CSP 26-036KB (BP048) – ADDENDUM No.02
BP048 HVAC – MEP West Zone 3

FOR

Fort Bend Independent School District
2023 Bond Program

To access the complete Addendum:

https://fortbendisd.bonfirehub.com/portal/

Reviewed By: Signed by: Juan Valdez D65E219662EF4EE... 1/27/2026
PROJECT MANAGER

Reviewed By: Signed by: Ryan Kiefer 1F973D1CC91A41D... 1/27/2026
DESIGN MANAGER

Reviewed By: Signed by: Brenda Garcia F7F6BD96D7C742E... 1/27/2026
CONSTRUCTION MANAGER

Approved By: Signed by: Daniel Bankhead AABECACAF7E9453... 1/27/2026
DESIGN AND CONSTRUCTION EXECUTIVE DIRECTOR

Approved By: Signed by: DF25ADA7E416421... 1/27/2026
DIRECTOR MATERIALS MANAGEMENT

ADDENDUM SUMMARY

FBISD BP048 HVAC - MEP WEST ZONE 3
25241.0100

Date and Time: 1/26/2026 5:00 PM
Addendum #: 002

This addendum contains changes to the requirements of the contract drawings and/or project manual. Such changes shall be incorporated into the contract documents and shall apply to the work with the same meaning and force as if they had been included in the original documents. Wherever this addendum modifies a portion of the paragraph of project manual or any portion of the drawing, the remainder of the paragraph of drawing affected shall remain in force.

The conditions of the basic project manual shall govern all work described in this addendum. Wherever the conditions of work and the quality of quantity of materials or workmanship are not fully described in this Addendum, the conditions of work, etc. included in the basic project manual for similar items of work shall apply to the work described in this addendum.

The “Conditions of the Contract” apply to all work described in this Addendum.
A total of eighteen (18) pages submitted in Addendum #2.
The following changes shall be and are hereby made:

SUMMARY OF REVISIONS:

Addendum No.2 provides clarifications and revisions to the sheets as outlined below. See MEP narratives for their respective summaries.

Austin HS:

- A-M10-01 - MECHANICAL DEMOLITION PLAN - LEVEL 01 – OVERALL
  - Updated Keynote 2 to clarify the demolition scope
- A-M10-02 - MECHANICAL DEMOLITION PLAN - LEVEL 02 – OVERALL
  - Updated Keynote 2 to clarify the demolition scope
- A-M20-01 - MECHANICAL PLAN - LEVEL 01 – OVERALL
  - Added Controls to be by Unify Controls note
- A-M20-02 - MECHANICAL PLAN - LEVEL 02 – OVERALL
  - Added Controls to be by Unify Controls note
- A-M20-03 - MECHANICAL ENLARGED PLANS
  - Added Controls to be by Unify Controls note
- A-M20-04 - MECHANICAL ENLARGED PLANS
  - Added Controls to be by Unify Controls note
- A-M20-05 - MECHANICAL ENLARGED PLANS
  - Added Controls to be by Unify Controls note
- A-M30-00 - MECHANICAL SCHEDULES
  - Added a pump alignment note to the pump schedule
- A-M40-01 - MECHANICAL DETAILS
  - Added a note for the unit dimensions and field adjustments to be made by contractors

Bowie MS:

- B-M20-01 - MECHANICAL PLAN - LEVEL 01 - OVERALL
  - Added a keynote telling contractor to replace cooling tower bypass line
- B-M30-00 - MECHANICAL SCHEDULES
  - Added a pump alignment note to the pump schedule

Crockett MS:

- C-M20-01 - MECHANICAL PLAN - LEVEL 01 - OVERALL
  - Added a keynote telling mechanical contractor to coordinate with controls contractor on CT Valve protection.
- C-M30-00 - MECHANICAL SCHEDULES
  - Added a pump alignment note to the pump schedule

Garcia MS:

- G-M30-00 - MECHANICAL SCHEDULES
  - Added a pump alignment note to the pump schedule

Hodges Bend MS:

- H-M30-00 - MECHANICAL SCHEDULES
  - Added a pump alignment note to the pump schedule

BIDDERS QUESTIONS:

The contract documents reference modifications and additions to sprinkler systems, including new or modified supervisory and waterflow devices that require connection to the existing fire alarm system(s). However, the drawings and specifications do not clearly identify the existing fire alarm system manufacturer and control panel model at each campus included in this CSP.

Please provide, for each building included in this package:
-Fire Alarm Control Panel (FACP) manufacturer
-Fire Alarm Control Panel model

BIDDERS RESPONSE:

Response Per Jesus Garcia, FBISD

Austin HS: NFS2-3030,
Bowie MS: Silent Knight IFP-2100
Crockett MS: Silent Knight 6820
Garcia MS: Notifier AFP 2020
Hodges Bend MS: Notifier 3030
Travis HS: IFP 2100
Walker Station ES: Notifier 640

End of Addendum Summary

Please review this information and advise writer of any corrections, misunderstandings or additions within 3 business days.

SCOPE NOTE:
REFER TO ATTACHMENTS FOR EXISTING CONDITIONS REGARDING LOCATIONS OF EQUIPMENT, EXTENTS OF DUCTWORK / PIPING, AND ADDITIONAL INFORMATION.

1 MECHANICAL DEMOLITION PLAN - LEVEL 01

1/32" = 1'-0"

DEMOLITION NOTES:

1. DEMOLITION INTENT: REMOVE ALL TERMINAL UNITS, AIR HANDLING UNITS, AND PUMPS DESIGNATED FOR REMOVAL. COORDINATE WITH BUILDING OWNER FOR ALL EQUIPMENT TO BE SALVAGED. IF THE OWNER DOES NOT WISH TO RETAIN EQUIPMENT, DISPOSE OF IN A MANNER ACCEPTABLE TO ALL AUTHORITIES HAVING JURISDICTION.
2. PRIOR TO WORK, GENERAL AND MECHANICAL CONTRACTORS SHALL OBTAIN CONFIRMATION FROM OWNER BEFORE REMOVING ANY CONDUIT, CIRCUIT, WIRING, PIPING, EQUIPMENT OR CONTROL WIRING WHICH MAY STILL BE IN USE. THE CONTRACTOR SHALL REPLACE ANY ITEM REMOVED DURING THE DEMOLITION PROCESS, WHICH IS INTENDED TO REMAIN, AT NO ADDITIONAL COST TO THE OWNER.
3. REMOVE ALL NON-ACTIVE CONTROLS, SUPPORTS, HANGERS, INSULATION, ETC. REMOVE ANY REMAINING REFRIGERANT IN LEGAL AND ENVIRONMENTALLY RESPONSIBLE MANNER, IN ACCORDANCE WITH ALL LAWS AND REGULATIONS.
4. CONTRACTOR TO COORDINATE EXTENT OF DEMOLITION WITH ALL NEW WORK INTENT.
5. DEMOLITION AND NEW CONSTRUCTION ACTIVITIES SHALL IN NO WAY DISRUPT ONGOING OPERATIONS. TEMPORARY SHUTDOWN SCHEDULES MUST BE APPROVED, IN ADVANCE, BY THE CONSTRUCTION MANAGER AND THE CLIENT REPRESENTATIVE.
6. CONTRACTOR SHALL MAINTAIN A CLEAN JOBSITE AT ALL TIMES.

ⓧ MECHANICAL KEYED NOTES

1. DEMOLISH EXISTING CENTRAL STATION AIR-HANDLING UNITS AND DISCONNECT ASSOCIATED PIPING AND DUCTWORK CONNECTIONS. CONTRACTOR TO DEMOLISH DUCTWORK JUST BEYOND EXISTING FLEX CONNECTORS AND PIPING BACK TO ISOLATION VALVE IN MECHANICAL ROOM. IF NO ISOLATION VALVE EXISTS, THEN CONTRACTOR IS TO PROVIDE PROVISIONS TO FREEZE TAP NEW SUPPLY AND RETURN CHW AND HW ISOLATION VALVES. THE LIMITS OF DEMOLITION ARE TO ENSURE NEW UNIT CAN BE INSTALLED. 1
2. REMOVE AND DEMOLISH EXISTING TERMINAL UNIT. DEMOLISH FLEX CONNECTIONS, COILS AND ASSOCIATED PIPING, ASSOCIATED CONTROLS ACTUATORS AND SENSORS. MAKE READY ALL CONNECTIONS FOR INSTALLATION OF NEW TERMINAL UNIT AND CONTROLS. CONTROLS CONTRACTOR TO SECURE ALL EXISITNG CONTROLS RELATED INFORMATION, INCLUDING BUT NOT LIMITED TO SEQUENCE OF OPERATIONS, ETC. PRIOR TO ANY DEMOLITION OF EQUIPMENT. CONTRACTOR TO REMOVE PROTECT AND REINSTALL ANY CEILING GRID AND TILE NECESSARY TO PROPERLY DEMOLISH EXISTING TERMINAL UNIT AND MAKE READY FOR NEW TERMINAL UNIT INSTALLATION.
3. CONTRACTOR TO DEMOLISH EXISTING HOT WATER PUMP IN ITS ENTIRETY, INCLUDING ALL CONTROLS, INERTIA PADS, AND SUPPORTS. DEMOLISH EXISTING PIPING BACK TO ISOLATION VALVES. IF NO ISOLATION VALVES EXIST, THE CONTRACTOR IS TO PROVIDE PROVISIONS TO LINE FREEZE AND ADD NEW LINE SUPPLY AND RETURN MANUAL ISOLATION VALVES PER SPECIFICATIONS.
4. REFURBISH THE AIR HANDLING UNIT WITH THE FOLLOWNG. THROUGHLY CLEAN THE ENTIRE UNIT FROM THE INSIDE OUT INCLUDING THE FAN WHEEL, CHILLED WATER AND HEATING WATER COILS. PROVIDE NEW FILTERS, MOTORIZED DAMPERS, ACTUATORS, FAN BELTS AND VARIABLE FREQUENCY DRIVE. GREASE FAN SHAFT AND BEARINGS. VERIFY EXISITNG MOTOR GROUNDING IS ADEQUATE AND INSTALL NEW GROUNDING AS NECESSARY. CONTRACTOR TO PROVIDE OEM REFURBISHMENT BY COORDINATING THE REFURBISHMENT DIRECTLY WITH THE MANUFACTURER'S REPRESENTATIVE. UNIT MANUFACTURER IS MCQUAY (NOW DAIKIN).

CORGAN

	ISSUES	
1	07.18.2025	DESIGN DEVELOPMENT
2	09.29.2025	50% CONSTRUCTION DOCUMENTS
3	11.11.2025	90% CONSTRUCTION DOCUMENTS
4	12.11.2025	100% CONSTRUCTION DOCUMENTS

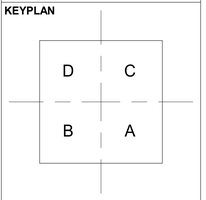
△	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED
PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
STEPHEN F. AUSTIN HS
3434 Pheasant Creek Dr.
Sugar Land, TX 77498

KEYPLAN



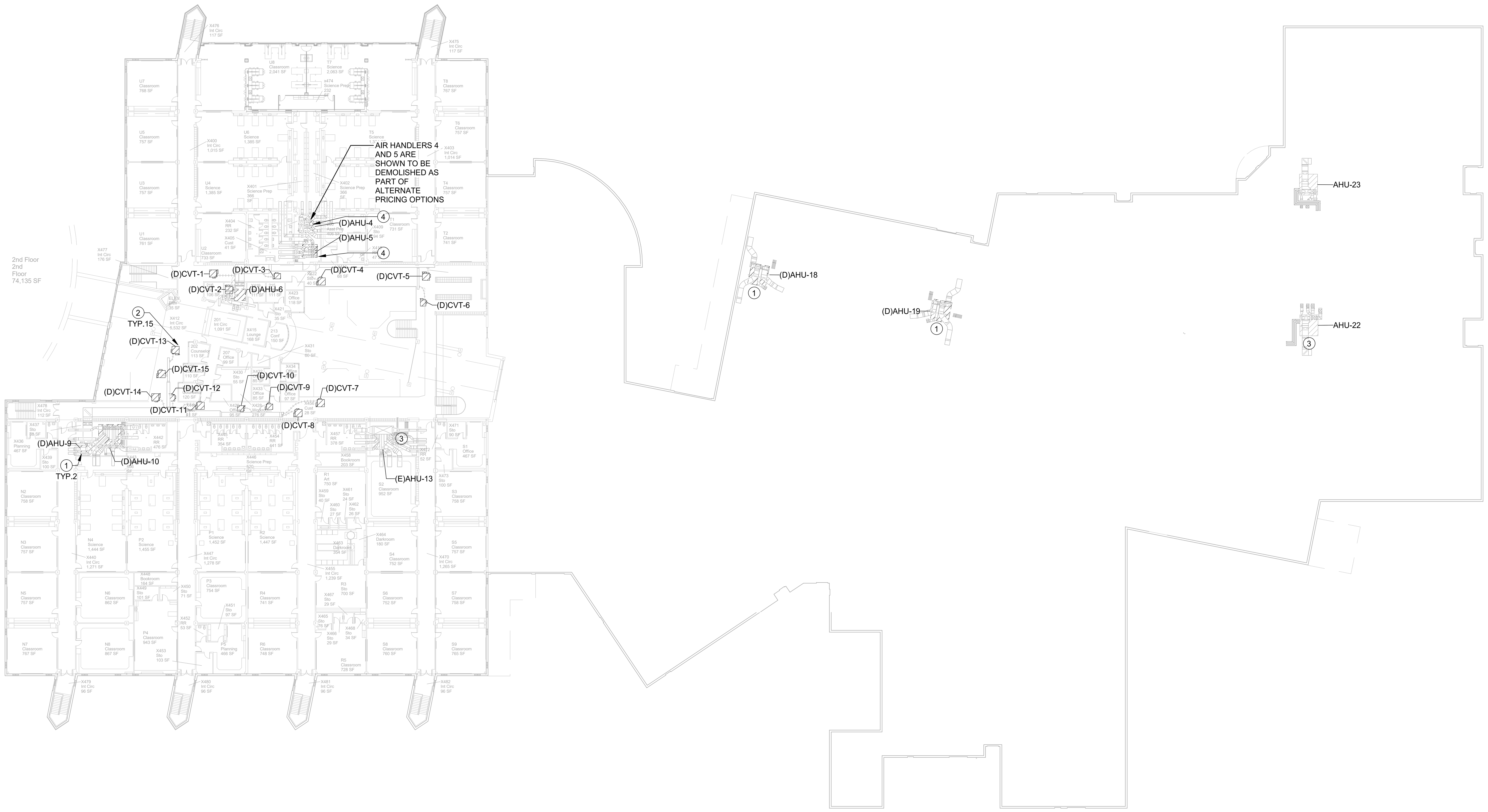
MECHANICAL DEMOLITION PLAN - LEVEL 01 - OVERALL

JOB 25241.0000
DATE 12/11/25
SHEET

A-M10-01

YW² ENGINEERING
2508 Reppart Place
Houston, Texas 77008
346-341-2168
www.yw-squared.com
TX Firm No. 22107
Project No. 25027.00

CORGAN



1 MECHANICAL DEMOLITION PLAN - LEVEL 02

1/32" = 1'-0"

DEMOLITION NOTES:

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6. CONTRACTOR SHALL MAINTAIN A CLEAN JOBSITE AT ALL TIMES.

