1126 South Commerce St.
Harlingen, TX 78550
Off: (956) 230-3435
Fax: (956) 720-0830
www.ethoseng.net

04/03/2024

April 3, 2024
IDEA Public Schools Upper RGV Mechanical Upgrades CSP#23-URMU-0424

ADDENDUM NO. 2

A. PURPOSE AND INTENT

This addendum is issued for the purpose of modifying the plans for the project referenced above. This addendum shall become part of the contract and all contractors shall be bound by its content. All aspects of the specifications and drawings not covered herein shall remain the same.
The General Conditions and the Special Conditions of the specifications shall govern all parts of the work and apply in full force to this addendum.

B. SCOPE

I. Clarifications

1. Access for demolition and replacement of existing RTU's and ACCU's may be restricted/blocked by existing site conditions (canopies, fences, etc). Contractor shall provide the necessary proper means (crane, lift, etc.) to perform construction activities and include cost in the bid. Contractor is responsible for repairing all the damages caused by the setup and use of the crane. Contractor shall return the site (parking lot, driveway, asphalt, curbs, grass, sidewalks, etc.) to its original condition after construction activities are performed.

II. Specifications

1. 000400 – Competitive Sealed Proposal Form
    a) Clarification – Base Bids cover all scope not explicitly designated as falling under an alternate.
    b) Alternates renumbered. See attached.
2. 230010 – Summary of Work
    a) Alternates renumbered. See attached.

III. Drawings

1. Sheet ME-2.1 – See attached.
    a) Added Base Bid identification to schedules.
2. Sheet ME-2.2 – See attached.
    a) Added Base Bid identification to schedules.

3. Sheet ME-3.1
    a) Removed from scope; omit sheet from set.
4. Sheet ME-3.2 – See attached.
    a) Added Base Bid identification to schedules.
    b) Updated keyplan.
5. Sheet ME-3.3 – See attached.
    a) Added Base Bid identification to schedules.
    b) Updated keyplan.
    c) Calling for new housekeeping concrete pads.
6. Sheet ME-3.4 – See attached.
    a) Added Base Bid identification to schedules.
    b) Updated keyplan.
7. Sheet ME-4.1 – See attached.
    a) Added Base Bid identification to schedules.
    b) Roof patch work shown for RTU-B4.
8. Sheet ME-4.2 – See attached.
    a) Added Base Bid identification to schedules.
9. Sheet ME-5.1 – See attached.
    a) Added Base Bid identification to schedules.
10. Sheet ME-5.2 – See attached.
    a) Added Base Bid identification to schedules.
    b) Updated Alternate identification for Building B ACCU Schedule.
11. Sheet ME-5.3 – See attached.
    a) Added Base Bid identification to schedules.
12. Sheet ME-5.4 – See attached.
    a) Added Base Bid identification to schedules.
    b) Updated mini-split ACCU location.
13. Sheet ME-5.5 – See attached.
    a) Added Base Bid identification to schedules.
    b) Updated mini-split ACCU location.
    c) Calling for new housekeeping concrete pad.
14. Sheet ME-6.2 – See attached.
    a) Added new concrete pad on existing slab detail.

PROJECT TITLE: **IDEA Public Schools Upper RGV Mechanical Upgrades**

PROPOSAL NO: **CSP# 23-URMU-0424**

DUE DATE, TIME &: Wednesday, April 3, 2024 at 3:30 pm
PLACE: Idea Public Schools Head Quarters
2115 W. Pike Blvd., Weslaco, TX 78596

ESTIMATED COST: $975,375.00

1. The undersigned OFFEROR proposes and agrees, if this proposal is accepted, to enter into an Agreement with OWNER to provide and install Equipment and Materials as specified or indicated in the Contract Documents for the Contract Price and within the Contract, Time indicated in this Proposal and in accordance with the Contract Documents.

2. OFFEROR accepts all of the terms and conditions of the Instructions to Bidders and Supplementary Instructions to Bidders. This Proposal shall remain in effect for a period of no less than Sixty (60) days after the date of Proposal opening.

3. In submitting this Bid, OFFEROR certifies that:

   (a) OFFEROR has examined copies of all the Contact Documents and the following Addenda:

Date	Number
_____	_____
_____	_____
_____	_____

   (receipt of all of which is hereby acknowledged) and also copies of the Advertisement or Invitation to Submit Proposal and the Instructions to BIDDERS; and

   (b) This Proposal is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; OFFEROR has not directly or indirectly induced or solicited any other OFFEROR to submit a false or sham Bid; OFFEROR has not solicited or induced any person, firm or a corporation to refrain from proposing; and OFFEROR has not sought by collusion to obtain for himself any advantage over any other OFFEROR or over OWNER.

4. Project Deadlines and Penalties: This provision shall be enforced, except in the event of inclement weather, unnecessary delay caused by OWNER or his agent, or other natural disaster or Act of God beyond Contractor's control.

   (a) For penalties, refer to AIA Contract between Owner and Contractor, along with all applicable amendments.

5. Communications concerning this Proposal shall be addressed to:

Cesar Gonzalez, PE
1126 South Commerce St.
Harlingen, Texas 78550
Phone: (956) 230-3435; Fax: (956) 720-0830
Email: cgonzalez@ethoseng.net

NOTICE:
In determining the best value for the district, the district is not restricted to considering price alone but may consider any other factor stated in the selection criteria.

It is the intent of the OWNER to award a Contract to the OFFEROR that offers the best value for the OWNER, according to the following weighted selection criteria established by the OWNER.

The OWNER reserves the right to accept or reject any and/or all Bids, to accept the Proposal that, in the OWNER'S judgment, is in the OWNER'S best interest, and to waive informalities or irregularities in a Proposal received.

The OWNER will document the basis of its selection and will make the evaluations public not later than the seventh day after the date the contract is awarded.

Bids received from nonresident Offerors will be evaluated by the Owner as required by House Bill 620, 69th Legislature, 1985.

OFFEROR will supply and install on-site mechanical/electrical equipment and services as specified in the Project Manual dated **March 15, 2024,** for the following price:

McAllen Campus BASE PROPOSAL:
[Proposal amount includes Allowances as per specifications section 012100].

$_____ (number)

_____ (words)

Mission Campus BASE PROPOSAL:
[Proposal amount includes Allowances as per specifications section 012100].

$_____ (number)

_____ (words)

Mission Campus ALTERNATE PROPOSAL # 1: Replacement of DX ACCU, and all related electrical and controls modifications. See drawings.

$_____ (number)

_____ (words)

Mission Campus ALTERNATE PROPOSAL # 2: Replacement of DX ACCU, and all related electrical and controls modifications. See drawings.

$_____ (number)

_____ (words)

Edinburg Campus BASE PROPOSAL:
[Proposal amount includes Allowances as per specifications section 012100].

$_____ (number)

_____ (words)

Edinburg Campus ALTERNATE PROPOSAL # 3: Replacement of DX ACCU, and all related electrical and controls modifications. See drawings.

$_____ (number)

_____ (words)

Quest Campus BASE PROPOSAL:
[Proposal amount includes Allowances as per specifications section 012100].

$_____ (number)

_____ (words)

Quest Campus ALTERNATE PROPOSAL # 4: Replacement of DX ACCU, and all related electrical and controls modifications. See drawings.

$_____ (number)

_____ (words)

PROPOSED SUBSTANTIAL COMPLETION DATE of the project in its entirety.
(Recommended date of substantial completion: January 3, 2025)

_____

Our Proposal proposes to use the following Contractors, Subcontractors, Manufacturers, Products, Material Suppliers and Equipment Suppliers for the principal portions of the work.

NAME(S) OF SUB-CONTRACTORS:

_____

_____

NAME(S) OF EQUIPMENT SUPPLIERS:

DX ACCUs:

_____

DX Split Systems:

_____

DX Packaged Systems:

_____

OTHER:

_____

Name and Address of OFFEROR:

_____

_____

_____

Signature

_____
Name and Title

_____

_____

Telephone _____

Sworn to and subscribed before me this _____ day of _____, 2024.

SEAL

_____
Notary Public in and for the State of Texas

SEAL (If Proposal is By a Corporation) _____

SECTION 230010 – SUMMARY OF MECHANICAL WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 23 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. The following Summary of Work is intended as an aid to achieve an understanding of the various elements of work included in the project, and is not intended to be all-inclusive. Detailed descriptions of work and requirements are given in drawings and specifications.

B. Mechanical Contract Documents were prepared for the Project by:
Ethos Engineering,
1126 South Commerce
Harlingen, Texas 78550
Phone Number: (956) 230-3435

C. Proposals are broken down as follows:
1. Idea McAllen Campus
   a. Base Bid
2. Idea Mission Campus
   a. Base Bid
   b. Alternate # 1
   c. Alternate # 2
3. Idea Edinburg Campus
   a. Base Bid
   b. Alternate # 3
4. Idea Quest Campus
   a. Base Bid
   b. Alternate # 4

D. Scope of Work: Refer to drawings for a detailed Scope of Work.
1. Provide all materials and labor associated with new fully operational mechanical and controls systems for the project "Idea Public Schools Upper RGV Mechanical Upgrades", including but not limited to the following:
2. Demolition Work: Demolish listed equipment and materials. The Owner has the right of first refusal. Dispose of removed items that the owner no longer wishes to keep.
   a. Where indicated remove existing air-cooled condensing unit, and save for reuse on a new equipment support system to raise it higher off the ground.
   b. Remove listed HVAC, electrical, and controls equipment, including air-cooled condensing units, packaged DX units, split systems, mini-split systems, and exhaust fans. Remove piping connections, refrigerant specialties, piping supports, as indicated in plans to make room for new equipment. Evacuate refrigerant and deliver to Owner.

c. Design intent is to retain and reuse existing refrigerant piping to extent possible, provided the sizes are appropriate and approved by manufacturer of HVAC equipment. For replaced equipment, remove refrigerant piping insulation, and prepare piping for re-insulation and jacketing.
d. For replaced RTUs, remove existing roof curbs, associated materials, and accessories such as hangers, supports, mounting hardware, condensate drain piping, piping, controls, conduit & power wiring, etc.
e. Where indicated, save existing power and control wiring, conduits, and circuit breakers for reuse. Verify size and condition of circuit breakers, conduits and wiring to be reused. Demolish electrical equipment and other miscellaneous materials as noted in the drawings.
f. Retain and reuse controls to extent possible. Coordinate with Owner's controls contractor to disconnect and reconnect controls as needed. Demolish controls as indicated and provide new controls for DX packaged units.
g. Save existing smoke detectors, wiring and safeties for reuse. Document devices that are not in working order
h. Clear area and prepare for new work.

3. New Work: Provide all materials and labor associated with new fully operational mechanical and controls systems, including but not limited to the following:
a. Where indicated raise and reinstall existing air-cooled condensing unit on a new equipment support. See structural drawings.
b. Replace HVAC, electrical, and controls equipment, related to air-cooled condensing units, packaged DX units, split systems, mini-split systems, and exhaust fans.
c. Provide modification of ductwork, refrigerant piping, insulation, controls, and electrical systems.
d. As indicated, provide cleaning and vacuuming of existing refrigerant piping to be reused. Provide new refrigerant piping specialties, pipe insulation, jacketing, pipe supports, and miscellaneous accessories.
e. For RTUs, provide new roof curbs, roofing work, support assembly, duct transitions, condensate drain piping, miscellaneous materials, utilities and accessories.
f. Provide all other accessories to deliver a complete and operational system.
g. Testing, adjusting, and balancing.
h. Cutting and patching and touchup painting as required.
i. Concrete work as needed.
j. Assistance with commissioning services per specifications.
k. Building Automation System (BAS): See specifications for details.
1) Retain and reuse controls for replaced ACCUs, split systems, EFs.
2) For replaced RTUs, provide new controls, controllers, programing of sequences, graphics, sensors controls relays, contactors, power to DDC panels, dampers, interface cards, and other controls equipment.
l. Shop drawing submittals for all mechanical systems including but not limited to equipment, ductwork and piping. These include coordination drawings for placing of mechanical systems in relation to work by other disciplines.
m. Contractor is responsible for providing windstorm certification inspections and certifications for exterior mounted equipment. Contractor must notify Inspector prior to installing equipment, and apprise inspector of work scheduling involving equipment requiring wind inspection / certification, so that inspections may be carried out at required stage(s) of construction. Cost for inspection shall be borne

by the Contractor. Inspector shall be certified by the Texas Department of Insurance (see www.tdi.state.tx.us for a list of certified Inspectors).

n. Coordinate electrical work with Div. 26 as required.

o. Coordinate fire alarm related work with Fire Alarm Contractor. Provide smoke detectors, wiring and controls for units, 2000 cfm and larger, where none exist.

4. Painting: See Division 9 specifications. Paint all exposed piping, ductwork, insulation, hangers, accessories in interior exposed areas. Paint exterior pipe supports. Coordinate paint type, color and scope of work with Architect.

5. Commissioning: Provide assistance with commissioning services per specifications. This includes completing systems readiness checklists, performing functional testing, providing operator training, etc.

1.3 ALLOWANCES

A. Allowances are included in the Division 1 specifications.

1.4 COORDINATION

A. All mechanical work shall be done under sub-contract to a General Contractor. Mechanical Contractor shall coordinate all work through General Contractor, who is ultimately responsible for the entire project.

B. Prior to bidding, Mechanical Contractor shall coordinate all work in Division-23 for integration with plumbing, electrical, controls work and general construction. A detailed list of inclusion and exclusions shall be provided to General Contractors at least three days prior to the end of the period set aside to request clarifications so that coordination of any missing items may be addressed and clarified by Architect/Engineer as needed.

C. All electrical work required for operation of mechanical systems shall be coordinated through the General Contractor prior to bidding to ensure that all starters, disconnects, VFD's, conduit and wiring are provided as part of the project. All components needed for a full operational installation of systems shall be provided.

D. All controls required for operation of mechanical systems shall be coordinated prior to bidding, to ensure that all equipment, materials, sensors, devices and labor are provided as part of the project. All components needed for a full operational installation of systems shall be provided. Mechanical Contractor shall coordinate and supervise installation of all controls systems.

E. All questions, requests for information, submittals, and correspondence from the Div. 23 Contractor shall be submitted via the General Contractor, who will forward to the Architect, who will then forward to the Engineer.

F. Div. 23 Contractor shall not make any changes to design without written authorization from the Engineer. If changes are requested by the Owner, Architect, General Contractor, Suppliers, Manufacturers, or any others, Contractor should issue a written RFI for response by the Engineer.

G. Div. 23 Contractor shall issue seven days written notice prior to any activities that require the presence of the Engineer at the job-site. This applies to all inspections required by specifications, and particularly to those where work will be covered.

H. Cooperate fully with other contractors so that work under those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Ensure that systems are ready for controls and electrical connections when needed so as to not delay construction.

I. Contractor shall coordinate with other divisions for power and control of mechanical systems. It is not the intent of this specification to dictate who will conduct work, only to state the requirements of conducting the work.

J. Coordinate with Div. 1 for work sequence and optimization of construction schedule.

K. Coordinate with Div. 21 for Fire Suppression System.

L. Coordinate with Div. 22 for Plumbing System.

M. Coordinate with Div. 26 electrical contractor for providing power to mechanical equipment, and for Fire Alarm Systems interface with mechanical systems.

N. Coordinate commissioning activities with Commissioning Authority.

O. Coordinate TAB activities with TAB Contractor.

P. Issue written notification of the following tasks and allow five (5) days for Engineer to respond and schedule an inspection as required. Failure to issue written notification may result in work having to be redone to allow for proper inspection. It is contractor's responsibility to make sure Engineer receives notification.
   1. Upon completion of underground piping installation and prior to testing or covering up.
   2. Upon completion of all water piping installation and prior to insulation and/or testing.
   3. Upon completion of ductwork and prior to testing and insulating.
   4. Metal duct leakage testing.
   5. Above ceiling inspections prior to ceiling tile installation.
   6. When ready to request manufacturer's start-up of each piece of equipment.
   7. When ready for an inspection by TAB contractor prior to developing detailed TAB Plan.
   8. When ready to conduct complete Automation System software demonstration.
   9. When ready for Systems Readiness Checklists (Commissioning).
   10. When ready for Functional Performance testing (Commissioning).
   11. When ready for Substantial Completion Inspection.
   12. Training.
   13. When ready for Final Inspection.

Q. General
   1. The Contractor shall execute all work hereinafter specified or indicated on accompanying Drawings. Contractor shall provide all equipment necessary and usually furnished in connection with such work and systems whether or not mentioned specifically herein or on the Drawings.
   2. The Contractor shall be responsible for fitting his material and apparatus into the building and shall carefully lay out his work at the site to conform to the structural conditions, to

avoid all obstructions, to conform to the details of the installation and thereby to provide an integrated satisfactory operating installation.

3. The Mechanical, Electrical, Plumbing, and associated Drawings are necessarily diagrammatic by their nature, and are not intended to show every connection in detail or every pipe or conduit in its exact location. These details are subject to the requirements of standards referenced elsewhere in these specifications, and structural and architectural conditions. The Contractor shall carefully investigate structural and finish conditions and shall coordinate the separate trades in order to avoid interference between the various phases of work. Work shall be organized and laid out so that it will be concealed in furred chases and suspended ceilings, etc., in finished portions of the building, unless specifically noted to be exposed. All exposed work shall be installed parallel or perpendicular to the lines of the building unless otherwise noted.
4. When the mechanical, electrical and plumbing drawings do not give exact details as to the elevation of pipe, conduit and ducts, the Contractor shall physically arrange the systems to fit in the space available at the elevations intended with proper grades for the functioning of the system involved. Piping, exposed conduit and the duct systems are generally intended to be installed true and square to the building construction, and located as high as possible against the structure in a neat and workmanlike manner. The Drawings do not show all required offsets, control lines, pilot lines and other location details. Work shall be concealed in all finished areas.

1.5 WORK SEQUENCE

A. Locate Utilities:

1. Coordinate with power, water, sewer, telephone, communications, and other utilities as well as designated Owner's personnel to locate all utilities prior to digging in any area.
2. Obtain any approvals required from utilities to relocate utilities.
3. Cost of relocating or bypassing utilities indicated on drawings shall be included in Base Bid.
4. Where several new utilities must share a common area or path, coordinate with other trades so that the proper clearances are maintained and utilities may be installed in compliance with all requirements.
5. Refer to Civil Plans for coordination of connection points from site utilities to buildings.

B. Coordinate with Division 1 requirements to optimize construction schedule.

C. Provide equipment and material submittals, coordination drawings and shop drawings as required by specifications.

D. Submit detailed mechanical Schedule of Values with Submittals. Mechanical Submittals will not be accepted without a detailed Schedule of Values.

