

IDEA PUBLIC SCHOOLS

MIDDLE RGV MECHANICAL UPGRADES

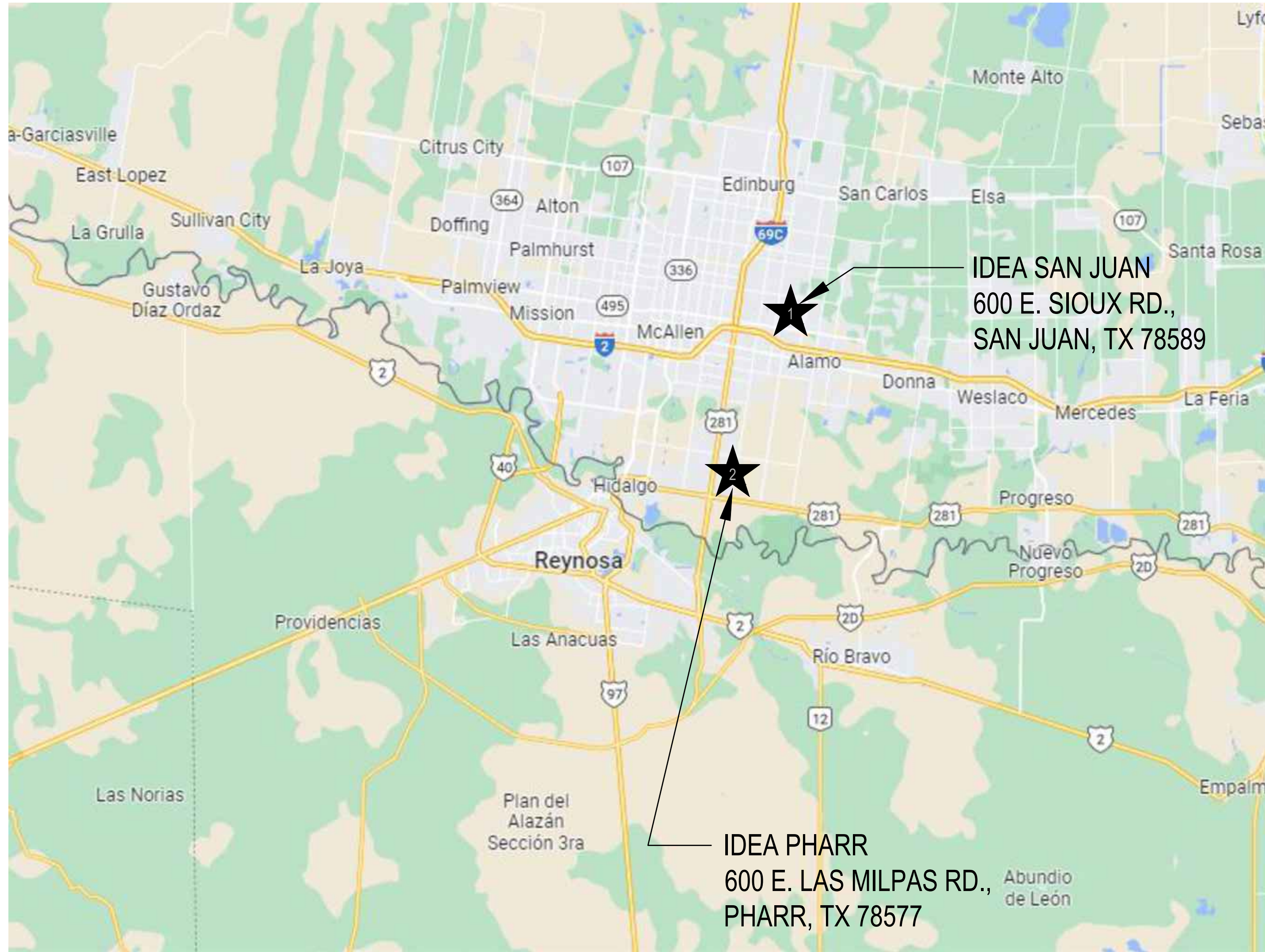
RIO GRANDE VALLEY, TEXAS

NO. REVISION: BY:

CSP # 24-MRMU-0424



TEXAS



VICINITY MAP - RIO GRANDE VALLEY



SCOPE OF WORK:

SCOPE OF WORK: PROVIDE ALL MATERIALS AND LABOR ASSOCIATED WITH REPLACEMENT OF LISTED EQUIPMENT AND NEW FULLY OPERATIONAL MECHANICAL AND CONTROLS SYSTEMS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. HVAC EQUIPMENT SUCH AS AIR-COOLED CONDENSING UNITS, PACKAGED DX UNITS, SPLIT SYSTEMS, MINI-SPLIT SYSTEMS, AND EXHAUST FANS.
2. MODIFICATION OF DUCTWORK, REFRIGERANT PIPING, INSULATION, CONTROLS, AND ELECTRICAL SYSTEMS.
3. TESTING, ADJUSTING, AND BALANCING.
4. CUTTING AND PATCHING AND TOUCHUP PAINTING AS REQUIRED.
5. CONCRETE WORK AS NEEDED.
6. ASSISTANCE WITH COMMISSIONING SERVICES PER SPECIFICATIONS.
7. PROPOSALS ARE BROKEN DOWN BY SCHOOLS, AND INTO BASE AND ALTERNATES. SEE DRAWINGS FOR DIVISION OF SCOPE OF WORK.
8. ALLOWANCES: THE OWNER HAS SET ASIDE ALLOWANCES FOR UNFORESEEN CIRCUMSTANCES. SEE SECTION 012100.

DATE OF ISSUE

APRIL 19, 2024

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IDEA PUBLIC SCHOOLS
MIDDLE RGV MECHANICAL UPGRADES

RIO GRANDE VALLEY



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E-15598

DATE: APRIL 19, 2024

CHECKED BY: B.B.

DRAWN BY: D.G.

PROJECT NO.: 23V77

CAD FILE:

SHEET:

COVER

EQUIPMENT:

- EQUIPMENT INSPECTION:
 - FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
 - ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY EQUIPMENT CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
 - EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
- EQUIPMENT ACCESS:
 - MAKE ALL VALVES ACCESSIBLE, INCLUDING MANUAL SHUTOFF VALVES AND AUTOMATIC VALVES. VALVES SHOULD BE CLOSE TO THE UNIT BEING SERVED AND REACHABLE BY A 5'-6" PERSON STANDING ON THE FLOOR NEARBY, WITHOUT NEED FOR A LADDER. WHERE SHUTOFF VALVES SERVE AN ABOVE-CEILING UNIT ACCESSIBLE ONLY BY LADDER, THE SHUTOFF VALVES SHOULD BE CLOSE ENOUGH TO THE UNIT SO THAT MAINTENANCE PERSONNEL CAN SHUT THE VALVES AND ACCESS THE CONTROL PANEL WITHOUT HAVING TO RELOCATE THE LADDER. WHERE PIPING CONFIGURATION MAKES IT IMPOSSIBLE TO LOCATE SHUTOFF VALVES IN THE MANNER DESCRIBED ABOVE, OBTAIN APPROVAL FROM OWNER AND/OR ENGINEER FOR ALTERNATE LOCATION.
 - FOR EQUIPMENT WHICH MAY REQUIRE PERIODIC SERVICING (SUCH AS AIR HANDLERS & VAVS) AND WHICH IS LOCATED ABOVE A SUSPENDED CEILING, CONTRACTOR IS TO PROVIDE A MARKER ON CEILING GRID WHICH CLEARLY INDICATES WHICH CEILING TILE IS TO BE REMOVED TO MOST CONVENIENTLY ACCESS EQUIPMENT SIDE NEEDING SERVICING. THE MARKER IS TO BE ROUND DOT OF HEAVY DUTY COLORED PAPER, WITH DIRECTION INDICATION, WITH ADHESIVE BACKING. OBTAIN ARCHITECT APPROVAL FOR COLOR, SIZE, AND TYPE PRIOR TO INSTALLATION.
 - PROVIDE MANUFACTURER RECOMMENDED AND CODE ENFORCED CLEARANCES AROUND EQUIPMENT. MAINTAIN 36" CLEAR IN FRONT OF EF'S CONTROLLER, ELECTRIC HEATERS, ETC.
 - INSTALL ALL VALVES, CONTROLS, DAMPERS, FANS, ETC. IN ACCESSIBLE LOCATIONS. PROVIDE ADEQUATELY SIZED ACCESS DOORS WHERE REQUIRED.
- EQUIPMENT INSTALLATION:
 - PROVIDE SPRING HANGER TYPE VIBRATION ISOLATORS TO SUPPORT SUSPENDED AHUS, FANS AND OTHER POWERED VIBRATING EQUIPMENT. PROVIDE FLEXIBLE DUCT CONNECTORS.
 - AFFIX ID TAGS TO ALL MECHANICAL EQUIPMENT PER SPECIFICATIONS.
- EQUIPMENT INSULATION:
 - INSULATE ALL SURFACES OF THAT ARE CAPABLE OF BECOMING COLD AND COLLECTING CONDENSATE. THIS INCLUDES SUPPLY DIFFUSERS AND CONNECTING DUCTWORK / TRANSITION PIECES.
- ELECTRICAL:
 - CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ELECTRICAL CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
 - DUE TO VARIATIONS IN EQUIPMENT CHARACTERISTICS BY DIFFERENT EQUIPMENT SUPPLIERS, MECHANICAL EQUIPMENT ULTIMATELY PROVIDED MAY DIFFER IN HORSEPOWER OR AMPERAGE REQUIREMENTS FROM THAT SPECIFIED IN THESE DRAWINGS. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BIDDING, AND PRIOR TO SUBMITTALS AND ORDERING EQUIPMENT, TO ENSURE THAT EQUIPMENT ELECTRICAL REQUIREMENTS ARE CONVEYED TO ELECTRICAL CONTRACTOR. IT IS SOLELY CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPATIBILITY ISSUES ARE COORDINATED.

DEMOLITION GENERAL NOTES:

- ALL DEMOLITION WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES INCLUDING THOSE PUBLISHED BY OSHA.
- PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL OF MECHANICAL EQUIPMENT AND ASSOCIATED DEVICES. PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
- ALL EXISTING EQUIPMENT REMOVED DURING CONSTRUCTION, THAT IS NOT TO BE REUSED, SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.
- CONTRACTOR SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF BUILDING ELEMENTS WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER, CONTRACTOR SHALL GAIN CONSENT OF ENGINEER PRIOR TO COMPROMISING INTEGRITY OF STRUCTURAL BEAMS, IN WORK ASSOCIATED WITH BOTH DEMOLITION AND INSTALLATION.
- OWNER MAY WISH TO KEEP DEMOLISHED EQUIPMENT AND MATERIALS. COORDINATE OWNER, AND DISPOSE OF EQUIPMENT AND MATERIALS THAT OWNER DOES NOT RETAIN.

ABBREVIATIONS

A	AMPS	ENT.	ENTERING	NO	NORMALLY OPEN
ACCU	AIR COOLED CONDENSING UNIT	EXT.	EXTERNAL OR EXTERIOR	NTS	NOT TO SCALE
ACT	ACTUATOR	FCU	FAN COIL UNIT	OA	OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	FD	FIRE DAMPER	PH	PHASE
AHU	AIR HANDLING UNIT	FM	FLOW METER	RA	RETURN AIR
B.	BOTTOM	FS	FLOW SWITCH	RAG/RG	RETURN AIR GRILLE
BAS	BUILDING AUTOMATION SYSTEM	FPI	FINS PER INCH	RD	ROOF DRAIN
BOP	BOTTOM OF PIPE	G.	GROUND	RM.	ROOM
BOTT.	BOTTOM	GAL.	GAGE	RPZ	REDUCED PRESSURE ZONE
C.	CONDUIT OR COMMON	GALV.	GALVANIZED	SA	SUPPLY AIR
CHR	CHILLED WATER RETURN	GPM	GALLONS PER MINUTE	SD	SUPPLY AIR DIFFUSER
CHS	CHILLED WATER SUPPLY	GRND.	GROUND	SS	STAINLESS STEEL
CHW	CHILLED WATER	HB	HOSE BIBB	SZ	SINGLE ZONE
CHWP	CHILLED WATER PUMP	HP	HORSEPOWER	TAB	TESTING & BALANCING
CR	CONDENSER WATER RETURN	HS	HUMIDITY SENSOR	T.O.L.	TOP OF LOUVER
CS	CONDENSER WATER SUPPLY	HVAC	HEATING, VENTILATION, & AIR CONDITIONING	TS	TEMPERATURE SENSOR
CLG.	CEILING OR COOLING			TSTAT	THERMOSTAT
COMB.	COMBINATION	LVC.	LEAVING	UG	UNDERGROUND
CONC.	CONCRETE	MECH	MECHANICAL	UNO	UNLESS OTHERWISE NOTED
COND.	CONDUIT	MOT. STRTR.	MOTOR STARTER	V	VOLTS
CT	COOLING TOWER	MS	MOTOR STARTER	VAV	VARIABLE AIR VOLUME
CU.	COPPER	MZ	MULTI-ZONE	VFD	VARIABLE FREQUENCY DRIVE
CW	CITY WATER	NC	NORMALLY CLOSED	W	WIRE
DDC	DIRECT DIGITAL CONTROLS				
DMPR.	DAMPER				
DISC.	DISCONNECT				
EAG/EG	EXHAUST AIR GRILLE				
EMS	ENERGY MANAGEMENT SYSTEM				

COORDINATION:

- GENERAL:
 - CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND MECHANICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
 - IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR. COORDINATE MECHANICAL WITH OTHER TRADES SUCH AS PLUMBING, ELECTRICAL AND STRUCTURAL WORK. COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
 - TIME OR MONEY ALLOWANCES WILL NOT BE MADE TO ACCOMMODATE UTILITY CONFLICTS THAT CAN BE REASONABLY RESOLVED BY COORDINATION DURING SHOP DRAWING STAGE.
 - PROVIDE COORDINATION DRAWINGS OF REFLECTED CEILING PLAN AND SECTION ABOVE CEILING SHOWING WORK OF ALL AFFECTED TRADES. DO NOT PROCEED WITH FABRICATION WORK UNTIL COORDINATION DRAWINGS HAVE BEEN APPROVED BY A/E.
 - CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
 - WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE PROJECT AND RESPONSIBILITY OF CONTRACTOR ONCE ALLOWANCE IS APPROVED.
- SITE:
 - CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SITE CONDITIONS IN ORDER TO MAKE ANY NECESSARY ADJUSTMENTS, PRIOR TO ORDERING MATERIALS OR COMMENCING INSTALLATION. CHANGE ORDERS WILL NOT BE APPROVED FOR DIMENSIONAL VERIFICATIONS REQUIRING MINOR ADJUSTMENTS NEEDED TO COMPLETE INSTALLATION.
- ARCHITECTURAL AND STRUCTURAL:
 - REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS OF CONSTRUCTION, INCLUDING BEAMS, FLOOR AND WALL PENETRATIONS, CHASES, AND REFLECTED CEILING PLANS. VERIFY OPENING SIZES WITH EQUIPMENT FURNISHED.
 - WHERE EXPRESSLY PERMITTED BY THE STRUCTURAL ENGINEER, GRADE BEAM PENETRATIONS SHALL BE MADE WITHIN MIDDLE 1/3 OF VERTICAL SPAN OF BEAM. SLEEVE ALL EXTERIOR WALL AND GRADE BEAM PENETRATIONS.
 - SEAL AROUND DUCTS AND PIPING AT ALL WALLS, A/C ROOMS AND WALL LOUVER PENETRATIONS WITH FIREPROOF CAULKING. RE: SPECS. PROVIDE ESCUTCHEON PLATES AND FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE, TO PROVIDE A FINISHED LOOK. COORDINATE FINISH WITH ARCHITECT.
- SPATIAL COORDINATION:
 - COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
 - SPACES ABOVE CEILING ARE CONGESTED. DESIGN INTENT IS THAT UTILITIES BE INSTALLED TIGHT AGAINST CEILING STRUCTURE TO EXTENT POSSIBLE, WHILE RETAINING ADEQUATE MAINTENANCE ACCESS PER CODES.
 - IN CASE OF CONFLICTS, ITEMS SHALL BE ARRANGED ACCORDING TO THE FOLLOWING PRIORITIES: LIGHTING, FIRE PROTECTION, HVAC. PROVIDE OFFSETS/RISES/DROPS REQUIRED TO RESOLVE CONFLICTS WITH OTHER UTILITIES, AND TO ACCOMMODATE ALL UTILITIES ABOVE CEILINGS.
 - IN GENERAL, REROUTE SMALLER DUCTS/PIPES THROUGH JOISTS TO RESOLVE CONFLICTS WITH LARGER. PERFORM REROUTING IN MOST EFFICIENT MANNER POSSIBLE, AND IN ACCORDANCE WITH INDUSTRY STANDARDS.
 - PROVIDE COORDINATION DRAWINGS OF REFLECTED CEILING PLAN AND SECTION ABOVE CEILING SHOWING WORK OF ALL AFFECTED TRADES. DO NOT PROCEED WITH FABRICATION WORK UNTIL COORDINATION DRAWINGS HAVE BEEN APPROVED BY A/E.
 - SEE ELECTRICAL PLANS FOR EXACT LOCATION OF ELECTRICAL PANELS TO AVOID DUCTWORK AND PIPING RUNNING OVER THESE AREAS. COORDINATE WITH ELECTRICAL CONTRACTOR.
 - LOCATE AIR DEVICES AS SHOWN. COORDINATE WITH OTHER TRADES TO AVOID CONFLICT AND ADJUST LOCATION IF NEEDED WITHOUT COMPROMISING AIR DEVICES PERFORMANCE.

GENERAL NOTES:

- TEST & BALANCE:
 - TEST AND BALANCE CONTRACTOR SHALL BE RETAINED BY THE PRIME CONTRACTOR AND NOT UNDER THE MECHANICAL CONTRACTOR. ALL SUB-CONTRACTORS SHALL COORDINATE ACTIVITIES AND ASSIST TEST AND BALANCE CONTRACTOR AS NEEDED.
 - TEST & BALANCE TO COORDINATE MINIMUM AND MAXIMUM OUTSIDE AIR DAMPER SETTINGS WITH DDC CONTROLS AND ENGINEER. PROVIDE TIME ALLOTMENT FOR MULTIPLE DAMPER SETTINGS IN SOME CASES.

CODES & ORDINANCES:

- GENERAL:
 - UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS, PERFORM ALL WORK PER APPLICABLE VERSION OF INTERNATIONAL BUILDING CODES, AND LOCAL CODES AND ORDINANCES.
 - PRIOR TO SUBMITTING PROPOSAL, NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
- PERMITS:
 - CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
 - CONTRACTOR WHO WILL ACTUALLY PERFORM WORK MUST APPLY FOR ALL REQUIRED PERMITS.
- APPROVALS AND INSPECTIONS:
 - OBTAIN APPROVAL FROM CITY FIRE DEPARTMENT AND BUILDING AND SAFETY DEPARTMENT PRIOR TO INSTALLATION OF ANY FIRE RELATED ITEMS.
 - COORDINATE PRESSURE TESTS, INSPECTIONS AND APPROVAL FOR ALL SYSTEMS WITH PERMITTING OFFICER, OWNER AND ENGINEER.

CONTROLS:

- DDC CONTROLS CONTRACTOR SHALL COOPERATE AND COORDINATE WORK ACTIVITIES WITH PRIME CONTRACTOR TO ENSURE SMOOTH TROUBLE-FREE INSTALLATION.
- PROVIDE FULL COLOR GRAPHICS. ON THE GRAPHIC PAGES FOR ALL EQUIPMENT AND/OR MONITORED DEVICES (SUCH AS SENSORS, METERS, DAMPERS, VALVES, ETC.) GIVE A CLEAR, GRAPHICAL INDICATION AS TO WHETHER EQUIPMENT OR DEVICE HAS BEEN PLACED IN MANUAL OPERATION, OVERRIDING AUTOMATIC OPERATION. (FOR EXAMPLE, PLACE AN "M" NEXT TO EQUIPMENT THAT HAS BEEN PLACED IN MANUAL OPERATION.)
- WHERE NOT SPECIFICALLY INDICATED ON PLANS, DDC CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL RELAYS AND CONTACTORS, POWER TO DDC PANELS AND OTHER CONTROL ELEMENTS. ALTHOUGH DDC CONTRACTOR MAY COORDINATE WITH OTHER TRADES TO PROVIDE MISCELLANEOUS ELECTRICAL WORK, THE FINAL RESPONSIBILITY FOR ACHIEVEMENT OF CONTROL SEQUENCES LIES WITH THE DDC CONTRACTOR.
- DRAWINGS SHOW GENERAL LOCATION OF DDC SENSORS (T, RH, AND CO2). UNLESS NOTED OTHERWISE, INSTALL SENSORS AT 48" ABOVE FINISHED FLOOR, WIRING SHALL BE IN CONCEALED WALLS. IN CASE OF CONFLICTS WITH FURNITURE, WINDOWS, ETC., COORDINATE EXACT LOCATION WITH ARCHITECT AND ENGINEER.
- REFER TO OPERATING SEQUENCE IN SPECIFICATIONS FOR ALARMS AND SEQUENCES REQUIRED.
- PROVIDE WEB-SERVER. SEE SPECIFICATIONS.
- RECOMMENDED DIVISION OF RESPONSIBILITIES BETWEEN SUB-CONTRACTORS IS AS FOLLOWS:
 - DDC CONTRACTOR IS RESPONSIBLE FOR ETHERNET WRING FROM MDF ROOM TO CONTROLLER. COORDINATE ETHERNET CONNECTIVITY AND ROUTING WITH OWNER'S IT STAFF.
 - DDC CONTRACTOR SHALL COORDINATE CONTROL WIRING BETWEEN CONTROL PANELS AND UNITARY CONTROLLERS.
 - WITH ELECTRICAL SUB CONTRACTOR, CONTROL CONTRACTOR COORDINATES 120V POWER WIRING AND CONDUIT TO NEW CONTROLLERS (AND CIRCUIT BREAKERS, IF NO SPARES EXIST)
 - CONTROLS CONTRACTOR SUPPLIES HYDRONIC VALVES, DAMPERS, THERMOWELLS, ETC. TO MECHANICAL CONTRACTOR FOR INSTALLATION. COORDINATE OUTSIDE AND RETURN AIR DAMPERS WITH AHU MANUFACTURER
 - CONTROLS CONTRACTOR IS RESPONSIBLE FOR:
 - DAMPER AND VALVE ACTUATORS
 - GATEWAY INTERFACES AND ALL RELATED ACCESSORIES FOR FULL COMMUNICATION BETWEEN EQUIPMENT (CHILLERS, VFDs, ETC.) AND DDC SYSTEM
 - ADJUSTABLE RANGE/FLAT PLATE THERMOSTATS, RH, CO2 SENSING DEVICES
 - EQUIPMENT CONTROLLERS, SOFTWARE, PROGRAMMING.
 - ALL NETWORK CONTROL PANELS, DDC CONTROLLERS, SOFTWARE, AND PROGRAMMING.
 - WIRING AND CONDUIT FOR CONTROL AND MONITORING DEVICES
 - CONTROL RELAYS
 - SHOP DRAWINGS PER SPECIFICATIONS
 - SYSTEM CHECK OUT, OWNER TRAINING, DDC SYSTEM WARRANTY WORK

INSULATION:

- FIBERGLASS INSULATION MAY NOT BE USED ON ANY COLD PIPING SURFACES; ONLY CLOSED CELL INSULATION IS ACCEPTABLE.
- PROVIDE INSULATION ON ALL SURFACES CAPABLE OF CREATING CONDENSATION.

