

Cunningham MS HVAC Upgrades

Galena Park ISD

Cunningham MS 14110 Wallisville Rd. Houston, TX 77049

ISSUE FOR PROPOSAL

2025/12/05

10/31/2025 3:43:27 PM



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11 Greenway Plz, Houston, TX 77046 T (713) 965-0608

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| DESCRIPTION | ABE |
|------------------------------|-----|
| PUMPED CONDENSATE RETURN | PC |
| HOT WATER SUPPLY | HV |
| HOT WATER RETURN | HV |
| CONDENSER WATER SUPPLY | CV |
| CONDENSER WATER RETURN | CV |
| CHILLED WATER SUPPLY | CH |
| CHILLED WATER RETURN | CH |
| GEOTHERMAL WATER SUPPLY | G |
| GEOTHERMAL WATER RETURN | GI |
| CONDENSATE DRAIN (INSULATED) | CI |
| REFRIGERANT LINE (LIQUID) | RI |
| REFRIGERANT LINE (SUCTION) | R |
| REFRIGERANT LINE (HOT GAS) | RH |
| LOW PRESSURE STEAM | LP |
| LOW PRESSURE CONDENSATE | LP |
| MEDIUM PRESSURE STEAM | MP |
| MEDIUM PRESSURE CONDENSATE | MP |
| HIGH PRESSURE STEAM | HP |
| HIGH PRESSURE CONDENSATE | НР |

| MECHANICAL PIPING SYMBOLS LEGEND | | | | | | | | | | | | |
|----------------------------------|---------------------------------|-----------------------------------|--|--|--|--|--|--|--|--|--|--|
| DRAWINGS | DETAILS | DESCRIPTION | | | | | | | | | | |
| £ | · | DIRECTION OF FLOW | | | | | | | | | | |
| E | C → | DROP IN PIPE | | | | | | | | | | |
| £ | ├ | RISE IN PIPE | | | | | | | | | | |
| | ├ ── ├ | GATE VALVE | | | | | | | | | | |
| | ├ | BALL VALVE | | | | | | | | | | |
| € | | CHECK VALVE | | | | | | | | | | |
| | ⊢ | SUPERVISED VALVE WITH FLOW SWITCH | | | | | | | | | | |
| £ 32 C | <u> </u> | PLUG VALVE / GAS COCK | | | | | | | | | | |
| | ├ | BUTTERFLY VALVE | | | | | | | | | | |
| | ├ ── ⊠ | HOT WATER BALANCING VALVE | | | | | | | | | | |
| £ | ├ ──┤ | PIPE UNION | | | | | | | | | | |
| | | PRESSURE CONTROL VALVE | | | | | | | | | | |
| | <u> </u> | 3-WAY VALVE | | | | | | | | | | |
| | ├ | SOLENOID VALVE | | | | | | | | | | |
| | FS , | FLOW SWITCH | | | | | | | | | | |
| | <i>₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩</i> | PRESSURE GAUGE WITH GAUGE COCK | | | | | | | | | | |
| | <u> </u> | THERMOMETER | | | | | | | | | | |
| | - | T & P RELIEF VALVE | | | | | | | | | | |
| | · | STRAINER | | | | | | | | | | |
| | ├ | CAP | | | | | | | | | | |
| £ | ├ | FLEXIBLE CONNECTION | | | | | | | | | | |
| | | NEW CONNECTION TO EXISTING PIPING | | | | | | | | | | |
| NOTES: | | | | | | | | | | | | |

1. NOT ALL SYMBOLS MAY BE USED ON THESE DRAWINGS.

| MECHANICAL | RENOVATIONS NOTES |
|------------|-------------------|

- 1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO
- 2. OWNER RETAINS SALVAGE RIGHTS, PROVIDE A MINIMUM OF 72 HOURS NOTICE PRIOR TO REMOVAL OF EQUIPMENT.
- PATCH AND SEAL ALL SLAB, ROOF AND WALL OPENINGS WITH LIKE MATERIAL WHERE MECHANICAL EQUIPMENT ONCE PENETRATED.
- 4. ALL FLOOR DRAINS EXISTING TO REMAIN. CONTRACTOR SHALL CLEAN AND KEEP FLOOR DRAINS UNOBSTRUCTED AND REUSE.
- UNLESS SHOWN OTHERWISE, CONTRACTOR SHALL UTILIZE EXISTING OPENINGS IN WALLS, ROOF AND FLOOR SLABS FOR PIPING ETC. PROVIDE NEW SLEEVES FOR PIPING AND INFILL ANNULAR SPACES.
- 6. CONTRACTOR TO AVOID EXISTING CABLE RUNS DURING CONSTRUCTION.
- PROVIDE ALL NEW PIPE SUPPORTS WHERE PIPING IS SCHEDULED TO
- RE-INSTALL ANY CEILING AFTER COMPLETION OF WORK. REPLACE ANY EXISTING DAMAGED CEILING TILES IN THE AREAS OF CONSTRUCTION.
- 9. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN EXISTING BUILDING CLIMATE CONTROLLED DURING CONSTRUCTION. ALL REQUIRED EQUIPMENT AND ASSOCIATED POWER, WIRING SHALL BE PROVIDED BY
- 10. CONTRACTOR TO PROVIDE NEW DUCT DETECTOR AS REQUIRED BY CODE ON ALL AIR HANDLING UNITS EQUAL TO OR MORE THAN 2,000 CFM SUPPLY. DETECTOR MANUFACTURER TO MATCH EXISTING DEVICES AND BE COMPATIBLE WITH EXISTING FACP. CONTRACTOR TO PROVIDE AND INSTALL ALL CABLING AND EQUIPMENT/MODULES AS REQUIRED TO CONNECT ADDITIONAL DEVICES TO EXISTING FIRE

ALARM CONTROL PANEL.

MECHANICAL DEMOLITION NOTES

- 1. DEMOLISH EQUIPMENT SCHEDULED FOR REPLACEMENT. EQUIPMENT NOT SCHEDULED FOR REPLACEMENT SHALL REMAIN IN WORKING
- 2. PATCH AND SEAL ALL ROOF AND WALL OPENINGS WHERE MECHANICAL
- EQUIPMENT ONCE PENETRATED.
- 3. DEMOLITION DOES NOT INCLUDE PLUMBING EQUIPMENT. 4. CONTRACTOR TO FIELD VERIFY EXISTING CONDITION TO PRIOR TO
- COORDINATE ALL WORK WITH ALL OTHER TRADES.

| SYMBOL | MECHANICAL SYMBOLS LEGEND | |
|------------|--|-------------------|
| | DESCRIPTION | ABBV. |
| | SUPPLY AIR CEILING DIFFUSER | SAG/SAF |
| | RETURN AIR GRILLE / REGISTER | RAG / RA |
| | EXHAUST GRILLE / REGISTER | EG/ER |
| | SUPPLY AIR CEILING DIFFUSER | CD |
| | LINEAR SLOT DIFFUSER | LD |
| | SIDEWALL SUPPLY AIR GRILLE/REGISTER | SAG/SAR |
| | SIDEWALL RETURN AIR GRILLE/REGISTER | RAG/RAR |
| <u> </u> | DUCT MT'D. SIDEWALL SUPPLY AIR GRILLE/REGISTER | SAG/SAR |
| | SUPPLY DUCT RISE/DROP | |
| | RETURN DUCT RISE/DROP | |
| | EXHAUST DUCT RISE/DROP | |
| | | |
| → | DOOR GRILLE | DG |
| UC 3/4" | UNDERCUT DOOR | UC |
| | LINES SETUDI TRANSFES SUOT ABOVE | |
| WxD TD | LINED RETURN TRANSFER DUCT ABOVE CEILING (SIZE AS INDICATED) | TD |
| اردا | SQUARE ELBOW WITH DOUBLE THICKNESS TURNING VANES | |
| | VOLUME DAMPER | MVD |
| | FLEXIBLE DUCT | FLEX.CON |
| | NEW DUCTWORK | |
| | EXISTING DUCTWORK / EQUIPMENT | |
| | DEMO DUCTWORK / EQUIPMENT | |
| | NEW MECHANICAL EQUIPMENT | |
| <u> </u> | THERMOSTAT SENSOR | |
| H | HUMIDISTAT SENSOR | |
| | COMBINATION TEMPERATURE AND CO2 SENSOR | |
| (T2) | COMBINATION TEMPERATURE, HUMIDITY, & CO2 SENSOR | |
| | COMBINATION TEMPERATURE & HUMIDITY SENSOR | |
| (SD) | SMOKE DAMPER | SD |
| (FD) | FIRE DAMPER | FD |
| FS | COMBINATION FIRE AND SMOKE DAMPER | F/SD |
| <u>CO2</u> | CARBON DIOXIDE SENSOR | CO2 |
| <u> </u> | CARBON MONOXIDE SENSOR | СО |
| (BD) | BAROMETRIC DAMPER | BD |
| (8) | SMOKE DETECTOR (BY DIVISION 28) | s |
| (A) | PNEUMATIC DAMPER ACTUATOR | А |
| BDD | BACKDRAFT DAMPER | BDD |
| (FMS) | FLOW MEASURING STATION | FMS |
| | SPIN-IN VOLUME DAMPER | |
| M | MOTORIZED DAMPER | М |
| | AIRFLOW DIRECTION | |
| | SUPPLY AIR | SA |
| | RETURN AIR | RA |
| | OUTSIDE AIR | OA |
| | EXHAUST AIR | EA |
| | OWNER-FURNISHED EQUIPMENT | OFE |
| | ABOVE FINISHED FLOOR | AFF |
| | BOTTOM OF DUCT | BOD |
| | NOT IN CONTRACT | NIC |
| | | |
| | FURNISHED BY OTHERS | FBO |
| | FURNISHED BY OTHERS REFLECTIVE CEILING PLAN | FBO RCP |
| | | RCP |
| | REFLECTIVE CEILING PLAN EXISTING | RCP (E) |
| | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK | RCP (E) SOW |
| | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE | RCP (E) SOW VFD |
| + | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE DISCONNECT FROM EXISTING | RCP (E) SOW |
| | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE DISCONNECT FROM EXISTING CONNECT TO EXISTING | RCP (E) SOW VFD |
| 1 M.401 | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE DISCONNECT FROM EXISTING CONNECT TO EXISTING PLAN SECTION SECTION NUMBER | RCP (E) SOW VFD |
| 1 M.401 | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE DISCONNECT FROM EXISTING CONNECT TO EXISTING PLAN SECTION SECTION NUMBER SHEET NUMBER | RCP (E) SOW VFD |
| 1 M.401 | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE DISCONNECT FROM EXISTING CONNECT TO EXISTING PLAN SECTION SECTION NUMBER | RCP (E) SOW VFD |
| | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE DISCONNECT FROM EXISTING CONNECT TO EXISTING PLAN SECTION SECTION NUMBER SHEET NUMBER DIFFUSER SCHEDULE CFM | RCP (E) SOW VFD |
| | REFLECTIVE CEILING PLAN EXISTING SCOPE OF WORK VARIABLE FREQUENCY DRIVE DISCONNECT FROM EXISTING CONNECT TO EXISTING PLAN SECTION SECTION NUMBER SHEET NUMBER DIFFUSER SCHEDULE | RCP (E) SOW VFD |

MECHANICAL GENERAL NOTES

- 1. ALL WORK SHALL BE PERFORMED AS PER THE LOCAL MECHANICAL CODE, THE LOCAL BUILDING CODES AND LOCAL ENERGY CONSERVATION CODE.
- 2. PROVIDE ALL MATERIALS, LABOR, EQUIPMENT AND ANY OTHER INCIDENTALS ESSENTIAL FOR A COMPLETE AND OPERATIONAL
- INSTALLATION OF THE HVAC WORK SHOWN ON THE PLANS. 3. ALL DUCTWORK SHALL BE FABRICATED PER THE LATEST SMACNA
- 4. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL INFO FOR COORDINATION AND POTENTIAL CONFLICTS. THE MECHANICAL SUBCONTRACTOR SHALL, WITHOUT EXTRA COST TO THE PROJECT SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICTS WITH OTHER TRADES, OR FOR PROPER EXECUTION OF THE WORK.
- 5. DUCT DIMENSIONS INDICATED ON DRAWINGS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
- 6. ALL NEW HVAC EQUIPMENT SHALL BE CLEANED AFTER THE FINISHING OF DRYWALL AND PRIOR TO THE RELEASE OF BUILDING TO THE OWNER. IF THE DUCTWORK AND AIR DEVICES ARE NOT PROPERLY PROTECTED DURING CONSTRUCTION THAN IT SHALL BE CLEANED AS WELL. CONTRACTOR TO PROVIDE DOCUMENTATION WITH DATE AND TIME OF ALL THE PERFORMED SERVICES.
- 7. ALL WALL MOUNTED TEMPERATURE, HUMIDITY AND CO2 SENSORS SHALL BE MOUNTED AT THE SAME ELEVATION AS THE LIGHT SWITCHES. COORDINATE WITH ELECTRICAL DRAWINGS AND ARCHITECTURAL ELEVATION PLAN.
- 8. REFER TO MECHANICAL ROOF PLAN FOR ROOF MOUNTED EQUIPMENTS.
- 9. REFER TO CHILLED WATER AND HEATING WATER PIPING DIAGRAMS FOR PIPE SIZES.
- 10. NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS
- FROM FULL SWING OPENING. 11. PRIOR TO INSTALLATION OF EQUIPMENT, VERIFY MANUFACTURER'S
- 12. COORDINATE ALL WORK WITH ALL OTHER TRADES.

ATTENUATOR.

13. PROVIDE FIRE DAMPERS, SMOKE DAMPERS, OR COMBINATION FIRE/SMOKE DAMPERS IN ALL DUCTWORK AND RETURN AIR OPENINGS WHICH PENETRATE FIRE OR SMOKE RATED WALL OR FLOOR SLABS. FIRE OR SMOKE RATED WALLS CAN INCLUDE BUT NOT LIMITED TO CORRIDOR WALLS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND STORAGE ROOMS. REFER TO ARCHITECTURAL PLANS FOR PARTITION AND WALL TYPES INDICATING FIRE OR SMOKE RATED WALL LOCATION

RECOMMENDED AND CODE REQUIRED CLEARANCES ARE AVAILABLE.

- 14. REFER TO ARCHITECTURAL LOUVER SCHEDULE AND ELEVATION PLANS FOR EXACT SIZE, LOCATION AND ELEVATION.
- 15. ALL FAN POWERED BOXES SHALL BE EQUIPPED WITH FACTORY PROVIDED AND MOUNTED INDUCED AIR INLET ELBOW SOUND
- 16. ALL TERMINAL UNITS AND INLINE EXHAUST FANS SHALL BE INSTALLED IN PROPER ACCESSIBLE AREA.
- 17. PROVIDE 24"x24" ACCESS PANEL IN THE GYP BOARD CEILING WHERE TERMINAL UNITS AND INLINE EXHAUST FANS ARE INSTALLED. COORDINATE WITH ARCHITECTURAL CEILING PLANS.
- 18. COORDINATE ALL AIR DEVICES LOCATIONS WITH FINAL ARCHITECTURAL REFLECTED CEILING PLAN.
- 19. ALL SUPPLY AND RETURN AIR CEILING DEVICES SHALL BE INSULATED ON TOP OF DEVICES TO PREVENT CONDENSATION. INSULATE DEVICES WITH 1-1/2" WRAPAROUND INSULATION AND TOTALLY COVER ALL SURFACES; SECURE INSULATION IN PLACE AND APPLY INSULATION PRIOR TO MOUNTING AIR DEVICES.
- 20. PROVIDE TURNING VANES ON ALL RECTANGULAR ELBOWS.
- 21. ALL EXPOSED DUCTWORK SHALL BE DOUBLE WALL DUCT. REFER TO SPECIFICATION. PAINT DUCTWORK. COORDINATE COLOR WITH THE
- 22. PROVIDE 16x16 RETURN AIR OPENING IN WALL ABOVE CEILING WHERE WALLS GO UPTO DECK AND RETURN OPENING NOT SHOWN ON THE DRAWINGS. SHOW RETURN AIR OPENINGS IN DUCT SHOP DRAWINGS.
- 23. PROVIDE INTERNALLY LINED DUCT FOR THE FOLLOWING DUCTWORK UNLESS OTHERWISE NOTED ON THE DRAWINGS: -FIRST 20'-0" OF SUPPLY AND RETURN DUCT FROM ROOF MOUNTED
- AIR HANDLING UNITS. -FIRST 10'-0" OF ROOF MOUNTED EXHAUST FANS. -ALL RETURN AIR BOOTS AND TRANSFER DUCTS.
- 24. BUILDING AUTOMATION SYSTEM THERMOGRAPHICS SHALL BE UPDATED TO REFLECT CURRENT FLOOR PLAN, ROOM NAMES AND ALL ASSOCIATED HVAC EQUIPMENT.
- ELECTRICAL AND PLUMBING CHANGES FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.

25. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE

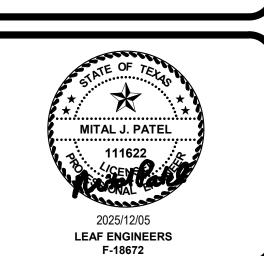
- 26. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE BETWEEN CONTRACTORS SHALL BE WITHOUT ANY ADDITIONAL COST TO THE PROJECT.
- 27. ALL DUCTWORK (SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR) IN UNCONDITIONED / NON-RETURN PLENUM SHALL BE PROVIDED WITH DUCT WRAP INSULATION. 28. REFER TO SNAP 'N SHIELD REFRIGERANT PIPING SUPPORT DETAIL FOR
- REFRIGERANT PIPING SUPPORT. 29. PROVIDE INSULATED CONDENSATE DRAIN PIPE FROM FLOOR MOUNTED OR SUSPENDED UNIT TO NEAREST FLOOR DRAIN. REFER TO PLUMBING
- DRAWINGS FOR EXACT DRAIN LOCATION. 30. PROVIDE CLEAR, WEATHERPROOF ENCLOSURE FOR THE CONTROL
- VALVE ACTUATORS LOCATED OUTDOORS. 31. ALL EXPOSED AND OUTDOOR REFRIGERANT AND CONDENSATE PIPING SHALL BE PROVIDED WITH INSULATION AND ALUMINUM JACKET.
- 32. ALL OUTSIDE AIR INTAKE OPENINGS SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY PLUMBING VENT, FUEL-FIRED APPLIANCE VENT OR EXHAUST AIR DISCHARGE. 33. FOR ALL OPEN SPACES (MAIN CORRIDOR, GYM, CAFETERIA, LIBRARY
- ETC.), PROVIDE SENSORS IN CLEAR LOCKABLE PROTECTIVE
- 34. NOT ALL SYMBOLS OR ABBREVIATIONS MAY BE USED ON THESE
- 35. CONTRACTOR SHALL FIELD VERIFY EXISTING EQUIPMENT TAG / DESIGNATION NOTATIONS PRIOR TO ORDERING NEW EQUIPMENT SCHEDULED FOR REPLACEMENT.
- 36. GENERAL CONTRACTOR TO COORDINATE WITH FIRE ALARM AND MECHANICAL SUB-CONTRACTOR ON INTERLOCKING FIRE ALARM TO VARIABLE FREQUENCY DRIVES.



HOUSTON 11 Greenway Plaza, 15th Floor Houston,TX 77046 713-965-0608 P 713-961-4571 F TX Firm: F-18672

GALENA PARK ISE ISSUE FOR PROPC





GALENA PARK ISD PROJECT NUMBER 2025/12/05 25037301 DRAWING HISTORY Description **ISSUE FOR PROPOSAL**

> **MECHANICAL GENERAL NOTES** AND LEGENDS

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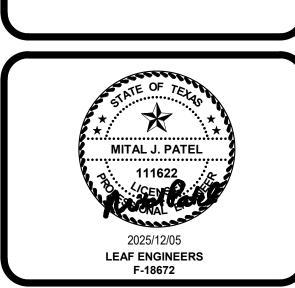
KEYED NOTES:

- EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT SCHEDULE FOR REFERENCE.
- REPLACE EXISTING SENSORS, ASSOCIATED WIRING AND CONTROLS WITH NEW. REUSE EXISTING CONDUITS.
- 3 LIQUID & SUCTION REFRIGERANT PIPING FROM INDOOR FAN COIL UNIT TO OUTDOOR CONDENSING UNIT ON ROOF. SIZE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SNAP-N'-SHIELD REFRIGERANT PIPING SUPPORTS, PROVIDE LONG RADIUS ELBOWS AT ALL PIPE TURNS. REFER TO DETAILS. ALL EXPOSED AND OUTDOOR REFRIGERANT PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET.
- EXISTING EXHAUST FAN ON ROOF AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS AND ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS."
- 5 EXISTING 12" x 12" DUCTWORK UPTO INTAKE HOOD <u>OAI-D1</u> TO REMAIN. REMOVE EXISTING MOTORIZED DAMPER, AIRFLOW MEASURING STATION, AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE REPLACED.
- 6 EXISTING AIR HANDLING UNIT, ASSOCIATED DUCTWORK TO REMAIN. REMOVE EXISTING CONTROLS, CHILLED AND HEATING WATER CONTROL VALVES, DUCT DAMPERS, ASSOCIATED ACTUATORS, CONTROL WIRING AND REPLACE WITH NEW, UNIT SHALL BE UPGRADED TO NEW CONTROLS SYSTEM. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DIAGRAMS. ANY NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.
- $\overline{7}$ EXISTING PIPING TO REMAIN.
- REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE
- 9 EXISTING UNIT HEATER TO REMAIN. REPLACE EXISTING CONTROLS, CONTROL WIRING WITH NEW.

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UPGRADES





ISSUE FOR PROPOSAL 1ST FLOOR MECHANICAL PLAN -AREA A -CUMMINGHAM

M-111A



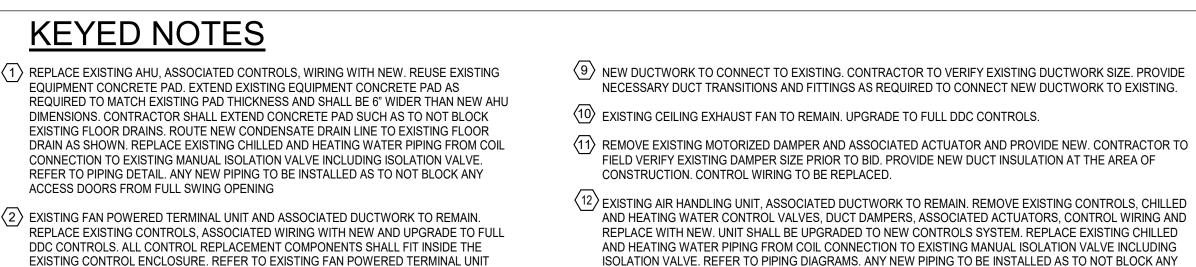
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ISSUE FOR PROPOSAL 1ST FLOOR MECHANICAL PLAN -AREA B -

M-111B

CUMMINGHAM



REQUIRED TO MATCH EXISTING PAD THICKNESS AND SHALL BE 6" WIDER THAN NEW AHU DIMENSIONS, CONTRACTOR SHALL EXTEND CONCRETE PAD SUCH AS TO NOT BLOCK EXISTING FLOOR DRAINS. ROUTE NEW CONDENSATE DRAIN LINE TO EXISTING FLOOR DRAIN AS SHOWN. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DETAIL. ANY NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING

(2) EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT SCHEDULE FOR REFERENCE.

(3) REPLACE EXISTING SENSORS, ASSOCIATED WIRING AND CONTROLS WITH NEW. REUSE EXISTING CONDUITS.

(4) EXISTING EXHAUST FAN ON ROOF AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS AND ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC

(5) LIQUID & SUCTION REFRIGERANT PIPING FROM INDOOR FAN COIL UNIT TO OUTDOOR CONDENSING UNIT ON ROOF. SIZE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SNAP-N'-SHIELD REFRIGERANT PIPING SUPPORTS. PROVIDE LONG RADIUS ELBOWS AT ALL PIPE TURNS. REFER TO DETAILS. ALL EXPOSED AND OUTDOOR REFRIGERANT PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET.

(6) CONDENSATE PIPING TO NEARBY FLOOR DRAIN IN MECHANICAL ROOM.

(7) REPLACE EXISTING VARIABLE FREQUENCY DRIVE, ASSOCIATED CONTROLS, WIRING WITH

(8) EXISTING 60" x 60" RETURN AIR GRILLE TO REMAIN.

 $\overline{13}$ EXISTING PIPING TO REMAIN. $\langle 14 \rangle$ UNITS ARE SHIPPED KNOCKED DOWN. MECHANICAL CONTRACTOR TO ENSURE ALL PIECE AND PART CAN FIT THRU 3'-0" WIDE DOOR AND ASSEMBLE WITHIN SPACE. PROVIDE LEAK TEST REPORT AFTER COMPLETION OF UNIT ASSEMBLY. NO FURTHER PENETRATION TO UNIT'S CABINET SHALL BE PERMITTED AFTER LEAK TEST.

NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.

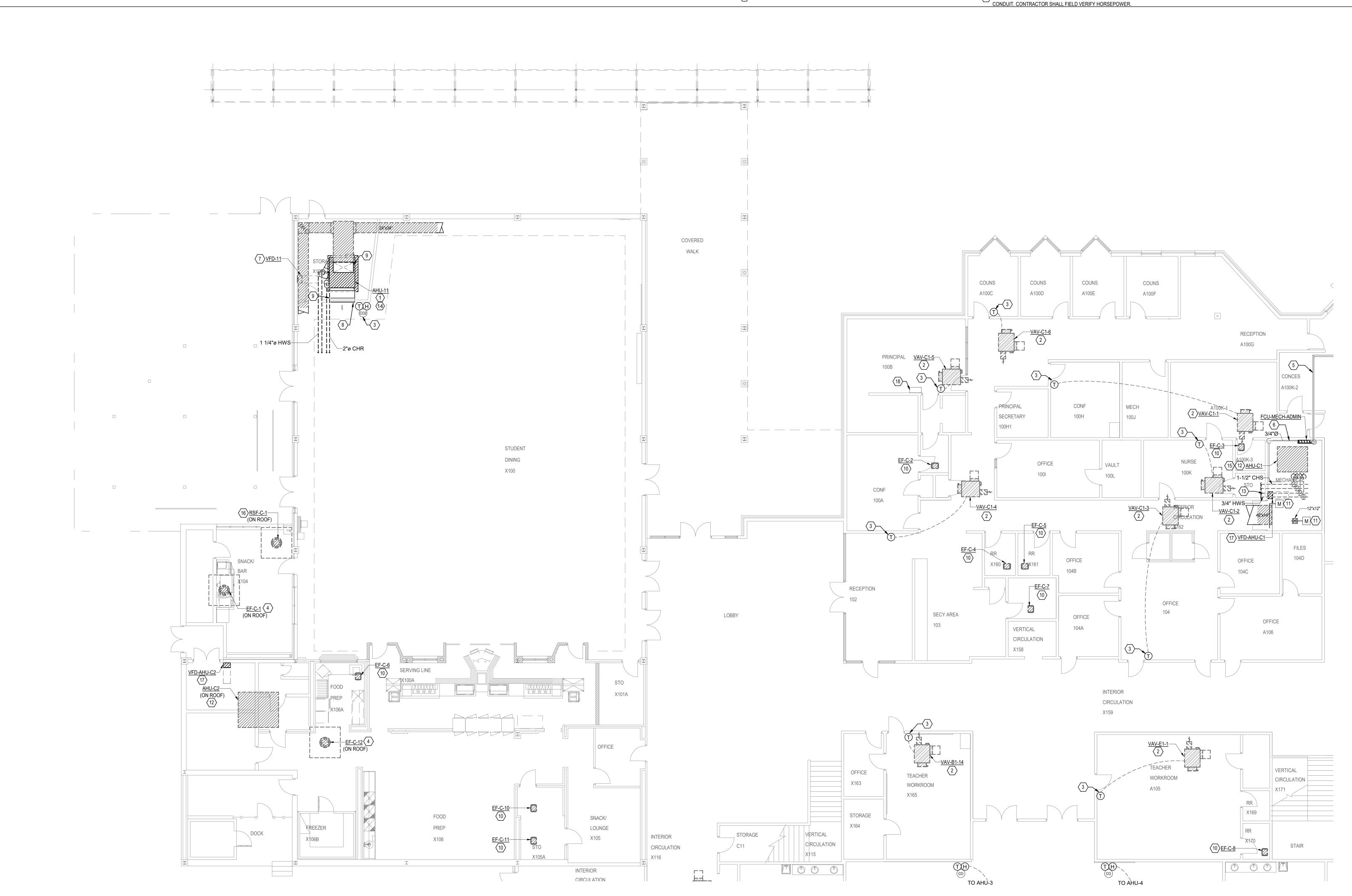
ACCESS DOORS FROM FULL SWING OPENING. ASSOCIATED TEMPERATURE SENSORS, WIRING AND

 $\langle 15 \rangle$ REPLACE EXISTING DX COIL SECTION WITH NEW COIL. PROVIDE LEAK TEST REPORT AFTER COMPLETION OF UNIT ASSEMBLY. NO FURTHER PENETRATION TO UNIT'S CABINET SHALL BE PERMITTED AFTER LEAK TEST. NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING. ROUTE NEW LIQUID & SUCTION REFRIGERANT PIPING FROM INDOOR AIR HANDLING UNIT TO OUTDOOR CONDENSING UNIT ON ROOF. SIZE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SNAP-N'-SHIELD REFRIGERANT PIPING SUPPORTS. PROVIDE LONG RADIUS ELBOWS AT ALL PIPE TURNS. REFER TO DETAILS. ALL EXPOSED AND OUTDOOR REFRIGERANT PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET."