ⓧ MECHANICAL KEYED NOTES

1. DEMOLISH EXISTING CENTRAL STATION AIR-HANDLING UNITS AND DISCONNECT ASSOCIATED PIPING AND DUCTWORK CONNECTIONS. CONTRACTOR TO DEMOLISH DUCTWORK JUST BEYOND EXISTING FLEX CONNECTORS AND PIPING BACK TO ISOLATION VALVE IN MECHANICAL ROOM. IF NO ISOLATION VALVE EXISTS, THEN CONTRACTOR IS TO PROVIDE PROVISIONS TO FREEZE TAP NEW SUPPLY AND RETURN CHW AND HW ISOLATION VALVES. THE LIMITS OF DEMOLITION ARE TO ENSURE NEW UNIT CAN BE INSTALLED.
2. REMOVE AND DEMOLISH EXISTING TERMINAL UNIT. DEMOLISH FLEX CONNECTIONS, COILS AND ASSOCIATED PIPING, ASSOCIATED CONTROLS ACTUATORS AND SENSORS. MAKE READY ALL CONNECTIONS FOR INSTALLATION OF NEW TERMINAL UNIT AND CONTROLS. CONTROLS CONTRACTOR TO SECURE ALL EXISITNG CONTROLS RELATED INFORMATION, INCLUDING BUT NOT LIMITED TO SEQUENCE OF OPERATIONS, ETC. PRIOR TO ANY DEMOLITION OF EQUIPMENT. CONTRACTOR TO REMOVE PROTECT AND REINSTALL ANY CEILING GRID AND TILE NECESSARY TO PROPERLY DEMOLISH EXISITNG TERMINAL UNIT AND MAKE READY FOR NEW TERMINAL UNIT INSTALLATION.
3. REFURBISH THE AIR HANDLING UNIT WITH THE FOLLOWING. THOROUGHLY CLEAN THE ENTIRE UNIT FROM THE INSIDE OUT INCLUDING THE FAN WHEEL, CHILLED WATER AND HEATING WATER COILS. PROVIDE NEW FILTERS, MOTORIZED DAMPERS, ACTUATORS, FAN BELTS AND VARIABLE FREQUENCY DRIVE. GREASE FAN SHAFT AND BEARINGS. VERIFY EXISTING MOTOR GROUNDING IS ADEQUATE AND INSTALL NEW GROUNDING AS NECESSARY. CONTRACTOR TO PROVIDE OEM REFURBISHMENT BY COORDINATING THE REFURBISHMENT DIRECTLY WITH THE MANUFACTURER'S REPRESENTATIVE. UNIT MANUFACTURER IS MCQUAY (NOW DAIKIN).
4. CONTRACTOR TO INCLUDE REFURBISHMENT SCOPE FOR THIS AIR HANDLING UNIT UNDER BASE SCOPE. AS PART OF THE ATLERNATE SCOPE, REMOVE REFURBISHMENT OF THE UNIT AND INCLUDE FULL REPLACEMENT PER REPLACEMENT KEYED NOTES, AND EQUIPMENT SCHEDULE ON SHEET A-M30-00.

1/23/2026 6:20:39 PM A-M10-02MECHANICAL DEMOLITION PLAN - LEVEL 02 - OVERALL

ISSUES

1	07.18.2025	DESIGN DEVELOPMENT
2	09.29.2025	50% CONSTRUCTION DOCUMENTS
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REVISIONS

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED
PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
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FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
STEPHEN F. AUSTIN HS

3434 Pheasant Creek Dr.
Sugar Land, TX 77498

KEYPLAN

D	C
B	A

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2508 Reppart Place
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CORGAN

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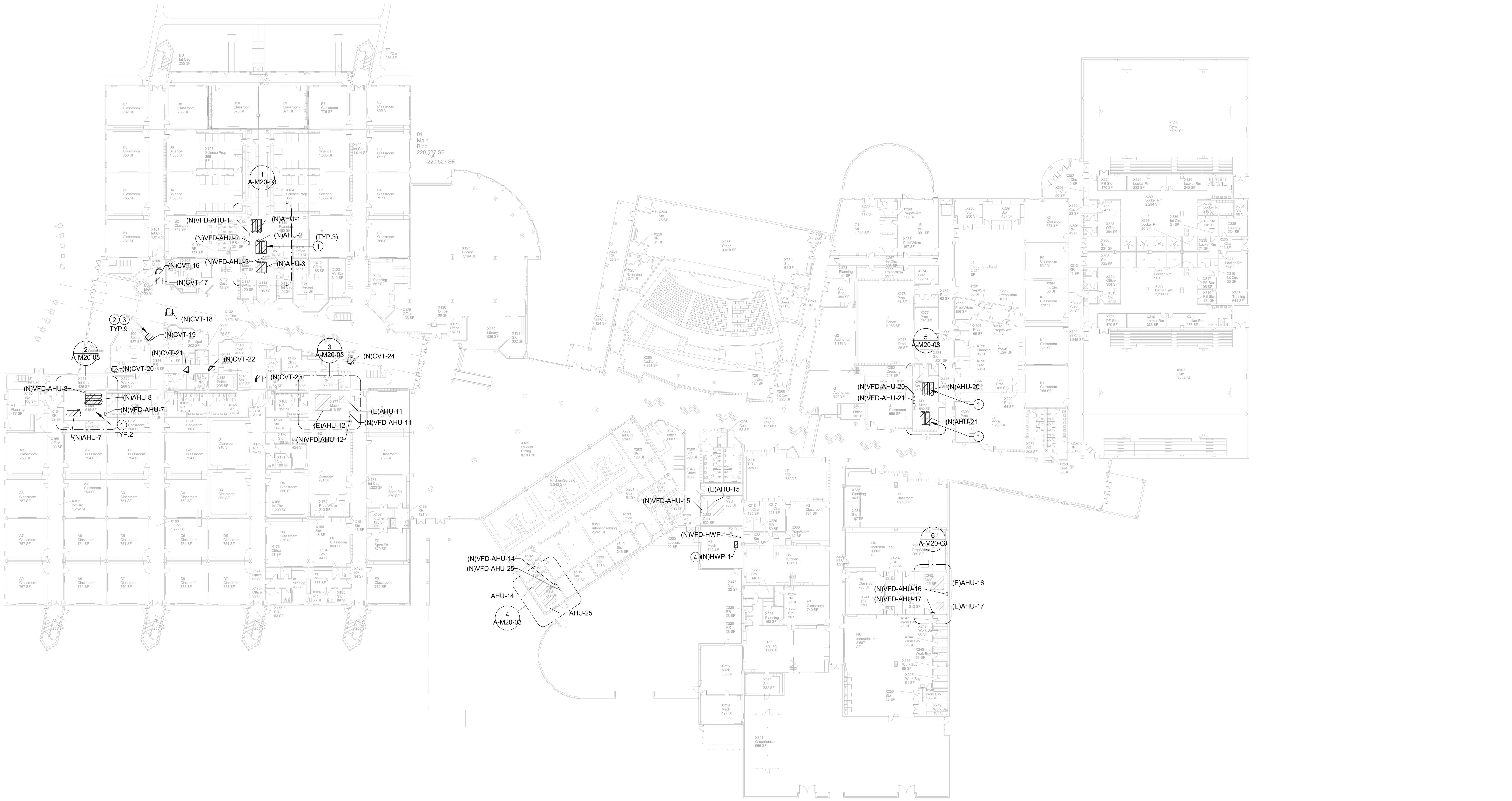

1 MECHANICAL PLAN - LEVEL 01

1/32" = 1'-0"

CONTROLS AT THIS CAMPUS IS BY UNIFY CONTROLS. CONTRACTOR TO CONTACT AND COORDINATE WITH UNIFY CONTROLS FOR UPGRADES.

MECHANICAL GENERAL NOTES:

1. REFER TO MECHANICAL COVER SHEET FOR SYMBOLS, ABBREVIATIONS, AND ADDITIONAL INFORMATION.
2. REFER TO MECHANICAL SCHEDULES AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
3. MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE FOR NEW AND EXISTING MECHANICAL EQUIPMENT.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING AND NEW MECHANICAL EQUIPMENT ARE MOUNTED SO THAT ALL REQUIRED CLEARANCES ARE MAINTAINED AT THE BOTTOM AND SIDES OF EACH UNIT FOR PROPER SERVICING, MAINTENANCE AND CODE CLEARANCES PRIOR TO FINAL PLACEMENT AND INSTALLATION OF NEW AIR HANDLING UNIT. COORDINATE COMPLETELY WITH ALL NEW WALLS TO STRUCTURE, AND RELOCATE AS REQUIRED TO MAINTAIN PROPER CLEARANCES. ADJUST DUCTWORK CONNECTIONS AS NECESSARY.
5. CONTRACTOR SHALL FIELD VERIFY ACTUAL LOCATIONS OF ALL EQUIPMENT, DUCTWORK, & PIPING PRIOR TO SUBMITTING A BID. COORDINATE COMPLETELY WITH ALL OTHER TRADES. RELOCATE TERMINAL UNITS AND PROVIDE ADDITIONAL DUCTWORK, OFFSETS, FITTINGS, ETC. AS REQUIRED.
6. PRIOR TO ANY CONSTRUCTION THE MECHANICAL CONTRACTOR SHALL RECORD THE AIR QUANTITY FOR EACH EXISTING AIR DEVICE IN THE ADJACENT SPACES AND RESTROOMS CONNECTED TO COMMON EQUIPMENT. AFTER THE COMPLETION OF THE RENOVATION WORK, MECHANICAL CONTRACTOR SHALL USE THE SAME BALANCING EQUIPMENT TO REBALANCE ALL EXISTING AIR DEVICES TO THE ORIGINAL AIR QUANTITIES.
7. DUE TO DRAWING SCALE, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL EXAMINE FIELD CONDITIONS AND FURNISH THE NECESSARY FITTINGS WHICH MAY BE REQUIRED TO COMPLETE THE INSTALLATION. CONTRACTOR SHALL FURNISH AND INSTALL BALANCING DAMPERS IN HVAC SYSTEMS THAT HAVE MORE THAN ONE INLET/OUTLET UNLESS NOTED OTHERWISE. BALANCING DAMPERS SHALL APPLY TO NEW AND EXISTING DUCTORK.
8. DURING CONSTRUCTION, SEAL ALL OPEN DUCTS WITH PLASTIC TO PREVENT DUST/DIRT. CLEAN ALL INTERIOR DUCT SURFACES PRIOR TO DUCT INSTALLATION. ALL VAV TERMINAL UNIT FILTERS SHALL BE MAINTAINED DURING CONSTRUCTION AND REPLACED AT THE END OF CONSTRUCTION. PROVIDE CONSTRUCTION FILTERS OVER AIR HANDLING UNIT INTAKES AND MAINTAIN FILTER MEDIA DURING CONSTRUCTION. REPLACE ALL FILTERS AT END OF CONSTRUCTION. REMOVE UPON COMPLETION.

Ⓧ MECHANICAL KEYED NOTES

1. PROVIDE NEW CENTRAL STATION AIR-HANDLING UNITS PER MECHANICAL SCHEDULES. CONTRACTOR TO PROVIDE NEW DUCTWORK CONNECTIONS AND PIPING CONNECTS PER MECHANICAL DETAILS. CONTROLS CONTRACTOR TO PROVIDE NEW DDC CONTROLS, INCLUDING NEW CONTROL VALVES, ACTUATORS, AUTOMATIC DAMPERS, CONTROLLERS, CONTROL PANELS, PROGRAMMING AND UPGRADED FRONT END GRAPHICS. CONTROLS CONTRACTOR TO COORDINATE WITH DISTRICT ENERGY MANAGER TO ENSURE THE LATEST CONTROLS SEQUENCE OF OPERATIONS FOR THE NEW AHUS ARE INSERTED INTO UPDATED CONTROLS SYSTEM. MODIFY EXISTING SUPPORTS AS REQUIRED TO ACCOMMODATE NEW AIR HANDLER. EXTEND EXISTING ACCESS/SERVICE CATWALKS TO ALL SIDES OF UNIT REQUIRING ACCESS. PROVIDE DELEGATED DESIGN AS REQUIRED.
2. NEW FAN POWERED TERMINAL UNIT, REFER TO SCHEDULE ON SHEET M30-00 AND DETAILS ON SHEET M40-00. CONTRACTOR TO INSTALL NEW FLEX CONNECT DUCTWORK BETWEEN NEW TERMINAL UNIT AND EXISTING DUCTWORK. PROVIDE AND INSTALL NEW HOT WATER COIL PIPING AND CONNECTION, INCLUDING A 3/4" CONTROL BALL VALVE, ACTUATOR AND AIR TEMPERATURE SENSORS AND HUMIDISTATS FOR EACH ZONE. CONTROLS CONTRACTOR TO CONNECT NEW CONTROLS TO EXISITNG CONTROLS SYSTEM WHERE NECESSARY. REUSE EXISTING SEQUENCE OF OPERATION FOR FAN POWERED TERMINAL UNIT. COORDINATE WITH DISTRICT ENERGY MANAGER FOR ANY UPDATED SEQUENCE.
3. LOCATE TERMINAL UNIT CONTROLLER IN PLENUM, OR IN NEARBY MECHANICAL ROOM WITH NEW AHU CONTROLS. COORDINATE WITH CONTROLS CONTRACTOR.
4. CONTRACTOR TO PROVIDE NEW HOT WATER PUMP TYING INTO EXISTING PIPING TO REMAIN. PROVIDE ALL NEW GAUGES, VALVES, AND ASSOCIATED APPURTENANCES, ETC PER DETAIL. MECHANICAL CONTRACTOR SHALL PROVIDE NEW VFD - ELECTRICAL CONTRACTOR TO INSTALL THE VFD. CONTRACTOR TO COORDINATE ALL PIPING CONNECTIONS TO ENSURE NO UNNECESSARY TURNS ARE CREATED WHICH WOULD POTENTIALLY CREATE AN ISSUE WITH CONTROLS, GAUGES, VALVES, ETC. TO BE INTALLED IN THE PIPING. SEE DETAIL ON SHEET A-M04-00. REFER TO SCHEDULE SHEET FOR ADDITIONAL INFORMATION.