E. Sequence construction in coordination with work by other disciplines.

1.6 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
   1. Driveways and Entrances: Keep driveways and entrances to construction site clear and available to other Contractors, Owner, and A/E personnel at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

B. Site Safety: Take every precaution to ensure the site does not present a threat to the safety of occupants and/or workers. Minimal safety requirements include, but are not limited to the following:
   1. Temporary fencing around construction areas.
   2. Yellow caution tape and construction barricades along open trenches during the day. Trenches shall be covered at night and warning lights provided on construction barricades.
   3. Temporary fencing around equipment while site work is in progress.

1.7 SUBMITTALS

A. Manufacturer's standard dimensioned drawings, performance and product data shall be edited to delete reference to equipment, features, or information which is not applicable to the equipment being supplied for this project.

B. Provide all mechanical submittals at the same time in one or multiple bound volumes. Include originals from manufacturer. All submittals shall be in native pdf and searchable format. Faxes and copies of faxes are not acceptable.

C. Provide sufficient copies of approved data, with the engineer's approved stamp, for inclusion in the operations and maintenance manuals.

D. Provide detailed coordination drawings showing how mechanical system components will be installed in coordination with work by others. Engineer’s drawing files will be made available to Contractor for producing coordination and as-built drawings upon request.

1.8 SCHEDULE OF VALUES -Special Requirements

A. Mechanical Contractor shall submit a Schedule of Values reflecting the total value of Mechanical Work in the Contract, and broken down into the following items as a minimum, with a line-item for Materials/Equipment and another for Labor:

MECHANICAL
1. HVAC equipment
2. HVAC materials (ductwork, piping, dampers)
3. HVAC labor
4. Controls equipment
5. Controls labor
6. Controls engineering and programming

7. Controls commissioning and closeout (minimum 10% of total controls cost)
8. Controls training (minimum 5% of total controls cost)
9. TAB
10. Commissioning
11. Allowances
12. Miscellaneous
13. Administrative and project management

B. Schedule of Values shall be included with bound submittals. Submittals without a Schedule of Values shall not be reviewed.

1.9 EQUIPMENT MANUFACTURERS

A. Mechanical design is based on equipment and materials scheduled and specified. These are used as the basis for performance characteristics, quality, and physical dimensions/weight.

B. Equipment and materials by other APPROVED manufacturers may be provided by Contractor. In doing so, Contractor assumes responsibility for the performance, quality, and physical dimensions of the proposed units.

C. Any costs associated with modifications to the design due to submittal of equipment and/or materials other than those used as the basis of design are the Contractor's responsibility. This includes any design time, production of drawings, and time delays.

D. Where use of equipment and/or materials other than those used as the basis of design impact other disciplines, Contractor shall assume responsibility for all costs associated with any APPROVED modifications. This may include resizing of electrical circuits, modifying openings in the structure, relocating floor drains, etc.

1.10 OPERATIONS AND MAINTENANCE MANUALS & TRAINING

A. Submit Operations and Maintenance Manuals two weeks prior to Substantial Completion Inspection. Engineer will not conduct a Substantial Completion Inspection without having reviewed Operations and Maintenance Manuals.

B. Use Operations and Maintenance Manuals as a guide for conducting training of Owner's personnel.

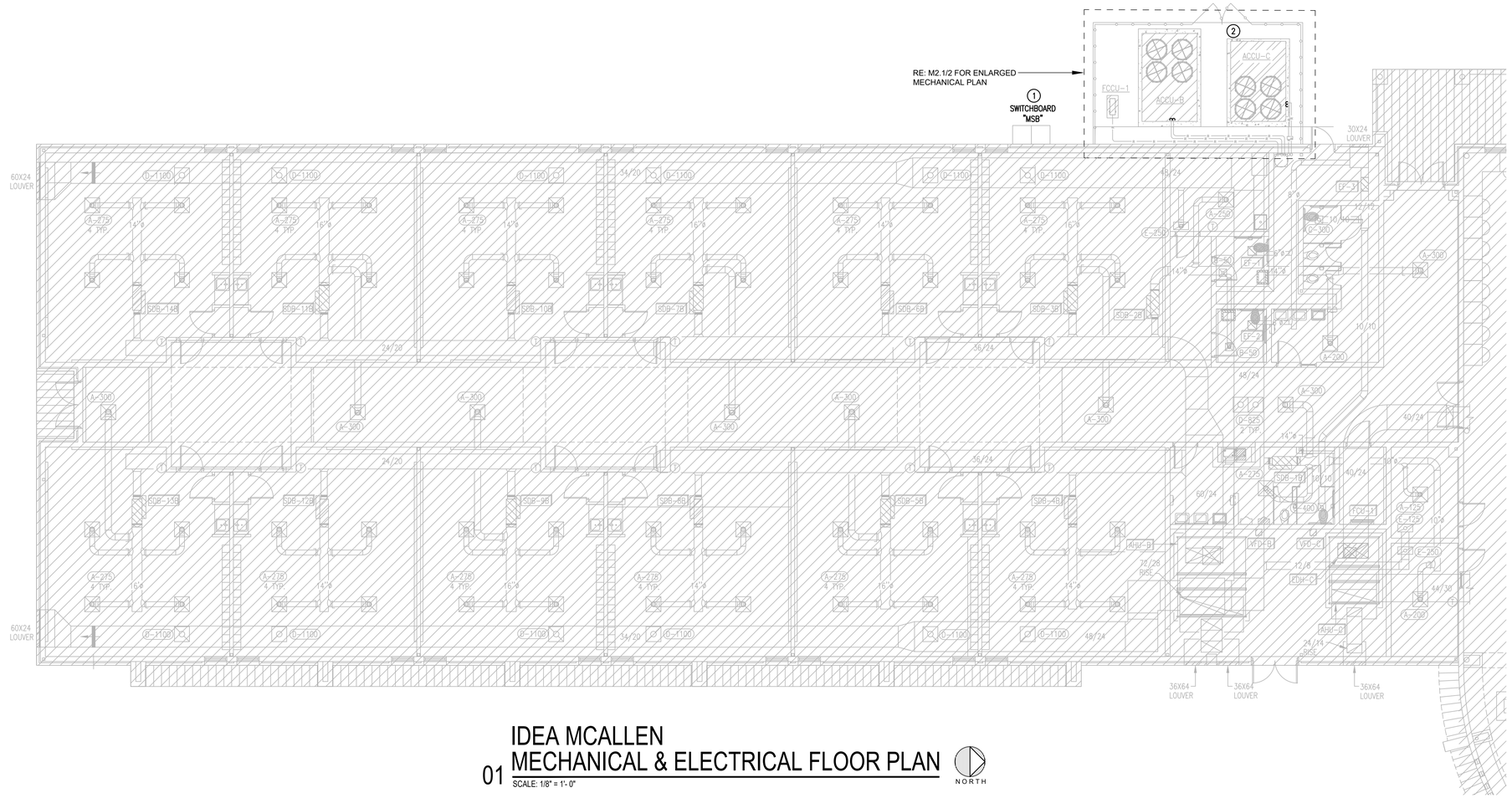
PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 230010

LEGEND

	EXISTING EQUIPMENT TO REMAIN
—x—	PIPING TO BE INSTALLED
—x—	EXISTING PIPING TO REMAIN



01 IDEA MCALLEN MECHANICAL & ELECTRICAL FLOOR PLAN

SCALE: 1/8" = 1'- 0"

NORTH

IDEA MCALLEN PHASE I EXISTING ACCU SCHEDULE (BASE BID) (ADD 2)

MARK	SERVING	NOMINAL TONS	ELECTRICAL V-PH-HZ	FANS HP	(CIRCUIT) MCA	(CIRCUIT) MOCP	WEIGHT (LBS.)	NOTES	EXISTING MANUFACTURER	EXISTING MODEL NUMBER
ACCU-C	AHU-C	30	460-3-60	1.25	60.7	70	1300	ALL	YORK	J30YDC00A4BTA1A

NOTES:

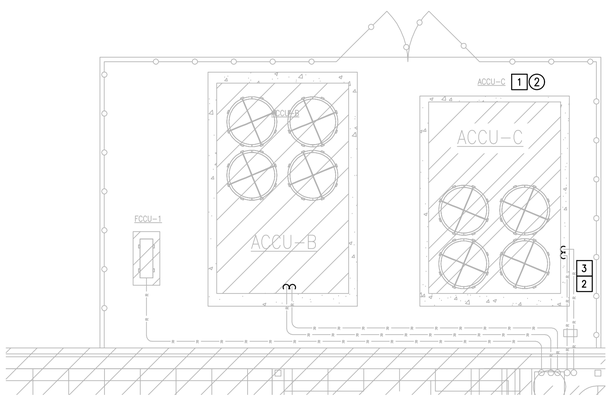
1. MANUFACTURER AND MODEL NUMBER LISTED ARE EXISTING.
2. VERIFY ACCU WEIGHT, AND REFRIGERANT PIPE SIZES WITH MANUFACTURER.

EQUIPMENT CONNECTION SCHEDULE:

DESIGN	EXISTING MCA	EXISTING MOCP	VOLTAGE	EXISTING MEANS OF DISCONNECT	NEW MEANS OF DISCONNECT	EXISTING BRANCH CIRCUIT (75° COPPER)	NEW BRANCH CIRCUIT (75° COPPER)	EXISTING POWER SOURCE
ACCU-C	60.7	90	480V/3PHASE	100A, 3P3F, 70AF, 600V, NEMA 3R	RETAIN EXISTING.	1" – 3#4 & #8G	1) EXTEND EXISTING	MSB

GENERAL NOTES:
A) PROVIDE NEW BRANCH CONNECTION FROM DISCONNECT TO EQUIPMENT. TYPICAL FOR ALL NEW HVAC EQUIPMENT.

NOTES:
1) PROVIDE A NEMA 3R J-BOX TO SPLICE AND EXTEND EXISTING BRANCH CIRCUIT TO NEW POINT OF CONNECTION.



02 IDEA MCALLEN ENLARGED MECHANICAL & ELECTRICAL PLAN

SCALE: 1/4" = 1'- 0"

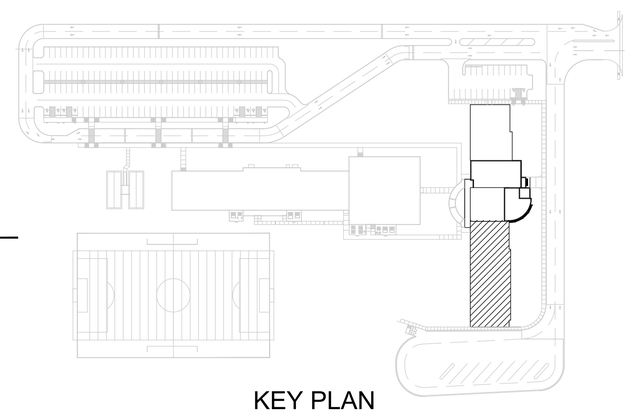
NORTH

MECHANICAL KEYED NOTES:

1. DISCONNECT AND TEMPORARILY REMOVE CONDENSING UNIT FOR PROVISION OF NEW MOUNTING STRUCTURE PER STRUCTURAL. REINSTALL EXISTING CONDENSING UNIT ON NEW MOUNTING STRUCTURE. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' ELEVATED CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM. CLEAN AND VACUUM EXISTING REFRIGERANT PIPING PRIOR TO INSTALLATION. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, SIGHT GLASSES, ETC.
2. PROVIDE REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL. (TYPICAL)
3. PROVIDE NEW 1" INSULATION T 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.

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT TO BE RAISED. SEE EQUIPMENT CONNECTION SCHEDULE.



KEY PLAN

NO:	REVISION:	BY:
2 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

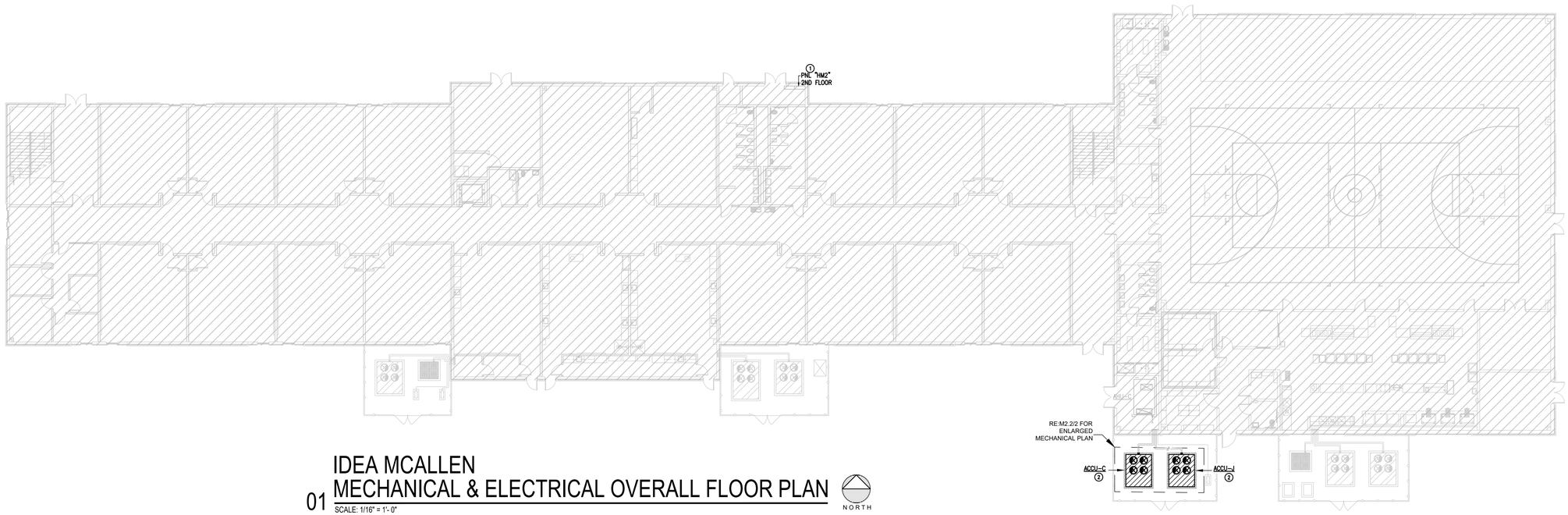
TEXAS

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES

MCALLEN

ethos engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED ENGINEERING FIRM F-15998

DATE:	MARCH 15, 2024
CHECKED BY:	B.B.
DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME2.1



IDEA MCALLEN
01 MECHANICAL & ELECTRICAL OVERALL FLOOR PLAN

SCALE: 1/16" = 1'- 0"

NORTH

LEGEND

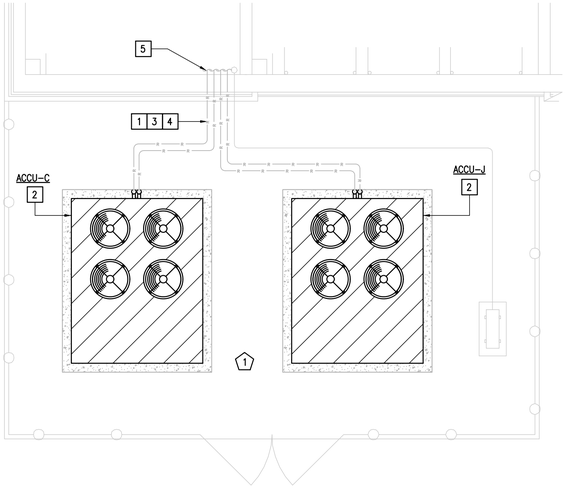
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
—x—	PIPING TO BE INSTALLED
—x—	EXISTING PIPING TO REMAIN

MECHANICAL KEYED NOTES:

1. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
2. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. 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.

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.



IDEA MCALLEN ENLARGED
02 MECHANICAL & ELECTRICAL PLAN

SCALE: 1/4" = 1'- 0"

NORTH

IDEA MCALLEN PHASE II ACCU SCHEDULE (BASE BID) ADD

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL	NOMINAL	SCHD	ELECTRICAL	EER	NUMBER OF	(CIRCUIT)		WEIGHT	NOTES	MANUFACTURER	MODEL NUMBER
				MBTUH	TONS	DB	V-PH-HZ	AT ARI	CIRCUITS	MCA	MOCP	(LBS.)			
ACCU-C	AHU-C	YORK	J30YDC00A4BTA1A	324	30	100	460-3-60	11.1	2	63.5	70	1875	ALL	YORK	YD360C00A4EEB2
ACCU-J	AHU-J	YORK	J30YDC00A4BTA1A	324	30	100	460-3-60	11.1	2	63.5	70	1875	ALL	YORK	YD360C00A4EEB2

NOTES:

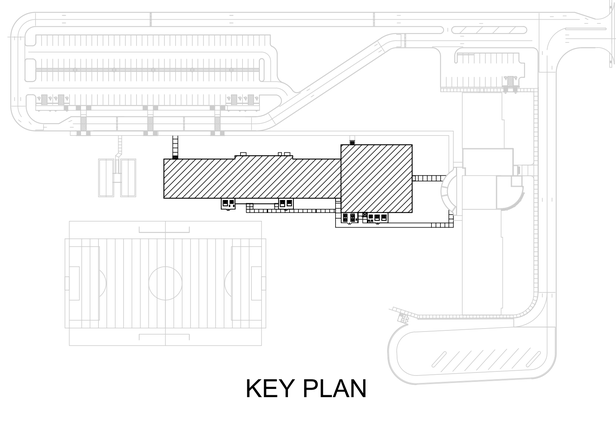
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE CONDENSER COIL HAIL GUARDS, E-COATED COILS, AND LOW AMBIENT CONTROL.
4. PROVIDE BACNET INTERFACE.
5. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
6. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
7. PROVIDE FACTORY INSTALLED APR VALVE. PROVIDE 2 STAGES OF MODULATION PER CONDENSING UNIT. PROVIDE ALL NEW REFRIGERANT SPECIALTIES, EXPANSION VALVES, ETC.

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
ACCU-C	63.5	70	1) 70	480V/3PHASE	100A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING.	1" – 3#3 & #8G	RETAIN EXISTING	HM2
ACCU-J	63.5	70	1) 70	480V/3PHASE	100A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING.	1" – 3#3 & #8G	RETAIN EXISTING	HM2

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) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.



KEY PLAN

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

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DATE: MARCH 15, 2024
CHECKED BY: B.B.
DRAWN BY: D.G.
PROJECT NO.: 23V78
CAD FILE: -
SHEET: ME2.2

IDEA MISSION BUILDING A - MINI-SPLIT CASSETTE INDOOR UNIT SCHEDULE (BASE BID) ADD 1

MARK	SERVED BY	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	LOCATION	MIN CFM	MAX CFM	ELECTRICAL V-PH-HZ	COOLING		WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
								TOTAL (BTU/H)	EAT DB/WB				
CC-2	ACCU-5	EMI AMERICA SERIES	CACA12	C128	268	406	208-1-60	12,000	80/67	45	ALL	DAIKIN	FFQ12WZVJU

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 WALL MOUNTED AND WIRED 7-DAY PROGRAMMABLE T-STAT IN LIEU OF WIRELESS REMOTE.
4. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.