(16) EXISTING SUPPLY FAN ON ROOF TO REMAIN. UPGRADE TO FULL DDC CONTROLS.

CONTROLS TO BE REPLACED WITH NEW.

(17) EXISTING VARIABLE FREQUENCY DRIVE TO BE REMOVED AND REPLACED WITH NEW. REUSE EXISTING



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1ST FLOOR MECHANICAL PLAN - AREA B - CUNNINGHAM SCALE: 1/8" = 1'-0"



KEYED NOTES:

EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT SCHEDULE FOR

2 REPLACE EXISTING SENSORS, ASSOCIATED WIRING AND CONTROLS WITH NEW. REUSE EXISTING CONDUITS.

3 EXISTING AIR HANDLING UNIT, ASSOCIATED DUCTWORK TO REMAIN. REMOVE EXISTING CONTROLS, CHILLED AND HEATING WATER CONTROL VALVES, DUCT DAMPERS, ASSOCIATED ACTUATORS, CONTROL WIRING AND REPLACE WITH NEW. UNIT SHALL BE UPGRADED TO NEW CONTROLS SYSTEM. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DIAGRAMS. ANY NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.

4 EXISTING EXHAUST FAN ON ROOF AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS AND ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC

 $\sqrt{5}$ EXISTING CEILING EXHAUST FAN TO REMAIN. UPGRADE TO FULL DDC CONTROLS.

6 EXISTING PIPING TO REMAIN.

27 EXISTING VARIABLE FREQUENCY DRIVE TO BE REMOVED AND REPLACED WITH NEW. REUSE EXISTING CONDUIT. CONTRACTOR SHALL FIELD VERIFY HORSEPOWER.

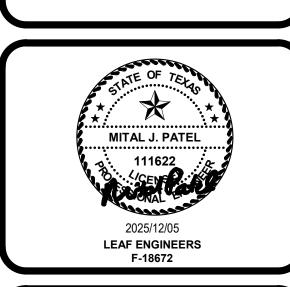
 \langle 8 \rangle REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE REPLACED.



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UPGRADES





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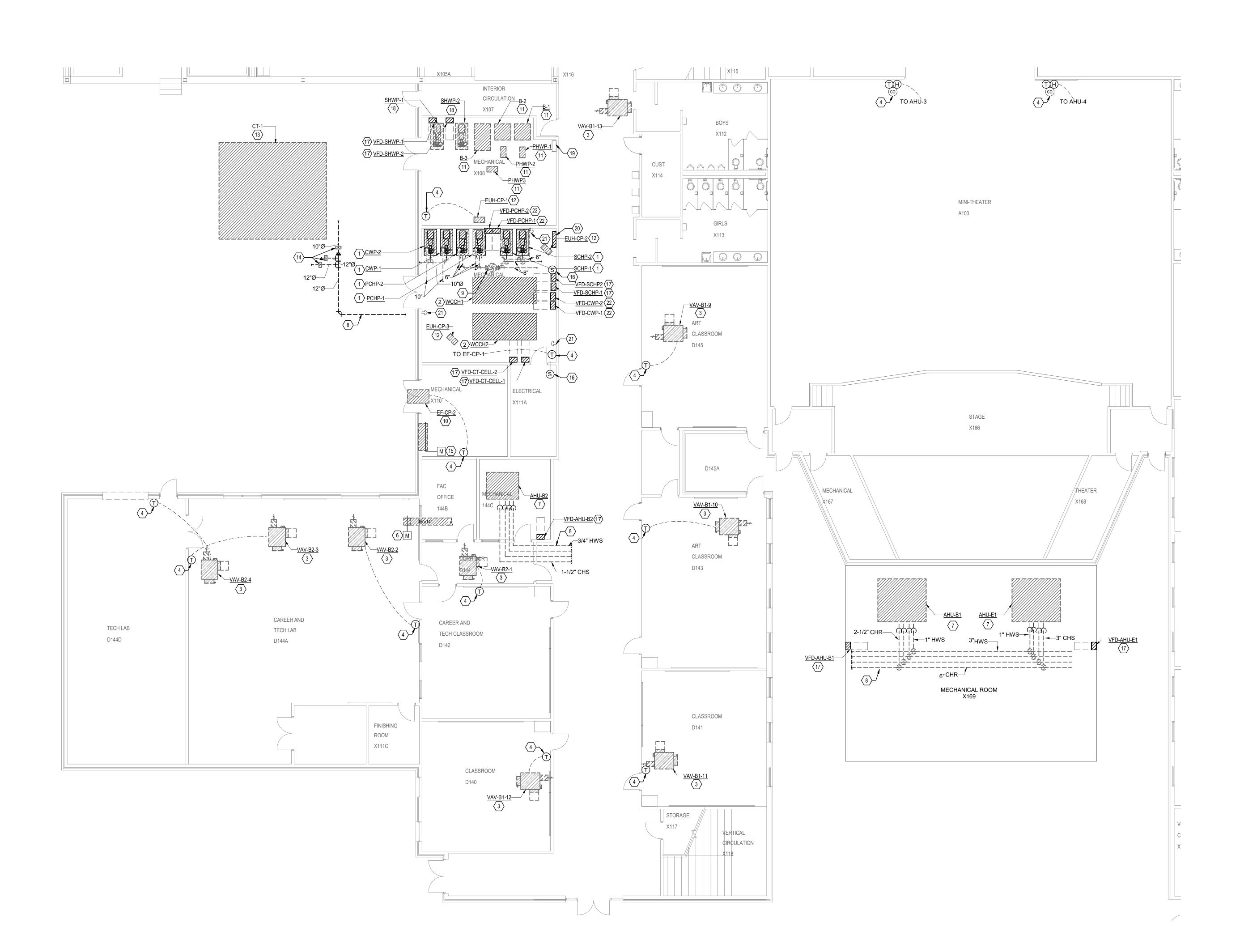
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1ST FLOOR MECHANICAL PLAN - AREA D - CUNNINGHAM

LEAF ENGINEERS

MECHANICAL PLAN -AREA D -CUMMINGHAM



- (1) EXISTING PUMP, ASSOCIATED ISOLATION VALVE AND PIPING DOWNSTREAM OF ISOLATION VALVE TO BE REPLACED WITH NEW. REPLACE EXISTING CONTROLS. ASSOCIATED WIRING WITH NEW. PROVIDE NEW / REPLACE VARIABLE FREQUENCY DRIVE.
- (2) EXISTING WATER-COOLED CHILLERS, ASSOCIATED PIPING TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW. REMOVE EXISTING EVAPORATOR INSULATION AND PROVIDE NEW INSULATION AS SPECIFIED. CONTRACTOR SHALL FIELD VERIFY EXISTING EVAPORATOR DIMENSIONS PRIOR TO BID DATE.
- (3) EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT
- (4) REPLACE EXISTING SENSORS, ASSOCIATED WIRING AND CONTROLS WITH NEW. REUSE EXISTING CONDUITS.
- ON ALL PIPING.
- $\langle 6 \rangle$ EXISTING 16" x 14" DUCTWORK UPTO INTAKE HOOD <u>OAI-B2</u> TO REMAIN. REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION.
- (7) EXISTING AIR HANDLING UNIT, ASSOCIATED DUCTWORK TO REMAIN. REMOVE EXISTING CONTROLS, CHILLED AND HEATING WATER CONTROL VALVES, DUCT DAMPERS, ASSOCIATED ACTUATORS, CONTROL WIRING AND REPLACE WITH NEW. UNIT SHALL BE UPGRADED TO NEW CONTROLS SYSTEM. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DIAGRAMS. ANY NEW PIPING TO BE
- (8) EXISTING PIPING TO REMAIN.
- (9) EXISTING AIR SEPARATOR TO REMAIN.
- (11) EXISTING BOILER AND ASSOCIATED HOT WATER PUMP TO REMAIN. REPLACE EXISTING CONTROLS, CONTROL WIRING WITH NEW.

- (15) REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE
- (17) EXISTING VARIABLE FREQUENCY DRIVE TO BE REMOVED AND REPLACED WITH NEW. REUSE EXISTING CONDUIT. CONTRACTOR SHALL FIELD VERIFY HORSEPOWER.
- (18) EXISTING PUMP TO REMAIN. ASSOCIATED PIPING TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW.
- (19) PROVIDE NEW CARBON MONOXIDE MONITORING PANEL.
- (20) REPLACE EXISTING REFRIGERANT MONITORING PANEL AND ASSOCIATED SENSORS AND SWITCHES WITH NEW.
- 21) PROVIDE SWITCHES AT EACH EXIT FROM THE REFRIGERATION MACHINERY ROOM AS DRAWINGS FOR SEQUENCE OF OPERATION FOR CHILLER MACHINE ROOM "PURGE"
- INTERNATIONAL MECHANICAL CODE 1106.5.2. PROVIDE A BREAKGLASS SWITCH ARRANGED FOR ON-ONLY CONTROL OF FAN(S) USED FOR EMERGENCY PURGE VENTILATION SYSTEM FOR REFRIGERANT ESCAPE. EPS SHALL REQUIRE MANUAL RESETTING. LABEL: SWITCH SHALL BE PERMANENTLY LABELED "EMERGENCY PURGE
- MACHINERY ROOM EXIT. REFER TO ELECTRICAL PLANS FOR ADDITIONAL INFORMATION. EMERGENCY REFRIGERATION SWITCH (ERS): FUNCTION: COMPLY WITH INTERNATIONAL MECHANICAL CODE 1106.5.1. PROVIDE A BREAKGLASS SWITCH ARRANGED FOR OFF-ONLY CONTROL OF ALL ELECTRICALLY OPERATED MACHINERY IN THE REFRIGERATION MACHINERY ROOM, EXCEPT THE
- ERS. UPON ACTIVATION, THE ERS SHALL IMMEDIATELY SHUTDOWN MACHINERY. AFTER SHUTDOWN, MANUAL RESETTING SHALL BE REQUIRED TO RESTORE POWER TO EACH CHILLER AND MOTOR AFFECTED. LOSS OF POWER FROM THE ELECTRIC UTILITY, TEMPORARY OR SUSTAINED BLACKOUT, SHALL NOT CAUSE THE ERS TO REQUIRE COLOR: SWITCH SHALL BE PAINTED BRIGHT RED.
- MACHINERY ROOM EXIT. REFER TO ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.

- **KEYED NOTES**

- SCHEDULE FOR REFERENCE.
- (5) REPLACE EXISTING AIR-COOLED CONDENSING UNIT ON ROOF AND ALL ASSOCIATED REFRIGERANT PIPING WITH NEW. PROVIDE NEW INSULATION AND ALUMINUM JACKETING
- INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.

- (10) EXISTING EXHAUST FAN ON TO REMAIN. REPLACE EXISTING CONTROLS AND ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS.
- (12) EXISTING UNIT HEATER TO REMAIN. REPLACE EXISTING CONTROLS, CONTROL WIRING
- (13) EXISTING COOLING TOWER TO REMAIN. REPLACE EXISTING CONTROLS, CONTROL WIRING WITH NEW.
- EXISTING CONTROL VALVE TO BE REPLACED. PROVIDE NEW CONTROL VALVE AND ACTUATOR. PROVIDE IN OUTDOOR RATED ENCLOSURE.
- NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE
- EXISTING REFRIGERANT SENSOR TO BE REPLACED WITH NEW. REPLACE EXISTING CONTROLS, CONTROL WIRING WITH NEW.

- EMERGENCY PURGE VENTILATION FAN SWITCH (EPS): FUNCTION: COMPLY WITH
- LOCATION: IMMEDIATELY ADJACENT TO AND WITHIN TWO FEET OF EACH REFRIGERATION
- EXHAUST VENTILATION SYSTEM. LIGHTING FIXTURES SHALL NOT BE AFFECTED BY THE
- LABEL: SWITCH SHALL BE PERMANENTLY LABELED "EMERGENCY REFRIGERATION LOCATION: IMMEDIATELY ADJACENT TO AND WITHIN TWO FEET OF EACH REFRIGERATION
- 22 PROVIDE NEW VARIABLE FREQUENCY DRIVE.

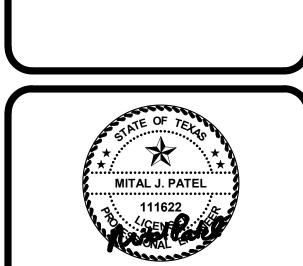




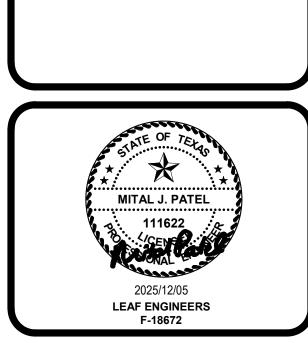
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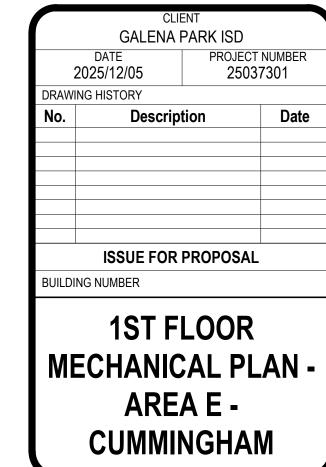
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 $\sqrt{3}$ EXISTING CEILING EXHAUST FAN TO REMAIN. UPGRADE TO FULL DDC CONTROLS.







1ST FLOOR MECHANICAL PLAN - AREA E - CUNNINGHAM SCALE: 1/8" = 1'-0" PLOT STAMP: 12/5/2025 12:16:49 PM

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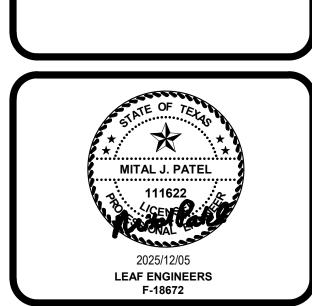
- REPLACE EXISTING AHU, ASSOCIATED CONTROLS, WIRING WITH NEW. REUSE EXISTING EQUIPMENT CONCRETE PAD. EXTEND EXISTING EQUIPMENT CONCRETE PAD AS REQUIRED TO MATCH EXISTING PAD THICKNESS AND SHALL BE 6" WIDER THAN NEW AHU DIMENSIONS. CONTRACTOR SHALL EXTEND CONCRETE PAD SUCH AS TO NOT BLOCK EXISTING FLOOR DRAINS. ROUTE NEW CONDENSATE DRAIN LINE TO EXISTING NEARBY FLOOR DRAIN. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DIAGRAMS. ANY NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.
- EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN.
 REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL
 DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE
 EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT
 SCHEDULE FOR REFERENCE.
- REPLACE EXISTING SENSORS, ASSOCIATED WIRING AND CONTROLS WITH NEW. REUSE EXISTING CONDUITS.
- 4 EXISTING PIPING TO REMAIN.
- (5) CONNECT NEW PIPING TO EXISTING.
- EXISTING AIR HANDLING UNIT, ASSOCIATED DUCTWORK TO REMAIN. REMOVE EXISTING CONTROLS, CHILLED AND HEATING WATER CONTROL VALVES, DUCT DAMPERS, ASSOCIATED ACTUATORS, CONTROL WIRING AND REPLACE WITH NEW. UNIT SHALL BE UPGRADED TO NEW CONTROLS SYSTEM. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DIAGRAMS. ANY NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.
- UNITS ARE SHIPPED KNOCKED DOWN. MECHANICAL CONTRACTOR TO ENSURE ALL PIECE AND PART CAN FIT THRU 3'-0" WIDE DOOR AND ASSEMBLE WITHIN SPACE. PROVIDE LEAK TEST REPORT AFTER COMPLETION OF UNIT ASSEMBLY. NO FURTHER PENETRATION TO UNIT'S CABINET SHALL BE PERMITTED AFTER LEAK TEST. NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.
- 8 EXISTING DUCTWORK TO REMAIN. CONTRACTOR TO VERIFY EXISTING DUCTWORK SIZING AND LOCATION. PROVIDE NEW TRANSITIONS AND FITTINGS AS REQUIRED.
- (9) EXISTING VARIABLE FREQUENCY DRIVE TO BE REMOVED AND REPLACED WITH NEW. REUSE EXISTING CONDUIT. CONTRACTOR SHALL FIELD VERIFY HORSEPOWER.



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LEAF English
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ENA PARK ISD - CUNNINGHAM MS - HVAC UPGRADES E FOR PROPOSAL

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KEYED NOTES:

- EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT SCHEDULE FOR REFERENCE.
- 3 EXISTING CEILING EXHAUST FAN TO REMAIN. UPGRADE TO FULL DDC CONTROLS.



HOUSTON LEAF Engine

HOUSTON LEAFEngineers

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Houston,TX 77046

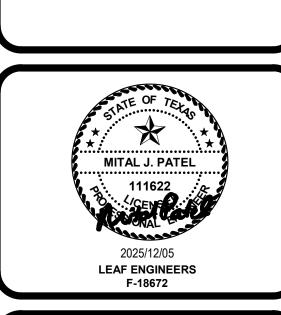
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GALENA PARK ISD

DATE PROJECT NUMBER 2025/12/05 25037301

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MECHANICAL PLAN
AREA B
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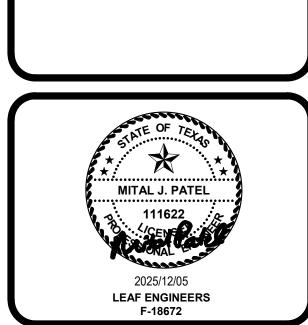
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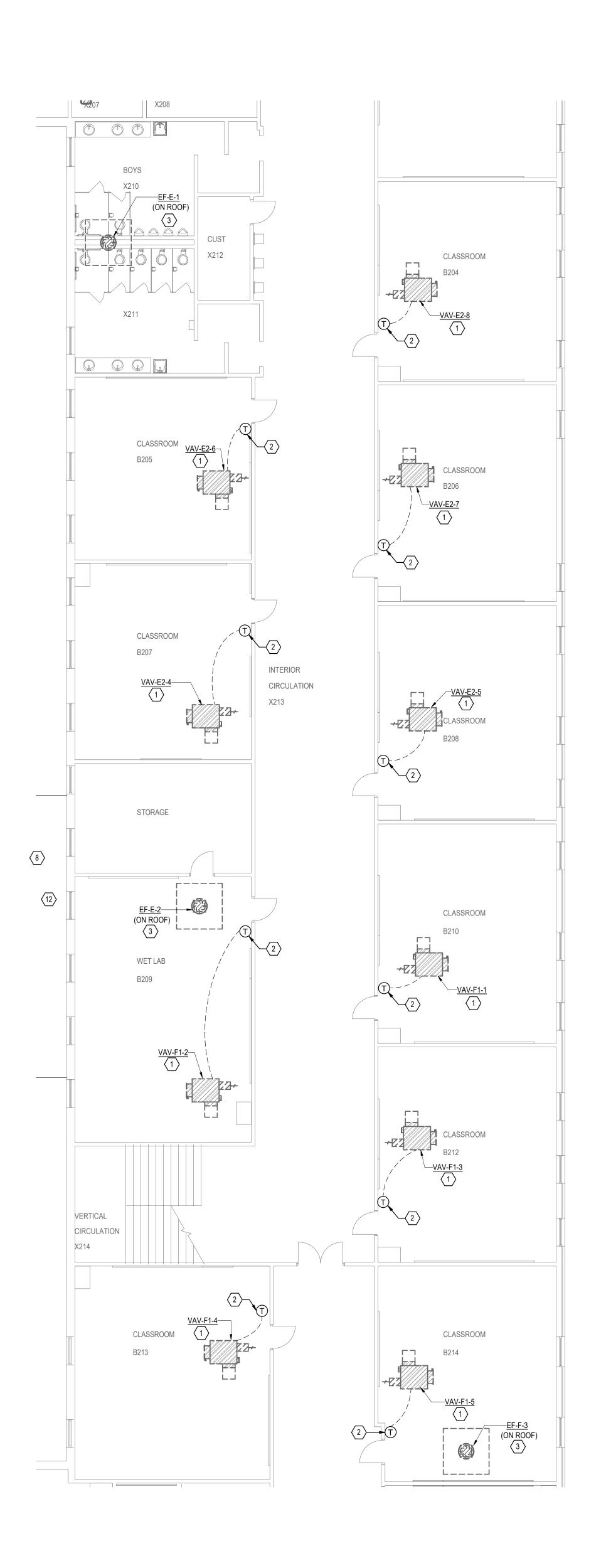
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 $\boxed{3}$ EXISTING EXHAUST FAN TO REMAIN ON ROOF. UPGRADE TO FULL DDC CONTROLS.



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BOYS X227 SCIENCE LAB D242 **GIRLS** X228 _____ INTERIOR EF-CP-1 (ON ROOF) CLASSROOM CIRCULATION D239 3 CLASSROOM VAV-B3-1 1 D236 VFD-AHU-A1 VERTICAL CIRCULATION CLASSROOM <u>VAV-A1-4</u>(1)

KEYED NOTES:

- EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT SCHEDULE FOR REFERENCE.
- PREPLACE EXISTING SENSORS, ASSOCIATED WIRING AND CONTROLS WITH NEW. REUSE EXISTING CONDUITS.
- (3) EXISTING EXHAUST FAN TO REMAIN ON ROOF. UPGRADE TO FULL DDC CONTROLS.
- EXISTING 24" x 24" DUCTWORK UPTO ASSOCIATED INTAKE HOOD TO REMAIN. REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE REPLACED.
- (5) EXISTING 22" x 22" DUCTWORK UPTO ASSOCIATED INTAKE HOOD TO REMAIN. REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE REPLACED.
- 6 EXISTING 20" x 20" DUCTWORK UPTO ASSOCIATED INTAKE HOOD TO REMAIN. REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE REPLACED.

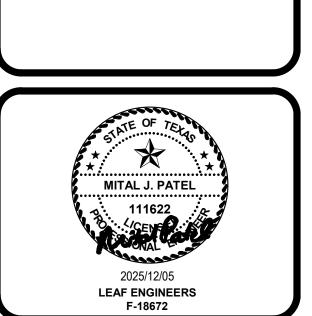
DUCT INSULATION AT THE AREA OF CONSTRUCTION. CONTROL WIRING TO BE REPLACED.

- 7 EXISTING 16" x 16" DUCTWORK UPTO ASSOCIATED INTAKE HOOD TO REMAIN. REMOVE EXISTING MOTORIZED DAMPER AND ASSOCIATED ACTUATOR AND PROVIDE NEW. CONTRACTOR TO FIELD VERIFY EXISTING DAMPER SIZE PRIOR TO BID. PROVIDE NEW
- 8 EXISTING AIR HANDLING UNIT, ASSOCIATED DUCTWORK TO REMAIN. REMOVE EXISTING CONTROLS, CHILLED AND HEATING WATER CONTROL VALVES, DUCT DAMPERS, ASSOCIATED ACTUATORS, CONTROL WIRING AND REPLACE WITH NEW. UNIT SHALL BE UPGRADED TO NEW CONTROLS SYSTEM. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DIAGRAMS. ANY NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.
- 9 EXISTING PIPING TO REMAIN.
- $\overline{\langle 10 \rangle}$ REPLACE EXISTING ROOF MOUNTED AIR COOLED CONDENSING UNITS WITH NEW.
- REPLACE EXISTING DX COIL SECTION WITH NEW COIL. PROVIDE LEAK TEST REPORT AFTER COMPLETION OF UNIT ASSEMBLY. NO FURTHER PENETRATION TO UNIT'S CABINET SHALL BE PERMITTED AFTER LEAK TEST. NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING. ROUTE NEW LIQUID & SUCTION REFRIGERANT PIPING FROM INDOOR AIR HANDLING UNIT TO OUTDOOR CONDENSING UNIT ON ROOF. SIZE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SNAP-N'-SHIELD REFRIGERANT PIPING SUPPORTS. PROVIDE LONG RADIUS ELBOWS AT ALL PIPE TURNS. REFER TO DETAILS. ALL EXPOSED AND OUTDOOR REFRIGERANT PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET.
- EXISTING VARIABLE FREQUENCY DRIVE TO BE REMOVED AND REPLACED WITH NEW. REUSE EXISTING CONDUIT. CONTRACTOR SHALL FIELD VERIFY HORSEPOWER.



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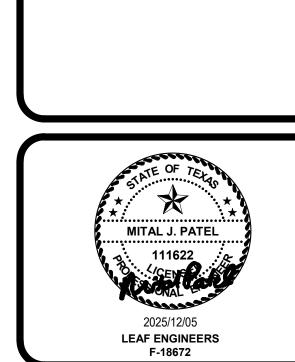
KEYED NOTES:

- EXISTING FAN POWERED TERMINAL UNIT AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS. ALL CONTROL REPLACEMENT COMPONENTS SHALL FIT INSIDE THE EXISTING CONTROL ENCLOSURE. REFER TO EXISTING FAN POWERED TERMINAL UNIT SCHEDULE FOR REFERENCE.
- $\fbox{2} \ \text{REPLACE EXISTING SENSORS, ASSOCIATED WIRING AND CONTROLS WITH NEW.} \\ \text{REUSE EXISTING CONDUITS.}$
- (3) EXISTING EXHAUST FAN TO REMAIN ON ROOF. UPGRADE TO FULL DDC CONTROLS.
 (4) EXISTING CEILING EXHAUST FAN TO REMAIN. UPGRADE TO FULL DDC CONTROLS.