DUCTWORK:

- DUCTWORK GENERAL:
 - DRAWINGS ARE DIAGRAMMATIC IN NATURE. FOR CLARITY SAKE, MOST DUCT OFFSETS/RISES/DROPS ARE NOT SHOWN. WHERE DUCTS PENETRATE WALLS, INSTALL THEM PERPENDICULAR TO WALL.
 - RECTANGULAR AND ROUND DUCTWORK SHALL BE GALVANIZED STEEL. SIZES SHOWN ARE INSIDE CLEAR DIMENSION, UNLESS NOTED OTHERWISE.
 - VERIFY BOTTOM OF DUCT ELEVATION AND COORDINATE WITH OTHER TRADES.
 - CONSTRUCT AND LEAKAGE TEST ALL DUCTWORK BASED ON SPECIFICATIONS AND SMACNA REQUIREMENTS, WHICHEVER IS MORE STRINGENT. COORDINATE PRESSURE CLASSES WITH EQUIPMENT SCHEDULES.
 - FLEXIBLE DUCTS MAXIMUM LENGTH SHALL NOT EXCEED 6 FEET. USE OF FLEXIBLE DUCTWORK IS LIMITED TO AREAS WITH AN ACCESSIBLE SUSPENDED CEILING. PINCHED DUCT WILL HAVE TO BE REPLACED.
 - IN AREAS WHERE DUCT CONFLICTS CANNOT BE AVOIDED, ROUTE SMALLER DUCTS THROUGH STRUCTURAL ROOF JOISTS.
 - LOCATE AIR DEVICES AS SHOWN. COORDINATE WITH ELECTRICAL, IF NEEDED. RELOCATE DIFFUSER TO ADJACENT TILE.
- DUCTWORK INSULATION:
 - WRAP ALL OUTSIDE AIR, SUPPLY AND RETURN DUCTWORK UNLESS NOTED OTHERWISE.
 - IN ADDITION, FOR ACOUSTICAL PERFORMANCE INTERNALLY LINE FIRST 10' OF SUPPLY AND LAST 10' OF RETURN DUCTWORK.
 - PROVIDE ACOUSTICAL LINING FOR ALL TRANSFER DUCTS AND RETURN AIR ELBOWS.
 - INSULATION ON DUCT SHOULD TO BE PROPERLY TAPED AND MASTICS MUST BE APPLIED ON SEAMS AND JOINTS AND AT ENDS ADJACENT TO DUCT FLANGES AND FITTINGS. FOR DUCT SIDES WITH DIMENSIONS LARGER THAN 18 INCHES, APPLY ADDITIONAL PINS AND CLIPS TO HOLD INSULATION TIGHTLY AGAINST SURFACE AT CROSS BRACING.
- DUCT FITTINGS:
 - WHERE RECTANGULAR TEE FITTINGS ARE SHOWN, PROVIDE FITTING WITH ADJUSTABLE DIVIDER SHEET AND TURNING VANES.
 - WHERE RECTANGULAR MAIN AND BRANCH CONNECTIONS ARE SHOWN, PROVIDE EXTRACTOR VANES. NOT APPLICABLE TO DUCTWORK DOWNSTREAM OF VAV BOXES.
 - PROVIDE TURNING VANES IN ALL ELBOWS PER SPECS.
- DAMPERS:
 - IN AN ACCESSIBLE LOCATION, PROVIDE MANUAL ROD-TYPE VOLUME BALANCING DUCT DAMPERS IN ALL SUPPLY, RETURN AND EXHAUST DUCT BRANCHES TO INDIVIDUAL GRILLES, REGISTERS AND DIFFUSERS (GRD). TO MINIMIZE NOISE INSTALL DAMPERS CLOSER TO THE BRANCH CONNECTION THAN TO THE GRD. IN DUCTWORK, PROVIDE ACCESS DOORS TO ALL DAMPERS.
 - ABOVE INACCESSIBLE CEILINGS AND IN CASE DUCT CONFIGURATION DOES NOT ALLOW FOR INSTALLATION OF DAMPER IN DUCTWORK, PROVIDE REMOTE MANUAL DAMPER BY YOUNG REGULATOR OR EQUAL, (CABLE OPERATED SYSTEM) WITH ENGINEER'S PERMISSION CONTRACTOR MAY PROVIDE ROD-TYPE VOLUME DAMPER THAT IS INTEGRAL TO GRD.
 - PROVIDE BALANCING DAMPERS ON ALL EXHAUST GRILLES TO ACHIEVE DESIRED AIRFLOW.
 - PROVIDE DYNAMIC FIRE DAMPERS (RUSKIN DIB20, TYPE B OR EQUAL) IN ACCORDANCE WITH CODE REQUIREMENT, IN ALL PENETRATIONS OF FIRE RATED WALLS, OCCUPANCY SEPARATION WALLS, BARRIERS AND PARTITIONS, AND EXIT CORRIDORS. REFER TO ARCHITECTURAL PLANS FOR RATED WALLS. PROVIDE ACCESS DOORS AS PER CODE REQUIREMENTS, EQUAL TO RUSKIN ADH-22 FOR RECTANGULAR DUCT, AUDOR RD FOR ROUND DUCT. WHERE GRILLE ACCESS IS INDICATED, ADDITIONAL DUCT ACCESS DOOR IS NOT REQUIRED. WHERE THE CEILING IS FIRE RATED PROVIDE FIRE RATED AIR DEVICES FOR TRANSFER & RETURN AIR GRILLES AND SUPPLY AIR DIFFUSERS AS PER CODE REQUIREMENTS. REFER TO ARCHITECTURAL PLANS FOR RATED CEILINGS.
 - PROVIDE ACCESS DOORS (NOT SHOWN IN DRAWINGS) FOR INSPECTION OF DUCT MOUNTED EQUIPMENT SUCH AS FIRE/SMOKE DAMPERS, MANUAL BALANCING DAMPERS AND TURNING VANES. IN AREAS WITH HARD CEILING COORDINATE ACCESS DOOR LOCATIONS AND CEILING ACCESS PANELS WITH OTHER TRADES.

ELECTRICAL:

- ALL ELECTRICAL WORK SHALL BE UNDER THE MASTER ELECTRICIAN WHO PULLED THE PERMIT AND ITS JOURNEYPMAN ELECTRICIANS.
- PERFORM ALL WORK PER ADOPTED N.E.C. AND APPLICABLE STATE STANDARDS, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
- UNLESS NOTED OTHERWISE, MINIMUM POWER CIRCUIT IS TO BE #12 THWN WITH #12 GROUND IN 3/4" CONDUIT, WITH THE EXCEPTION THAT ANY CIRCUIT LONGER THAN 100 FEET SHALL BE MINIMUM #10 AWG WITH #10 GROUND WIRE. CIRCUIT LONGER THAN 200 FEET SHALL BE MINIMUM #8 AWG WITH #10 GROUND WIRE MINIMUM.
- ALL EXISTING ID NAMETAGS AND CIRCUIT IDENTIFICATION MUST BE REVISED TO REFLECT CURRENT CONDITIONS FOR ALL EQUIPMENT WHICH IS NEW, REPLACED, OR DEMOLISHED. REMOVE ID NAMETAGS FOR DEMOLISHED EQUIPMENT. REPLACE EXISTING NAMETAGS WITH NEW FOR REPLACED EQUIPMENT. IF REPLACEMENT EQUIPMENT HAS DIFFERENT NAME. PROVIDE NEW NAMETAGS FOR ALL NEW EQUIPMENT. ALL CIRCUIT BREAKER DIRECTORIES FOR PANELS IN WHICH NEW WORK TAKES PLACE ARE TO BE REPLACED WITH NEW DIRECTORIES WHICH LIST EXISTING CIRCUITS AND NEW. ALL UNUSED CIRCUITS ARE TO BE MARKED AS "SPARE" IN THE DIRECTORIES. DEMOLISH ALL CIRCUIT BREAKER GENERATED, NO HAND WRITTEN DIRECTORIES ARE ACCEPTABLE.
- HAND-WRITTEN CIRCUIT BREAKER DIRECTORIES WILL NOT BE ACCEPTED. DIRECTORIES MUST BE COMPUTER GENERATED AND PRINTED TO REFLECT FINAL INSTALLED CONDITIONS.
- MARK ALL J-BOXES WITH INDELIBLE INK, INDICATING POWER CIRCUITRY INFORMATION. LABEL ALL EQUIPMENT ITEMS PER SPECIFICATIONS.
- ALL EXTERIOR RACEWAYS ABOVE GROUND SHALL BE RIGID GALVANIZED.
- UNDER NO CIRCUMSTANCES SHALL MORE THAN THREE CIRCUITS SHARE THE SAME NEUTRAL, AND SUCH CIRCUITS MUST BE SEPARATE PHASE.
- SINCE ELECTRICAL CHARACTERISTIC OF EQUIPMENT (SUCH AS HORSEPOWER, KW, AMPERAGE, VOLTAGE, ETC.) SUBMITTED MAY DIFFER FROM THOSE SPECIFIED IN DRAWINGS, CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH MECHANICAL AND OTHER CONTRACTORS TO ENSURE COMPATIBILITY BETWEEN ELECTRICAL AND MECHANICAL EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
- USE LONG-SWEEPS FOR ALL CHANGES IN DIRECTION ON CONDUIT RUNS.
- ALL INTERIOR RACEWAYS SHALL BE EMT.
- FIELD VERIFY PROJECT SITE EXISTING CONDITIONS AND ELEVATIONS PRIOR TO BEGINNING ANY WORK.
- PHASING AND SEQUENCE OF CONSTRUCTION SHALL BE PER DRAWINGS AND SPECIFICATIONS.
- ALL MATERIALS AND LABOR, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT, WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND FUNCTION OF THE SYSTEM SHALL BE FURNISHED BY THIS CONTRACTOR. INCLUDE ALL COSTS OF CHANGES, IF/AS REQUIRED IN BID PROPOSAL.
- ELECTRICAL WIRING SHALL NOT BE SPLICED BELOW GRADE.
- CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
- CONTRACTOR WHO WILL ACTUALLY PERFORM WORK MUST APPLY FOR ALL REQUIRED PERMITS.
- NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
- COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
- SEAL AROUND ELECTRICAL RACEWAYS AT ALL WALLS AND WALL LOUVER PENETRATIONS WITH FIREPROOF CAULKING. RE: SPECS. PROVIDE FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE, TO PROVIDE FINISHED LOOK.
- CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND ELECTRICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
- MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT.
- AFFIX ID TAGS TO ALL DIVISION 26 EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH MECHANICAL AND PLUMBING CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
- FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
- ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
- EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
- SLEEVE ALL EXTERIOR WALL PENETRATIONS.
- PRIOR TO ANY DEMOLITION, CONTRACTOR SHALL CONDUCT A DETAILED INSPECTION OF EXISTING CONDITIONS AND COMPARE AGAINST DEMOLITION DRAWINGS. CONTRACTOR SHALL REQUEST CLARIFICATION AS TO THE REMOVAL OF ANY ELECTRICAL COMPONENTS FOUND IN THE FIELD THAT ARE NOT SPECIFICALLY NOTED TO BE DEMOLISHED.
- THE DESIGN INTENT IS TO REUSE TO EXTENT POSSIBLE EXISTING ELECTRICAL AND SAFETY SYSTEMS INCLUDING CIRCUIT BREAKERS, WIRING AND CONDUITS, SAFETY AND OTHER HARD WIRED INTERLOCKS, ETC. EXISTING SYSTEMS TO BE REUSED SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. SEE PLANS
- PROVIDE ADDITIONAL SPARE MATERIALS DESCRIBED BELOW. PROVIDE PROTECTIVE COVERING FOR STORAGE & IDENTIFIED WITH LABELS DESCRIBING THE CONTENTS. INCLUDE THE INSTALLATION COST, FITTINGS AND SUPPORTS IN THE BASE BID PROPOSAL:
 - 100 LINEAR FEET - 1"-3#10 & #10G
 - 100 LINEAR FEET - 1"-3#8 & #10G
 - 50 LINEAR FEET - 1"-3#6 & #10G
 - 100 LINEAR FEET - 1"-3#4 & #8G
 - 50 LINEAR FEET - 1.25"-3#2 & #6G
 - 50 LINEAR FEET - 1.25"-3#3 & #6G
 - 50 LINEAR FEET - 1.25"-3#1 & #6G
 - 50 LINEAR FEET - 2"-3#2/0 & #6G

NO. REVISION: BY:

CSP # 24-MRMU-0424



TEXAS

IDEA PUBLIC SCHOOLS
MIDDLE RGV MECHANICAL UPGRADES

RIO GRANDE VALLEY



1128 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 956-208-3435
TEXAS REGISTERED
ENGINEERING FIRM
E-15988

DATE: APRIL 19, 2024

CHECKED BY: B.B.

DRAWN BY: D.G.

PROJECT NO.: 23V77

CAD FILE:

SHEET:

ME1.0



1128 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 361-205-3435
TEXAS REGISTERED
ENGINEERING FIRM
E-15998

DATE: APRIL 19, 2024

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DRAWN BY: D.G.

PROJECT NO.: 23V77

CAD FILE:

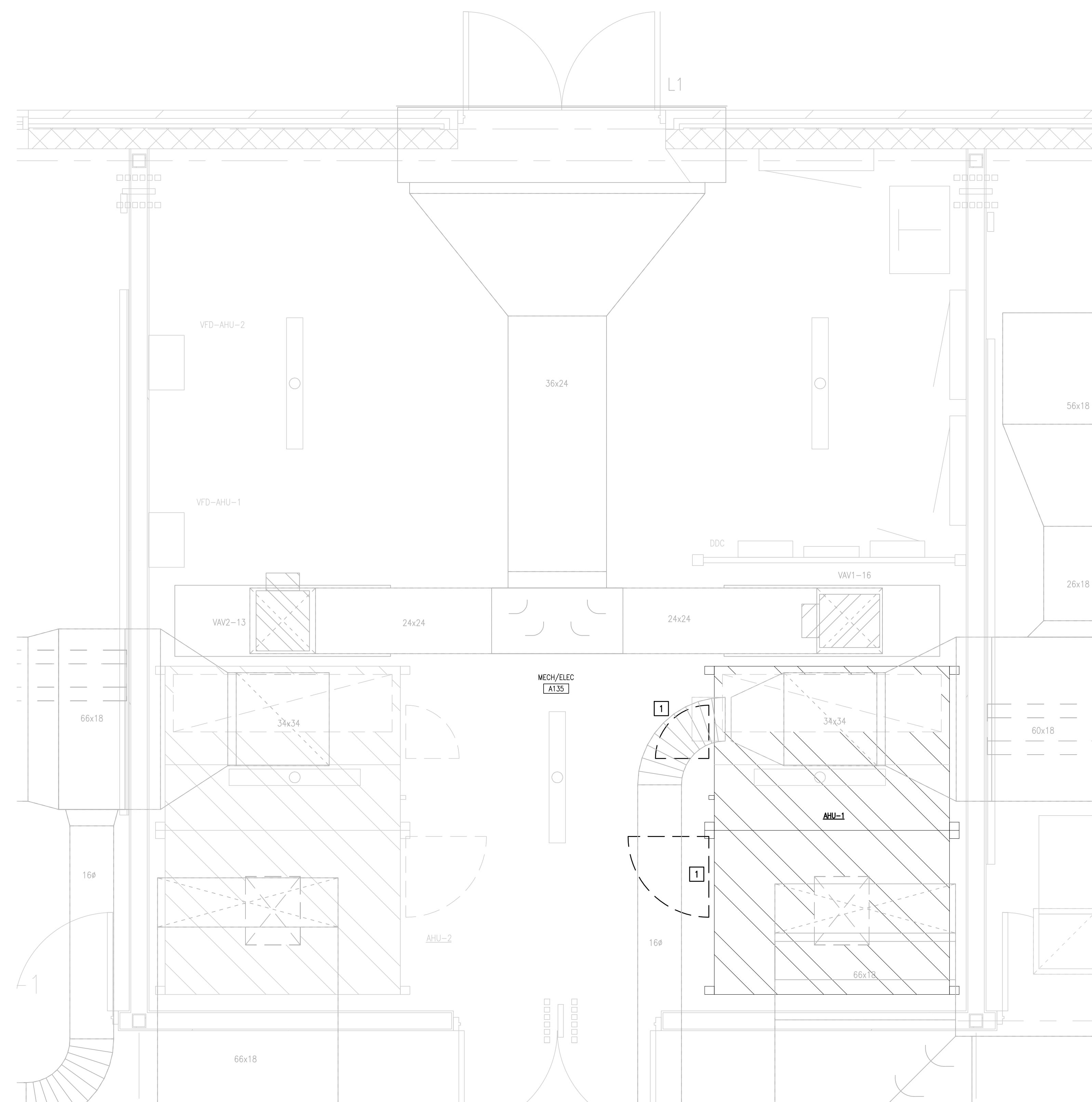
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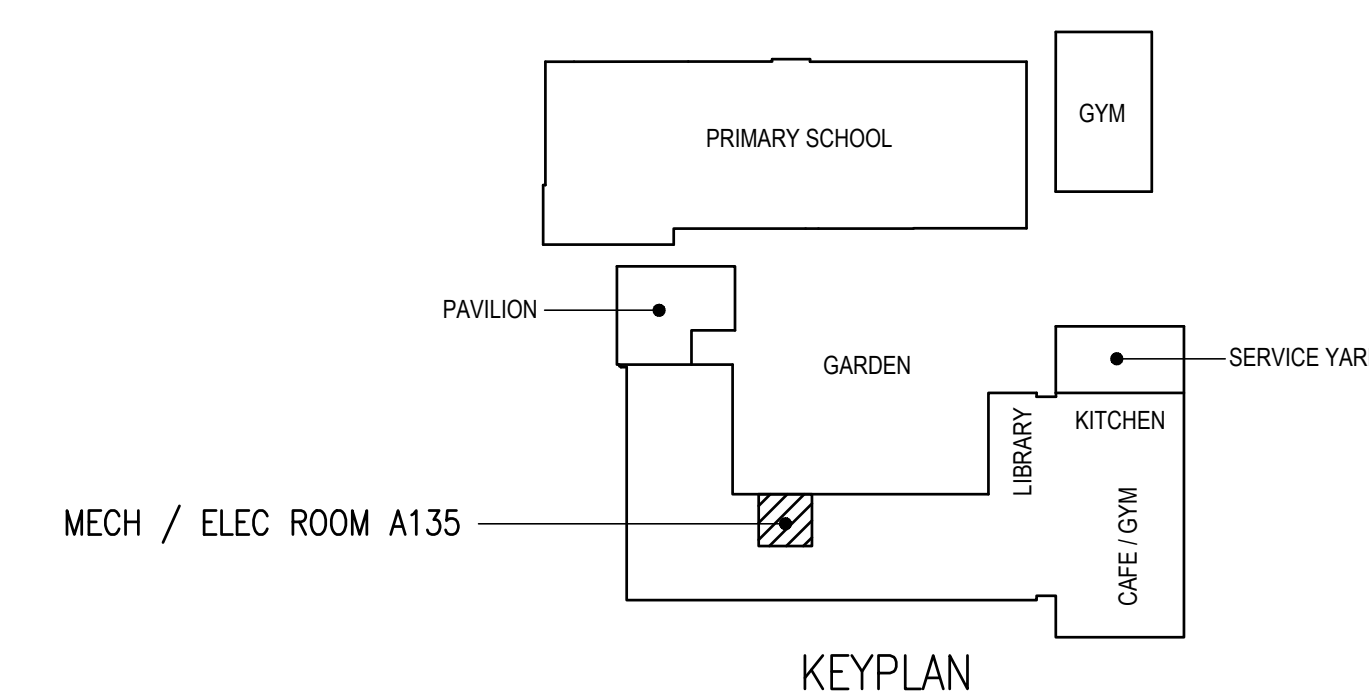
LEGEND	
	NEW EQUIPMENT TO BE INSTALLED
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE WORKED ON
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN

MECHANICAL KEYED NOTES:

- 1 DEMOLISH AND REPLACE EXISTING AHU DOORS WITH NEW OEM (ORIGINAL EQUIPMENT MANUFACTURER) DOORS, DOOR HINGES, AND GASKET SEALS. SEE EXISTING UNIT SCHEDULE AT ASSOCIATED SCHEDULE SHEET FOR REFERENCE.



01 IDEA SAN JUAN FIRST FLOOR ENLARGED MECHANICAL FLOOR PLAN
SCALE: 1/2" = 1'-0"





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ELECTRICAL SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO
	DISCONNECT SWITCH - NON FUSED	AS REQUIRED
	CONCEALED RACEWAY	AS REQUIRED
	DUPLEX RECEPTACLE TAMPER RESISTANT W/ GROUND FAULT INTERRUPTING TYPE - HUBBELL MODEL #GFTWRST20W (WHITE) AND WHILE IN USE WEATHERPROOF COVER - HUBBELL MODEL #WP26EH	18" AFF
	THERMAL SWITCH - SQUARE "D" #2510 IN A NEMA 1 ENCLOSURE	AS REQUIRED

NOTES:
1) U.N.O. INDICATES UNLESS NOTED OTHERWISE.
18" AFF INDICATES TO TOP OF DEVICE.
ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.

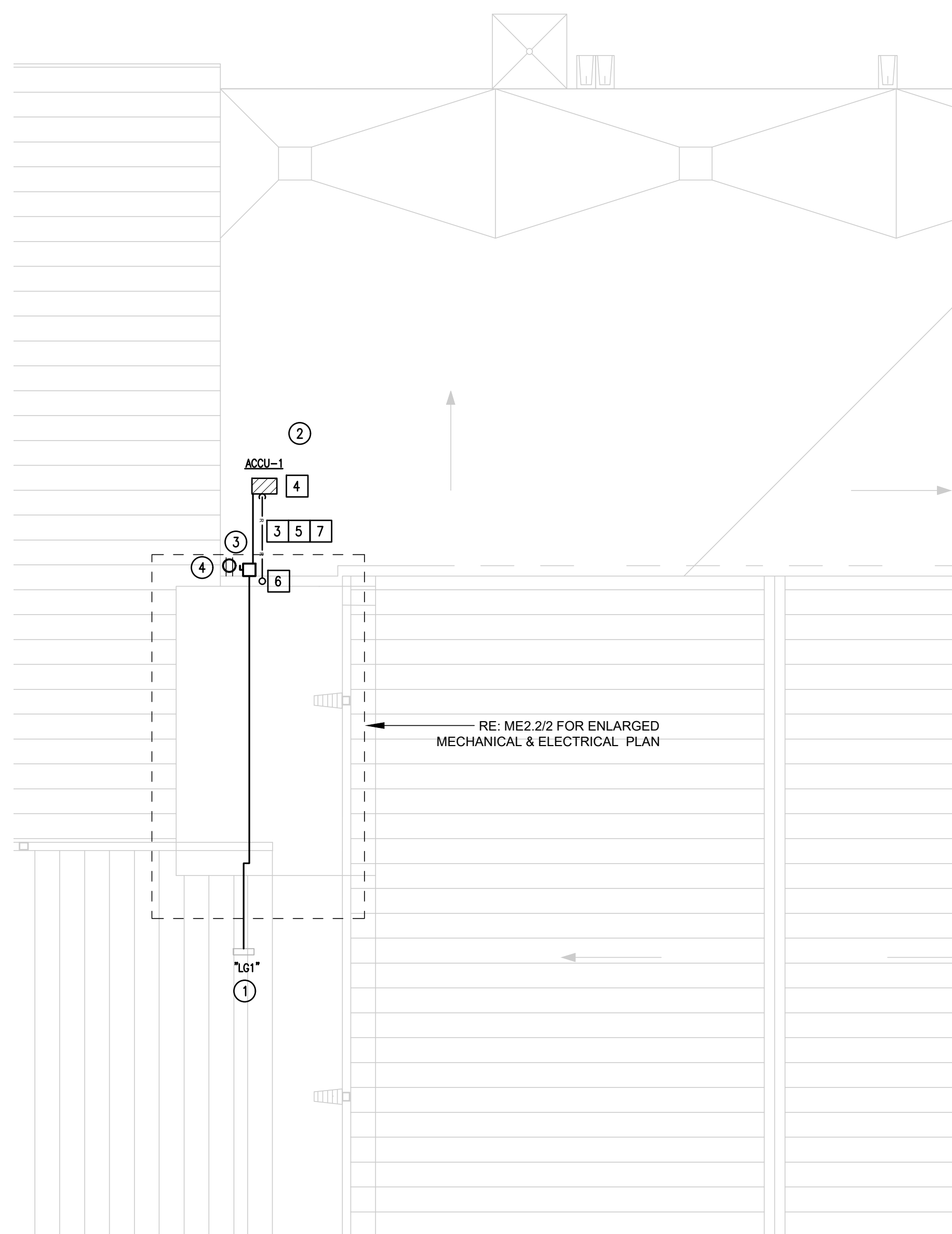
MECHANICAL LEGEND	
	NEW EQUIPMENT TO BE INSTALLED
	EXISTING DUCTWORK TO REMAIN
	PIPING TO BE INSTALLED

ELECTRICAL KEYED NOTES:

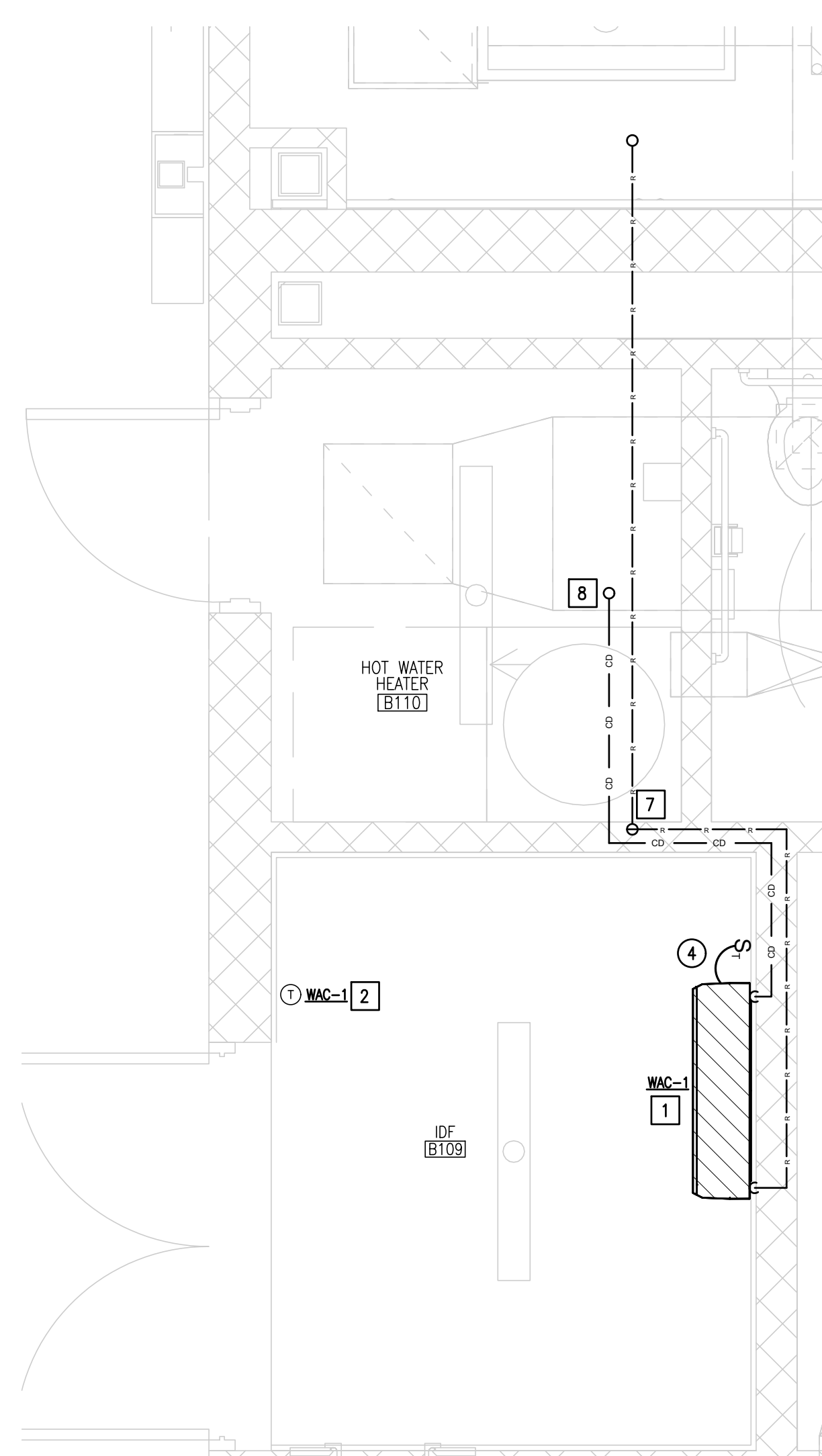
- APPROXIMATE LOCATION OF EXISTING 100A, 120/208V, 3Ø, 4W, SIEMENS TYPE P1 PANELBOARD SERVING NEW HVAC EQUIPMENT AT 1ST FLOOR ELECTRICAL ROOM. PROVIDE A 30A/2P BREAKER IN AVAILABLE SPACE TO CONNECT NEW HVAC EQUIPMENT.
- CONNECT HVAC EQUIPMENT; BRANCH CIRCUIT: 3/4" - 2#10 & #10G, LG1-34,36. PROVIDE A WALL MOUNTED DISCONNECT 30A, 2PNF, 240V, NEMA 3R.
- PROVIDE WALL MOUNTED RECEPTACLE; BRANCH CIRCUIT: 1/2" - 2#2 & #12G. CONNECT TO NEAREST 120V NON-GFCI CIRCUIT. VERIFY LOAD PRIOR TO ANY NEW CONNECTION.
- CONNECT HVAC EQUIPMENT; BRANCH CIRCUIT: 3/4" - 2#10 & #10G. OBTAIN POWER FROM OUTDOOR UNIT. PROVIDE A THERMAL SWITCH.