○	ISSUES	
1	07.18.2025	DESIGN DEVELOPMENT
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△	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
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STEPHEN F. AUSTIN HS

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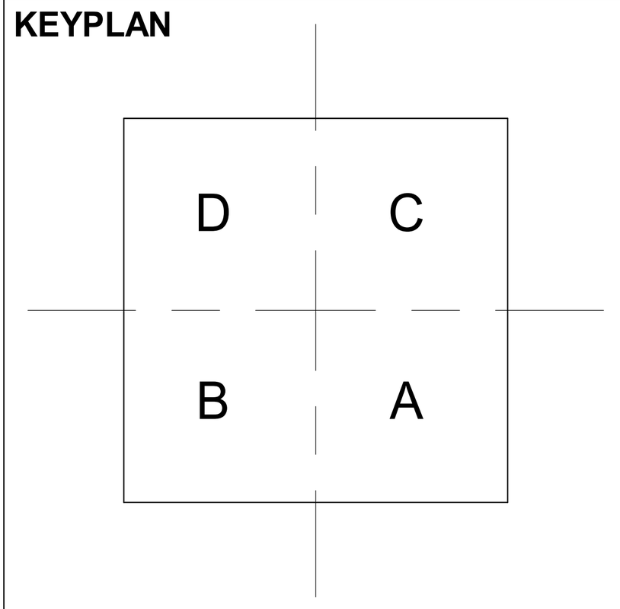
KEYPLAN



MECHANICAL PLAN - LEVEL 01 - OVERALL

yw² ENGINEERING
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JOB 25241.0000
DATE 12/11/25
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A-M20-01

CORGAN

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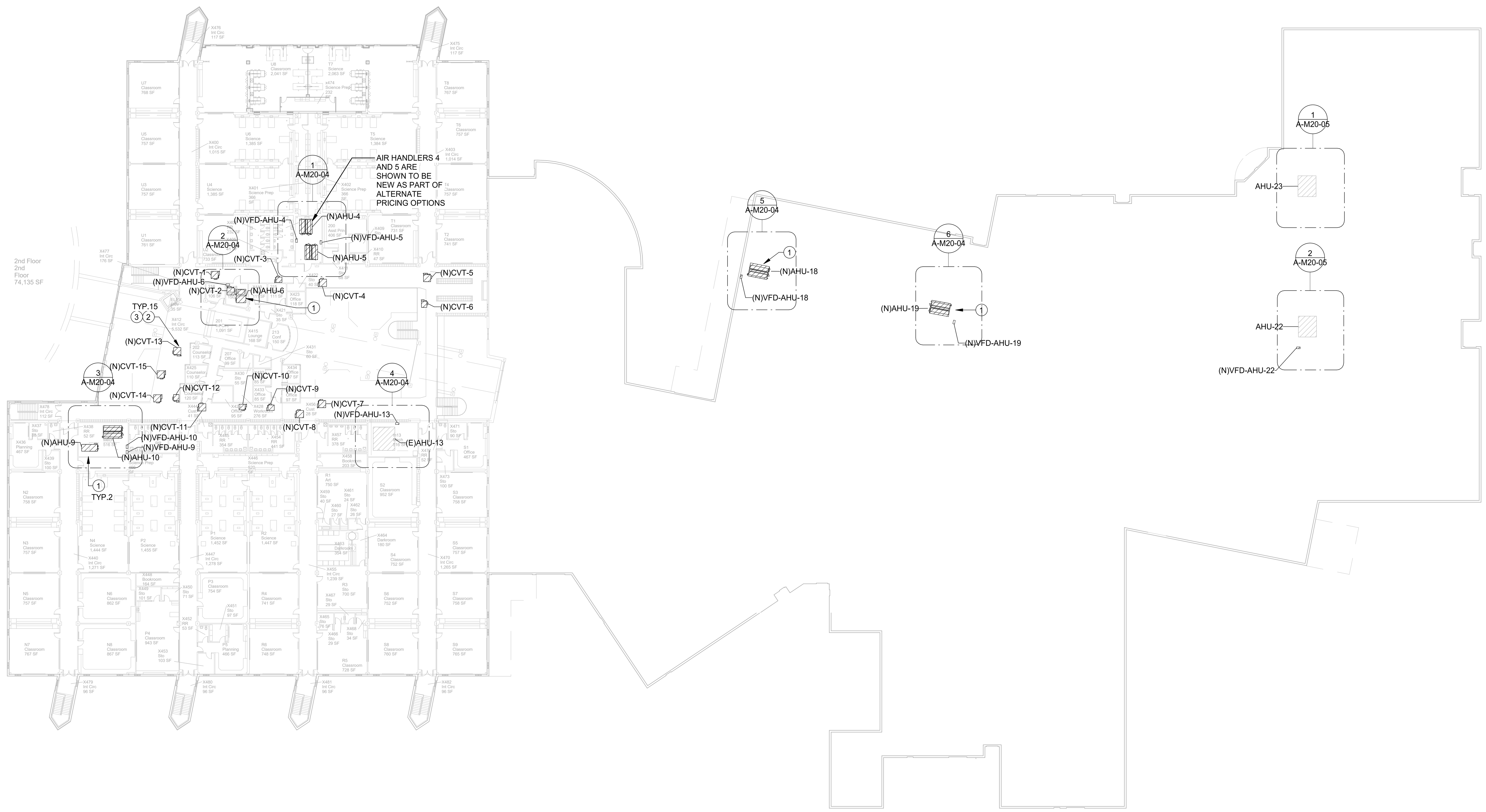

1 MECHANICAL PLAN - LEVEL 02

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MECHANICAL GENERAL NOTES:

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2. REFER TO MECHANICAL SCHEDULES AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
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REVISIONS

1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
STEPHEN F. AUSTIN HS

3434 Pheasant Creek Dr.
Sugar Land, TX 77498

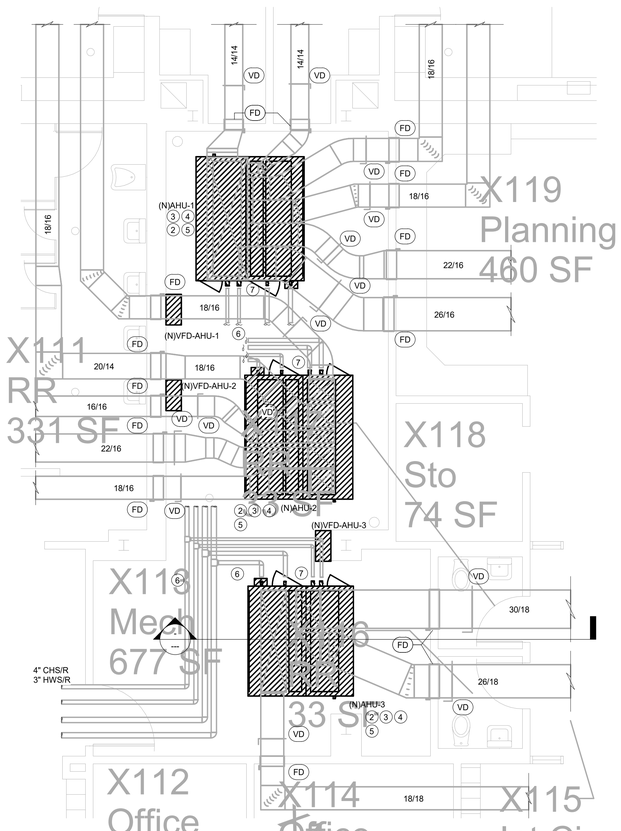
KEYPLAN

D	C
B	A

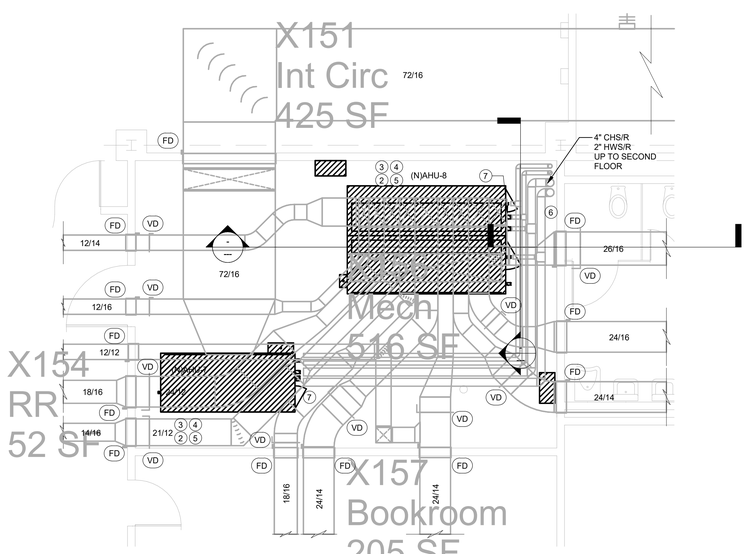
MECHANICAL PLAN - LEVEL 02 - OVERALL

yw² ENGINEERING
2508 Reppart Place
Houston, Texas 77008
346-341-2168
www.yw-squared.com
TX Firm No. 22107
Project No. 25027.00

JOB 25241.0000
DATE 12/11/25
SHEET
A-M20-02



1 **FIRST FLOOR - MECH 1**
1/4" = 1'-0"



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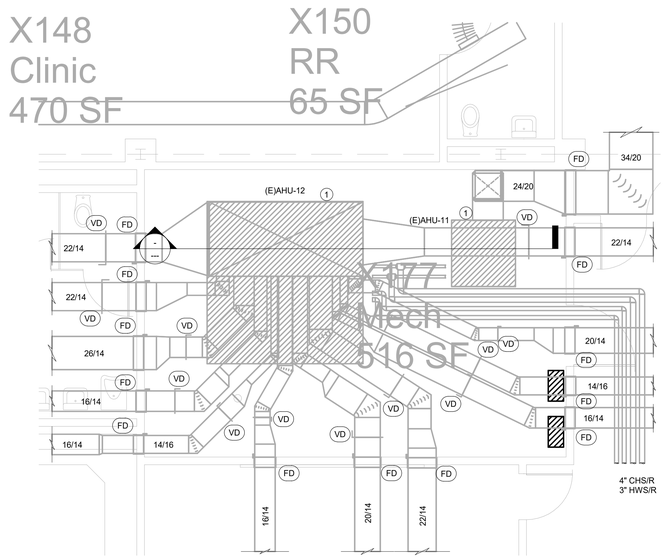
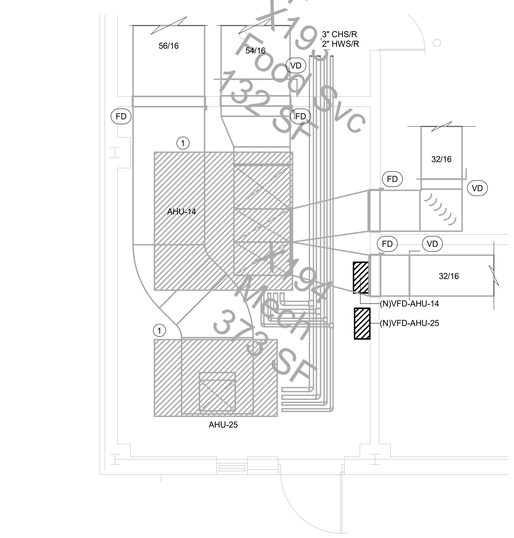
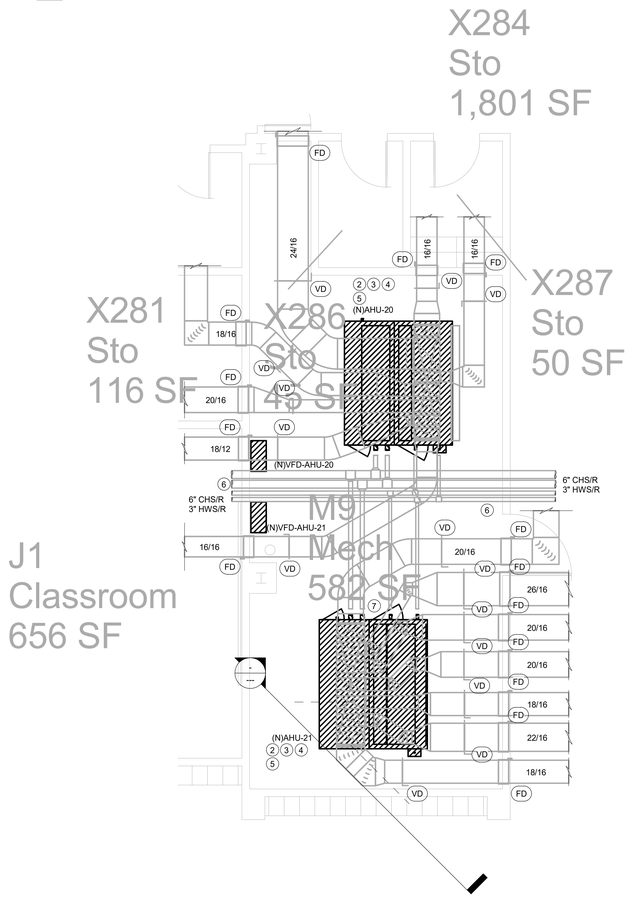


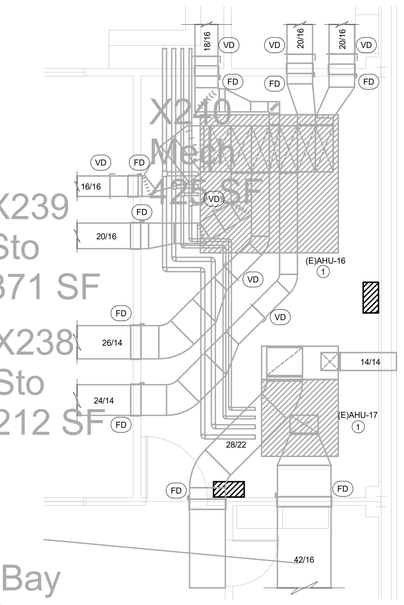
3 **FIRST FLOOR - MECH 3**
1/4" = 1'-0"



4 **FIRST FLOOR - MECH 4**
1/4" = 1'-0"



5 **FIRST FLOOR - MECH 5**
1/4" = 1'-0"



6 **FIRST FLOOR - MECH 6**
1/4" = 1'-0"

Ⓧ MECHANICAL KEYED NOTES

1. REFURBISH THE AIR HANDLING UNIT WITH THE FOLLOWING. THOROUGHLY CLEAN THE ENTIRE UNIT FROM INSIDE OUT INCLUDING THE FAN WHEEL, CHILLED WATER AND HEATING WATER COILS. PROVIDE NEW FILTERS, MOTORIZED DAMPERS, ACTUATORS, FAN BELTS. GREASE FAN SHAFT AND BEARINGS. VERIFY EXISTING MOTOR GROUNDING IS ADEQUATE AND INSTALL NEW GROUNDING AS NECESSARY. CONTRACTOR TO PROVIDE OEM REFURBISHMENT BY COORDINATING THE REFURBISHMENT DIRECTLY WITH THE MANUFACTURER'S REPRESENTATIVE. UNIT MANUFACTURER IS TEMTROL.
2. PROVIDE NEW CHILLED WATER AND HEATING HOT WATER CONTROL BALL VALVES. REFER TO SCHEDULES FOR VALVE SIZING.
3. ROUTE 1-1/2" CONDENSATE PIPE TO THE NEAREST DRAIN.
4. PROVIDE AND INSTALL UPGRADED DDC CONTROLS FOR NEW AHU'S AND ALL ASSOCIATED DEVICES PART OF THE AIR DISTRIBUTION SYSTEM CONNECTED TO THE AHU. CONTROLS CONTRACTOR TO PROVIDE ALL NEW THERMOSTATS AND HUMIDISTATS FOR EACH ZONE. REFER TO M6.00 AND M6.01 SHEETS FOR ADDITIONAL CONTROLS INFORMATION.
5. PROVIDE AND INSTALL NEW AIR HANDLING UNIT. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND INSTALLATION METHODOLOGY PRIOR TO ORDERING ANY EQUIPMENT. RECONNECT ALL DUCTWORK TO THE CORRECT ZONES ON NEW UNIT UTILIZING SHEET METAL DUCTWORK AND FLEX CONNECTIONS AS NECESSARY. REFER TO SPECIFICATIONS FOR DUCTWORK DETAILS. RECONNECT CHW AND HW LINES TO NEW UNIT. REFER TO DETAILS FOR COIL CONNECTION REQUIREMENTS.
6. PROVIDE LINE SIZE ISOLATION VALVE AT CHW AND HW ENTRY INTO MECHANICAL ROOM. CONTRACTOR TO PERFORM LINE FREEZE AS NECESSARY TO INSTALL NEW VALVE.
7. PROVIDE NEW LINE SIZE ISOLATION VALVE AT AHU CONNECTIONS. REFER TO COIL DETAILS ENSURE ISOLATION IS IN THE CORRECT LOCATION.

CONTROLS AT THIS CAMPUS IS BY UNIFY CONTROLS. CONTRACTOR TO CONTACT AND COORDINATE WITH UNIFY CONTROLS FOR UPGRADES.