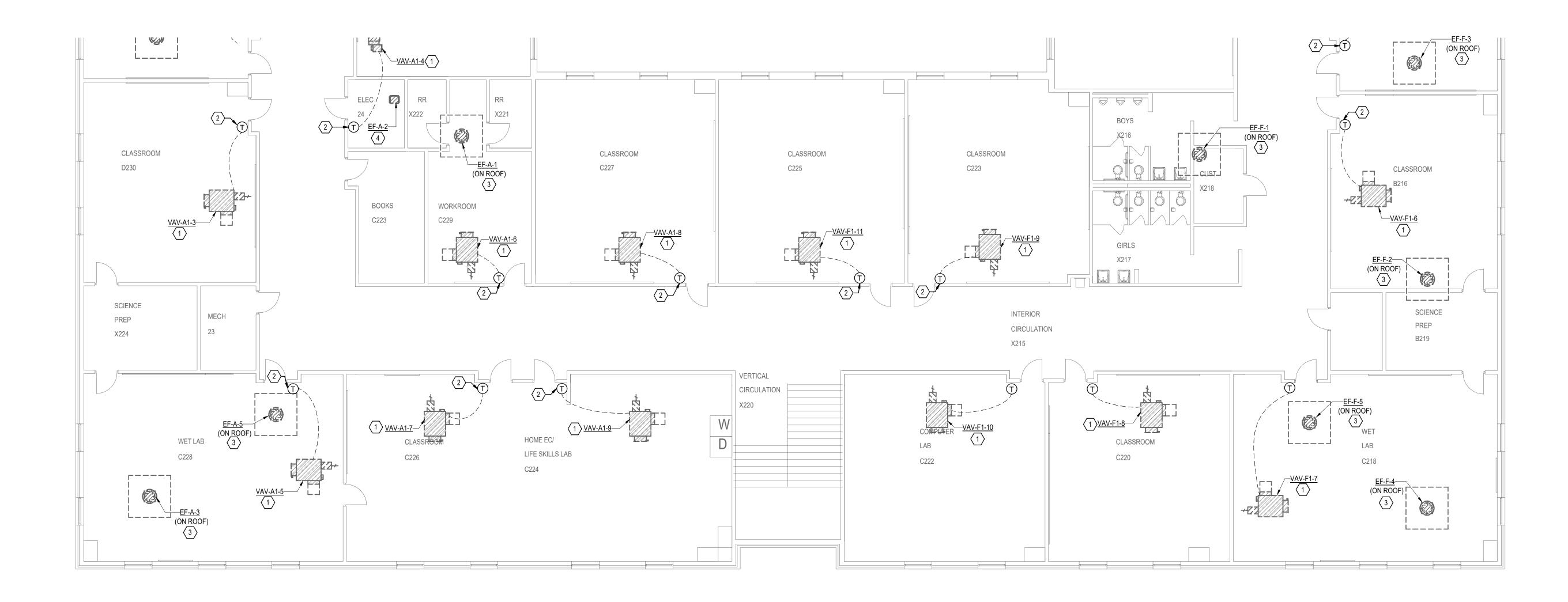


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GALENA PARK ISD - CUNNINGHAM MS - HVAC UPGRADES - ISSUE FOR PROPOSAL



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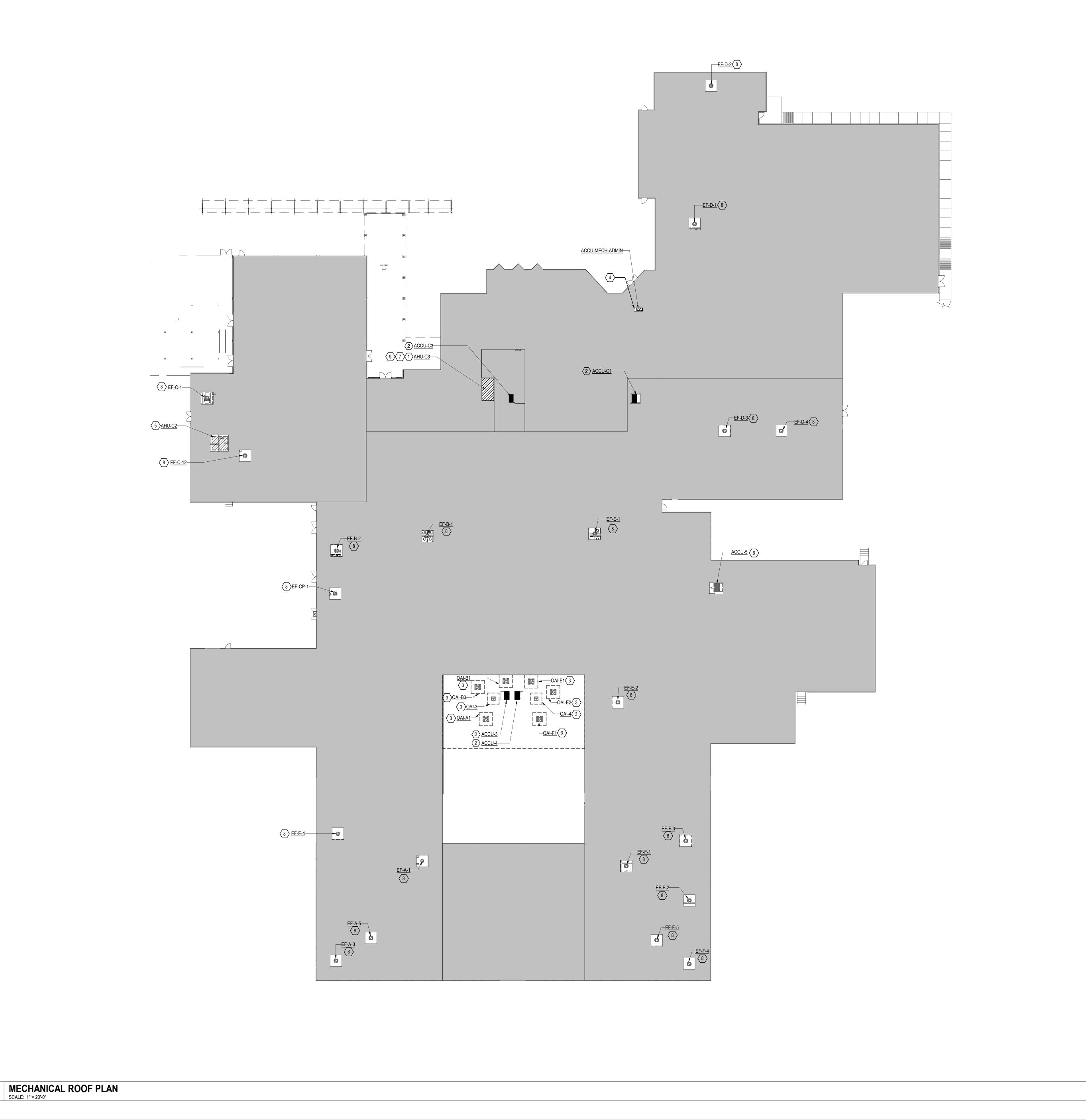
2ND FLOOR MECHANICAL PLAN - AREA E - CUMMINGHAM SCALE: 1/8" = 1'-0"

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KEYED NOTES

- $\langle 1 \rangle$ DX COIL TO BE REPLACED IN EXISTING RTU.
- (2) REPLACE EXISTING ROOF MOUNTED ACCU, ASSOCIATED ROOF SUPPORTS WITH NEW.
- (3) EXISTING INTAKE AIR HOOD TO REMAIN.
- PROVIDE STAINLESS STEEL HOOD. REFRIGERANT PIPE FROM LOWER LEVEL.
 SIZE PER MANUFACTURER RECOMMENDATION. REFER TO DETAIL. PROVIDE PORTABLE
 PIPE SUPPORTS EVERY 3'. ALL OUTDOOR EXPOSED REFRIGERANT PIPING SHALL BE
 PROVIDED WITH ALUMINUM JACKETING.
- EXISTING AIR HANDLING UNIT, ASSOCIATED DUCTWORK TO REMAIN. REMOVE EXISTING CONTROLS, CHILLED AND HEATING WATER CONTROL VALVES, DUCT DAMPERS, ASSOCIATED ACTUATORS, CONTROL WIRING AND REPLACE WITH NEW. UNIT SHALL BE UPGRADED TO NEW CONTROLS SYSTEM. REPLACE EXISTING CHILLED AND HEATING WATER PIPING FROM COIL CONNECTION TO EXISTING MANUAL ISOLATION VALVE INCLUDING ISOLATION VALVE. REFER TO PIPING DIAGRAMS. ANY NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING. PROVIDE NEW ACTUATORS LOCATED OUTDOORS IN WEATHERPROOF ENCLOSURES.
- 6 EXISTING ROOF MOUNTED CONDENSING UNIT TO REMAIN. REPLACE EXISTING CONTROLS, WIRING WITH NEW.
- REPLACE EXISTING DX COIL SECTION WITH NEW COIL. PROVIDE LEAK TEST REPORT AFTER COMPLETION OF UNIT ASSEMBLY. NO FURTHER PENETRATION TO UNIT'S CABINET SHALL BE PERMITTED AFTER LEAK TEST. NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING. ROUTE NEW LIQUID & SUCTION REFRIGERANT PIPING FROM INDOOR AIR HANDLING UNIT TO OUTDOOR CONDENSING UNIT ON ROOF. SIZE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SNAP-N'-SHIELD REFRIGERANT PIPING SUPPORTS. PROVIDE LONG RADIUS ELBOWS AT ALL PIPE TURNS. REFER TO DETAILS. ALL EXPOSED AND OUTDOOR REFRIGERANT PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET.
- 8 EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK TO REMAIN. REPLACE EXISTING CONTROLS AND ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS.
- MANUFACTURER SHALL VERIFY THAT NEW VARIABLE FREQUENCY DRIVE SHALL FIT INSIDE UNIT CABINET WHERE EXISTING VARIABLE FREQUENCY DRIVE IS.



HOUSTON LEAF Engineers

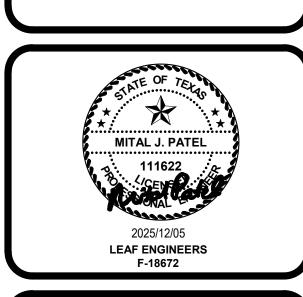
HOUSTON LEAFEngineers.com

11 Greenway Plaza, 15th Floor
Houston,TX 77046
713-965-0608 P
713-961-4571 F

TX Firm: F-18672

GALENA PARK ISD - CUNNINGHAM MS - HVAC UPGRADES - ISSUE FOR PROPOSAL





| | CLI | ENI | | | | | | | | |
|-----------------|--------------------|--------------|-----|--|--|--|--|--|--|--|
| GALENA PARK ISD | | | | | | | | | | |
| | DATE 2025/12/05 | PROJECT 2503 | | | | | | | | |
| | | | | | | | | | | |
| | ING HISTORY | | | | | | | | | |
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| BUILDI | NG NUMBER | | | | | | | | | |

CHECKED BY: MP DRAWN BY: PLOT STAMP: 12/5/2025 12:16:55 PM MODULAR INDOOR CENTRAL-STATION AIR-HANDLING UNIT SCHEDULE

| DESIGNATION S | OEDVICE. | TYPE ARR | ARRANGEMENT | MANUEACTUR | | DIMENSIONS /L W IIV INCHES | | | | | | | BLOWER DATA | | | | | COOLING COIL DATA | | | | | | | | | HEATING COIL DATA | | | | | | |
|---------------|-----------|-----------------|----------------------|------------|------------|-------------------------------|-------------------------|------------|-----------|-----------------|-------------------------|---------------------------------|------------------------------------|-----------------------------|-------------------|--------------|--------------|--------------------------|---------------|--------------|--------------|--------------|--------------|------------|----------------|-------------------|-------------------|--------------------------|------------|-----------------|---------------|----------------|-------------------------|
| | SERVICE | | AMANGEMENT | MANUFACTUR | ER MODEL I | DIMENSIONS (L x W x H) INCHES | OPERATING WEIGHT (LBS.) |) SEE NOTE | TOTAL CFM | OUTSIDE AIR CFN | EST. EXT. SP. (IN. WG.) | MAX. ALLOWABLE TOTAL BRAKE H.P. | MOTOR QTY / MAX. MOTOR H.P. (EACH) | VARIABLE FREQUENCY DRIVE H. | P. TYPE | VOLTAGE C | FM OVER COIL | MAX. FACE VELOCITY (FPM) | SENSIBLE BTUH | TOTAL BTUH E | AT (°F DB) E | AT (°F WB) L | AT (°F DB) G | M EWT (°F) | LWT (°F) 2-WAY | Y OR 3-WAY VALVES | CFM OVER COIL | MAX. FACE VELOCITY (FPM) | TOTAL BTUH | EAT (°F DB) LAT | T (°F DB) GPM | / EWT (°F) LWT | (°F) 2-WAY OR 3-WAY VAL |
| AHU-08 | LOCKERS | SINGLE ZONE VAV | HORIZONTAL DRAW-THRU | TEMTROL | ITF | 78" x 61" x 50" | 2,000 | 1-14 | 5,350 | 375 | 1.0 | 4.14 | 1 / 5.0 | 5 | DIRECT DRIVE - PF | 460 / 3 / 60 | 5,350 | 500 | 145,962 | 198,713 | 79°F | 66°F | 54°F 2 | 42°F | 58°F | 2-WAY | 5,350 | 750 | 144,450 | 60°F | 85°F 10 | 180°F 150 | °F 2-WAY |
| AHU-09 | GYM | SINGLE ZONE VAV | HORIZONTAL DRAW-THRU | TEMTROL | ITF | 74" x 67" x 53" | 2,300 | 1-14 | 6,640 | 1,000 | 1.0 | 6.04 | 1 / 7.5 | 7 1/2 | DIRECT DRIVE - PF | 460 / 3 / 60 | 6,640 | 500 | 191,549 | 265,147 | 81ºF | 67°F | 54°F 3 | 42°F | 58°F | 2-WAY | 6,640 | 750 | 179,280 | 60°F | 85°F 12 | 2 180°F 150° | °F 3-WAY |
| AHU-10 | GYM | SINGLE ZONE VAV | HORIZONTAL DRAW-THRU | TEMTROL | ITF | 74" x 67" x 53" | 2,200 | 1-14 | 6,090 | 1,000 | 1.0 | 5.16 | 1 / 7.5 | 7 1/2 | DIRECT DRIVE - PF | 460 / 3 / 60 | 6,090 | 500 | 177,293 | 244,794 | 81°F | 67°F | 54°F 3 | 42°F | 58°F | 2-WAY | 6,090 | 750 | 164,430 | 60°F | 85°F 11 | 180°F 150 | °F 3-WAY |
| <u>AHU-11</u> | CAFETERIA | SINGLE ZONE VAV | VERTICAL DRAW-THRU | TEMTROL | ITF | 72" x 61" x 123" | 4,100 | 1-14 | 8,400 | 1,875 | 1.0 | 5.40 | 1/10.0 | 10 | DIRECT DRIVE - PF | 460 / 3 / 60 | 8,400 | 500 | 254,178 | 367,847 | 82°F | 68°F | 54°F 4 | 42°F | 58°F | 2-WAY | 8,400 | 750 | 226,800 | 60°F | 85°F 15 | 5 180°F 150° | °F 3-WAY |

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS.

2. ESTIMATED EXTERNAL STATIC PRESSURE INCLUDES LOSSES THROUGH DUCTWORK, AIR DEVICES, SOUND ATTENUATORS, ETC.

3. AIR HANDLING UNIT INTERNAL STATIC PRESSURE SHALL INCLUDE LOSSES THROUGH COILS, CASING, INTERNAL DAMPERS, AND 0.75" W.G. FOR DIRTY FILTERS.

4. COILS PRESSURE DROP THROUGH COIL SHALL NOT EXCEED 15 FT. AT SCHEDULED GPM.

5. PROVIDE VARIABLE FREQUENCY DRIVE.

6. FAN CONSTRUCTION SHALL BE MINIMUM AMCA CLASS II.

7. PROVIDE FACTORY MOUNTED AND WIRED EXTERNAL JUNCTION BOXES ON FAN SECTION. J-BOX SHALL ALLOW ELECTRICAL CONTRACTOR TO LAND POWER TO DEVICE WITHOUT PENETRATING THROUGH CABINET. FIELD INSTALLED JUNCTION BOXES ARE NOT ACCEPTABLE.

8. PROVIDE FACTORY MOUNTED SHAFT GROUNDING KIT FOR AIR HANDLING UNIT MOTOR, NO EXCEPTIONS.

9. PROVIDE WITH FLAT MERV 13 FILTERS.

10. UNITS WITH MULTIPLE FANS AND MOTORS, PROVIDE FACTORY INSTALLED AND WIRED MOTOR OVERLOAD PANEL FOR CONNECTION TO A SINGLE VFD.

11. ALL COILS SHALL BE FULLY DIPPED AND BAKED (E-COAT) WITH UV TOP COAT.

12. PROVIDE HOT WATER COIL IN RE-HEAT POSITION.

13. PROVIDE A RAPID KNOCK-DOWN UNIT. UNIT SHALL FIT THRU 36" EXISTING DOOR. CONTRACTOR TO FIELD VERIFY EXISTING CONDITION PRIOR TO ORDERING.

14. AHU MANUFACTURER TO PROVIDE UVC LIGHT SECTION DOWNSTREAM OF COOLING COIL TO BE FIELD INSTALLED WITH STAINLESS STEEL DRAIN PAN. PROVIDE WITH ACCESS DOOR KILL SWITCHES FOR THE UVC LIGHT.

| | AIR COOLED REFRIGERANT CONDENSER SCHEDULE | | | | | | | | | | | | | | | |
|---------------|---|--------------|--------------|-------|-----------------|----------------------------|--------------|------------------------|-------------|--------------------|----------------------|--------------------|----------------|-------------------|--------|-----|
| DEGIONATION . | 0557/105 | MANUFACTURER | MODEL NUMBER | NOTES | CARACITY (TONG) | DIMENSIONS (LANGLE) INSUES | MEIOUT (II) | EED AT AUDI CONDITIONS | | COMPRESSOR D | ATA | CONDENS | SER DATA | ELECTRICAL INF | ORMATI | ON |
| DESIGNATION | SERVICE | MANUFACTURER | MODEL NUMBER | NOTES | CAPACITY (TONS) | DIMENSIONS (LxWxH) INCHES | WEIGHT (lbs) | EER AT AHRI CONDITIONS | REFRIGERANT | NUMBER OF CIRCUITS | NUMBER OF COMPRESORS | AMBIENT TEMP. (°F) | NUMBER OF FANS | VOLTAGE / PH / HZ | MCA | MOC |
| ACCU-C1 | AHU-C1 | LG | ARUM | 1-5 | 12.5 | 49" x 30" x 67" | 700 | 10.4 | R-410a | 2 | 2 | 105°F | 2 | 460 / 3 / 60 | 28.5 | 35 |
| ACCU-C3 | AHU-C3 | LG | ARUM | 1-5 | 15 | 49" x 30" x 67" | 700 | 10.5 | R-410a | 2 | 2 | 105°F | 2 | 460 / 3 / 60 | 35.7 | 50 |
| ACCU-3 | AHU-3 | LG | ARUM | 1-5 | 20 | 49" x 30" x 67" | 700 | 9.7 | R-410a | 2 | 2 | 105°F | 2 | 460 / 3 / 60 | 41.4 | 50 |
| ACCU-4 | AHU-4 | LG | ARUM | 1-5 | 20 | 49" x 30" x 67" | 700 | 9.7 | R-410a | 2 | 2 | 105°F | 2 | 460 / 3 / 60 | 41.4 | 50 |
| | | | | | | | | | | | | | | | | |

1. REFERENCE ELECTRICAL DRAWINGS FOR FURTHER ELECTRICAL INFORMATION

2. PROVIDE LOW AMBIENT CONTROL TO 0°F.

3. PROVIDE WITH EPOXY COATED CONDENSER COILS.

4. PROVIDE WITH VARIABLE SCROLL COMPRESSOR.

5. CONDENSING UNIT SHALL BE PROVIDED WITH EEV KIT, STAT, AND ALL NECESSARY CONTROLS FOR OPERATION.

| | DX COIL SCHEDULE | | | | | | | | | | | | | | |
|-------------|------------------|-----------------|--------------|-------|-------------------------------|-------------|----------|---------------|--------------------------|-------------------|------------|-------------|-------------|-------------|--|
| DESIGNATION | SERVICE | TYPE | MANUFACTURER | MODEL | DIMENSIONS (L x W x H) INCHES | REFRIGERANT | | | | COOLING COIL DATA | | | | | |
| DESIGNATION | SERVICE | ITPE | MANUFACTURER | MODEL | DIMENSIONS (L x W x H) INCHES | REFRIGERANT | SEE NOTE | CFM OVER COIL | MAX. FACE VELOCITY (FPM) | SENSIBLE BTUH | TOTAL BTUH | EAT (°F DB) | EAT (°F WB) | LAT (°F DB) | |
| | | | | | | | | | | | | | | | |
| AHU-C1 | ADMIN | SINGLE DUCT VAV | TEMTROL | 4DX | 12" x 54" x 27.5" | R-410a | 1-4 | 4,810 | 500 | 133,800 | 142,900 | 78.9°F | 64.0°F | 54°F | |
| AHU-C3 | LIBRARY | SINGLE ZONE VAV | TEMTROL | 4DX | 14" x 63" x 35" | R-410a | 1-4 | 4,460 | 500 | 150,400 | 189,900 | 75.0°F | 62.4°F | 55°F | |
| AHU-3 | AUDITORIUM | SINGLE ZONE VAV | TEMTROL | 4DX | 12" x 53" x 27.5" | R-410a | 1-4 | 4,455 | 500 | 163,400 | 227,000 | 75.0°F | 62.4°F | 55°F | |
| AHU-4 | AUDITORIUM | SINGLE ZONE VAV | TEMTROL | 4DX | 12" x 53" x 27.5" | R-410a | 1-4 | 4,455 | 500 | 163,400 | 227,000 | 75.0°F | 62.4°F | 55°F | |
| | | | | | | | | | | | | | | | |

PROVIDE MATCHING CONDENSING UNIT.

2. PROVIDE INTERTWINED COIL. 3. CONTRACTOR TO FIELD VERIFY EXISTING COIL DIMENSION AND MATCH EXACTLY.

4. UNIT IS EQUIPPED WITH DX COIL FOR AFTER HOUR USE.

2. UNIT SHALL BE RATED FOR 144 MPH WIND SPEED.

5. PROVIDE INVERTER DRIVEN COMPRESSOR.

CONTRACTOR. REFER TO ELECTRICAL DRAWINGS.

3. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

7. PROVIDE MATCHING CONDENSING UNIT FROM SAME MANUFACTURER.

4. PROVIDE REMOTE WALL MOUNTED PROGRAMMABLE THERMOSTAT WITH BACnet INTERFACE.

6. INDOOR UNIT IS POWERED BY THE OUTDOOR UNIT. INTERCONNECTING POWER WIRING FROM OUTDOOR TO INDOOR UNIT IS BY ELECTRICAL

| DUCTLESS MINI-SPLIT SYSTEM AIR-CONDITIONERS SCHE | DULE |
|--|-------------------|
| EVAPORATOR SECTION | |
| INDOOR EVAPORATOR DESIGNATION | FCU-MECH ADMIN |
| SERVICE | MECH ROOM - ADMIN |
| MANUFACTURER | MITSUBISHI |
| MODEL NUMBER | PKA-AK36NL |
| ТҮРЕ | WALL MOUNTED |
| WEIGHT (LBS.) | 100 |
| NOTES | 1-7 |
| FAN DATA | |
| SUPPLY CFM | 550 |
| COOLING / HEATING COIL | DX |
| NOMINAL TONNAGE | 3.0 TONS |
| ENTERING AIR EVAP (DB/WB) °F - COOLING MODE | 80°F / 67°F |
| ENTERING AIR EVAP (DB/WB) °F - HEATING MODE | 70°F / 60°F |
| TOTAL BTUH COOLING | 33,800 |
| TOTAL BTUH HEATING | |
| AIR-COOLED CONDENSER | |
| DESIGNATION | ACCU - MECH-ADMIN |
| SERVES | FCU-MECH ADMIN |
| LOCATION | ROOF |
| MANUFACTURER | MITSUBISHI |
| MODEL NUMBER | PUY-AK36NL |
| EFFICIENCY (SEER) | 18.5 |
| VOLTS/PH/HZ | 208 / 1 / 60 |
| MCA | 34.0 |
| MOCP | 56 |
| REFRIGERANT | R-454B |
| AMBIENT TEMPERATURE °F | 95°F |
| WEIGHT (LBS.) | 250 |
| NOTES | |
| REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA. | |

| DESIGNATION | NOTES | LOCATION | SERVICE | CFM |
|------------------|-------|----------|----------------|-------------|
| <u>EF-A-1</u> | 1 | ROOF | RESTROOMS | 300 |
| <u>EF-A-2</u> | 1 | CEILING | ELEC | 200 |
| <u>EF-A-3</u> | 1 | ROOF | SCIENCE | 1,695 |
| <u>EF-A-4</u> | 1 | ROOF | SCIENCE | 1,865 |
| <u>EF-A-5</u> | 1 | ROOF | SCIENCE | 1,695 |
| <u>EF-A-6</u> | 1 | CEILING | RESTROOMS | 200 |
| <u>EF-B-1</u> | 1 | ROOF | RESTROOMS | 1,850 |
| <u>EF-B-2</u> | 1 | ROOF | SCIENCE | 2,270 |
| <u>EF-C-1</u> | 1 | ROOF | KITCHEN HOOD | 2,245 |
| EF-C-2,3,4,5,6 | 1 | CEILING | RESTROOMS | 90 |
| EF-C-7,8,9,10,11 | 1 | CEILING | RESTROOMS | 200 |
| EF-C-12 | 1 | ROOF | DISHWASHER | 600 |
| <u>EF-D-1</u> | 1 | ROOF | LOCKERS | 1,440 |
| <u>EF-D-2</u> | 1 | ROOF | LOCKERS | 830 |
| <u>EF-D-3</u> | 1 | ROOF | LOCKERS | 1,065 |
| <u>EF-D-4</u> | 1 | ROOF | LOCKERS | 1,060 |
| <u>EF-E-1</u> | 1 | ROOF | RESTROOMS | 1,850 |
| EF-E-2 | 1 | ROOF | SCIENCE | 1,275 |
| <u>EF-E-3</u> | 1 | PLENUM | RESTROOMS | 100 |
| <u>EF-F-1</u> | 1 | ROOF | RESTROOMS | 1,550 |
| <u>EF-F-2</u> | 1 | ROOF | SCIENCE | 1,785 |
| <u>EF-F-3</u> | 1 | ROOF | SCIENCE | 1,785 |
| <u>EF-F-4</u> | 1 | ROOF | SCIENCE | 1,630 |
| <u>EF-F-5</u> | 1 | ROOF | SCIENCE | 1,765 |
| EF-CP-1 | 1 | ROOF | CHILLER ROOM | 2650 / 1325 |
| EF-CP-2 | 1 | WALL | MAN ELEC | 1,580 |
| RSF-C-1 | 1 | ROOF | KITCHEN MAKEUP | 1,800 |

| DESIGNATION | SERVICE | NOTES | СЕМ | OUTSIDE AIR CFM | lup l | MAIN CHILLED WATER COIL | | | MAIN HEATING WATER COIL | | | PRE-COOL CHILLED WATER COI | L | | PRE-HEATING WATER COIL | |
|--------------|-----------------|-------|--------|-----------------|------------|------------------------------|----------------|------|------------------------------|----------------|------|------------------------------|----------------|-----|------------------------------|---------------|
| DESIGNATION | SERVICE | NOTES | CFM | OUTSIDE AIR CHM | H.P. GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) | GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) | GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) | GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN |
| AHU-A1 | S.W CLASSROOMS | 1-5 | 12,000 | 3,365 | 15 61.6 | 2-WAY | 2-1/2 | 3.6 | 2-WAY | 3/4 | - | - | - | - | - | - |
| AHU-B1 | WEST CLASSROOMS | 1-5 | 13,950 | 4,325 | 20 61.6 | 3-WAY | 2-1/2 | 4.7 | 3-WAY | 1 | - | - | - | - | - | - |
| AHU-B2 | TECH LAB AREA | 1-5 | 4,230 | 1,260 | 5 23.8 | 3-WAY | 1-1/2 | 1.5 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-B3 | N.W CLASSROOMS | 1-5 | 11,695 | 3,420 | 15 64.4 | 3-WAY | 2-1/2 | 3.7 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-C1 | ADMIN | 1-5 | 4,810 | 665 | 5 17.9 | 3-WAY | 1-1/2 | 1.2 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-E1 | EAST CLASSROOMS | 1-5 | 15,195 | 4,850 | 20 80.8 | 3-WAY | 3 | 5.2 | 3-WAY | 1 | - | - | - | - | - | - |
| AHU-E2 | N.E CLASSROOMS | 1-5 | 9,750 | 2,040 | 15 54.8 | 3-WAY | 2-1/2 | 3.3 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-F1 | S.E CLASSROOMS | 1-5 | 12,790 | 3,990 | 15 69.4 | 2-WAY | 2-1/2 | 4.3 | 2-WAY | 1 | - | - | - | - | - | - |
| AHU-3 | AUDITORIUM | 1-5 | 5,830 | 1,375 | 7 1/2 13.9 | 3-WAY | 1-1/4 | 9.9 | 3-WAY | 1-1/4 | 14.5 | 3-WAY | 1-1/4 | 3.5 | 3-WAY | 3/4 |
| AHU-4 | AUDITORIUM | 1-5 | 5,830 | 1,375 | 7 1/2 13.9 | 3-WAY | 1-1/4 | 9.9 | 3-WAY | 1-1/4 | 14.5 | 3-WAY | 1-1/4 | 3.5 | 3-WAY | 3/4 |
| AHU-5 | BAND HALL | 1-5 | 5,315 | 1,050 | 5 31.0 | 2-WAY | 2 | 11.1 | 2-WAY | 1-1/4 | - | - | - | | - | - |
| AHU-7 | <u>GYM</u> | 1-5 | 11,520 | 3,875 | 15 26.4 | 3-WAY | 2 | 19.7 | 3-WAY | 1-1/2 | 29.1 | 3-WAY | 2 | 7.3 | 3-WAY | 1 |
| AHU-C2 | KITCHEN | 1-5 | 7,055 | 1,300 | 7 1/2 17.6 | 3-WAY | 1-1/2 | 11.6 | 3-WAY | 1-1/4 | 13.2 | 3-WAY | 1-1/4 | 3.3 | 3-WAY | 3/4 |
| AHU-C3 | <u>LIBRARY</u> | 1-5 | 5,570 | 1,110 | 7 1/2 13.6 | 3-WAY | 1-1/4 | 11.3 | 3-WAY | 1-1/4 | 11.7 | 3-WAY | 1-1/4 | 2.8 | 3-WAY | 3/4 |
| AHU-D1 | LOCKERS | 1-5 | 2,725 | 740 | 2 16.2 | 3-WAY | 1-1/2 | 6.0 | 3-WAY | 1 | - | - | - | - | - | - |
| <u>AH-9</u> | CHORAL ROOM | 1-5 | 2,875 | 300 | 3 12.0 | 3-WAY | 1-1/4 | 6.0 | 3-WAY | 1 | - | - | - | - | - | - |
| <u>AH-10</u> | MUSIC | 1-5 | 2,875 | 300 | 3 12.0 | 3-WAY | 1-1/4 | 6.0 | 3-WAY | 1 | _ | - | - | - | - | - |

1. EXISTING AIR HANDLING UNIT TO REMAIN. UPGRADE WITH NEW DDC CONTROLS.

2. CONTRACTOR TO FIELD VERIFY EXISTING PIPE SIZE PROIR TO SUBMITTING CONTROL VALVE FOR REVIEW.

3. CONTRACTOR TO PROVIDE NEW PIPING INSULATION FOR ENTIRE SUPPLY AND RETURN BRANCH PIPING; MATCH EXISTING ADJACENT PIPING THICKNESS.

