM MIN.	VALVE SIZE	HOT WATER GPM	1
EXISTING CVB-6-4	1415	290	-	-	
EXISTING CVB-6-7	800	160	-	-	
EXISTING CVB-6-8	1440	290	-	-	
EXISTING CVB-6-9	830	170	-	-	
EXISTING CVB-4-10	655	135	0.5"	1.7	
EXISTING CVB-6-1	1350	410	0.5"	3.8	
EXISTING CVB-6-2	1075	330	-	-	
EXISTING CVB-6-3	1150	350	-	-	
EXISTING CVB-6-4	1405	430	-	-	
EXISTING CVB-6-5	1150	350	-	-	
EXISTING CVB-6-6	1030	315	-	-	
EXISTING CVB-6-7	1030	315	-	-	
EXISTING CVB-6-8	1020	310	-	-	
EXISTING CVB-6-9	1370	420	0.5"	3.9	
EXISTING CVB-6-10	775	235	0.5"	2.2	
EXISTING CVB-6-11	1360	415	0.5"	3.9	
EXISTING CVB-6-12	730	225	0.5"	2.0	
EXISTING CVB-7-1	1060	370	0.5"	3.1	
EXISTING CVB-7-2	1035	360	-	-	
EXISTING CVB-7-3	1060	370	0.5"	3.1	
EXISTING CVB-7-4	710	250	-	-	
EXISTING CVB-7-5	1060	370	0.5"	3.1	
EXISTING CVB-7-6	1035	360	-	-	
EXISTING CVB-7-7	1060	370	0.5"	3.1	
EXISTING CVB-7-8	710	250	-	-	
EXISTING CVB-7-9	1060	370	0.5"	3.1	
EXISTING CVB-7-10	1035	360	-	-	
EXISTING CVB-7-11	1060	370	0.5"	3.1	
EXISTING CVB-7-12	710	250	-	-	
EXISTING CVB-7-13	1285	450	-	-	
EXISTING CVB-8-1	1300	295	-	-	
EXISTING CVB-8-2	1300	295	-	-	
EXISTING CVB-8-3	1440	330	-	-	
EXISTING CVB-8-4	1130	260	-	-	
EXISTING CVB-8-5	1460	335	-	-	
EXISTING CVB-8-6	1130	260	-	-	
EXISTING CVB-8-7	1250	285	-	-	
EXISTING CVB-8-9	1130	260	-	-	
EXISTING CVB-8-10	1495	340	-	-	
EXISTING CVB-8-11	1130	260	-	-	

MARK	PRIMARY AIR CFM MAX.	PRIMARY AIR CFM MIN.	VALVE SIZE	HOT WATER GPM	1
EXISTING CVB-8-12	1495	340	-	-	
EXISTING CVB-8-13	1130	260	-	-	
EXISTING CVB-8-14	1220	280	-	-	
EXISTING CVB-8-15	1440	330	-	-	
EXISTING CVB-8-16	1220	280	-	-	
EXISTING CVB-9-1	1030	245	-	-	
EXISTING CVB-9-2	1030	245	-	-	
EXISTING CVB-9-3	995	235	0.5"	2.6	
EXISTING CVB-9-4	1030	220	-	-	
EXISTING CVB-9-5	1040	245	-	-	
EXISTING CVB-9-6	1495	355	0.5"	4.0	
EXISTING CVB-9-7	1100	260	-	-	
EXISTING CVB-9-8	1030	220	0.5"	2.5	
EXISTING CVB-9-9	980	235	-	-	
EXISTING CVB-9-10	1495	355	0.5"	4.0	
EXISTING CVB-9-11	1500	355	-	-	
EXISTING CVB-9-12	1495	355	0.5"	4.0	
EXISTING CVB-9-13	1030	220	0.5"	2.5	
EXISTING CVB-10-1	1140	335	0.5"	3.2	
EXISTING CVB-10-2	1410	415	0.5"	4.0	
EXISTING CVB-10-3	1455	430	0.5"	4.1	
EXISTING CVB-10-4	920	270	-	-	
EXISTING CVB-10-5	910	270	-	-	
EXISTING CVB-10-6	1140	335	0.5"	3.2	
EXISTING CVB-10-7	1180	425	0.5"	4.0	
EXISTING CVB-10-8	1450	430	0.5"	4.1	
EXISTING CVB-11-1	980	185	0.5"	2.5	
EXISTING CVB-11-2	1150	215	0.5"	3.0	
EXISTING CVB-11-3	850	160	0.5"	2.2	
EXISTING CVB-11-4	850	160	0.5"	2.2	
EXISTING CVB-11-5	1235	230	0.5"	3.2	
EXISTING CVB-11-6	1250	235	0.5"	3.2	
EXISTING CVB-11-7	1250	235	0.5"	3.2	
EXISTING CVB-11-8	850	160	0.5"	2.2	
EXISTING CVB-11-9	1230	230	0.5"	3.1	
EXISTING CVB-11-10	1190	220	0.5"	3.0	
EXISTING CVB-12-1	1330	290	-	-	
EXISTING CVB-12-2	1340	295	-	-	
EXISTING CVB-12-3	1310	285	-	-	
EXISTING CVB-12-4	1320	290	-	-	

MARK	PRIMARY AIR CFM MAX.	PRIMARY AIR CFM MIN.	VALVE SIZE	HOT WATER GPM	1
EXISTING CVB-12-5	1310	285	-	-	
EXISTING CVB-12-6	1320	290	-	-	
EXISTING CVB-12-7	1310	285	-	-	
EXISTING CVB-12-8	1320	290	-	-	
EXISTING CVB-12-9	810	180	-	-	
EXISTING CVB-13-1	1310	295	-	-	
EXISTING CVB-13-2	1310	295	-	-	
EXISTING CVB-13-3	1310	295	-	-	
EXISTING CVB-13-4	1310	295	-	-	
EXISTING CVB-13-5	1310	295	-	-	
EXISTING CVB-13-6	1310	295	-	-	
EXISTING CVB-13-7	1310	295	-	-	
EXISTING CVB-13-8	1310	295	-	-	
EXISTING CVB-13-9	830	190	-	-	
EXISTING CVB-17-1	890	195	0.5"	2.3	
EXISTING CVB-17-2	1375	300	0.5"	3.6	
EXISTING CVB-17-3	980	215	0.5"	2.6	
EXISTING CVB-17-4	1470	320	0.5"	3.9	
EXISTING CVB-17-5	1150	250	0.5"	3.0	
EXISTING CVB-17-6	1395	305	0.5"	3.7	
EXISTING CVB-17-7	1130	250	0.5"	3.0	
EXISTING CVB-17-8	1235	270	0.5"	3.3	
EXISTING CVB-18-1	1190	265	0.5"	3.2	
EXISTING CVB-18-2	965	260	0.5"	2.6	
EXISTING CVB-18-3	1440	345	0.5"	3.8	
EXISTING CVB-18-4	1470	350	0.5"	3.9	
EXISTING CVB-18-5	1150	275	0.5"	3.1	
EXISTING CVB-18-6	1470	350	0.5"	3.9	
EXISTING CVB-18-7	1150	275	0.5"	3.1	
EXISTING CVB-18-8	1470	350	0.5"	3.9	
EXISTING CVB-18-9	1290	310	0.5"	3.5	
EXISTING CVB-18-10	890	210	0.5"	2.4	
EXISTING CVB-18-12	830	195	0.5"	2.2	
EXISTING CVB-18-13	965	230	0.5"	2.6	
EXISTING CVB-19-1	1275	215	0.5"	3.2	
EXISTING CVB-19-2	1400	235	0.5"	3.5	
EXISTING CVB-19-3	1375	235	0.5"	3.5	
EXISTING CVB-19-4	1375	235	0.5"	3.5	
EXISTING CVB-19-5	1325	225	0.5"	3.4	
EXISTING CVB-19-6	760	130	0.5"	1.9	

MARK	PRIMARY AIR CFM MAX.	PRIMARY AIR CFM MIN.	VALVE SIZE	HOT WATER GPM	1
EXISTING CVB-19-7	1210	205	0.5"	3.0	
EXISTING CVB-19-8	1210	205	0.5"	3.0	
EXISTING CVB-19-9	1500	255	0.5"	3.8	
EXISTING CVB-19-10	215	35	0.5"	0.5	
EXISTING CVB-19-11	655	110	0.5"	1.6	
EXISTING CVB-19-12	190	35	0.5"	0.5	
EXISTING CVB-20-1	1480	375	0.5"	4.0	
EXISTING CVB-20-2	1340	340	0.5"	3.6	
EXISTING CVB-20-3	1480	375	0.5"	4.0	
EXISTING CVB-20-4	1340	340	0.5"	3.6	
EXISTING CVB-20-5	1130	290	0.5"	3.1	
EXISTING CVB-20-6	1340	340	0.5"	3.6	
EXISTING CVB-20-7	1480	375	0.5"	4.0	
EXISTING CVB-20-8	1340	340	0.5"	3.6	
EXISTING CVB-20-9	1130	290	0.5"	3.1	
EXISTING CVB-20-10	1340	340	0.5"	3.6	
EXISTING CVB-20-11	1480	375	0.5"	3.6	
EXISTING CVB-20-12	1340	340	0.5"	3.6	
EXISTING CVB-20-13	1390	355	0.5"	3.8	
EXISTING CVB-20-14	830	210	0.5"	2.2	
EXISTING CVB-20-15	830	150	0.5"	2.2	
EXISTING CVB-21-1	1045	205	0.5"	2.7	
EXISTING CVB-21-2	1125	220	0.5"	2.9	
EXISTING CVB-21-3	1350	270	0.5"	3.5	
EXISTING CVB-21-4	1350	270	0.5"	3.5	
EXISTING CVB-21-5	1335	265	0.5"	3.5	
EXISTING CVB-21-6	1500	300	0.5"	3.9	
EXISTING CVB-21-7	1350	270	0.5"	3.5	
EXISTING CVB-21-8	1500	300	0.5"	3.9	
EXISTING CVB-21-9	1350	270	0.5"	3.5	
EXISTING CVB-21-10	1500	300	0.5"	3.9	
EXISTING CVB-21-11	1350	270	0.5"	3.5	
EXISTING CVB-21-12	1500	300	0.5"	3.9	
EXISTING CVB-21-13	1350	270	0.5"	3.5	
EXISTING CVB-21-14	1380	275	0.5"	3.6	
EXISTING CVB-21-15	1385	275	0.5"	3.6	
EXISTING CVB-22-1	1040	200	0.5"	2.7	
EXISTING CVB-22-2	980	190	0.5"	2.5	
EXISTING CVB-22-3	1360	260	0.5"	3.5	
EXISTING CVB-22-4	1490	285	0.5"	3.8	

MARK	PRIMARY AIR CFM MAX.	PRIMARY AIR CFM MIN.	VALVE SIZE	HOT WATER GPM	1
EXISTING CVB-22-5	1420	275	0.5"	3.7	
EXISTING CVB-22-6	1440	275	0.5"	3.7	
EXISTING CVB-22-7	1405	270	0.5"	3.6	
EXISTING CVB-23-1	980	205	0.5"	2.6	
EXISTING CVB-23-2	1020	210	0.5"	2.7	
EXISTING CVB-23-3	1310	270	0.5"	3.4	
EXISTING CVB-23-4	1190	250	0.5"	3.1	
EXISTING CVB-23-5	1190	250	0.5"	3.1	

NOTES

1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.