CORGAN

	ISSUES	
1	07.18.2025	DESIGN DEVELOPMENT
2	09.29.2025	50% CONSTRUCTION DOCUMENTS
3	11.11.2025	90% CONSTRUCTION DOCUMENTS
4	12.11.2025	100% CONSTRUCTION DOCUMENTS

△	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED
PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
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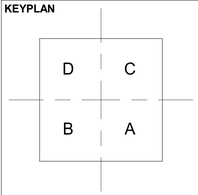
STEPHEN F. AUSTIN HS
3434 Pheasant Creek Dr.
Sugar Land, TX 77498

KEYPLAN



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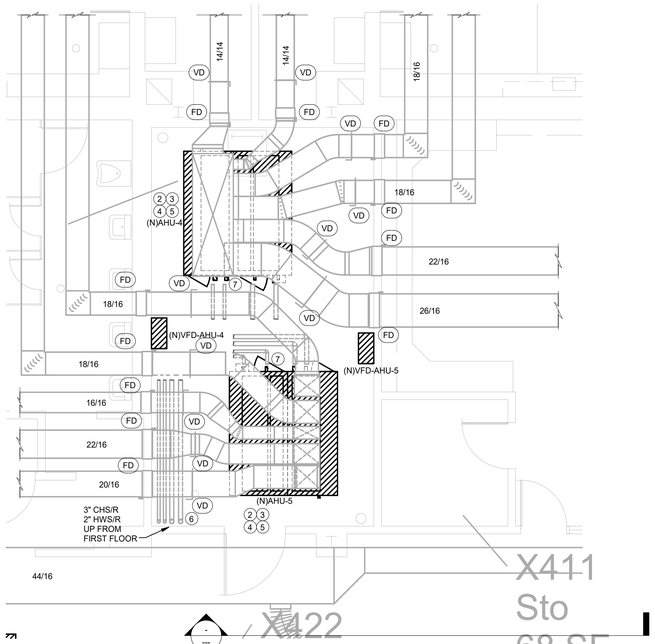

1 **SECOND FLOOR - MECH 1**
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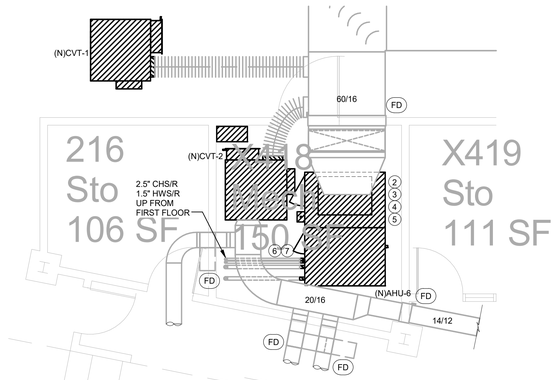

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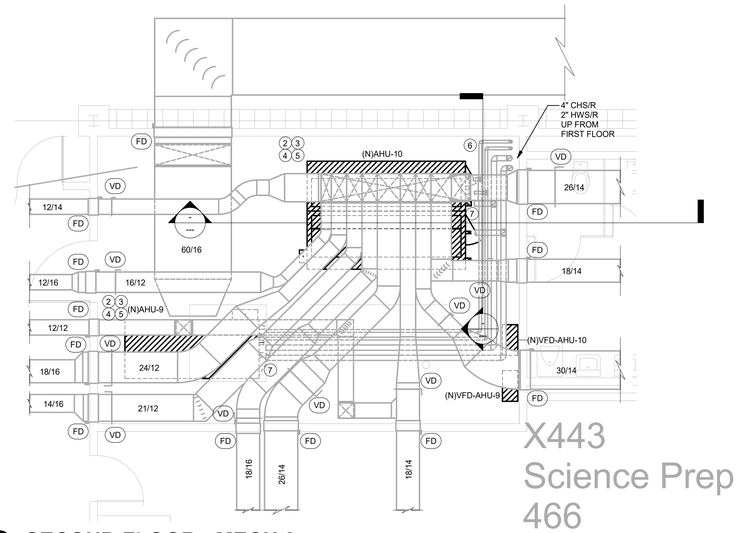

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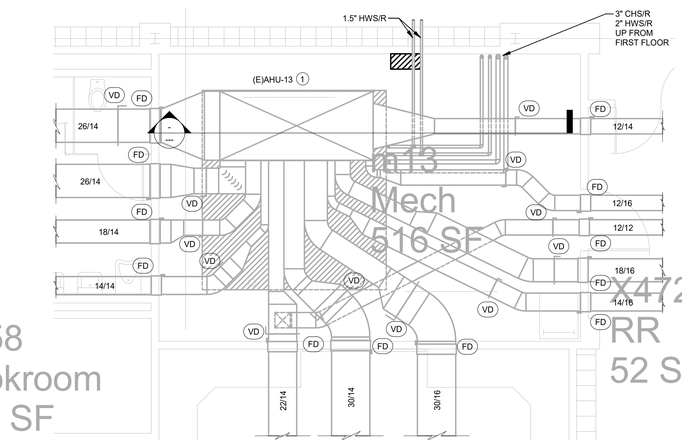

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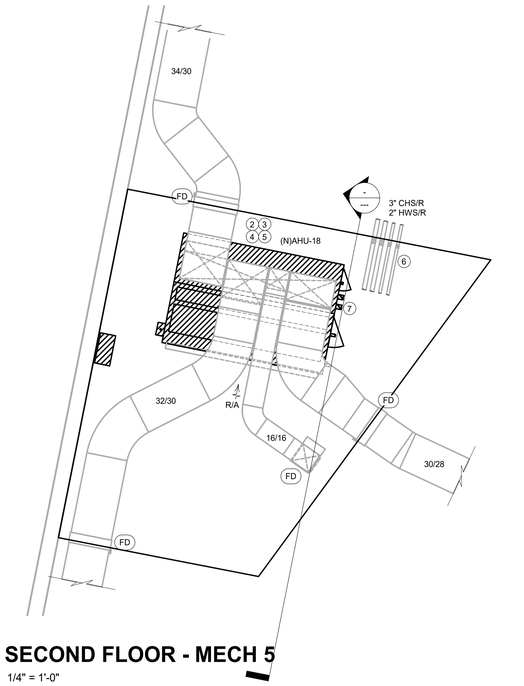

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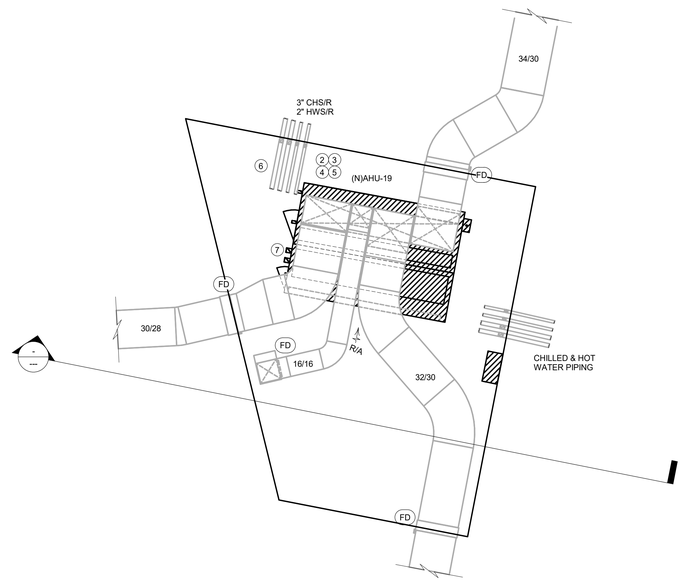

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1/4" = 1'-0"

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X458 Bookroom 203 SF
X472 RR 52 SF
X413 Mech 516 SF
X422 Sto 40 SF
X411 Sto 68 SF
366 SF Science Prep
216 Sto 106 SF
201 Int Circ 1,091 SF
X419 Sto 111 SF
X443 Science Prep 466 SF

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1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH KAZEMI
LICENSED
PROFESSIONAL ENGINEER
01/23/2026

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HVAC MEP WEST ZONE 3
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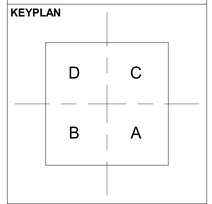
KEYPLAN



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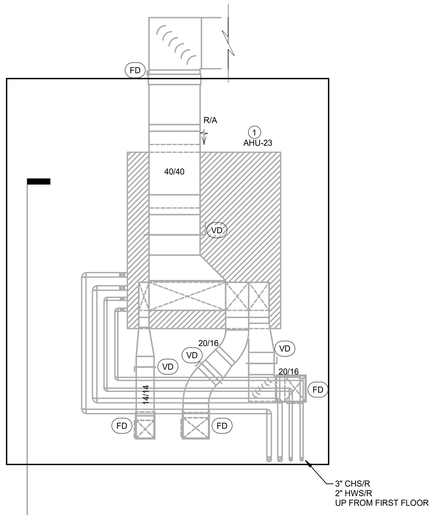
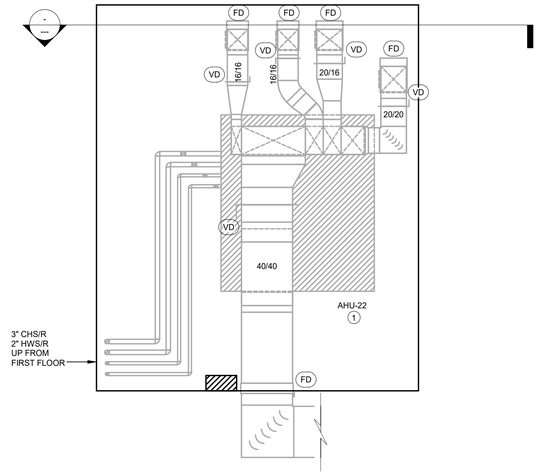


1 SECOND FLOOR - MECH 7

1/4" = 1'-0"



2 SECOND FLOOR - MECH 8

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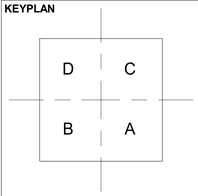

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SCHEDULE OF FACTORY - BUILT AIR HANDLING UNITS

	DESIGNATION AHU-	SERVICE	LOCATION	FAN DATA									
				TOTAL AIR VOLUME/CFM	OUTSIDE AIR VOLUME/CFM	OUTSIDE AIR VOLUME/CFM (MAXIMUM)	FAN TYPE	FAN SPEED MAX. RPM	MINIMUM FAN DIAMETER (IN)	EXT. STATIC PRESS. INCL. FILTERS (IN WG)**	INTERNAL STATIC PRESS. (IN WG)	MAX. FAN MOTOR HP	ELECTRICAL DATA VOLTS/PHASE/HZ
	AHU-1	CLASSROOMS	A118	12,100	3,000	5,050	FAN ARRAY	3,166	22	1.38	1.21	(2) @ 4.5HP EACH	460 / 3 / 60
	AHU-2	CLASSROOMS	A118	10,800	2,700	4,630	FAN ARRAY	3,166	22	1.38	1.15	(2) @ 4.0HP EACH	460 / 3 / 60
	AHU-3	LIBRARY	B113	10,750	2,150	2,150	FAN ARRAY	3,166	22	1.38	0.84	(2) @ 4.0HP EACH	460 / 3 / 60
	AHU-6	LOCKERS / CORRIDOR / OFFICES	B205	9,350	1,400	1,400	BELT	3,166	22	1.29	1.34	7.5HP	460 / 3 / 60
	AHU-7	CORRIDOR / OFFICES	C113	11,825	1,775	1,775	FAN ARRAY	3,521	20	1.68	1.31	(2) @ 5.0HP EACH	460 / 3 / 60
	AHU-8	CLASSROOMS	C113	19,500	4,875	7,840	FAN ARRAY	3,166	22	1.40	0.93	(2) @ 7.5HP EACH	460 / 3 / 60
	AHU-9	CORRIDOR / OFFICES	C213	11,075	1,660	1,660	FAN ARRAY	3,521	20	1.30	1.18	(2) @ 4.0HP EACH	460 / 3 / 60
	AHU-10	CLASSROOMS	C213	18,600	4,650	7,840	FAN ARRAY	3,166	22	1.40	0.87	(2) @ 7.0HP EACH	460 / 3 / 60
	AHU-18	AUDITORIUM	G202	21,750	5,435	5,450	FAN ARRAY	3,166	22	1.51	1.08	(2) @ 9.5HP EACH	460 / 3 / 60
	AHU-19	AUDITORIUM	G204	21,750	5,435	5,450	FAN ARRAY	3,166	22	1.51	1.08	(2) @ 9.5HP EACH	460 / 3 / 60
	AHU-20	CLASSROOMS	G157	11,010	2,200	4,885	FAN ARRAY	3,166	22	1.32	1.00	(2) @ 4.0HP EACH	460 / 3 / 60
	AHU-21	CLASSROOMS	G157	16,050	3,210	6,310	FAN ARRAY	3,166	22	1.35	1.22	(2) @ 6.0HP EACH	460 / 3 / 60
	ALTERNATE PRICING OPTION AIR HANDLERS LIST BELOW:												
ALTERNATE #3	AHU-4	CLASSROOMS	A220	12,100	3,025	5,050	DD	3,166	22	2.59	1.21	(2) @ 4.5HP EACH	460 / 3 / 60
ALTERNATE #4	AHU-5	CLASSROOMS	A220	10,800	2,700	4,630	DD	3,166	22	2.53	1.15	(2) @ 4.0HP EACH	460 / 3 / 60

DESIGNATION AHU-	COOLING COIL DATA								HOT WATER HEATING COIL DATA							MISCELLANEOUS			MANUFACTURER/ SERIES BASIS FOR DESIGN	REMARKS / NOTES
	TOTAL AIR VOLUME/CFM	MAX. COIL FACE VELOCITY (FPM)	ENTERING AIR TEMPERATURE °F - DB/WB	LEAVING AIR TEMPERATURE °F - DB / WB	TOTAL SENSIBLE HEAT MBTUH*	GRAND TOTAL HEAT MBTUH	ENTERING WATER TEMPERATURE °F	CHILLED WATER QUANTITY GPM	TOTAL AIR VOLUME/CFM	MAX. COIL FACE VELOCITY (FPM)	TOTAL HEAT BTUH	ENTERING AIR TEMPERATURE °F - DB	ENTERING WATER TEMP. (°F)	GPM	MAX. PD (FT)	UNIT TYPE ***	FILTER TYPE	CONTROL SEQUENCE TYPE		
AHU-1	10,285	490	81.5 / 72.3	49.8 / 49.8	348.7	704.4	40	70.4	10,285	940	356.7	63.8	180	17.4	4.5	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 182T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
AHU-2	9,180	475	81.7 / 72.6	49.8 / 49.8	313.5	639.4	40	62.8	9,180	840	313.8	63.8	180	15.5	8.0	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 182T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
AHU-3	9,138	450	78.1 / 67.7	49.9 / 49.8	278.2	475.2	40	59.0	9,138	965	319.5	63.8	180	15.5	7.5	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 182T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
AHU-6	9,350	490	77.0 / 66.1	47.6 / 47.6	296.7	484.9	40	63.5	9,350	490	360.7	61.8	180	15.8	8.5	VDT	MEDIA ROLL	VAV	NORTEK AIR SOLUTIONS TEMTROL / 213T	1, 2, 3, 4, 5, 6, 7, 9, 10, 12
AHU-7	11,825	495	77.0 / 66.1	48.1 / 48.1	369.9	600.0	40	63.5	11,825	495	432.3	61.8	180	15.8	17	VDT	MEDIA ROLL	VAV	NORTEK AIR SOLUTIONS TEMTROL / 184T	1, 2, 3, 4, 5, 6, 7, 9, 10, 12
AHU-8	16,575	450	80.3 / 70.7	49.8 / 49.7	543.4	1041.4	40	113.4	16,575	985	574.5	63.8	180	27.8	8.0	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 213T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
AHU-9	11,075	460	77.0 / 66.1	47.8 / 47.8	349.3	569.9	40	75.2	11,075	460	431.2	61.8	180	18.7	5.0	VDT	MEDIA ROLL	VAV	NORTEK AIR SOLUTIONS TEMTROL / 182T	1, 2, 3, 4, 5, 6, 7, 9, 10, 12
AHU-10	15,810	430	81.6 / 72.4	49.6 / 49.6	541	1,096.3	40	117.0	15,810	940	558.6	63.8	180	26.8	7.0	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 184T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
AHU-18	19,575	495	78.7 / 68.5	49.7 / 49.7	611.2	1,080.6	40	133.9	19,575	990	679.9	63.8	180	33.1	9.5	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 213T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13
AHU-19	19,575	495	78.7 / 68.5	49.7 / 49.7	611.2	1,080.6	40	133.9	19,575	990	679.9	63.8	180	33.1	9.5	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 213T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13
AHU-20	9,359	465	82.0 / 72.8	50.2 / 50.2	318.2	649.3	40	65.1	9,359	855	317.7	63.8	180	15.8	8.5	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 182T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
AHU-21	13,643	470	81.1 / 71.8	49.8 / 49.8	457.3	909.3	40	94.9	13,643	1030	459.8	63.8	180	23.1	5.0	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 184T	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
AHU-4	10,285	490	81.5 / 72.3	49.8 / 49.8	349.3	705.3	40	76.0	10,285	940	356.7	63.8	180	17.4	4.5	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 182T	1 THRU 12
AHU-5	9,180	475	81.7 / 72.6	49.8 / 49.8	313.5	639.6	40	67.9	9,180	840	313.8	63.8	180	15.5	8.5	BTMZ	MEDIA ROLL	--	NORTEK AIR SOLUTIONS TEMTROL / 182T	1 THRU 12

* SCHEDULED SENSIBLE HEAT DOES NOT INCLUDE MOTOR HEAT.
** EXTERNAL STATIC PRESSURE INCLUDES FILTER RESISTANCE.
*** SEE PLAN AND AIR HANDLER UNIT DETAIL FOR CONFIGURATION.
**** FOR BTMZ UNITS, THE ENTERING AIR CONDITIONS EXCLUDE THE MOTOR HEAT.