MECHANICAL KEYED NOTES:

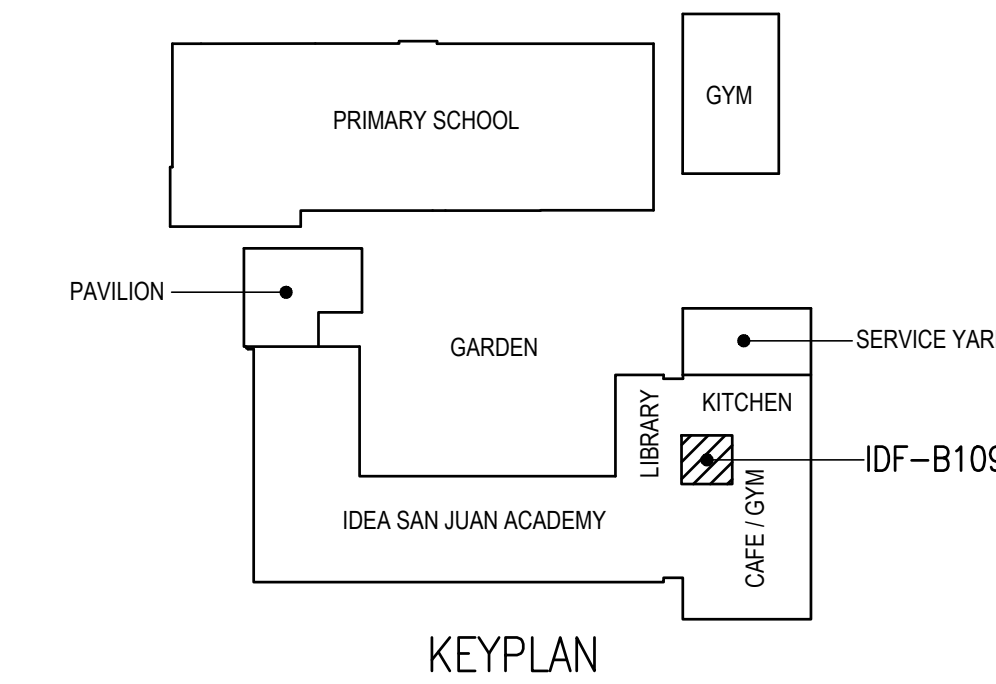
- INSTALL NEW WAC-1 AT THIS APPROXIMATE LOCATION. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
- PROVIDE NEW THERMOSTAT FOR WAC-1. MOUNT 48" ABOVE FINISHED FLOOR & COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS.
- ROUTE NEW ROUTE REFRIGERANT PIPING TO INDOOR UNIT. COORDINATE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION. ROUTE INSIDE WALL ABOVE CEILING TO INDOOR UNIT TO AVOID EXPOSED PIPING WITHIN THE SPACE. SLEEVE WALL PENETRATION. SEAL AIRTIGHT AROUND PIPE PENETRATION. (TYPICAL)
- PROVIDE NEW AIR COOLED CONDENSING UNIT AND INSULATED REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND PROVIDE SUPPORT FRAME PROVIDED BY STRUCTURAL. PAD SHALL BE MINIMUM 6" LARGER THAN EQUIPMENT FOOTPRINT ON ALL SIDES. REFRIGERANT PIPING SHOWN IS STRICTLY SCHEMATIC. VERIFY NUMBER OF CIRCUITS AND PIPE SIZES WITH MANUFACTURER'S DATA. BOLT EQUIPMENT DOWN TO CONCRETE SLAB. ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES.
- PROVIDE 1" INSULATION & ALUMINUM METAL JACKET ON EXPOSED REFRIGERANT LINES. SEE SPECIFICATIONS. PROVIDE REFRIGERANT LINE SUPPORTS PER SPECIFICATIONS. SEE ASSOCIATED DETAIL.
- SLEEVE ALL PENETRATIONS PER SPECIFICATIONS. SEAL AROUND PIPING WITH FIRE PROOF CAULKING. PROVIDE ESCUTCHEON PLATES AND FLASHING AROUND PENETRATION BOTH INSIDE AND OUTSIDE TO PROVIDE FINISHED LOOK.
- PROVIDE AND INSTALL REFRIGERANT LINES PER MANUFACTURER RECOMMENDATIONS. PROVIDE INSULATION ON RETURN LINES. REFER TO ASSOCIATED ENLARGED PLAN FOR REFRIGERANT LINES CONTINUATION.
- ROUTE FULL SIZE CONDENSATE DRAIN LINE TO SERVICE SINK AT THIS APPROXIMATE LOCATION. TERMINATE TWO INCHES ABOVE THE RIM.



01 IDEA SAN JUAN
MECHANICAL & ELECTRICAL ROOF PLAN
SCALE : 3/16" = 1'-0"
NORTH



02 IDEA SAN JUAN FIRST FLOOR
ENLARGED MECHANICAL & ELECTRICAL PLAN
SCALE : 1/2" = 1'-0"
NORTH



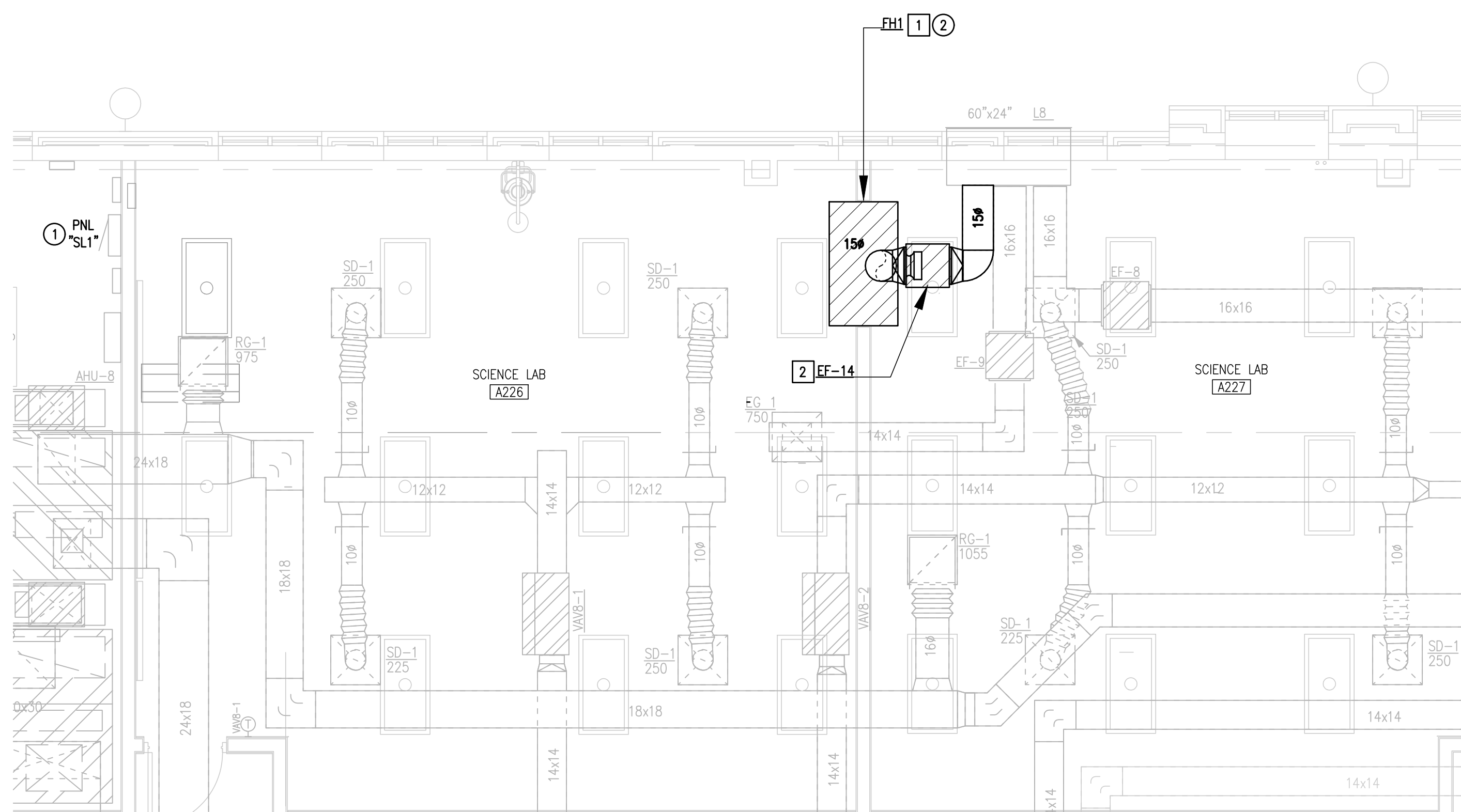
KEYPLAN



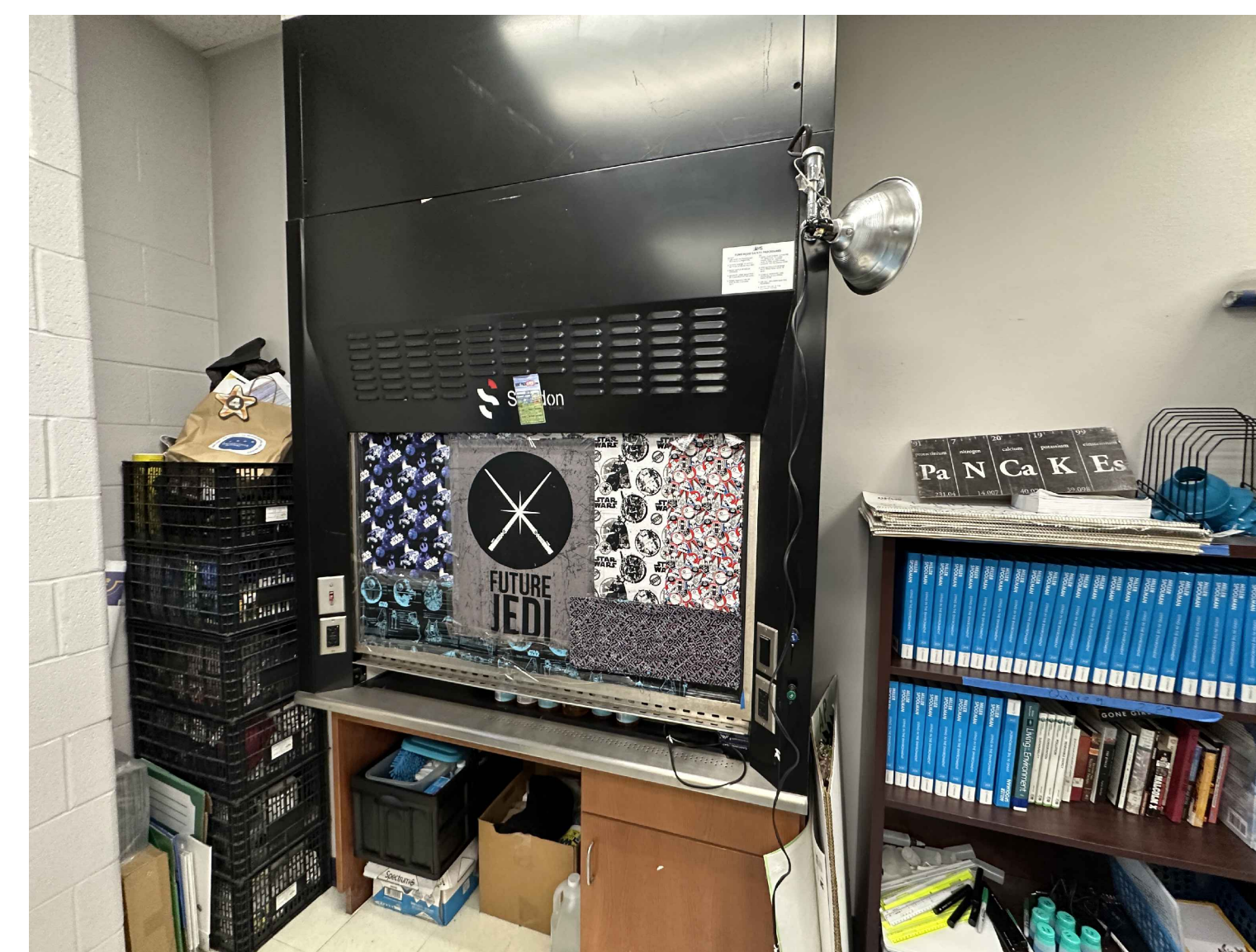
1128 SOUTH COMMERCE ST.
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PHONE: 361-205-3435
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DATE: APRIL 19, 2024
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PROJECT NO.: 23V77
CAD FILE:
SHEET:

LEGEND	
	NEW EQUIPMENT TO BE INSTALLED
	NEW DUCTWORK
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN



01 IDEA SAN JUAN SECOND FLOOR
MECHANICAL & ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



01 IDEA SAN JUAN SECOND FLOOR
EXISTING FUME HOOD LOCATION
NOT TO SCALE

MECHANICAL KEYED NOTES:

- 1 DEMOLISH EXISTING FUME HOOD IN SCIENCE LAB A226 & A227. REPLACE IT WITH NEW FUME HOOD AS SCHEDULED PER MANUFACTURER'S INSTRUCTIONS. CONNECT NEW DUCTWORK TO NEW FUME HOOD AND TRANSITION AS NECESSARY.
- 2 DEMOLISH EXISTING EXHAUST FAN. REPLACE IT WITH NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TO EXHAUST FAN AS SHOWN. CONNECT NEW DUCTWORK TO EXISTING EXHAUST LOUVER. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.

PRIOR TO DEMOLITION AND INSTALLATION, DOCUMENT CONDITIONS SURROUNDING EXISTING FUME HOOD LOCATION. AFTER INSTALLATION OF NEW FUME HOOD, RETURN AREA TO ITS ORIGINAL CONDITION.

ELECTRICAL KEYED NOTES:

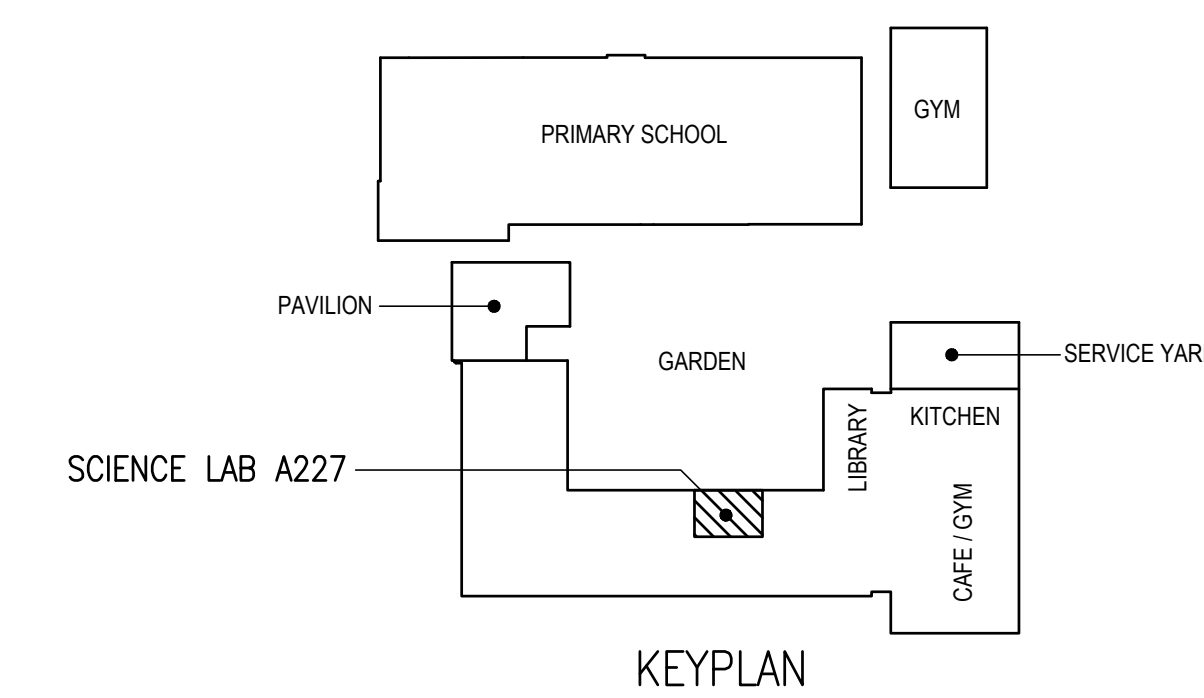
- 1 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING EXISTING FUME HOOD.
- 2 TEMPORARILY DISCONNECT EXISTING FUME HOOD FOR INSTALLATION OF A NEW FUME HOOD. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.

CEILING DEMO GENERAL NOTES

1. PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO: EXISTING LIGHT FIXTURES, SPEAKERS, FIRE ALARM DEVICES, EMERGENCY LIGHTING, ETC. IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ENGINEER.
2. CONTRACTOR TO EVALUATE CEILING GRID PRIOR TO DEMOLITION AND DOCUMENT ALL BROKEN, CRACKED, MISSING TILES, ETC. AND PROVIDE REPORT TO OWNER AND ENGINEER.

CEILING DEMO KEYNOTES:

- 1 TEMPORARILY REMOVE EXISTING CEILING TILES/GRID, LIGHT FIXTURES, FIRE ALARM DEVICES, SENSORS, ETC. AS NECESSARY FOR DEMOLITION AND PROVISION OF MEP SYSTEMS (DUCTWORK, CHW PIPING, FIRE DAMPERS, WATER PIPING, ELECTRICAL CONDUITS, ETC.) AND RE-INSTALL AFTER WORK ABOVE CEILING HAS BEEN COMPLETED.



KEYPLAN



LEGEND	
	EXISTING EQUIPMENT TO BE DEMOLISHED
	EXISTING DUCTWORK TO BE DEMOLISHED
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN

MECHANICAL KEYED NOTES:

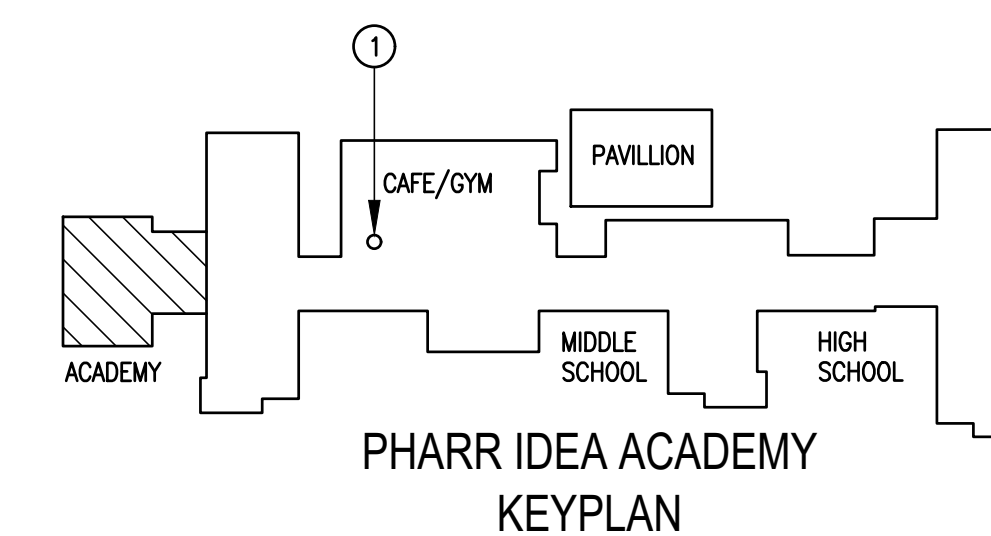
- 1 DEMOLISH EXISTING EF AND CONTROLS IN THIS APPROXIMATE LOCATION. COORDINATE WITH CONTROLS CONTRACTOR PRIOR TO DEMOLITION.
- 2 TEMPORARILY REMOVE THE CEILING AROUND THE AREA WHERE THE EXISTING EXHAUST FAN IS TO BE REPLACED. RESTORE THE CEILING BACK TO ITS ORIGINAL CONDITION AFTER REPLACEMENT OF EXHAUST FAN.

ELECTRICAL KEYED NOTES:

- 1 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING EXISTING EF.
- 2 TEMPORARILY DISCONNECT EXISTING EF FOR INSTALLATION OF A NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.



IDEA PHARR AREA A
01 MECHANICAL & ELECTRICAL DEMOLITION FLOOR PLAN
 SCALE : 1/8" = 1'-0"



PHARR IDEA ACADEMY
KEYPLAN



LEGEND	
	NEW EQUIPMENT TO BE INSTALLED
	NEW DUCTWORK
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN

MECHANICAL KEYED NOTES:

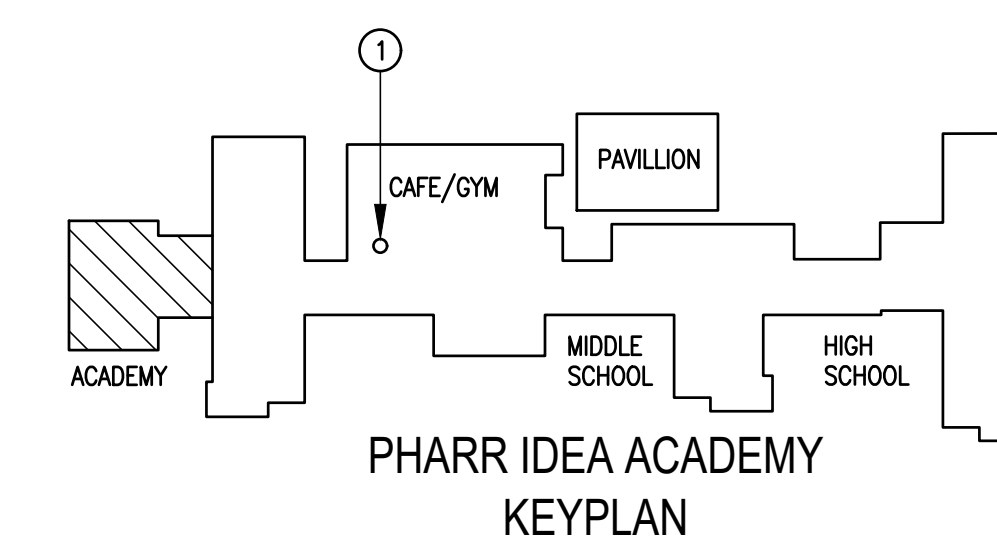
- 1 PROVIDE NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TRANSITION WHERE NECESSARY. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
- 2 TEMPORARILY REMOVE THE CEILING AROUND THE AREA WHERE THE EXISTING EXHAUST FAN IS TO BE REPLACED. RESTORE THE CEILING BACK TO ITS ORIGINAL CONDITION AFTER REPLACEMENT OF EXHAUST FAN.

ELECTRICAL KEYED NOTES:

- 1 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING EXISTING EF.
- 2 CONNECT NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.



01 IDEA PHARR AREA A
MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'-0" NORTH





1126 SOUTH COMMERCE ST.
PHARR, TX 77460
PHONE: 361-226-3435
TEXAS REGISTERED
ENGINEERING FIRM
E-15988

DATE: APRIL 19, 2024

CHECKED BY: B.B.

DRAWN BY: D.G.