DBR
SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY

REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL SCHEDULES

SHEET NUMBER: M5.01

7/21/2026 1:11:45 PM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

EXISTING AIR HANDLING UNIT SCHEDULE (OLD PHASE II)

	MARK	EXISTING AHU-01-II	EXISTING AHU-02-II	EXISTING AHU-03-II	EXISTING AHU-04-II	EXISTING AHU-05-II	EXISTING AHU-06-II	EXISTING AHU-07-II	EXISTING AHU-08	MZU-01	MZU-02	MZU-03	MZU-04	MZU-05
GENERAL	LOCATION	AREA M LV 2	AREA M LV 2	AREA M LV 2	MECH M-16	MECH M-16	LAUNDRY/STORAGE 1403	AREA K LV 1	MECH M-8	MECH M-11	MECH M-10	MECH M-12	MECH M-15	MECH M-13
	# OF ZONES	-	-	-	-	-	-	-	-	2	4	7	5	6
	EAT DB (°F)	80.2	79	77.1	79.4	75	82	82.2	80.1	80.4	80.6	79.6	80.1	80.3
	EAT WB (°F)	67.7	66	64.4	66.2	62.5	69.5	69.8	67.8	67.4	67.9	66.3	67.3	67.5
	LAT DB (°F)	54.9	54.6	55.2	54.8	56.5	54.4	55.1	56	54.3	54	54.2	54.8	54.7
	LAT WB (°F)	54.1	53.8	54.4	54	55.7	53.5	54.3	55.2	53.5	53	53.4	54	53.9
	EWT/LWT (°F)	45	45	45	45	45	45	45	45	45	45	45	45	45
	COIL WATER FLOW RATE (GPM)	113	92	37	68	11	109	108	127	117	81	71	78	87
	PIPE SIZE (IN.)	3"	3"	1/2"	1/2"	1/2"	3"	3"	3"	3"	3"	1/2"	3"	3"
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)													
	EAT (°F)													
	LAT (°F)													
	EWT (°F)	-	-	-	-	-	-	-	-	-	-	-	-	-
	COIL WATER FLOW RATE (GPM)													
	PIPE SIZE (IN.)													
	MAX. WATER P.D. (FT. HD.)													
MANUFACTURER		YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK
MODEL NUMBER		CS446SVLP	CS336SVLP	CS270SVLP			CS74SVLP	CS50SVLP	CS74SVLP	CS113MLP	CS113MLP	CS156MLP	CS74MLP	CS113MLP
UNIT TYPE		SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	MZ AHU	MZ AHU	MZ AHU	MZ AHU	MZ AHU
NOTES		1	1	1	1	1	1	1	1	1,2	1,2	1,2	1,2	1,2

NOTES:
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY. FIELD VERIFY EXISTING CFMS AND GPMS PRIOR TO INTEGRATION INTO NEW BAS.
2. REPLACE ALL EXISTING ZONE T-STATS (LOCATED IN ZONE) AND HOT WATER COIL VALVE AND VALVE ACTUATORS ASSOCAITED WITH MULTI-ZONE UNIT. FIELD VERIFY EXACT LOCATIONS OF HWCs AND T-STATS

1

EXISTING AIR HANDLING UNIT SCHEDULE (OLD PHASE III)

	MARK	AHU-1-III	AHU-2-III	AHU-3-III	AHU-4-III	AHU-5-III	AHU-6-III	AHU-7-III	AHU-8-III	AHU-9-III	AHU-10-III	AHU-11-III	AHU-12-III	OAHU-1-III
FAN	LOCATION	MR #4	MR #4	MR #1	MR #1	MR #2	MR #2	MR #2	MR #2	MR #4	STOR 1503B	MR #2	MR #2	MR #1
	DESIGN SUPPLY AIR FLOW RATE (CFM)	6565	2905	10170	10120	8480	3245	3830	5035	1250	2490	1100	1105	5425
	MINIMUM SUPPLY AIR FLOW RATE (CFM)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	FAN MOTOR HORSEPOWER (HP / # OF FANS)	5	2	7.5	10	7.5	3	3	5	2	2	1	2	5
	VOLTS/PHASE/HERTZ	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60	480/3/60
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	450	380	501	498	515	425	501	503	391	450	459	461	457
	EAT DB (°F)	84	79	75	75	79	87	79	79	79	75	81	81	95
	EAT WB (°F)	69	65.4	63.8	63.8	65.5	69.9	65.9	65.9	66.4	62.5	66.6	67.1	80
	LAT DB (°F)	-	-	-	-	-	-	-	-	-	-	-	-	-
	LAT WB (°F)	54	54	52	53	53	54	-	-	52	55	52	52	56
	EWT (°F)	45	45	45	45	45	45	45	45	45	45	45	45	45
	COIL WATER FLOW RATE (GPM)	60	19	63	62	62	32	30	40	10	10	10	10	96
	PIPE SIZE (IN.)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	0.5
	MAX. WATER P.D. (FT. HD.)	10	10	10	10	10	10	10	10	10	10	10	10	10
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	450	380	501	498	515	425	501	504	391		459	461	456
	EAT (°F)	63.5	67.7	69.3	69.3	68.1	63.4	66.5	66.8	66		60.7	64.3	20
	LAT (°F)	-	-	-	-	-	-	-	-	-		-	-	-
	EWT (°F)	160	160	160	160	160	160	160	160	160		160	160	160
	COIL WATER FLOW RATE (GPM)	22	9	28	28	25	12	12	15	5		5	5	22
	PIPE SIZE (IN.)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"		1/2"	1/2"	1/2"
	MAX. WATER P.D. (FT. HD.)	5	5	5	5	5	5	5	5	5		5	5	5
MANUFACTURER		YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK	YORK
MODEL NUMBER		AP150FSFC18X18	AP80FSFC12X12	AP215FSFC20X15	AP215FSFC20X15	AP170FSVCAF	AP80FSVCAF	AP80FSVCAF	AP105FSVCAF	AP35FSFCII9X6	AP60FSSCAF	AP35FSVCFF	AP35FSVCFF	AP120FSFC15X15
UNIT TYPE		SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	SZ AHU	OUTSIDE AIR
NOTES		1	1	1	1	1	1	1	1	1	1	1	1	1

NOTES:
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY. FIELD VERIFY EXISTING CFMS AND GPMS PRIOR TO INTEGRATION INTO NEW BAS.

EXISTING PUMP SCHEDULE

MARK	TYPE	GPM	PIPE SIZE	HEAD (FT.)	HP	MAX RPM	VOLTS/PHASE/HERTZ	MANUFACTURER	MODEL
P-1	CHW	1000	8"	50	20	1750	480/3/60	PACO	EM23347
P-2	CHW	1000	8"	50	20	1750	480/3/60	PACO	EM2334T
P-3	CHW	700	6"	50	15	1750	480/3/60	PACO	
P-4	CHW	400	6"	50	10	1750	480/3/60	PACO	EM3770T
P-5	CHW	1550	10"	110	60	1750	480/3/60	PACO	EM4314T
P-6	CHW	1550	10"	110	60	1750	480/3/60	PACO	EM4314T
P-7	CW	1500	10"	50	30	1750	480/3/60	PACO	EM4103T
P-8	CW	1500	10"	50	30	1750	480/3/60	PACO	EM4103T
P-9	CW	1050	10"	50	20	1750	480/3/60	PACO	
P-10	CW	600	6"	50	15	1750	480/3/60	PACO	EM2333T
P-11	HW	670	6"	95	30	1750	480/3/60	PACO	
P-12	HW	670	6"	95	30	1750	480/3/60	PACO	

NOTES
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.