NEW WORK NOTES:
1. DIRECT DRIVE SUPPLY FAN WITH PREMIUM EFFICIENCY TEFC MOTOR AND CERAMIC BEARINGS TO PREVENT CURRENT DAMAGE.
2. DOUBLE WALL CONSTRUCTION WITH 2" INSULATION AND WELDED STRUCTURAL STEEL BASE WITH 4" FOAM INSULATION.
3. CHILLED WATER COILS SHALL INCLUDE STAINLESS STEEL CASING AND STAINLESS STEEL DRAIN PAN
4. LOOSE NEMA 1 VFD TO BE PROVIDED FOR FIELD INSTALLATION. AHU SHALL INCLUDE FACTORY WIRED JUNCTION BOX OR MOTOR OVERLOAD PANEL FOR FIELD VFD CONNECTION
5. AHUS SHALL BE COORDINATED TO FIT THROUGH EGRESS OR BE KNOCKED DOWN FOR FIELD ASSEMBLY
6. PROVIDE VFD WITH INTEGRAL DISCONNECT AND BYPASS. ELECTRICAL CONTRACTOR TO MAINTAIN ALL NEC CLEARANCES.
7. CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE AHUs ARE ABLE TO BE INSTALLED ON EXISTING HOUSEKEEPING PADS.
8. ALL BTMZ UNITS SHALL HAVE HOT, COLD AND NEUTRAL DECKS.
9. MECHANICAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH GENERAL CONTRACTOR AND FIRE ALARM VENDOR TO REMOVE, PROTECT, AND REINSTALL ALL FIRE ALARM DEVICES ASSOCIATED WITH THE AHU.
10. PROVIDE NEW CONTROLS, CONTROL VALVES, AND ACTUATORS FOR ALL NEW UNITS. SEQUENCE SHALL BE SIMILAR TO EXISITNG SEQUENCE. REFER TO CONTROL DIAGRAMS FOR MORE INFORMATION.
11. THIS AIR HANDLER IS INTENDED TO BE AN ALTERNATE PRICING OPTION.
12. PROVIDE CHILLED WATER 2-WAY CONTROL VALVE.
13. PROVIDE CHILLED WATER 3-WAY CONTROL VALVE.

SCHEDULE OF CONTROL BALL VALVES

UNIT DESIGNATION	CHILLED WATER PIPING CONNECTION	HEATING HOT WATER PIPING CONNECTION
AHU-1	3"	1-1/2"
AHU-2	2-1/2"	1-1/2"
AHU-3	2-1/2"	1-1/2"
AHU-6	2-1/2"	1-1/2"
AHU-7	2-1/2"	1-1/2"
AHU-8	3"	2"
AHU-9	3"	1-1/2"
AHU-10	3"	2"
AHU-18	4"	2"
AHU-19	4"	2"
AHU-20	3"	1-1/2"
AHU-21	3"	2"
AHU-4	3"	1-1/2"
AHU-5	3"	1-1/2"

FAN-POWERED TERMINAL UNIT - FLOOR ALLOCATION TABLE

UNIT DESIGNATION FPT-	TERMINAL TYPE (1)	COOLING CFM (2)	HEATING CFM (2)	HEATING COIL DATA				UNIT ELECTRICAL POWER (V/PH)
				HEATING CAPACITY (MBTUH)	ENTERING AIR TEMP. (F)	ENTERING WATER TEMP. (F)	GPM	
CVT-1	E	1825	1825	75	62	180	3	277/1
CVT-2	E	2000	2000	85	62	180	3	277/1
CVT-3	C	725	725	30	62	180	2	277/1
CVT-4	E	2000	2000	85	62	180	3	277/1
CVT-5	E	2000	2000	85	62	180	3	277/1
CVT-6	C	800	800	30	62	180	2	277/1
CVT-7	D	1500	1500	65	62	180	3	277/1
CVT-8	D	1500	1500	65	62	180	3	277/1
CVT-9	C	575	575	25	62	180	1	277/1
CVT-10	C	625	625	25	62	180	1	277/1
CVT-11	E	2000	2000	85	62	180	3	277/1
CVT-12	B	375	375	15	62	180	3	277/1
CVT-13	D	1200	1200	50	62	180	2	277/1
CVT-14	D	1800	1800	75	62	180	3	277/1
CVT-15	D	1500	1500	65	62	180	3	277/1
CVT-16	C	950	950	40	62	180	2	277/1
CVT-17	D	1750	1750	75	62	180	3	277/1
CVT-18	D	1500	1500	65	62	180	3	277/1
CVT-19	D	1700	1700	70	62	180	3	277/1
CVT-20	C	1000	1000	40	62	180	2	277/1
CVT-21	C	725	725	30	62	180	2	277/1
CVT-22	C	950	950	40	62	180	2	277/1
CVT-23	D	1250	1250	50	62	180	2	277/1
CVT-24	E	2000	2000	85	62	180	3	277/1

SCHEDULE OF FAN POWERED TERMINAL UNITS WITH HOT WATER REHEAT

TERMINAL TYPE	AIR QUANTITY @ 0.3 W.G. (CFM)		FAN MOTOR DATA		MINIMUM INLET DIAMETER (IN)	MAXIMUM DEPTH	MANUFACTURER/ BASIS FOR DESIGN	REMARKS*/ NOTES**
	MINIMUM	MAXIMUM	HORSEPOWER	VOLTAGE / PHASE				
B	200	600	1/3	277/1	8"∅	16"	"TITUS" CONSTANT VOLUME DTFS SERIES SIZE B (SEE SPECIFICATIONS)	NOTES 1, 2, 4
C	601	1,100	1/3	277/1	10"∅	16"	"TITUS" CONSTANT VOLUME DTFS SERIES SIZE C (SEE SPECIFICATIONS)	NOTES 1, 2, 4
D	1,101	1,800	1/2	277/1	12"∅	20"	"TITUS" CONSTANT VOLUME DTFS SERIES SIZE D (SEE SPECIFICATIONS)	NOTES 1, 2, 4
E	1,801	2,320	3/4	277/1	14"∅	20"	"TITUS" CONSTANT VOLUME DTFS SERIES SIZE E (SEE SPECIFICATIONS)	NOTES 1, 2, 4

* REFER TO SCHEDULE TITLED "FAN-POWERED TERMINAL UNIT FLOOR ALLOCATION TABLE" FOR HEATER SIZE AND ADDITIONAL INFORMATION.

NOTES:
1. WITH OPTION TOP INDUCE AIR INLET AND FILTER
2. ALL SIZES AND CAPACITIES BASED ON MAXIMUM ROOM NC 35 @ 1.0" INLET STATIC PRESSURE
3. ALL SIZES AND CAPACITIES BASED ON MAXIMUM ROOM NC 37 @ 1.0" INLET STATIC PRESSURE
4. HOT WATER COIL SHALL BE TWO ROW.

NOTES:
(1) REFER TO THE "SCHEDULE OF FAN-POWERED TERMINAL UNITS WITH HOT WATER REHEAT" FOR DESCRIPTION OF THE TERMINAL TYPE.
(2) MINIMUM PRIMARY AIR QUANTITY SHALL BE 25% OF SCHEDULED COOLING CFM.

NEW WORK NOTES:
1. TERMINAL UNIT MANUFACTURER SHALL PROVIDE FINAL SELECTION OF HEATING COIL TO MEET SPECIFIED HEATING COIL PERFORMANCE CRITERIA. SELECTED COILS MAY NOT EXCEED 7.5 FPS TUBE VELOCITY OR 3 FT OF PRESSURE DROP.
2. PROVIDE A COMPLETE VAV TERMINAL UNIT CONTROL SYSTEM COMPATIBLE WITH THE PROVIDED BUILDING BAS SYSTEM. VAV CONTROLS TO BE FURNISHED BY CONTROLS CONTRACTOR AND INSTALLED AT THE VAV TERMINAL UNIT FACTORY BY MANUFACTURER. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SHIPPING OF ALL CONTROL DEVICES TO VAV MANUFACTURER FOR INSTALLATIONIN A MANNER CONSISTENT WITH THE PROJECT SCHEDULE. CONTRACTOR SHALL PROVIDE ALL CONTROLLERS, ACTUATORS, SENSORS, THERMOSTATS AND ALL ASSOCIATED CONTROLS APPURTENANCES. PROVIDE ALL UNITS EQUIPPED WITH HOT WATER COILS WITH LEAVING AIR TEMPERATURE SENSORS. PROVIDED VAV CONTROLLER SHALL BE CAPABLE OF SATISFYING ALL REQUIREMENTS OF THE SEQUENCE OF OPERATIONS.
3. PROVIDE ALL 24V POWER, FROM CENTRALLY LOCATED CONTROL PANELS, TO VAV TERMINAL UNITS REQUIRED FOR ACTUATORS, CONTROL VALVES AND CONTROLLERS. UNITS WILL NOT BE PROVIDED WITH 120V POWER SOURCES. PROVIDE CONTROL POWER TRANSFORMERS AS REQUIRED AT CENTRAL LOCATION TO DISTRIBUTE 24V CONTROL POWER. COORDINATE FINAL CIRCUIT TERMINATION LOCATION WITH ELECTRICAL CONTRACTOR. CONTROLS CONTRACTOR IS RESPONSIBLE FOR COMPLETE 24V POWER SYSTEM, INCLUDING ALL WIRING, REQUIRED TO POWER VAV TERMINAL UNITS CONTROL SYSTEM. INCLUDE IN BID PRICING ACCORDINGLY.
4. PROVIDE WITH MANUFACTURER'S HANGER BRACKET OPTION. SUPPORT FROM STRUCTURE ABOVE WITH 3/8" THREADED ROD AT ALL FOUR CORNER OFTHE UNIT.
5. PROVIDE MANUFACTURER'S RECOMMENDED STRAIGHT LENGTH OF DUCT UPSTREAM OF ALL VAV TERMINAL UNITS. DO NOT PROVIDE FLEXIBLE CONNECTIONS UPSTREAM OF UNITS. OFFSET IN DUCT MUST OCCUR UPSTREAM OF THE REQUIRED STRAIGHT LENGTHS.
6. PROVIDE MAINTENANCE ACCESS TO ALL VAV TERMINAL UNIT SERVICEABLE POINTS. CONTRACTOR TO COORDINATE CLEARANCE REQUIRED IN FIELD AND LOCATE UNITS ACCORDINGLY. CONFIRM UNIT HANDING , BASED ON ACCESS REQUIREMENTS, PRIOR TO PURCHASING.
7. COORDINATE LOCATION OF ALL UNITS WITH CEILING SYSTEM HEIGHTS, EXISTING STRUCTURE, NEW STRUCTURE, PIPING AND ALL OTHER TRADE WORK. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL COORDINATION REQUIRED TO LOCATE AND INSTALL UNIT WITHOUT CONFLICTS WITH ANY OTHER BUILDING COMPONENTS.
8. PROVIDE ZONE THERMOSTAT FOR EACH VAV TERMINAL. PROVIDE CO2 SENSOR FOR EACH VAV DESIGNATED WITH VENTILATION CONTROL.
9. UTILIZE EXISTING 3-WAY PIPING AND REPLACE 3-WAY CONTROL VALVES AND ACTUATOR.

SCHEDULE OF PUMPS

DESIGNATION	SERVICE	LOCATION	CAPACITIES									ELECTRICAL				MANUFACTURER/ SERIES BASIS FOR DESIGN	NOTES / REMARKS
			WATER TEMPERATURE °F	TYPE	DESIGN CONDITIONS GPM	DESIGN CONDITIONS HEAD - FT	SHUTOFF HEAD - FT	WORKING PRESSURE / PSIG	NPSHr - FT	APPROXIMATE IMPELLER DIAMETER / IN.		BHP	MOTOR HP	RPM	VOLTS/PHASE/HZ		
HWP-1	BOILER	RM F110	180°	FRAME MOUNTED END SUCTION	330	130	149.5	150	13.03	11.5		15.2	25	1770	460/3/60	GRUNDFOS SERIES LF SIZE 284T 3x4x12	1, 2, 3, 4, 5, 6 (1)

NOTES:
1. PROVIDE WITH PREMIUM EFFICIENCY VSD-RATED MOTOR. PROVIDE ELECTRICALLY INSULATED BEARINGS ON VSD DRIVEN MOTORS.
2. PUMP SHALL BE INSTALLED ON A NEW CONCRETE INERTIA BASE. PROVIDE VIBRATION ISOLATION RAILS, VARIABLE SPEED DRIVE (VSD), AND NECESSARY INTERFACE WITH EXISTING CONTROLLER.
3. ELECTRICAL DISCONNECT SHALL BE PROVIDED AND INSTALLED BY EC.
4. PROVIDE WITH ABB VSD, OR APPROVED EQUAL.
5. CONTROLS CONTRACTOR TO PROVIDE NEW CONTROLLERS AND SEQUENCE PER FBISD STANDARDS FOR NEW VARIABLE SPEED PUMP(S) AS REQUIRED. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL NEW DIFFERENTIAL PRESSURE (DP) SENSOR. MECHANICAL CONTRACTOR TO COORDINATE LOCATIONS OF TAPS FOR DP SENSORS WITH CONTROLS CONTRACTOR. RECOMMEND TO BE INSTALLED APPROXIMATELY TWO THIRDS (2/3) TO THREE QUARTERS (3/4) DOWN STEAM OF PUMP(S).
6. CONTRACTOR SHALL VERIFY PUMP BODY DISCHARGE PIPING CONNECTION TO ENSURE ALIGNMENT WITH PIPING OR ADJUST PIPING AS REQUIRED WHILE MAINTAINING APPURTENANCES AS SHOWN IN THE DETAILS. (1)

CORGAN

ISSUES		
1	07.18.2025	DESIGN DEVELOPMENT
2	09.29.2025	50% CONSTRUCTION DOCUMENTS
3	11.11.2025	90% CONSTRUCTION DOCUMENTS
4	12.11.2025	100% CONSTRUCTION DOCUMENTS

REVISIONS		
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
STEPHEN F. AUSTIN HS
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Sugar Land, TX 77498

KEYPLAN

D	C
B	A

MECHANICAL SCHEDULES

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TX Firm No. 22107
Project No. 25027.00