PROJECT NO.: 23V77

CAD FILE:

SHEET:

ME3.3

LEGEND	
	EXISTING EQUIPMENT TO BE DEMOLISHED
	EXISTING DUCTWORK TO BE DEMOLISHED
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	CEILING REMOVAL

MECHANICAL KEYED NOTES:

- 1 DEMOLISH EXISTING ROOF TOP UNIT (RTU) AND ASSOCIATED CURB, CURB ADAPTER AND CONTROLS WIRING INCLUDING SENSORS IN THIS APPROXIMATE LOCATION. REFER TO ELECTRICAL NOTES FOR WORK RELATED TO DISCONNECTS, CONDUITS, WIRING, ETC.
- 2 DEMOLISH EXISTING DUCTWORK, TRANSITIONS, FITTINGS AND FLEX CONNECTORS UNDERNEATH THE EXISTING RTU AND WITHIN THE EXISTING CURB OPENING AS NECESSARY TO ACCOMMODATE NEW UNIT.
- 3 DEMOLISH EXISTING EF AND CONTROLS IN THIS APPROXIMATE LOCATION. COORDINATE WITH CONTROLS CONTRACTOR PRIOR TO DEMOLITION.
- 4 DEMOLISH ALL EXISTING PIPING ASSOCIATED WITH THE ROOFTOP UNITS. SEE RENOVATION PLAN. (TYPICAL)
- 5 RETAIN EXISTING MAIN DUCTWORK BRANCH TO BE REUSED. DEMOLISH EXISTING TRANSITION FITTINGS AND SUPPLY GRILLES ASSOCIATED WITH THE MAIN DUCTWORK BRANCH. SEE RENOVATION PLAN FOR NEW LOCATION.

ELECTRICAL KEYED NOTES:

- 1 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
- 2 DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
- 3 TEMPORARILY DISCONNECT EXISTING EF FOR INSTALLATION OF A NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.
- 4 APPROXIMATE LOCATION OF EXISTING SILENT KNIGHT 5820XL FIRE ALARM CONTROL PANEL (SEE KEY PLAN). PRIME CONTRACTORS SHALL CONTACT PRE-APPROVED SUBCONTRACTORS TO WORK ON SUCH SYSTEM AS BUT NOT LIMITED TO: SAFEGUARD FIRE SECURITY (956) 618-1478, SUPERIOR ALARMS (956) 793-9771, TOR THE BEST ALARM COMPANY (956) 330-2733.

CEILING DEMO GENERAL NOTES

1. PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO: EXISTING LIGHT FIXTURES, SPEAKERS, FIRE ALARM DEVICES, EMERGENCY LIGHTING, ETC. IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ENGINEER.
2. CONTRACTOR TO EVALUATE CEILING GRID PRIOR TO DEMOLITION AND DOCUMENT ALL BROKEN, CRACKED, MISSING TILES, ETC. AND PROVIDE REPORT TO OWNER AND ENGINEER.

CEILING DEMO KEYNOTES:

- 1 TEMPORARILY REMOVE EXISTING CEILING TILES/GRID, LIGHT FIXTURES, FIRE ALARM DEVICES, SENSORS, ETC. AS NECESSARY FOR DEMOLITION AND PROVISION OF NEW RTU'S AND ASSOCIATED MEP SYSTEMS (DUCTWORK, FIRE DAMPERS, WATER PIPING, ELECTRICAL CONDUITS, ETC.) AND RE-INSTALL AFTER WORK ABOVE CEILING HAS BEEN COMPLETED.

EQUIPMENT CONNECTION SCHEDULE:

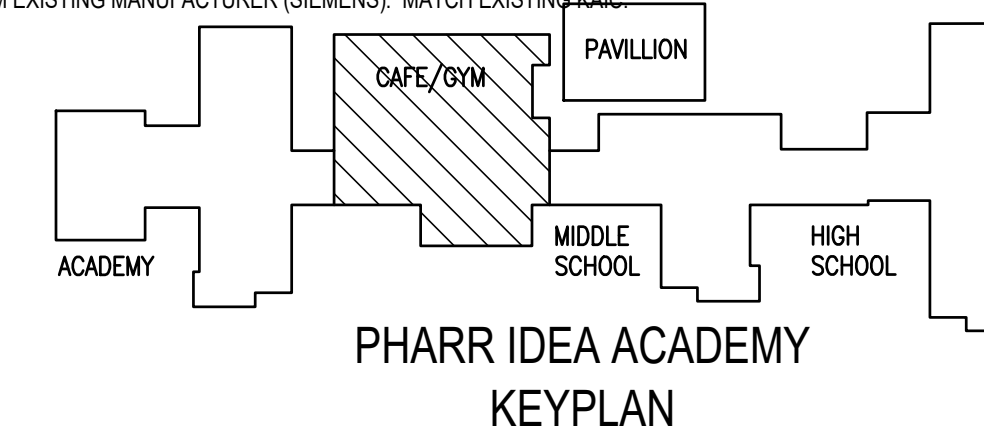
DESIGN	NEW MCA	EXISTING MOCP	NEW MOCP	VOLTAGE	EXISTING MEANS OF DISCONNECT	NEW MEANS OF DISCONNECT	EXISTING BRANCH CIRCUIT (75' COPPER)	NEW BRANCH CIRCUIT (75' COPPER)	EXISTING POWER SOURCE
RTU-1	38	30	1)60	480V/3PHASE	30A, 3PNF, 600V, NEMA 3R	60A, 3PNF, 600V, NEMA 3R	3/4" - 3#8 & #10G	RETAIN EXISTING	HK
RTU-6	40	45	1)40	480V/3PHASE	60A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING	3/4" - 3#8 & #10G	RETAIN EXISTING	HK
RTU-7	55.4	45	1)70	480V/3PHASE	60A, 3PNF, 600V, NEMA 3R	100A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING WIRING.	2) 3/4" - 3#8 & #8G	HK
RTU-8	55.4	50	1)70	480V/3PHASE	60A, 3PNF, 600V, NEMA 3R	100A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING WIRING.	2) 3/4" - 3#8 & #8G	HK

GENERAL NOTES:
A) LOCATE EQUIPMENT MEANS OF DISCONNECT WITHIN EQUIPMENT SIGHT. DO NOT INSTALL BELOW DUCTWORK OR PLUMBING LINES.
B) PROVIDE NEW BRANCH CONNECTION FROM DISCONNECT TO EQUIPMENT. TYPICAL FOR ALL NEW HVAC EQUIPMENT.

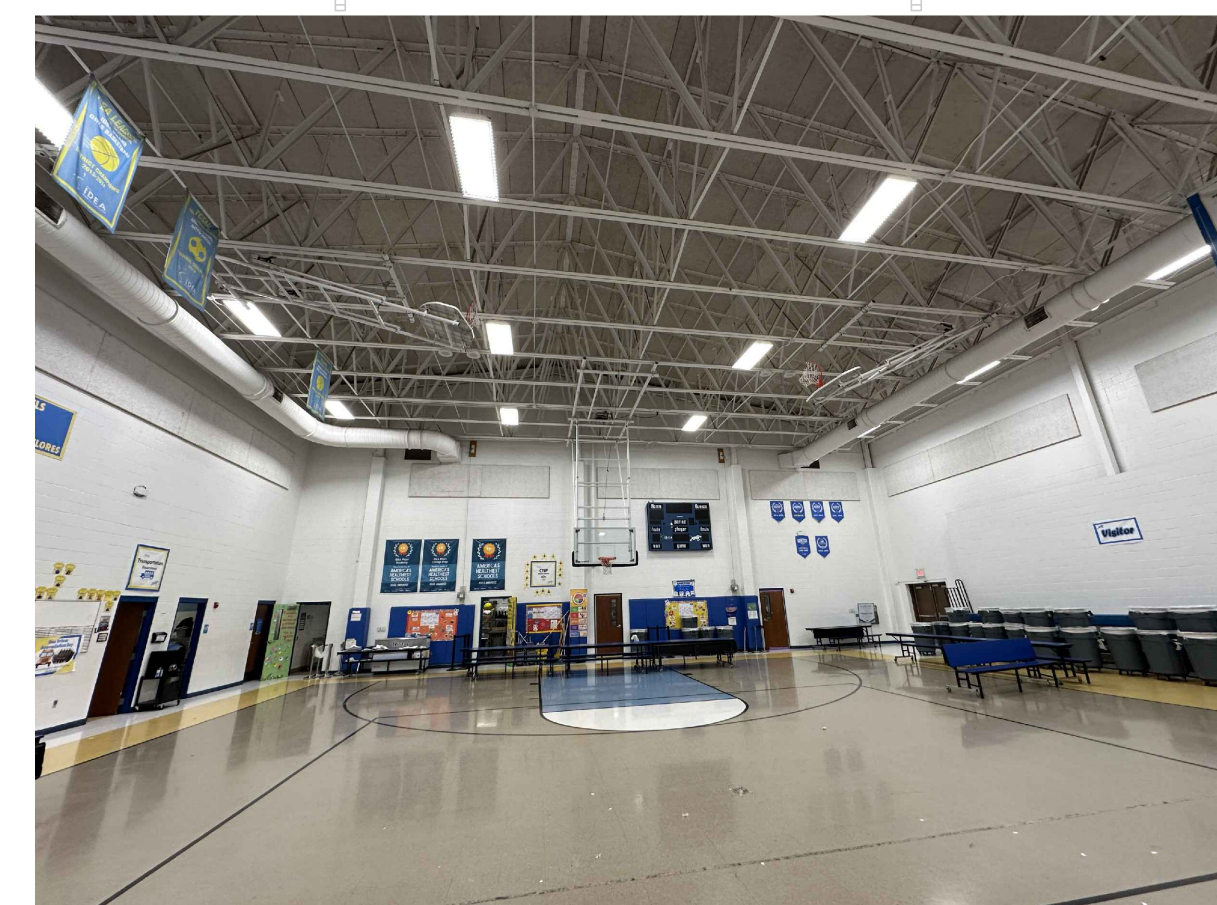
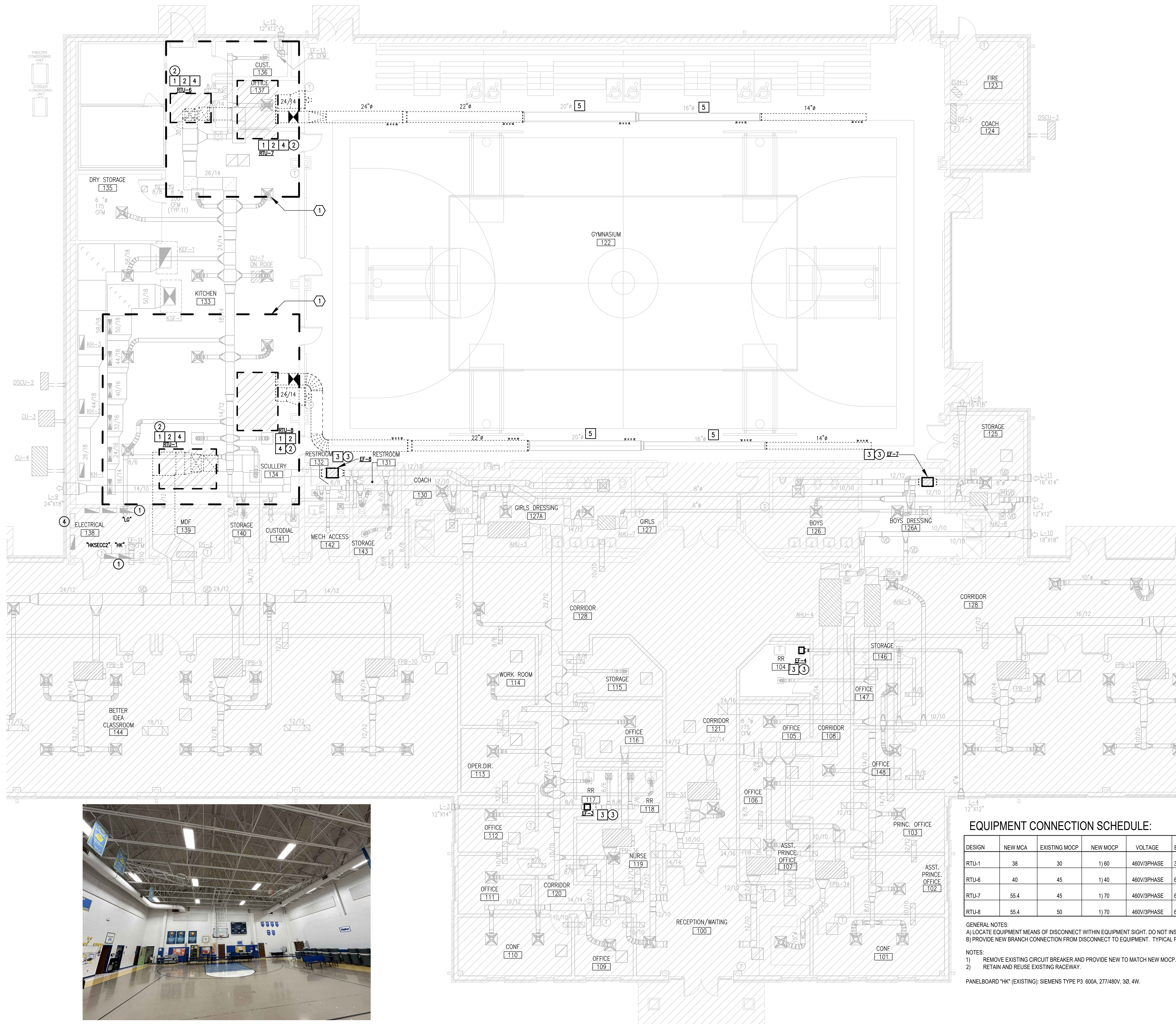
NOTES:

- 1) REMOVE EXISTING CIRCUIT BREAKER AND PROVIDE NEW TO MATCH NEW MOCP. PROVIDE UL LISTED UNIT FROM EXISTING MANUFACTURER (SIEMENS). MATCH EXISTING KAIC.
- 2) RETAIN AND REUSE EXISTING RACEWAY.

PANELBOARD "HK" (EXISTING); SIEMENS TYPE P3 600A, 277/480V, 3Ø, 4W.



PHARR IDEA ACADEMY
KEYPLAN



IDEA PHARR GYMNASIUM 122
EXISTING DUCTWORK FOR REFERENCE
02 NOT TO SCALE

IDEA PHARR AREA B
MECHANICAL & ELECTRICAL DEMOLITION FLOOR PLAN
01 SCALE: 1/8" = 1'-0"





IDEA PUBLIC SCHOOLS
MIDDLE RGV MECHANICAL UPGRADES



1126 SOUTH COMMERCE ST.
HARLINGEN, TX
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E-15998

DATE: APRIL 19, 2024

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DRAWN BY: D.G.

PROJECT NO.: 23V77

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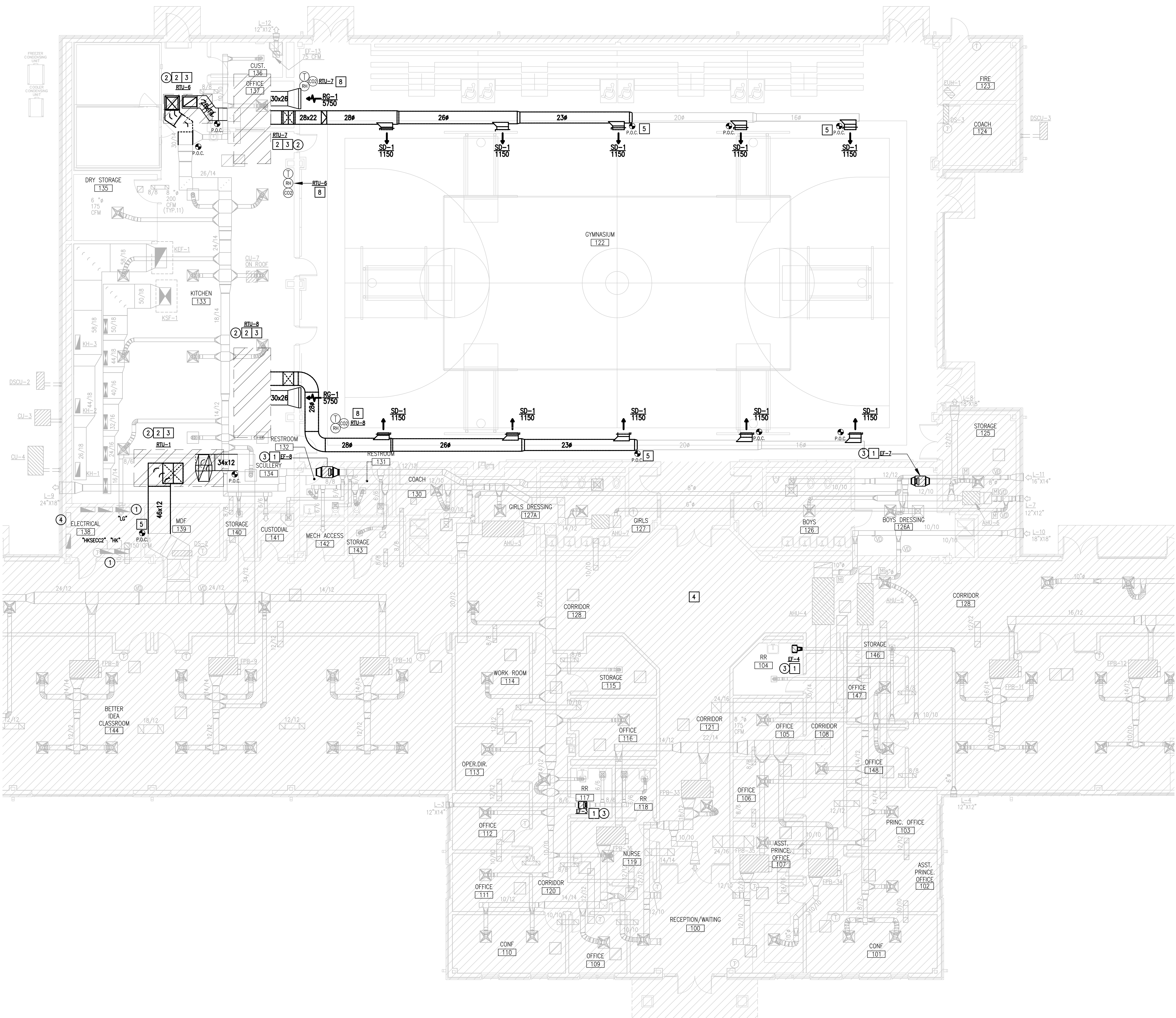
LEGEND	
	NEW EQUIPMENT TO BE INSTALLED
	NEW ROOF EQUIPMENT TO BE INSTALLED
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	PIPING TO BE INSTALLED
	NEW T-STAT, RH, AND CO2 SENSORS
	NEW DUCTWORK

MECHANICAL KEYED NOTES:

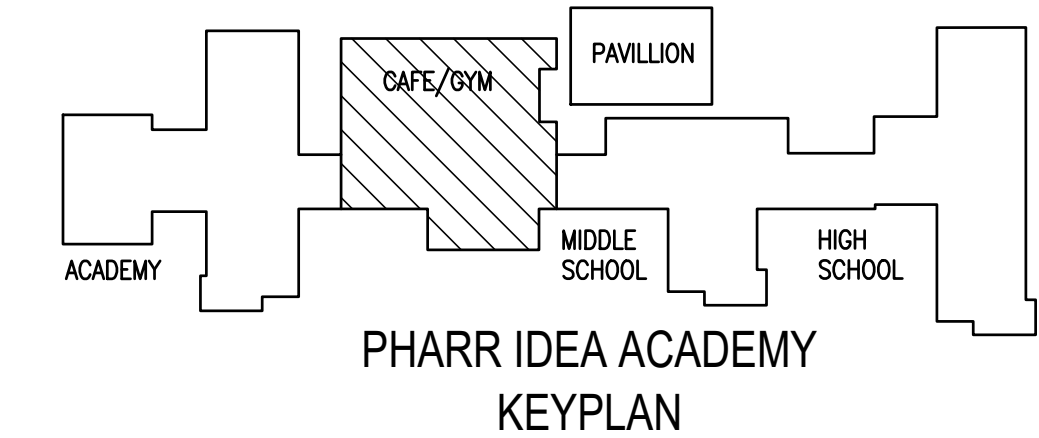
- 1 PROVIDE NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TRANSITION WHERE NECESSARY. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
- 2 SUPPLY AND RETURN DUCTWORK UP TO RTU'S ABOVE THROUGH EXISTING ROOF OPENINGS. TRANSITION AS NECESSARY.
- 3 CONNECT FULL SIZE DUCT WORK FROM CEILING SPACE BELOW TO NEW RTU SA AND RA OPENINGS. TRANSITION AS NECESSARY.
- 4 DUCTWORK ROUTING SHOWN IS DIAGRAMMATIC IN NATURE. FIELD-VERIFY STRUCTURE AND SPACE AVAILABILITY PRIOR TO SUBMITTING SHOP DRAWINGS. COORDINATE WITH ENGINEER IN CASE OF CONFLICTS. (TYPICAL)
- 5 CONNECT NEW DUCTWORK INTO EXISTING AT THIS APPROXIMATE LOCATION. (TYPICAL)
- 6 ROUTE CONDENSATE LINES TO EXISTING DESIGNATED DRAIN. COORDINATE WITH PLUMBING CONTRACTOR.
- 7 PIPES SHALL BE TYPE L DRAWN-TEMPER COPPER TUBING, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS. PIPES SHALL BE SIZED TO MATCH EXISTING OR PER HVAC MANUFACTURER'S RECOMMENDATION, WHICHEVER IS LARGER. CONDENSATE AND EQUIPMENT DRAIN WATER INSULATION SHALL BE 3/4 INCH THICK FLEXIBLE ELASTOMERIC TYPE WITH VAPOR RETARDER, AND PAINTED FINISH.
- 8 PROVIDE THERMOSTAT, RH, AND CO2 SENSORS WHERE INDICATED. INSTALL 48" A.F.F. COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS. (TYPICAL)

ELECTRICAL KEYED NOTES:

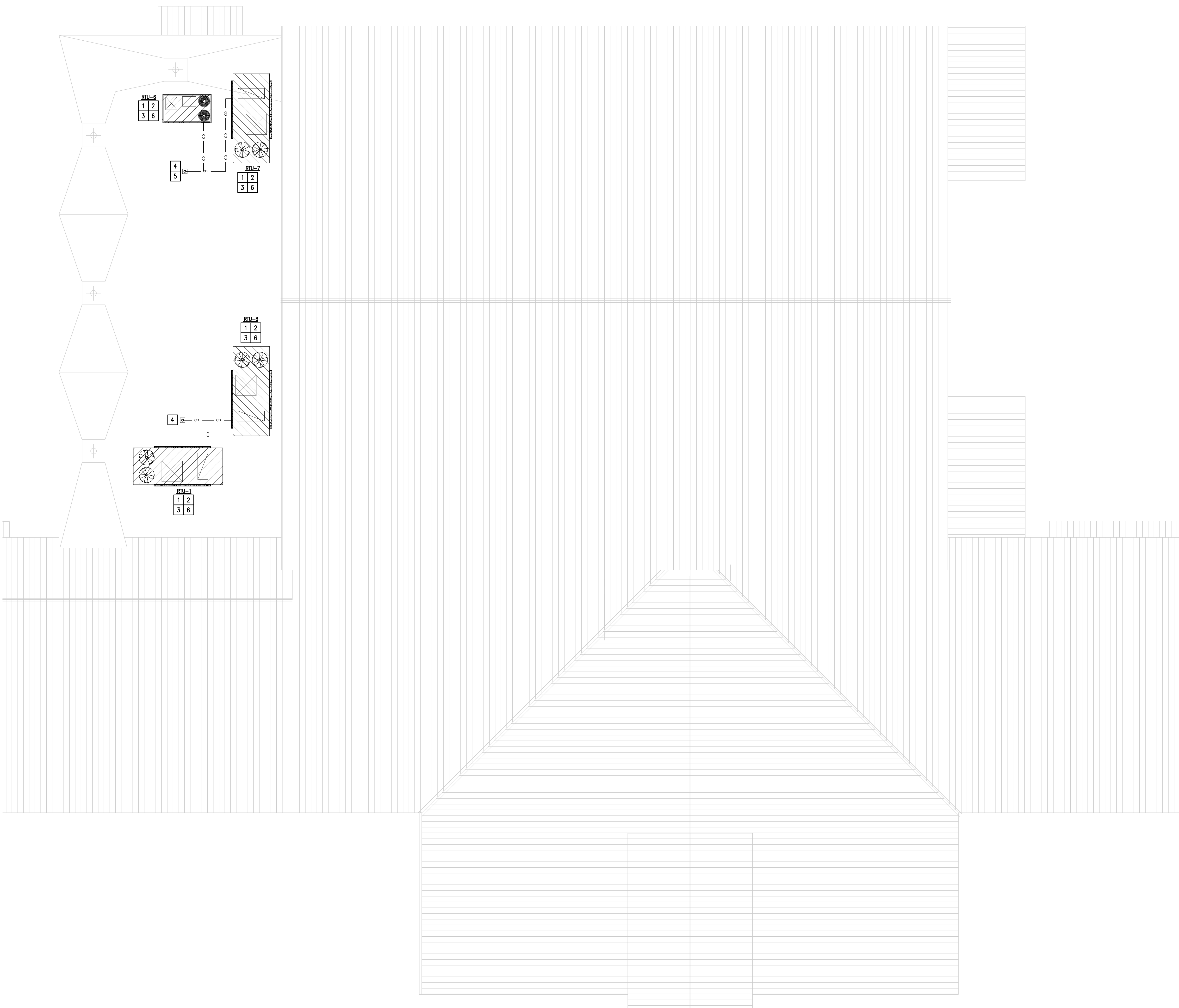
- 1 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
- 2 CONNECT NEW HVAC EQUIPMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
- 3 CONNECT NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.
- 4 APPROXIMATE LOCATION OF EXISTING SILENT KNIGHT 5820XL FIRE ALARM CONTROL PANEL (SEE KEY PLAN). PRIME CONTRACTORS SHALL CONTACT PRE-APPROVED SUBCONTRACTORS TO WORK ON SUCH SYSTEM AS BUT NOT LIMITED TO: SAFEGUARD FIRE SECURITY (956) 618-1478, SUPERIOR ALARMS (956) 793-9771, TCR THE BEST ALARM COMPANY (956) 330-2733.