EXISTING DUCT MOUNTED HOT WATER COIL SCHEDULE

MARK	LOCATION	SERVES	AIR				WATER				MIN FACE AREA (SQ.FT)	NOTES
			CFM	MIN HEATING CAPACITY (BTUH)	ENTERING AIR TEMP (F)	PRESSURE DROP (IN. W.C.)	GPM	ENTERING WATER TEMP (F)	PRESSURE DROP (FT)	CONNECTING PIPE SIZE (IN.)		
HWC-1-1	MECH RM M-1	AHU-1	3125	94500	27	0.25	10	160	10	1-1/4"	4.5	1,2,4,5
HWC-2-1	MECH RM M-1	AHU-2	2600	80290	27	0.25	8	160	10	1-1/4"	3.8	1,2,4,5
HWC-3-1	MECH RM M-2	AHU-3	1290	3900	27	0.25	4	160	10	1"	1.9	1,2,4,5
HWC-4-1	MECH RM M-2	AHU-4	2155	65170	27	0.25	7	160	10	1"	3.1	1,2,4,5
HWC-6-1	MECH RM M-21	AHU-6	1860	119690	27	0.25	12	160	10	1-1/4"	5.7	1,2,4,5
HWC-7-1	MECH RM M-7	AHU-7	4490	133510	27	0.25	13	160	10	1-1/4"	6.3	1,2,4,5
HWC-8-1	MECH RM M-7	AHU-8	4375	129880	27	0.25	13	160	10	1-1/4"	6.2	1,2,4,5
HWC-9-1	MECHANICAL M-6	AHU-9	3870	117030	27	0.25	12	160	10	1-1/4"	5.5	1,2,4,5
HWC-10-1	-	AHU-10	2655	77265	27	0.25	8	160	10	1-1/4"	3.7	1,2,4,5
HWC-10-2	CORRIDOR C13	CORRIDOR C13	535	26000	27	0.25	3	160	10	3/4"	0.8	1,3,4,5
HWC-11-1	-	AHU-11	1695	54280	27	0.25	6	160	10	1"	2.6	1,2,4,5
HWC-12-1	SOC. STUDIES1311	SF-22	2510	-	27	0.25		160	10	1/2"		1,4
HWC-15-1	PREPERATION 1515	KITCHEN HOOD	2700	125300	27	0.25	13	160	10	1-1/4"	3.9	1,2,4
HWC-15-2	PREPERATION 1515	KITCHEN HOOD	2700	125300	27	0.25	13	160	10	1-1/4"	3.9	1,2,4
HWC-15-3	SERVING 1515E	KITCHEN HOOD	1080	50150	27	0.25	5	160	10	1"	1.6	1,2,4
HWC-15-4	SNACK BAR 1515F	KITCHEN HOOD	2070	96130	27	0.25	10	160	10	1-1/4"	3	1,2,4
HWC-17-1	CEILING RM 1263	AHU-17	2660	80440	27	0.25	8	160	10	1-1/4"	3.9	1,2,4
HWC-18-1	MECH RM M-20	AHU-18	480	126400	27	0.25	12.6	160	10	1-1/4"	6	1,2,4
HWC-19-1	MECH RM M-20	AHU-19	2105	47630	27	0.25	5	160	10	1"	2.3	1,2,4
HWC-20-1	MECH RM M-21	AHU-20	4180	159820	27	0.25	16	160	10	1-1/4"	7.6	1,2,4
HWC-21-1	MECH RM M-22	AHU-21	4020	119450	27	0.25	12	160	10	1-1/4"	5.7	1,2,4
HWC-22-1	MECH RM M-18	AHU-22	2490	75300	27	0.25	8	160	10	1-1/4"	3.5	1,2,4
HWC-23-1	MECH RM M-17	AHU-23	1110	34475	27	0.25	4	160	10	1"	1.6	1,2,4
HWC-E-1	MECHANICAL M-12	MZU-03	1500	55080	27	0.25	6	160	10	1"	2.2	1,3,4
HWC-E-2	MECHANICAL M-12	MZU-04	940	34520	27	0.25	4	160	10	1"	1.4	1,3,4
HWC-E-3	MECHANICAL M-12	MZU-05	940	34520	27	0.25	4	160	10	1"	1.4	1,3,4
HWC-E-4	MECHANICAL M-12	MZU-06	940	34520	27	0.25	4	160	10	1"	1.4	1,3,4
HWC-E-5	MECHANICAL M-12	MZU-07	1210	44435	27	0.25	5	160	10	1"	1.8	1,3,4

NOTES
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.
2. CONTROLLED VIA DUCT MOUNTED TEMPERATURE SENSOR LOCATED DOWNSTREAM OF COIL. LOCATE AND REPLACE WITH NEW AND INTEGRATE INTO NEW CONTROLS SYSTEM.
3. CONTROLLED VIA TEMPERATURE SENSOR LOCATED IN ROOM BEING SERVED. LOCATE AND REPLACE WITH NEW AND INTEGRATE INTO NEW CONTROLS SYSTEM.
4. FILED VERIFY EXISTING CONTROL POINT VALUES PRIOR TO RE-BALANCING AND INTEGRATING INTO BAS.
5. ASSOCIATED HOT WATER VALVE AND VLAVE ACTUATORS TO BE REPLACED WITH NEW.

EXISTING UNIT HEATER SCHEDULE

MARK	LOCATION	TYPE	FAN				HOT WATER COIL						ELECTRIC COIL		MANUFACTURER	MODEL	NOTES
			CFM	FPM	HORSE POWER	VOLTS/PHASE/HERTZ	CAPACITY (MBH)	ENTERING AIR TEMP (F)	GPM	COIL SIZE	ENTERING WATER PRESSURE...	PRESSURE DROP (FT)	KW	VOLTS/PHASE/HERTZ			
UH-1	CENTRAL PLANT RM M-14	ELECTRIC	666	640	1/20	277/1/60	-	-	-	-	-	-	7.5	277/1/60	TPI	G1GUH07RA1T	1,2,5
UH-2	CENTRAL PLANT RM M-14	ELECTRIC	666	640	1/20	277/1/60	-	-	-	-	-	-	10	277/1/60	TPI	G1GUH07RA1T	1,2,5
UH-3	CENTRAL PLANT RM M-14	ELECTRIC	666	640	1/20	277/1/60	-	-	-	-	-	-	7.5	277/1/60	TPI	G1GUH07RA1T	1,2,5
UH-4	MEN 1600C	ELECTRIC	-	-	-	277/1/60	-	-	-	-	-	-	5	208/1/60	REDD-I	81RCH-5	1,3,5
UH-5	WOMEN 1600D	ELECTRIC	-	-	-	277/1/60	-	-	-	-	-	-	5	208/1/60	REDD-I	81RCH-5	1,3,5
UH-6	MECH M-1	HOT WATER	2900		1/3	115/1/60	148	160	14.8	1-1/4"		250	-	-	STERLING	HS-204	1,4,5,6
UH-7	MECH M-4	HOT WATER	4200		1/3	115/1/60	209.1	160	20.91	1-1/2"		250	-	-	STERLING	HS-280	1,4,5,6
UH-8	MECH M-21	HOT WATER	2200		1/3	115/1/60	104	160	10.4	1-1/4"		250	-	-	STERLING	HS-144	1,4,5,6
UH-9	MECH M-7	HOT WATER	5500		1/2	115/1/60	261.3	160	26.13	2"		250	-	-	STERLING	HS-360	1,4,5,6
UH-10	MECH M-6	HOT WATER	2200		1/3	115/1/60	104	160	10.4	1-1/4"		250	-	-	STERLING	HS-144	1,4,5,6
UH-11	MECH M-8	HOT WATER	1400		1/12	115/1/60	61	160	6.1	1"		250	-	-	STERLING	HS-84	1,4,5,6
UH-12	AREA H	HOT WATER						160				250	-	-	STERLING		1,4,5,6
UH-13	AREA M	HOT WATER						160				250	-	-	STERLING		1,4,5,6

NOTES
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.
2. LOCATE EXISTING PENDENT MOUNTED THERMOSTAT AND REPLACE WITH NEW. INTEGRATE INTO NEW BUILDING CONTROLS.
3. LOCATE EXISTING BUILT-IN THERMOSTAT AND REPLACE WITH NEW. INTEGRATE INTO NEW BUILDING CONTROLS.
4. LOCATE EXISTING SENSORS AND REPLACE WITH NEW. INTEGRATE INTO NEW BUILDING CONTROLS.
5. PROVIDE POINTS FOR AS NECESSARY TO PROVIDE RUN STATUS TO BAS.
6. FIELD VERIFY EXISTING CONTROL POINT VALUES (CFMS, GPM, FPM ECT) PRIOR TO INTEGRATION INTO NEW BAS.

DBR
SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY

REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL SCHEDULES

SHEET NUMBER: M5.02

7/21/2026 1:11:51 PM
Autodesk Docs://260018.001-Tomball ISD-Chiller Pkg 2-Tomball HS/260018.001_Tomball ISD-Chiller Pkg 2_Tomball HS_MEP25.rvt

EXISTING COOLING TOWER SCHEDULE

MARK	TEMP			GMP	VOLTAGE	MFGR.	MODEL NO.	HP
	ENT. WTR (F)	LEAVE WTR. (F)	WB					
CT-1	96	86	80	1500	480/3/60	MARLEY	NC8407SAN2SMF	30
CT-2	96	86	80	1500	480/3/60	MARLEY	NC8407SAN2SMF	30
CT-3	96	86	80	1050	480/3/60	MARLEY	NC8403QAS1SMF	20
CT-4	96	86	80	600	480/3/60	MARLEY	NC8402PAS1SMF	15

NOTES
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.

EXISTING BOILER SCHEDULE

MARK	MINIMUM (MBH)		GPM	TEMP			FAN HP	VOLTAGE	MFGR.	MODEL NO.	HP
	INPUT	OUTPUT		ENT. WTR (F)	LEAVE WTR. (F)	WB					
B-1	8370	6700	670	96	86	80	1500	480/3/60	SELLERS	S-200-W 15SR	30
B-2	-	-	670	96	86	80	1500	480/3/60	SELLERS	S-200-W	30

NOTES
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.

EXISTING CHILLER SCHEDULE

MARK	NOMINAL TONS	COOLER (FF=0.0001)				CONDENSER (FF=0.00025)			VOLTAGE	KW/TON	MANUFACTURER	MODEL
		ENT. WTR (F)	LEAVE WTR. (F)	GPM	PRESSURE DROP (FT)	ENT. WTR (F)	GPM	PRESSURE DROP (FT)				
CH-1	500	54	42	1000	80	86	1500	10	480/3/60	0.577	TRANE	CVHF485
CH-2	500	54	42	1000	80	86	1500	10	480/3/60	0.577	TRANE	CVHF485
CH-3	350	-	-	700	80	-	1050	-	480/3/60	-	CARRIER	19XVR04145A1
CH-4	200	54	42	400	80	86	600	10	480/3/60	0.718	TRANE	RTHC1B2F

NOTES
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.