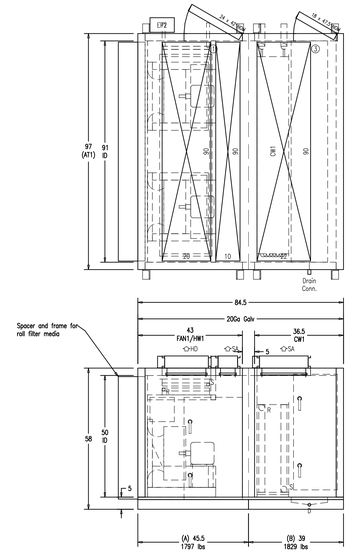
JOB 25241.0000
DATE 01/23/26
SHEET
A-M30-00

1/23/2026 6:20:43 PM A-M30-00MECHANICAL SCHEDULES

1

UNIT DEMOUNTS AND DIMENSIONS ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR IS SOLELY RESPONSIBLE TO ENSURE UNITS ARE ABLE TO BE SAFELY AND SECURELY DELIVERED TO EACH MECHANICAL ROOM. CONTRACTOR TO MEASURE PATHWAY TO ENSURE ADJUSTMENTS TO AHU SECTIONS ARE NOT NECESSARY. PROVIDE ANY ADJUSTMENTS THROUGH THE SUBIMITTAL PROCESS

Preliminary | Knockdown Construction



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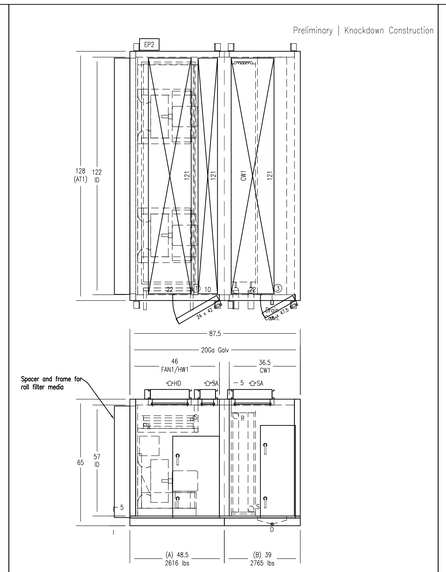

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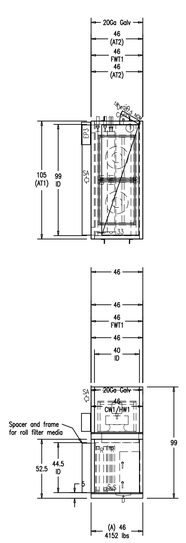

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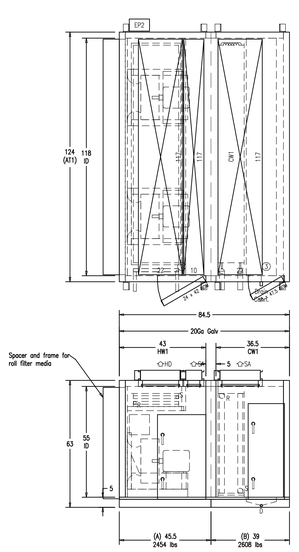

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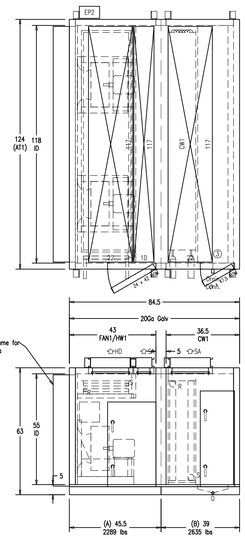

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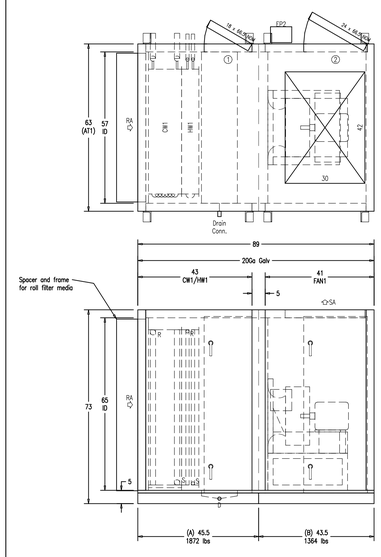

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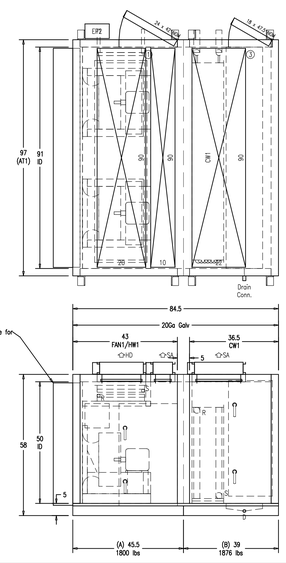

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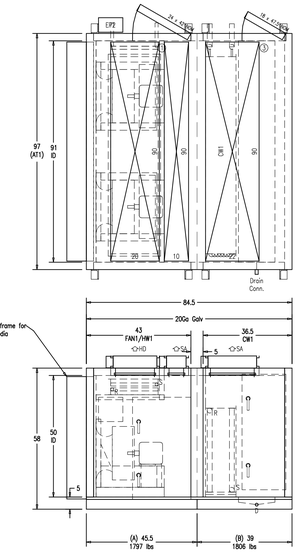

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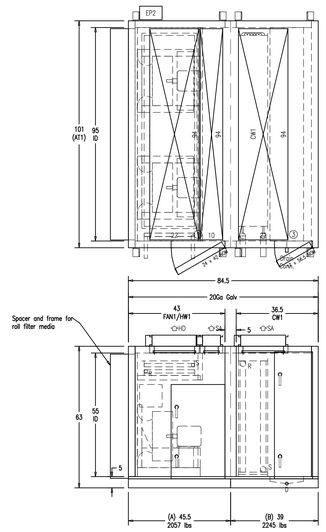

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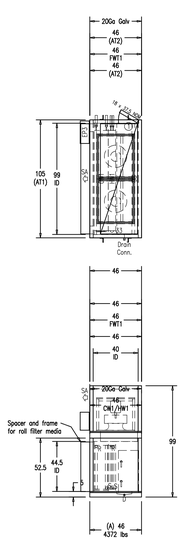

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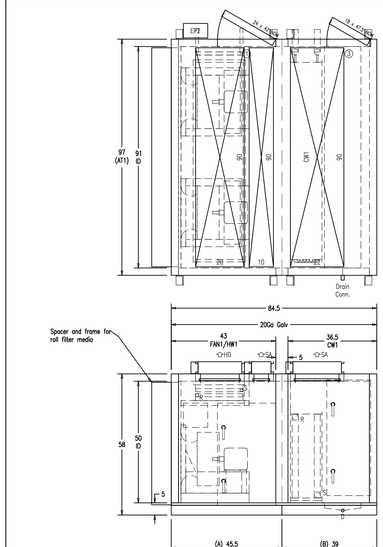

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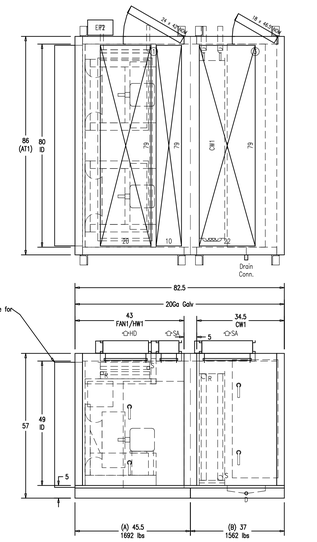

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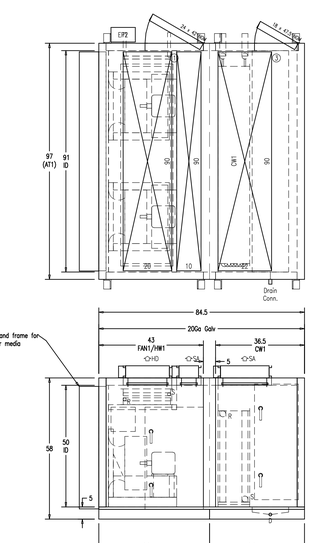

01 AHU-1 SCALE: NONE

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CORGAN

	ISSUES	
1	07.18.2025	DESIGN DEVELOPMENT
2	09.29.2025	50% CONSTRUCTION DOCUMENTS
3	11.11.2025	90% CONSTRUCTION DOCUMENTS
4	12.11.2025	100% CONSTRUCTION DOCUMENTS

△	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED
PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
STEPHEN F. AUSTIN HS

3434 Pheasant Creek Dr.
Sugar Land, TX 77498

KEYPLAN

D C
B A

MECHANICAL DETAILS

JOB 25241.0000
DATE 12/11/25
SHEET

A-M40-01

YW2 ENGINEERING
2508 Reppart Place
Houston, Texas 77008
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www.yw-squared.com
TX Firm No. 22107
Project No. 25027.00

MECHANICAL GENERAL NOTES:

1. REFER TO MECHANICAL COVER SHEET FOR SYMBOLS, ABBREVIATIONS, AND ADDITIONAL INFORMATION.
2. REFER TO MECHANICAL SCHEDULES AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
3. MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE FOR NEW AND EXISTING MECHANICAL EQUIPMENT.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING AND NEW MECHANICAL EQUIPMENT ARE MOUNTED SO THAT ALL REQUIRED CLEARANCES ARE MAINTAINED AT THE BOTTOM AND SIDES OF EACH UNIT FOR PROPER SERVICING AND MAINTENANCE. COORDINATE COMPLETELY WITH ALL NEW WALLS TO STRUCTURE, AND RELOCATE AS REQUIRED TO MAINTAIN PROPER CLEARANCES.
5. CONTRACTOR SHALL FIELD VERIFY ACTUAL LOCATIONS OF ALL EQUIPMENT & PIPING PRIOR TO SUBMITTING A BID. COORDINATE COMPLETELY WITH ALL OTHER TRADES. RELOCATE TERMINAL UNITS AND PROVIDE ADDITIONAL DUCTWORK, OFFSETS, FITTINGS, ETC. AS REQUIRED.
6. DUE TO DRAWING SCALE, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL EXAMINE FIELD CONDITIONS AND FURNISH THE NECESSARY FITTINGS WHICH MAY BE REQUIRED TO COMPLETE THE INSTALLATION. CONTRACTOR SHALL FURNISH AND INSTALL BALANCING DAMPERS IN HVAC SYSTEMS THAT HAVE MORE THAN ONE INLET/OUTLET UNLESS NOTED OTHERWISE. BALANCING DAMPERS SHALL APPLY TO NEW AND EXISTING DUCTORK.

ⓧ MECHANICAL KEYED NOTES

1. CONTRACTOR TO PROVIDE NEW PRIMARY CHILLED WATER PUMP TYING INTO EXISTING PIPING TO REMAIN. PROVIDE ALL NEW GAUGES, VALVES, AND ASSOCIATED APPURTENANCES, ETC PER DETAIL. MECHANICAL CONTRACTOR SHALL PROVIDE NEW VFD - ELECTRICAL CONTRACTOR TO INSTALL THE VFD. CONTRACTOR TO COORDINATE ALL PIPING CONNECTIONS TO ENSURE NO UNNECESSARY ARE CREATED WHICH WOULD POTENTIALLY CREATE AN ISSUE WITH CONTROLS, GAUGES, VALVES, ETC, TO BE INSTALLED IN THE PIPING. SEE DETAIL A-M04-00. REFER TO SCHEDULE SHEET FOR ADDITIONAL INFORMATION.
2. CONTRACTOR TO PROVIDE NEW SECONDARY CHILLED WATER PUMP TYING INTO EXISTING PIPING TO REMAIN. PROVIDE ALL NEW GAUGES, VALVES, AND ASSOCIATED APPURTENANCES, ETC PER DETAIL. MECHANICAL CONTRACTOR SHALL PROVIDE NEW VFD - ELECTRICAL CONTRACTOR TO INSTALL THE VFD. CONTRACTOR TO COORDINATE ALL PIPING CONNECTIONS TO ENSURE NO UNNECESSARY ARE CREATED WHICH WOULD POTENTIALLY CREATE AN ISSUE WITH CONTROLS, GAUGES, VALVES, ETC. TO BE INSTALLED IN THE PIPING. SEE DETAIL A-M04-00. REFER TO SCHEDULE SHEET FOR ADDITIONAL INFORMATION.
3. CONTRACTOR TO PROVIDE NEW HOT WATER PUMP TYING INTO EXISTING PIPING TO REMAIN. PROVIDE ALL NEW GAUGES, VALVES, AND ASSOCIATED APPURTENANCES, ETC PER DETAIL. MECHANICAL CONTRACTOR SHALL PROVIDE NEW VFD - ELECTRICAL CONTRACTOR TO INSTALL THE VFD. CONTRACTOR TO COORDINATE ALL PIPING CONNECTIONS TO ENSURE NO UNNECESSARY ARE CREATED WHICH WOULD POTENTIALLY CREATE AN ISSUE WITH CONTROLS, GAUGES, VALVES, ETC. TO BE INSTALLED IN THE PIPING. SEE DETAIL A-M04-00. REFER TO SCHEDULE SHEET FOR ADDITIONAL INFORMATION.
4. REFURBISH EXISTING COOLING TOWER. SCOPE SHALL INCLUDE NEW FILL MEDIA, REPLACEMENT OF FANS, REPLACEMENT OF MOTORS, REPLACEMENT OF DRIFT ELIMINATORS, REGREASE ALL BEARINGS, THOROUGHLY CLEAN INTERIOR AND EXTERIOR AND NEW UV PROTECTIVE COATING OVER THE SURFACES. 1
5. CONTRACTOR TO REPLACE ENTIRE CONDENSER WATER COOLING TOWER BYPASS LINE HEADER (APPROXIMATELY 8") FROM BOTTOM ELBOW WHERE PIPING RUNS UNDERNEATH THE TOWER TO EACH BASIN, INCLUDING ISOLATION VALVES AT EACH TOWER. PAINT TO MATCH EXISTING PIPING.

CORGAN

	ISSUES	
1	07.18.2025	DESIGN DEVELOPMENT
2	09.29.2025	50% CONSTRUCTION DOCUMENTS
3	11.11.2025	90% CONSTRUCTION DOCUMENTS
4	12.11.2025	100% CONSTRUCTION DOCUMENTS

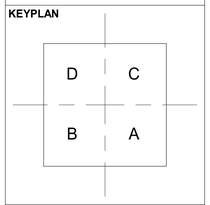
△	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED
PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
JAMES BOWIE MS
700 PLANTATION DR.
RICHMOND, TX 77406

KEYPLAN



MECHANICAL PLAN - LEVEL 01 - OVERALL

JOB 25241.0000
DATE 01/23/26
SHEET

B-M20-01

YW² ENGINEERING
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TX Firm No. 22107
Project No. 25027.00

SCHEDULE OF COOLING TOWERS REFURBISHMENT

DESIGNATION CT-	CAPACITIES							MISC.	ELECTRICAL		MANUFACTURER / SERIES BASIS FOR DESIGN	NOTES / REMARKS
	NUMBER OF CELLS	WATER QUANTITY PER CELL (GPM)	TOTAL QUANTITY WATER COOLED PER COOLING TOWER (GPM)	TOTAL TONS PER COOLING TOWER	ENTERING WATER TEMPERATURE °F	LEAVING WATER TEMPERATURE ° F	AMBIENT WET BULB TEMPERATURE °F	NUMBER OF FANS PER CELL	NOMINAL FAN H.P. (460 VOLT)	BASIN HEATERS KW (PER CELL)		
CT-1	2	1350	2700	900	96	86	80	1	30HP PER CELL	-	BALTIMORE AIRCOIL COMPANY	1 THRU 12

NOTES:

1. COOLING TOWER IS TO BE REFURBISHED.
2. PROVIDE TOWER FANS WITH ABB VARIABLE FREQUENCY DRIVE FOR EACH FAN MOTOR.
3. CLEAN, RESEAL, AND RECAULK COLD WATER BASIN.
4. MOTOR, FAN AND BELT SHALL BE REPLACED. MOTOR SHALL HAVE A MAX RPM OF 1800.
5. FLOAT VALVE TO BE REPLACED. CONTRACTOR TO VERIFY MAKEUP WATER VALVE OPERATION WITH FLOAT AND INCLUDE MONIES WITHIN BID TO FIX AS NECESSARY.
6. FILL, DRIFT ELIMINATORS AND AIR INLET LOUVERS TO BE REPLACED.
7. REGREASE ALL BEARINGS, THOROUGHLY CLEAN INTERIOR AND EXTERIOR, AND REAPPLY PROTECTIVE COATING OF WETTED SURFACES.
8. FAN VFD ENCLOSURE SHALL BE NEMA 4X RATED.
9. PROVIDE A VIBRATION CUT-OUT SWITCH TO DE-ENERGIZE FAN MOTOR UPON EXCESSIVE VIBRATION.
10. PATCH AND REPAIR CASING PANELS.
11. STRUCTURE SHALL BE REPAIRED OF ALL EXISITNG DAMAGE.
12. EXISITNG BASIN HEATER SHALL REMAIN.