4. REFER TO EXISTING COIL PIPING ACCESSORY DETAIL 02 / 04 / M-601.

5. REPLACE EXISTING VFD WITH NEW; MATCH EXISTING H.P.

| | HVAC FANS SCHEDULE | | | | | | | | | | | | | | | |
|-------------|--------------------|---------|--------------|--------------|-------|---------------|-------------|--------|-----|--------------------------|------------------|------------|---------------|--|--|--|
| DESIGNATION | LOCATION | SERVICE | MANUFACTURER | MODEL NUMBER | NOTES | WEIGHTS (LBS) | FAN DATA | | | | | | | | | |
| | LOCATION | | | MODEL NUMBER | | | TYPE | DRIVE | CFM | STATIC PRESSURE (" W.G.) | MOTOR HP. (MIN.) | RPM (MAX.) | VOLT / Ø / HZ | | | |
| EF-X127 | IDF X127 | IDF RM. | GREENHECK | SQ | 1-4 | 100 | CENTRIFUGAL | DIRECT | 200 | 0.50 | 1/12 | 1,550 | 120 / 1 / 60 | | | |
| | | | | | | | | | | | | | | | | |

. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.

REFERENCE SPECIFICATIONS FOR SEQUENCE OF OPERATIONS.

3. INTERLOCK FAN WITH THERMOSTAT SET TO 80° (ADJUSTABLE)

4. FAN SHALL BE PROVIDED WITH GREENHECK VARI-GREEN® CONTROL AND ECM MOTOR. STARTER SHALL BE PROVIDED BY FAN MANUFACTURER. JUNCTION BOX AND VARI-GREEN TRANSFORMER SHALL BE FACTORY MOUNTED AND WIRED.

| | HYDRONIC PUMP SCHEDULE | | | | | | | | | | | | |
|---------------|------------------------|-------------------------------------|-------|-------|----------------|------------|------------|--------------|------------|----------------|-------------------|--------------|---------------------|
| DESIGNATION | SERVICE | ТҮРЕ | NOTES | GPM | HEAD (FT. H20) | EFFICIENCY | RPM (MAX.) | MOTOR B.H.P. | MOTOR H.P. | VOLTS / Ø / HZ | MANUFACTURER | MODEL NUMBER | MINIMUM NPSHR (FT.) |
| PCHP-01 | WCCH-01 | HORIZONTAL BASE-MOUNTED END SUCTION | 1-4,7 | 482.1 | 54' | 92.4% | 1,800 | 10.14 | 15 | 460 / 3 / 60 | PENTAIRE / AURORA | 3804 | 7.23 |
| PCHP-02 | WCCH-02 | HORIZONTAL BASE-MOUNTED END SUCTION | 1-4,7 | 482.1 | 55' | 92.4% | 1,800 | 10.14 | 15 | 460 / 3 / 60 | PENTAIRE / AURORA | 3804 | 7.23 |
| SCHP-01 | BUILDING LOOP | HORIZONTAL BASE-MOUNTED END SUCTION | 1-6 | 482.1 | 88' | 92.4% | 1,800 | 17.37 | 20 | 460 / 3 / 60 | PENTAIRE / AURORA | 3804 | 6.55 |
| SCHP-02 | BUILDING LOOP | HORIZONTAL BASE-MOUNTED END SUCTION | 1-6 | 482.1 | 88' | 92.4% | 1,800 | 17.37 | 20 | 460 / 3 / 60 | PENTAIRE / AURORA | 3804 | 6.55 |
| CWP-01 | WCCH-01 | HORIZONTAL BASE-MOUNTED END SUCTION | 1-4,7 | 921.7 | 75' | 93.6% | 1,800 | 25.03 | 30 | 460 / 3 / 60 | PENTAIRE / AURORA | 3804 | 9.32 |
| <u>CWP-02</u> | WCCH-02 | HORIZONTAL BASE-MOUNTED END SUCTION | 1-4,7 | 921.7 | 75' | 93.6% | 1,800 | 25.03 | 30 | 460 / 3 / 60 | PENTAIRE / AURORA | 3804 | 9.32 |
| | | | | | | | | | | | | | |

. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.

. IMPELLER SHALL NOT EXCEED 85% OF CUTWATER DIAMETER.

3. PUMP CURVE SHALL HAVE A MINIMUM OF 8 PSI DIFFERENTIAL BETWEEN 65% OF DESIGN FLOW AND 100% OF DESIGN FLOW.

PUMPS SHALL HAVE RE-GREASEABLE BEARINGS WITH ALEMITE FITTINGS; SEALED BEARINGS ARE UNACCEPTABLE.

5. PROVIDE VARIABLE FREQUENCY DRIVE FOR VARIABLE FLOW OPERATION.

6. PUMPS ARE TO BE SELECTED FOR PARALLEL OPERATION. Y. PROVIDE VARIABLE FREQUENCY DRIVE FOR SOFT START AND BALANCING PURPOSES.

| | EXISTING AIR HANDLING UNIT SCHEDULE | | | | | | | | | | | | | | | | |
|--------------|-------------------------------------|-------|--------|-----------------|-------|------|------------------------------|----------------|------|------------------------------|----------------|------|------------------------------|----------------|-----|------------------------------|----------------|
| DEGLOVATION | 050//05 | NOTES | 0514 | OUTOIDE AID OFM | | | MAIN CHILLED WATER COIL | | | MAIN HEATING WATER COIL | | | PRE-COOL CHILLED WATER COIL | - | | PRE-HEATING WATER COIL | |
| DESIGNATION | SERVICE | NOTES | CFM | OUTSIDE AIR CFM | H.P. | GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) | GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) | GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) | GPM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) |
| AHU-A1 | S.W CLASSROOMS | 1-5 | 12,000 | 3,365 | 15 | 61.6 | 2-WAY | 2-1/2 | 3.6 | 2-WAY | 3/4 | - | - | - | - | - | - |
| AHU-B1 | WEST CLASSROOMS | 1-5 | 13,950 | 4,325 | 20 | 61.6 | 3-WAY | 2-1/2 | 4.7 | 3-WAY | 1 | - | - | - | - | - | - |
| AHU-B2 | TECH LAB AREA | 1-5 | 4,230 | 1,260 | 5 | 23.8 | 3-WAY | 1-1/2 | 1.5 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-B3 | N.W CLASSROOMS | 1-5 | 11,695 | 3,420 | 15 | 64.4 | 3-WAY | 2-1/2 | 3.7 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-C1 | ADMIN | 1-5 | 4,810 | 665 | 5 | 17.9 | 3-WAY | 1-1/2 | 1.2 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-E1 | EAST CLASSROOMS | 1-5 | 15,195 | 4,850 | 20 | 80.8 | 3-WAY | 3 | 5.2 | 3-WAY | 1 | - | - | - | - | - | - |
| AHU-E2 | N.E CLASSROOMS | 1-5 | 9,750 | 2,040 | 15 | 54.8 | 3-WAY | 2-1/2 | 3.3 | 3-WAY | 3/4 | - | - | - | - | - | - |
| AHU-F1 | S.E CLASSROOMS | 1-5 | 12,790 | 3,990 | 15 | 69.4 | 2-WAY | 2-1/2 | 4.3 | 2-WAY | 1 | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | |
| AHU-3 | AUDITORIUM | 1-5 | 5,830 | 1,375 | 7 1/2 | 13.9 | 3-WAY | 1-1/4 | 9.9 | 3-WAY | 1-1/4 | 14.5 | 3-WAY | 1-1/4 | 3.5 | 3-WAY | 3/4 |
| AHU-4 | AUDITORIUM | 1-5 | 5,830 | 1,375 | 7 1/2 | 13.9 | 3-WAY | 1-1/4 | 9.9 | 3-WAY | 1-1/4 | 14.5 | 3-WAY | 1-1/4 | 3.5 | 3-WAY | 3/4 |
| <u>AHU-5</u> | BAND HALL | 1-5 | 5,315 | 1,050 | 5 | 31.0 | 2-WAY | 2 | 11.1 | 2-WAY | 1-1/4 | - | - | - | 1 | - | - |
| <u>AHU-7</u> | <u>GYM</u> | 1-5 | 11,520 | 3,875 | 15 | 26.4 | 3-WAY | 2 | 19.7 | 3-WAY | 1-1/2 | 29.1 | 3-WAY | 2 | 7.3 | 3-WAY | 1 |
| AHU-C2 | KITCHEN | 1-5 | 7,055 | 1,300 | 7 1/2 | 17.6 | 3-WAY | 1-1/2 | 11.6 | 3-WAY | 1-1/4 | 13.2 | 3-WAY | 1-1/4 | 3.3 | 3-WAY | 3/4 |
| AHU-C3 | LIBRARY | 1-5 | 5,570 | 1,110 | 7 1/2 | 13.6 | 3-WAY | 1-1/4 | 11.3 | 3-WAY | 1-1/4 | 11.7 | 3-WAY | 1-1/4 | 2.8 | 3-WAY | 3/4 |
| AHU-D1 | <u>LOCKERS</u> | 1-5 | 2,725 | 740 | 2 | 16.2 | 3-WAY | 1-1/2 | 6.0 | 3-WAY | 1 | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | |
| <u>AH-9</u> | CHORAL ROOM | 1-5 | 2,875 | 300 | 3 | 12.0 | 3-WAY | 1-1/4 | 6.0 | 3-WAY | 1 | - | - | - | - | - | - |
| <u>AH-10</u> | <u>MUSIC</u> | 1-5 | 2,875 | 300 | 3 | 12.0 | 3-WAY | 1-1/4 | 6.0 | 3-WAY | 1 | - | - | - | - | - | - |

| | | | | | | HVAC FAN | IS SCHEDU | LE | | | | | |
|-------------|----------|---------|--------------|--------------|-------|---------------|-------------|--------|-----|--------------------------|------------------|------------|---------------|
| DESIGNATION | LOCATION | SERVICE | MANUEACTURER | MODEL NUMBER | NOTES | WEIGHTS (LBS) | | | | | | | |
| | LOCATION | SERVICE | MANUFACTURER | MODEL NUMBER | | | TYPE | DRIVE | CFM | STATIC PRESSURE (" W.G.) | MOTOR HP. (MIN.) | RPM (MAX.) | VOLT / Ø / HZ |
| EF-X127 | IDF X127 | IDF RM. | GREENHECK | SQ | 1-4 | 100 | CENTRIFUGAL | DIRECT | 200 | 0.50 | 1/12 | 1,550 | 120 / 1 / 60 |
| | | | | | | | | | | | | | |

| | F-18 | 3672 | |
|------|-------------|----------|------|
| | | | |
| | | ENT | |
| | GALENA | PARK ISD | |
| | DATE | PROJECT | - |
| | 2025/12/05 | 2503 | 7301 |
| DRAW | ING HISTORY | • | |
| No. | Descrip | tion | Date |
| | • | | |
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| | | | |
| - | | | |
| | | | |
| | 100115 500 | | |
| | ISSUE FOR | PROPOSAL | |

BUILDING NUMBER

11 Greenway Plaza, 15th Floor Houston,TX 77046 713-965-0608 P 713-961-4571 F TX Firm: F-18672

MECHANICAL

| Autodesk Docs://Galena Park ISD_240539_Galena Park HS Master Plan/M25-GPISD-HVAC Upgra |
|--|
| Docs://Galena Par |
| ILE PATH: Autodesk |
| CHECKED BY: |

DRAWN BY:

FS **PLOT STAMP:** 12/5/2025 12:16:55 PM

<u>VAV-F1-6</u> <u>VAV-F1-7</u>

<u>VAV-F1-8</u>

<u>VAV-F1-9</u>

<u>VAV-F1-10</u>

VAV-F1-11

1,700

1,090

1,770

1. EXISTING FAN POWERED TERMINAL UNIT TO REMAIN. REPLACE EXISTING CONTROLS, ASSOCIATED WIRING WITH NEW AND UPGRADE TO FULL DDC CONTROLS.

2-WAY

2-WAY

2-WAY

| EVIOLI | IG FAIN FOWE | NED TENIIINAL | BOX WITH HOT WATER | TILAI SCIILD | JLE |
|--------------------------------------|--------------|----------------|------------------------------|----------------|-------------|
| DESIGNATION | NOTES | COOLING CFM | 2-WAY OR 3-WAY CONTROL VALVE | PIPE SIZE (IN) | HEATING GPM |
| <u>VAV-A1-1</u> <u>VAV-A1-2</u> | 1 | 1,320 1,160 | 2-WAY 2-WAY | 3/4" | 2.4 |
| <u>VAV-A1-3</u> | 1 | 990 | 2-WAY | 3/4" | 1.8 |
| <u>VAV-A1-4</u> | 1 | 200 | 2-WAY | 3/4" | - |
| <u>VAV-A1-5</u> | 1 | 1,730 | 2-WAY | 3/4" | 3.1 |
| <u>VAV-A1-6</u> <u>VAV-A1-7</u> | 1 | 550 920 | 2-WAY 2-WAY | 3/4" | 1.5 |
| <u>VAV-A1-8</u> | 1 | 820 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-A1-9</u> | 1 | 1,350 | 2-WAY | 3/4" | 2.4 |
| <u>VAV-A1-10</u> | 1 | 1,190 | 2-WAY | 3/4" | 2.4 |
| <u>VAV-A1-11</u> | 1 | 730 1,040 | 2-WAY 2-WAY | 3/4" | 1.3 |
| <u>VAV-A1-12</u> | l | 1,040 | Z-VVAT | 3/4 | 1.9 |
| <u>VAV-B1-1</u> | 1 | 1,130 | 2-WAY | 3/4" | 2.0 |
| <u>VAV-B1-2</u> <u>VAV-B1-3</u> | 1 | 1,730 620 | 2-WAY 2-WAY | 3/4" | 3.1 1.5 |
| <u>VAV-B1-4</u> | 1 | 920 | 2-WAY | 3/4" | 1.7 |
| <u>VAV-B1-5</u> | 1 | 760 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-B1-6</u> | 1 | 1,450 | 2-WAY | 3/4" | 2.6 |
| <u>VAV-B1-7</u> <u>VAV-B1-8</u> | 1 | 780 200 | 2-WAY 2-WAY | 3/4" | 1.5 |
| <u>VAV-B1-9</u> | 1 | 930 | 2-WAY | 3/4" | 1.7 |
| <u>VAV-B1-10</u> | 1 | 1,550 | 2-WAY | 3/4" | 2.8 |
| <u>VAV-B1-11</u> | 1 | 1,180 | 2-WAY | 3/4" | 2.1 |
| <u>VAV-B1-12</u> <u>VAV-B1-13</u> | 1 | 1,030 830 | 2-WAY | 3/4" | 1.9 |
| <u>VAV-B1-14</u> | 1 | 1,460 | 2-WAY | 3/4" | 2.6 |
| | | | | | |
| <u>VAV-B2-1</u> <u>VAV-B2-2</u> | 1 | 960 | 2-WAY 2-WAY | 3/4" | 1.7 |
| <u>VAV-B2-3</u> | 1 | 1,260 | 2-WAY | 3/4" | 2.6 |
| <u>VAV-B2-4</u> | 1 | 960 | 2-WAY | 3/4" | 1.7 |
| <u>VAV-B3-1</u> | 1 | 740 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-B3-2</u> | 1 | 1,040 | 2-WAY | 3/4" | 1.9 |
| <u>VAV-B3-3</u> | 1 | 740 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-B3-4</u> | 1 | 1,190 | 2-WAY | 3/4" | 2.1 |
| <u>VAV-B3-5</u> <u>VAV-B3-6</u> | 1 | 1,910 1,215 | 2-WAY 2-WAY | 3/4" | 3.4 2.2 |
| <u>VAV-B3-7</u> | 1 | 1,040 | 2-WAY | 3/4" | 1.9 |
| <u>VAV-B3-8</u> | 1 | 1,170 | 2-WAY | 3/4" | 2.1 |
| <u>VAV-B3-9</u> | 1 | 730 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-B3-10</u> | 1 | 1,980 | 2-WAY | 3/4" | 3.6 |
| <u>VAV-C1-1</u> | 1 | 680 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-C1-2</u> <u>VAV-C1-3</u> | 1 | 845 820 | 2-WAY 2-WAY | 3/4" | 1.7 |
| <u>VAV-C1-4</u> | 1 | 810 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-C1-5</u> | 1 | 430 | 2-WAY | 3/4" | 1.0 |
| <u>VAV-C1-6</u> | 1 | 1,100 | 2-WAY | 3/4" | 2.0 |
| <u>VAV-E1-1</u> | 1 | 880 | 2-WAY | 3/4" | 1.6 |
| <u>VAV-E1-2</u> | 1 | 350 | 2-WAY | 3/4" | 1.0 |
| <u>VAV-E1-3</u> | 1 | 1,020 | 2-WAY | 3/4" | 1.8 |
| <u>VAV-E1-4</u> <u>VAV-E1-5</u> | 1 | 1,070 1,160 | 2-WAY 2-WAY | 3/4" | 1.9 2.1 |
| <u>VAV-E1-6</u> | 1 | 1,030 | 2-WAY | 3/4" | 1.9 |
| <u>VAV-E1-7</u> | 1 | 950 | 2-WAY | 3/4" | 1.8 |
| <u>VAV-E1-8</u> | 1 | 1,150 | 2-WAY | 3/4" | 2.1 |
| <u>VAV-E1-9</u> <u>VAV-E1-10</u> | 1 | 810 970 | 2-WAY 2-WAY | 3/4" | 1.5 |
| <u>VAV-E1-11</u> | 1 | 950 | 2-WAY | 3/4" | 1.7 |
| <u>VAV-E1-12</u> | 1 | 1,665 | 2-WAY | 3/4" | 3.0 |
| <u>VAV-E1-13</u> | 1 | 1,070 | 2-WAY | 3/4" | 1.9 |
| <u>VAV-E1-14</u> <u>VAV-E1-15</u> | 1 | 1,300 | 2-WAY 2-WAY | 3/4" | 2.3 |
| <u>VAV-E1-13</u> | l | 1,000 | Z-VVAT | 3/4 | 1.9 |
| <u>VAV-E2-1</u> | 1 | 1,170 | 2-WAY | 3/4" | 2.1 |
| <u>VAV-E2-2</u> <u>VAV-E2-3</u> | 1 | 1,450 1,090 | 2-WAY 2-WAY | 3/4" | 2.6 |
| <u>VAV-E2-3</u> | 1 | 800 | 2-WAY | 3/4" | 1.5 |
| <u>VAV-E2-5</u> | 1 | 1,020 | 2-WAY | 3/4" | 1.8 |
| <u>VAV-E2-6</u> | 1 | 1,920 | 2-WAY | 3/4" | 3.5 |
| VAV-E2-7 | 1 | 1,050 | 2-WAY | 3/4" | 1.9 |
| <u>VAV-E2-8</u> | 1 | 1,350 | 2-WAY | 3/4" | 2.4 |
| <u>VAV-F1-1</u> | 1 | 920 | 2-WAY | 3/4" | 1.7 |
| VAV-F1-2 | 1 | 1,260 | 2-WAY | 3/4" | 2.3 |
| <u>VAV-F1-3</u> <u>VAV-F1-4</u> | 1 | 1,050 | 2-WAY 2-WAY | 3/4" | 1.9 2.3 |
| <u>VAV-F1-5</u> | 1 | 970 | 2-WAY | 3/4" | 1.7 |
| VAV-F1-6 | 1 | 950 | 2-WAY | 3/4" | 1.7 |

EXISTING FAN POWERED TERMINAL BOX WITH HOT WATER HEAT SCHEDULE

| | | | DIFFUSERS, REGISTERS & GRILLES SCHEDULE |
|----------|---------------------|-----------------------|--|
| IGNATION | MODEL NUMBER | NOISE CRITERIA (NC) | DESCRIPTION |
| Α | TITUS PAR | 25 | 24x24 MODULE SIZE, LAY-IN BORDER TYPE, 22"x22" NECK SIZE UNLESS NOTED OTHERWISE. NO OPPOSED BLADE DAMPER, ALL STEEL CONSTRUCTION. FOR SHEETROCK CEILING INSTALLATION, PROVIDE WITH TITUS TRM ALUMINUM RAPID MOUNT FRAME. |
| В | TITUS PAR | 25 | 12x12 MODULE SIZE, LAY-IN BORDER TYPE, 10"x10" NECK SIZE UNLESS NOTED OTHERWISE. NO OPPOSED BLADE DAMPER, ALL STEEL CONSTRUCTION. FOR SHEETROCK CEILING INSTALLATION, PROVIDE WITH TITUS TRM ALUMINUM RAPID MOUNT FRAME. |
| OVIDE RO | TO-TWIST CABLE OPER | ATED DAMPERS AT IN GY | P BOARD CEILINGS. |

| | | E | XISTII | NG NON-C | ONDENSING E | BOILER | SCHEE | ULE | | |
|----------------|-----------------------|------------------|----------|-------------|--------------------|-------------|-------------|-------|------------------------|-------------------|
| DECICNATION | TVDE | LOCATION | NOTES | BURNER FUEL | MIN OUTDUT (PTUU) | E M T (%E) | 1 M T (%E) | GPM - | CIRCULATING PUMP ELECT | RICAL INFORMATION |
| DESIGNATION | TYPE | LOCATION | NOTES | DURNER FUEL | MIN. OUTPUT (BTUH) | E.W.T. (°F) | L.W.T. (°F) | GPIVI | DESIGNATION | MAX H.P. |
| <u>B-01</u> | NON-CONDENSING | BOILER ROOM | 1 | NAT. GAS | 1,275,000 | 160°F | 180°F | 128 | PHWP-01 | 1 1/2 |
| <u>B-02</u> | NON-CONDENSING | BOILER ROOM | 1 | NAT. GAS | 1,275,000 | 160°F | 180°F | 128 | PHWP-02 | 1 1/2 |
| | | | | | | | | | | |
| 1. EXISTING BO | ILER TO REMAIN. UPGRA | NDE TO NEW DDC C | CONTROLS | | | | | | | |

| DECICNATION | LOCATION | CARACITY (TONS) | E | EVAPORATOR | | CONDENSER |
|-------------|-----------------|-----------------|-------|----------------|-------|----------------|
| DESIGNATION | LOCATION | CAPACITY (TONS) | GPM | EWT / LWT (°F) | GРM | EWT / LWT (°F) |
| WCCH-1 | MECHANICAL ROOM | 394.6 | 482.1 | 58 / 42 | 921.7 | 86 / 96 |
| WCCH-2 | MECHANICAL ROOM | 394.6 | 482.1 | 58 / 42 | 921.7 | 86 / 96 |
| | | | | | | |

| | | | EX | ISTING CO | NDENSING B | OIL | ER SCH | IEDULE | | | |
|-------------|------------|-------------|-------|-------------|---------------------|-----|-------------|-------------|------------------------|----------------------|--|
| DEGIONATION | TVDE | LOCATION | NOTES | DUDNED EUE | MINI CUITPUT (PTUU) | ODM | E.W.T. (0E) | 1 M T (0F) | CIRCULATING PUMP ELECT | ECTRICAL INFORMATION | |
| DESIGNATION | TYPE | LOCATION | NOTES | BURNER FUEL | MIN. OUTPUT (BTUH) | GPM | E.W.T. (°F) | L.W.T. (°F) | DESIGNATION | MAX H.P. | |
| <u>B-03</u> | CONDENSING | BOILER ROOM | 1 | NAT. GAS | 1,328,000 | 67 | 140°F | 180°F | PHWP-03 | 3/4 | |
| | | | | | | | | | | | |

| DESIGNATION | LOCATION | NOTES | SERVICE | HORSEPOWER | GPM | HEAD (FT.) |
|-------------|-------------------|-------|-------------------------|------------|-------|------------|
| SHWP-1 | MAIN BOILER. ROOM | 1,2 | BUILDING HEATING SYSTEM | 7 1/2 | 161.5 | 84 |
| SHWP-2 | MAIN BOILER, ROOM | 1,2 | BUILDING HEATING SYSTEM | 7 1/2 | 161.5 | 84 |

| DEGLOVATION | 05D/405 | NOTES | 104 |
|-------------|---------------|-------|-----|
| DESIGNATION | SERVICE | NOTES | KW |
| EUH-D-1 | FIRE RISER | 1 | 3.3 |
| EUH-CP-1 | CENTRAL PLANT | 1 | 5.0 |
| EUH-CP-2 | CENTRAL PLANT | 1 | 5.0 |
| EUH-CP-3 | CENTRAL PLANT | 1 | 5.0 |

| 1. EX | ISTING UNIT HEATER 1 | TO REMAIN. UPGRADE TO NEW DDC | CONTROLS. |
|-------|----------------------|-------------------------------|-----------|

| ESIGNATION | SERVICE | GPM | PIPE SIZE (INCHES) | 2-WAY OR 3-WAY CONTROL VALVE |
|------------|-------------------------|-----|--------------------|------------------------------|
| RSF-C-01 | KITCHEN HOOD SUPPLY FAN | 4.1 | 1 | 3-WAY |

| DESIGNATION | SERVICE | CAPACITY (TONS) | COOLING STAGES |
|-------------|---------|-----------------|----------------|
| ACCU-5 | AHU-5 | 20 | 2 |