EXISTING DX FAN COIL UNIT SCHEDULE

MARK	FCU-LIBRARY
SERVES	1358 IDF/AV
EXT. S.P. (IN. W.G.)	0.5
FAN MOTOR HORSEPOWER	1/3
FAN RPM	1050
TOTAL COOLING CAPACITY (MBH)	24000
VOLTS/PHASE/HERTZ	240/1/60
REFRIGERANT TYPE	R-22
MANUFACTURER	SIEMMENS
MODEL NO.	BCS3M24C00NA1P-1
NOTES	

NOTES:
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.
2. FILED VERIFY EXISTING CFMS, MBH, TEMPERATURE SET POINTS, ECT PRIOR TO RE-BALANCING AND INTEGRATING INTO BAS.
3. PROVIDE NEW CONTROL POINTS AS NEEDED TO INTEGRATE INTO NEW BAS.

EXISTING AIR COOLED CONDENSING UNIT SCHEDULE

MARK	ACCU-LIBRARY
SERVES	FCU-LIBRARY
TOTAL COOLING CAPACITY (MBH)	24000
AMBIENT TEMP. (°F)	105
VOLTS/PHASE/HERTZ	208/230
MCA	16.1
MOCP	25
REFRIGERANT TYPE	R22
MANUFACTURER	YORK
SERIAL NUMBER	EAEM0204276
NOTES	ALL

NOTES:
1. EXISTING SCEDHULES ARE PROVIDED FOR INFORMATIONAL PURPOSES FOR CONTROL REPLACMENT AND BALANCING ONLY.
2. FILED VERIFY EXISTING CFMS, MBH, TEMPERATURE SET POINTS, ECT PRIOR TO RE-BALANCING AND INTEGRATING INTO BAS.
3. PROVIDE NEW CONTROL POINTS AS NEEDED TO INTEGRATE INTO NEW BAS.

ROOF MOUNTED AIR HANDLING UNIT SCHEDULE (ALT 1)

	MARK	RTU-01	RTU-02
FAN	SERVES	CAFETERIA	TOP CAT CAFÉ/BAKERY
	TYPE	ROOF MOUNTED	ROOF MOUNTED
	UNIT CONFIGURATION	SZ	SZ
	DISCHARGE	VERTICAL	VERTICAL
	DESIGN SUPPLY AIR FLOW RATE (CFM)	4,690	2,265
	MINIMUM SUPPLY AIR FLOW RATE (CFM)	3,380	910
	DESIGN OUTDOOR AIR FLOW RATE (CFM)	3,380	300
	MINIMUM OUTSIDE AIR FLOW RATE (CFM)	1,690	150
	EXT. S.P. (IN. W.G.)	0.56	0.47
	FAN MOTOR HORSEPOWER (HP / # OF FANS)	5/1	2/1
	VOLTS/PHASE/HERTZ	460/3/60	460/3/60
	MAX. FAN RPM	1800	1800
	FULL LOAD AMPS (FLA)	8.2	3.4
	MCA/MOP	10.25/15	4.25/ 15
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500	500
	MINIMUM COIL ROWS	6	6
	MAX. FINS PER INCH	12	12
	COIL AIR FLOW RATE (CFM)	4,690	2,265
	EAT DB/WB (°F)	92.7/74.15	80.9/66.33
	LAT DB/WB (°F)	53.7/53.72	53.7/53.71
	TOTAL COOLING CAPACITY (MBH)	319.2	86.1
	SENSIBLE COOLING CAPACITY (MBH)	199.7	66.8
	EWT/LWT (°F)	45/ 56	45/56
	COIL WATER FLOW RATE (GPM)	58.0	15.7
	CHW BRANCH PIPING SIZE	2-1/2"	1-1/4"
	MAX. WATER P.D. (FT. HD.)	15.0	15.0
HEATING COIL	MAX. COIL FACE VELOCITY (FPM)	500	500
	MINIMUM COIL ROWS	2	2
	MAX. FINS PER INCH	11	11
	COIL AIR FLOW RATE (CFM))	3,380	1,585
	EAT (°F)	27.0	60.2
	LAT (°F)	85.0	85.0
	EWT/LWT (°F)	160/140	160/140
	HEATING CAPACITY (MBH)	211.7	42.4
	COIL WATER FLOW RATE (GPM)	21.2	4.2
	HW BRANCH PIPING SIZE	1-1/2"	1"
	MAX. WATER P.D. (FT. HD.)	15.0	15.0
MANUFACTURER		TRANE	TRANE
MODEL NUMBER		CSAA010	CSA004
DIMENSIONS		163 x 61.5 x 44	158 x 44 x 35
OPERATING WEIGHT (LBS.)		2800	2023
NOTES		ALL	ALL

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO COIL(S), FILTERS, HOUSING, NOR ACCESSORIES.
2. PROVIDE UNIT WITH OUTDOOR AIR INTAKE HOOD WITH MODULATING MOTORIZED DAMPER.
3. PROVIDE UNIT WITH SINGLE POINT ELECTRICAL CONNECTION.
4. PROVIDE FLOAT SWITCH IN PRIMARY DRAIN PAN TO DE-ENERGIZE THE ENTIRE UNIT WHEN PRIMARY DRAIN LINE BECOMES RESTRICTED.
5. PROVIDE UNITS WITH MINIMUM MERV 13 FILTERS.
6. PROVIDE UNIT WITH 14" PREFABRICATED ROOF CURB.
7. PROVIDE UNIT OUTDOOR AIR DAMPER SIZED FOR FULL DESIGN SUPPLY AIRFLOW OF THE UNIT.
8. PROVIDE UNIT WITH DISCONNECT SWITCH.
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 65,000A.
11. NEW ROOF MOUNTED AIR HANDLING UNITS TO BE PROVIDED TO REPLACE EXISTING FCUs AS PART OF ALTERNATE 1.
12. PROVIDE FACTORY MOUNTED VFD IN UNIT.

AIR HANDLING UNIT SCHEDULE (ALT 1)

	MARK	AHU-16
FAN	SERVES	KITCHEN AREA E
	TYPE	SZ
	UNIT CONFIGURATION	HORIZONTAL
	DISCHARGE	VERTICAL
	DESIGN SUPPLY AIR FLOW RATE (CFM)	15,130
	MINIMUM SUPPLY AIR FLOW RATE (CFM)	6,055
	DESIGN OUTDOOR AIR FLOW RATE (CFM)	2,345
	MINIMUM OUTSIDE AIR FLOW RATE (CFM)	1,175
	EXT. S.P. (IN. W.G.)	0.90
	FAN MOTOR HORSEPOWER (HP / # OF FANS)	15/1
	VOLTS/PHASE/HERTZ	480/3/60
	MAX. FAN RPM	2,217
	FULL LOAD AMPS (FLA)	21.0
	MCA/MOP	26.25 / 45
COOLING COIL	MAX. COIL FACE VELOCITY (FPM)	500
	MINIMUM COIL ROWS	4
	MAX. FINS PER INCH	11
	COIL AIR FLOW RATE (CFM)	15,130
	EAT DB/WB (°F)	75.8/63.3
	LAT DB/WB (°F)	56.2/55.3
	TOTAL COOLING CAPACITY (MBH)	386.0
	SENSIBLE COOLING CAPACITY (MBH)	345.9
	EWT/LWT (°F)	45/56
	COIL WATER FLOW RATE (GPM)	61.0
	CHW BRANCH PIPING SIZE	2 1/2"
	MAX. WATER P.D. (FT. HD.)	20.0
MANUFACTURER		TRANE
MODEL NUMBER		CSAA035
DIMENSIONS		131.138" X 100" X 70.8"
OPERATING WEIGHT (LBS.)		4097
NOTES		ALL

NOTES:
1. PROVIDE UNIT WITH DRAW THRU DIRECT DRIVE PLENUM FAN SECTION, CHILLED WATER COIL SECTION, AND 2" FLAT FILTER SECTION.
2. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE LOSSES DUE TO COILS, FILTERS, AND CASING.
3. PROVIDE UNIT WITH REMOTE MOUNTED VARIABLE FREQUENCY DRIVE.
4. PROVIDE CHILLED WATER COIL WITH 3-WAY AUTOMATIC CONTROL VALVE.
5. AHU-16 TO BE REPLACED AS PART OF ALTERNATE 1.

FAN POWERED TERMINAL UNIT SCHEDULE (ALT 2)