SCHEDULE OF PUMPS

DESIGNATION	SERVICE	LOCATION	CAPACITIES							ELECTRICAL				MANUFACTURER/ SERIES BASIS FOR DESIGN	NOTES / REMARKS
			WATER TEMPERATURE °F	TYPE	DESIGN CONDITIONS GPM	DESIGN CONDITIONS HEAD - FT	SHUTOFF HEAD - FT	WORKING PRESSURE / PSIG	NPSHr - FT	APPROXIMATE IMPELLER DIAMETER / IN.	BHP	MOTOR HP	RPM	VOLTS/PHASE/HZ		
HWP-1	BOILER	RM E137	180°	FRAME MOUNTED END SUCTION	395	160	175.6	150	9.81	12.5	22.45	30	1780	460/3/60	GRUNDFOS SERIES LF SIZE 286T--4x3x14	1, 2, 3, 4, 5, 6
HWP-2	BOILER	RM E137	180°	FRAME MOUNTED END SUCTION	395	160	175.6	150	9.81	12.5	22.45	30	1780	460/3/60	GRUNDFOS SERIES LF SIZE 286T--4x3x14	1, 2, 3, 4, 5, 6
PCHP-1	BUILDING CHW	RM E138	42°	FRAME MOUNTED END SUCTION	775	50	57.5	150	9.25	9.0	12.37	15	1760	460/3/60	GRUNDFOS SERIES LF SIZE 254T--5x4x9.5	1, 2, 3, 4, 5, 6
PCHP-2	BUILDING CHW	RM E138	42°	FRAME MOUNTED END SUCTION	775	50	57.5	150	9.25	9.0	12.37	15	1760	460/3/60	GRUNDFOS SERIES LF SIZE 254T--5x4x9.5	1, 2, 3, 4, 5, 6
SCHP-1	BUILDING CHW	RM E138	42°	FRAME MOUNTED END SUCTION	605	140	188.9	150	17.46	13.0	30.43	40	1780	460/3/60	GRUNDFOS SERIES LF SIZE 324T--4x3x13	1, 2, 3, 4, 5, 6
SCHP-2	BUILDING CHW	RM E138	42°	FRAME MOUNTED END SUCTION	605	140	188.9	150	17.46	13.0	30.43	40	1780	460/3/60	GRUNDFOS SERIES LF SIZE 324T--4x3x13	1, 2, 3, 4, 5, 6

NOTES:

1. PROVIDE WITH PREMIUM EFFICIENCY VSD-RATED MOTOR. PROVIDE ELECTRICALLY INSULATED BEARINGS ON VSD DRIVEN MOTORS.
2. PUMP SHALL BE INSTALLED ON A NEW CONCRETE INERTIA BASE. PROVIDE VIBRATION ISOLATION RAILS, VARIABLE SPEED DRIVE (VSD), AND NECESSARY INTERFACE WITH EXISTING CONTROLLER.
3. ELECTRICAL DISCONNECT SHALL BE PROVIDED AND INSTALLED BY EC.
4. PROVIDE WITH ABB VSD, OR APPROVED EQUAL.
5. CONTROLS CONTRACTOR TO PROVIDE NEW CONTROLLERS AND SEQUENCE PER FBISD STANDARDS FOR NEW VARIABLE SPEED PUMP(S) AS REQUIRED. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL NEW DIFFERENTIAL PRESSURE (DP) SENSOR. MECHANICAL CONTRACTOR TO COORDINATE LOCATIONS OF TAPS FOR DP SENSORS WITH CONTROLS CONTRACTOR. RECOMMEND TO BE INSTALLED APPROXIMATELY TWO THIRDS (2/3) TO THREE QUARTERS (3/4) DOWN STEAM OF PUMP(S).
6. CONTRACTOR SHALL VERIFY PUMP BODY DISCHARGE PIPING CONNECTION TO ENSURE ALIGNMENT WITH PIPING OR ADJUST PIPING AS REQUIRED WHILE MAINTAINING APPURTENANCES AS SHOWN IN THE DETAILS. (1)

CORGAN

	ISSUES	
1	07.18.2025	DESIGN DEVELOPMENT
2	09.29.2025	50% CONSTRUCTION DOCUMENTS
3	11.11.2025	90% CONSTRUCTION DOCUMENTS
4	12.11.2025	100% CONSTRUCTION DOCUMENTS

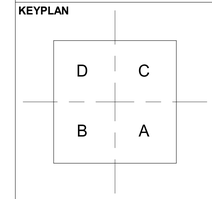
	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
JAMES BOWIE MS
700 PLANTATION DR.
RICHMOND, TX 77406

KEYPLAN



MECHANICAL SCHEDULES

YW2 ENGINEERING
2508 Reppart Place
Houston, Texas 77008
346-341-2168
www.yw-squared.com
TX Firm No. 22107
Project No. 25027.00

JOB 25241.0000
DATE 01/23/26
SHEET

B-M30-00

CORGAN

MECHANICAL GENERAL NOTES:

1. REFER TO MECHANICAL COVER SHEET FOR SYMBOLS, ABBREVIATIONS, AND ADDITIONAL INFORMATION.
2. REFER TO MECHANICAL SCHEDULES AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
3. MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE FOR NEW AND EXISTING MECHANICAL EQUIPMENT.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING AND NEW MECHANICAL EQUIPMENT ARE MOUNTED SO THAT ALL REQUIRED CLEARANCES ARE MAINTAINED AT THE BOTTOM AND SIDES OF EACH UNIT FOR PROPER SERVICING AND MAINTENANCE. COORDINATE COMPLETELY WITH ALL NEW WALLS TO STRUCTURE, AND RELOCATE AS REQUIRED TO MAINTAIN PROPER CLEARANCES.
5. CONTRACTOR SHALL FIELD VERIFY ACTUAL LOCATIONS OF ALL EQUIPMENT, DUCTWORK, & PIPING PRIOR TO SUBMITTING A BID. COORDINATE COMPLETELY WITH ALL OTHER TRADES. RELOCATE TERMINAL UNITS AND PROVIDE ADDITIONAL DUCTWORK, OFFSETS, FITTINGS, ETC. AS REQUIRED.
6. DUE TO DRAWING SCALE, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL EXAMINE FIELD CONDITIONS AND FURNISH THE NECESSARY FITTINGS WHICH MAY BE REQUIRED TO COMPLETE THE INSTALLATION. CONTRACTOR SHALL FURNISH AND INSTALL BALANCING DAMPERS IN HVAC SYSTEMS THAT HAVE MORE THAN ONE INLET/OUTLET UNLESS NOTED OTHERWISE. BALANCING DAMPERS SHALL APPLY TO NEW AND EXISTING DUCTORK.

○	ISSUES	
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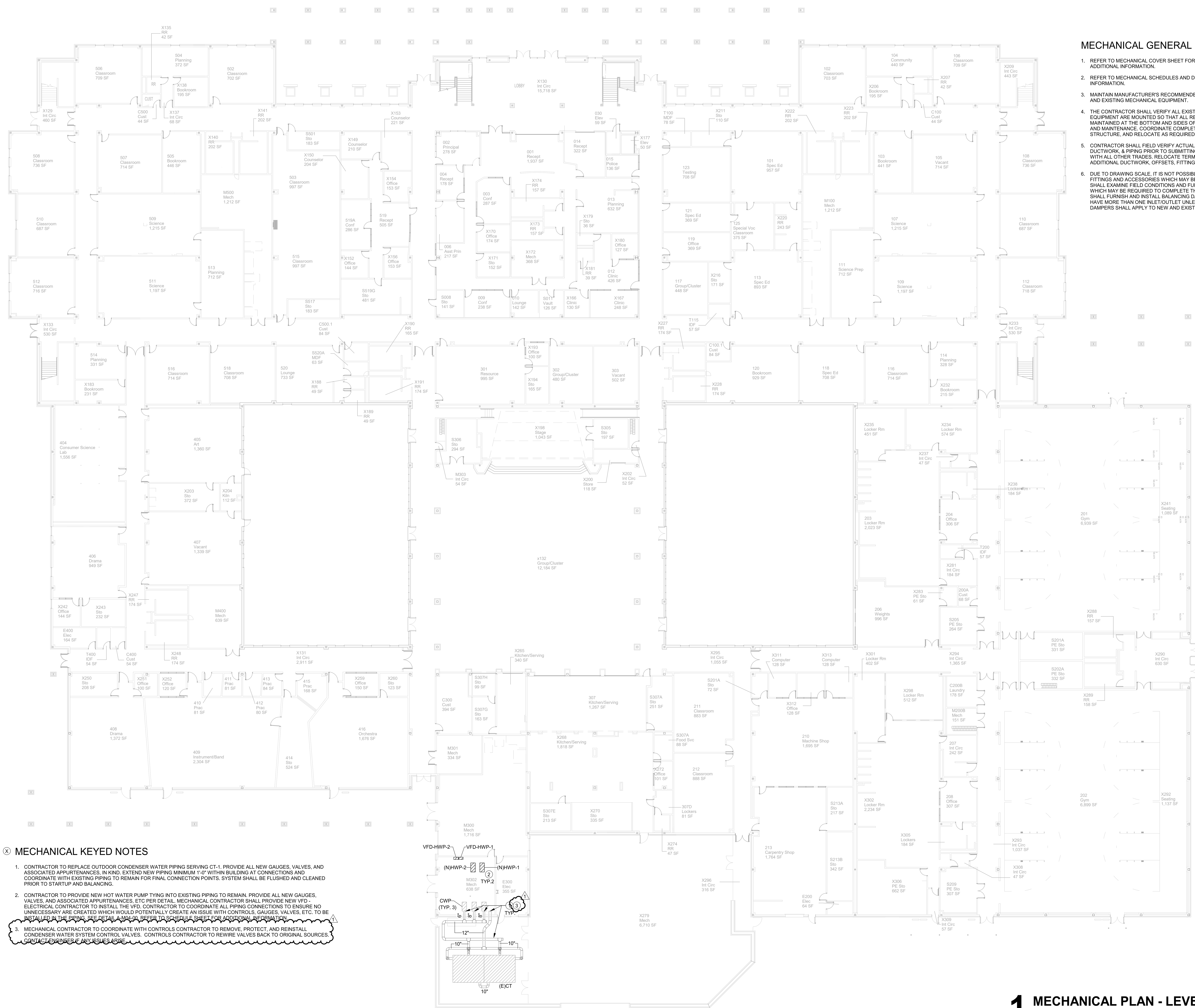
△	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. YAZDANI
LICENSED
PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
DAVID CROCKETT MS
19001 BEECHNUT ST.
RICHMOND, TX 77407



Ⓧ MECHANICAL KEYED NOTES

1. CONTRACTOR TO REPLACE OUTDOOR CONDENSER WATER PIPING SERVING CT-1. PROVIDE ALL NEW GAUGES, VALVES, AND ASSOCIATED APPURTENANCES, IN KIND. EXTEND NEW PIPING MINIMUM 1'-0" WITHIN BUILDING AT CONNECTIONS AND COORDINATE WITH EXISTING PIPING TO REMAIN FOR FINAL CONNECTION POINTS. SYSTEM SHALL BE FLUSHED AND CLEANED PRIOR TO STARTUP AND BALANCING.
2. CONTRACTOR TO PROVIDE NEW HOT WATER PUMP TYING INTO EXISTING PIPING TO REMAIN. PROVIDE ALL NEW GAUGES, VALVES, AND ASSOCIATED APPURTENANCES, ETC PER DETAIL. MECHANICAL CONTRACTOR SHALL PROVIDE NEW VFD - ELECTRICAL CONTRACTOR TO INSTALL THE VFD. CONTRACTOR TO COORDINATE ALL PIPING CONNECTIONS TO ENSURE NO UNNECESSARY ARE CREATED WHICH WOULD POTENTIALLY CREATE AN ISSUE WITH CONTROLS, GAUGES, VALVES, ETC. TO BE INSTALLED IN THE PIPING. SEE DETAIL A-M04-00. REFER TO SCHEDULE SHEET FOR ADDITIONAL INFORMATION.
3. MECHANICAL CONTRACTOR TO COORDINATE WITH CONTROLS CONTRACTOR TO REMOVE, PROTECT, AND REINSTALL CONDENSER WATER SYSTEM CONTROL VALVES. CONTROLS CONTRACTOR TO REWIRE VALVES BACK TO ORIGINAL SOURCES. CONTACT ENGINEER IF ANY ISSUES ARISE. △1

1 MECHANICAL PLAN - LEVEL 01
1/16" = 1'-0"

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Project No. 25027.00

KEYPLAN

D	C
B	A

MECHANICAL PLAN - LEVEL 01 - OVERALL

JOB 25241.0000
DATE 01/23/26
SHEET

C-M20-01

SCHEDULE OF PUMPS

DESIGNATION	SERVICE	LOCATION	CAPACITIES: WATER TEMPERATURE °F	CAPACITIES: TYPE	CAPACITIES: DESIGN CONDITIONS GPM	CAPACITIES: DESIGN CONDITIONS HEAD - FT	CAPACITIES: SHUTOFF HEAD - FT	CAPACITIES: WORKING PRESSURE / PSIG	CAPACITIES: NPSHr - FT	CAPACITIES: APPROXIMATE IMPELLER DIAMETER / IN.	ELECTRICAL: BHP	ELECTRICAL: MOTOR HP	ELECTRICAL: RPM	ELECTRICAL: VOLTS/PHASE/HZ	MANUFACTURER/ SERIES BASIS FOR DESIGN	NOTES / REMARKS
HWP-1	BOILER	M392	180°	FRAME MOUNTED END SUCTION	264	100	125.8	150	17.83	11.5	9.36	15	1760	460/3/60	GRUNDFOS SERIES LF SIZE 254T--2.5x2x12	1, 2, 3, 4, 5, 6
HWP-2	BOILER	M392	180°	FRAME MOUNTED END SUCTION	264	100	125.8	150	17.83	11.5	9.36	15	1760	460/3/60	GRUNDFOS SERIES LF SIZE 254T--2.5x2x12	1, 2, 3, 4, 5, 6

NOTES:

1. PROVIDE WITH PREMIUM EFFICIENCY VSD-RATED MOTOR. PROVIDE ELECTRICALLY INSULATED BEARINGS ON VSD DRIVEN MOTORS.
2. PUMP SHALL BE INSTALLED ON A NEW CONCRETE INERTIA BASE. PROVIDE VIBRATION ISOLATION RAILS, VARIABLE SPEED DRIVE (VSD), AND NECESSARY INTERFACE WITH EXISTING CONTROLLER.
3. ELECTRICAL DISCONNECT SHALL BE PROVIDED AND INSTALLED BY EC.
4. PROVIDE WITH ABB VSD, OR APPROVED EQUAL.
5. CONTROLS CONTRACTOR TO PROVIDE NEW CONTROLLERS AND SEQUENCE PER FBISD STANDARDS FOR NEW VARIABLE SPEED PUMP(S) AS REQUIRED. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL NEW DIFFERENTIAL PRESSURE (DP) SENSOR. MECHANICAL CONTRACTOR TO COORDINATE LOCATIONS OF TAPS FOR DP SENSORS WITH CONTROLS CONTRACTOR. RECOMMEND TO BE INSTALLED APPROXIMATELY TWO THIRDS (2/3) TO THREE QUARTERS (3/4) DOWN STEAM OF PUMP(S).
6. CONTRACTOR SHALL VERIFY PUMP BODY DISCHARGE PIPING CONNECTION TO ENSURE ALIGNMENT WITH PIPING OR ADJUST PIPING AS REQUIRED WHILE MAINTAINING APPURTENANCES AS SHOWN IN THE DETAILS.