| EXISTING COOLING TOWER SCHEDULE | | | | | | | |
|---------------------------------|-------------------|-------|--------------|----------------|---------------------------|--------------|----------------|
| DESIGNATION | LOCATION | NOTES | NO. OF CELLS | MOTOR H.P. | CAPACITY (TONS) / CELL | GPM / CELL | EWT / LWT (°F) |
| <u>CT-1</u> | MECH YARD | 1,2 | 2 | 20 | 382.6 | 921.7 | 96 / 86 |
| | OLING TOWER, ASSC | | | PLACE EXISTING | CONTROLS, ASSOCIATED WIRI | NG WITH NEW. | |

| TAG | LOCATION | EQUIPMENT TYPE | SEE NOTE | MAX. HORSEPOWER | BYPASS | VOLTS / Ø / HZ |
|--------------------|------------------------------|--------------------|----------|-----------------|--------|----------------|
| VFD-AHU-08 | GYM MEZZANINE | AIR HANDLING UNIT | 1-4 | 5 | YES | 480 / 3 / 60 |
| VFD-AHU-09 | GYM MEZZANINE | AIR HANDLING UNIT | 1-4 | 7 1/2 | YES | 480 / 3 / 60 |
| VFD-AHU-10 | GYM MEZZANINE GYM MEZZANINE | AIR HANDLING UNIT | 1-4 | 7 1/2 | YES | 480 / 3 / 60 |
| VFD-AHU-11 | DINING STORAGE ROOM | AIR HANDLING UNIT | 1-4 | 10 | YES | 480 / 3 / 60 |
| VFD-PCHP-1 | MAIN MECH ROOM | PUMP | 1-3,5 | 15 | YES | 480 / 3 / 60 |
| | MAIN MECH ROOM | PUMP | 1-3,5 | 15 | YES | 480 / 3 / 60 |
| VFD-PCHP-2 | | - | , | | | |
| VFD-CWP-1 | MAIN MECH ROOM | PUMP | 1-3,5 | 30 | YES | 480 / 3 / 60 |
| VFD-CWP-2 | MAIN MECH ROOM | PUMP | 1-3,5 | 30 | YES | 480 / 3 / 60 |
| VFD-SCHP-1 | MAIN MECH ROOM | PUMP | 1-3,5 | 20 | YES | 480 / 3 / 60 |
| VFD-SCHP-2 | MAIN MECH ROOM | PUMP | 1-3,5 | 20 | YES | 480 / 3 / 60 |
| VFD-SHWP-1 | MAIN MECH ROOM | PUMP | 1-3,5 | 7 1/2 | YES | 480 / 3 / 60 |
| VFD-SHWP-2 | MAIN MECH ROOM | PUMP | 1-3,5 | 7 1/2 | YES | 480 / 3 / 60 |
| VFD-AHU-B1 | MECH ROOM X169 | AIR HANDLING UNIT | 1-4 | 20 | YES | 480 / 3 / 60 |
| VFD-AHU-E1 | MECH ROOM X169 | AIR HANDLING UNIT | 1-4 | 20 | YES | 480 / 3 / 60 |
| VFD-CT-CELL -1 | MAIN MECH ROOM | COOLING TOWER CELL | 1-3,5 | 20 | YES | 480 / 3 / 60 |
| VFD-CT-CELL-2 | MAIN MECH ROOM | COOLING TOWER CELL | 1-3,5 | 20 | YES | 480 / 3 / 60 |
| VFD-AHU-5 | MECH ROOM X142 | AIR HANDLING UNIT | 1-4 | 5 | YES | 480 / 3 / 60 |
| VFD-AHU-C1 | ADMIN MECH ROOM | AIR HANDLING UNIT | 1-4 | 5 | YES | 480 / 3 / 60 |
| VFD-AHU-7 | MECH ROOM 21 | AIR HANDLING UNIT | 1-4 | 15 | YES | 480 / 3 / 60 |
| VFD-AHU-B3 | MECH ROOM X269 | AIR HANDLING UNIT | 1-4 | 15 | YES | 480 / 3 / 60 |
| VFD-AHU-A1 | MECH ROOM X269 | AIR HANDLING UNIT | 1-4 | 15 | YES | 480 / 3 / 60 |
| VFD-AHU-3 | MECH ROOM X269 | AIR HANDLING UNIT | 1-4 | 7 1/2 | YES | 480 / 3 / 60 |
| <u>VFD-AHU-4</u> | MECH ROOM X269 | AIR HANDLING UNIT | 1-4 | 7 1/2 | YES | 480 / 3 / 60 |
| VFD-AHU-E2 | MECH ROOM X269 | AIR HANDLING UNIT | 1-4 | 15 | YES | 480 / 3 / 60 |
| VFD-AHU-C2 | MECH ROOM | AIR HANDLING UNIT | 1-4 | 7 1/2 | YES | 480 / 3 / 60 |
| VFD-AHU-F1 | MECH ROOM X269 | AIR HANDLING UNIT | 1-4 | 15 | YES | 480 / 3 / 60 |
| VFD-AHU-C3 | IN UNIT AHU-C3 | AIR HANDLING UNIT | 1-3,5 | 7 1/2 | YES | 480 / 3 / 60 |
| VFD-AHU-B1 | MECH ROOM | AIR HANDLING UNIT | 1-4 | 20 | YES | 480 / 3 / 60 |
| VFD-AHU-B2 | MECH ROOM | AIR HANDLING UNIT | 1-4 | 5 | YES | 480 / 3 / 60 |
| VFD-AHU-E1 | MECH ROOM | AIR HANDLING UNIT | 1-4 | 20 | YES | 480 / 3 / 60 |
| VFD-AHU-9 (CHORAL) | MECH ROOM | AIR HANDLING UNIT | 1-4 | 3 | YES | 480 / 3 / 60 |
| VFD-AHU-10 (MUSIC) | MECH ROOM | AIR HANDLING UNIT | 1-4 | 3 | YES | 480 / 3 / 60 |

2. REFER TO SPECIFICATION SECTION 23 05 14 FOR FURTHER REQUIREMENTS. 3. VFD HORSEPOWER RATING SHALL MATCH EXISTING & NEW UNIT MOTOR H.P.

4. PROVIDE VFD IN NEMA 1 ENCLOSURE.

5. PROVIDE VFD IN NEMA 3R ENCLOSURE.

3.1

2.0

1.8

3.2

1.5

3/4"

3/4"

3/4"

3/4"



LEAF ENGINEERS F-18672

GALENA PARK ISD

ISSUE FOR PROPOSAL

MECHANICAL

BUILDING NUMBER

PROJECT NUMBER

25037301

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END - SUCTION PUMP PIPING DETAIL

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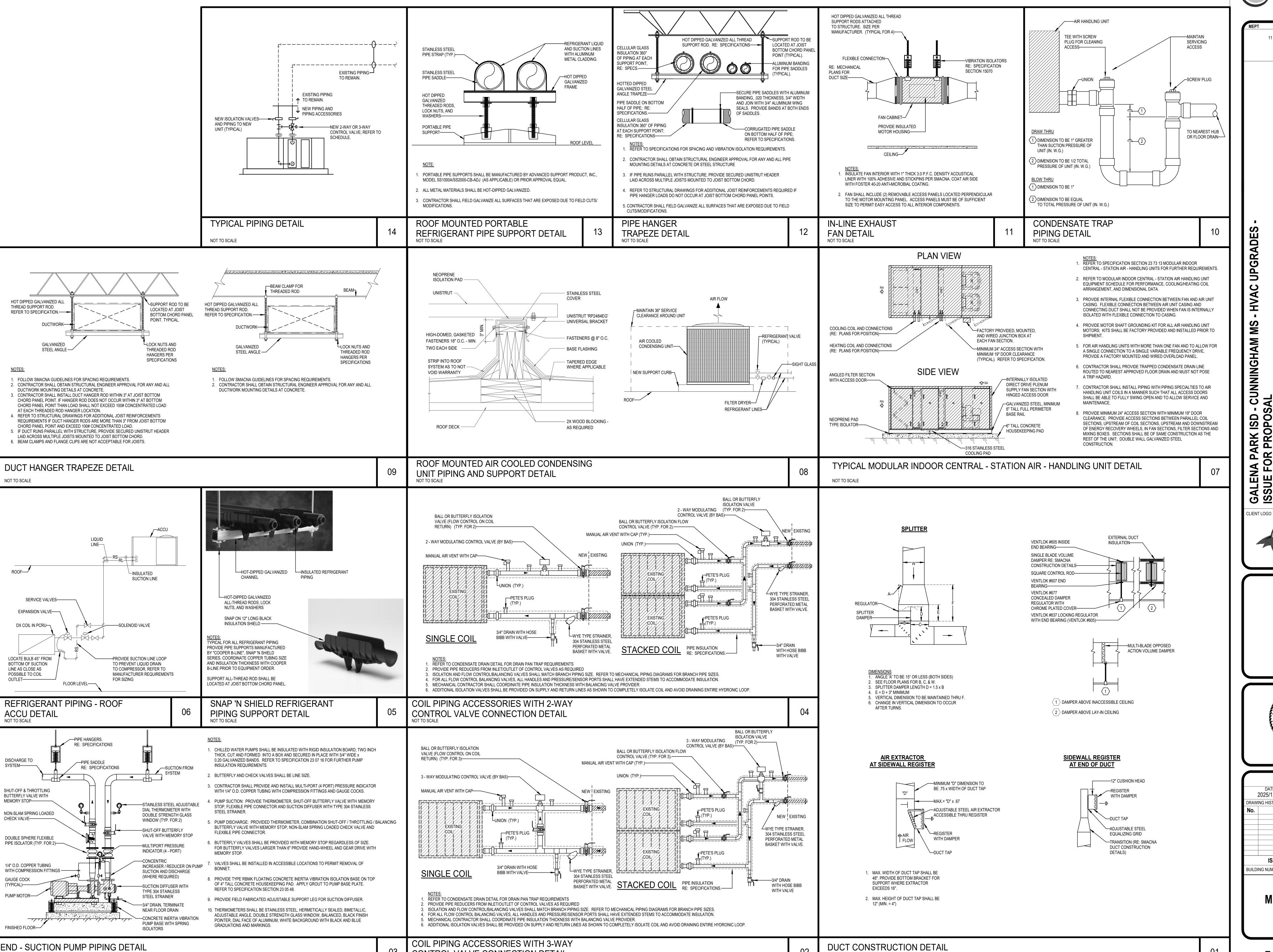
Houston,TX 77046

713-965-0608 P

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TX Firm: F-18672

1 Greenway Plaza, 15th Floor



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CONTROL VALVE CONNECTION DETAIL

2025/12/05

LEAF ENGINEERS

F-18672

GALENA PARK ISD

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MECHANICAL

DETAILS

2025/12/05

BUILDING NUMBER

01

PROJECT NUMBER

25037301

CLIENT LOGO

GENERAL ELECTRICAL NOTES

1. UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR OTHERWISE INSTRUCTED BY THE ARCHITECT, ELECTRICAL OUTLETS SHALL HAVE THE FOLLOWING MOUNTING HEIGHTS. DIMENSIONS ARE TO CENTER OF BOX UNLESS OTHERWISE NOTED:

WALL SWITCHES WALL CONVENIENCE RECEPTACLES WALL DATA/VOICE OUTLETS WALL OUTLETS FOR WALL MTD. TELEPHONE WALL CLOCK OUTLETS MANUAL FIRE ALARM PULL STATIONS FIRE ALARM SPEAKER/HORN INTERIOR BELLS, BUZZERS, HORNS SPECIAL PURPOSE WALL OUTLETS **PUSH BUTTONS**

15" AFF TO BOTTOM OF BOX 15" AFF TO BOTTOM OF BOX 7'-0" AFF (OR ABOVE CHALKBOARDS WHERE REQUIRED)*

MORE THAN 4" FROM WALL (PER ADA)

1'-0" BELOW CEILING, OR IN CEILING, AS REQUIRED* 1'-0" BELOW CEILING, OR IN CEILING, AS REQUIRED* 15" AFF TO BOTTOM OF BOX (OR HIGHER AS REQUIRED TO SERVE EQUIPMENT)

80" AFF TO BOTTOM OF LENS OR 6" BELOW CEILING, WHICHEVER IS LOWER. ENTIRE LENS TO BE WITHIN 80" TO 96"

• TOP OF BOX SHALL BE 42" AFF MAX. FOR WHEELCHAIR FRONTAL APPROACH AND 48" AFF MAX. FOR SIDE APPROACH. VERIFY EXACT HEIGHT WITH ARCHITECT * 7'-0" AFF TO BOTTOM OF DEVICE IF DEVICE PROTRUDES

AFF = ABOVE FINISHED FLOOR AFG = ABOVE FINISHED GRADE

ADA VISUAL ALARM

- UNLESS SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS, OUTLETS LOCATED AT COUNTERS AND CABINETS SHALL BE MOUNTED AS SHOWN ON ARCHITECTURAL DETAILS AND ELEVATIONS, OR AS DIRECTED
- BY ARCHITECT. COORDINATE MOUNTING HEIGHTS AND DETAILS OF ALL OUTLETS (POWER, SIGNAL, ETC.) WITH ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO DIVISION 26 ROUGH-IN. PROVIDE COORDINATION DRAWINGS IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS WHERE CONFLICTS EXIST. OBTAIN APPROVAL FROM ARCHITECT BEFORE ELECTRICAL ROUGH-IN WHEN CONFLICTS ARISE.
- REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL HVAC AND PLUMBING EQUIPMENT. CIRCUITING BRANCH CIRCUITING IS SCHEMATIC IN NATURE AND IS INTENDED TO INDICATE CIRCUIT LOADING AND CONTROL, NOT METHODS OF INSTALLATION. REFER TO SPECIFICATIONS FOR METHODS OF INSTALLATION AND MATERIALS, INCLUDING WHETHER OR NOT BX IS ALLOWED AND WHETHER
 - "THROUGH-FIXTURE" OR "OCTOPUS (EMT WITH FLEXIBLE WHIPS)" TYPE LIGHTING BRANCH CIRCUITING IS REQUIRED. WHERE WIRE SIZE AND CONDUIT SIZE IS NOT INDICATED ON THE DRAWINGS AND/OR PANEL SCHEDULES, REFER TO SPECIFICATIONS FOR MINIMUM SIZE REQUIRED. BRANCH CIRCUITS ON THE DRAWINGS ARE GENERALLY NOT SHOWN GROUPED IN SINGLE
 - RACEWAYS. HOWEVER, GROUPING IS ALLOWED UNDER CERTAIN CONDITIONS. REFER TO DIVISION 26 SPECIFICATIONS UNDER SECTION ENTITLED "ELECTRICAL THE DRAWINGS GENERALLY INDICATE QUANTITY OF CONDUCTORS ON BRANCH CIRCUIT HOME RUNS
- ONLY. ELSEWHERE WITHIN CIRCUITS, PROVIDE QUANTITY OF CONDUCTORS AS NEEDED TO ACCOMPLISH CIRCUITING AND SWITCHING REQUIREMENTS SHOWN. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION,
- NEC, ALL STATE AND LOCAL CODES AND AMENDMENTS. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL ISSUED BOOK SPECIFICATIONS.

GENERAL ELECTRICAL REMODEL NOTES

UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR OTHERWISE INSTRUCTED BY THE ARCHITECT, ELECTRICAL OUTLETS SHALL HAVE THE FOLLOWING MOUNTING HEIGHTS. DIMENSIONS ARE TO CENTER OF BOX UNLESS OTHERWISE NOTED:

WALL SWITCHES WALL CONVENIENCE RECEPTACLES WALL DATA/VOICE OUTLETS WALL OUTLETS FOR WALL MTD. TELEPHONE WALL CLOCK OUTLETS MANUAL FIRE ALARM PULL STATIONS FIRE ALARM SPEAKER/HORN INTERIOR BELLS, BUZZERS, HORNS SPECIAL PURPOSE WALL OUTLETS

PUSH BUTTONS

ADA VISUAL ALARM

15" AFF TO BOTTOM OF BOX 15" AFF TO BOTTOM OF BOX 7'-0" AFF (OR ABOVE CHALKBOARDS WHERE REQUIRED)*

1'-0" BELOW CEILING, OR IN CEILING, AS REQUIRED* 1'-0" BELOW CEILING, OR IN CEILING, AS REQUIRED* 15" AFF TO BOTTOM OF BOX (OR HIGHER AS REQUIRED TO SERVE EQUIPMENT)

VERIFY EXACT HEIGHT WITH ARCHITECT

WHICHEVER IS LOWER. ENTIRE LENS TO BE WITHIN 80" TO 96" • TOP OF BOX SHALL BE 42" AFF MAX. FOR WHEELCHAIR FRONTAL APPROACH AND 48" AFF MAX. FOR SIDE APPROACH.

80" AFF TO BOTTOM OF LENS OR 6" BELOW CEILING,

* 7'-0" AFF TO BOTTOM OF DEVICE IF DEVICE PROTRUDES MORE THAN 4" FROM WALL (PER ADA)

AFF = ABOVE FINISHED FLOOR AFG = ABOVE FINISHED GRADE

- UNLESS SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS, OUTLETS LOCATED AT COUNTERS AND CABINETS SHALL BE MOUNTED AS SHOWN ON ARCHITECTURAL DETAILS AND ELEVATIONS, OR AS DIRECTED
- COORDINATE MOUNTING HEIGHTS AND DETAILS OF ALL OUTLETS (POWER, SIGNAL, ETC.) WITH ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO DIVISION 26 ROUGH-IN. PROVIDE COORDINATION DRAWINGS IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS WHERE CONFLICTS EXIST. OBTAIN
- APPROVAL FROM ARCHITECT BEFORE ELECTRICAL ROUGH-IN WHEN CONFLICTS ARISE. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL HVAC AND PLUMBING EQUIPMENT. CIRCUITING BRANCH CIRCUITING IS SCHEMATIC IN NATURE AND IS INTENDED TO INDICATE CIRCUIT LOADING AND CONTROL, NOT METHODS OF INSTALLATION. REFER TO SPECIFICATIONS FOR METHODS OF INSTALLATION AND MATERIALS, INCLUDING WHETHER OR NOT BX IS ALLOWED AND WHETHER
 - CIRCUITING IS REQUIRED. WHERE WIRE SIZE AND CONDUIT SIZE IS NOT INDICATED ON THE DRAWINGS AND/OR PANEL

"THROUGH-FIXTURE" OR "OCTOPUS (EMT WITH FLEXIBLE WHIPS)" TYPE LIGHTING BRANCH

- SCHEDULES, REFER TO SPECIFICATIONS FOR MINIMUM SIZE REQUIRED. BRANCH CIRCUITS ON THE DRAWINGS ARE GENERALLY NOT SHOWN GROUPED IN SINGLE RACEWAYS. HOWEVER, GROUPING IS ALLOWED UNDER CERTAIN CONDITIONS. REFER TO DIVISION 26 SPECIFICATIONS UNDER SECTION ENTITLED "ELECTRICAL
- WIRING" FOR REQUIREMENTS. THE DRAWINGS GENERALLY INDICATE QUANTITY OF CONDUCTORS ON BRANCH CIRCUIT HOME RUNS ONLY. ELSEWHERE WITHIN CIRCUITS, PROVIDE QUANTITY OF CONDUCTORS AS NEEDED TO
- ACCOMPLISH CIRCUITING AND SWITCHING REQUIREMENTS SHOWN. WHEN REMOVING EXISTING ELECTRICAL WORK WHERE OTHER ITEMS REMAIN ON THE SAME CIRCUIT, THE CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO MAINTAIN CIRCUIT CONTINUITY.
- ALL ITEMS NOTED TO BE REMOVED ARE TO REMAIN THE PROPERTY OF THE OWNER; HOWEVER, CONTRACTOR SHALL REMOVE FROM JOB SITE ALL MATERIAL NOT RETAINED BY OWNER. FIELD VERIFY CONDITION OF, AND MODIFICATIONS AND ADDITIONS TO, ALL EXISTING ELECTRICAL FIXTURES
- PANELS, WIRING, ETC. WHERE DOORS ARE ADDED, OR PORTIONS OF WALLS REMOVED, CONTRACTOR SHALL REMOVE OR
- RELOCATE ALL ELECTRICAL WORK NECESSARY FOR THE REMODELING MODIFICATION, WHETHER OR NOT THIS WORK IS NOTED ON PLANS.
- WHERE EXISTING JUNCTION BOXES ARE COVERED OR REMOVED, CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO COMPLY WITH NEC 314-19.
- EXISTING ELECTRICAL BOXES TO REMAIN IN AREAS WHERE NEW WALL FINISHES ARE TO BE APPLIED SHALL BE RESET AS NECESSARY TO PROVIDE FLUSH MOUNTING FOR BOXES. CONTRACTOR SHALL FIELD VERIFY EXISTING BRANCH CIRCUIT LOADING WHEN MAKING MODIFICATIONS
- AND/OR ADDITIONS TO THAT CIRCUIT. IF NEW WORK WOULD OVERLOAD EXISTING CIRCUIT, CONTRACTOR SHALL LOCATE ANOTHER EXISTING CIRCUIT (THE CLOSEST), WHICH WOULD NOT BE OVERLOADED UPON ADDING NEW LOAD, AND SHALL TIE NEW LOAD INTO THAT CIRCUIT. WHEN EXISTING ELECTRICAL WORK IS REMOVED, ALL EXPOSED CONDUIT, WIRING, CONTROL AND JUNCTION
- BOXES ALONG WALLS, FLOOR, AND CEILING SHALL BE REMOVED. BRANCH CIRCUIT WIRES SHALL BE REMOVED BACK TO CIRCUIT BREAKER(S). BLANK COVER PLATES SHALL BE PROVIDED FOR RECESSED BOXES. WHERE THIS WORK IS DONE, THE WALLS, FLOOR, AND CEILING SHALL BE PATCHES AS NECESSARY UNDER WORK COVERED IN OTHER SECTIONS.
- EXISTING RECESSED INCANDESCENT AND HID LUMINAIRES DESIGNATED FOR TEMPORARY REMOVAL AND RE-USE SHALL BE STORED. ALL SUCH LUMINAIRES NOT THERMALLY PROTECTED PER NEC 410-118 AND 410-130(F) ARE NOT SUITABLE FOR RE-USE AND SHALL BE GIVEN TO THE OWNER. PROVIDE NEW REPLACEMENT LUMINAIRES WITH UL THERMAL PROTECTION, IDENTICAL APERTURE, EQUIVALENT PHOTOMETRICS AND NEW
- CONTRACTOR TO REFER TO ARCHITECTURAL DEMOLITION PLANS AND PHASING PLANS AND HAVE A GOOD UNDERSTANDING OF SCOPE OF PROJECT PRIOR TO COMMENCEMENT OF WORK. LUMINAIRE SUPPORT IN SUSPENDED CEILINGS:
- PROVIDE MEANS OF SUPPORT FOR LUMINAIRES PER NEC 410-16. T BAR CLIPS SHALL BE INSTALLED ON THE LUMINAIRE AND SHALL BE FIELD SECURED TO THE INVERTED CEILINGS TEES SO THAT THE LUMINAIRE IS SECURELY FASTENED TO THE
- CEILING SYSTEM FRAMING MEMBERS CEILING TILES SHALL NOT BEAR THE WEIGHT OF LUMINAIRES. SURFACE MOUNT LUMINAIRES, RECESSED DOWNLIGHTS,
- LIGHT TRACK, EXIT SIGNS, ETC. SHALL BE SUPPORTED BY PROPER FRAMES OR OTHER ATTACHMENT TO MAIN CEILING SYSTEM GRID OR BUILDING STRUCTURE ABOVE CEILING.
- LUMINAIRES SHALL BE CENTERED IN CEILING TILE.
- LUMINAIRE SHALL HAVE FLANGE OR TRIM RING FOR CLOSURE OF CEILING CUTOUT OR OPENING. FIRE-RATED CEILING ASSEMBLY: FOR LUMINAIRES TO BE FLUSH-MOUNTED INTO A FIRE-RATED CEILING OR SURFACE MOUNTED TO A FIRE-RATED CEILING, INSTALL WITH INDEPENDENT, SECURE SUPPORT, RACEWAY, CABLE ASSEMBLIES BOXES AND FITTINGS LOCATED ABOVE A FIRE-RATED FLOOR/CEILING OR ROOF CEILING ASSEMBLY SHALL NOT BE SECURED TO, OR SUPPORTED BY, THE CEILING ASSEMBLY INCLUDING CEILING SUPPORT WIRES. PROVIDE AN INDEPENDENT MEANS OF SECURE SUPPORT. INDEPENDENT SUPPORT WIRES SHALL BE DISTINGUISHABLE BY COLOR, TAGGING, OR OTHER EFFECTIVE
- MEANS FROM THOSE THAT ARE PART OF THE FIRE-RATED DESIGN. CONTRACTOR SHALL FIELD VERIFY ANY EXISTING UNDERGROUND PIPING, WIRING, OR OTHER FACILITIES PRIOR TO TRENCHING, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY INSTALLATION OF NEW WORK.
- THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION, NEC, AND STATE AND LOCAL CODES AND AMENDMENTS.

ELECTRICAL SYMBOL LEGEND

1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. 2. DASHED ELEECTRICAL EQUIPMENT GENERALLY INDICATES EXISTING EQUIPMENT. 3. LONG-SHORT-SHORT-LONG DASHING GENERALLY INDICATES MATCH LINE OR DEFINES AREA FOR SPECIAL NOTE.

CIRCUIT RELATED:

LIGHTING OR POWER CIRCUIT(S). ARROW INDICATES HOME RUN, LONGER TICK(S) INDICATE NEUTRAL WIRE(S), SHORTER STRAIGHT TICK(S) INDICATE PHASE WIRE(S), SLANTED SHORTER TICK(S) INDICATE SWITCH LEG(S), DOT(S) INDICATE GROUNDING CONDUCTOR(S), DASHED WIRING (LONG-SHORT-LONG DASHES) INDICATES WIRING BELOW SLAB OR GRADE, DASHED WIRING (SERIES OF SHORT DASHES) INDICATES EXISTING WIRING, SLASH THROUGH ARROW INDICATES PARTIAL CIRCUIT, "D" ON HOMERUN ARROW INDICATES DEDICATED CIRCUIT: PROVIDE A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR FOR ENTIRE LENGTH OF CIRCUIT FROM PANEL TO OUTLET; COUNT EACH NEUTRAL AS CURRENT-CARRYING AND GROUP A MAXIMUM OF SIX THHN/THWN CONDUCTORS IN A SINGLE RACEWAY; GROUNDING CONDUCTOR IS NOT COUNTED

- JUNCTION BOX
- GROUNDING FIXTURE

LIGHTING:

LED LIGHTING FIXTURE. LETTER INDICATES TYPE, SMALL LETTER INDICATES SWITCH CONTROL, NUMBER INDICATES CIRCUIT, CROSS HATCHING INDICATES FIXTURE ON EMERGENCY SYSTEM, FOR SOLID CIRCLE WITHIN FIXTURE REFERENCE APPROPRIATE CATEGORY "A" CIRCUIT RELATED SYMBOL

STRIP TYPE LED LIGHTING FIXTURE. LETTER INDICATES TYPE, SMALL LETTER INDICATES SWITCH CONTROL, NUMBER INDICATES CIRCUIT, FOR SOLID CIRCLE ATTACHED TO FIXTURE REFERENCE APPROPRIATE CATEGORY "A" CIRCUIT RELATED SYMBOL

- LED LIGHTING FIXTURE. LETTER INDICATES TYPE, SMALL LETTER INDICATES SWITCH CONTROL, NUMBER INDICATES CIRCUIT, FOR SOLID CIRCLE REFERENCE APPROPRIATE CATEGORY "A" CIRCUIT RELATED SYMBOL
- DESIGNATES FIXTURE ON EMERGENCY POWER. RE: LIGHTING PLAN NOTES AND FIXTURE SCHEDULE NOTES
- FOR ADDITIONAL INFORMATION WALL OR BRACKET MOUNTED FIXTURE OR DEVICE
- EXIT LIGHT FIXTURE, LETTER INDICATES TYPE, NUMBER INDICATES CIRCUIT, NUMBER AND LOCATION OF SHADED TRIANGLE SECTIONS INDICATE NUMBER OF EXIT SIGN FACES AND DIRECTION OF EACH FACE. PROVIDE CHEVRON DIRECTIONAL INDICATORS AS SHOWN ON DRAWINGS

CONTROL:

- SWITCH. SMALL LETTER INDICATES FIXTURES CONTROLLED, "P" INDICATES PILOT LIGHT, "WP" INDICATES WEATHERPROOF, "K" INDICATES KEY POERATED, "MO" INDICATES SPDT MOMENTARY CONTACT, "2" INDICATES DPDT, "3" INDICATES 3-WAY, "4" INDICATES 4-WAY, "M" INDICATES MANUAL MOTOR STARTER, CIRCUIT DESIGNATION NEXT TO SWITCH INDICATES BRANCH CIRCUIT NUMBER
- WALL BOX DIMMER SWITCH. "MARK" INDICATES WATTAGE IF OTHER THAN 600, "3D" INDICATES 3-WAY DIMMER
- MULTI-LEVEL SWITCH. CIRCUIT DESIGNATION NEXT TO SWITCH INDICATES BRANCH CIRCUIT NUMBER
- DIGITAL TIME SWITCH PHOTOELECTRIC CONTROL

- PUSH BUTTON
- WALL MOUNT OCCUPANCY SENSOR
- DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR
- **4**R**→** CEILING MOUNTED RESTROOM OCCUPANCY SENSOR
- **←♦** CEILING MOUNTED CORRIDOR OCCUPANCY SENSOR
- CEILING MOUNTED HIGH CEILING OCCUPANCY SENSOR
- ABOVE CEILING MOUNTED PLUG LOAD CONTROL POWER PACK

POWER OUTLETS:

- 👄> 20A-125V DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP. REFER TO ARCHITECT FOR EXACT HEIGHT
- ABOVE COUNTER 20A-125V CONTROLLED DUPLEX RECEPTACLE
- 20A-125V ISOLATED GROUND TYPE DUPLEX RECEPTACLE
- 20A-125V DUPLEX TAMPER RESISTANT RECEPTACLE WITH (2) USB CHARGING PORTS
- 20A-125V FOURPLEX RECEPTACLE. SAME SYMBOLOGY AS DUPLEX RECEPTACLE
- SPECIAL PURPOSE SINGLE POWER RECEPTACLE. RATED AS INDICATED (IF NO RATING INDICATED, RECEPTACLE RATING SHALL MATCH BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE AND SHALL MEET REQUIREMENTS OF EQUIPMENT BEING CONNECTED), "C" INDICATES CLOCK OUTLET
- 20A-125V FLUSH FLOOR DUPLEX RECEPTACLE. 20A WHEN INDICATED OR IF BRANCH CIRCUIT SERVES ONLY SINGLE DUPLEX. PROVIDE CARPED FLANGE WHERE APPLICABLE
- CIRCUIT DESIGNATION NEXT TO RECEPTACLE DEVICES INDICATES BRANCH CIRCUIT NUMBER. RE: PANEL SCHEDULES FOR INFORMATION.