MARK	PRIMARY AIR CFM		HEATING CFM	HOT-WATER-HEATING				INLET SIZE	VOLTS/ PHASE/ HZ	ECM HP	MFR	MODEL NO.
	MAX.	MIN.		EWT/LWT	ROWS	MBTU/H	GPM					
CVB-1-2	1,265	265	890	160/140	1	18.7	1.9	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-1-4	1,455	455	1020	160/140	1	23.9	2.4	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-1-5	1,465	465	1030	160/140	1	24.2	2.4	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-1-6	680	150	480	160/140	1	10.2	1.0	8"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-1-7	1,305	305	915	160/140	1	19.8	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-1-8	1,140	140	800	160/140	1	15.2	1.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-1-9	480	110	340	160/140	1	7.3	0.7	8"Ø	277/1/60	1/3	TITUS	DTFS-B
CVB-2-8	970	180	680	160/140	1	13.9	1.4	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-2-9	970	180	680	160/140	1	13.9	1.4	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-4-1	820	165	575	160/140	1	12.0	1.2	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-4-2	1,410	410	990	160/140	1	22.7	2.3	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-4-3	1,410	410	990	160/140	1	22.7	2.3	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-4-4	1,495	495	1050	160/140	1	25.0	2.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-4-5	680	140	480	160/140	1	10.0	1.0	8"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-4-6	1,415	415	995	160/140	1	22.8	2.3	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-4-7	800	160	560	160/140	1	11.7	1.2	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-4-8	1,440	440	1010	160/140	1	23.5	2.3	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-4-9	830	170	585	160/140	1	12.2	1.2	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-6-2	1,075	75	755	160/140	1	13.4	1.3	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-6-3	1,150	150	805	160/140	1	15.5	1.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-6-4	1405	405	985	160/140	1	22.5	2.3	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-6-5	1150	150	805	160/140	1	15.5	1.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-6-6	1030	30	725	160/140	1	12.2	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-6-7	1030	30	725	160/140	1	12.2	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-6-8	1020	20	715	160/140	1	11.9	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-7-2	1035	35	725	160/140	1	12.3	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-7-4	710	250	500	160/140	1	12.2	1.2	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-7-6	1035	35	725	160/140	1	12.3	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-7-8	710	250	500	160/140	1	12.2	1.2	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-7-10	1035	35	725	160/140	1	12.3	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-7-12	710	250	500	160/140	1	12.2	1.2	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-7-13	1285	285	900	160/140	1	19.2	1.9	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-1	1300	300	910	160/140	1	19.6	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-2	1300	300	910	160/140	1	19.6	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-3	1440	440	1010	160/140	1	23.5	2.3	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-4	1130	130	795	160/140	1	15.0	1.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-5	1460	460	1025	160/140	1	24.1	2.4	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-6	1130	130	795	160/140	1	15.0	1.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-7	1250	250	875	160/140	1	18.2	1.8	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-9	1130	130	795	160/140	1	15.0	1.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-10	1495	495	1050	160/140	1	25.0	2.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-11	1130	130	795	160/140	1	15.0	1.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-12	1495	495	1050	160/140	1	25.0	2.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-13	1130	495	795	160/140	1	20.9	2.1	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-14	1220	220	855	160/140	1	17.4	1.7	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-15	1440	440	1010	160/140	1	23.5	2.3	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-8-16	1220	220	855	160/140	1	17.4	1.7	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-9-1	1030	30	725	160/140	1	12.2	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-9-2	1030	30	725	160/140	1	12.2	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-9-4	1030	30	725	160/140	1	12.2	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-9-5	1040	40	730	160/140	1	12.5	1.2	10"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-9-7	1100	100	770	160/140	1	14.1	1.4	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-9-9	980	235	690	160/140	1	15.0	1.5	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-9-11	1500	500	1050	160/140	1	25.1	2.5	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-10-4	920	270	645	160/140	1	14.8	1.5	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-10-5	910	270	640	160/140	1	14.7	1.5	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-12-1	1330	330	935	160/140	1	20.5	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-2	1340	340	940	160/140	1	20.7	2.1	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-3	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-4	1320	320	925	160/140	1	20.2	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-5	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-6	1320	320	925	160/140	1	20.2	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-7	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-8	1320	320	925	160/140	1	20.2	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-12-9	810	180	570	160/140	1	12.2	1.2	10"Ø	277/1/60	1/3	TITUS	DTFS-C
CVB-13-1	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-2	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-3	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-4	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-5	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-6	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-7	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-8	1310	310	920	160/140	1	19.9	2.0	12"Ø	277/1/60	1/2	TITUS	DTFS-D
CVB-13-9	830	190	585	160/140	1	12.6	1.3	10"Ø	277/1/60	1/3	TITUS	DTFS-C

NOTES:
1. PROVIDE AEROCROSS MULTI-POINT CENTER AVERAGING VELOCITY SENSOR IN PRIMARY AIR INLET.
2. PROVIDE TERMINAL UNIT CASING WITH 1" INTERNALLY LINED FIBERGLASS FREE INSULATION.
3. PROVIDE TERMINAL UNIT WITH INTEGRAL DISCONNECT SWITCH.
4. PROVIDE HOT WATER REHEAT COIL WITH 2-WAY AUTOMATIC CONTROL VALVE.
5. THE MAXIMUM ALLOWABLE PRESSURE DROP ACROSS HOT WATER COILS SHALL BE 10 FT.HD.
6. UNITS TO BE REPLACED AS PART OF ALTERNATE 2.

DUCT MOUNTED HOT WATER HEATING COIL SCHEDULE

MARK	HWC-16
SERVES	AHU-16
CFM	15,130
CAPACITY (MBH)	411
DUCT DIMENSION WxH (INSIDE)	86 x 36
ENTERING WATER TEMPERATURE (F)	160
LEAVING WATER TEMPERATURE (F)	140
FLOW (GPM)	41
NUMBER OF ROWS	1
MANUFACTURER	TRANE
NOTES	ALL

NOTES:
1. PROVIDE HOT WATER COIL AS PART OF ALTERNATE 1.

AIR TERMINAL SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	REMARKS
B	TITUS	PAR-AA	PERFORATED FACE RETURN / EXHAUST AIR GRILLE	24"x24" FACE, ALUMINUM CONSTRUCTION WITH FRAME FOR ASSOCIATE CEILING TYPE. PROVIDE 22"x22" NECK UNLESS OTHERWISE NOTED.

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR FINISH.
2. REFER TO MECHANICAL FLOOR PLAN FOR NECK SIZES.
3. INSULATE BACK-PAN OF ALL AIR DEVICES.
4. PROVIDE FRAME TO MATCH CEILING TYPE INDICATED ON ARCHITECTS REFLECTED CEILING PLAN.

DBR
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REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) - Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER 260018.001

SHEET TITLE: MECHANICAL SCHEDULES

SHEET NUMBER: M5.04

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AI	ANALOG INPUT	S	WALL SENSOR
AO	ANALOG OUTPUT	T	THERMOSTAT
DI/BI	DIGITAL/BINARY INPUT	CO2	CARBON DIOXIDE SENSOR
DO/BO	DIGITAL/BINARY OUTPUT	SP	SET POINT
MD	ON-OFF MOTORIZED DAMPER	S/A	SUPPLY AIR
MMD	MODULATING TYPE MOTORIZED DAMPER	R/A	RETURN AIR
AFMS	AIR FLOW MEASURING STATION	O/A	OUTSIDE AIR
MCV	CONTROL VALVE MODULATING TYPE	HC	HEATING COIL
VFD	VARIABLE FREQUENCY DRIVE	CC	COOLING COIL
CSR	CURRENT SENSING RELAY	DX	DIRECT EXPANSION COOLING COIL
FRZ	FREEZESTAT	PICCV	PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE
HSL	HIGH STATIC LIMIT	AFC	AIRFLOW CROSS
SPT	STATIC PRESSURE TRANSMITTER	DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSDUCER		
FM	FLOW METER		
FS	FLOW SWITCH		
DAT	DISCHARGE AIR TEMPERATURE SENSOR		

1 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.

Emergency Generator Monitoring
The EMCS shall monitor the run status and alarm output of the generator. The EMCS shall display the values and trend log all Change of State (COS) events. The EMCS shall report alarms to the computers, email addresses, and/or text message compatible devices designated by the Owner.

Sump Pumps and Sump Pits Monitoring
The EMCS shall monitor the run status of the pumps and alarm outputs on the water level indicators. The EMCS shall display the values and trend log all Change of State (COS) events. The EMCS shall report alarms to the computers, email addresses, and/or text message compatible devices designated by the Owner.

Heating and Cooling System Controls for Vestibules
Vestibules that are only provided with heating shall have the source of heating disabled when the outdoor air temperature is greater than 45°F. Vestibules that are provided with both heating and cooling shall be controlled by a local thermostat to maintain a maximum heating setpoint of 60°F and a minimum cooling setpoint of 85°F.

Heating and Cooling System Controls for Operable Openings
All doors from a conditioned space to the outdoors and all other operable openings from a conditioned space to the outdoors that are larger than 40 square feet shall be provided with a door contact to report the position of the door or opening. When the door or operable opening is detected to be open the associated zone or system serving the space shall have the space temperature setpoints reset to a minimum cooling setpoint of 90°F and a maximum heating setoint of 55°F. Temperature setpoints shall be reset within 5 minutes of reporting open.

Building Domestic Water Metering
The EMCS shall monitor the building domestic water meter, which is to be furnished by the EMCS contractor and installed by Division 22 contractor at the service entry to the building. This flow meter shall be provided regardless of any water metering provisions on site. The EMCS shall display and trend log the following: the monthly usage, yearly usage, accumulative total usage, and alarm when excessive flow is measured. The EMCS shall report alarms to the computers, email addresses, and/or text message compatible devices designated by the Owner.

Cooling Tower Water Metering
The EMCS shall monitor the cooling tower makeup and discharge water meters. The EMCS shall display and trend log the following: the monthly usage, yearly usage, accumulative total usage, and alarm when excessive flow is measured. The EMCS shall report alarms to the computers, email addresses, and/or text message compatible devices designated by the Owner.

1

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, email addresses, 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. IDF rooms include but are not limited to rooms listed below:

- 1358 AV/IDF
- 2100 STOR
- Rm 2200
- Rm 1316A
- M-11 MECH
- M-3 MECH
- Rm 2301

Walk-in Freezer/Cooler Alarm
Remote bulb temperature sensors shall be mounted in both the freezers and coolers. Alarms shall be configured by the controls contractor. Alarms shall be sent to the computers, email addresses, and/or text message compatible devices designated by the Owner when temperature either rises above or falls below operator adjustable setpoints (28°F (adjustable) for freezer and 35°F (adjustable) for cooler).

HVAC Ventilation Emergency Shutdown Switch
A mushroom button type, local override switch shall be installed to deactivate the building's ventilation and exhaust systems in case of emergency. All 100% outside air conditioning units or outside air supply fans shall be deactivated and all outside air dampers shall be closed. All exhaust and relief fans shall be deactivated and their associated isolation dampers shall be closed. Once depressed, the switch must be manually reset to allow the ventilation and exhaust systems to resume normal operation. The final location of the switch shall be determined by the Owner.

Emergency HVAC Shutdown Switch
A mushroom button type, local override switch shall be installed to deactivate the building's HVAC systems in case of emergency. The final location of the switch shall be determined by the Owner.

HVAC Override Switch
A mushroom button type, local override switch shall be installed to override the building's HVAC systems in case of emergency. The final location of the switch shall be determined by the Owner.