IDEA MISSION BUILDING A - MINI-SPLIT CONDENSER SCHEDULE (BASE BID) ADD 1

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL COOLING (BTU/H)	COND DB	ELECTRICAL V-PH-HZ	SEER2	COMPR TYPE	MCA	MOCP	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-5	CC-2	EMI AMERICA SERIES	S1CA2	12,000	95	208-1-60	19.5	INVERTER DRIVEN TWIN ROTARY	7.8	15	64	ALL	DAIKIN	RX12WMVJU

NOTES:

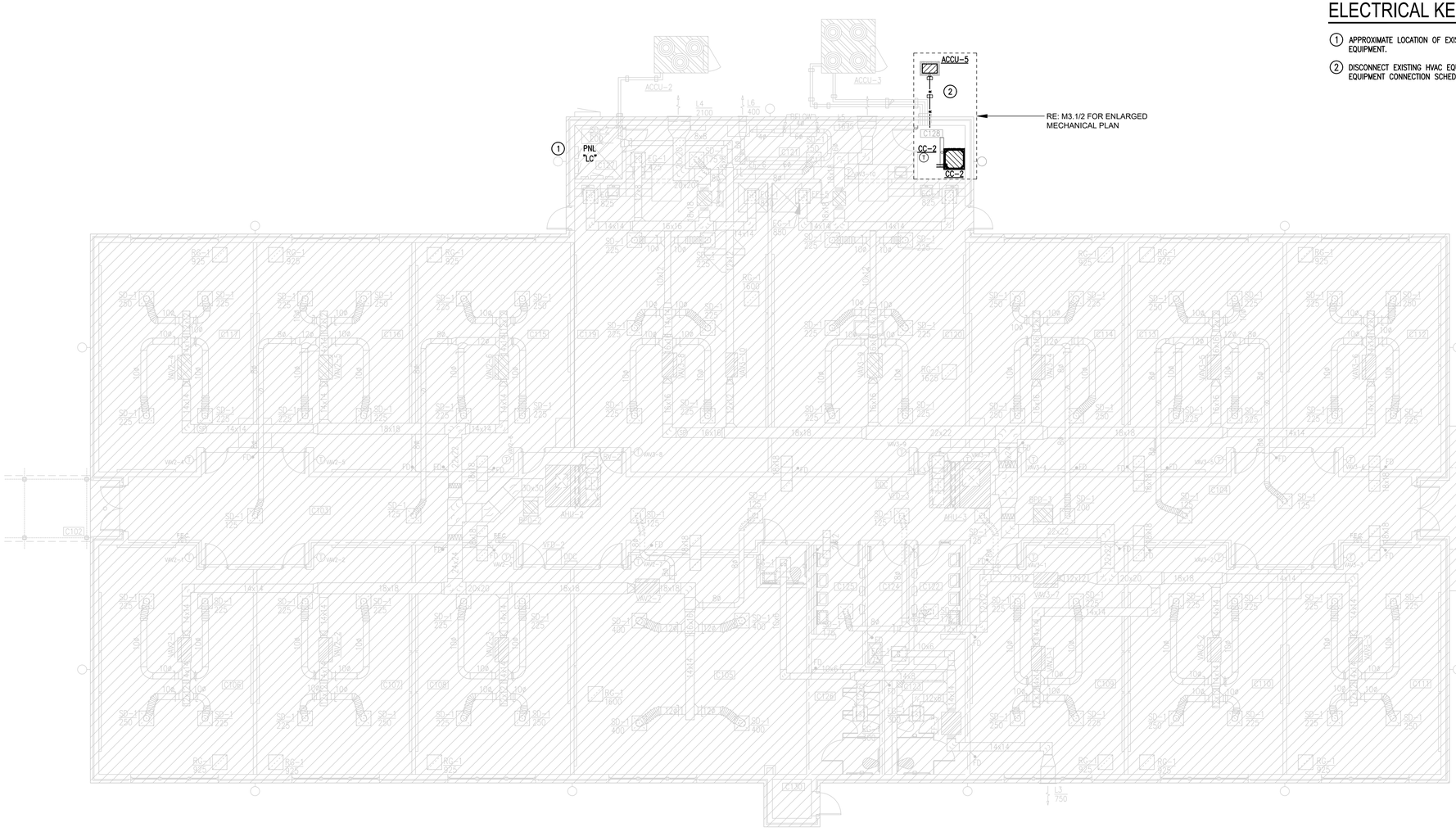
1. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.
2. PROVIDE CONDENSER COIL CORROSION PROTECTION.
3. INSTALL UNIT ON EXISTING CONCRETE PAD. EXTEND CONCRETE PAD AS NECESSARY TO ACCOMMODATE FOR NEW EQUIPMENT.
4. PROVIDE INSULATION FOR BOTH LIQUID AND SUCTION LINES.
5. INSTALL PER MANUFACTURERS INSTRUCTIONS AND PIPING RECOMMENDATIONS.
6. 1 YEAR PARTS WARRANTY AND 10 YEAR COMPRESSOR PARTS LIMITED WARRANTY.

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
CC-2	–	15	2) –	208V/1PHASE	30A, 3PNF, 240V, NEMA 1	RETAIN EXISTING.	REMOVE EXISTING	1/2" – 2#12 & #12G	LC
ACCU-5	7.8	15	1) 15	208V/1PHASE	30A, 3PNF, 240V, NEMA 4X SS	RETAIN EXISTING.	1/2" – 2#12 & #12G	RETAIN EXISTING	LC

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) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.
2) EXISTING CIRCUIT BREAKER TO REMAIN A SPARE. OBTAIN POWER FROM ACCU.



IDEA MISSION
01 BUILDING A MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE : 1/8" = 1'-0"

MECHANICAL KEYED NOTES:

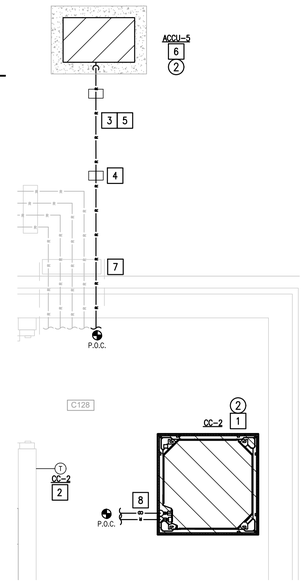
1. DEMOLISH EXISTING CASSETTE UNIT. PROVIDE NEW CASSETTE UNIT AT THIS APPROXIMATE LOCATION. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
2. DEMOLISH EXISTING THERMOSTAT. PROVIDE NEW THERMOSTAT AS SHOWN. MOUNT 48" ABOVE FINISHED FLOOR & COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS.
3. DEMOLISH EXISTING REFRIGERANT PIPING. PROVIDE NEW REFRIGERANT PIPING. AND ROUTE TO INDOOR UNIT. COORDINATE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION. ROUTE INSIDE WALL TO AVOID EXPOSED PIPING WITHIN THE SPACE. (TYPICAL)
4. PROVIDE REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL. (TYPICAL)
5. 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.
6. DEMOLISH EXISTING ACCU AND INSTALL NEW AIR COOLED CONDENSING UNIT AND INSULATED REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND MOUNT UNIT ON EXISTING CONCRETE PAD. PAD SHALL BE MINIMUM 6" LARGER THAN EQUIPMENT FOOTPRINT ON ALL SIDES, EXTEND CONCRETE PAD AS NECESSARY. REFRIGERANT PIPING SHOWN IS STRICTLY SCHEMATIC, VERIFY NUMBER OF CIRCUITS AND PIPE SIZES WITH MANUFACTURER'S DATA. BOLT EQUIPMENT DOWN TO EXISTING CONCRETE SLAB. ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES.
7. 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.
8. RETAIN EXISTING CONDENSATE DRAIN LINE. RECONNECT EXISTING CONDENSATE DRAIN LINE TO NEW CASSETTE UNIT. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS.

ELECTRICAL KEYED NOTES:

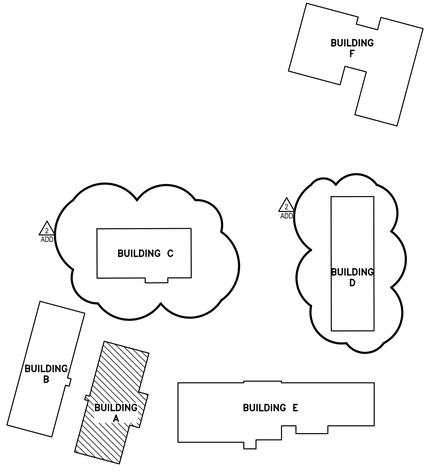
1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.

LEGEND

	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN



IDEA MISSION ENLARGED
02 MECHANICAL & ELECTRICAL PLAN
SCALE : 1/2" = 1'-0"
NORTH



KEYPLAN

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

STATE OF TEXAS
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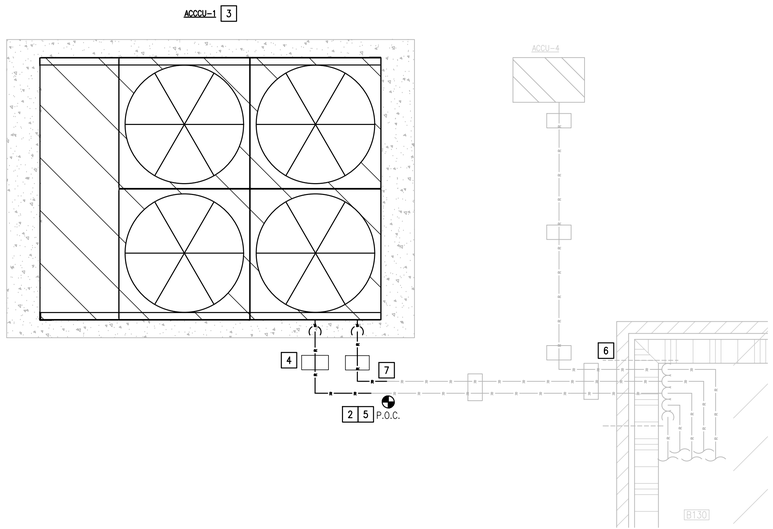
CAD FILE:	-
SHEET:	ME3.1



IDEA MISSION BUILDING B ENLARGED MECHANICAL & ELECTRICAL PLAN

02 SCALE : 1/2" = 1'-0"

NORTH

IDEA MISSION - BUILDING B ACCU SCHEDULE (BASE BID)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL BTUH	COND DB	ELECTRICAL V-PH-HZ	EER / IEER AT ARI	STEPS OF CAPCITY	(CIRCUIT) MCA	(CIRCUIT) MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-1	AHU-1	YORK	YCUL0080EB46XCBSX	872,640	105	460-3-60	9.656/ 16.300	6	160.4	175	3941	ALL	YORK	YLUA0078ZJ46

NOTES:

1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE CONDENSER COIL HAIL GUARDS, E-COATED COILS, AND LOW AMBIENT CONTROL.
4. PROVIDE BACNET INTERFACE.
5. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
6. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
7. PROVIDE FACTORY INSTALLED HOT GAS BYPASS. PROVIDE THERMOSTAT TO PROVIDE 2 STAGES OF MODULATION PER CONDENSING UNIT. PROVIDE ALL NEW REFRIGERANT SPECIALTIES, EXPANSION VALVES, ETC.
8. PROVIDE EVAPORATOR DEFROST CONTROLLER FOR MINIMUM CIRCUIT.

IDEA MISSION BUILDING B - EXHAUST FAN SCHEDULE (BASE BID)

MARK	SERVING	TYPE	STATUS	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	STUDENT'S RESTROOMS	SUSPENDED IN-LINE	TO BE REPLACED	120-1-60	DIRECT	600	-	1/2	859	0.32	3.2	55.0	A	ALL	GREENHECK	SQ-120-VG
EF-2	STAFF RESTROOM & JANITOR ROOM	SUSPENDED IN-LINE	TO BE REPLACED	120-1-60	DIRECT	150	-	1/15	1572	0.32	4.6	47.0	A	ALL	GREENHECK	SQ-70-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 SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS.

CONTROL NOTES:

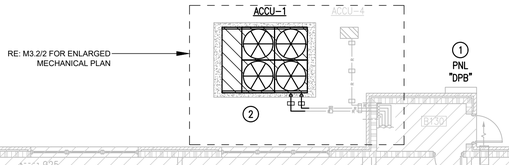
A. CONNECT TO EXISTING DDC SYSTEM. RECREATE EXISTING CONTROL POINTS AND SCHEDULING WITH NEW EQUIPMENT.

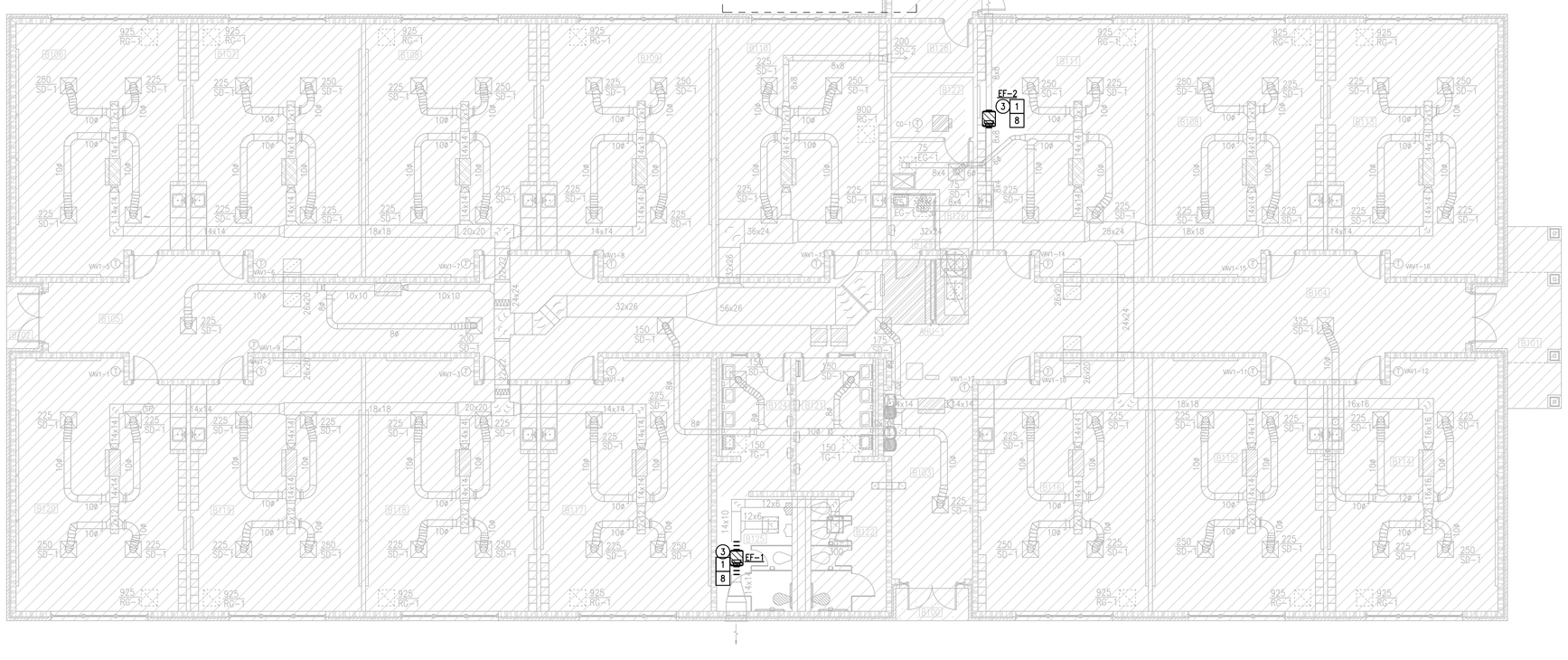
EQUIPMENT CONNECTION SCHEDULE:

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
ACCU-1	160.4	175	1) 175	480V/3PHASE	CIRCUIT BREAKER WITHIN SIGHT	RETAIN EXISTING.	2" – 3#2/0 & #6G	RETAIN EXISTING	DPB

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) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.





IDEA MISSION BUILDING B MECHANICAL & ELECTRICAL FLOOR PLAN

01 SCALE : 1/8" = 1'-0"

NORTH

LEGEND

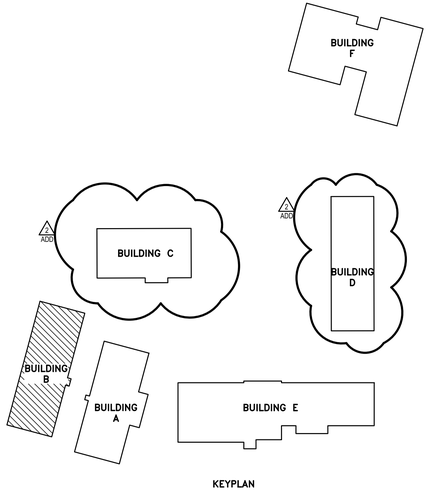
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
6x6	NEW DUCTWORK
	NEW EQUIPMENT
	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN

MECHANICAL KEYED NOTES:

1. DEMOLISH EXISTING EXHAUST FAN. REPLACE WITH NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCT TRANSITIONS TO EXHAUST FAN WHERE NECESSARY. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
2. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
3. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. 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.
4. PROVIDE NEW REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL. (TYPICAL)
5. 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.
6. 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.
7. RECONNECT EXISTING PIPING TO NEW PIPING AT THIS LOCATION. ROUTE AS SHOWN AND CONNECT TO UNIT'S CONNECTIONS.
8. TEMPORARILY REMOVE THE CEILING AROUND THE AREA OF WHERE 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 HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
3. DISCONNECT EXISTING EXHAUST FAN FOR REPLACEMENT. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.