TELEPHONE/DATA:

- FLUSH FLOOR TELEPHONE OUTLET WITH CARPET FLANGE WHERE APPLICABLE
- WALL COMMUNICATIONS OR DATA OUTLET. REFER TO 'TS' SERIES SHEETS FOR EXACT BOX / CONDUIT
- FLUSH FLOOR COMMUNICATIONS OR DATA OUTLET. REFER TO 'TS' SERIES SHEETS FOR EXACT BOX / CONDUIT REQUIREMENTS. PROVIDE CARPET FLANGE WHERE APPLICABLE
- SURFACE FLOOR COMMUNICATIONS OR DATA OUTLET. REFER TO 'TS' SERIES SHEETS FOR EXACT BOX / CONDUIT REQUIREMENTS. PROVIDE CARPET FLANGE WHERE APPLICABLE

EQUIPMENT:

+42" A NOTATION INDICATING THE MOUNTING HEIGHT OF A DEVICE AS MEASURED FROM FINISHED FLOOR OR GRADE TO CENTER LINE OF DEVICE

∕O∕ MOTOR DISCONNECT SWITCH. FRAME SIZE/FUSE SIZE/POLES AS INDICATED, "NF" INDICATES NON-FUSIBLE. NEMA 1 ENCLOSURE UNLESS OTHERWISE NOTED. PROVIDE FUSED BUSWAY PLUG WHEN SWITCH IS INDICATED ON BUSWAY. ALL DISCONNECT SWITCHES SHALL BE 30/NF/3 UNLESS OTHERWISE NOTED

SINGLE CIRCUIT BREAKER IN INDIVIDUAL ENCLOSURE

MAGNETIC MOTOR CONTROLLER. NUMBER INDICATES NEMA SIZE. STARTER NEMA SIZE SHALL BE "NEMA 1" UNLESS OTHERWISE NOTED

COMBINATION DISCONNECT SWITCH / MOTOR CONTROLLER

□ PANELBOARD

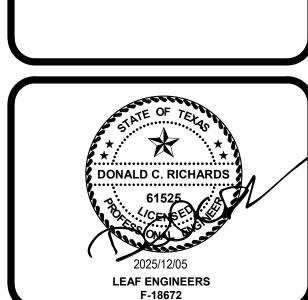
SWITCHBOARD / DP

TRANSFORMER GROUNDING CONNECTION TO GROUNDING ELECTRODE AS DEFINED IN NEC ARTICLE 250

BELL. "WP" INDICATED OUTDOOR RATED



CLIENT LOGO



GALENA PARK ISD PROJECT NUMBER 2025/12/05 250373.01 DRAWING HISTORY Description **ISSUE FOR PROPOSAL** ELECTRICAL SYMBOL

> **LEGEND AND GENERAL NOTES**

1. FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPELX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C. WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD's, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.

2. DATA/COMMUNICATION OUTLETS ARE SHOWN ON THIS DRAWING FOR COORDINATION PURPOSES ONLY. PROVIDE AND INSTALL ALL CONDUITS AND BACK BOXES REQUIRED BY LOW VOLTAGE SYSTEMS. COORDINATE WITH 'TS' DRAWINGS, DETAILS, ETC. AND ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES, LOCATIONS, AND REQUIREMENTS PRIOR TO ROUGH-IN.

3. CONTRACTOR TO PROVIDE CONNECTION FROM EXHAUST FANS TO ALL MOTORIZED BACKDRAFT DAMPERS AS REQUIRED, COORDINATE WITH MECHANICAL.

4. UNLESS OTHERWISE NOTED, ALL DISCONNECT SHOWN SHALL BE 30/NF/3 DISCONNECT.

5. CONTRACTOR SHALL NOTE THAT ALL 15 AMP AND 20 AMP NON-LOCKING TYPE RECEPTACLES THAT ARE NOT LOCATED WITHIN DEDICATED APPLIANCE SPACE AND ARE BELOW 66" ABOVE FINISHED FLOOR SHALL BE TAMPER RESISTANT TYPE RECEPTACLES. PER NEC 406.12.

ELECTRICAL SHEET NOTES

1. EXISTING VFD SHALL BE REPLACED ONE FOR ONE.

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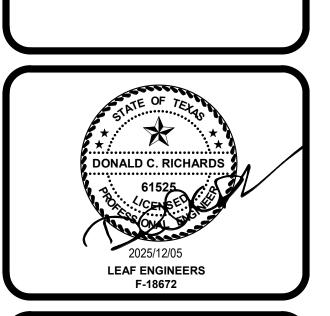
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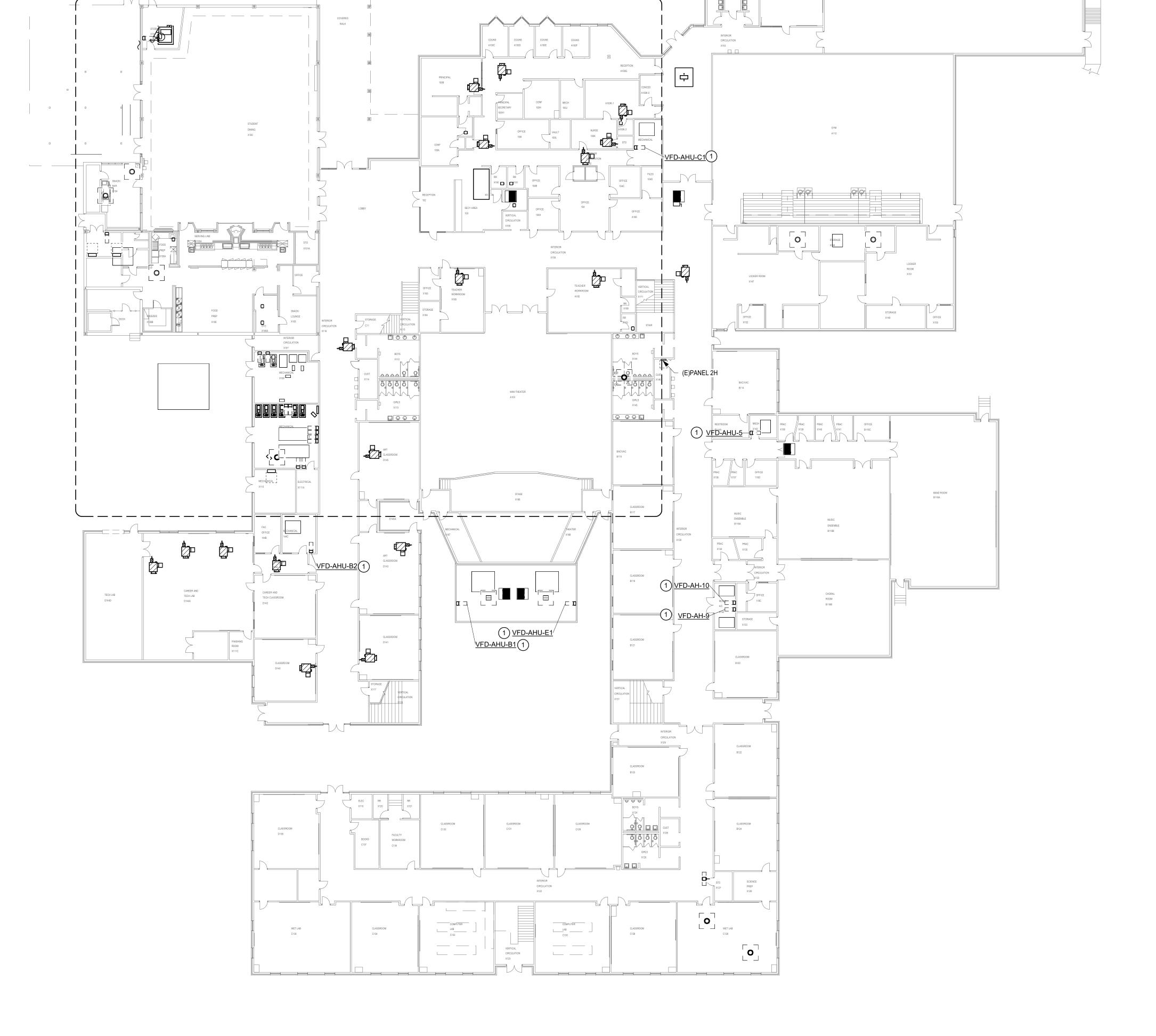
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GALENA PARK ISD - CUNNINGHAM MS - HVAC UPGRADES -ISSUE FOR PROPOSAL





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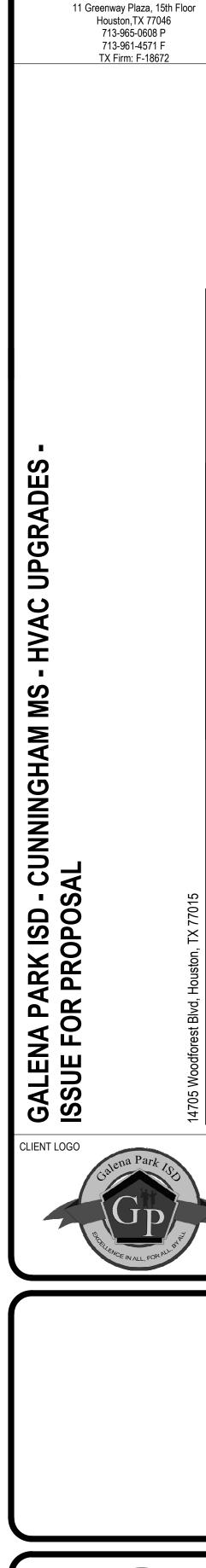
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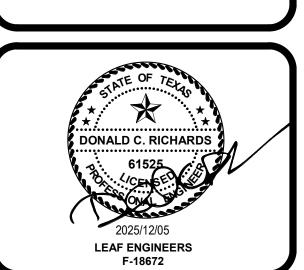
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1ST FLOOR POWER PLAN - AREA B -**CUMMINGHAM**

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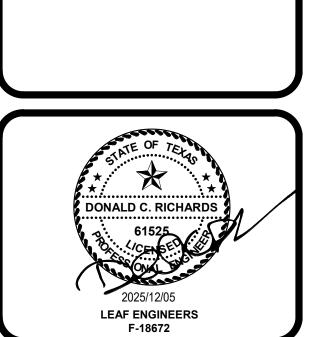
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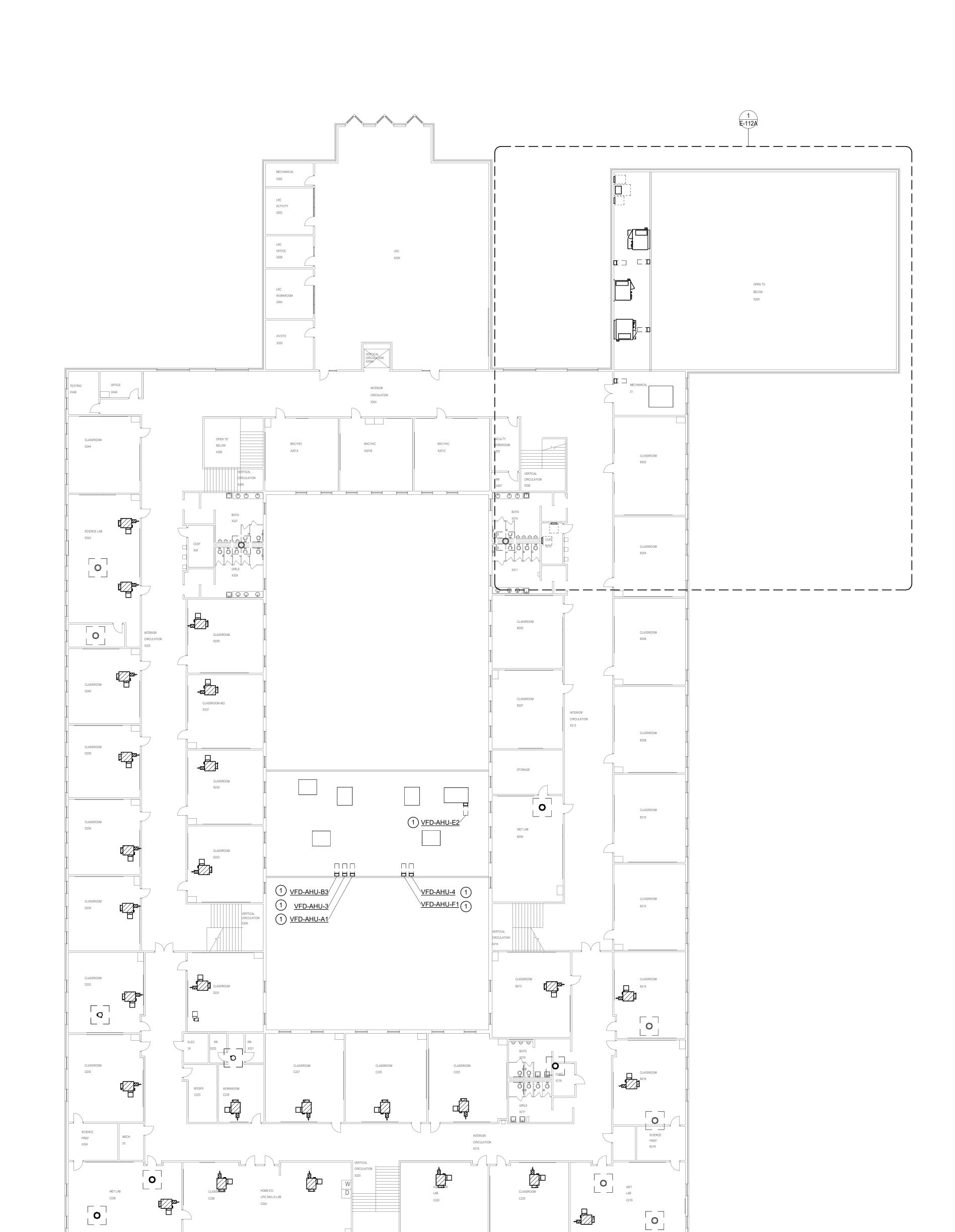
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TX Firm: F-18672





POWER PLAN GENERAL NOTES:

1. FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPELX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C. WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD'S, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.

DATA/COMMUNICATION OUTLETS ARE SHOWN ON THIS DRAWING FOR COORDINATION PURPOSES ONLY. PROVIDE AND INSTALL ALL CONDUITS AND BACK BOXES REQUIRED BY LOW VOLTAGE SYSTEMS. COORDINATE WITH 'TS' DRAWINGS, DETAILS, ETC. AND ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES, LOCATIONS, AND REQUIREMENTS PRIOR TO ROUGH-IN.

3. CONTRACTOR TO PROVIDE CONNECTION FROM EXHAUST FANS TO ALL MOTORIZED BACKDRAFT DAMPERS AS REQUIRED, COORDINATE WITH MECHANICAL.

4. UNLESS OTHERWISE NOTED, ALL DISCONNECT SHOWN SHALL BE 30/NF/3 DISCONNECT.

5. CONTRACTOR SHALL NOTE THAT ALL 15 AMP AND 20 AMP NON-LOCKING TYPE RECEPTACLES THAT ARE NOT LOCATED WITHIN DEDICATED APPLIANCE SPACE AND ARE BELOW 66" ABOVE FINISHED FLOOR SHALL BE TAMPER RESISTANT TYPE RECEPTACLES. PER NEC 406.12.

ELECTRICAL SHEET NOTES

1. EXISTING VFD SHALL BE REPLACED ONE FOR ONE.

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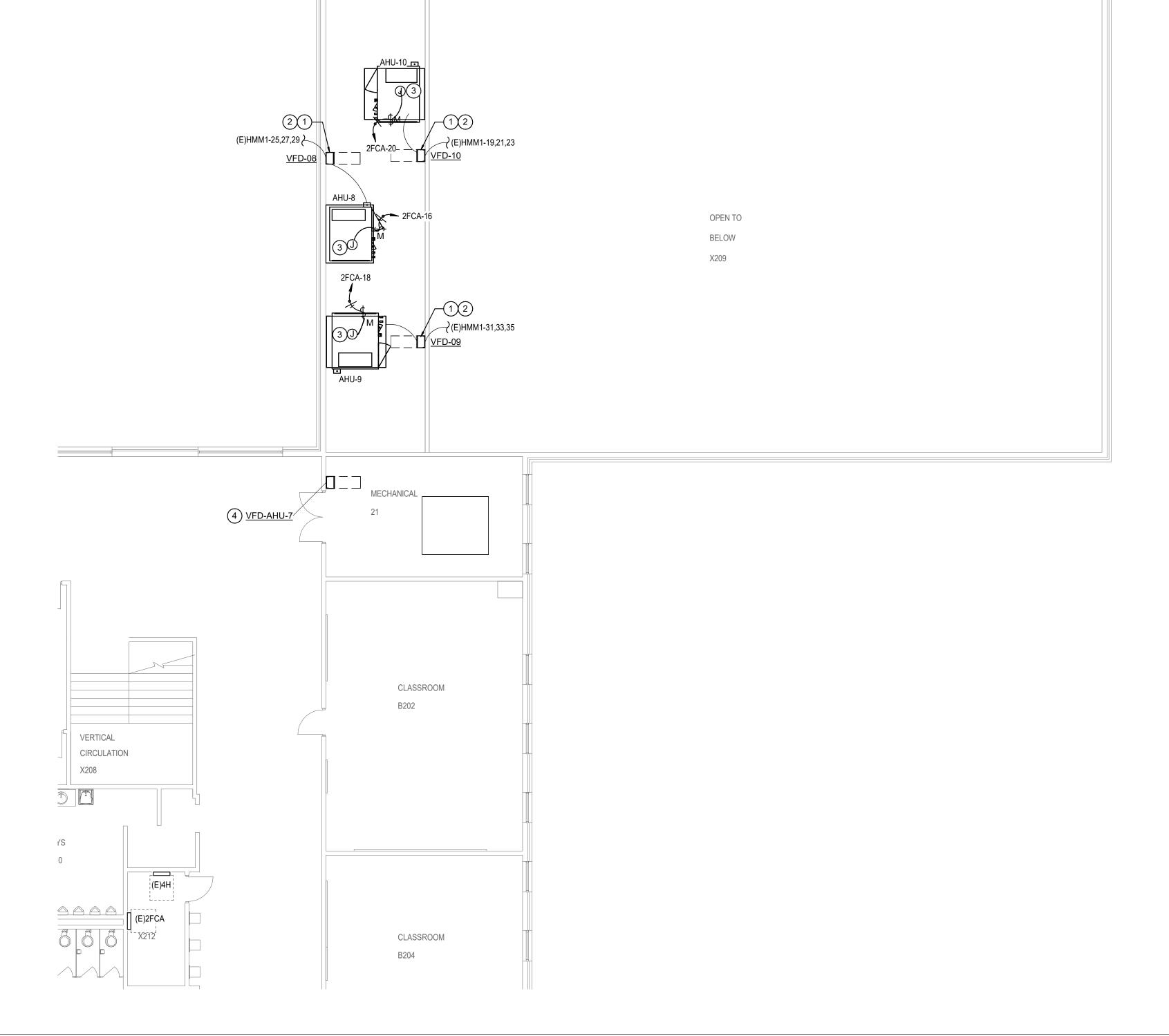
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POWER PLAN GENERAL NOTES:

FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPELX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C. WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD's, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.

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ELECTRICAL SHEET NOTES

EXISTING VFD AND AHU TO BE DEMOLISHED. DISCONNECT EXISTING CIRCUIT AND MAKE SAFE FOR REUSE.

2. NEW VFD AND AHU. EXTEND EXISTING CIRCUITRY AS REQUIRED FOR NEW CONNECTIONS.

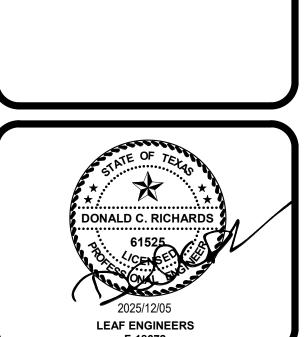
. UVC LIGHT. ACCESS DOOR KILL SWITCH BY MECHANICAL. CONTRACTOR SHALL FIELD VERIFY MANUFACTURER ELECTRICAL REQUIREMENTS. PROVIDE 120V, 20 A

CONTACTOR FOR CIRCUIT. CONTACTOR SHALL BE CONTROLLED BY THE BMS.

4. EXISTING VFD SHALL BE REPLACED ONE FOR ONE.

HOUSTON 11 Greenway Plaza, 15th Floor Houston,TX 77046 713-965-0608 P 713-961-4571 F TX Firm: F-18672

UPGRADES HVAC MS



| | | IENT | |
|------|--------------------|------------------|------|
| | GALENA | PARK ISD | |
| | DATE 2025/12/05 | PROJECT 25037 | |
| DRAW | ING HISTORY | • | |
| No. | Descri | ption | Date |
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| | ISSUE FOR | RPROPOSAL | |
| | | | |

PLAN - AREA A -**CUNNINGHAM**

50/3 OCP 3-#6, 1-#10 GND,1 "C ACCU-C3

2 1 ACCU-3 — ACCU-4 1 2 50/3 OCP 3-#6, 1-#10 GND,1 "C 3-#6, 1-#10 GND,1 "C

35/3 OCP

3-#8, 1-#8 GND,1 "C 2 1 ACCU-C1

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- 1. FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPELX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C. WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD's, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.
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ELECTRICAL SHEET NOTES

- EXISTING ACCU TO BE DEMOLISHED. DISCONNECT EXISTING CIRCUIT AND MAKE SAFE FOR REUSE.
- NEW ACCU. EXISTING CIRCUITRY AND OCP MAY BE REUSED IF SIZE MATCHES SIZE SHOWN FOR NEW ACCU. UNIT SHALL BE POWERED FROM SAME PANEL AS ORIGINAL ACCU.
- 3. EXISTING VFD SHALL BE REPLACED ONE FOR ONE.