Elevator Machine Room Monitoring
The EMCS shall monitor the space temperature in the machine rooms. The primary cooling for these rooms will be supplied by the packaged AC units. The EMCS shall report high/low temperature alarms to the computers, email addresses, 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), for more than 10 minutes.

1

Lighting Controls Integration
The EMCS (Energy Management Control System) shall monitor and control the lighting contactors (by General Contractor) as shown on the Electrical Drawings via H-O-A (Hand-Off-Auto) contactor. General Contractor shall provide points as required for exterior lighting control. Create a dedicated graphics page for exterior and interior lighting systems. Label all lighting control points with their physical location and associated contactor number. The EMCS shall have manual on/off toggle and programmable on/off time schedule, and show a status on/off indicator on mimic.

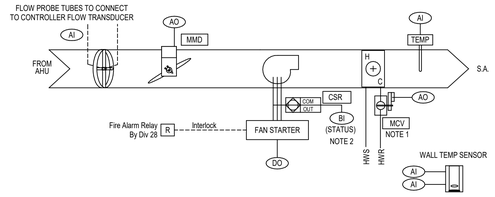
Electric Meter Monitoring
Tie the existing electric meter from the existing BAS (Building Automation System) into the new system for monitoring. Field verify exact requirements and locations

BAS Graphics & Operator Interface
Provide a dedicated graphics page for all AHUs with virtual HOA (Hand-Off-Auto) controls, allowing operators to remotely start and stop units.
Provide a global BAS control point in the graphics to simultaneously close all outside air dampers and disable all outside air units.
Provide graphics controls in front office for:

- Lighting override
- HVAC override
- Emergency HVAC shutdown

Provide a dedicated graphics page for all interior and exterior lighting systems.
Label all lighting control points within the graphics with the equipment location and associated contactor number.
Provide a dedicated graphics page for all exhaust fans, including equipment labels, physical locations, operating status, and alarms to simplify maintenance and troubleshooting.
Display chiller operating status, amperage, and alarms within the BAS graphics.
Display pump status, equipment status, and applicable alarms throughout the BAS graphics.
All graphics shall clearly identify equipment names, locations, and associated control points for ease of operation and maintenance.

4 MISCELLANEOUS SYSTEMS
NOT TO SCALE



NOTES:
1. PROVIDE 2-WAY AUTOMATIC CONTROL VALVE UNLESS OTHERWISE INDICATED ON SCHEDULE OR IN SEQUENCE OF OPERATION
2. PROVIDE FAN STATUS ONLY FOR BOXES IN CLASSROOMS.
3. HOA BACnet INTEGRATION: FURNISH AND INSTALL BACnet INTEGRATION MEANS AND PROVIDE HAND-OFF AUTO CONTROL OF BOXES WITH HOA CONTROL ON THE MAIN PAGE OF TERMINAL UNIT BAS GRAPHICS.

HOA controls:
When The HOA is in The Off Position, unit shall be off.
When The HOA is in The Auto Position, unit shall run as described in sequence section.
When The HOA is in The Hand position, the unit shall run continuously until the HOA is switched to OFF or AUTO positions.

System Off - When the system is off:
The primary air damper shall be closed.
The fan shall be off.
The heating coil valve shall be closed.
The control loops shall be disabled.

System Startup - Startup shall be initiated automatically by the EMCS:
In Unoccupied when the corresponding AHU is in UNOCCUPIED MODE.
In Occupied when the corresponding AHU is in PRE-START MODE.
In Unoccupied when the corresponding AHU is in NIGHT-SETBACK MODE.
In Occupied when the corresponding AHU is in OCCUPIED MODE.

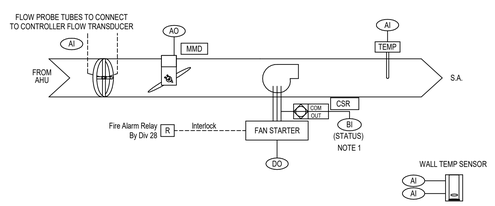
System Operation - When system start-up has been initiated, the following sequences shall be implemented:
The fan shall run.
The primary air damper shall be modulated between the minimum and maximum values to maintain the space temperature within +/- 0.5 °F of the active Cooling Setpoint.
When the space temperature falls below the deadband, the primary air damper shall be modulated to the minimum flow value, the fan shall be modulated to maintain its scheduled heating airflow rate, and the hot water coil control valve shall be modulated to maintain the space temperature within +/- 0.5 °F of the active Heating Setpoint.

System Setpoints - The setpoints for the system shall be set as follows:
The Occupied Heating Setpoint shall be set initially at 70 °F (adjustable).
The Occupied Cooling Setpoint shall be set initially at 74 °F (adjustable).
The Unoccupied Heating Setpoint shall be set initially at 55 °F (adjustable).
The Unoccupied Cooling Setpoint shall be set initially at 90 °F (adjustable).
The Standby Heating Setpoint shall be set initially at 68 °F (adjustable).
The Standby Cooling Setpoint shall be set initially at 76 °F (adjustable).
The minimum and maximum primary air flowrates shall set at the values given in the Mechanical Drawings.

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 for the corresponding air handling unit.
Automatically by the auxiliary fire alarm relay when an alarm condition has been initiated either at the terminal unit or the corresponding air handling unit.

System Alarms - The EMCS shall generate an alarm as follows:
If the space temperature during the Occupied Mode is 5 °F above the cooling setpoint or 5 °F below the heating setpoint respectively.

2 Series Fan-Powered Terminal Unit with Hot Water Reheat - Control Schematic and Sequence of Operations (TYP. 134 EXISTING)
NOT TO SCALE



NOTES:
1. PROVIDE FAN STATUS ONLY FOR BOXES IN CLASSROOMS.
2. HOA BACnet INTEGRATION: FURNISH AND INSTALL BACnet INTEGRATION MEANS AND PROVIDE HAND-OFF AUTO CONTROL OF BOXES WITH HOA CONTROL ON THE MAIN PAGE OF TERMINAL UNIT BAS GRAPHICS.

System Off - When the system is off:
The primary air damper shall be closed.
The fan shall be off.
The control loops shall be disabled.

System Startup - Startup shall be initiated automatically by the EMCS:
In Unoccupied when the corresponding AHU is in UNOCCUPIED MODE.
In Occupied when the corresponding AHU is in PRE-START MODE.
In Unoccupied when the corresponding AHU is in NIGHT-SETBACK MODE.
In Occupied when the corresponding AHU is in OCCUPIED MODE.

System Operation - When system start-up has been initiated, the following sequences shall be implemented:
The fan shall run.
The primary air damper shall be modulated between the minimum and maximum values to maintain the space temperature within +/- 0.5 °F of the active Cooling Setpoint.

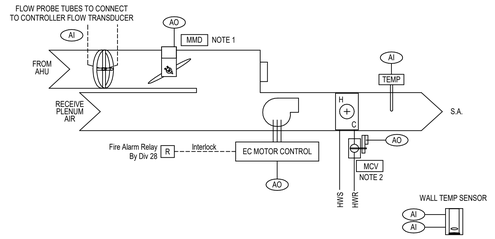
System Setpoints - The setpoints for the system shall be set as follows:
The Occupied Heating Setpoint shall be set initially at 70 °F (adjustable).
The Occupied Cooling Setpoint shall be set initially at 74 °F (adjustable).
The Unoccupied Heating Setpoint shall be set initially at 55 °F (adjustable).
The Unoccupied Cooling Setpoint shall be set initially at 90 °F (adjustable).
The Standby Heating Setpoint shall be set initially at 68 °F (adjustable).
The Standby Cooling Setpoint shall be set initially at 76 °F (adjustable).
The minimum and maximum primary air flowrates shall set at the values given in the Mechanical Drawings.

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 for the corresponding air handling unit.
Automatically by the auxiliary fire alarm relay when an alarm condition has been initiated either at the terminal unit or the corresponding air handling unit.

System Alarms - The EMCS shall generate an alarm as follows:
If the space temperature during the Occupied Mode is 5 °F above the cooling setpoint or 5 °F below the heating setpoint respectively.

HOA controls:
When The HOA is in The Off Position, unit shall be off.
When The HOA is in The Auto Position, unit shall run as described in sequence section above.
When The HOA is in The Hand position, the unit shall run continuously until the HOA is switched to OFF or AUTO positions.

3 Series Fan-Powered Terminal Unit - Control Schematic and Sequence of Operations (TYP. 75 EXISTING)
NOT TO SCALE



NOTES:
1. TERMINAL UNIT CONTROLLER AND DAMPER ACTUATOR SHALL BE SHIPPED TO THE TERMINAL UNIT MANUFACTURER FOR MOUNTING AND WIRING.
2. PROVIDE 2-WAY AUTOMATIC CONTROL VALVE UNLESS OTHERWISE INDICATED ON SCHEDULE OR IN SEQUENCE OF OPERATION.
3. HOA BACnet INTEGRATION: FURNISH AND INSTALL BACnet INTEGRATION MEANS AND PROVIDE HAND-OFF AUTO CONTROL OF BOXES WITH HOA CONTROL ON THE MAIN PAGE OF TERMINAL UNIT BAS GRAPHICS.

System Off - When the system is off:
The primary air damper shall be closed.
The fan shall be off.
The heating coil valve shall be closed.
The control loops shall be disabled.

System Startup - Startup shall be initiated automatically by the EMCS:
In Unoccupied when the corresponding AHU is in UNOCCUPIED MODE.
In Occupied when the corresponding AHU is in PRE-START MODE.
In Unoccupied when the corresponding AHU is in NIGHT-SETBACK MODE.
In Occupied when the corresponding AHU is in OCCUPIED MODE.

System Operation - When system start-up has been initiated, the following sequences shall be implemented:
The fan shall run.
The primary air damper shall be modulated between the minimum and maximum values to maintain the space temperature within +/- 0.5 °F of the active Cooling Setpoint.
When the space temperature falls below the deadband, the primary air damper shall be modulated to the minimum flow value, the fan shall be modulated to maintain its scheduled heating airflow rate, and the hot water coil control valve shall be modulated to maintain the space temperature within +/- 0.5 °F of the active Heating Setpoint.