KEYPLAN

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

TEXAS

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES
MISSION

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DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME3.2

IDEA MISSION - BUILDING C ACCU SCHEDULE (BASE BID)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL BTUH	NOMINAL TONS	COND DB	ELECTRICAL V-PH-HZ	EER / IEER AT ARI	NUMBER OF CIRCUITS	FAN FLA	(CIRCUIT) MCA	(CIRCUIT) MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-5	AHU-5	CARRIER	38AUZB25A0P6A0A0A0	428,100	40	105	460-3-60	11.5	2		83.6	100	2273	ALL	CARRIER	38APD040

NOTES:

1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE 6-INCH HIGH CONCRETE PAD FOR CONDENSING UNIT.
4. PROVIDE CONDENSER COIL HAIL GUARDS, E-COATED COILS, AND LOW AMBIENT CONTROL.
5. PROVIDE DIGITAL SCROLL COMPRESSOR OR MULTI-STAGE COMPRESSOR.
6. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
7. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
8. MOUNT ON 4" CONCRETE HOUSEKEEPING PAD AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES. BOLT CONDENSING UNIT DOWN TO CONCRETE PAD.
9. PROVIDE FACTORY INSTALLED APR VALVE. PROVIDE THERMOSTAT TO PROVIDE 2 STAGES OF MODULATION PER CONDENSING UNIT.
10. PROVIDE STAINLESS STEEL COIL CASING AND DRAIN PAN.
11. UNIT SHALL BE R-13 DOUBLE WALL SEALED PANEL

IDEA MISSION - BUILDING C ACCU SCHEDULE (ALTERNATE #1)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL BTUH	NOMINAL TONS	COND DB	ELECTRICAL V-PH-HZ	EER / IEER AT ARI	NUMBER OF CIRCUITS	FAN FLA	(CIRCUIT) MCA	(CIRCUIT) MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-4	AHU-4	CARRIER	38AUZB25A	172,500	15	105	460-3-60	11	2		29.7	40	731	ALL	CARRIER	38AUDU16

NOTES:

1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE 6-INCH HIGH CONCRETE PAD FOR CONDENSING UNIT.
4. PROVIDE CONDENSER COIL HAIL GUARDS, E-COATED COILS, AND LOW AMBIENT CONTROL.
5. PROVIDE DIGITAL SCROLL COMPRESSOR OR MULTI-STAGE COMPRESSOR.
6. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
7. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
8. MOUNT ON 4" CONCRETE HOUSEKEEPING PAD AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES. BOLT CONDENSING UNIT DOWN TO CONCRETE PAD.
9. PROVIDE FACTORY INSTALLED APR VALVE. PROVIDE THERMOSTAT TO PROVIDE 2 STAGES OF MODULATION PER CONDENSING UNIT.
10. PROVIDE STAINLESS STEEL COIL CASING AND DRAIN PAN.
11. UNIT SHALL BE R-13 DOUBLE WALL SEALED PANEL.

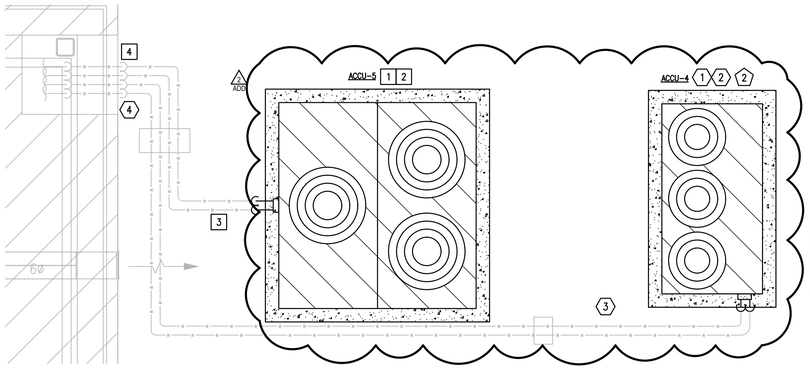
EQUIPMENT CONNECTION SCHEDULE:

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
ACCU-5	83.6	100	1) 100	480V/3PHASE	100A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING.	1.25" - 3#3 & #8G	RETAIN EXISTING	DPD
ALTERNATE #1									
ACCU-4	29.7	50	2) 40	480V/3PHASE	60A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING.	3/4" - 3#8 & #10G	RETAIN EXISTING	MK

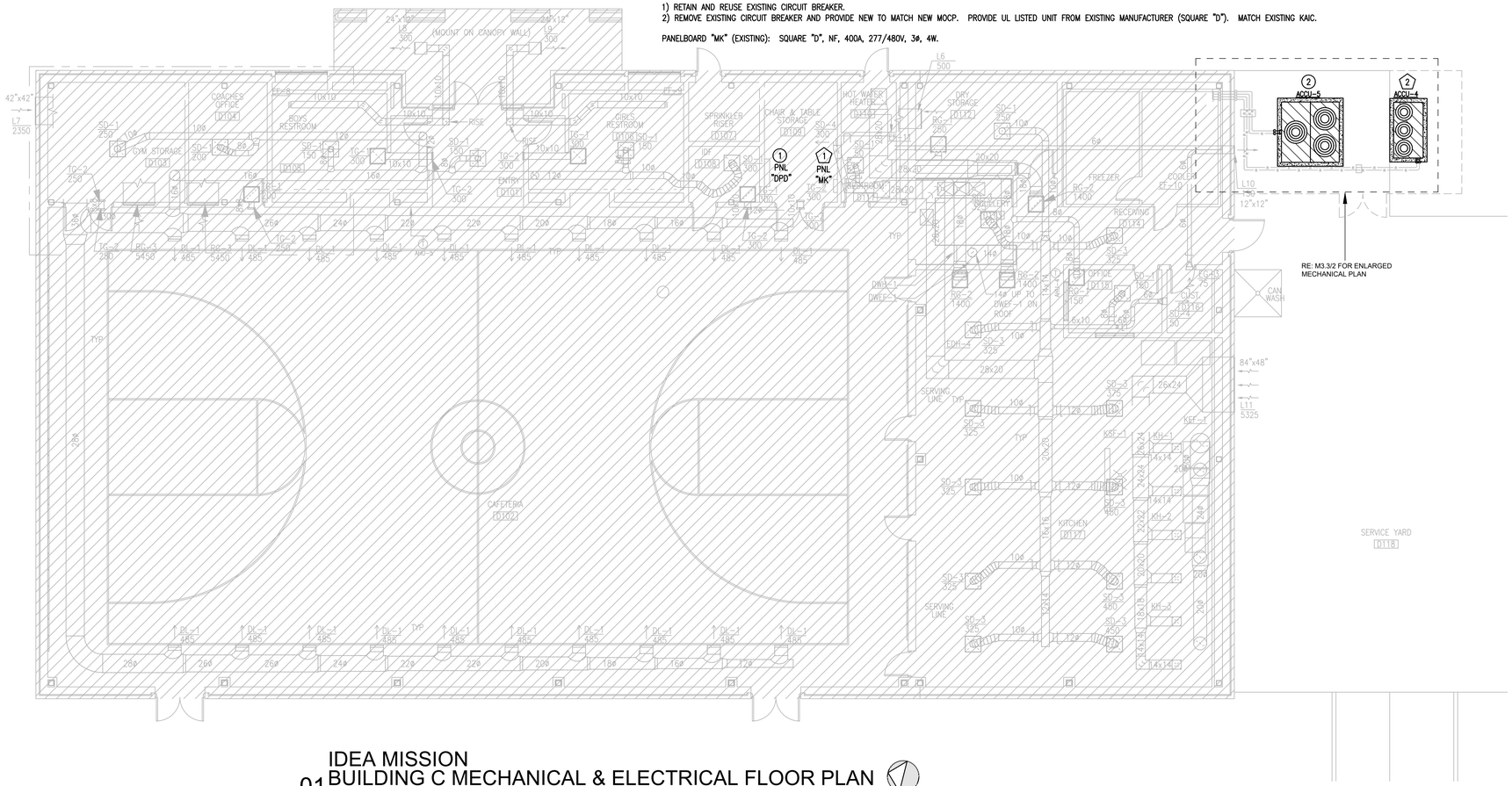
GENERAL NOTES:
A) LOCATE EQUIPMENT MEANS OF DISCONNECT WITHIN EQUIPMENT SIGHT. DO NOT INSTALL BELOW DUCTWORK OR PLUMBING LINES.
B) PROVIDE NEW BRANCH CONNECTION FROM DISCONNECT TO EQUIPMENT. TYPICAL FOR ALL NEW HVAC EQUIPMENT.

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

PANELBOARD "MK" (EXISTING): SQUARE "D", NF, 400A, 277/480V, 3ø, 4W.



IDEA MISSION BUILDING C
02 ENLARGED MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE : 3/8" = 1'-0"



IDEA MISSION
01 BUILDING C MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE : 1/8" = 1'-0"

LEGEND

	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
6x6	NEW DUCTWORK
	NEW EQUIPMENT
	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN

MECHANICAL KEYED NOTES:

1. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
2. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. PROVIDE NEW AIR COOLED CONDENSING UNIT AND INSULATE REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND PROVIDE NEW 4" TALL HOUSEKEEPING CONCRETE PAD FOR NEW EQUIPMENT. 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.
3. 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.
4. 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.

MECHANICAL KEYED NOTES (ALTERNATE #1):

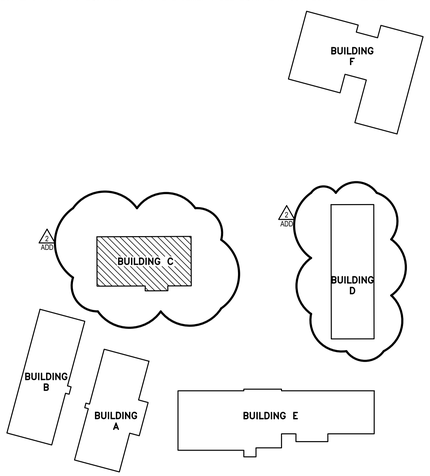
1. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
2. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. PROVIDE NEW AIR COOLED CONDENSING UNIT AND INSULATE REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND PROVIDE NEW 4" TALL HOUSEKEEPING CONCRETE PAD FOR NEW EQUIPMENT. 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.
3. 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.
4. 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.

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.

ALTERNATE #1 ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.



KEYPLAN

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

STATE OF TEXAS
C. CESAR A. GONZALEZ
108611
LICENSED PROFESSIONAL ENGINEER
03.15.2023

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES
TEXAS
MISSION

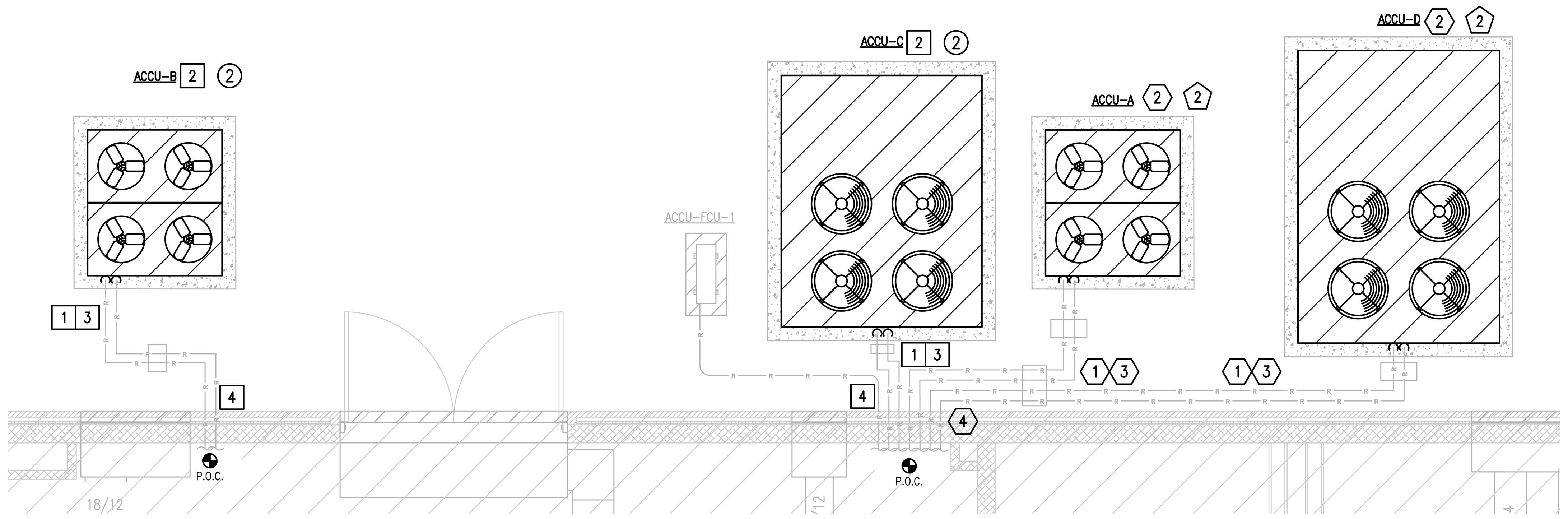
ethos engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED
ENGINEERING FIRM
F-15998

DATE:	MARCH 15, 2024
CHECKED BY:	B.B.
DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME3.3

IDEA MISSION - BUILDING E ACCU SCHEDULE (BASE BID) (2 ADD)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL MBTUH	NOMINAL TONS	COND DB	ELECTRICAL V-PH-HZ	EER AT ARI	NUMBER OF CIRCUITS	(CIRCUIT) MCA	MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-B	AHU-B	YORK	J20YDC00A4BLH2A	201	20	105	460-3-60	13.8	2	40.8	50	930	ALL	YORK	YD240C00A4ELM5
ACCU-C	AHU-C	YORK	L30YDC00A4BTA1A	314	30	105	460-3-60	11.1	2	63.5	70	1875	ALL	YORK	YD360C00A4EEB2

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE CONDENSER COIL HAIL GUARDS, E-COATED COILS, AND LOW AMBIENT CONTROL.
4. PROVIDE BACNET INTERFACE.
5. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
6. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
7. PROVIDE FACTORY INSTALLED APR VALVE. PROVIDE THERMOSTAT TO PROVIDE 2 STAGES OF MODULATION PER CONDENSING UNIT. PROVIDE ALL NEW REFRIGERANT SPECIALTIES, EXPANSION VALVES, ETC.



02 IDEA MISSION BUILDING E
ENLARGED MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE :1/4" = 1'-0"
NORTH

IDEA MISSION - BUILDING E ACCU SCHEDULE (ALTERNATE #2)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL MBTUH	NOMINAL TONS	COND DB	ELECTRICAL V-PH-HZ	EER / IEER AT ARI	NUMBER OF CIRCUITS	(CIRCUIT) MCA	MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-A	AHU-A	YORK	J20YDC00A4BLH2A	201	20	105	460-3-60	13.8	2	40.8	50	930	ALL	YORK	YD240C00A4ELM5
ACCU-D	AHU-D	YORK	J50YDC00A4BTA1A	522	50	105	460-3-60	11.4	2	90.7	100	2299	ALL	YORK	YD600C00A4EEB2

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE CONDENSER COIL HAIL GUARDS, E-COATED COILS, AND LOW AMBIENT CONTROL.
4. PROVIDE BACNET INTERFACE.
5. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
6. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
7. PROVIDE FACTORY INSTALLED APR VALVE. PROVIDE THERMOSTAT TO PROVIDE 2 STAGES OF MODULATION PER CONDENSING UNIT. PROVIDE ALL NEW REFRIGERANT SPECIALTIES, EXPANSION VALVES, ETC.

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
ACCU-B	40.8	50	2) 50	480V/3PHASE	CIRCUIT BREAKER WITHIN SIGHT	RETAIN EXISTING.	1" – 3#8 & #10G	RETAIN EXISTING	MDP1
ACCU-C	63.5	110	1) 70	480V/3PHASE	CIRCUIT BREAKER WITHIN SIGHT	RETAIN EXISTING.	REMOVE EXISTING WIRING	3) 1.25" – 3#3 & #8G	MDP1
ALTERNATE #2									
ACCU-A	40.8	50	2) 50	480V/3PHASE	CIRCUIT BREAKER WITHIN SIGHT	RETAIN EXISTING.	1" – 3#8 & #10G	RETAIN EXISTING	MDP1
ACCU-D	90.7	90	1) 100	480V/3PHASE	CIRCUIT BREAKER WITHIN SIGHT	RETAIN EXISTING.	REMOVE EXISTING WIRING	3) 1.25" – 3#3 & #8G	MDP1

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 (SQUARE "D"). MATCH EXISTING KAIC.
2) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.
3) RETAIN AND REUSE EXISTING RACEWAY.

PANELBOARD "MDP1" (EXISTING): SQUARE "D", I-LINE, 800A, 277/480V, 3ø, 4W.

LEGEND

	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
6x6	NEW DUCTWORK
	NEW EQUIPMENT
	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN

MECHANICAL KEYED NOTES:

1. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
2. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. 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 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.
4. 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.

ALTERNATE #2 MECHANICAL KEYED NOTES:

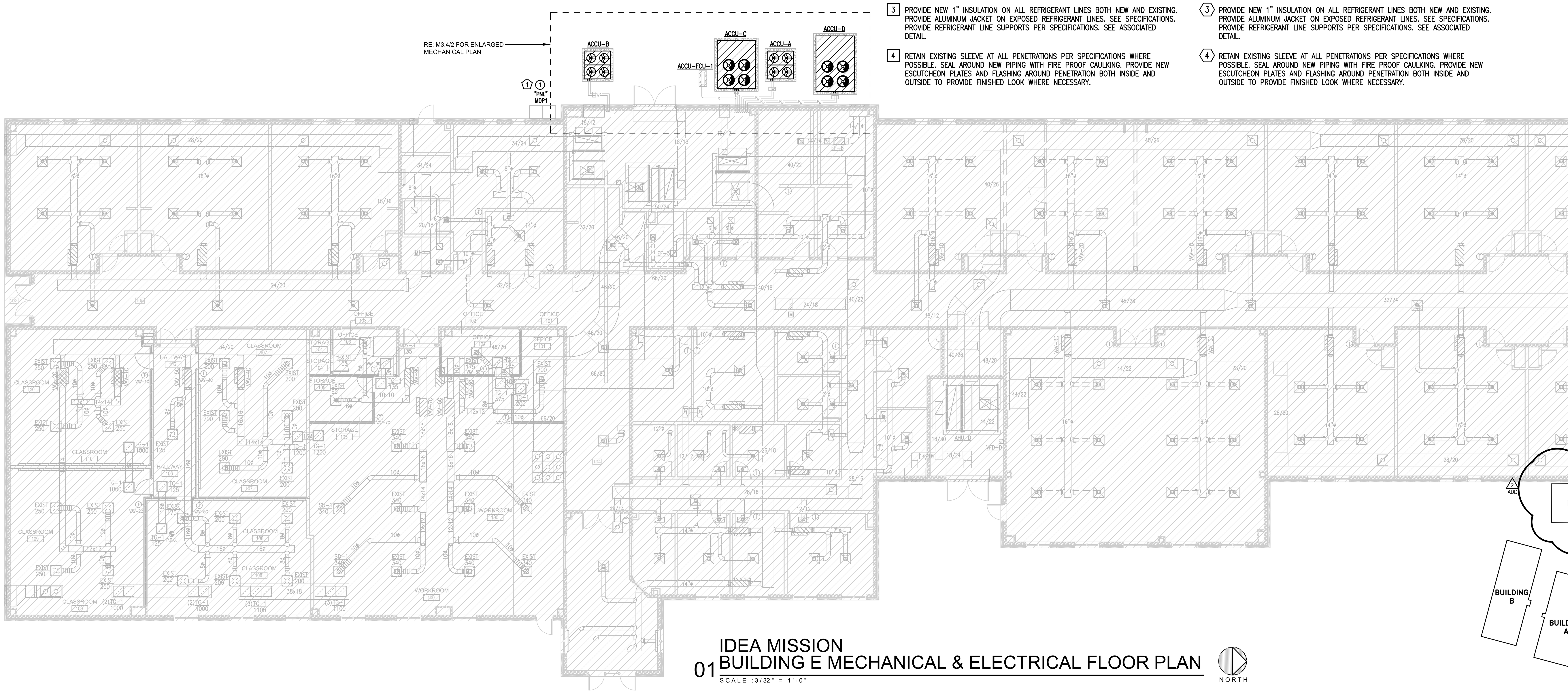
1. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
2. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. 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 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.
4. 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.