MEPT

HOUSTON

LEAF Engline

HOUSTON

11 Greenway Plaza, 15th Floor

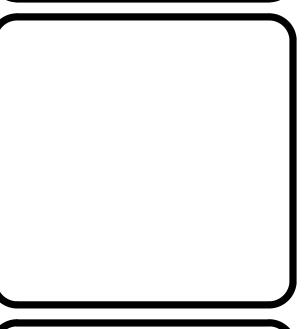
Houston,TX 77046

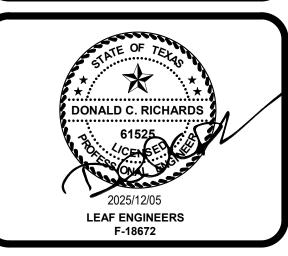
713-965-0608 P

713-961-4571 F

TX Firm: F-18672

LENA PARK ISD - CUNNINGHAM MS - HVAC UPGRADES -UE FOR PROPOSAL





| 7 | CL | IEN I | | | | | |
|-----------------|-------------|----------|-------|--|--|--|--|
| GALENA PARK ISD | | | | | | | |
| | DATE | PROJECT | | | | | |
| | 2025/12/05 | 2503 | 73.01 | | | | |
| DRAW | ING HISTORY | | I | | | | |
| No. | Descrip | otion | Date | | | | |
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| | ISSUE FOR | PROPOSAL | | | | | |
| BUILDI | ING NUMBER | | | | | | |
| | | | | | | | |
| E | LECTRIC | CAL RO | OOF | | | | |

E 204

E-301

| | | Main | SURFACE | <u> </u> | | | Job - | GPISD Cunningham | Voltage: | | 208Y/120 | | V | | Job No. | . 250373.01 | _ | | AIC | Equipmen | nt Ground | | | |
|-------|----------------------------|---------|---------|---------------|---------|---------|----------|------------------|----------|------|----------|-------|----------|------|---------|-------------|------|--------|----------|-----------|------------|-------|---------|-----|
| | | Neutral | 200% | | | | - | | Main | | 125 AM | PS | | | | _ | | | Ground | FEED TH | DII | | | |
| ANEL: | (E)2FCA | | | | | | | | | | ALL | LOADS | IN VA | | | 7 | | | Lugs | TEED IIII | NO | | | |
| Ltg. | Recept | Motor | Heat | Cool | Other | Kitchen | S/S | Description | Amp/P | Wire | Cir. No. | Ph | Cir. No. | Wire | Amp/P | Description | Ltg. | Recept | Motor | Heat | Cool | Other | Kitchen | S/S |
| | | | | | | | 0.00 | (E) | 20/1 | | 1 | Α | 2 | | | (E) | | | | | | | | 0.0 |
| | | | | | | | | (E) | 20/1 | | 3 | В | 4 | | 20/1 | (E) | | | | | | | | 0.0 |
| | | | | | | | 0.00 | (E) | 20/1 | | 5 | С | 6 | | 20/1 | (E) | | | | | | | | 0.0 |
| | | | | | | | 0.00 | (E) | 20/1 | | 7 | Α | 8 | | 20/1 | (E) | | | | | | | | 0.0 |
| | | | | | | | | (E) | 20/1 | | 9 | В | 10 | | 20/1 | (E) | | | | | | | | 0.0 |
| | | | | | | | 0.00 | (E) | 20/1 | | 11 | С | 12 | | 20/1 | (E) | | | | | | | | 0.0 |
| | | | | | | | | (E) | 20/1 | | 13 | Α | 14 | | | (E) | | | | | | | | 0.0 |
| | | | | | | | | (E) | 20/2 | | 15 | В | 16 | 12 | | UV AHU-8 | | | | | | 1200 | | 0.0 |
| | | | | | | | 0.00 | (E) | 20/1 | | 17 | С | 18 | 12 | 20/1 | UV AHU-9 | | | | | | 1200 | | 0.0 |
| | | | | | | | | (E) | 20/1 | | 19 | Α | 20 | 12 | 20/1 | UV AHU-10 | | | | | | 1200 | | 0.0 |
| | | | | | | | | (E) | 20/1 | | 21 | В | 22 | | | | | | | | | | | 0.0 |
| | | | | | | | 0.00 | | | | 23 | С | 24 | | | | | | | | | | | 0.0 |
| | | | | | | | | (E) | 20/1 | | 25 | Α | 26 | | | | | | | | | | | 0.0 |
| | | | | | | | 0.00 | (E) | 20/1 | | 27 | В | 28 | | | | - | | | | | | | 0.0 |
| | | | | | | | 0.00 | | | | 29 | С | 30 | | | (=)== | | | | | | | | 0.0 |
| | | | | | | | 0.00 | | | | 31 | A | 32 | | | (E)RANGE | | | | | | | | 0.0 |
| | | | | | | | 0.00 | | | | 33 | В | 34 | | | | | | | | | | | 0.0 |
| | | | | | | | 0.00 | | | | 35 | C | 36 | | 00/0 | (E) | | | | | | | | 0.0 |
| | | | | | | | 0.00 | | | | 37 | A | 38 | | 30/3 | (E) | | | | | | | | 0.0 |
| | | | | | | | 0.00 | | 20/4 | | 39 | В | 40 | | | | | | | | | | | 0.0 |
| ^ | 0 | 0 | _ | | 0 | 0 | 0.00 | TOTALO | 20/1 | | 41 | С | 42 | | | TOTALO | | - | 0 | 0 | | 2000 | | 0.0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | TOTALS | | | | | | | | TOTALS | 0 | 0 | 0 | 0 | 0 | 3600 | 0 | 0.0 |
| | | | LOAD S | UMMARY | | | | 7 | | | | Phas | e Load | | | | | | Panel Re | marks: | | | | |
| Ltg. | Recept | Motor | Heat | Cool | Other | Kitchen | S/S | Description | | | | Ph | KVA | | | | | | | | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 | Connected KVA | | | | Α | 1.2 | | | | | | | | | | | |
| 1.25 | ** | 1.00 | 1.00 | 1.00 | 1.00 | 0.65 | 0.50 | *Design Factors | | | | В | 1.2 | | | | | | | | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 | Design KVA | | | | С | 1.2 | | | | | | | | | | | |
| | factor per d 1st 10 KVA | | | d for calcula | ations. | | | | | | | | | | | | | | | | | | | |
| | Con. | Con. | | Des. | Des. |] | | | | | | | | | | | | | PANFI | (E)2FC | :Δ | | | |
| | | | | | | | | | | | | | | | | | | | IANLL | 12/21 | <u>'</u> ^ | | | |
| | KVA | Amps | | KVA | Amps | | | | | | | | | | | | | | | | | | | |

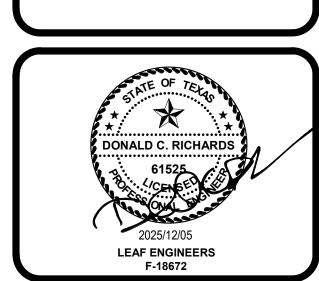
| Electrical | | | | | | | | | | | | AIC Rating | : | | |
|-------------------------|--------------------|-----------|-----------------------|----------|---------------|---------------|---------|---------|--------|---------|--------------|---------------------|--------------------|-----------|------------|
| Job: | : GPISD Cunningham | | | | | | | | | | | Volts - Phase | : 480Y/277V-3F | 'H 4W | |
| Job No.: | : 250373.01 | | | | С | DISTRIBUTI | (E)MDP | | _ | | | Served From | : | | |
| | | | | | Conne | ected Load (K | VA) | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | Wire and | | | | | | | Elect. | Spare/ | | | | |
| Cir. No. | Load Served | Amp/Poles | Conduit Size | Lighting | Conv. Outlets | Motors | Heating | Cooling | Others | Cooking | Spaces | Elevators | Residential | Total KVA | Total Amps |
| 1 | (E)EUH-CP-3 | 15/3 | | | | 10.0 | | | | | | | | 10.0 | 12.0 |
| 2 | (E)EUH-CP-1 | 15/3 | | | | 10.0 | | | | | | | | 10.0 | 12.0 |
| 3 | (E)SPARE | 15/3 | | | | | | | | | | | | 0.0 | 0.0 |
| 4 | (E)EUH-CP-2 | 15/3 | | | | 10.0 | | | | | | | | 10.0 | 12.0 |
| 5 | (E)SPARE | 15/3 | | | | | | | | | | | | 0.0 | 0.0 |
| 6 | (E)SPARE | 15/3 | | | | 40.0 | | | | | | | | 0.0 | 0.0 |
| 7 | (E)SHWP-2 | 20/3 | | | | 13.3 | | | | | | | | 13.3 | 16.0 |
| 8 | (E)SHWP-1 | 20/3 | | | | 13.3 | 100 | | | | | | | 13.3 | 16.0 |
| 9 | (E)BASIN HEATER 1 | 25/3 | 4 #40 #40 0ND 04#0 | | | 40 = | 16.6 | | | | | | | 16.6 | 20.0 |
| 10 | PCHP-1 | 30/3 | 4-#10, #10 GND, 3/4"C | | | 16.7 | | | | | | | | 16.7 | 20.1 |
| 11 | (E)BASIN HEATER 2 | 25/3 | | | | | 16.6 | | | | | | | | |
| 12 | PCHP-2 | 30/3 | 4-#10, #10 GND, 3/4"C | | | 16.7 | | | | | | | | | |
| 13 | (E)CT-1 CELL #1 | 60/3 | | | | 39.9 | | | | | | | | | |
| 14 | SCHP-1 | 40/3 | 4-#8, #10 GND, 3/4"C | | | 21.5 | | | | | | | | | |
| 15 | (E)CT-1 CELL #1 | 60/3 | | | | 39.9 | | | | | | | | 39.9 | 48.0 |
| 16 | SCHP-2 | 40/3 | 4-#8, #10 GND, 3/4"C | | | 21.5 | | | | | | | | 21.5 | 25.9 |
| 17 | CWP-1 | 60/3 | 4-#6, #10 GND, 3/4"C | | | 31.9 | | | | | | | | 31.9 | 38.3 |
| 18 | CWP-2 | 60/3 | 4-#6, #10 GND, 3/4"C | | | 31.9 | | | | | | | | 31.9 | 38.3 |
| Total | | | | 0.0 | 0.0 | 276.5 | 33.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 215.0 | 258.6 |
| | | | | | | | | | | | | | | | |
| Demand | | | | 1.25 | * | ** | 1.0 | 1.0 | 1.00 | 0.65 | 0.5 | *** | **** | | |
| Total | | | | 0.0 | 0.0 | 276.5 | 33.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 309.8 | 372.6 |
| * 100% of ** 125% of | | | | | | | Largest | | _ KVA | | DISTRIBUTION | PANEL: | | (E) | MDP |
| 125% 01 | | | | | | | | | | | | TVDE | MAINTLICC | , , | |
| | | | | | | | | | | | MAINS (1) | TYPE: | MAIN LUGS | UNLY | |
| | | | | | | | | | | | | SIZE: | 800 AMP | | |
| Dete | 40/4/0005 | | | | | | ٦ | | | | DUO 0175 | PHASE: | 800 AMP | | |
| Date: | : 12/4/2025 | | | Ву: | Designer | | | | | | BUS SIZE | NEUTRAL: GROUND: | 800 AMP PER NEC | | |
| | | 1 | | 1 | | | 1 | | | | 1 | L CDOLIND. | DED MEG. | | |



HOUSTON LEAF Engineers.com
11 Greenway Plaza, 15th Floor
Houston,TX 77046
713-965-0608 P
713-961-4571 F
TX Firm: F-18672

A PARK ISD - CUNNINGHAM MS - HVAC UPGRADES -





| | _ | IENT PARK ISD | | | | | |
|-------------------------|------------------|------------------|--------------|--|--|--|--|
| | DATE 25/12/05 | PROJECT 2503 | NUMBER 73.01 | | | | |
| DRAWING | HISTORY | | | | | | |
| No. | Descrip | otion | Date | | | | |
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| ELECTRICAL PANEL | | | | | | | |

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SCHEDULES



Package II North Shore Middle School Roof Upgrade

120 Castlegory Rd. Houston, TX 77015

Cunningham Middle School Roof Replacement and HVAC Upgrades

14110 Wallisville Rd. Houston, TX 77049

Galena Park Independent School District

Issue For Proposal

2025/12/05



| BOARD OF TRUS | TEES |
|---------------|------|
| | |

Mr. Ramon Garza Mrs. Linda Clark Sherrard Mr. Jose Jimenez Mrs. Adrian Stephens Mr. Noe Esparza Mrs. Norma Hernandez Mrs. Amanda Erebia

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Board Trustee

Dr. John C. Moore Dr. Wanna Giacona Mr. Ben Pape

Dr. Mechelle Epps Mr. Mike McKay Mrs. Holli Malloy Mr. Jerid Link

Mr. Bryan Clements

ADMINISTRATION

Superintendent of Schools **Chief Administrative Officer Chief Financial Officer** Assistant Superintendent for Student Support Services Assistant Superintendent for Operations Assistant Superintendent for Academic Support Assistant Superintendent for Human Resources Chief of Police/Executive Director for Security & Tech.

ADMINISTRATION

Mr. Lee Ramirez Dr. Kimberly Martin Ms. Vivian Dancy Mr. Ed Martir Mr. Trey Kraemer

Executive Director for School Operations Executive Director for Accountability & Academic Support

Director for Athletics

Director for Facilities, Planning & Construction

Campus Liaison

BEAM PROFESSIONALS

11 Greenway Plaza, 22nd Floor Houston, TX 77046 T (713) 965-0608

EOS edge of slab

EQUIP equipment

EW each way

EXST existing

F.O. face of

FA fire alarm

equal

EXP. expansion joint

ETR existing to remain

overflow pipe

outside diamete

opposite hand

overall

office

-CASEWORK TYPE (CDS NUMBER)

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on center

CA SPORTS CIVIL

SA SPORTS ARCH

STRUCTURAL

LANDSCAPE

DEMOLITION

MECHANICAL

TECHNOLOGY FS FOOD SERVICE AV ACOUSTICAL

ELECTRICAL

PLUMBING

TH THEATRICAL

ARCHITECTURA

GENERAL NOTES

- . THE CONTRACT DOCUMENTS ARE TO INCLUDE AIA DOCUMENT A201 "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION". CLIENT SHALL BE DESIGNATED AS "THE OWNER", BEAM PROFESSIONAL. SHALL BE DESIGNATED AS "THE ARCHITECT". FACILITY SHALL BE DESIGNATED AS "THE LANDLORD". THE CONTRACT DOCUMENT SHALL ALSO INCLUDE THE AGREEMENT, PERFORMANCE AND PAYMENT BONDS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, THE SPECIFICATIONS, CONTRACT DRAWINGS ADDENDA, AND CONTRACT MODIFICATIONS, BUILDING RULES AND REGULATIONS & ANY OTHER DOCUMENTS REQUIRED BY THE OWNER.
- B. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF APPLICABLE SAFETY AND BUILDING CODES, AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION. CONTRACTOR IS RESPONSIBLE FOR SECURING AND PAYING FOR PERMITS REQUIRED FOR THE WORK AND FOR THE SCHEDULING OF REQUIRED INSPECTIONS DURING THE COURSE OF THE WORK.
- C. CONTRACTOR SHALL REVIEW AND VERIFY EXISTING CONDITIONS AS PROVIDED IN THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF DISCREPANCIES, ERRORS. INCONSISTENCIES OR AMBIGUITIES PRIOR TO PROCEEDING WITH THE WORK.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR, AND PROVIDE PROTECTION OF, ANY EXISTING FINISHES, MATERIALS, AND EQUIPMENT TO REMAIN. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED FINISHES. MATERIALS. AND EQUIPMENT AS A RESULT OF THE WORK, EXISTING FINISHES TO REMAIN SHALL BE CLEANED AT THE COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PHOTOGRAPH AND DOCUMENT EXISTING DAMAGES, AND PROVIDE TO THE ARCHITECT, PRIOR TO PROCEEDING WITH THE WORK
- . MATERIALS AND SYSTEMS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. CONSTRUCTION SHALL BE TO INDUSTRY STANDARD OR BETTER. THE ARCHITECT SHALL HAVE FINAL SAY ON QUALITY.
- . ONLY NEW MATERIALS AND EQUIPMENT OF RECENT MANUFACTURE, OF STANDARD QUALITY, AND FREE FROM DEFECTS, WILL BE PERMITTED IN THE WORK, UNLESS OTHERWISE NOTED. REJECTED MATERIALS AND EQUIPMENT SHALL BE REMOVED IMMEDIATELY FROM THE WORK AND REPLACED WITH MATERIALS AND EQUIPMENT OF THE QUALITY SPECIFIED. FAILURE TO REMOVE REJECTED MATERIALS AND EQUIPMENT SHALL NOT RELIEVE CONTRACTOR FROM THE RESPONSIBILITY FOR QUALITY OF MATERIAL AND EQUIPMENT USED NOR FROM ANY OTHER OBLIGATION IMPOSED BY THE CONTRACT.
- G. DO NOT SCALE DRAWINGS. CONTRACTOR SHALL VERIFY DIMENSIONS IN THE FIELD AND SHALL BE RESPONSIBLE FOR THEIR ACCURACY. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED BECAUSE OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS, UNLESS THEY CONTRIBUTE TO A CHANGE IN THE SCOPE OF THE WORK. ANY DIFFERENCE FOUND SHALL BE SUBMITTED TO THE ARCHITECT FOR COORDINATION PRIOR TO ORDERING, MANUFACTURING, OR PROCEEDING WITH THE WORK. HORIZONTAL DIMENSIONS INDICATED ARE TO/FROM FACE OF FINISH, UNLESS NOTED OTHERWISE. VERTICAL DIMENSIONS ARE FROM TOP OF FLOOR SLAB EXCEPT WHERE NOTED TO BE ABOVE FINISHED FLOOR (AFF).

DIMENSIONS ARE NOT ADJUSTABLE WITHOUT APPROVAL OF ARCHITECT UNLESS NOTED.

WILL BECOME THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO CORRECT.

- H. CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATIONS OF EXISTING AND PROPOSED NEW MECHANICAL, ELECTRICAL, PLUMBING, DATA, AND SPRINKLER EQUIPMENT (INCLUDING BUT NOT LIMITED TO STRUCTURAL MEMBERS, PIPING, DUCT WORK, CONDUIT AND SPRINKLERS) AND THAT CLEARANCES FOR INSTALLATION AND MAINTENANCE OF EQUIPMENT ARE PROVIDED. ELEMENTS IN CONFLICT SHALL BE DOCUMENTED AND PROVIDED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH SHOP DRAWINGS FOR REVIEW AND APPROVAL, FOR, BUT NOT LIMITED TO, THE FOLLOWING: DOORS, MISC. STEEL, METAL FABRICATION, GLASS/GLAZING. SHOP DRAWINGS SHALL BE SUBMITTED IN THE FORM OF 3 SETS OF PRINTS. SHOP DRAWINGS SHALL NOT BE REPRODUCTIONS OF CONTRACT DOCUMENTS. MATERIAL SUBMITTALS (3 SAMPLES) SHALL BE PROVIDED FOR WOOD, FASTENERS, OTHER MATERIALS INDICATED IN THE SHOP DRAWING.
- I. CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH MANUFACTURER'S CUT SHEETS AND SPECIFICATIONS FOR EQUIPMENT INCLUDING BUT NOT LIMITED TO:PLUMBING EQUIPMENT, FANS, SUPPLEMENTARY HEATING AND COOLING ELEMENTS, HARDWARE AND SECURITY E EQUIPMENT.
- K. CONTRACTOR SHALL NOT PROCEED WITH WORK FOR WHICH ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT IS EXPECTED WITHOUT WRITTEN AUTHORIZATION FROM THE ARCHITECT AND OWNER. FAILURE TO OBTAIN SUCH AUTHORIZATION SHALL INVALIDATE A CLAIM FOR EXTRA COMPENSATION. CONTRACTOR SHALL NOT PROCEED WITH WORK WHICH, IF COMPLETED IN STRICT CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS, WILL RESULT IN ADDITIONAL WORK BEYOND THE SCOPE OF THE CONTRACT WITHOUT WRITTEN AUTHORIZATION FROM THE ARCHITECT AND OWNER. ANY FIELD CONDITIONS THAT SIGNIFICANTLY VARY FROM THE CONTRACT DOCUMENTS OR WILL RESULT IN ADDITIONAL WORK, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
- WHERE BUILDING THERMAL EXPANSION JOINTS ARE LOCATED, CONTRACTOR SHALL COMPLY WITH APPLICABLE CODE AND INDUSTRY BEST PRACTICES FOR ROUTING OF PIPING, DUCTS, CONDUITS AND OTHER CONTINUOUS RUNS.
- M. CONTRACTOR SHALL CONTINUOUSLY CHECK ARCHITECTURAL AND STRUCTURAL CLEARANCES FOR ACCESSIBILITY OF EQUIPMENT AND MECHANICAL AND ELECTRICAL SYSTEMS. NO ALLOWANCES WILL BE MADE FOR THE GENERAL CONTRACTOR'S NEGLIGENCE TO FORESEE MEANS OF INSTALLING EQUIPMENT INTO POSITION.
- N. FINISHED WORK SHALL BE FIRM, WELL-ANCHORED, IN TRUE ALIGNMENT, PLUMB, LEVEL, WITH SMOOTH, CLEAN, UNIFORM, APPEARANCE WITHOUT WAVES, DISTORTIONS, HOLES, MARKS, CRACKS, STAINS, OR DISCOLORATION. JOINTING SHALL BE CLOSE FITTING, NEAT AND WELL SCRIBED. FINISHED WORK SHALL HAVE NO EXPOSED UNSIGHTLY ANCHORS OR FASTENERS AND SHALL NOT PRESENT HAZARDOUS. UNSAFE CORNERS. WORK SHALL HAVE THE PROVISION FOR EXPANSION, CONTRACTION AND SHRINKAGE AS NECESSARY TO PREVENT CRACKS, BUCKLING, AND WARPING DUE TO TEMPERATURE AND HUMIDITY CONDITIONS.
- O. ATTACHMENTS, CONNECTIONS OR FASTENERS ARE TO BE PROPERLY AND PERMANENTLY SECURED IN CONFORMANCE WITH INDUSTRY BEST PRACTICES. THE DRAWINGS HIGHLIGHT SPECIAL CONDITIONS ONLY AND BY NO MEANS ILLUSTRATE EVERY CONNECTION. THE CONTRACTOR IS RESPONSIBLE FOR IMPROVING CONNECTION ACCORDINGLY.
- P. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS AND SHALL ORDER AND SCHEDULE DELIVERY OF MATERIALS TO AVOID DELAYS IN CONSTRUCTION. IF AN ITEM IS FOUND TO BE
- UNAVAILABLE OR TO HAVE A LONG LEAD TIME, THE GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY WITH A PROPOSED ALTERNATIVE. Q. CONTRACTOR SHALL NOTIFY THE OWNER, AND THE ARCHITECT IN WRITING OF ANY DEFICIENCIES IN BUILDING WORK PRIOR TO THE COMMENCEMENT OF THE WORK. UNREPORTED DEFICIENCIES | HVAC REPAIRS AND REPLACEMENT
- R. CONTRACTOR SHALL EXERCISE INDUSTRY BEST PRACTICES FOR CARE AND CAUTION DURING THE CONSTRUCTION OF THE WORK, AND SHALL SCHEDULE WORK TO MINIMIZE DISTURBANCES TO OCCUPANTS, ADJACENT SPACES AND/OR STRUCTURES, PROPERTY, PUBLIC THOROUGHFARES, ETC. THE GENERAL CONTRACTOR SHALL TAKE PRECAUTIONS AND BE RESPONSIBLE FOR THE SAFETY OF BUILDING OCCUPANTS DURING CONSTRUCTION PROCEDURES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS INCURRED.
- S. DEBRIS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS, OR AS DIRECTED BY THE AUTHORITY HAVING JURISDICTION. UPON COMPLETION OF THE WORK, REMOVE DEBRIS FROM THE WORK | 4. ADDITION OF VARIABLE SPEED DRIVES TO SELECTED AIR HANDLING UNITS, PRIMARY, SECONDARY PUMPS, CONDENSING PROVIDED UNDER THIS CONTRACT AND LEAVE ALL AREAS CLEAN. TRASH IS NOT PERMITTED TO BE BURNED ON SITE.
- DEBRIS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS, OR AS DIRECTED BY THE AUTHORITY HAVING JURISDICTION. UPON COMPLETION OF THE WORK, REMOVE DEBRIS FROM THE WORK PROVIDED UNDER THIS CONTRACT AND LEAVE ALL AREAS CLEAN. TRASH IS NOT PERMITTED TO BE BURNED ON SITE.
- J. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ACCESS PANELS WHICH MAY BE REQUIRED PRIOR TO PROCEEDING WITH THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING TRADES. REQUIRED ACCESS PANELS SHALL BE INCLUDED IN THE CONTRACTOR'S SCOPE OF WORK.
- INTERIOR FINISHES/SCHEDULES (Finish V. CONTRACTOR SHALL PROVIDE THE TEAM WITH A CONSTRUCTION SCHEDULE SHOWING THE PROPOSED PHASING. LONG LEAD ITEMS THAT WILL AFFECT THE SUBSTANTIAL COMPLETION DATE SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY Elevations & Details, Locker Types & Details)

SCOPE OF WORK

- **NORTH SHORE MIDDLE SCHOOL**
- REMOVE HIP AND RIDGE AT METAL ROOF AREAS.
- REMOVE GUTTER AND DOWNSPOUTS MECHANICALLY FASTEN 2.25" FLUTE FILL
- ADHERE 3/4" DENSDEK PRIME.
- INSTALL NEW 2X6 NAILERS AT PERIMETER TO MATCH INSULATION HEIGHT
- INSTALL A 60 MIL FELT BACK PVC SET IN ADHESIVE. ROLL IN TO CREATE A SMOOTH SURFACE.
- INSTALL DECOR RIBS 16" O.C. TO SIMULATE A STANDING SEAM PROFILE.
- INSTALL NEW EDGE METAL, GUTTER, DOWNSPOUTS AND ASSOCIATED METALS REMOVE SEALANTS FROM CONTROL AND SOFT JOINTS AT EXTERIOR WALLS, GRIND JOINTS CLEAN, INSTALL BACKER ROD AND

UNNINGHAM MIDDLE SCHOOL

RECOVER: A1,A2,A3,B1,B2,B3,C2,C5,C6,C7,C8

. SPUD, VACUUM, AND REMOVE AGGREGATE FROM IN PLACE ROOF SYSTEM. DOWN TO A BONDABLE AND SMOOTH SURFACE.

. INSTALL 2X6 NAILERS AT PERIMETER TO MATCH INSULATION HEIGHT

- B. SET 1.5" HIGH DENSITY INSULATION IN ADHESIVE AT ROOF AREAS.
- I. SET TAPERED INSULATION IN ADHESIVE TO PROVIDE POSITIVE DRAINAGE TO DRAINS
- 5. INSTALL SHEET METAL COMPONENTS.
- . INSTALL A 2-PLY MODIFIED BITUMEN ROOF SYSTEM TO QUALIFY FOR A 20 YEAR WARRANTY . REMOVE SEALANT FROM CONTROL AND SOFT JOINTS AT EXTERIOR WALLS, GRIND JOINTS CLEAN, INSTALL BACKER ROD AND
- . REMOVE CURB, REMOVE CAPPED SKYLIGHTS, COVER AND PATCH OPENING WITH METAL DECKING TO MATCH ADJACENT. ADD
- ADDITIONAL SUPPORTS AS NECESSARY
- . RAISE EXPANSION JOINT TO MIN. 10" ABOVE ROOF SURFACE
- 10. INSTALL NEW DRAIN AND OVERFLOW DRAIN RE: DRAWINGS
- 1. SEAL AND COVER EXISTING DRAINS RE: DRAWINGS
- 2. REMOVE AND REINSTALLED EXISTING DRAINS. CLEAN, PREP AND PAINT DRAINS BEFORE REINSTALLATION
- 13. VERIFY AND REMOVE ABANDONED GAS LINES
- 14. INSTALL NEW GUTTER AND DOWNSPOUTS RE: DRAWINGS

REROOF: C1,C2,C3,C9,C10

- . REMOVE EXISTING ROOF SYSTEM DOWN TO METAL OR CONCRETE DECK
- . INSTALL 2 LAYERS OF 2.2 POLYISOCYANURATE. SEE DETAILS FOR ATTACHMENTS
- B. INSTALL TAPER INSULATION AND CRICKETS.
- . INSTALL ½" DENSDEK PRIME SET-IN ADHESIVE.
- 5. INSTALL 2X6 NAILER AT PERIMETER, MATCH INSULATION HEIGHT
- . INSTALL SHEET METAL COMPONENTS.
- INSTALL A 2-PLY MODIFIED BITUMEN ROOF SYSTEM TO QUALIFY FOR A 20-YEAR WARRANTY.