IDEA PHARR AREA B
01 MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"



PHARR IDEA ACADEMY
KEYPLAN



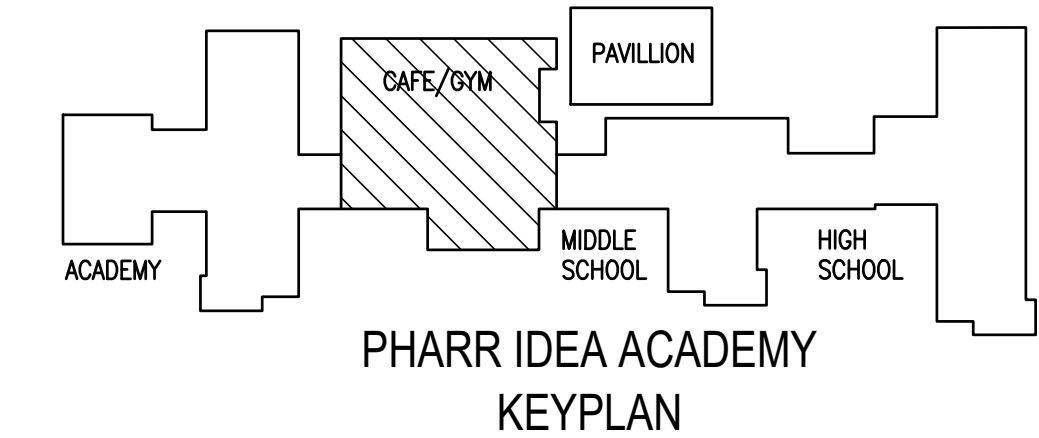
LEGEND

	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
	PIPING TO BE INSTALLED
	ROOF PATCHING AREA

MECHANICAL KEYED NOTES:

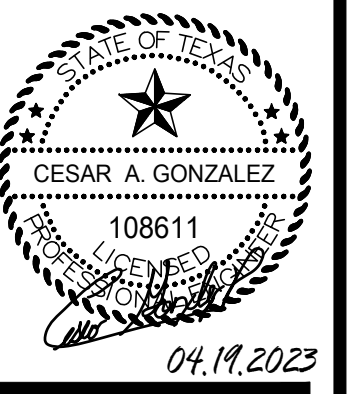
- 1 PROVIDE NEW RTU ON NEW ROOF CURB AS SCHEDULED. ORIENT RTU'S TO OPTIMIZE CONNECTION TO EXISTING DUCTWORK. SEAL ALL OPENINGS AND ENSURE THAT INSTALLATION IS WEATHER-TIGHT. PROVIDE COPPER CONDENSATE DRAIN LINES WITH P-TRAPS AND CONNECT TO EXISTING CONDENSATE SYSTEM. PROVIDE PIPING SUPPORTS AS DETAILED. DEMOLISH EXISTING CURB AND PROVIDE NEW ROOF CURB TO INSTALL EQUIPMENT ON ROOF. SECURE EQUIPMENT TO ROOF CURB AND TO ROOF STRUCTURE AS PER DIV. 7 SPECIFICATIONS. ATTACHMENTS SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES. PROVIDE NEW DDC CONTROLS FOR RTU AS SCHEDULED. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
- 2 PROVIDE CONVENIENCE ELECTRICAL OUTLET AT INDICATED RTU. COORDINATE WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ELECTRICAL CONTRACTOR.
- 3 CONNECT EXISTING FULL SIZE DUCT WORK FROM CEILING SPACE BELOW TO NEW RTU SA AND RA OPENINGS. TRANSITION AS NECESSARY.
- 4 ROUTE FULL SIZE CONDENSATE TO EXISTING ROOF PENETRATION SYSTEM. SEE ASSOCIATED DETAIL. COORDINATE INSTALLATION WITH PLUMBING CONTRACTOR. PROVIDE COPPER CONDENSATE PIPING ON ROOF AND PROVIDE SUPPORTS AS PER DETAIL. REFER TO DETAIL SHEET. (TYPICAL)
- 5 PIPES SHALL BE TYPE L, DRAWN-TEMPER COPPER TUBING, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS. PIPES SHALL BE SIZED TO MATCH EXISTING OR PER HVAC MANUFACTURER'S RECOMMENDATION, WHICHEVER IS LARGER. CONDENSATE AND EQUIPMENT DRAIN WATER INSULATION SHALL BE 3/4 INCH THICK FLEXIBLE ELASTOMERIC TYPE WITH VAPOR RETARDER, AND PAINTED FINISH.
- 6 PATCH/REPAIR ROOF AT THIS LOCATION UPON DEMOLITION OF EXISTING RTU AND ADJUSTMENT OF OPENING FOR NEW RTU.

**01 IDEA PHARR AREA B
MECHANICAL & ELECTRICAL RENOVATION ROOF PLAN**
SCALE: 1/8" = 1'-0"



NO. REVISION: BY:

CSP # 24-MRMU-0424



TEXAS

**IDEA PUBLIC SCHOOLS
MIDDLE RGV MECHANICAL UPGRADES**

PHARR



1128 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 361-205-2435
TEXAS REGISTERED
ENGINEERING FIRM
E-15998

DATE: APRIL 19, 2024

CHECKED BY: B.B.

DRAWN BY: D.G.

PROJECT NO.: 23V77

CAD FILE: .

SHEET: ME3.5



LEGEND	
	EXISTING EQUIPMENT TO BE DEMOLISHED
	EXISTING DUCTWORK TO BE DEMOLISHED
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	CEILING REMOVAL

MECHANICAL KEYED NOTES:

- 1 DEMOLISH EXISTING ROOF TOP UNIT (RTU) AND ASSOCIATED CURB, CURB ADAPTER AND CONTROLS WIRING INCLUDING SENSORS IN THIS APPROXIMATE LOCATION. REFER TO ELECTRICAL NOTES FOR WORK RELATED TO DISCONNECTS, CONDUITS, WIRING, ETC.
- 2 DEMOLISH EXISTING DUCTWORK, TRANSITIONS, FITTINGS AND FLEX CONNECTORS UNDERNEATH THE EXISTING RTU AND WITHIN THE EXISTING CURB OPENING AS NECESSARY TO ACCOMMODATE NEW UNIT.
- 3 DEMOLISH EXISTING EF AND CONTROLS IN THIS APPROXIMATE LOCATION. COORDINATE WITH CONTROLS CONTRACTOR PRIOR TO DEMOLITION.
- 4 DEMOLISH ALL EXISTING PIPING ASSOCIATED WITH THE ROOFTOP UNITS. SEE RENOVATION ROOF PLAN. (TYPICAL)

ELECTRICAL KEYED NOTES:

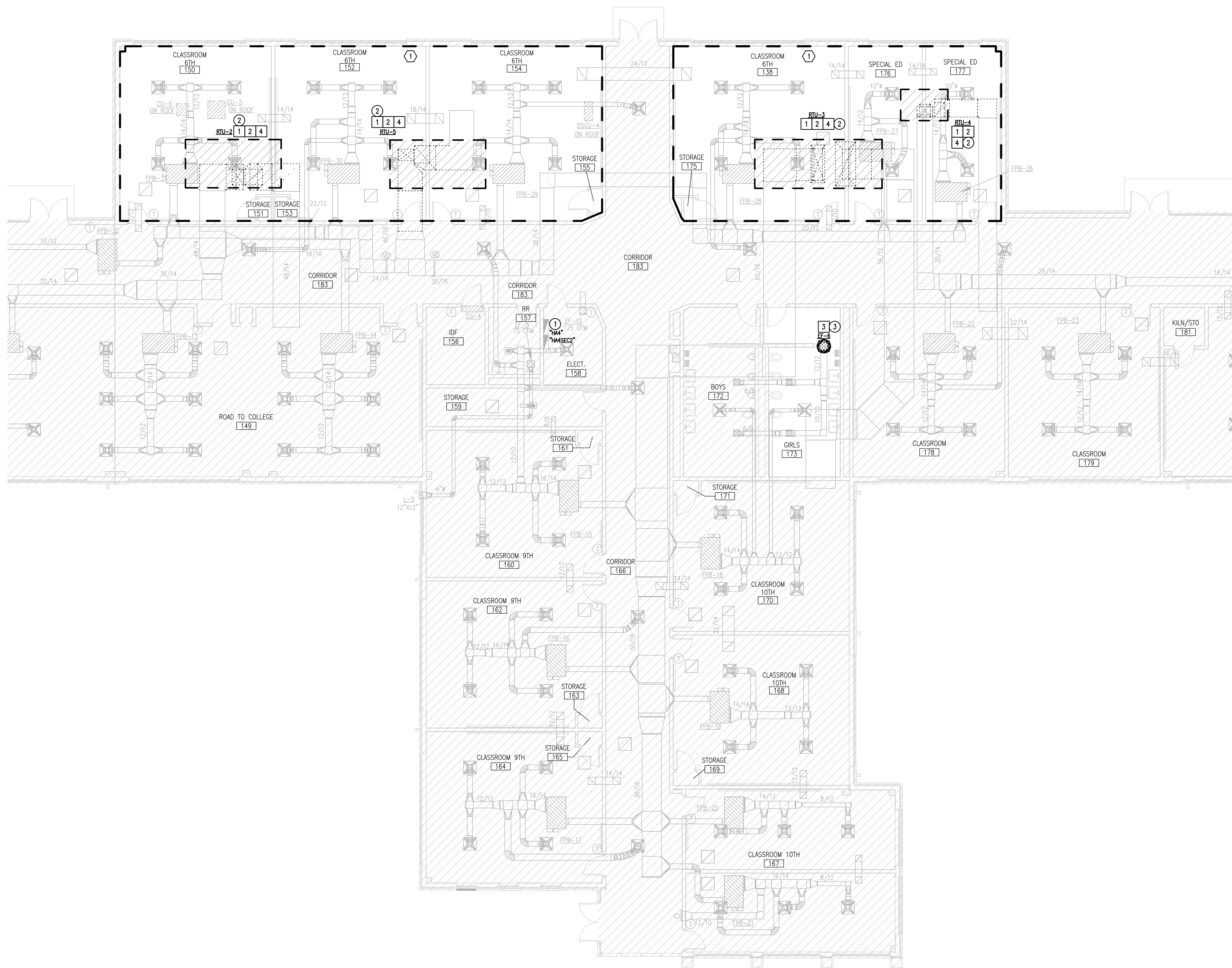
- 1 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
- 2 DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
- 3 TEMPORARILY DISCONNECT EXISTING EF FOR INSTALLATION OF A NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.

CEILING DEMO GENERAL NOTES

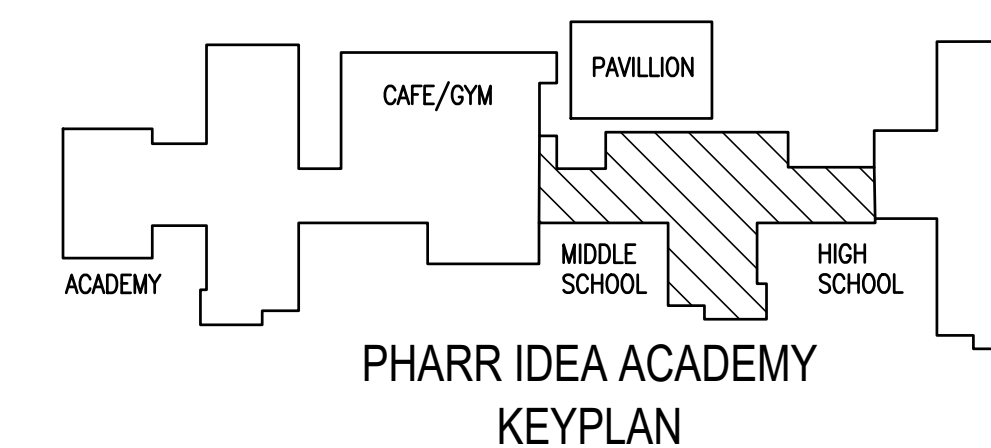
1. PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO: EXISTING LIGHT FIXTURES, SPEAKERS, FIRE ALARM DEVICES, EMERGENCY LIGHTING, ETC. IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ENGINEER.
2. CONTRACTOR TO EVALUATE CEILING GRID PRIOR TO DEMOLITION AND DOCUMENT ALL BROKEN, CRACKED, MISSING TILES, ETC. AND PROVIDE REPORT TO OWNER AND ENGINEER.

CEILING DEMO KEYNOTES:

- 1 TEMPORARILY REMOVE EXISTING CEILING TILES/GRID, LIGHT FIXTURES, FIRE ALARM DEVICES, SENSORS, ETC. AS NECESSARY FOR DEMOLITION AND PROVISION OF MEP SYSTEMS (DUCTWORK, CHW PIPING, FIRE DAMPERS, WATER PIPING, ELECTRICAL CONDUITS, ETC.) AND RE-INSTALL AFTER WORK ABOVE CEILING HAS BEEN COMPLETED.



01 IDEA PHARR AREA C
MECHANICAL & ELECTRICAL DEMOLITION FLOOR PLAN
SCALE: 1/8" = 1'-0"



PHARR IDEA ACADEMY
KEYPLAN



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CHECKED BY: B.B.

DRAWN BY: D.G.

PROJECT NO.: 23V77

CAD FILE:

SHEET:

ME3.7

LEGEND	
	NEW EQUIPMENT TO BE INSTALLED
	NEW ROOF EQUIPMENT TO BE INSTALLED
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	PIPING TO BE INSTALLED
	NEW DUCTWORK

MECHANICAL KEYED NOTES:

- 1 PROVIDE NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TRANSITION WHERE NECESSARY. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
- 2 SUPPLY AND RETURN DUCTWORK UP TO RTU'S ABOVE THROUGH EXISTING ROOF OPENINGS. TRANSITION AS NECESSARY.
- 3 CONNECT FULL SIZE DUCT WORK FROM CEILING SPACE BELOW TO NEW RTU SA AND RA OPENINGS. TRANSITION AS NECESSARY.
- 4 DUCTWORK ROUTING SHOWN IS DIAGRAMMATIC IN NATURE. FIELD-VERIFY STRUCTURE AND SPACE AVAILABILITY PRIOR TO SUBMITTING SHOP DRAWINGS. COORDINATE WITH ENGINEER IN CASE OF CONFLICTS. (TYPICAL)
- 5 CONNECT NEW DUCTWORK INTO EXISTING AT THIS APPROXIMATE LOCATION. (TYPICAL)
- 6 ROUTE CONDENSATE LINES FROM RTU'S ON ROOF TO EXISTING DESIGNATED DRAIN. COORDINATE WITH PLUMBING CONTRACTOR.

ELECTRICAL KEYED NOTES:

- 1 APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
- 2 CONNECT NEW HVAC EQUIPMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
- 3 CONNECT NEW EF. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.

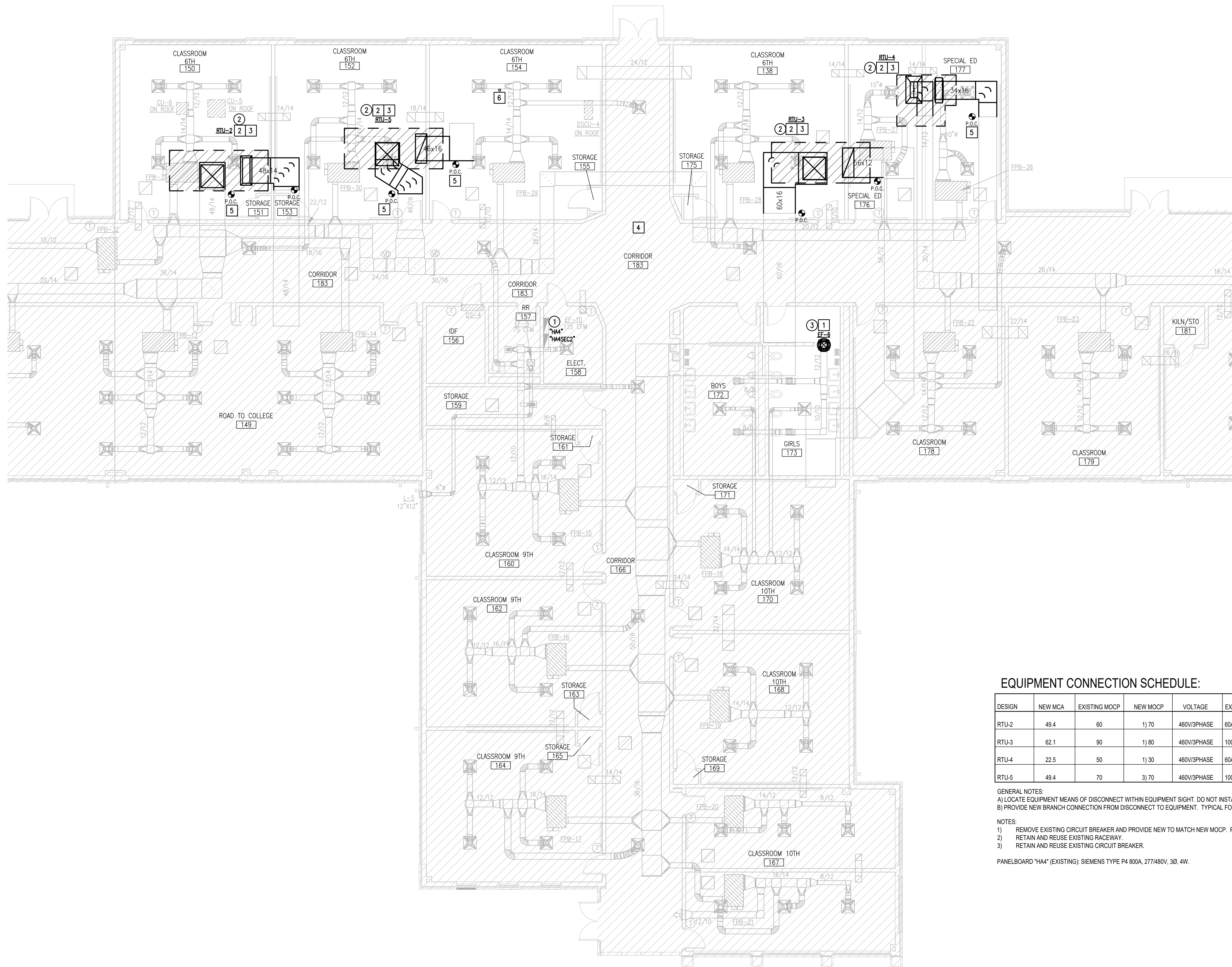
EQUIPMENT CONNECTION SCHEDULE:

DESIGN	NEW MCA	EXISTING MOCP	NEW MOCP	VOLTAGE	EXISTING MEANS OF DISCONNECT	NEW MEANS OF DISCONNECT	EXISTING BRANCH CIRCUIT (75' COPPER)	NEW BRANCH CIRCUIT (75' COPPER)	EXISTING POWER SOURCE
RTU-2	49.4	60	1) 70	460V/3PHASE	60A, 3PNF, 600V, NEMA 3R	100A, 3PNF, 600V, NEMA 3R	REMOVE EXISTING WIRING.	2) 3/4" - 3#6 & #8G	HA4
RTU-3	62.1	90	1) 80	460V/3PHASE	100A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING	1" - 3#3 & #8G	RETAIN EXISTING	HA4
RTU-4	22.5	50	1) 30	460V/3PHASE	60A, 3PNF, 600V, NEMA 3R	100A, 3PNF, 600V, NEMA 3R	3/4" - 3#6 & #8G	RETAIN EXISTING	HA4
RTU-5	49.4	70	3) 70	460V/3PHASE	100A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING	1" - 3#3 & #8G	RETAIN EXISTING	HA4

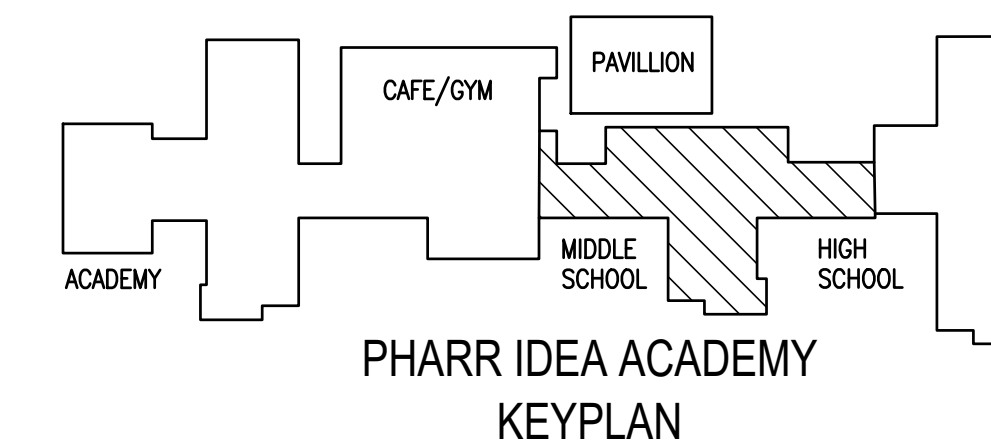
GENERAL NOTES:
A) LOCATE EQUIPMENT MEANS OF DISCONNECT WITHIN EQUIPMENT SIGHT. DO NOT INSTALL BELOW DUCTWORK OR PLUMBING LINES.
B) PROVIDE NEW BRANCH CONNECTION FROM DISCONNECT TO EQUIPMENT. TYPICAL FOR ALL NEW HVAC EQUIPMENT.

NOTES:
1) REMOVE EXISTING CIRCUIT BREAKER AND PROVIDE NEW TO MATCH NEW MOCP. PROVIDE UL LISTED UNIT FROM EXISTING MANUFACTURER (SIEMENS). MATCH EXISTING KAIC.
2) RETAIN AND REUSE EXISTING RACEWAY.
3) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.

PANELBOARD "HA4" (EXISTING); SIEMENS TYPE P4 800A, 277/480V, 30, 4W.



01 IDEA PHARR AREA C
MECHANICAL & ELECTRICAL RENOVATION FLOOR PLAN
SCALE: 1/8" = 1'-0"



PHARR IDEA ACADEMY
KEYPLAN



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DATE: APRIL 19, 2024

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DRAWN BY: D.G.