ELECTRICAL KEYED NOTES:

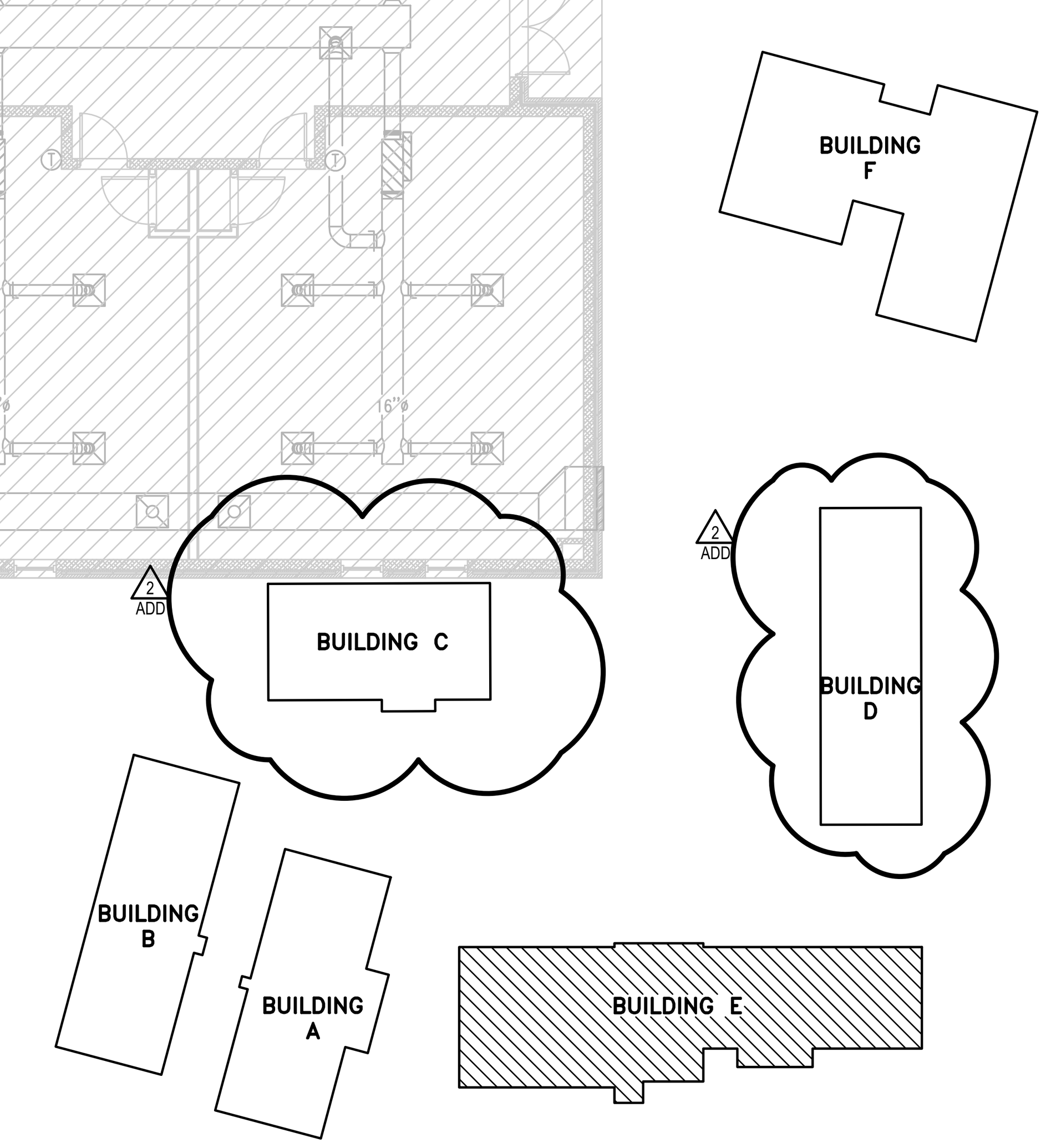
1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.

ALTERNATE #2 ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.



01 IDEA MISSION
BUILDING E MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE :3/32" = 1'-0"
NORTH



KEYPLAN

NO:	REVISION:	BY:
2 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

STATE OF TEXAS
CESAR A. GONZALEZ
108611
LICENSED PROFESSIONAL ENGINEER
03.15.2023

TEXAS

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES

MISSION

ethos engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED ENGINEERING FIRM
F-15998

DATE: MARCH 15, 2024
CHECKED BY: B.B.
DRAWN BY: D.G.
PROJECT NO.: 23V78
CAD FILE: -
SHEET: ME3.4

IDEA EDINBURG - ACCU SCHEDULE (BASE BID)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL MBTUH	NOMINAL TONS	CONF DB	ELECTRICAL V-PH-HZ	EER AT ARI	STEPS OF CAPACITY	(CIRCUIT) MCA	(CIRCUIT) MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-B1	AHU-B1	JONHSON CONTROLS	J20YDC00A4AA B2A	209	20	100	480-3-60	13.8	2	40.8	50	930	ALL	JONHSON CONTROLS	YD240C00A4EEE5

NOTES:

1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE LOUVERED HAIL GUARD, LOW AMBIENT KIT, SIGHT GLASS, SERVICE VALVES, FILTER DRYER, SOLENOID VALVES, TXVS, ANTI-SHORT CYCLE TIMER
4. PROVIDE CONDENSER COIL COATING AS PER SPECIFICATIONS.
5. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
7. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
8. MOUNT ON 4" CONCRETE HOUSEKEEPING PAD AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES. BOLT CONDENSING UNIT DOWN TO CONCRETE PAD.
9. PROVIDE FACTORY INSTALLED APR VALVE. PROVIDE THERMOSTAT TO PROVIDE 2 STAGES PER CONDENSING UNIT.

IDEA EDINBURG -BUILDING B DX ROOF TOP UNIT SCHEDULE (BASE BID)

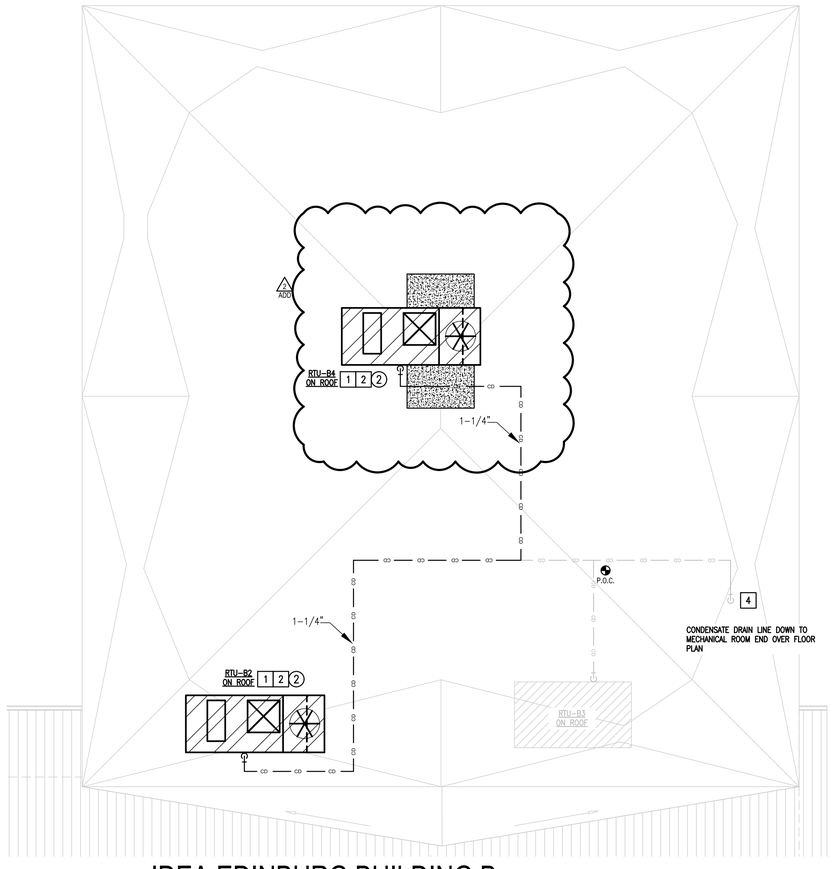
MARK	NOMINAL TONS	EXISTING MODEL #	SUPPLY CFM	OA CFM	ESP (INCHES)	MIN. HP	COOLING MCA	COOLING MOCP	COOLING ELECTRICAL V-PH-HZ	COOLING AIR ON COND.	COOLING TOTAL MBTUH	COOLING SENSIBLE MBTUH	COOLING EAT DB/WB	COOLING LAT DB/WB	HEATING KW	HEATING STAGES	ROOF CURB	CONVENIENCE OUTLETS	MIN. EER/IEER	WEIGHT (LBS.)	NOTES	MANUFACTURER, MODEL NUMBER
RTU-B2	18	J15ZJC00Q4AZZ20003A	4300	1400	1.5	3	38	60	460-3-60	105	185	110	78.5/68.6	55.1/55.1	-	-	NEW	YES	11.4 / 20.2	3500	ALL	DAIKIN DPS018A
RTU-B4	18	J15ZJE36R4AZZ20002A	4300	1200	1	3	52.4	60	460-3-60	105	185	107	77.8/68.5	55.0/55.0	30	SCR	NEW	YES	11.2 / 20.1	3700	ALL	DAIKIN DPS018A

NOTES:

1. COPPER CONDENSATE TRAP, TXV, FREEZE-STAT OPTIONS. PROVIDE NEW ROOF CURB WITH WINDSTORM CERTIFICATION.
2. HOODED/LOUVERED HAIL GUARDS, ECOATED CONDENSER COILS, MOTORIZED OA AND RA DAMPERS WITH ECONOMIZER CONTROL, INVERTER COMPRESSOR FOR MODULATING COOLING AND PRECISE DISCHARGE AIR TEMPERATURE CONTROL.
3. PROVIDE 2" DOUBLE WALL CONSTRUCTION WITH R-13 INSULATION, STAINLESS STEEL DRAIN PANS, 2" MERV 8 GALVANIZED PRE-FILTER FRAMES, 4" MERV 13 DISPOSABLE AFTER-FILTERS, AND HINGED ACCESS DOORS.
4. FACTORY-INSTALLED FACTORY-POWERED CONVENIENCE ELECTRICAL OUTLETS. COORDINATE WITH ELECTRICAL CONTRACTOR.
5. HEATING KW IN RTU SCHEDULE IS RATED HEATING CAPACITY, NOT NOMINAL KW.
6. FACTORY MOUNTED VARIABLE SPEED DRIVE AND MOTOR SHAFT GROUNDING RINGS.
7. FACTORY UNITARY CONTROLLERS AND BACNET INTERFACE. REFER TO EQUIPMENT SPECIFICATIONS AND CONTROLS SEQUENCE OF OPERATIONS FOR MORE INFORMATION.
8. EQUIPMENT MANUFACTURER, CONTRACTOR, AND CONTROLS CONTRACTOR TO COORDINATE PROVISION AND INSTALLATION OF SENSORS TO ENSURE THESE ARE ALL PROVIDED PROPERLY.
9. FOR RTU-B1 AND B2: TRUE VAV OPERATION TO MODULATE FAN SPEED BASED ON DUCT MOUNTED STATIC PRESSURE SENSOR.
10. FOR RTU-B1 AND B2: CO2 BASED DEMAND CONTROLLED VENTILATION USING RETURN DUCT MOUNTED CO2 SENSOR.
11. FOR RTU-B4: VAV OPERATION TO MODULATE FAN SPEED BASED ON SPACE TEMPERATURE AND RETURN AIR SENSORS. CO2 BASED DCV IS NOT REQUIRED.
12. FOR RTU-B4: WALL MOUNTED TEMPERATURE AND HUMIDITY SENSORS, HOT GAS REHEAT COILS WITH TWO POINT TEMPERATURE CONTROL FOR DEHUMIDIFICATION.
13. PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR THE PACKAGED ROOFTOP UNIT.
14. 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.



01 IDEA EDINBURG BUILDING B MECHANICAL & ELECTRICAL ROOF PLAN

SCALE: 1/8" = 1'- 0"

NORTH

EQUIPMENT CONNECTION SCHEDULE:

DESIGN	NEW HP	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-B2	3HP	38	50	1) 60	480V/3PHASE	60A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING.	1" - 3#8 & #10G	RETAIN EXISTING	HC
RTU-B4	3HP	52.4	70	2) 60	480V/3PHASE	REMOVE EXISTING	60A, 3P3F, 60AF, 600V, NEMA 3R	1" - 3#4 & #10G	RETAIN EXISTING	HK
ACCU-B1	–	40.8	60	1) 50	480V/3PHASE	60A, 3P3F, 600V, NEMA 3R	RETAIN EXISTING.	1" - 3#6 & #10G	RETAIN EXISTING	HC

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) SWAP EXISTING CIRCUIT BREAKERS TO MATCH NEW MOCP.
2) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.

PANELBOARD "HC" (EXISTING): SIEMENS, TYPE P3, 400A, 277/480V, 3ϕ, 4W.

LEGEND

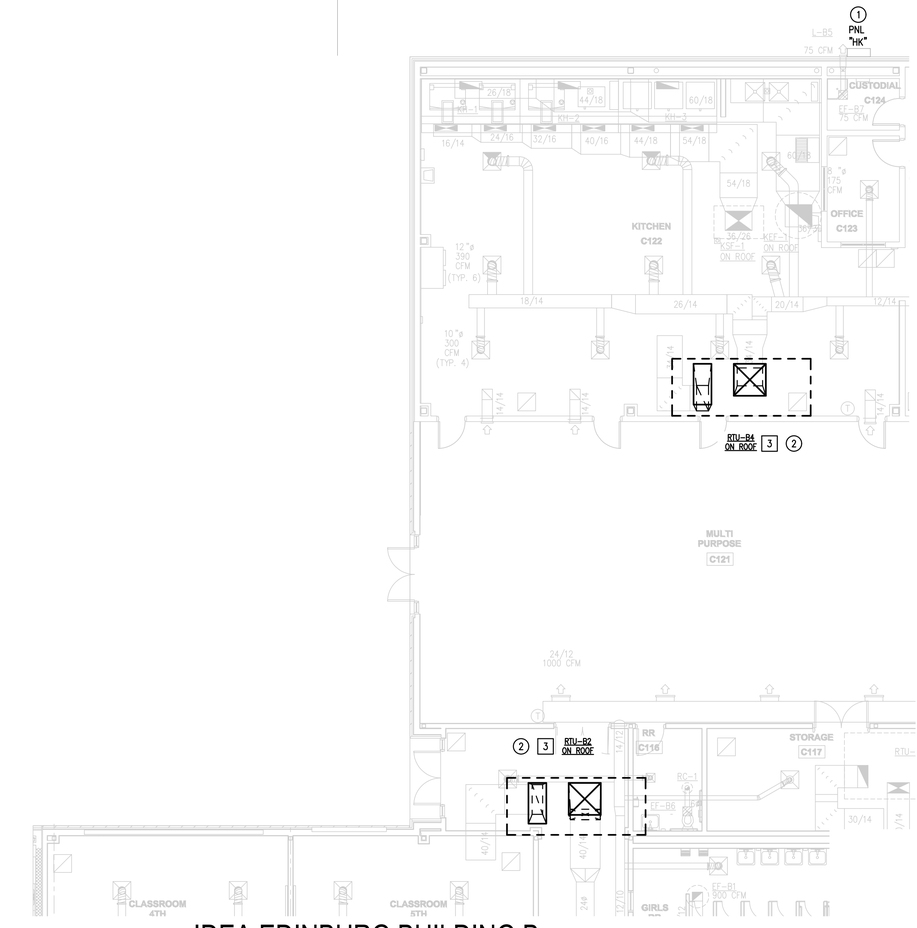
	EXISTING SUPPLY DIFFUSER TO REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
CD R	PIPING TO BE INSTALLED
CD	EXISTING PIPING TO REMAIN
	ROOF PATCHING AREA

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
3. APPROXIMATE LOCATION OF EXISTING NOTIFIER NFS-320 FIRE ALARM CONTROL PANEL (SEE KEY PLAN). PRIME CONTRACTORS SHALL CONTACT PRE-APPROVED SUBCONTRACTORS TO WORK ON SUCH SYSTEM AS BUT NOT LIMITED TO: SUPERIOR ALARMS (956) 793-9771.
4. APPROXIMATE LOCATION OF EXISTING PANELBOARD "HC" (SEE KEY PLAN).

MECHANICAL KEYED NOTES:

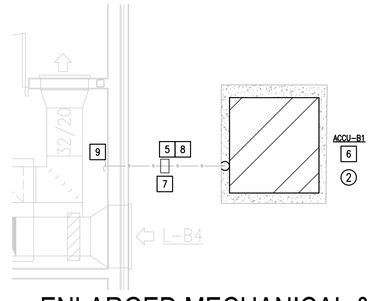
1. DEMOLISH EXISTING RTU AND PROVIDE NEW RTU ON NEW ROOF CURB AS SCHEDULED. ORIENT RTU'S TO OPTIMIZE CONNECTION TO EXISTING DUCTWORK. SEAL ALL OPENINGS AND ENSURE THAT INSTALLATION IS WEATHER-TIGHT. PROVIDE COPPER CONDENSATE DRAIN LINES WITH P-TRAPS AND CONNECT TO EXISTING CONDENSATE SYSTEM. PROVIDE 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. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
6. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. 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.
7. PROVIDE NEW REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL. (TYPICAL)
8. 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.
9. 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.