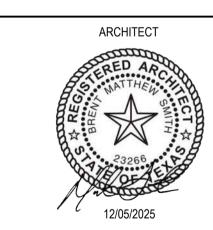
BUILDING CONTROLS (BAS) REPLACEMENT - THROUGHOUT

- P. REPLACEMENT OF COIL AND DX CONDENSING UNIT AT FOUR DX/CHILLED WATER AIR HANDLING UNITS (OFFICE AND LIBRARY) B. AIR HANDLING UNIT REPLACEMENT - 4 UNITS TOTAL
- CHILLED WATER PUMPS AND THE COOLING TOWER 8 TOTAL



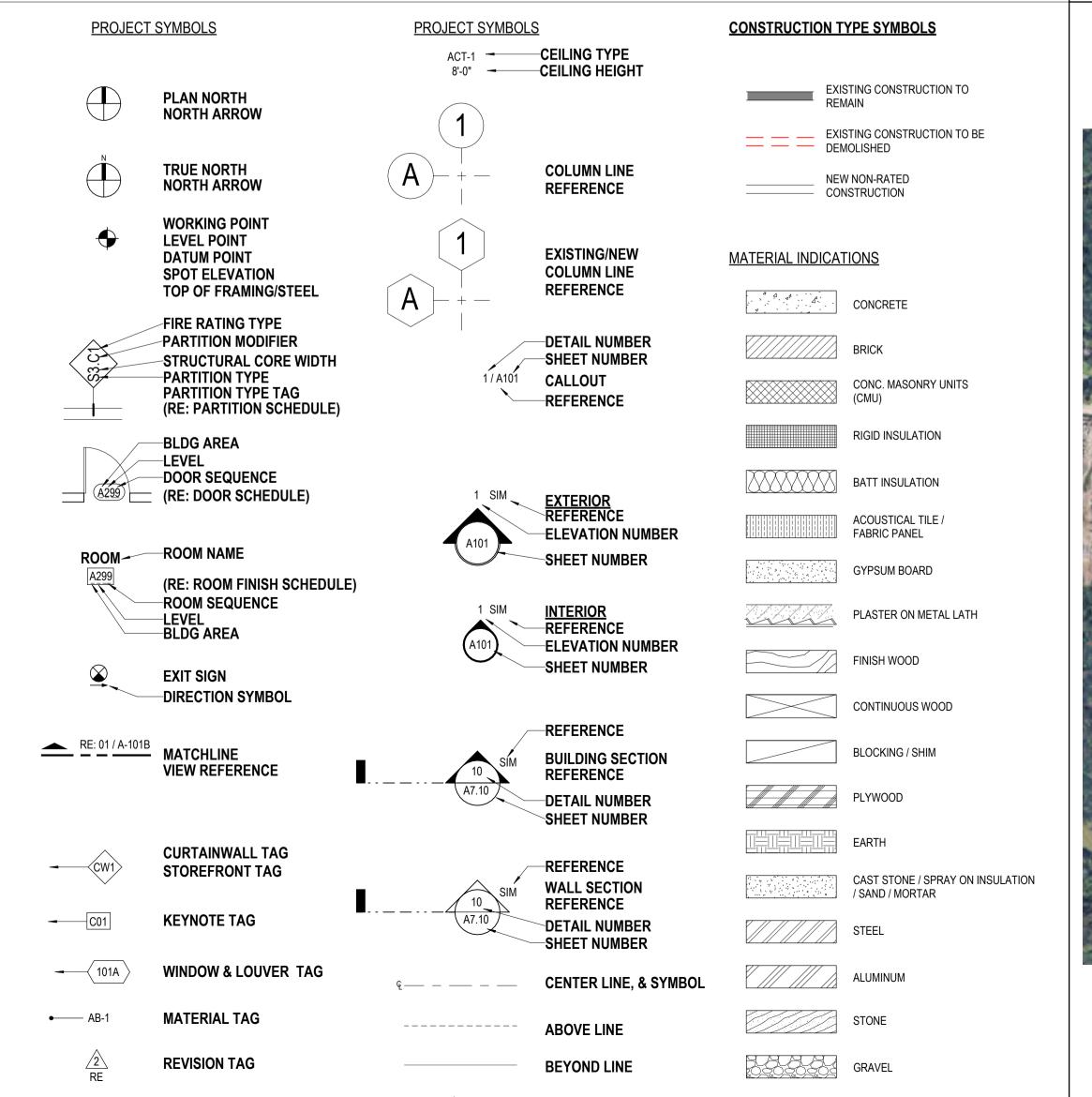


| | NUMBER | SHEET NAME |
|-------|-----------|--|
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| | ARCHITECT | URAL GENERAL |
| | G-000 | COVER SHEET |
| | G-001 | GENERAL PROJECT INFORMATION |
| | ARCHITECT | URAL |
| | A-301 | NORTH SHORE MIDDLE SCHOOL - ROOF PLAN |
| | A-302 | CUNNINGHAM MIDDLE SCHOOL - COMPOSITE ROOF PLAN |
| 200 | A-303 | CUNNINGHAM MIDDLE SCHOOL - ROOF AREA B |
| | A-304 | CUNNINGHAM MIDDLE SCHOOL - ROOF AREA A |
| | A-322 | ROOF DETAILS |
| | A-325 | REFERENCE PHOTOS |
| 9 (8) | | |



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GENERAL PROJECT INFORMATION



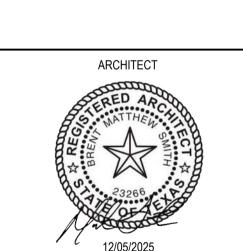
SEALANT

ROD STOCK & SEALANT

BLDG DETAILS

DIAGRAMS/COMPILED SCHEDULES

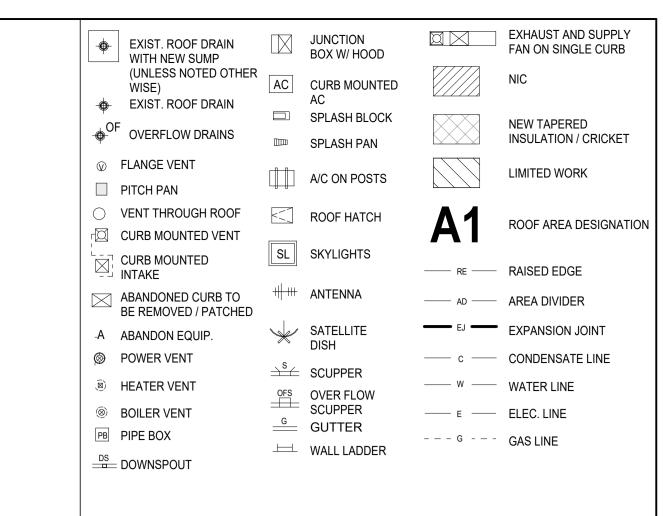
Plan, Interior Elevations, Casework/Millwork



Galena Park Independent School District PROJECT NUMBER 2025/12/05 250373 DRAWING HISTORY Description CHECKED BY: ES,MS DRAWN BY: JT

NORTH SHORE MIDDLE SCHOOL -ROOF PLAN

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ROOF LEGEND

CUNNINGHAM MS ROOF SCHEDULE

| MARK | APPROX. SQ. FT. | EXISTING NOMENCLATURE | PROPOSED NOMENCLATURE | Comments |
|------|--------------------|--|-----------------------|---|
| | • | | | |
| A1 | 66,488 SF | CONC DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| A2 | 11,529 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| A3 | 2,196 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| B1 | 7,403 SF | CONC DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| B2 | 7,047 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| В3 | 2,794 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| C1 | 3,913 SF | CONC DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R2 | REMOVE EXISTING R SYSTEM TO EXISTING DECK |
| C2 | 2,961 SF | CONC DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R2 | REMOVE EXISTING R SYSTEM TO EXISTING DECK |
| C3 | 2,688 SF | CONC DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R2 | REMOVE EXISTING R SYSTEM TO EXISTING DECK |
| C5 | 3,928 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| C6 | 5,592 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| C7 | 3,452 SF | CONC DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| C8 | 3,832 SF | CONC DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R1 | |
| C9 | 747 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R3 | REMOVE EXISTING R SYSTEM TO EXISTING DECK |
| C10 | 772 SF | MTL DECK,1/2" GYP,2'-4.5" POLYISO, 1/2" WOOD FIBER, HYLOAD,1/2" 3 PLY, GRAVEL | R3 | REMOVE EXISTING R SYSTEM TO EXISTING DECK |
| D1 | 90 SF | | R1 | CANOPY |

CONTRACTOR SHALL VISIT SITE TO ASCERTAIN EXISTING CONDITIONS AND COMPONENTS
RELATED TO THE WORK DESCRIBED BY THESE DOCUMENTS. AFTER AWARD OF THE CONTRACT,
CHANGE ORDER REQUEST FOR ADDITIONAL MONEY SHALL NOT BE APPROVED IF THE WORK
COULD HAVE BEEN ANTICIPATED DURING THE SITE VISIT BY THE CONTRACTOR, WORK SHALL BE
COMPLETED IN ACCORDANCE WITH ACCEPTED MANUFACTURER'S PRINTED INSTRUCTIONS AND
WARRANTY REQUIREMENTS.
 DIMENSIONS, DETAILS, EQUIPMENT SIZE AND LOCATION SHOWN IN THESE CONSTRUCTION
DOCUMENTS ARE FOR CONVEYANCE OF DESIGN INTENT ONLY. EXACT SIZE, LOCATION, TYPE OF

MATERIAL AND TYPE OF CONSTRUCTION OF EXISTING CONDITIONS ARE THE RESPONSIBILITY OF

THE CONTRACTOR TO ASCERTAIN AND CONFIRM.

3. INDICATED ROOF HEIGHTS ARE GENERAL IN NATURE.

4. REFER TO NOMENCLATURE FOR TYPE OF ROOF SYSTEM. AREAS ARE MARKED WITH DESIGNATED LETTER ON ROOF PLAN.

5. NOTE THAT THE DETAILS DRAWN ARE GENERIC IN NATURE AND ARE NOT NECESSARILY

LOCATED AND KEYED TO THE ROOF PLANS.

6. REMOVE EQUIPMENT IDENTIFIED ON SITE AND AS SHOWN OTHERWISE ON THESE DOCUMENTS.

7. CRICKETS AND TAPERED INSULATION SHALL BE INSTALLED WITH A FINISHED 1/4" PER FOOT MIN. SLOPE. CRICKET THE UP SLOPE SIDE OF SQUARE CURBS AND PROJECTIONS OVER 20' IN WIDTH.

8. REPLACE ROTTED AND / OR OTHERWISE DETERIORATED ROOF DECK MATERIALS (MATCH EXISTING)

9. REPLACE ROTTEN AND / OR OTHERWISE DETERIORATED WOOD NAILER MATERIAL

10. PATCH EXISTING METAL ROOF DECK (AS APPLICABLE) FOR HOLES LESS THAN 10" WIDE BY ANCHORING 22 GA. STAINLESS STEEL SHEET METAL TO BOTTOM OF EXISTING METAL ROOF DECK AND ADDING NEW INSULATION TO MATCH THICKNESS. PATCH EXISTING METAL ROOF DECK FOR HOLES GREATER THAN 10" WIDE BY ANCHORING 22 GA. STAINLESS STEEL SHEET METAL TO BOTTOM OF EXISTING METAL ROOF DECK SPANNING FROM JOIST TO JOIST.

11. AS APPLICABLE, HVAC AND / OR DX UNITS, ELECTRICAL TRANSFORMERS, ROOF TOP EQUIPMENT, ETC. THAT ARE ON SLEEPERS SHALL BE DISCONNECTED / REMOVED, RAISED, AND PLACED ON NEW CURBED PLATFORMS AS DETAILED AND REINSTALLED / RECONNECTED. CURB MOUNTED HVAC UNITS, EQUIPMENT, ETC. SHALL HAVE A MINIMUM 10" CURB HEIGHT AND ARE TO

BE RAISED AS REQUIRED.

12. WORK TO UTILITY CONDUIT OR PIPE SHALL BE PERFORMED BY SPECIFIC LICENSED SUBCONTRACTORS SPECIALIZING IN HVAC, PLUMBING AND ELECTRICAL WORK. PERMITS AND INSPECTIONS ARE REQUIRED. REROUTE AND / OR MODIFY UTILITY CONDUIT OR PIPE AS REQUIRED TO BE INSTALLED AS DETAILED.

13. UNLESS INDICATED OTHERWISE ON THE CONSTRUCTION DOCUMENTS, REPLACE AND RAISE EXISTING EXPANSION, JOINTS / AREA DIVIDEDS / CLIRR MOUNTED FOUNDMENT / SKYLIGHTS (AS

EXISTING EXPANSION JOINTS / AREA DIVIDERS / CURB MOUNTED EQUIPMENT / SKYLIGHTS (AS APPLICABLE) A MIN. 10" ABOVE ROOF DECK.

14. SOIL STACK FLASHING SHALL BE A MIN. 10" ABOVE FINISHED ROOF SURFACE. COUPLE PVC PIPE ABOVE DECK AND COUPLE CAST IRON PIPE BELOW DECK.

15. PIPING/ CONDUITS/ ETC. SHALL BE A MIN. 10" ABOVE ROOF SURFACE, NEW AND EXISTING. PROVIDE PORTABLE PIPE HANGERS WITH PROTECTION PADS AS SPECIFIED. RAISE EXISTING PIPING/ CONDUIT/ ETC. AS REQUIRED. MEP CONTRACTORS SHALL PROVIDE SUPPORTS FOR

16. PROVIDE PREMANUFACTURED MULTI-PENETRATED VAULT
 17. PROVIDE WALKWAY PROTECTION PADS AS SPECIFIED AROUND ROOF HATCHES, HVAC
ROOFTOP UNITS, DOORS THAT OPEN ONTO ROOF AND AT TOP AND BOTTOM OF ALL ROOF TOP
ACCESS LOCATIONS.
 18. INSTALL NEW SPLASH PAN AT LOCATIONS WHERE ROOF DRAINAGE DISCHARGES ONTO ROOF
AREA. INSTALL NEW SPLASH BLOCKS WHERE ROOF DRAINAGE DISCHARGES ON GROUND.
 19. ISOLATE HEAT PIPES / FLUES AS DETAILED AND RECOMMENDED IN THE NRCA MANUAL FOR
HOT STACK FLASHING AND AS DETAILED.
 20. OUTSIDE AIR INTAKES SHALL BE COVERED TO ELIMINATE ODORS AND FUMES FROM ENTERING
INTO THE BUILDING DURING CONSTRUCTION WORK.
 21. AFTER SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL EXAMINE AND CLEAN

UTILITY LINES.

DRAIN LINES DEBRIS AND BLOCKAGE, FLUSH WITH WATER TO ENSURE THAT DRAINS AND GUTTERS FLOW FREELY.

22. OWNER WILL VERIFY PROPER OPERATION OF ROOF TOP EQUIPMENT BEFORE AND AFTER THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING INOPERABLE EQUIPMENT PRIOR TO RELEASE OF RETAINAGE.

23. PRIOR TO COMMENCEMENT OF WORK, COORDINATE WALK OF ENTIRE ROOF WITH ROOFING MANUFACTURER'S TECHNICAL REPRESENTATIVE TO IDENTIFY AND LOCATE AREAS OF HIGH

SLOPE OR OTHER CONDITIONS WHICH MIGHT REQUIRE SPECIAL PROCEDURES FOR SYSTEM ATTACHMENT.

24. REFER TO GENERAL DETAILS FOR TYPICAL SPLASH PAN, ROOF DRAIN AND OVERFLOW DRAIN DETAILS.

25. REPLACE RUSTED AND / OR DETERIORATED EXISTING METAL VENT FLASHING AND FLUES.

26. LOCATE PERIMETER DRAINS MAX. 6'-0" FROM EDGE TYPICAL UNLESS SHOWN OTHERWISE. (GENERAL CONTRACTOR TO COORDINATE WITH ROOFING AND PLUMBING CONTRACTOR.)

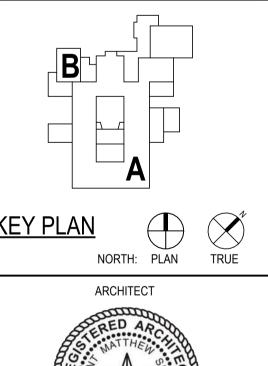
27. THROUGH WALL BASE FLASHING MIN. HEIGHT 10" AND MAX. HEIGHT 20" FROM FINISH DECK. DO NOT STEP THROUGH WALL FLASHING CLOSER THAN 5'-0" FROM CORNERS.
28. CONTRACTOR SHALL COORDINATE LOCATION AND ORIENTATION OF ROOF HATCH AND ACCESS LADDER.
29. GENERAL CONTRACTOR SHALL VERIFY ROOF SLOPES WILL PROPERLY DRAIN AS SHOWN. TAPERED INSULATION HATCHING SHOWN IS NOT INTENDED TO ILLUSTRATE THE ENTIRE LIMITS OF TAPERED INSULATION. ROOF AREAS NOT SLOPED BY STRUCTURE SHALL BE SLOPED WITH TAPERED INSULATION TO ACHIEVE PROPER DRAINAGE.

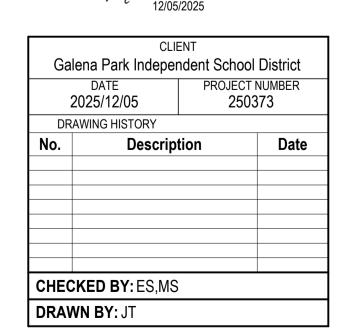
30. PAINT EXISTING GAS PIPE TO REMAIN.
31. PROVIDE RETROFIT DRAIN KIT FOR EACH EXISTING ROOF DRAIN. RE: SPECS.
32. ROOFING WORK SHALL OCCUR IN SUCH A MANNER AS NOT TO VOID ANY EXISTING ROOF WARRANTIES. CONTRACTOR TO CONTACT ROOFING MANUFACTURER PRIOR TO COMMENCING THE WORK. NO EXCEPTIONS.

GENERAL NOTES

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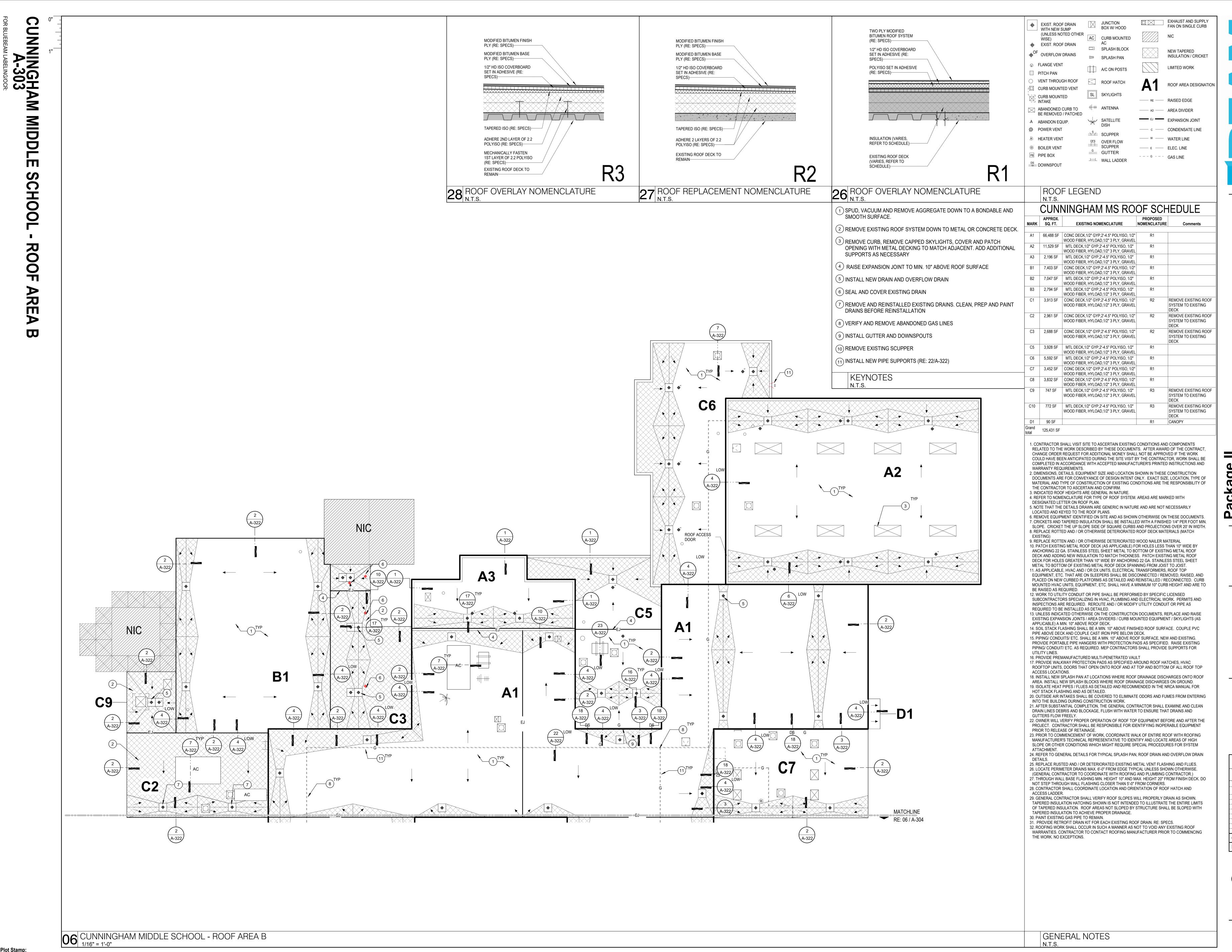


CUNNINGHAM MIDDLE
SCHOOL COMPOSITE ROOF

\-302

6 CUNNINGHAM MIDDLE SCHOOL -COMPOSITE ROOF PLAN

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Galena Park Independent School District

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No. Description Date

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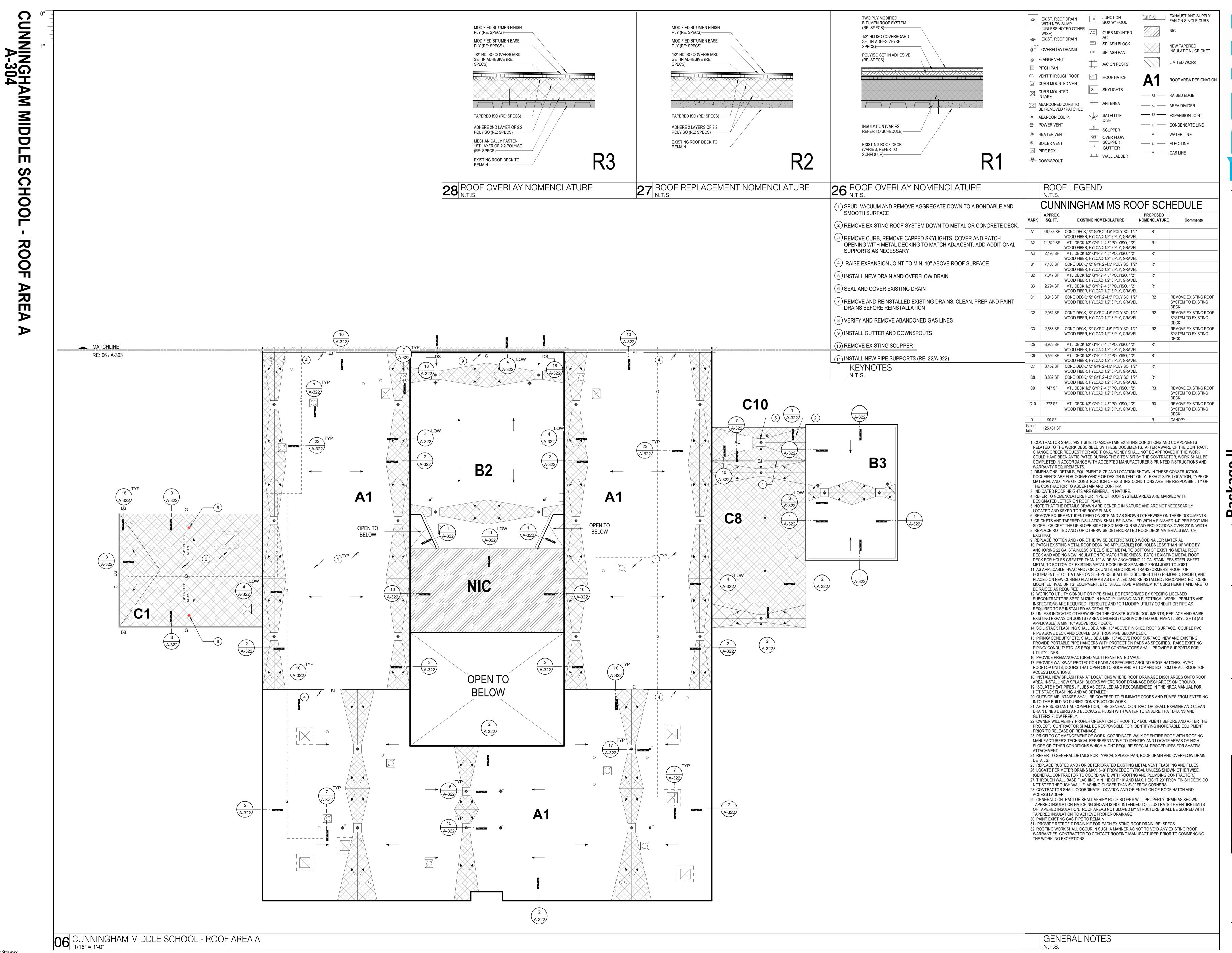
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CUNNINGHAM MIDDLE SCHOOL - ROOF AREA B

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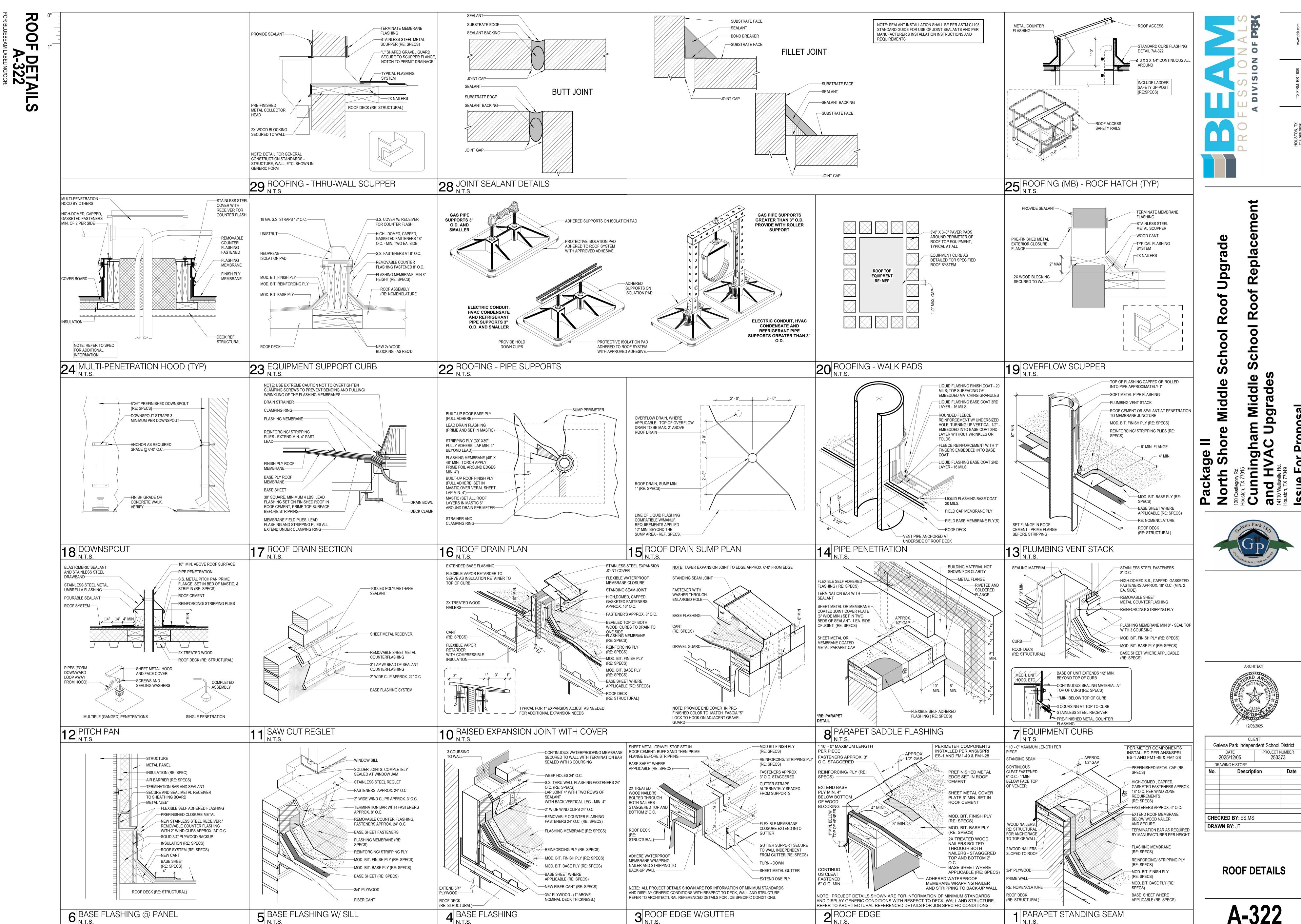
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CUNNINGHAM MIDDLE SCHOOL - ROOF AREA A

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INSTALL GUTTER AND DOWN SPOUT VERIFY AND REMOVE INSTALL GUTTER AND ABANDONED GAS LINE DOWN SPOUT 15 CUNNINGHAM MIDDLE SCHOOL 14 CUNNINGHAM MIDDLE SCHOOL 13 CUNNINGHAM MIDDLE SCHOOL AND APPLY NEW FLUT FILL ROOF SYSTEM (RE: ROOF PLAN) 9 NORTH SHORE MIDDLE SCHOOL REMOVE AND APPLY
NEW CONTROL JOINTS
(FIELD VERIFY) INSTALL FLUTE FILL ROOF SYSTEM RE: ROOF PLANS REMOVE HIP AND RIDGE METAL (FIELD VERIFY) 09.10.2 7 NORTH SHORE MIDDLE SCHOOL 6 NORTH SHORE MIDDLE SCHOOL 8 NORTH SHORE MIDDLE SCHOOL N.T.S. 5 NORTH SHORE MIDDLE SCHOOL DRAWN BY: JT REPLACE GUTTER (FIELD VERIFY) REPAIR COPING CAP and BASE FLASHING AT INTERFACE UNDER GUTTER (FIELD VERIFY) 4 NORTH SHORE MIDDLE SCHOOL NORTH SHORE MIDDLE SCHOOL N.T.S. 3 NORTH SHORE MIDDLE SCHOOL 1 NORTH SHORE MIDDLE SCHOOL

Galena Park Independent School District 2025/12/05 250373 CHECKED BY: ES,MS

REFERENCE PHOTOS

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