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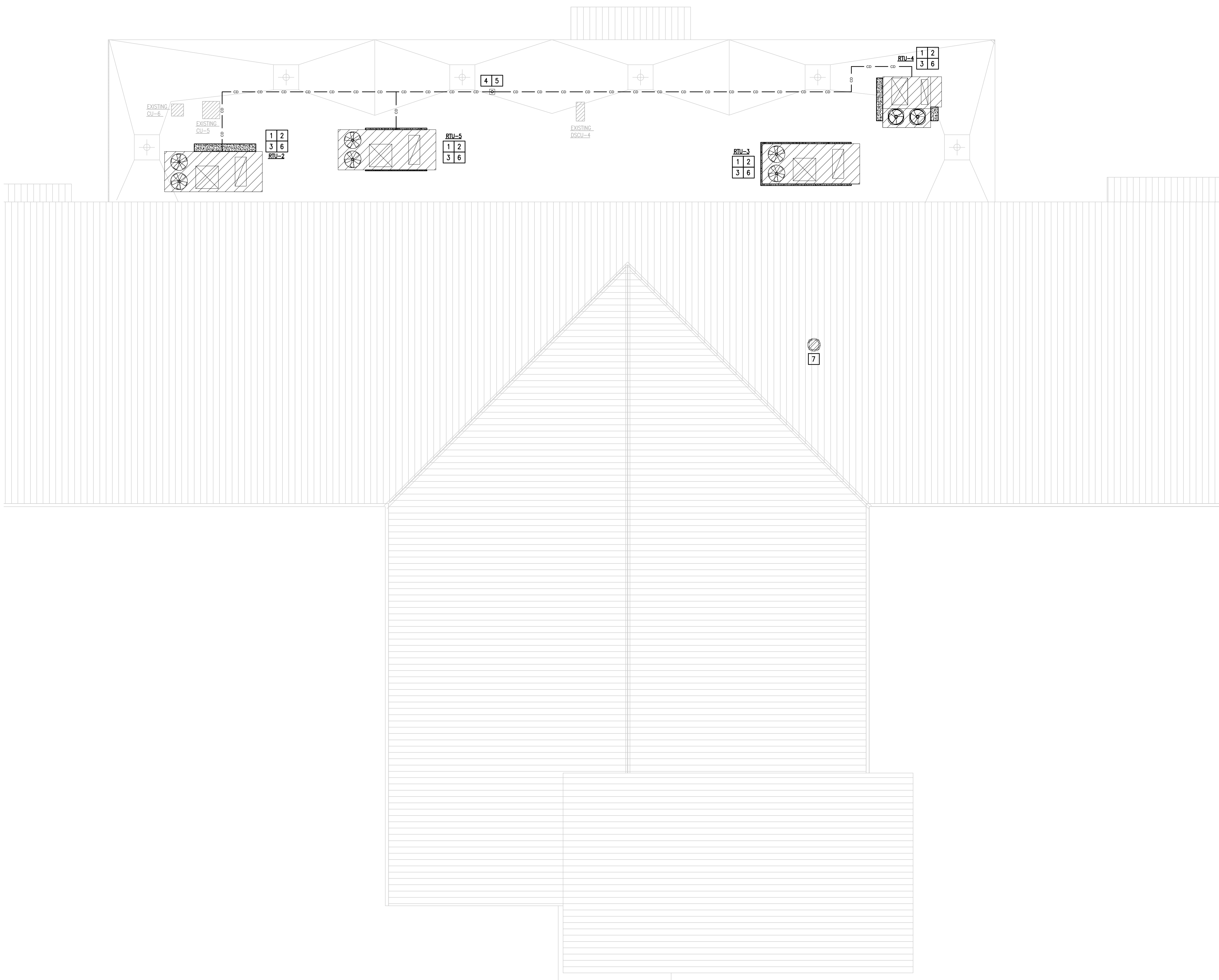
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LEGEND

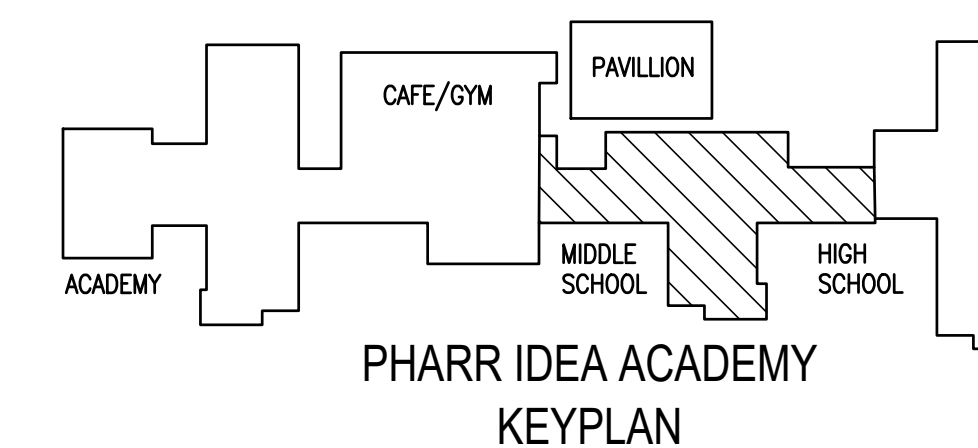
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
	PIPING TO BE INSTALLED
	ROOF PATCHING AREA



MECHANICAL KEYED NOTES:

- 1 PROVIDE NEW RTU ON NEW ROOF CURB AS SCHEDULED. ORIENT RTU'S TO OPTIMIZE CONNECTION TO EXISTING DUCTWORK. SEAL ALL OPENINGS AND ENSURE THAT INSTALLATION IS WEATHER-TIGHT. PROVIDE COPPER CONDENSATE DRAIN LINES WITH P-TRAPS AND CONNECT TO EXISTING CONDENSATE SYSTEM. PROVIDE PIPING SUPPORTS AS DETAILED. DEMOLISH EXISTING CURB AND PROVIDE NEW ROOF CURB TO INSTALL EQUIPMENT ON ROOF. SECURE EQUIPMENT TO ROOF CURB AND TO ROOF STRUCTURE AS PER DIV. 7 SPECIFICATIONS. ATTACHMENTS SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES. PROVIDE NEW DDC CONTROLS FOR RTU AS SCHEDULED. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
- 2 PROVIDE CONVENIENCE ELECTRICAL OUTLET AT INDICATED RTU. COORDINATE WITH EQUIPMENT MANUFACTURER. COORDINATE WITH ELECTRICAL CONTRACTOR.
- 3 CONNECT EXISTING FULL SIZE DUCT WORK FROM CEILING SPACE BELOW TO NEW RTU SA AND RA OPENINGS. TRANSITION AS NECESSARY.
- 4 ROUTE FULL SIZE CONDENSATE TO EXISTING ROOF PENETRATION SYSTEM. SEE ASSOCIATED DETAIL. COORDINATE INSTALLATION WITH PLUMBING CONTRACTOR. PROVIDE COPPER CONDENSATE PIPING ON ROOF AND PROVIDE SUPPORTS AS PER DETAIL. REFER TO DETAIL SHEET. (TYPICAL)
- 5 PIPES SHALL BE TYPE L, DRAWN-TEMPER COPPER TUBING, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS. PIPES SHALL BE SIZED TO MATCH EXISTING OR PER HVAC MANUFACTURER'S RECOMMENDATION, WHICHEVER IS LARGER. CONDENSATE AND EQUIPMENT DRAIN WATER INSULATION SHALL BE 3/4 INCH THICK FLEXIBLE ELASTOMERIC TYPE WITH VAPOR RETARDER, AND PAINTED FINISH.
- 6 PATCH/REPAIR ROOF AT THIS LOCATION UPON DEMOLITION OF EXISTING RTU AND ADJUSTMENT OF OPENING FOR NEW RTU.
- 7 PROVIDE NEW EXHAUST FAN ON NEW ROOF CURB AS SCHEDULED. REFER TO STRUCTURAL FOR STRUCTURAL REINFORCEMENT INFORMATION. ATTACHMENTS SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES. CONNECT AND EXTEND AS NEEDED NEW EXHAUST DUCTWORK BELOW TO NEW EXHAUST FAN. PROVIDE WINDSTORM CERTIFICATION OF EXHAUST FAN INSTALLATION. SEE SCHEDULES AND DETAILS FOR MORE INFORMATION. REFER TO DIV 23 FOR TIE-IN TO EXISTING BAS.

01 IDEA PHARR AREA C
MECHANICAL & ELECTRICAL RENOVATION ROOF PLAN
SCALE: 1/8" = 1'-0"

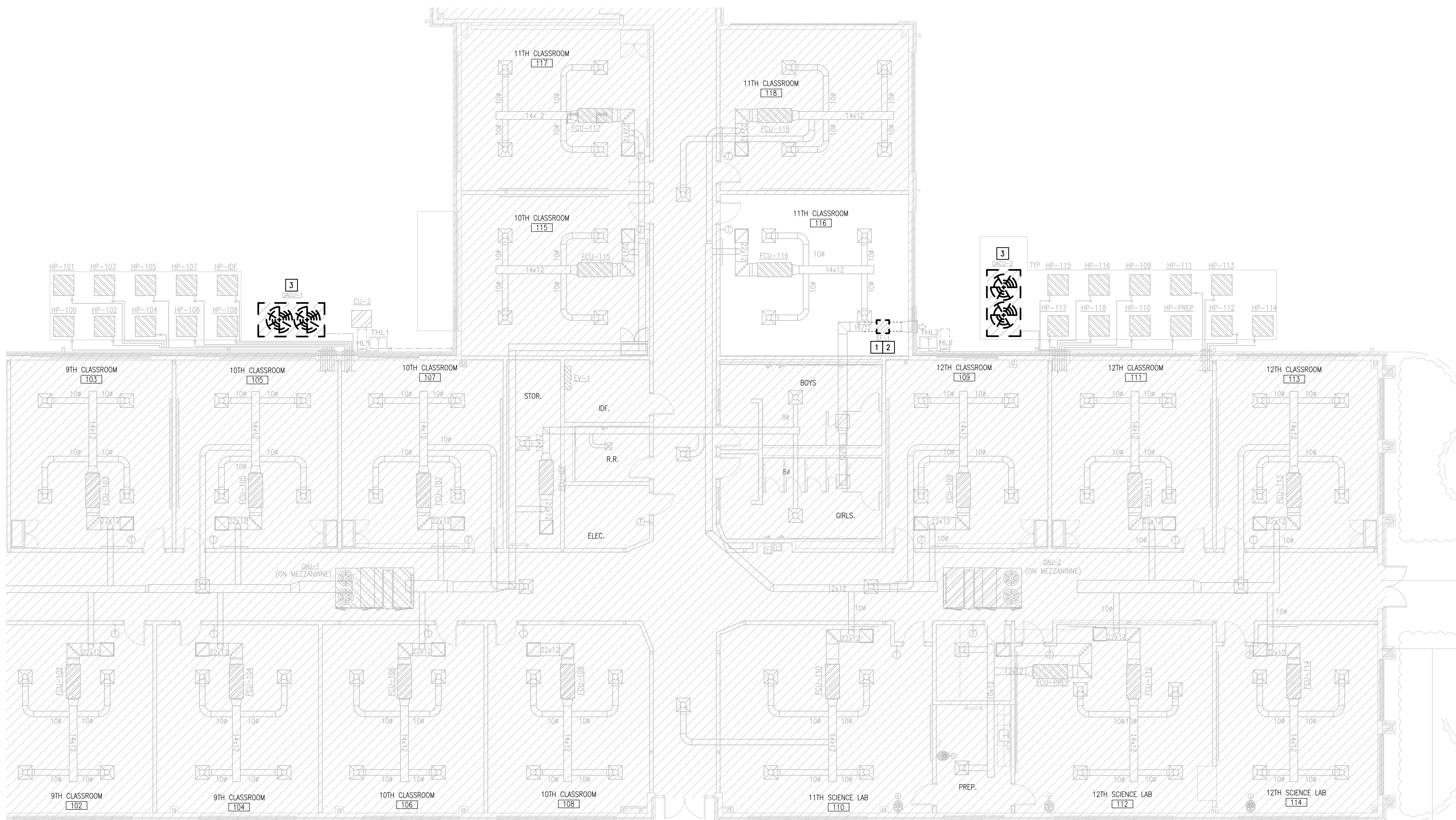




LEGEND	
	EXISTING EQUIPMENT TO BE DEMOLISHED
	EXISTING DUCTWORK TO BE DEMOLISHED
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN

MECHANICAL KEYED NOTES:

- 1 DEMOLISH EXISTING EF AND CONTROLS IN THIS APPROXIMATE LOCATION. COORDINATE WITH CONTROLS CONTRACTOR PRIOR TO DEMOLITION.
- 2 TEMPORARILY REMOVE THE CEILING AROUND THE AREA WHERE THE EXISTING EXHAUST FAN IS TO BE REPLACED. RESTORE THE CEILING BACK TO ITS ORIGINAL CONDITION AFTER REPLACEMENT OF EXHAUST FAN.
- 3 DEMOLISH EXISTING AIR COOLED CONDENSING UNIT ALONG WITH ITS ASSOCIATED REFRIGERANT PIPING, PIPING INSULATION, AND REFRIGERANT LINE SUPPORTS.

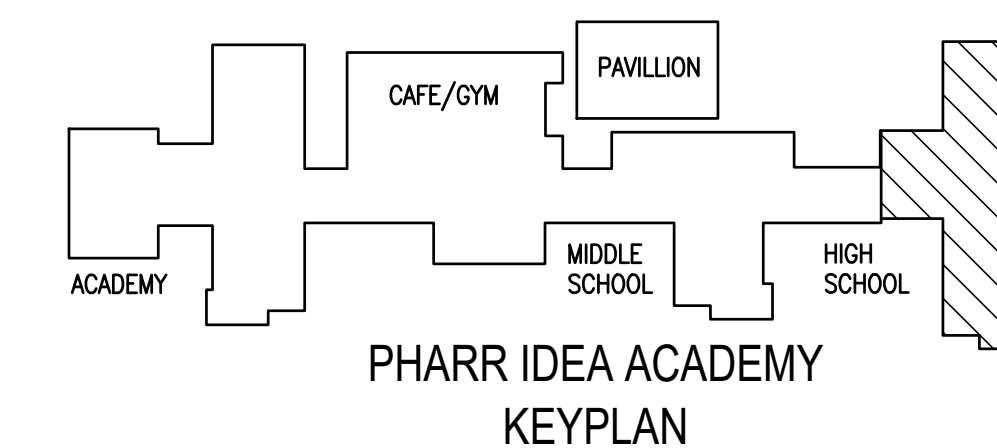


IDEA PHARR AREA D
 01 MECHANICAL & ELECTRICAL DEMOLITION FLOOR PLAN
 SCALE: 1/8" = 1'-0"



IDEA PUBLIC SCHOOLS
 MIDDLE RGV MECHANICAL UPGRADES

PHARR



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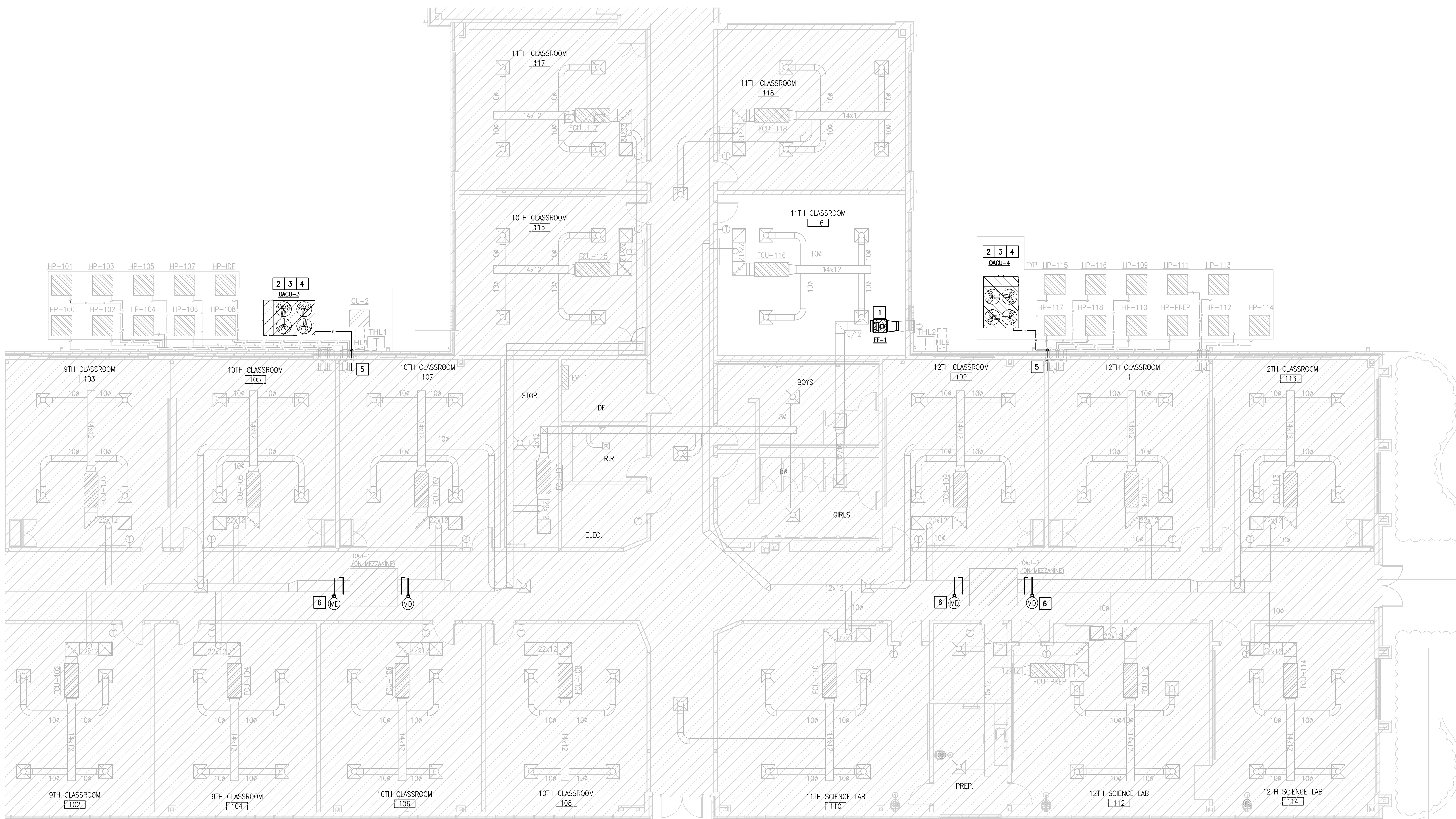
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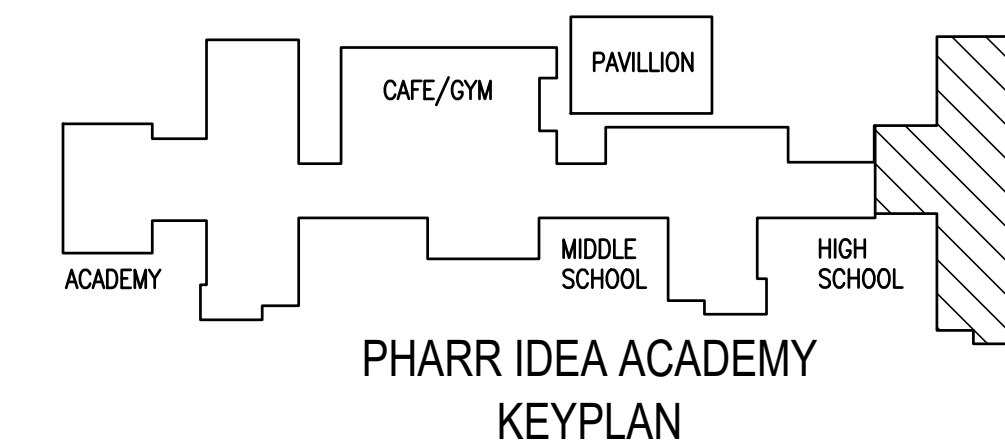
LEGEND	
	NEW EQUIPMENT TO BE INSTALLED
	NEW DUCTWORK TO BE INSTALLED
	EXISTING DUCTWORK TO REMAIN
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	PIPING TO BE INSTALLED

MECHANICAL KEYED NOTES:

- 1 PROVIDE NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCTWORK TRANSITION AS SHOWN. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
- 2 PROVIDE NEW AIR COOLED CONDENSING UNIT AND INSULATE REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND EXTEND EXISTING HOUSEKEEPING CONCRETE PADS AS NECESSARY TO ACCOMMODATE NEW EQUIPMENT. REFRIGERANT PIPING SHOWN IS STRICTLY SCHEMATIC, VERIFY NUMBER OF CIRCUITS AND PIPE SIZES WITH MANUFACTURER'S DATA. BOLT EQUIPMENT DOWN TO CONCRETE SLAB. ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES.
- 3 PROVIDE NEW REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL (TYPICAL)
- 4 PROVIDE NEW 1" INSULATION ON ALL REFRIGERANT LINES BOTH NEW AND EXISTING. PROVIDE ALUMINUM JACKET ON EXPOSED REFRIGERANT LINES. SEE SPECIFICATIONS. PROVIDE REFRIGERANT LINE SUPPORTS PER SPECIFICATIONS. SEE ASSOCIATED DETAIL.
- 5 RETAIN EXISTING SLEEVE AT ALL PENETRATIONS PER SPECIFICATIONS WHERE POSSIBLE. SEAL AROUND NEW PIPING WITH FIRE PROOF CAULKING. PROVIDE NEW ESCUTCHEON PLATES AND FLASHING AROUND PENETRATION BOTH INSIDE AND OUTSIDE TO PROVIDE FINISHED LOOK WHERE NECESSARY.
- 6 PROVIDE MANUAL VOLUME DAMPER AND MOTORIZED DAMPER AT OUTSIDE AIR DUCT AS SHOWN, REFER TO SEQUENCE OF OPERATIONS FOR MORE INFORMATION. COORDINATE WITH ELECTRICAL AND GENERAL CONTRACTOR.



IDEA PHARR AREA D
01 MECHANICAL & ELECTRICAL RENOVATION FLOOR PLAN
SCALE: 1/8" = 1'-0"
NORTH



IDEA SAN JUAN - EXISTING AIR HANDLING UNIT SCHEDULE

MARK	UNIT TYPE	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	EXISTING TOTAL CFM	EXISTING OUTSIDE AIR CFM	ESP IN WG	FAN TYPE	EXISTING MOTOR HP	ELECTRICAL V-PH-HZ	EXISTING COOLING				WEIGHT (LBS.)	NOTES
										TOTAL BTUH	SENS. BTUH	EAT DB/WB (F)	LAT DB/WB (F)		
AHU-1	HORIZONTAL DX SPLIT	YORK	XTI-051X090-FALA146A	11,200	3,975	1.75	-	15	460-3-60	488,123	284,014	74.8/68.97	55/55	1700	ALL

NOTES:
1. ALL MODEL NUMBERS HAVE BEEN FIELD VERIFIED AT THE TIME THESE CONSTRUCTION DOCUMENTS WERE COMPILED. ANY CHANGES MADE IN THE FIELD AFTER RELEASE OF THESE DOCUMENTS AND

IDEA SAN JUAN MINI-SPLIT INDOOR UNIT SCHEDULE

MARK	SERVED BY	LOCATION	MIN CFM	MAX CFM	ELECTRICAL V-PH-HZ	COOLING		WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
						TOTAL (BTU/H)	EAT DB/WB				
WAC-1	ACCU-1	IDF-B109	265	385	208-1-60	12,000	80/67	28	ALL	TRANE	TPKA0A0121LA10A

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. PROVIDE INVERTER DRIVEN COMPRESSOR FOR IMPROVED HUMIDITY CONTROL.
3. PROVIDE MOUNTING BRACKET.
4. PROVIDE WALL MOUNTED AND WIRED 7-DAY PROGRAMMABLE T-STAT IN LIEU OF WIRELESS REMOTE.
5. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.

IDEA SAN JUAN MINI-SPLIT CONDENSER SCHEDULE

MARK	SERVING	TOTAL COOLING (BTU/H)	COND DB	ELECTRICAL V-PH-HZ	SEER ARI CONDITIONS	COMPR TYPE	MCA	MOCP	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER

NOTES:
1. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.
2. PROVIDE CONDENSER COIL CORROSION PROTECTION.
3. CONTRACTOR TO PROVIDE PAD FOR MOUNTING CONDENSING UNIT.
4. PROVIDE INSULATION FOR BOTH LIQUID AND SUCTION LINES.
5. INSTALL PER MANUFACTURERS INSTRUCTIONS AND PIPING RECOMMENDATIONS.
6. 1 YEAR PARTS WARRANTY AND 10 YEAR COMPRESSOR PARTS LIMITED WARRANTY.

IDEA SAN JUAN - EXHAUST FAN SCHEDULE

MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	MOTOR HP	RPM	E.S.P. IN. H20	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-14	FUME HOOD	SUSPENDED IN-LINE	115-1-60	DIRECT	900	-	3/4	1005	4.3	5.4	45.0	A	ALL	GREENHECK	SQ-130-VG

NOTES:
1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
3. PROVIDE OSHA MOTOR AND BELT GUARD.
4. PROVIDE AUTOMATIC BELT TENSIONER.
5. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.
6. PROVIDE ALL ALUMINUM BACKDRAFT DAMPER AND SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS.
7. PROVIDE FIELD INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTLALATION WITH ELECTRICAL CONTRACTOR.

CONTROL NOTES:
A. FAN OPERATION SHALL BE INTERLOCKED WITH FUME HOOD LIGHT SWITCH. COORDIANTE WITH ELECTRICAL CONTRACTOR.

IDEA SAN JUAN - FUME HOOD SCHEDULE

MARK	SUPER STRUCTURE	HOOD OPENING	STATUS	ELECTRICAL V-PH-HZ	CFM AT 29"	SP IN. H20	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
FH1	60" X 56" X 35-1/2"	50" X 29"	TO BE REPLACED	120-1-60	1100	0.34	500.0	ALL	AIR MASTER	EH-211-60

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
2. FUME HOOD EXHAUST DUCT TO BE PROVIDED BY DIV. 23.