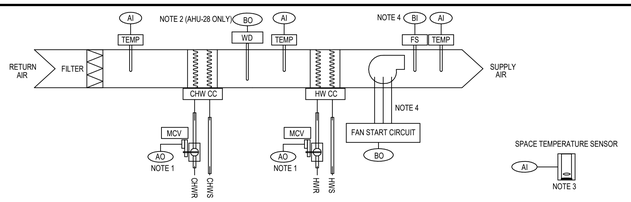
System Setpoints - The setpoints for the system shall be set as follows:
The Occupied Heating Setpoint shall be set initially at 70 °F (adjustable).
The Occupied Cooling Setpoint shall be set initially at 74 °F (adjustable).
The Unoccupied Heating Setpoint shall be set initially at 55 °F (adjustable).
The Unoccupied Cooling Setpoint shall be set initially at 85 °F (adjustable).
The Standby Heating Setpoint shall be set initially at 68 °F (adjustable).
The Standby Cooling Setpoint shall be set initially at 76 °F (adjustable).
The minimum and maximum primary air flowrates shall set at the values given in the Mechanical Drawings.

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 for the corresponding air handling unit.
Automatically by the auxiliary fire alarm relay when an alarm condition has been initiated either at the terminal unit or the corresponding air handling unit.

System Alarms - The EMCS shall generate an alarm as follows:
If the space temperature during the Occupied Mode is 5 °F above the cooling setpoint or 5 °F below the heating setpoint respectively.

HOA controls:
When The HOA is in The Off Position, unit shall be off.
When The HOA is in The Auto Position, unit shall run as described in sequence section.
When The HOA is in The Hand position, the unit shall run continuously until the HOA is switched to OFF or AUTO positions.

5 Series Fan-Powered Terminal Unit with Hot Water Reheat - Control Schematic and Sequence of Operations (Alternate 2)
NOT TO SCALE



NOTES:
1. Provide coil control valve as indicated in mechanical schedules and control specifications.
2. For units with cooling coils above ceilings, a cooing coil condensate drain pan float switch will de-energize the unit if the water level becomes high.
3. Refer to floor plans for location of space temperature sensor.
4. Provide current flow relay in lieu of air switch if air switch cannot be installed due to limited space.
5. HOA BACnet Integration: Furnish and install BACnet integration means and provide hand-off auto control of boxes with HOA control on the main page of the AHU/FCU BAS graphics.

System Off - When the system is off:
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 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.

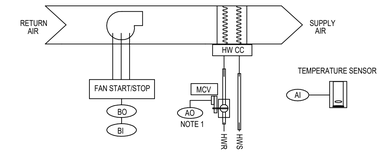
COOLING MODE: When the space temperature is above the Cooling Setpoint, the chilled water coil control valve shall be modulated between 0-100%, to maintain the space temperature within +/- 0.5 °F of the Cooling Setpoint. The chilled water coil discharge temperature shall not be allowed to go below the 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.

HOA controls:
When The HOA is in The Off Position, unit shall be off.
When The HOA is in The Auto Position, unit shall run as described in sequence section.
When The HOA is in The Hand position, the unit shall run continuously until the HOA is switched to OFF or AUTO positions.

6 Fan Coil Unit - Control Schematic and Sequence of Operations (EXISTING AHU-5, 27 & 28)
NOT TO SCALE



NOTES:
1. Provide automatic control valve as indicated in mechanical schedules or control specifications.
2. HOA BACnet Integration: Furnish and install BACnet integration means and provide hand-off auto control of boxes with HOA control on the main page of the Unit Heater BAS graphics.

System Start-up - System start-up shall be initiated:
The unit shall run according to a user definable time schedule in the following modes:

OCCUPIED MODE:
The unit shall maintain a heating setpoint of 70 °F (adjustable).

UNOCCUPIED MODE (NIGHT SETBACK):
The unit shall maintain a heating setpoint of 65 °F (adjustable).

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Fan:
The fan shall run anytime the zone temperature drops below heating setpoint, unless shutdown on safeties.

Heating Coil Valve:
The controller shall measure the zone temperature and modulate the heating coil valve to maintain its heating setpoint.

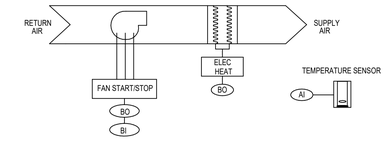
The heating shall be enabled whenever:
Outside air temperature is less than 65°F (adj.).
AND the zone temperature is below heating setpoint.
AND the fan is on.

System Alarms - The EMCS shall generate an alarm as follows:

LOW ZONE TEMP:
If the zone temperature is less than the heating setpoint by a user definable amount (adjustable).

HOA controls:
When The HOA is in The Off Position, unit shall be off.
When The HOA is in The Auto Position, unit shall run as described in sequence section.
When The HOA is in The Hand position, the unit shall run continuously until the HOA is switched to OFF or AUTO positions.

7 Hot Water Unit Heater - Control Schematic and Sequence of Operations (EXISTING UH-6,7,8,9,10,11,12,13)
NOT TO SCALE



NOTES:
1. HOA BACnet Integration: Furnish and install BACnet integration means and provide hand-off auto control of boxes with HOA control on the main page of the Unit Heater BAS graphics.

System Start-up - System start-up shall be initiated:
The unit shall run according to a user definable time schedule in the following modes:

OCCUPIED MODE:
The unit shall maintain a heating setpoint of 70 °F (adjustable).

UNOCCUPIED MODE (NIGHT SETBACK):
The unit shall maintain a heating setpoint of 65 °F (adjustable).

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Fan:
The fan shall run anytime the zone temperature drops below heating setpoint, unless shutdown on safeties.

Electric Heating Element:
The controller shall measure the zone temperature and the electric heat shall be staged to maintain the space temperature within +/- 0.5 °F of the its Heating Setpoint.

The heating shall be enabled whenever:
Outside air temperature is less than 65°F (adj.).
AND the zone temperature is below heating setpoint.
AND the fan is on.

System Alarms - The EMCS shall generate an alarm as follows:

LOW ZONE TEMP:
If the zone temperature is less than the heating setpoint by a user definable amount (adjustable).

HOA controls:
When The HOA is in The Off Position, unit shall be off.
When The HOA is in The Auto Position, unit shall run as described in sequence section.
When The HOA is in The Hand position, the unit shall run continuously until the HOA is switched to OFF or AUTO positions.

8 Electric Unit Heater - Control Schematic and Sequence of Operations (EXISTING UH-1,2,3,4,5)
NOT TO SCALE

DBR
SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY

REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

SEAL:
ADAM C. JONES
110008
LICENSED
PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

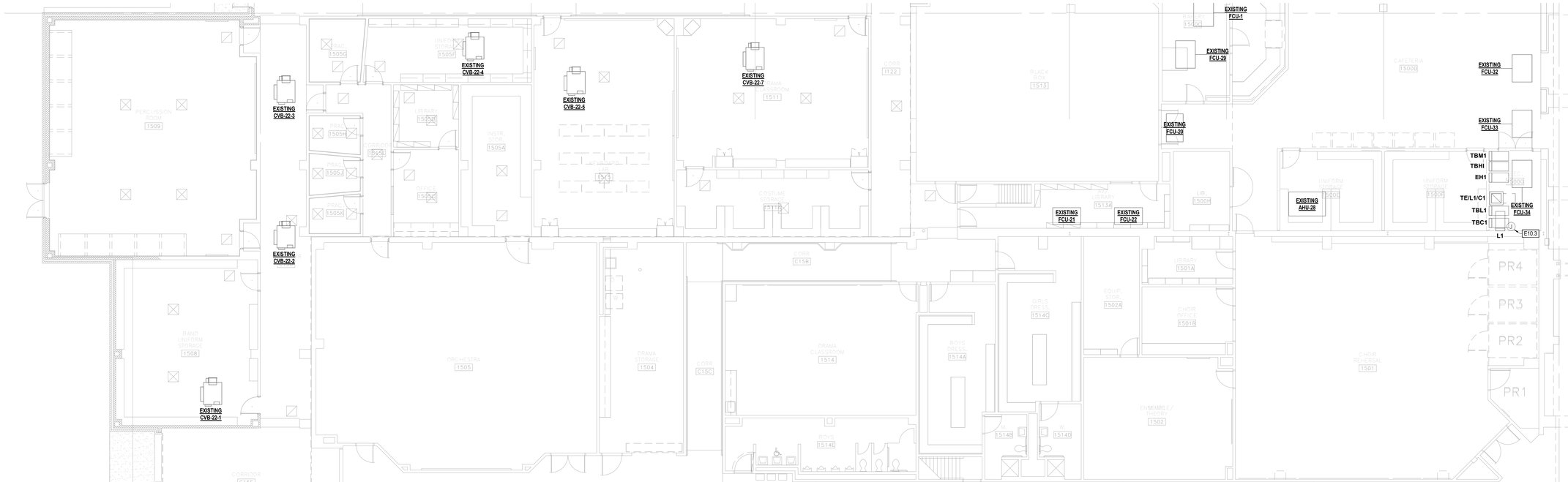
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SHEET NUMBER: M7.01

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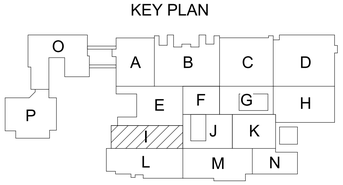
ELECTRICAL KEYED NOTES

E10.3 APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLS. CONNECT EXISTING LIGHTING CONTROLS IN THIS ROOM TO THE NEW BUILDING AUTOMATION SYSTEM (BAS SYSTEM) IN ORDER TO LOCATE AND CONTROL LIGHTS BASED ON SCHEDULE. FIELD VERIFY ALL ELECTRICAL REQUIREMENTS AND PROGRAMMING SETTINGS TO BE COMPATIBLE WITH NEW BAS SYSTEM. VERIFY ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR.