02 IDEA EDINBURG BUILDING B MECHANICAL & ELECTRICAL FLOOR PLAN

SCALE: 1/8" = 1'- 0"

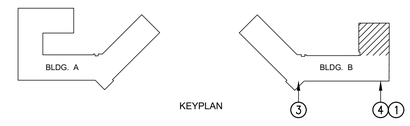
NORTH



03 ENLARGED MECHANICAL & ELECTRICAL FLOOR PLAN

SCALE: 1/4" = 1'- 0"

NORTH



NO:	REVISION:	BY:
2 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES
EDINBURG
TEXAS

ethos engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX.
PHONE: 956-230-3435
TEXAS REGISTERED ENGINEERING FIRM
F-15998

DATE:	MARCH 15, 2024
CHECKED BY:	B.B.
DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME4.1

EQUIPMENT CONNECTION SCHEDULE:

DESIGN	NEW HP	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-B1	5HP	59	80	1) 80	480V/3PHASE	100A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING.	1" – 3#4 & #8G	RETAIN EXISTING	NHA

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.

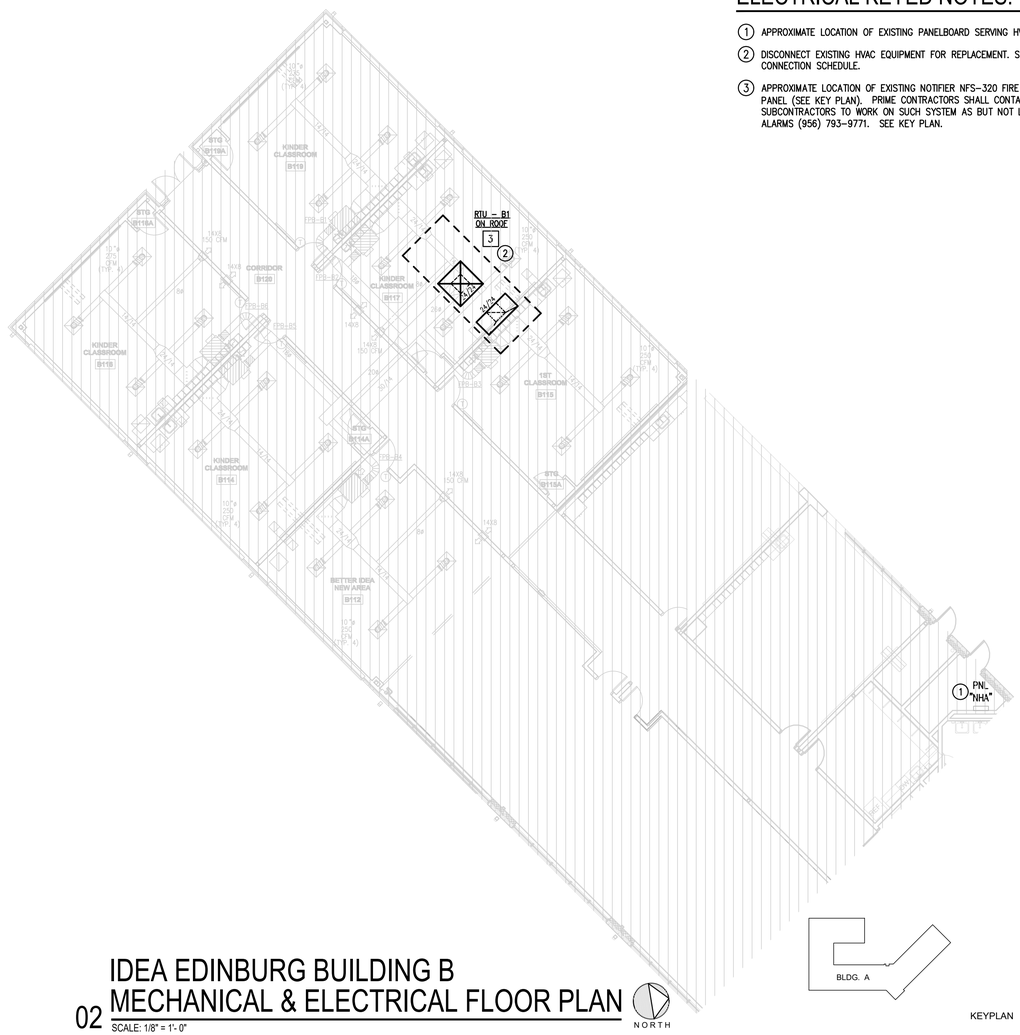
NOTES:
1) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.

IDEA EDINBURG - BUILDING B DX ROOF TOP UNIT SCHEDULE (BASE BID) 1 ADD

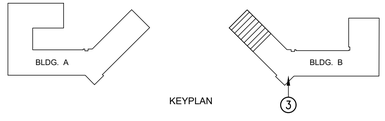
MARK	NOMINAL TONS	EXISTING MODEL #	SUPPLY CFM	OA CFM	ESP (INCHES)	MIN. HP	MCA A	MOCP A	ELECTRICAL V-PH-HZ	AIR ON COND.	COOLING				HEATING		ROOF CURB	CONVENIENCE OUTLETS	MIN. EER/IEER	WEIGHT (LBS.)	NOTES	MANUFACTURER, MODEL NUMBER
											TOTAL MBTUH	SENSIBLE MBTUH	EAT DB/WB	LAT DB/WB	KW	STAGES						
RTU-B1	25	J25ZJC0044AZZ20002A	6000	2000	1.5	5	59	80	460-3-60	105	280	155	77.5/68.7	53.9/53.9	-	-	NEW	YES	10.5 / 17.4	3600	ALL	DAIKIN DPS025A

NOTES:
1. COPPER CONDENSATE TRAP, TXV, FREEZE-STAT OPTIONS. PROVIDE NEW ROOF CURB WITH WINDSTORM CERTIFICATION.
2. HOODED/LOUVERED HAIL GUARDS, ECOATED CONDENSER COILS, MOTORIZED OA AND RA DAMPERS WITH ECONOMIZER CONTROL, INVERTER COMPRESSOR FOR MODULATING COOLING AND PRECISE DISCHARGE AIR TEMPERATURE CONTROL.
3. PROVIDE 2" DOUBLE WALL CONSTRUCTION WITH R-13 INSULATION, STAINLESS STEEL DRAIN PANS, 2" MERV 8 GALVANIZED PRE-FILTER FRAMES, 4" MERV 13 DISPOSABLE AFTER-FILTERS, AND HINGED ACCESS DOORS.
4. FACTORY-INSTALLED FACTORY-POWERED CONVENIENCE ELECTRICAL OUTLETS. COORDINATE WITH ELECTRICAL CONTRACTOR.
5. HEATING KW IN RTU SCHEDULE IS RATED HEATING CAPACITY, NOT NOMINAL KW.
6. FACTORY MOUNTED VARIABLE SPEED DRIVE AND MOTOR SHAFT GROUNDING RINGS.
7. FACTORY UNITARY CONTROLLERS AND BACNET INTERFACE. REFER TO EQUIPMENT SPECIFICATIONS AND CONTROLS SEQUENCE OF OPERATIONS FOR MORE INFORMATION.
8. EQUIPMENT MANUFACTURER, CONTRACTOR, AND CONTROLS CONTRACTOR TO COORDINATE PROVISION AND INSTALLATION OF SENSORS TO ENSURE THESE ARE ALL PROVIDED PROPERLY.
9. FOR RTU-B1 AND B2: TRUE VAV OPERATION TO MODULATE FAN SPEED BASED ON DUCT MOUNTED STATIC PRESSURE SENSOR.
10. FOR RTU-B1 AND B2: CO2 BASED DEMAND CONTROLLED VENTILATION USING RETURN DUCT MOUNTED CO2 SENSOR.
11. FOR RTU-B4: VAV OPERATION TO MODULATE FAN SPEED BASED ON SPACE TEMPERATURE AND RETURN AIR SENSORS. CO2 BASED DCV IS NOT REQUIRED.
12. FOR RTU-B4: WALL MOUNTED TEMPERATURE AND HUMIDITY SENSORS, HOT GAS REHEAT COILS WITH TWO POINT TEMPERATURE CONTROL FOR DEHUMIDIFICATION.
13. PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR THE PACKAGED ROOFTOP UNIT.
14. 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.

01 IDEA EDINBURG BUILDING B
MECHANICAL & ELECTRICAL ROOF PLAN
SCALE: 1/8" = 1'- 0"
NORTH



02 IDEA EDINBURG BUILDING B
MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'- 0"
NORTH



KEYPLAN

LEGEND

	EXISTING SUPPLY DIFFUSER TO REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
—∞—	PIPING TO BE INSTALLED

MECHANICAL KEYED NOTES:

1. DEMOLISH EXISTING RTU AND 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. 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. PROVIDE FULL SIZE CONDENSATE AND ROUTE TO EXISTING ROOF PENETRATION SYSTEM. SEE ASSOCIATED DETAIL. COORDINATE INSTALLATION WITH PLUMBING CONTRACTOR.

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
3. APPROXIMATE LOCATION OF EXISTING NOTIFIER NFS-320 FIRE ALARM CONTROL PANEL (SEE KEY PLAN). PRIME CONTRACTORS SHALL CONTACT PRE-APPROVED SUBCONTRACTORS TO WORK ON SUCH SYSTEM AS BUT NOT LIMITED TO: SUPERIOR ALARMS (956) 793-9771. SEE KEY PLAN.

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

STATE OF TEXAS
CESAR A. GONZALEZ
108611
LICENSED PROFESSIONAL ENGINEER
03.15.2023

TEXAS

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES

EDINBURG

ethos engineering
1126 SOUTH COMMERCE ST.
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PHONE: 956-230-3435
TEXAS REGISTERED ENGINEERING FIRM F-15998

DATE:	MARCH 15, 2024
CHECKED BY:	B.B.
DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME4.2

02 IDEA QUEST
ENLARGED MECHANICAL & ELECTRICAL PLAN
SCALE: 1/2" = 1'- 0"

NORTH

IDEA QUEST BUILDING A - MINI-SPLIT CASSETTE INDOOR UNIT SCHEDULE (BASE BID)

ADD 1

MARK	SERVED BY	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	LOCATION	MIN CFM	MAX CFM	ELECTRICAL V-PH-HZ	COOLING		WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
								TOTAL (BTU/H)	EAT DB/WB				
CC-1	ACCU-11	EMI AMERICA SERIES	CACA12	C128	268	406	208-1-60	12,000	80/67	45	ALL	DAIKIN	FFQ12W2VJU

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 QUEST BUILDING A - MINI-SPLIT CONDENSER SCHEDULE (BASE BID)

ADD 1

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL COOLING (BTU/H)	COND DB	ELECTRICAL V-PH-HZ	SEER2	COMPR TYPE	MCA	MOCP	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-11	CC-1	EMI AMERICA SERIES	S1CA2	12,000	95	208-1-60	19.5	INVERTER DRIVEN TWIN ROTARY	7.8	15	64	ALL	DAIKIN	RX12WMVJU

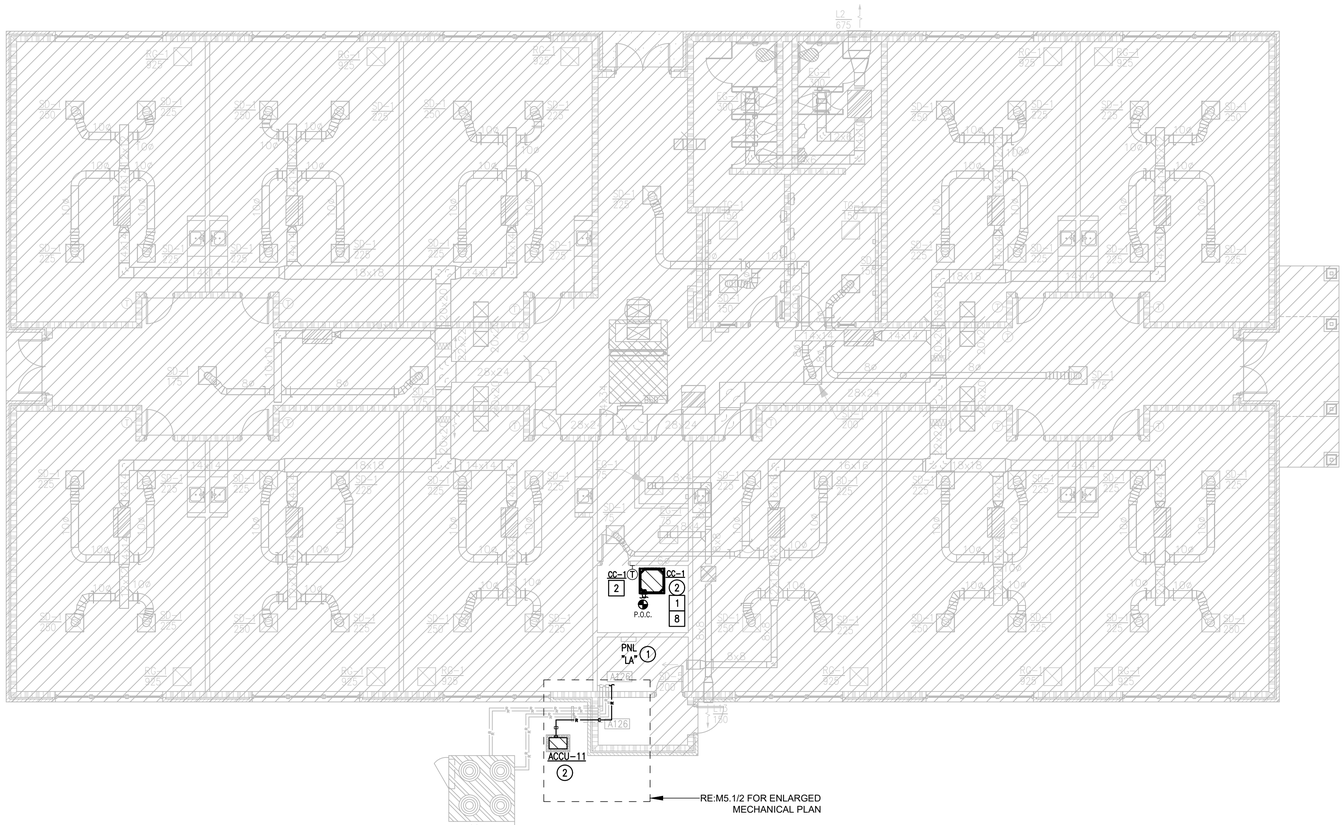
NOTES:
1. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.
2. PROVIDE CONDENSER COIL CORROSION PROTECTION.
3. INSTALL UNIT ON EXISTING CONCRETE PAD. EXTEND CONCRETE PAD AS NECESSARY TO ACCOMMODATE FOR NEW EQUIPMENT.
4. PROVIDE INSULATION FOR 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.

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
CC-1	–	15	2) –	208V/1PHASE	30A, 3PNF, 240V, NEMA 1	RETAIN EXISTING.	REMOVE EXISTING	1/2" – 2#12 & #12G	LA
ACCU-11	7.8	15	1) 15	208V/1PHASE	30A, 3PNF, 240V, NEMA 4X SS	RETAIN EXISTING.	1/2" – 2#12 & #12G	RETAIN EXISTING	LA

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) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.
2) EXISTING CIRCUIT BREAKER TO REMAIN A SPARE. OBTAIN POWER FROM ACCU.



01 IDEA QUEST
BUILDING A MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'- 0"

NORTH

LEGEND

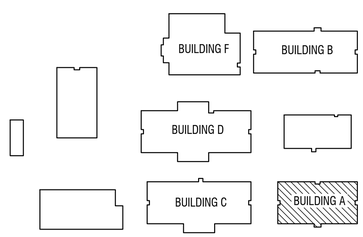
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN

MECHANICAL KEYED NOTES:

1. DEMOLISH EXISTING CASSETTE UNIT. PROVIDE NEW CASSETTE UNIT AT THIS APPROXIMATE LOCATION. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
2. DEMOLISH EXISTING THERMOSTAT. PROVIDE NEW THERMOSTAT AS SHOWN. MOUNT 48" ABOVE FINISHED FLOOR & COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS.
3. DEMOLISH EXISTING REFRIGERANT PIPING. PROVIDE NEW REFRIGERANT PIPING. AND ROUTE TO INDOOR UNIT. COORDINATE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION. ROUTE INSIDE WALL TO AVOID EXPOSED PIPING WITHIN THE SPACE. (TYPICAL)
4. PROVIDE REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL. (TYPICAL)
5. 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.
6. DEMOLISH EXISTING ACCU AND INSTALL NEW AIR COOLED CONDENSING UNIT AND INSULATED REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND MOUNT UNIT ON EXISTING CONCRETE PAD. PAD SHALL BE MINIMUM 6" LARGER THAN EQUIPMENT FOOTPRINT ON ALL SIDES, EXTEND CONCRETE PAD AS NECESSARY. REFRIGERANT PIPING SHOWN IS STRICTLY SCHEMATIC, VERIFY NUMBER OF CIRCUITS AND PIPE SIZES WITH MANUFACTURER'S DATA. BOLT EQUIPMENT DOWN TO EXISTING CONCRETE SLAB. ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES.
7. 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.
8. RETAIN EXISTING CONDENSATE DRAIN LINE. RECONNECT EXISTING CONDENSATE DRAIN LINE TO NEW CASSETTE UNIT. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS.

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.