IDEA PHARR - DX ROOF TOP UNIT SCHEDULE

MARK	NOMINAL TONS	CONFIG.	EXISTING MANUFACTURER & MODEL NUMBER	SUPPLY CFM	OA CFM	ESP (INCHES)	MIN. HP	MCA A	MOCP A	ELECTRICAL V-PH-HZ	AIR ON COND.	COOLING				HEATING		CONVENIENCE OUTLETS	MIN. EER/SEER	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
												TOTAL BTUH	SENSIBLE BTUH	EAT DB/WB	LAT DB/WB	KW	STG.						
RTU-1 (BASE BID)	18.5	MZ WITH FPVAV	TRANE THD180F4R0A00H0C50 006A106A0000000000000000	4500	1500	1.5	3	38	60	460-3-60	100	194,984	109,257	77.6/68.9	55.4/55.4	AT VAV BOXES	AT VAV BOXES	FACTORY INSTALLED & UNIT POWERED	20.2 IEER	3500	ALL	DAIKIN	DPS018
RTU-2 (ALTERNATE #1)	20	MZ WITH FPVAV	TRANE THD210F4R0A00H0C50 006A106A0000000000000000	5800	1350	1.5	5	49.4	70	460-3-60	100	245,040	148,528	76.8/67.1	53.4/53.4	AT VAV BOXES	AT VAV BOXES	FACTORY INSTALLED & UNIT POWERED	19.7 IEER	3500	ALL	DAIKIN	DPS020
RTU-3 (ALTERNATE #2)	28	MZ WITH FPVAV	TRANE TCD360B40K1A1CE5000 0000HHB00J000	7500	2100	1.5	7.5	62.1	80	460-3-60	100	321,519	188,464	77.1/67.8	54.1/54.1	AT VAV BOXES	AT VAV BOXES	FACTORY INSTALLED & UNIT POWERED	17.9 IEER	3900	ALL	DAIKIN	DPS028
RTU-4 (ALTERNATE #2)	12.5	MZ WITH FPVAV	TRANE THD150F4R0A00H0C50 006A106A0000000000000000	3250	1235	1.5	4	22.5	30	460-3-60	100	145,375	79,020	77.8/69.4	55.6/55.6	AT VAV BOXES	AT VAV BOXES	FACTORY INSTALLED & UNIT POWERED	18.0 IEER	2300	ALL	DAIKIN	DPS012
RTU-5 (BASE BID)	20	MZ WITH FPVAV	TRANE THD300F4R0A00H3C50 006A106A0000000000000000	6000	1875	1.5	5	49.4	70	460-3-60	100	252,379	145,700	77.4/68.4	55.2/55.2	AT VAV BOXES	AT VAV BOXES	FACTORY INSTALLED & UNIT POWERED	19.7 IEER	3500	ALL	DAIKIN	DPS020
RTU-6 (ALTERNATE #1)	12.5	SINGLE ZONE VAV	TRANE THC120E4RGA0DC6C30 06B002A000E0000000000000	4000	650	1	3.75	40	40	460-3-60	100	134,700	83,000	77.1/66.7	57.1/55.4		2	FACTORY INSTALLED & UNIT POWERED	14.6 IEER	1200	ALL	LENNOX	LCT150
RTU-7 (BASE BID)	20	SINGLE ZONE VAV	TRANE THD150F4R0A00H0C50 006B106A0000000000000000	5750	2000	1.25	5	55.4	70	460-3-60	100	252,290	140,380	77.4/68.8	55.1/55.0	30	4	FACTORY INSTALLED & UNIT POWERED	19.4 IEER	3700	ALL	DAIKIN	DPS020
RTU-8 (BASE BID)	20	SINGLE ZONE VAV	TRANE THD150F4R0A00H0C50 006B106A0000000000000000	5750	1900	1.25	5	55.4	70	460-3-60	100	251,378	141,087	77.3/68.6	54.9/54.8	30	4	FACTORY INSTALLED & UNIT POWERED	19.4 IEER	3700	ALL	DAIKIN	DPS020

NOTES:
1. PROVIDE COPPER CONDENSATE TRAP, TXV, HOT GAS REHEAT FOR SZVAV UNITS, AND FREEZE-STAT OPTIONS. PROVIDE NEW ROOF CURB WITH WINDSTORM CERTIFICATION.
2. HOODED/LOUVERED HAL GUARDS, ECATED CONDENSER COILS, MOTORIZED OA AND RA DAMPERS WITH ECONOMIZER CONTROL, INVERTER COMPRESSOR FOR MODULATING COOLING AND PRECISE DISCHARGE AIR TEMPERATURE CONTROL.
3. FOR LENNOX UNITS, PROVIDE SINGLE WALL CONSTRUCTION, POLYMER DRAIN PANS, 2" MERV 8 GALVANIZED PRE-FILTER FRAMES, AND HINGED ACCESS DOORS.
4. FOR DAIKIN UNITS, PROVIDE DOUBLE WALL CONSTRUCTION, SS DRAIN PAN, 2" MERV 8 GALVANIZED PRE-FILTER FRAMES, 4" MERV 13 DISPOSABLE AFTER-FILTERS, AND HINGED ACCESS DOORS. DO NOT PROVIDE EXHAUST OR RELIEF AIR OPENINGS.
5. PROVIDE FACTORY UNITARY CONTROLLERS AND BACNET INTERFACE. REFER TO EQUIPMENT SPECIFICATIONS AND CONTROLS SEQUENCE OF OPERATIONS FOR MORE INFORMATION.
6. EQUIPMENT MANUFACTURER, MECH. CONTRACTOR AND HVAC CONTROLS CONTRACTOR SHALL COORDINATE THE PROVISION AND INSTALLATION OF SENSORS TO ENSURE THESE ARE ALL PROVIDED PROPERLY ON THE PROJECT.
7. PROVIDE LOW AMBIENT CONTROLS TO MIN. 40-DEG. F.
8. HEATING KW IN RTU SCHEDULE IS RATED HEATING CAPACITY, NOT NOMINAL KW. FAN HP SHALL BE PER MFR'S RECOMMENDATION.
9. PROVIDE NON-FUSED DISCONNECT.
10. FOR RTU5 1-5: TRUE VAV OPERATION TO MODULATE FAN SPEED BASED ON DUCT STATIC PRESSURE SENSOR. CO2 BASED DCV USING RETURN DUCT MOUNTED CO2 SENSOR.
11. FOR RTU6: VAV OPERATION TO MODULATE FAN SPEED BASED ON SPACE T AND RH SENSORS. HOT GAS REHEAT COILS WITH TEMPERATURE CONTROL FOR DEHUMIDIFICATION. CO2 BASED DCV NOT REQUIRED.
12. FOR RTU7 7-8: VAV OPERATION TO MODULATE FAN SPEED BASED ON SPACE T AND RH SENSORS. MODULATING HOT GAS REHEAT COILS WITH TEMPERATURE CONTROL FOR DEHUMIDIFICATION. CO2 BASED DCV REQUIRED.
13. FACTORY MOUNTED VARIABLE SPEED DRIVE AND MOTOR, SHAFT GROUNDING RINGS FOR MZVAV UNITS ONLY.
14. PROVIDE FACTORY-INSTALLED FACTORY-POWERED CONVENIENCE ELECTRICAL OUTLETS ON INDICATED RTUS. SEE MECHANICAL ROOF PLANS FOR LOCATIONS. COORDINATE WITH ELECTRICAL CONTRACTOR.
15. PROVIDE INVERTER COMPRESSORS FOR DAIKIN UNITS. IF DIGITAL SCROLL OR STAGED UNITS ARE ALLOWED TO BID, PROVIDE 2" SPRING ISOLATION CURBS.
16. PROVIDE IBC COMPLIANT CURB AND ATTACHMENTS FROM UNIT TO CURB AND CURB TO STRUCTURE. EQUIPMENT OR CURB MANUFACTURER IS RESPONSIBLE FOR PROVIDING ENGINEERED DETAIL ANALYSIS OF:
1) ATTACHMENT OF EQUIPMENT TO CURB OR PAD.
2) CURB TO STRUCTURE.
3) CURB AND ATTACHMENT HARDWARE STRENGTH.
REFER TO STRUCTURAL DRAWINGS FOR ROOF SUBSTRATE DETAILS.
EQUIPMENT OR CURB MANUFACTURER IS ALSO RESPONSIBLE FOR PROVIDING ENGINEERED INSTALLATION DRAWINGS FOR ITEMS 1 AND 2 LISTED ABOVE.
BOTH, THE ENGINEERED ANALYSIS AND THE ENGINEERED INSTALLATION DRAWINGS SHALL BE PERFORMED SPECIFICALLY FOR THIS BUILDING AND PROJECT SITE AND STAMPED AND SEALED BY A TEXAS LICENSED ENGINEER. SUBMITTALS WILL NOT BE APPROVED UNTIL ALL DOCUMENTATION LISTED ABOVE IS PROVIDED ACCURATELY.

IDEA PHARR AREA A - EXHAUST FAN SCHEDULE

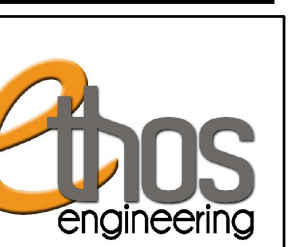
MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	MOTOR HP	RPM	E.S.P. IN. H20	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-1	RR 211	CEILING MOUNTED	115-1-60	DIRECT	75	14	-	883	0.25	0.6	17.0	A	ALL	GREENHECK	SP-A110
EF-2	RR 195 & 196	ROOF MOUNTED	115-1-60	BELT	750	-	1/4	1272	0.5	6.3	67.0	A	ALL	GREENHECK	GB-100

NOTES:
1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
3. PROVIDE OSHA MOTOR AND BELT GUARD.
4. PROVIDE AUTOMATIC BELT TENSIONER.
5. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.
6. PROVIDE ALL ALUMINUM BACKDRAFT DAMPER AND SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS.
7. PROVIDE FIELD INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTLALATION WITH ELECTRICAL CONTRACTOR.

CONTROL NOTES:
A. CONNECT TO EXISTING DDC SYSTEM. RECREATE EXISTING CONTROL POINTS AND SCHEDULING WITH NEW EQUIPMENT.



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DATE: APRIL 19, 2024
CHECKED BY: B.B.
DRAWN BY: D.G.
PROJECT NO.: 23V77
CAD FILE:
SHEET:
ME4.1



IDEA PHARR AREA B - EXHAUST FAN SCHEDULE

MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	MOTOR HP	RPM	E.S.P. IN. H2O	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF - 3	RR 117 & 118	SUSPENDED IN-LINE	120-1-60	DIRECT	150	-	1/10	1120	0.26	4.3	49.0	A	ALL	GREENHECK	SQ-80-VG
EF - 4	RR 104	CEILING MOUNTED	120-1-60	DIRECT	75	17	-	950	0.3	0.9	17.0	A	ALL	GREENHECK	SP-A110
EF - 7	126 & 126A	SUSPENDED IN-LINE	120-1-60	DIRECT	465	-	1/4	991	0.41	7.4	50.0	A	ALL	GREENHECK	SQ-130HP-VG
EF - 8	RR 131 & 132	SUSPENDED IN-LINE	120-1-60	DIRECT	690	-	1-2	919	0.39	7.3	81.0	A	ALL	GREENHECK	SQ-140HP-VG

NOTES:

1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
3. PROVIDE OSHA MOTOR AND BELT GUARD.
4. PROVIDE AUTOMATIC BELT TENSIONER.
5. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.
6. PROVIDE ALL ALUMINUM BACKDRAFT DAMPER AND SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED IN-LINE TYPE FANS.
7. PROVIDE FIELD INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.

CONTROL NOTES:

- A. CONNECT TO EXISTING DDC SYSTEM. RECREATE EXISTING CONTROL POINTS AND SCHEDULING WITH NEW EQUIPMENT.

IDEA PHARR AREA C - EXHAUST FAN SCHEDULE

MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	MOTOR HP	RPM	E.S.P. IN. H2O	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-6	RR 172 & 173	ROOF MOUNTED	115-1-60	BELT	750	-	1/4	1272	0.5	6.3	67.0	A	ALL	GREENHECK	GB-100

NOTES:

1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
3. PROVIDE OSHA MOTOR AND BELT GUARD.
4. PROVIDE AUTOMATIC BELT TENSIONER.
5. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.
6. PROVIDE ALL ALUMINUM BACKDRAFT DAMPER AND SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED IN-LINE TYPE FANS.
7. PROVIDE FIELD INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.

CONTROL NOTES:

- A. CONNECT TO EXISTING DDC SYSTEM. RECREATE EXISTING CONTROL POINTS AND SCHEDULING WITH NEW EQUIPMENT.

IDEA PHARR AREA D - EXHAUST FAN SCHEDULE

MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	MOTOR HP	RPM	E.S.P. IN. H2O	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-1	BOYS & GIRLS RR	INLINE	115-1-60	BELT	750	-	1/3	1038	0.51	8.2	106.0	A	ALL	GREENHECK	BSQ-140HP

NOTES:

1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
3. PROVIDE OSHA MOTOR AND BELT GUARD.
4. PROVIDE AUTOMATIC BELT TENSIONER.
5. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.
6. PROVIDE ALL ALUMINUM BACKDRAFT DAMPER AND SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED IN-LINE TYPE FANS.
7. PROVIDE FIELD INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.

CONTROL NOTES:

- A. CONNECT TO EXISTING DDC SYSTEM. RECREATE EXISTING CONTROL POINTS AND SCHEDULING WITH NEW EQUIPMENT.

IDEA PHARR - AREA D OUTSIDE AIR CONDENSING UNIT SCHEDULE (BASE BID)

MARK	SERVING	EXISTING AHU MODEL NUMBER	REQUIRED AHU CFM	EXISTING AHU SERIAL NUMBER	TOTAL METUH	SUCTION F	COND DB	ELECTRIC V-PH-HZ	EER AT ARI	STEPS OF CAPACITY	MCA	MOCP	COMPRESSOR AMPS (RLA)	CONDENSER FAN MOTOR AMPS (FLA)	WEIGHT (LBS)	NOTES	MANUFACTURER MODEL NUMBER
ACCU-OA3	EXISTING OAU-1	AAON H3-DRA-3-0-162A	3575	201107-CJCD00467	299.4	45	100	460/3/60	11.3	2 Digital Scrolls	59	80	23.1 (ea)	1.8	1,542	ALL	AAON CFA-030
ACCU-OA4	EXISTING OAU-2	AAON H3-DLA-3-0-162A	3575	201107-CJCD00466	299.4	45	100	460/3/60	11.3	2 Digital Scrolls	59	80	23.1 (ea)	1.8	1,542	ALL	AAON CFA-030

NOTES:

1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. PROVIDE LOUVER HAIL GUARD, LOW AMBIENT KIT, SIGHT GLASS, SERVICE VALVES, FILTER DRYER, SOLENOID VALVES, NEW OEM TXVS, ANTI-SHORT CYCLE TIMER, E-COATED CONDENSER COIL.
3. PROVIDE EVAPORATOR DEFROST CONTROLLER FOR MINIMUM CIRCUIT.
4. PROVIDE DIGITAL COMPRESSORS ON BOTH CIRCUITS, AND ELECTRIC UNLOADERS AND LIQUID LINE RECEIVERS, TO MATCH EXISTING DESIGN.
5. PROVIDE CONDENSER FAN VFD OPERATION FOR LOW AMBIENT TO (35F) AMBIENT.
6. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
7. INSTALL NEW REFRIGERANT LINES, INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE ALUMINUM METAL JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
8. MOUNT ON EXISTING CONCRETE HOUSEKEEPING PAD AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
9. PROVIDE NEW FACTORY OEM CONTROL SYSTEM WITH BACNET INTERFACE AND NEW CONTROL SENSORS.

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TEXAS REGISTERED
ENGINEERING FIRM
E-15998

DATE: APRIL 19, 2024

CHECKED BY: B.B.

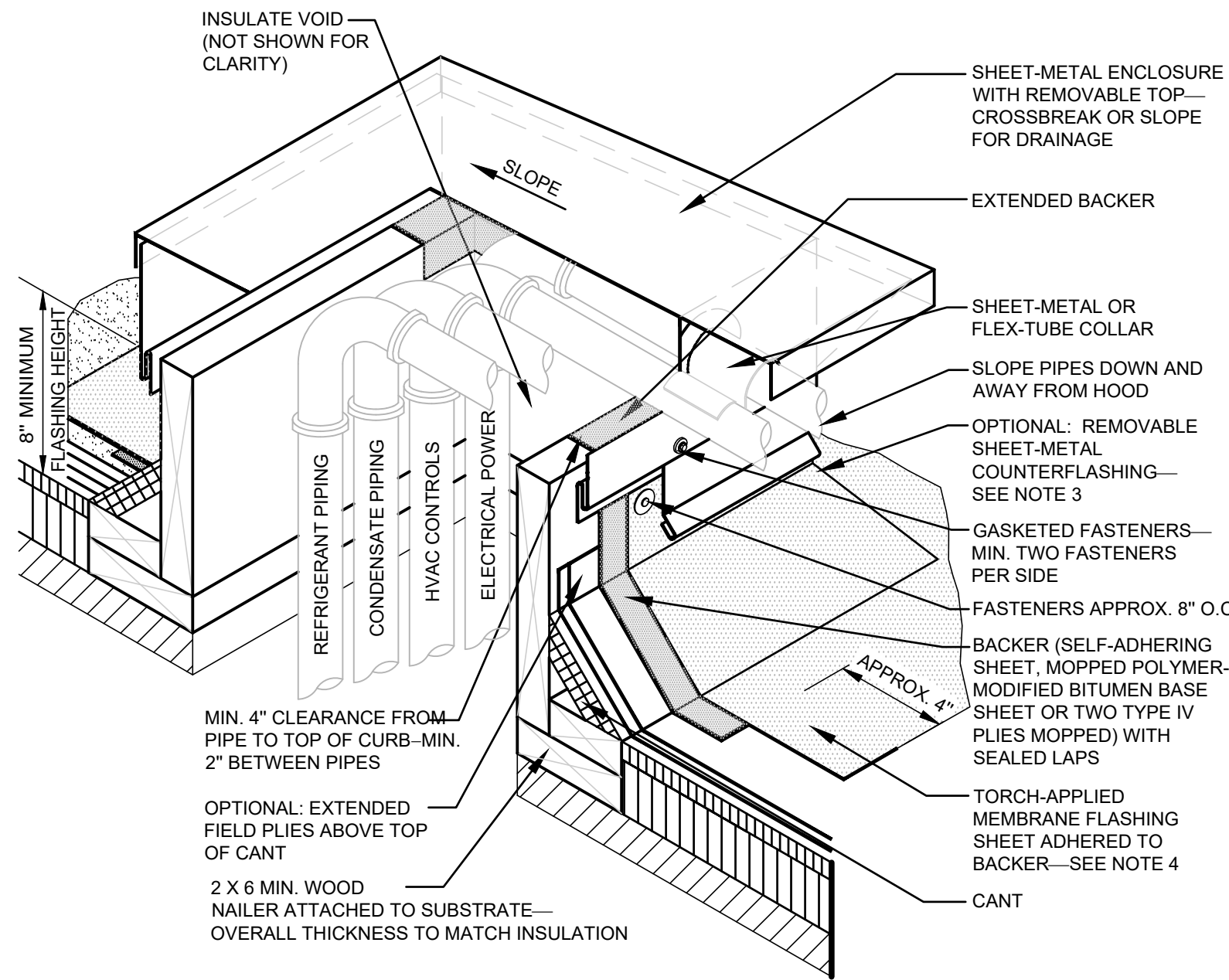
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PROJECT NO.: 23V77

CAD FILE: .

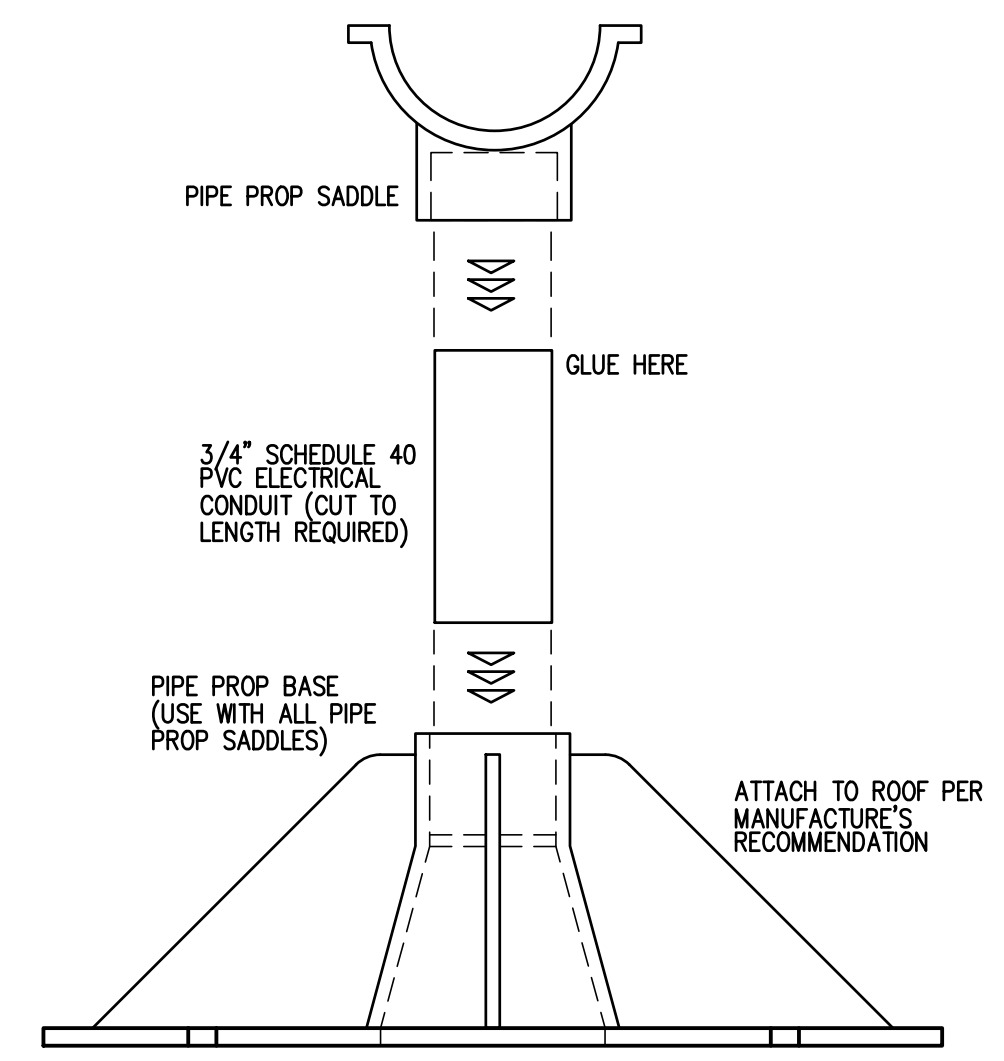
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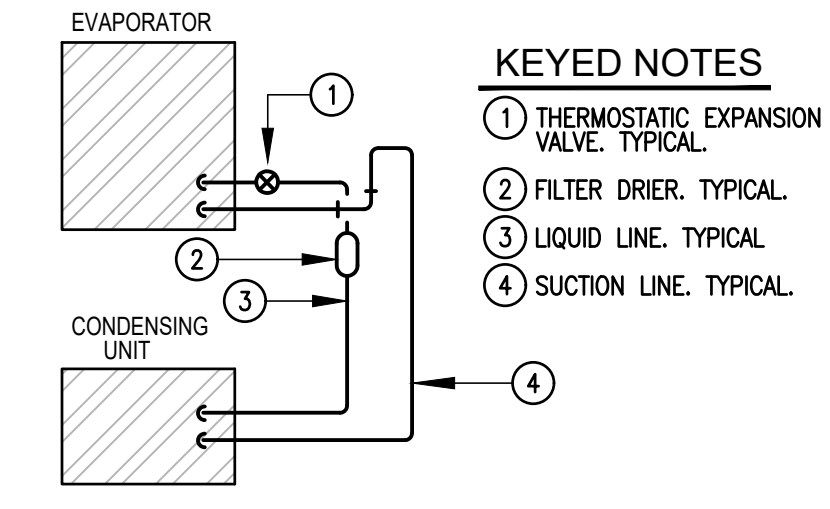


- NOTES:
- THIS DETAIL ILLUSTRATES ANOTHER METHOD OF ELIMINATING PITCH POCKETS AND AN OPTIONAL METHOD OF GROUPING PIPING THAT MUST PENETRATE THE ROOF.
 - MANY MANUFACTURERS OFFER PREFABRICATED BOOTS AND OTHER MATERIALS FOR THIS PURPOSE. SPECIFICS ABOUT THESE PROPRIETARY DESIGNS VARY GREATLY, AND INDIVIDUAL MANUFACTURERS' SPECIFICATIONS SHOULD BE CONSULTED FOR THEIR USE.
 - WHERE THE SHEET-METAL ENCLOSURE OVERLAPS THE BASE FLASHING AT LEAST 3 INCHES, THE REMOVABLE SHEET-METAL COUNTERFLASHING IS NOT REQUIRED.
 - WHEN POTENTIAL FIRE HAZARDS CAN BE MITIGATED, NRCA CONSIDERS IT ACCEPTABLE TO INSTALL TORCH-APPLIED POLYMER-MODIFIED BITUMEN SHEET OVER THE SPECIFIED BACKER FLASHING USING THE DIRECT TORCHING METHOD PROVIDED LOW OUTPUT (50,000 BTU OUTPUT OR LESS) TORCHING EQUIPMENT IS USED. WHEN POTENTIAL FIRE HAZARDS CANNOT BE ADEQUATELY MITIGATED, TORCH-APPLIED POLYMER-MODIFIED BITUMEN SHEET SHALL BE INSTALLED USING INDIRECT TORCHING METHODS, SUCH AS THE TORCH-AND-FLOP APPLICATION METHOD.
 - FOR ROOF SYSTEMS WITH FACTORY-APPLIED GRANULE SURFACING, PROPERLY PREPARE CAP SHEET TO RECEIVE FLASHING.
 - REFER TO THE INTRODUCTION OF THE CONSTRUCTION DETAILS CHAPTER FOR ADDITIONAL INFORMATION.

01 HVAC PIPING ROOF PENETRATION DETAIL
SCALE: NOT TO SCALE

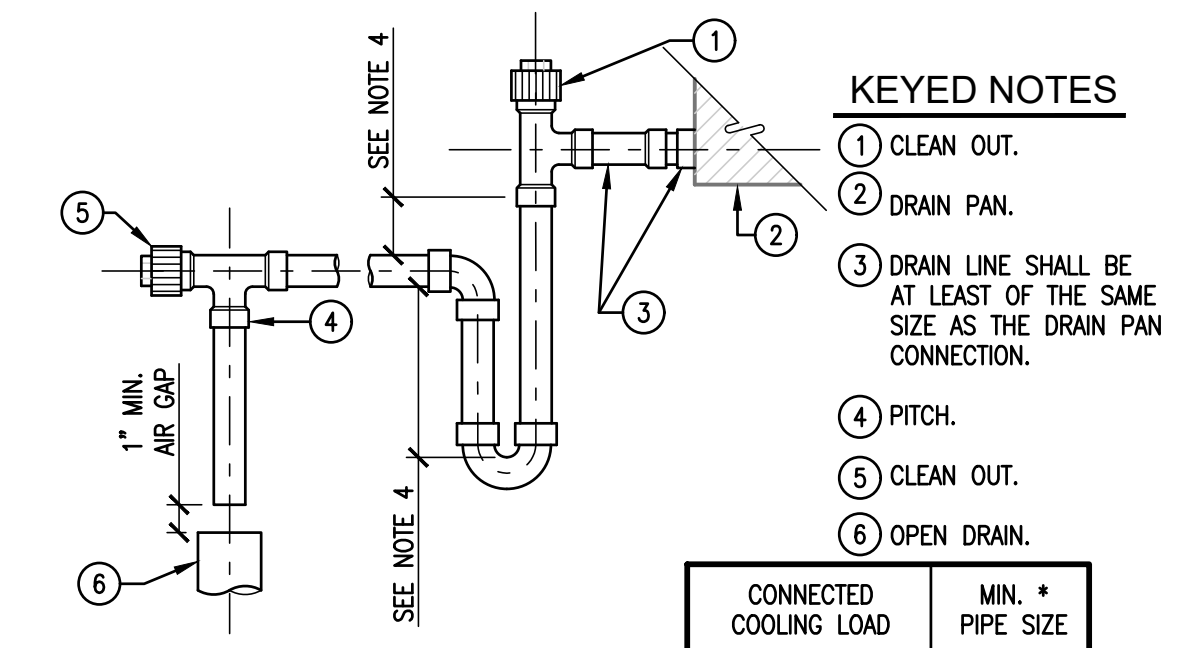


02 CONDENSATE PIPE SUPPORT DETAIL
SCALE: NOT TO SCALE



NOTE: SIZE REFRIGERANT PIPING PER MFR. RECOMMENDATION.