CORGAN

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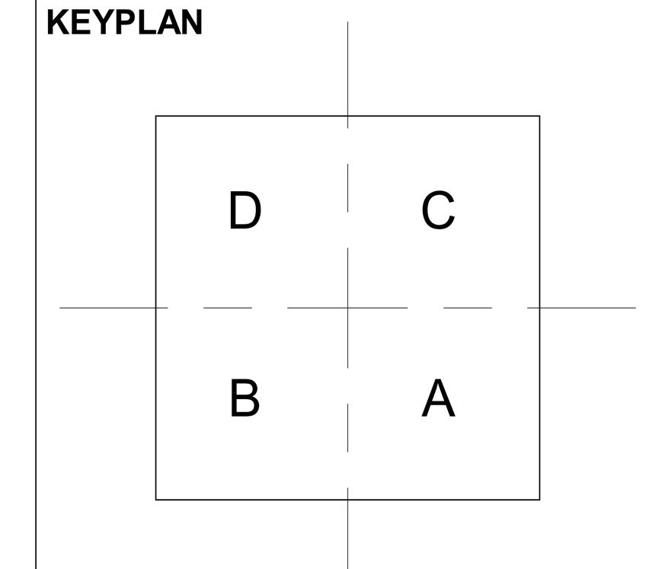
1	01/23/2026	ADDENDUM #2

01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
DAVID CROCKETT MS
19001 BEECHNUT ST.
RICHMOND, TX 77407

KEYPLAN



MECHANICAL SCHEDULES

YW² ENGINEERING
2508 Reppart Place
Houston, Texas 77008
346-341-2168
www.yw-squared.com
TX Firm No. 22107
Project No. 25027.00

JOB 25241.0000
DATE 12/11/25
SHEET

C-M30-00

SCHEDULE OF COOLING TOWERS REFURBISHMENT

DESIGNATION CT-	CAPACITIES							MISC.	ELECTRICAL		MANUFACTURER / SERIES BASIS FOR DESIGN	NOTES / REMARKS
	NUMBER OF CELLS	WATER QUANTITY PER CELL (GPM)	TOTAL QUANTITY WATER COOLED PER COOLING TOWER (GPM)	TOTAL TONS PER COOLING TOWER	ENTERING WATER TEMPERATURE °F	LEAVING WATER TEMPERATURE ° F	AMBIENT WET BULB TEMPERATURE °F	NUMBER OF FANS PER CELL	NOMINAL FAN H.P. (460 VOLT)	BASIN HEATERS KW (PER CELL)		
CT-1	2	900	1800	600	96	86	80	1	25HP PER CELL	-	BALTIMORE AIRCOIL COMPANY	1 THRU 12

NOTES:
1. COOLING TOWER IS TO BE REFURBISHED.
2. PROVIDE TOWER FANS WITH ABB VARIABLE FREQUENCY DRIVE FOR EACH FAN MOTOR.
3. CLEAN, RESEAL, AND RECAULK COL WATER BASIN.
4. MOTOR, FAN AND BELT SHALL BE REPLACED. MOTOR SHALL HAVE A MAX RPM OF 1800.
5. FLOAT VALVE TO BE REPLACED. CONTRACTOR TO VERIFY MAKEUP WATER VALVE OPERATION WITH FLOAT AND INCLUDE MONIES WITHIN BID TO FIX AS NECESSARY.
6. FILL, DRIFT ELIMINATORS AND AIR INLET LOUVERS TO BE REPLACED.
7. LADDER SHALL HAVE A A 6FT EXTENSION ADDED.
8. REGREASE ALL BEARINGS, THOROUGHLY CLEAN INTERIOR AND EXTERIOR, AND REAPPLY PROTECTIVE COATING OF WETTED SURFACES.
9. FAN MOTOR STARTER SHALL BE NEMA 4X RATED.
10. PROVIDE A VIBRATION CUT-OUT SWITCH TO DE-ENERGIZE FAN MOTOR UPON EXCESSIVE VIBRATION.
11. PATCH AND REPAIR CASING PANELS.
12. EXISITNG BASIN HEATER SHALL REMAIN.

SCHEDULE OF PUMPS

DESIGNATION	SERVICE	LOCATION	CAPACITIES								ELECTRICAL				MANUFACTURER/ SERIES BASIS FOR DESIGN	NOTES / REMARKS
			WATER TEMPERATURE °F	TYPE	DESIGN CONDITIONS GPM	DESIGN CONDITIONS HEAD - FT	SHUTOFF HEAD - FT	WORKING PRESSURE / PSIG	NPSHr - FT	APPROXIMATE IMPELLER DIAMETER / IN.	BHP	MOTOR HP	RPM	VOLTS/PHASE/HZ		
CWP-1	BUILDING CW	OUTDOOR MECH YARD	100°	FRAME MOUNTED END SUCTION	945	50	59.65	150	9.58	8.0	14.52	20	1760	460/3/60	GRUNDFOS SERIES LF SIZE 256T--6x5x9.5	1, 2, 3, 4, 5, 6, 7
CWP-2	BUILDING CW	OUTDOOR MECH YARD	100°	FRAME MOUNTED END SUCTION	945	50	59.65	150	9.58	8.0	14.52	20	1760	460/3/60	GRUNDFOS SERIES LF SIZE 256T--6x5x9.5	1, 2, 3, 4, 5, 6, 7

NOTES:
1. PROVIDE WITH PREMIUM EFFICIENCY VSD-RATED MOTOR. PROVIDE ELECTRICALLY INSULATED BEARINGS ON VSD DRIVEN MOTORS.
2. PUMP SHALL BE INSTALLED ON A NEW CONCRETE BASE. PROVIDE VIBRATION ISOLATION RAILS, VARIABLE SPEED DRIVE (VSD), AND NECESSARY INTERFACE WITH EXISTING CONTROLLER.
3. ELECTRICAL DISCONNECT SHALL BE PROVIDED AND INSTALLED BY EC.
4. PUMP SHALL BE FULLY OUTDOOR RATED FOR GIVEN OPEN ENVIRONMENT.
5. PROVIDE WITH ABB VSD, OR APPROVED EQUAL.
6. CONTROLS CONTRACTOR TO PROVIDE NEW CONTROLLERS AND SEQUENCE PER FBISD STANDARDS FOR NEW VARIABLE SPEED PUMP(S) AS REQUIRED. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL NEW DIFFERENTIAL PRESSURE (DP) SENSOR. MECHANICAL CONTRACTOR TO COORDINATE LOCATIONS OF TAPS FOR DP SENSORS WITH CONTROLS CONTRACTOR. RECOMMEND TO BE INSTALLED APPROXIMATELY TWO THIRDS (2/3) TO THREE QUARTERS (3/4) DOWN STEAM OF PUMP(S).
7. CONTRACTOR SHALL VERIFY PUMP BODY DISCHARGE PIPING CONNECTION TO ENSURE ALIGNMENT WITH PIPING OR ADJUST PIPING AS REQUIRED WHILE MAINTAINING APPURTENANCES AS SHOWN IN THE DETAILS.

CORGAN

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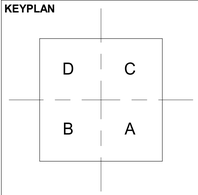
△	REVISIONS	
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH M. KAZEMI
LICENSED PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP048
HVAC MEP WEST ZONE 3
MACARIO GARCIA MS
18550 OLD RICHMOND RD.
SUGAR LAND, TX 77498

KEYPLAN



MECHANICAL SCHEDULES

YW² ENGINEERING
2508 Reppart Place
Houston, Texas 77008
346-341-2168
www.yw-squared.com
TX Firm No. 22107
Project No. 25027.00

JOB 25241.0000
DATE 01/23/26
SHEET

G-M30-00

SCHEDULE OF COOLING TOWERS

DESIGNATION CT-	CAPACITIES							MISC.	ELECTRICAL		MANUFACTURER / SERIES BASIS FOR DESIGN	NOTES / REMARKS
	NUMBER OF CELLS	WATER QUANTITY PER CELL (GPM)	TOTAL QUANTITY WATER COOLED PER COOLING TOWER (GPM)	TOTAL TONS PER COOLING TOWER	ENTERING WATER TEMPERATURE °F	LEAVING WATER TEMPERATURE ° F	AMBIENT WET BULB TEMPERATURE °F	NUMBER OF FANS PER CELL	NOMINAL FAN H.P. (460 VOLT)	BASIN HEATERS KW (PER CELL)		
CT-1	1	1200	1200	400	96	86	80	1	40HP	6	MARLEY / NC803TLN1	1 THRU 11

NOTES:
1. PROVIDE REMOTE MOUNTED VARIABLE FREQUENCY DRIVE FOR EACH FAN MOTOR. (ABB)
2. UNIT SHALL BE OF 304SS CONSTRUCTION WITH 316SS HOT AND COLD BASINS
3. PROVIDE GEAR DRIVE MOTOR OUTSIDE OF AIR STREAM.
4. PROVIDE TOWER WITH ACCESS DOOR AND MAINTENANCE LADDER WITH SAFETY CAGE.
5. PROVIDE A VIBRATION CUT-OUT SWITCH TO DE-ENERGIZE FAN MOTOR UPON EXCESSIVE VIBRATION. BY CONTROLS CONTRACTOR.
6. PROVIDE WITH DAVIT, HOIST AND MOTORIZED WINCH CAPABLE OF LISTING THE FAN ASSEMBLY, GEAR, AND MOTOR.
7. PROVIDE WITH STRAINERS WITH ISOLATION VALVE ON INLET AND OUTLET AT EACH COOLING TOWER BASIN FOR CLEANING.
8. PROVIDE ACCESS PLATFORMS FOR EACH FAN MOTOR.
9. PROVIDE INTERNAL WALKWAYS INSIDE TOWER AS REQUIRED FOR MAINTENANCE TO REACH FLOAT VALVES.
10. PROVIDE WITH MECHANICAL FLOAT VALVE AND SWITCH. CONTROLS CONTRACTOR TO PROVIDE OBERFLOW SENSOR AND CONNECT ALARM TO BAS.
11. CONTROLS CONTRACTOR TO PROVIDE OIL-LEVEL SWITCH AND INCORPORATE IN TO BAS.

SCHEDULE OF PUMPS

DESIGNATION	SERVICE	LOCATION	CAPACITIES								ELECTRICAL				MANUFACTURER/ SERIES BASIS FOR DESIGN	NOTES / REMARKS
			WATER TEMPERATURE °F	TYPE	DESIGN CONDITIONS GPM	DESIGN CONDITIONS HEAD - FT	SHUTOFF HEAD - FT	WORKING PRESSURE / PSIG	NPSHr - FT	APPROXIMATE IMPELLER DIAMETER / IN.	BHP	MOTOR HP	RPM	VOLTS/PHASE/HZ		
HWP-1	BOILER	RM 1913	180°	FRAME MOUNTED END SUCTION	168	100	109.1	150	5.81	10.5	6.37	10	1760	460/3/60	GRUNDFOS SERIES LF SIZE 215T--2.5x2x12	1, 2, 3, 4, 5, 6
HWP-2	BOILER	RM 1913	180°	FRAME MOUNTED END SUCTION	168	100	109.1	150	5.81	10.5	6.37	10	1760	460/3/60	GRUNDFOS SERIES LF SIZE 215T--2.5x2x12	1, 2, 3, 4, 5, 6

NOTES:
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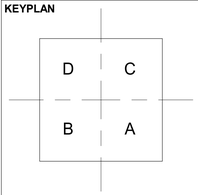
1	01/23/2026	ADDENDUM #2

STATE OF TEXAS
KOUROSH KAZEMI
LICENSED PROFESSIONAL ENGINEER
01/23/2026

Date of issue:
01.23.2026

FORT BEND ISD - BP0048
HVAC MEP WEST ZONE 3
HODGES BEND MS
16510 BISSONNET ST.
HOUSTON, TX 77083

KEYPLAN



MECHANICAL SCHEDULES

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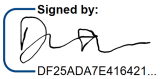
Ryan Kiefer ryan.kiefer@fortbendisd.gov Security Level: Email, Account Authentication (None)	Signed by: Ryan Kiefer 1F973D1CC91A41D... Signature Adoption: Pre-selected Style Using IP Address: 161.51.248.19	Sent: 1/27/2026 7:48:24 AM Viewed: 1/27/2026 7:50:03 AM Signed: 1/27/2026 7:50:55 AM
Electronic Record and Signature Disclosure: Not Offered via Docusign		
Brenda Garcia brenda.garcia@fortbendisd.gov Director of Construction Security Level: Email, Account Authentication (None)	Signed by: Brenda Garcia F7F6BD96D7C742E... Signature Adoption: Pre-selected Style Using IP Address: 161.51.248.19	Sent: 1/27/2026 7:50:58 AM Viewed: 1/27/2026 7:54:17 AM Signed: 1/27/2026 7:54:24 AM
Electronic Record and Signature Disclosure: Not Offered via Docusign		
Daniel Bankhead daniel.bankhead@fortbendisd.gov Exec. Dir. Security Level: Email, Account Authentication (None)	Signed by: Daniel Bankhead AABFCACAF7E9453... Signature Adoption: Pre-selected Style Using IP Address: 107.77.221.53 Signed using mobile	Sent: 1/27/2026 7:54:28 AM Viewed: 1/27/2026 11:28:22 AM Signed: 1/27/2026 11:31:47 AM
Electronic Record and Signature Disclosure: Not Offered via Docusign		

Signer Events	Signature	Timestamp
Doris Emeka Onyenwe doris.emekaonyenwe@fortbendisd.gov Security Level: Email, Account Authentication (None)	Signed by:  DF25ADA7E416421... Signature Adoption: Drawn on Device Using IP Address: 161.51.248.96	Sent: 1/27/2026 11:31:52 AM Viewed: 1/27/2026 11:35:20 AM Signed: 1/27/2026 11:37:37 AM

Electronic Record and Signature Disclosure:
Not Offered via Docusign

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
Jane Thompson cn_jane.thompson@fortbendisd.gov Executive Assistant to Daniel Bankhead Fort Bend ISD Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via Docusign	COPIED	Sent: 1/27/2026 7:54:28 AM
Antoinette Lewis Antoinette.Lewis1@fortbendisd.gov Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via Docusign	COPIED	Sent: 1/27/2026 11:37:39 AM
Kathleen Booker Kathleen.Booker@fortbendisd.gov Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via Docusign	COPIED	Sent: 1/27/2026 11:37:39 AM Viewed: 1/27/2026 11:39:00 AM

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	1/27/2026 7:46:27 AM
Certified Delivered	Security Checked	1/27/2026 11:35:20 AM
Signing Complete	Security Checked	1/27/2026 11:37:37 AM
Completed	Security Checked	1/27/2026 11:37:39 AM

Payment Events	Status	Timestamps