KEYPLAN

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES
EDINBURG TEXAS

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PHONE: 956-230-3435
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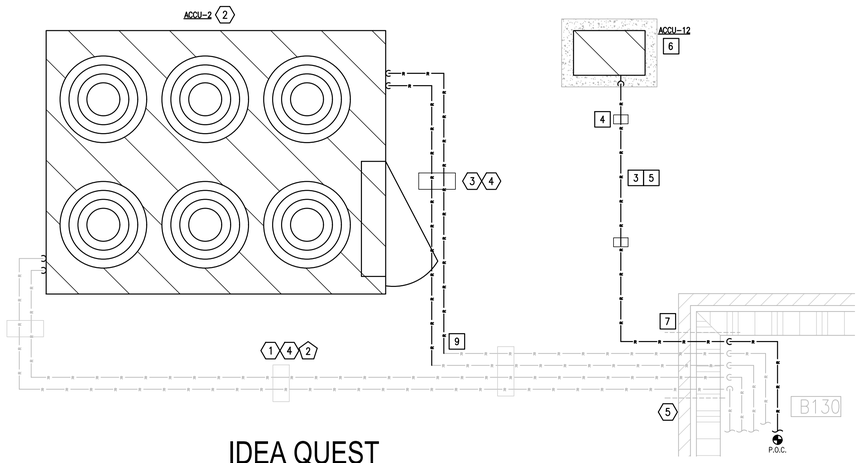


02 IDEA QUEST ENLARGED MECHANICAL & ELECTRICAL PLAN

SCALE: 1/2" = 1'- 0"

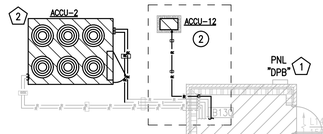
NORTH

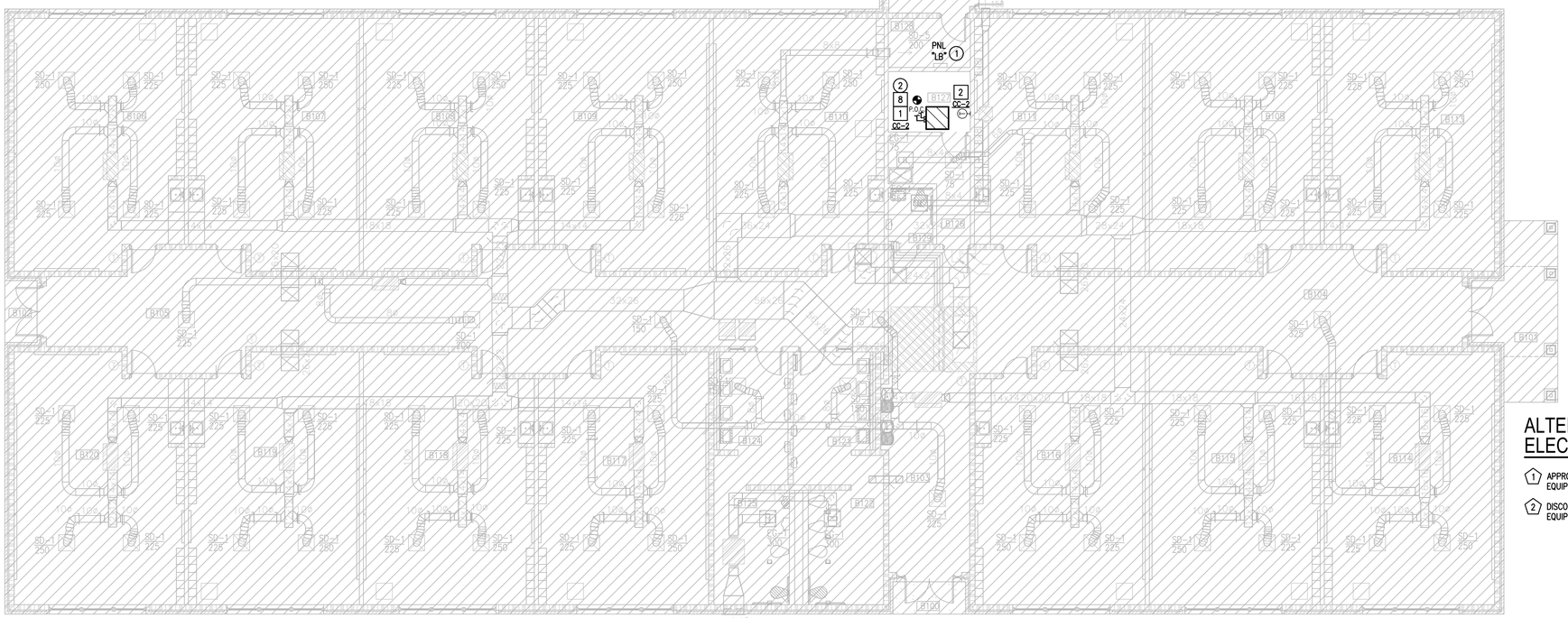
EQUIPMENT CONNECTION SCHEDULE:

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
CC-2	–	15	2) –	208V/1PHASE	30A, 3PNF, 240V, NEMA 1	RETAIN EXISTING.	REMOVE EXISTING	1/2" – 2#12 & #12G	LB
ACCU-12	7.8	15	1) 15	208V/1PHASE	30A, 3PNF, 240V, NEMA 4X SS	RETAIN EXISTING.	1/2" – 2#12 & #12G	RETAIN EXISTING	LB
ALTERNATE #3									
ACCU-2	120	125	1) 125	480V/3PHASE	CIRCUIT BREAKER WITHIN SIGHT	RETAIN EXISTING.	1.5" – 3#1 & #6G	RETAIN EXISTING	DPB

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) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.
2) EXISTING CIRCUIT BREAKER TO REMAIN A SPARE. OBTAIN POWER FROM ACCU.





01 IDEA QUEST BUILDING B MECHANICAL & ELECTRICAL FLOOR PLAN

SCALE: 1/8" = 1'- 0"

NORTH

IDEA QUEST - BUILDING B ACCU SCHEDULE (ALTERNATE #4)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL BTUH	NOMINAL TONS	COND DB	ELECTRICAL V-PH-HZ	EER / IEER AT ARI	STEPS OF CAPACITY	FAN FLA	(CIRCUIT) MCA	(CIRCUIT) MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-2	AHU-2	TRANE	RAUCC604BZ	786,870	60	95	460-3-60	11.2	4	1.8	120	125	3462	ALL	TRANE	RAUJC60

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
3. PROVIDE CONDENSER COIL HAIL GUARDS, E-COATED COILS, AND LOW AMBIENT CONTROL.
4. PROVIDE DIGITAL SCROLL COMPRESSOR OR MULTI-STAGE COMPRESSOR.
5. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
6. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
7. PROVIDE FACTORY INSTALLED APR VALVE. PROVIDE THERMOSTAT TO PROVIDE 2 STAGES OF MODULATION PER CONDENSING UNIT. PROVIDE ALL NEW REFRIGERANT SPECIALTIES, EXPANSION VALVES, ETC.
8. PROVIDE EVAPORATOR DEFROST CONTROLLER FOR MINIUM CIRCUIT.

IDEA QUEST BUILDING B - MINI-SPLIT CASSETTE INDOOR UNIT SCHEDULE (BASE BID)

MARK	SERVED BY	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	LOCATION	MIN CFM	MAX CFM	ELECTRICAL V-PH-HZ	COOLING TOTAL (BTU/H)	COOLING EAT DB/WB	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
CC-2	ACCU-12	EMI AMERICA SERIES	CACA12	C128	268	406	208-1-60	12,000	80/67	45	ALL	DAIKIN	FFQ12W2VJU

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 WALL MOUNTED AND WIRED 7-DAY PROGRAMMABLE T-STAT IN LIEU OF WIRELESS REMOTE.
4. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.

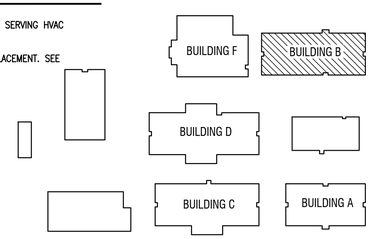
IDEA QUEST BUILDING B - MINI-SPLIT CONDENSER SCHEDULE (BASE BID)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL COOLING (BTU/H)	COND DB	ELECTRICAL V-PH-HZ	SEER2	COMPR TYPE	MCA	MOCP	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-12	CC-2	EMI AMERICA SERIES	S1CA2	12,000	95	208-1-60	19.5	INVERTER DRIVEN TWIN ROTARY	7.8	15	64	ALL	DAIKIN	RX12WMVJU

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. INSTALL UNIT ON EXISTING CONCRETE PAD. EXTEND CONCRETE PAD AS NECESSARY TO ACCOMMODATE FOR NEW EQUIPMENT.
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.

ALTERNATE #3 ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.



KEYPLAN

LEGEND

	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
CC	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN

MECHANICAL KEYED NOTES:

1. DEMOLISH EXISTING CASSETTE UNIT. PROVIDE NEW CASSETTE UNIT AT THIS APPROXIMATE LOCATION. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
2. DEMOLISH EXISTING THERMOSTAT. PROVIDE NEW THERMOSTAT AS SHOWN. MOUNT 48" ABOVE FINISHED FLOOR & COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS.
3. DEMOLISH EXISTING REFRIGERANT PIPING. PROVIDE NEW REFRIGERANT PIPING. AND ROUTE TO INDOOR UNIT. COORDINATE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION. ROUTE INSIDE WALL TO AVOID EXPOSED PIPING WITHIN THE SPACE. (TYPICAL)
4. PROVIDE REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL. (TYPICAL)
5. 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.
6. DEMOLISH EXISTING ACCU AND INSTALL NEW AIR COOLED CONDENSING UNIT AND INSULATED REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND MOUNT UNIT ON EXISTING CONCRETE PAD. PAD SHALL BE MINIMUM 6" LARGER THAN EQUIPMENT FOOTPRINT ON ALL SIDES, EXTEND CONCRETE PAD AS NECESSARY. REFRIGERANT PIPING SHOWN IS STRICTLY SCHEMATIC, VERIFY NUMBER OF CIRCUITS AND PIPE SIZES WITH MANUFACTURER'S DATA. BOLT EQUIPMENT DOWN TO EXISTING CONCRETE SLAB. ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES.
7. 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.
8. RETAIN EXISTING CONDENSATE DRAIN LINE. RECONNECT EXISTING CONDENSATE DRAIN LINE TO NEW CASSETTE UNIT. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS.
9. RECONNECT EXISTING PIPING TO NEW PIPING AT THIS LOCATION. ROUTE TO NEW UNIT'S CONNECTIONS.

ALTERNATE #4 MECHANICAL KEYED NOTES:

1. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
2. DEMOLISH EXISTING AIR COOLED CONDENSING UNIT. 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.

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

STATE OF TEXAS
CESAR A. GONZALEZ
108611
LICENSED PROFESSIONAL ENGINEER
03.15.2023

IDEA PUBLIC SCHOOLS
UPPER RGV MECHANICAL UPGRADES
EDINBURG
TEXAS

ethos engineering
1126 SOUTH COMMERCE ST.
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED ENGINEERING FIRM F-15998

DATE:	MARCH 15, 2024
CHECKED BY:	B.B.
DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME5.2

IDEA QUEST BUILDING C - EXHAUST FAN SCHEDULE (BASE BID) ADD

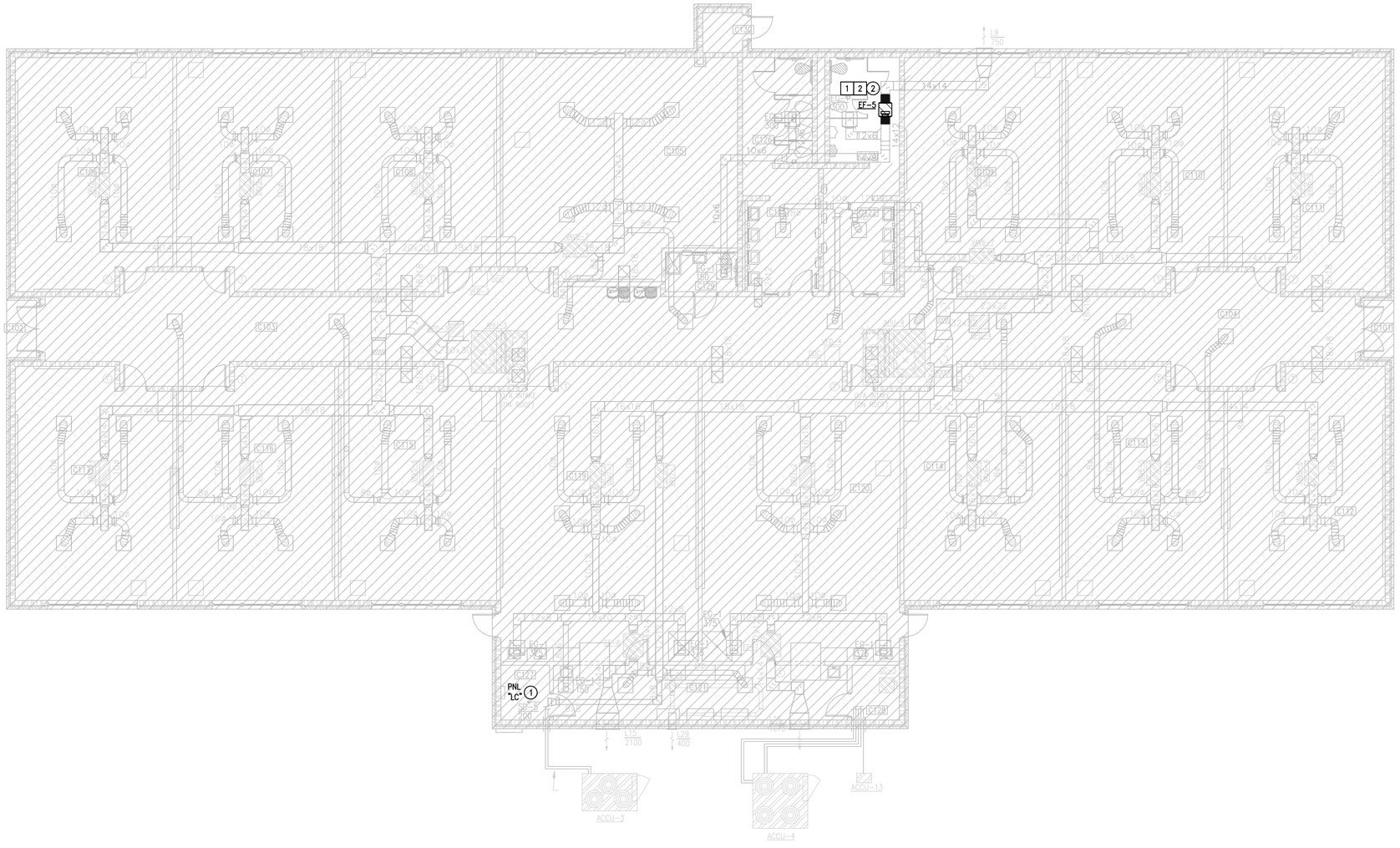
MARK	SERVING	TYPE	STATUS	ELECTRICAL V-PH-HZ	DRIVE	CFM	INPUT WATTS	MOTOR HP	RPM	E.S.P. IN. H20	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-5	RESTROOM	SUSPENDED IN-LINE	TO BE REPLACED	120-1-60	DIRECT	750	-	1/8	860	0.34	3.4	59.0	A	ALL	GREENHECK	SQ-130

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 SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS.

CONTROL NOTES:

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



01 IDEA QUEST
BUILDING C MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

NORTH

LEGEND

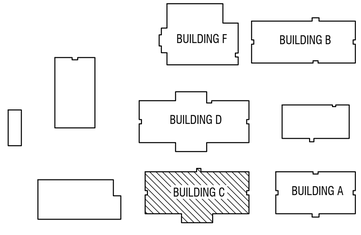
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
6x6	NEW DUCTWORK
	NEW EQUIPMENT

MECHANICAL KEYED NOTES:

1. DEMOLISH EXISTING EXHAUST FAN. REPLACE WITH NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCT TRANSITIONS TO EXHAUST FAN WHERE NECESSARY. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
2. TEMPORARILY REMOVE THE CEILING AROUND THE AREA OF WHERE 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 HVAC EQUIPMENT.
2. DISCONNECT EXISTING EXHAUST FAN FOR REPLACEMENT. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.



KEYPLAN

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

IDEA PUBLIC SCHOOLS
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TEXAS REGISTERED
ENGINEERING FIRM
F-15098

DATE:	MARCH 15, 2024
CHECKED BY:	B.B.
DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME5.3

IDEA QUEST BUILDING D - MINI-SPLIT CONDENSER SCHEDULE (BASE BID)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL COOLING (BTU/H)	COND DB	ELECTRICAL V-PH-HZ	SEER2	COMPR TYPE	MCA	MOCP	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-14	CC-4	EMI AMERICA SERIES	S1CA2	12,000	95	208-1-60	19.5	INVERTER DRIVEN TWIN ROTARY	7.8	15	64	ALL	DAIKIN	RX12WMVJU

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. INSTALL UNIT ON EXISTING CONCRETE PAD. EXTEND CONCRETE PAD AS NECESSARY TO ACCOMMODATE FOR NEW EQUIPMENT.
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 MISSION BUILDING D - MINI-SPLIT CASSETTE INDOOR UNIT SCHEDULE (BASE BID)

MARK	SERVED BY	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	LOCATION	MIN CFM	MAX CFM	ELECTRICAL V-PH-HZ	COOLING		WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
								TOTAL (BTU/H)	EAT DB/WB				
CC-4	ACCU-14	EMI AMERICA SERIES	CACA12	C128	268	406	208-1-60	12,000	80/67	45	ALL	DAIKIN	FFQ12W2VJU

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 WALL MOUNTED AND WIRED 7-DAY PROGRAMMABLE T-STAT IN LIEU OF WIRELESS REMOTE.
4. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.

IDEA QUEST BUILDING D - EXHAUST FAN SCHEDULE (BASE BID)

MARK	SERVING	TYPE	STATUS	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-8	RESTROOM C 123	SUSPENDED IN-LINE	TO BE REPLACED	120-1-60	DIRECT	675	-	1/4	1182	0.41	4.5	45.0	A	ALL	GREENHECK	SQ-100-VG
EF-13	RESTROOM - D130	CEILING MOUNTED	TO BE REPLACED	120-1-60	DIRECT	75	30	-	596	0.35	2.5	10.0	A	ALL	GREENHECK	SP-B110-ES

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 SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS.

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

ELECTRICAL KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.
3. DISCONNECT EXISTING EXHAUST FAN FOR REPLACEMENT. RETAIN AND REUSE EXISTING BRANCH CIRCUIT.

MECHANICAL KEYED NOTES:

1. DEMOLISH EXISTING EXHAUST FAN. REPLACE WITH NEW EXHAUST FAN AT THIS APPROXIMATE LOCATION. PROVIDE NEW DUCT TRANSITIONS TO EXHAUST FAN WHERE NECESSARY. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
2. DEMOLISH EXISTING CASSETTE UNIT. PROVIDE NEW CASSETTE UNIT AT THIS APPROXIMATE LOCATION. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
3. DEMOLISH EXISTING THERMOSTAT. PROVIDE NEW THERMOSTAT AS SHOWN. MOUNT 48" ABOVE FINISHED FLOOR & COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS.
4. DEMOLISH EXISTING REFRIGERANT PIPING. PROVIDE NEW REFRIGERANT PIPING. AND ROUTE TO INDOOR UNIT. COORDINATE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION. ROUTE INSIDE WALL TO AVOID EXPOSED PIPING WITHIN THE SPACE. (TYPICAL)
5. PROVIDE REFRIGERANT LINE SUPPORTS. SEE ASSOCIATED DETAIL. (TYPICAL)
6. 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.
7. DEMOLISH EXISTING ACCU AND INSTALL NEW AIR COOLED CONDENSING UNIT AND INSULATED REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND MOUNT UNIT ON EXISTING CONCRETE PAD. PAD SHALL BE MINIMUM 6" LARGER THAN EQUIPMENT FOOTPRINT ON ALL SIDES, EXTEND CONCRETE PAD AS NECESSARY. REFRIGERANT PIPING SHOWN IS STRICTLY SCHEMATIC, VERIFY NUMBER OF CIRCUITS AND PIPE SIZES WITH MANUFACTURER'S DATA. BOLT EQUIPMENT DOWN TO EXISTING CONCRETE SLAB. ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES.
8. 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.
9. RETAIN EXISTING CONDENSATE DRAIN LINE. RECONNECT EXISTING CONDENSATE DRAIN LINE TO NEW CASSETTE UNIT. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS.
10. TEMPORARILY REMOVE THE CEILING AROUND THE AREA OF WHERE EXISTING EXHAUST FAN IS TO BE REPLACED. RESTORE THE CEILING BACK TO ITS ORIGINAL CONDITION AFTER REPLACEMENT OF EXHAUST FAN.