1 **ELECTRICAL POWER PLAN LEVEL 1 - AREA I**
1/8" = 1'-0"

KEY PLAN



SERVICE | QUALITY | INTEGRITY | SUSTAINABILITY

REVISION:

No.	DATE	DESCRIPTION
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SEAL:

ADAM C. JONES 110008 LICENSED PROFESSIONAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER 260018.001

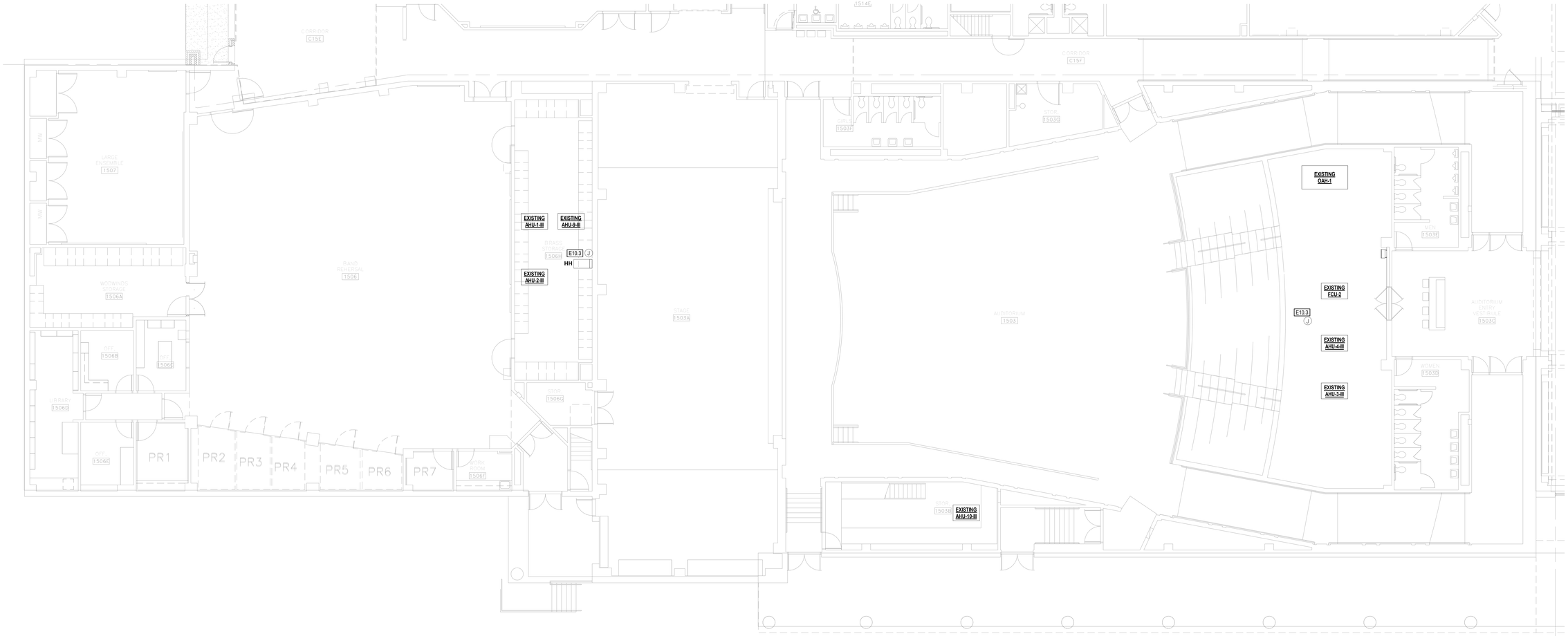
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ELECTRICAL KEYED NOTES

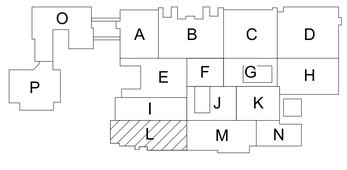
E10.3 APPROXIMATE LOCATION OF EXISTING LIGHTING CONTROLS. CONNECT EXISTING LIGHTING CONTROLS IN THIS ROOM TO THE NEW BUILDING AUTOMATION SYSTEM (BAS SYSTEM) IN ORDER TO LOCATE AND CONTROL LIGHTS BASED ON SCHEDULE. FIELD VERIFY ALL ELECTRICAL REQUIREMENTS AND PROGRAMMING SETTINGS TO BE COMPATIBLE WITH NEW BAS SYSTEM. VERIFY ALL REQUIREMENTS WITH THE MECHANICAL CONTROLS CONTRACTOR.



1 ELECTRICAL POWER PLAN LEVEL 1 - AREA L

1/8" = 1'-0"

KEY PLAN



PN

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REVISION:

No.	DATE	DESCRIPTION
	05/29/2026	ISSUE FOR PROPOSAL
1	07/20/2026	ADDENDUM 03

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ADAM C. JONES 110008 LICENSED ELECTRICAL ENGINEER

Tomball ISD Chiller Package 1(b) -Tomball HS - Controls Upgrade

30330 Quinn Rd.
Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

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PROJECT NUMBER 260018.001

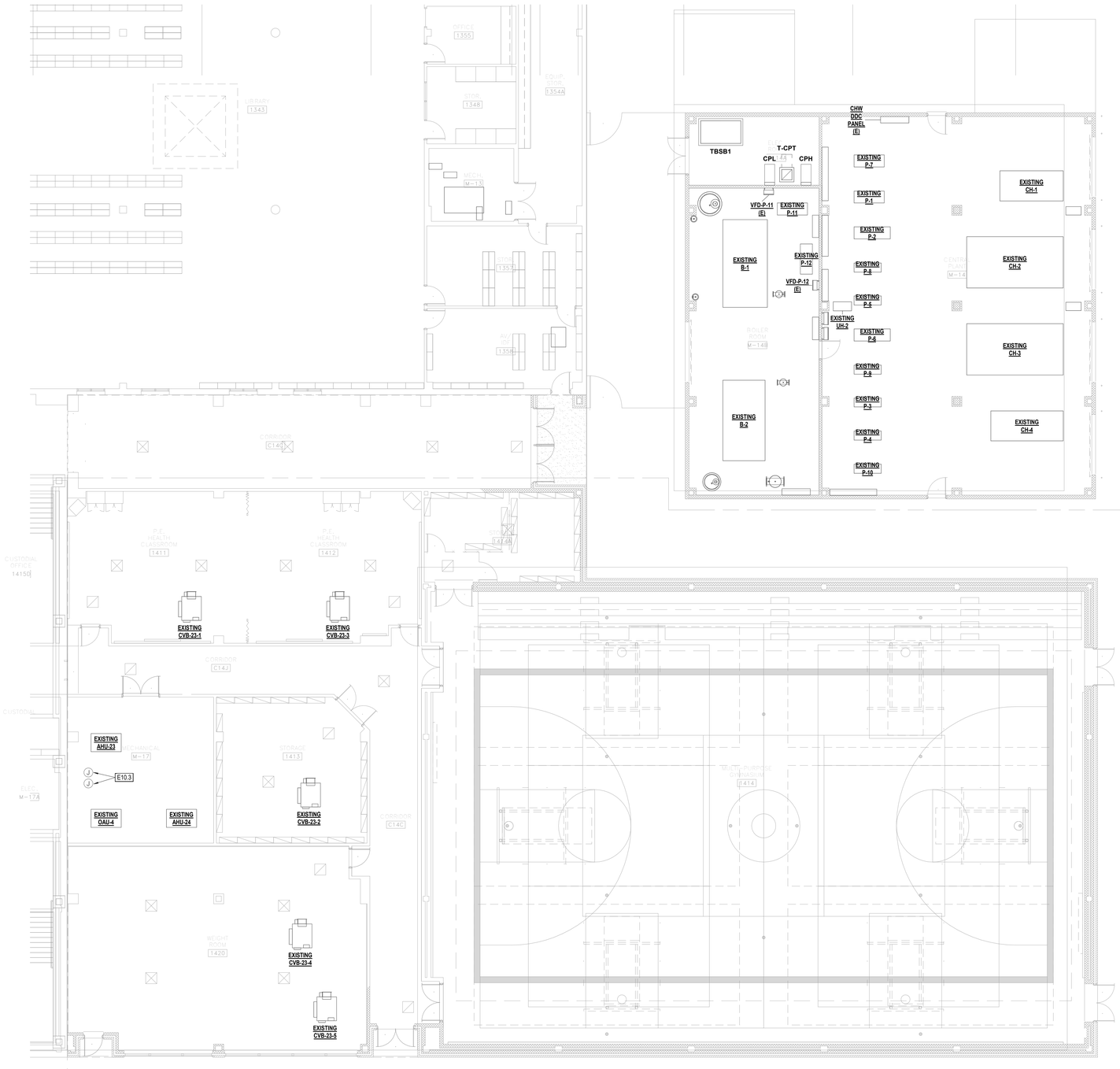
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ELECTRICAL KEYED NOTES

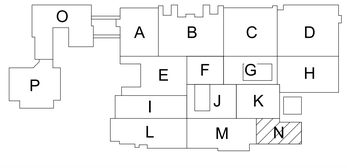
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1 ELECTRICAL POWER PLAN LEVEL 1 - AREA N

1/8" = 1'-0"

KEY PLAN



PN

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REVISION:

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Tomball, TX, 77375

TBPE Firm Registration No. 2234

DATE: 05/29/2026

DRAWN BY: DBR

CHECKED BY: DBR

PROJECT NUMBER 260018.001

SHEET TITLE: ELECTRICAL POWER PLAN LEVEL 1 - AREA N

SHEET NUMBER: E2.21N

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TOMBALL INDEPENDENT SCHOOL DISTRICT

RFP/CSP #1002-26 Issued: June 5th, 2026
REQUEST FOR COMPETITIVE SEALED PROPOSALS
FOR THE CONSTRUCTION OF A NEW
HVAC Control System at the Tomball High School

End of Addendum