06 REFRIGERANT PIPING DETAIL
SCALE: NOT TO SCALE

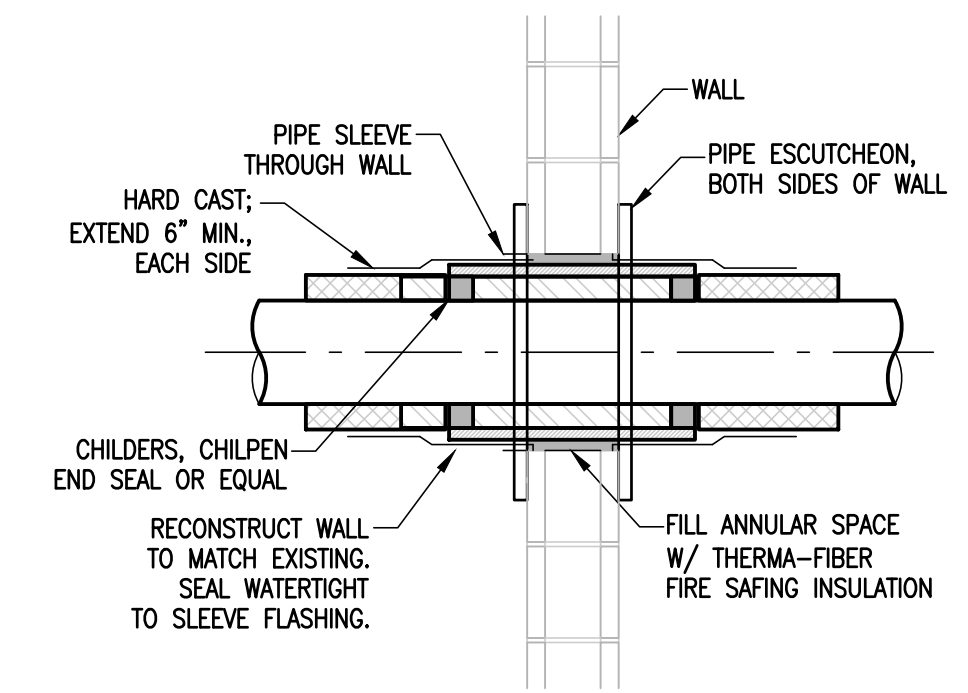


- NOTES:
- MANUALLY PRIME TRAP BEFORE START UP.
 - SUPPORT DRAIN LINES TO PREVENT SAG.
 - ALLOW SUFFICIENT SPACE BELOW PAN FOR TRAP AND PITCH TO DRAIN.
 - COORDINATE WITH MANUFACTURER OF AHU.

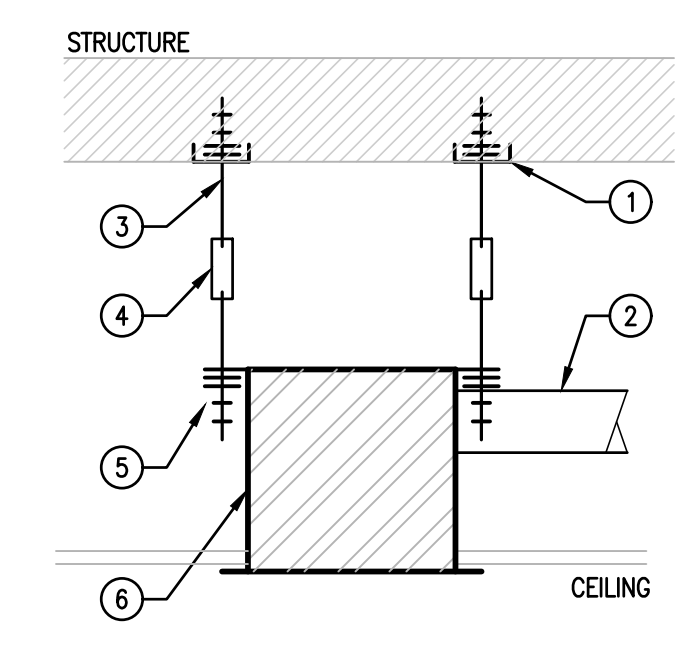
CONNECTED COOLING LOAD	MIN. PIPE SIZE
UP TO 2 TON	3/4"
2-5	1"
5-30	1-1/4"
30-50	1-1/2"
50-160	2"
160-300	3"
300-430	4"

* NOT SMALLER THAN OUTLET SIZE.

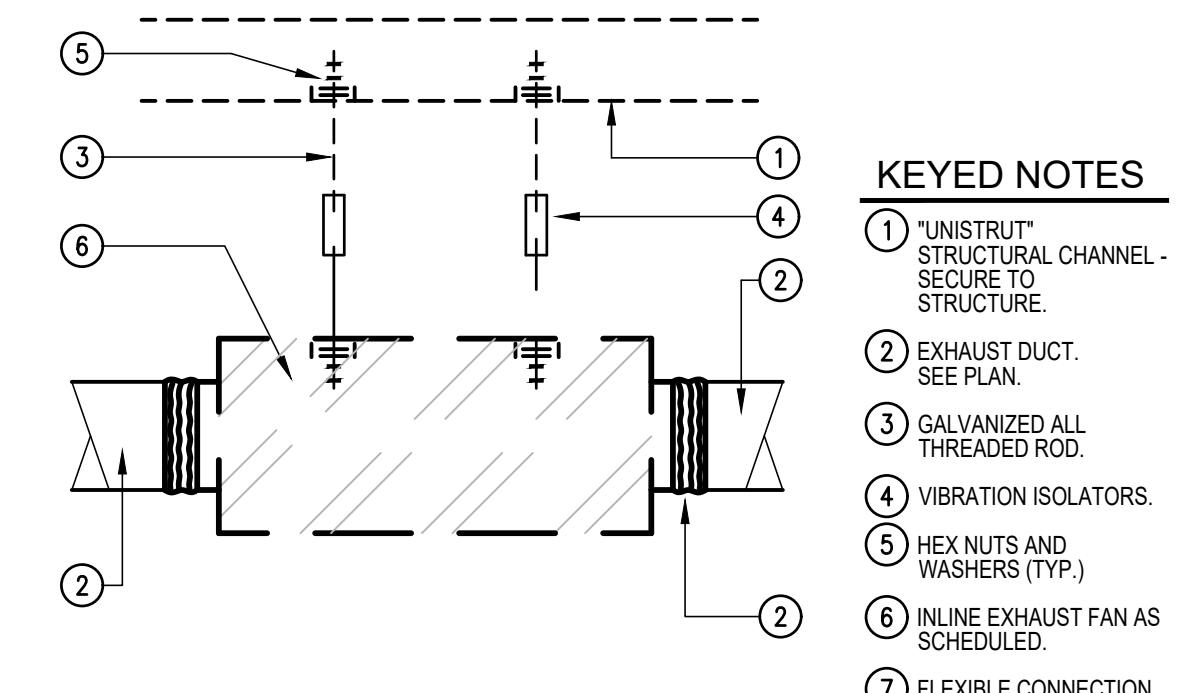
03 CONDENSATE DRAIN TRAP PIPE
SCALE: NOT TO SCALE



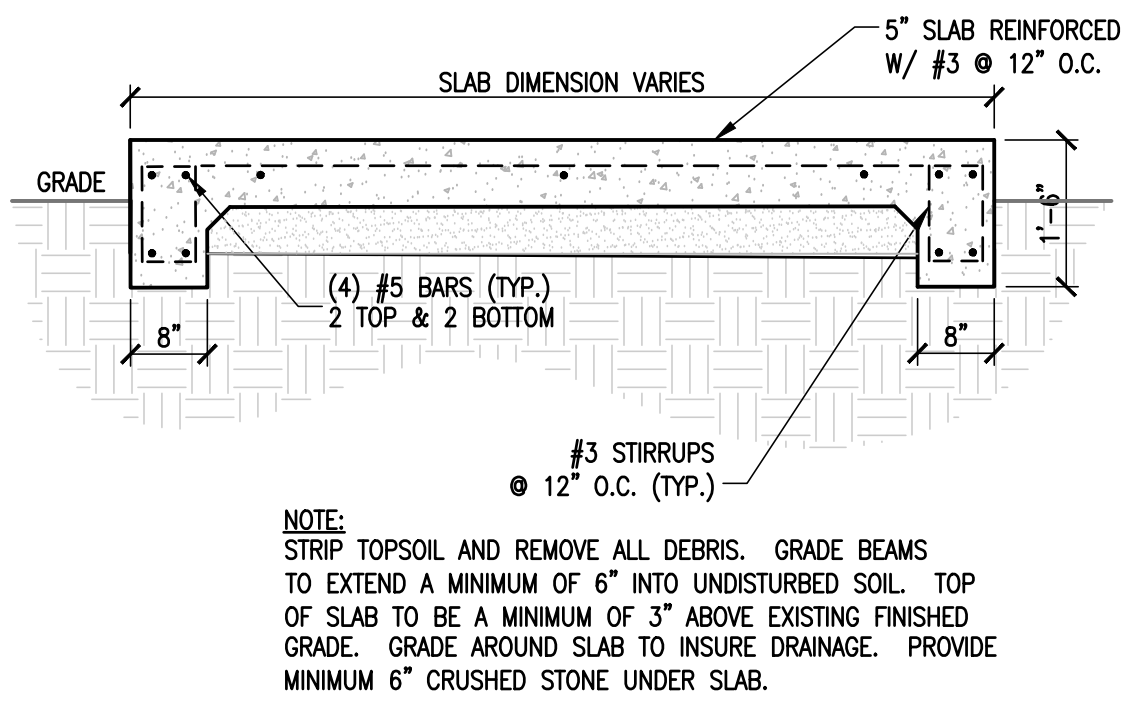
04 PIPE PENETRATION DETAIL
SCALE: NOT TO SCALE



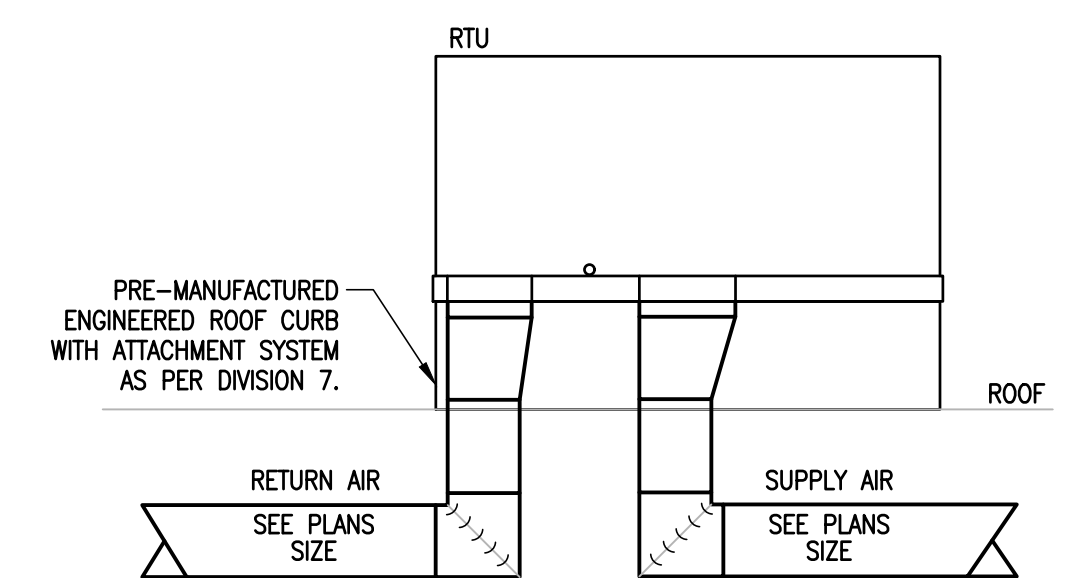
07 CEILING EXHAUST FAN FAN MOUNTING DETAIL
SCALE: NOT TO SCALE



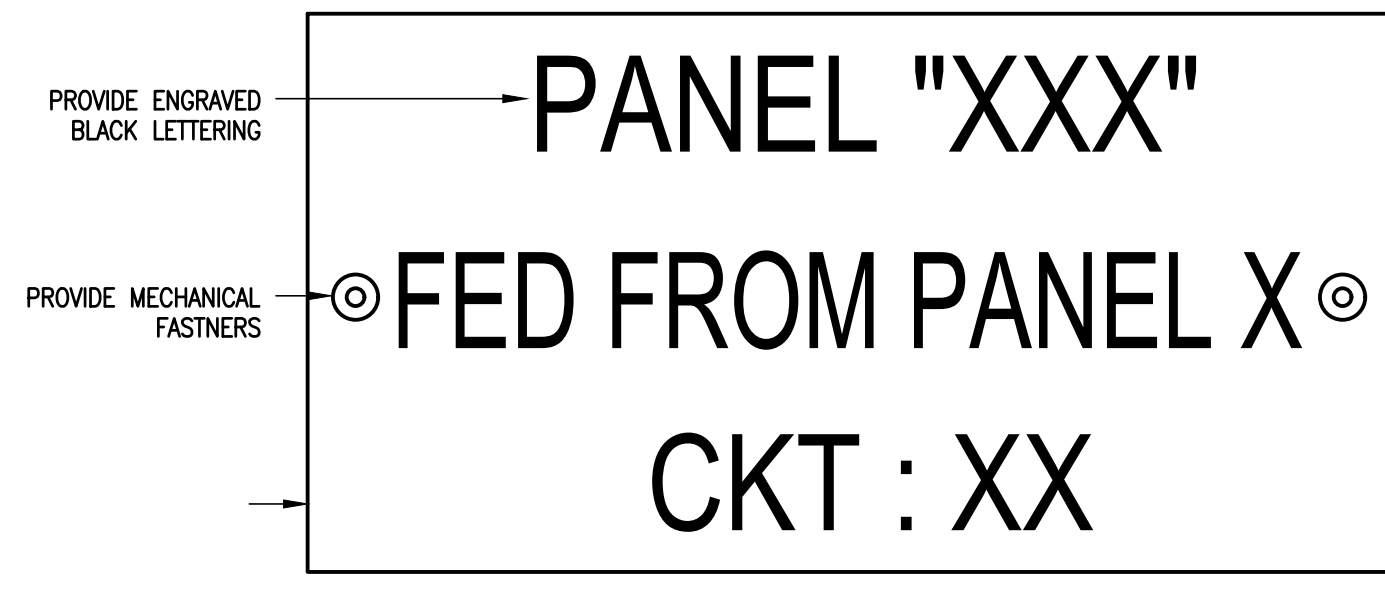
08 INLINE EXHAUST FAN DETAIL
SCALE: NOT TO SCALE



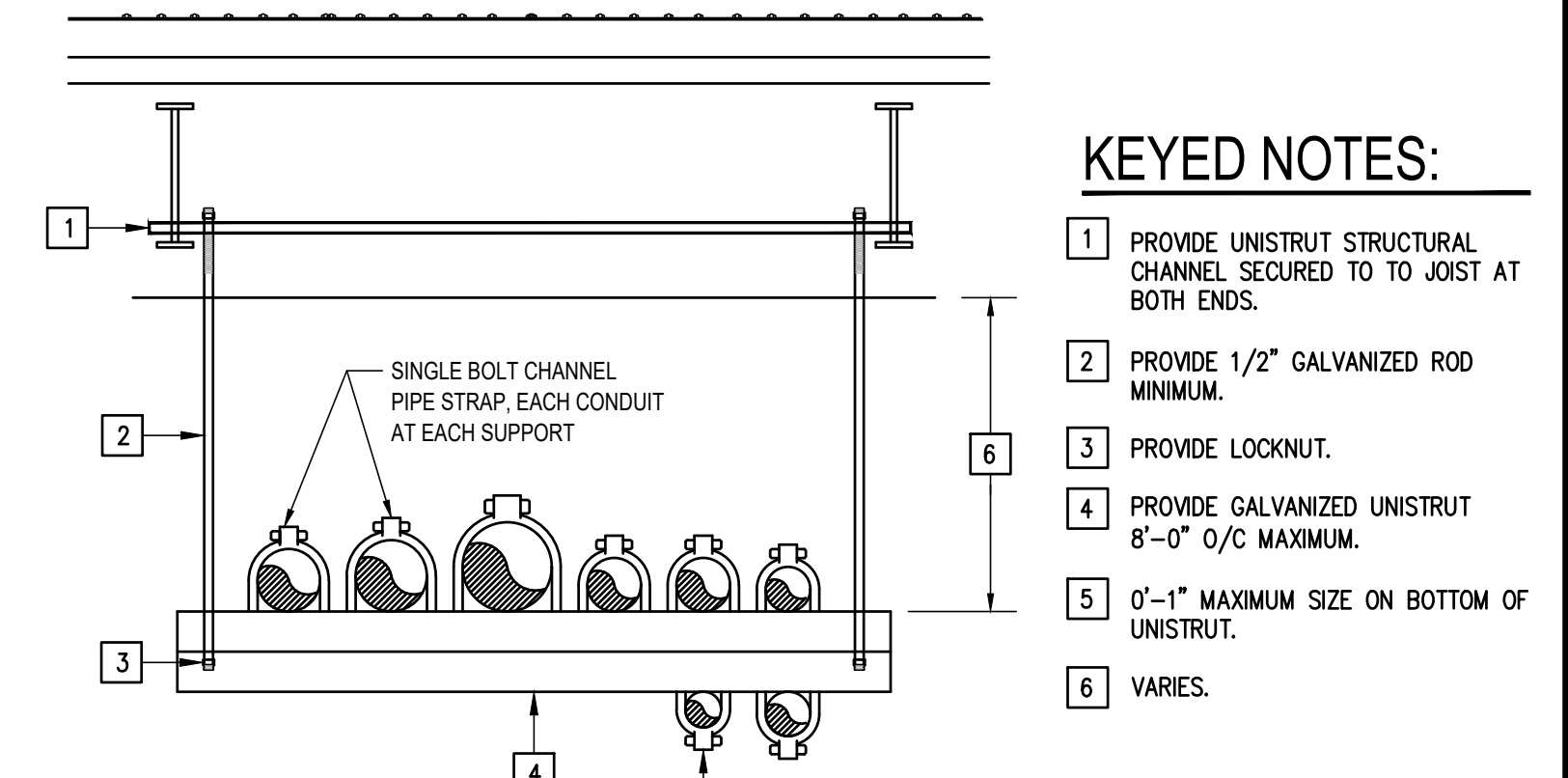
05 EXTERIOR CONCRETE PAD DETAIL
SCALE: NOT TO SCALE



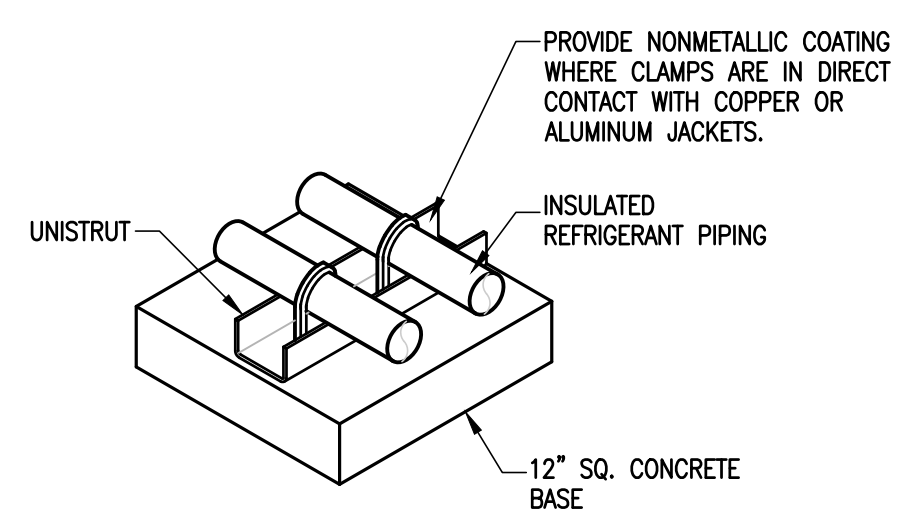
10 ROOFTOP UNIT DETAIL
SCALE: NOT TO SCALE



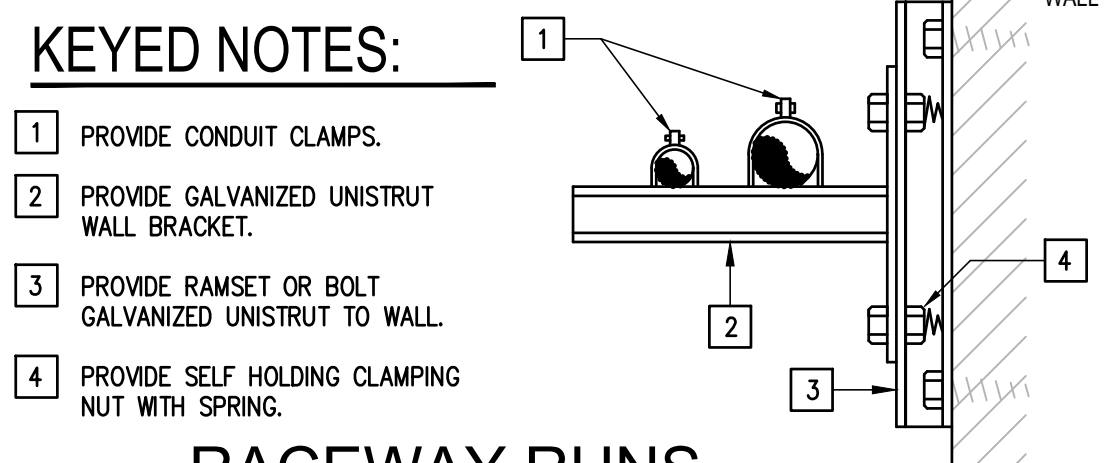
11 EQUIPMENT IDENTIFICATION LABEL DETAIL
SCALE: NOT TO SCALE



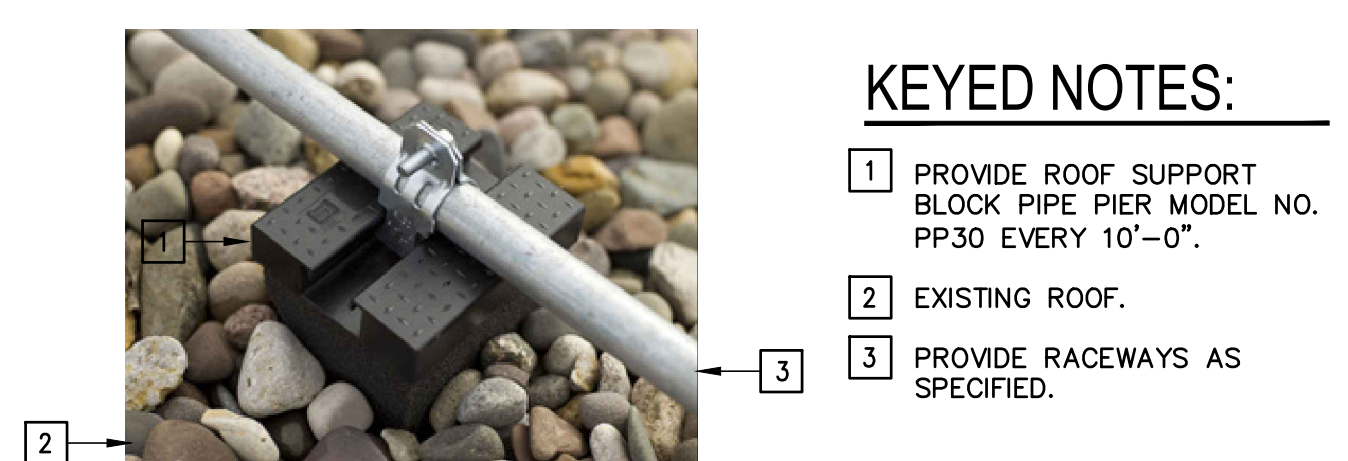
12 HORIZONTAL RACEWAYS SUPPORT DETAIL
SCALE: NOT TO SCALE



09 REFRIGERANT PIPING SUPPORT DETAIL
SCALE: NOT TO SCALE



13 RACEWAY RUNS SUPPORT DETAIL
SCALE: NOT TO SCALE



14 ROOF MOUNTED RACEWAYS SUPPORT DETAIL
SCALE: NOT TO SCALE