LEGEND

	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
CD	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN

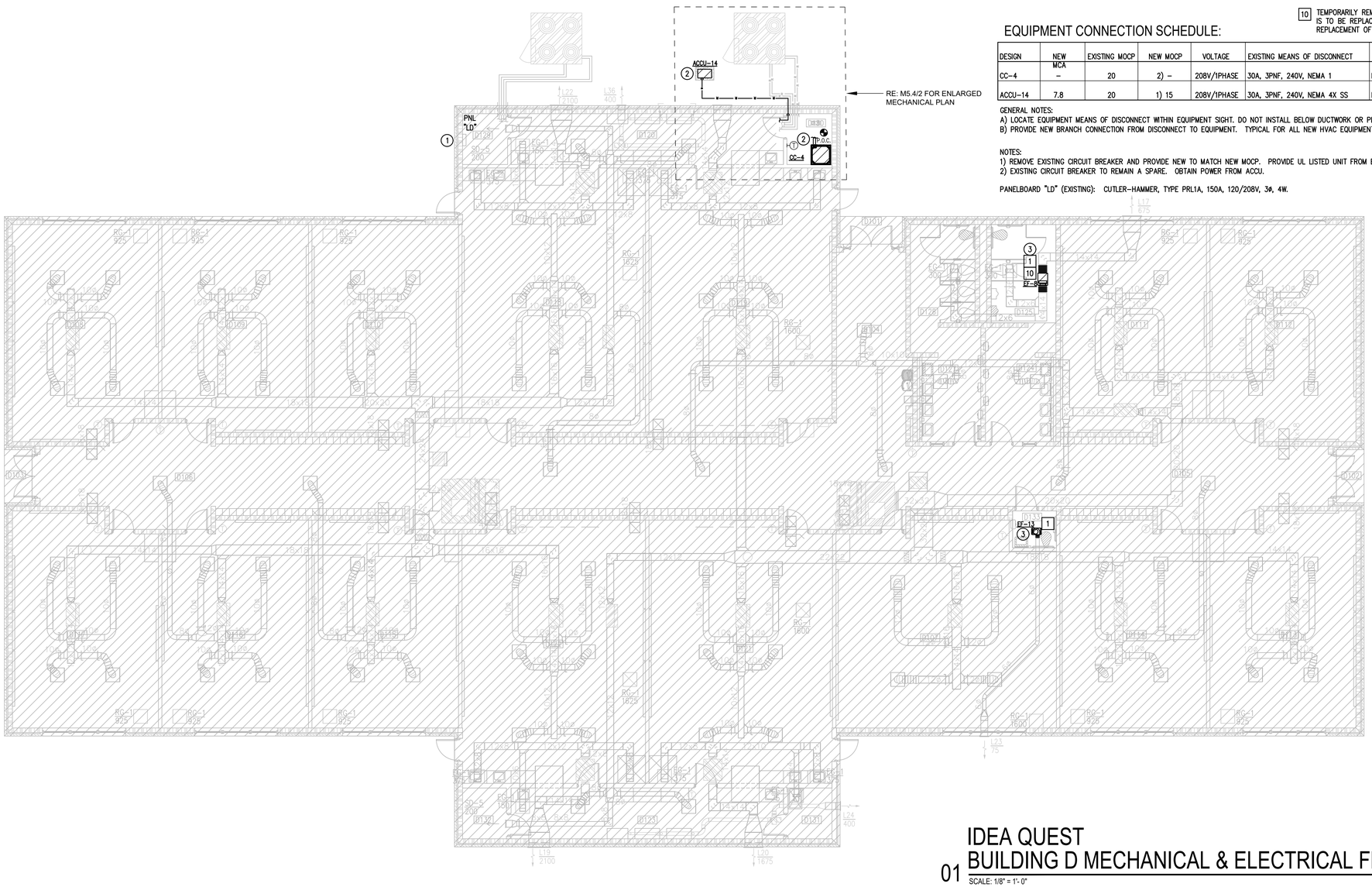
EQUIPMENT CONNECTION SCHEDULE:

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
CC-4	–	20	2) –	208V/1PHASE	30A, 3PNF, 240V, NEMA 1	RETAIN EXISTING.	REMOVE EXISTING	1/2" – 2#12 & #12G	LD
ACCU-14	7.8	20	1) 15	208V/1PHASE	30A, 3PNF, 240V, NEMA 4X SS	RETAIN EXISTING.	1/2" – 2#12 & #12G	RETAIN EXISTING	LD

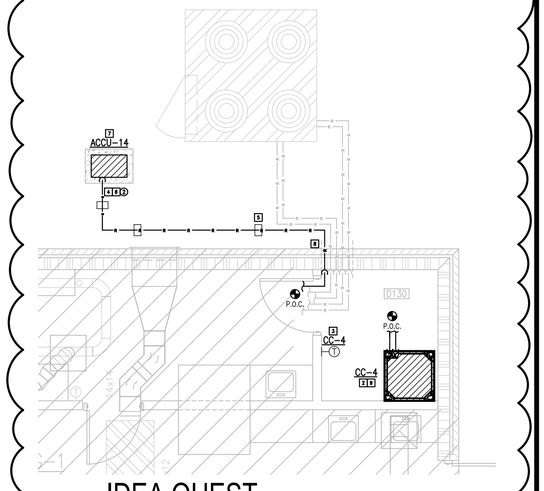
GENERAL NOTES:
A) LOCATE EQUIPMENT MEANS OF DISCONNECT WITHIN EQUIPMENT SIGHT. DO NOT INSTALL BELOW DUCTWORK OR PLUMBING LINES.
B) PROVIDE NEW BRANCH CONNECTION FROM DISCONNECT TO EQUIPMENT. TYPICAL FOR ALL NEW HVAC EQUIPMENT.

NOTES:
1) REMOVE EXISTING CIRCUIT BREAKER AND PROVIDE NEW TO MATCH NEW MOCP. PROVIDE UL LISTED UNIT FROM EXISTING MANUFACTURER (CUTLER-HAMMER). MATCH EXISTING KAIC.
2) EXISTING CIRCUIT BREAKER TO REMAIN A SPARE. OBTAIN POWER FROM ACCU.

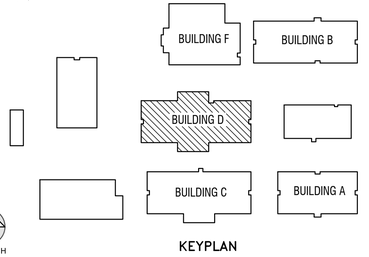
PANELBOARD "LD" (EXISTING): CUTLER-HAMMER, TYPE PRL1A, 150A, 120/208V, 3ø, 4W.



01 IDEA QUEST
BUILDING D MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'- 0"



02 IDEA QUEST
ENLARGED MECHANICAL PLAN
SCALE: 1/4" = 1'- 0"



NORTH

NO:	REVISION:	BY:
1 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

STATE OF TEXAS
C. CESAR A. GONZALEZ
108611
LICENSED PROFESSIONAL ENGINEER
03.15.2023

IDEA PUBLIC SCHOOLS
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TEXAS REGISTERED ENGINEERING FIRM F-15998

DATE:	MARCH 15, 2024
CHECKED BY:	B.B.
DRAWN BY:	D.G.
PROJECT NO.:	23V78
CAD FILE:	-
SHEET:	ME5.4

IDEA QUEST BUILDING F - MINI-SPLIT CASSETTE INDOOR UNIT SCHEDULE (BASE BID)

MARK	SERVED BY	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	LOCATION	MIN CFM	MAX CFM	ELECTRICAL V-PH-HZ	COOLING TOTAL (BTU/H)	COOLING EAT DB/WB	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
CC-16	ACCU-16	EMI AMERICA SERIES	CACA12	C128	268	406	208-1-60	12,000	80/67	45	ALL	DAIKIN	FFQ12W2VJU

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 WALL MOUNTED AND WIRED 7-DAY PROGRAMMABLE T-STAT IN LIEU OF WIRELESS REMOTE.
4. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT AND WIRE TO INDOOR UNIT.

IDEA QUEST BUILDING F - MINI-SPLIT CONDENSER SCHEDULE (BASE BID)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL COOLING (BTU/H)	COND DB	ELECTRICAL V-PH-HZ	SEER2	COMPR TYPE	MCA	MOCP	WEIGHT (LBS)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-16	CC-16	EMI AMERICA SERIES	S1CA2	12,000	95	208-1-60	19.5	INVERTER DRIVEN TWIN ROTARY	7.8	15	64	ALL	DAIKIN	RX12WMVJU

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. INSTALL UNIT ON EXISTING CONCRETE PAD. EXTEND CONCRETE PAD AS NECESSARY TO ACCOMMODATE FOR NEW EQUIPMENT.
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.

EQUIPMENT CONNECTION SCHEDULE:

DESIGN	NEW	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
CC-16	MCA –	15	2) –	208V/1PHASE	30A, 3PNF, 240V, NEMA 1	RETAIN EXISTING.	REMOVE EXISTING	1/2" – 2#12 & #12G	LF
ACCU-16	7.8	15	1) 15	208V/1PHASE	30A, 3PNF, 240V, NEMA 4X SS	RETAIN EXISTING.	1/2" – 2#12 & #12G	RETAIN EXISTING	LF
ACCU-9	87	100	1) 100	480V/3PHASE	100A, 3PNF, 600V, NEMA 3R	RETAIN EXISTING.	1.25" – 3#2 & #8G	RETAIN EXISTING	DPF

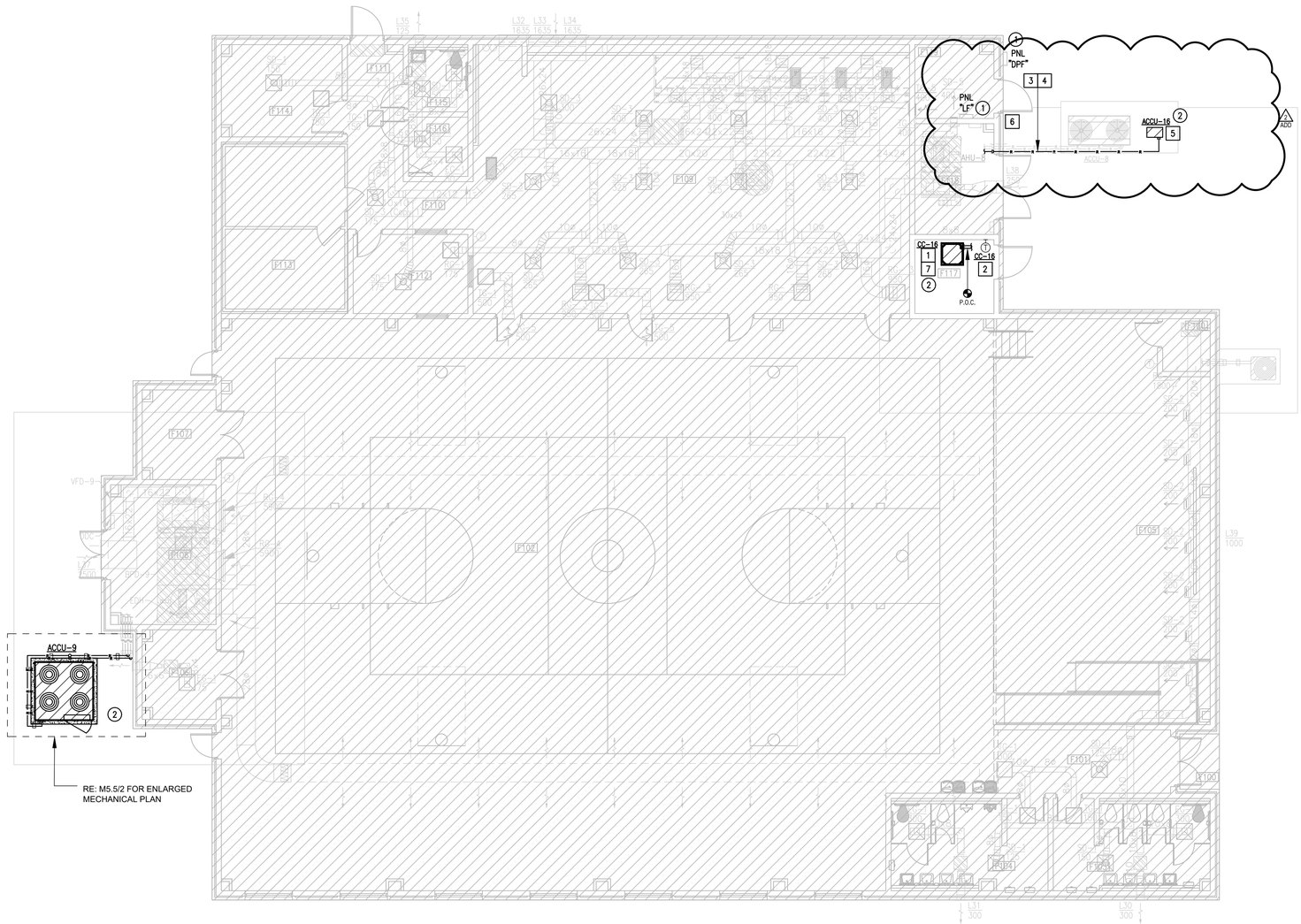
GENERAL NOTES:
A) LOCATE EQUIPMENT MEANS OF DISCONNECT WITHIN EQUIPMENT SIGHT. DO NOT INSTALL BELOW DUCTWORK OR PLUMBING LINES.
B) PROVIDE NEW BRANCH CONNECTION FROM DISCONNECT TO EQUIPMENT. TYPICAL FOR ALL NEW HVAC EQUIPMENT.

NOTES:
1) RETAIN AND REUSE EXISTING CIRCUIT BREAKER.
2) EXISTING CIRCUIT BREAKER TO REMAIN A SPARE. OBTAIN POWER FROM ACCU.

IDEA QUEST - BUILDING F ACCU SCHEDULE (BASE BID)

MARK	SERVING	EXISTING MANUFACTURER	EXISTING MODEL NUMBER	TOTAL MBTUH	COND DB	ELECTRICAL V-PH-HZ	SEER/EER AT ARI	STEPS OF CAPACITY	COMPRESSOR AMPS	(CIRCUIT) MCA	(CIRCUIT) MOCP	WEIGHT (LBS.)	NOTES	MANUFACTURER	MODEL NUMBER
ACCU-9	AHU-9	TRANE	RAUCC404BZ0000 D000020	507.2	105	460/3/60	11.7	4	18.6	87	100	3120	ALL	TRANE	RAUJC40

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. PROVIDE HOT GAS BYPASS LINES FOR MINIMUM CIRCUIT.
3. EER SHALL EXCEED IECC MINIMUM EFFICIENCY AT DESIGN CONDITIONS.
4. PROVIDE LOUVERED HAIL GUARD, LOW AMBIENT KIT, SIGHT GLASS, SERVICE VALVES, FILTER DRYER, SOLENOID VALVES, TXVS, ANTI-SHORT CYCLE TIMER AND E-COATED CONDENSER COIL.
5. PROVIDE FREEZE STAT/DEFROST CONTROLLER TO PROTECT COMPRESSOR WHEN ICE BUILD-UP IS DETECTED IN THE EVAPORATOR COIL.
6. PROVIDE CONDENSER COIL COATING AS PER SPECIFICATIONS.
7. SAFETY DISCONNECT TO BE PROVIDED BY DIV. 26.
8. INSULATE REFRIGERANT LINES AS PER SPECIFICATIONS. PROVIDE UV RESISTANT PAINTED JACKETING AROUND INSULATION FOR ALL EXTERIOR EXPOSED LINES.
9. MOUNT ON 4" CONCRETE HOUSEKEEPING PAD AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES. BOLT CONDENSING UNIT DOWN TO CONCRETE PAD.



01 IDEA QUEST
BUILDING F MECHANICAL & ELECTRICAL FLOOR PLAN
SCALE: 1/8" = 1'- 0"

ELECTRICAL KEYED NOTES:

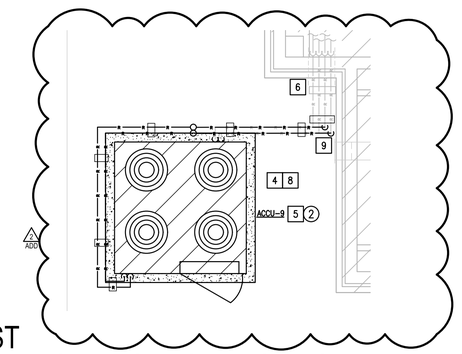
1. APPROXIMATE LOCATION OF EXISTING PANELBOARD SERVING HVAC EQUIPMENT.
2. DISCONNECT EXISTING HVAC EQUIPMENT FOR REPLACEMENT. SEE EQUIPMENT CONNECTION SCHEDULE.

LEGEND

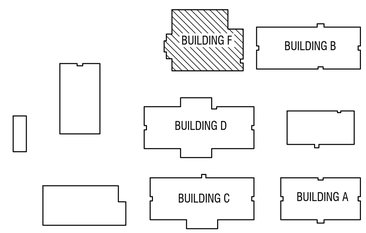
	EXISTING SUPPLY DIFFUSER TO BE REMAIN
	EXISTING RETURN AIR GRILLE TO REMAIN
6x6	EXISTING DUCTWORK TO REMAIN
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
CO	PIPING TO BE INSTALLED
	EXISTING PIPING TO REMAIN

MECHANICAL KEYED NOTES:

1. DEMOLISH EXISTING CASSETTE UNIT. PROVIDE NEW CASSETTE UNIT AT THIS APPROXIMATE LOCATION. REFER TO PROVIDED SCHEDULE AND TAB SPECIFICATIONS FOR MORE INFORMATION.
2. DEMOLISH EXISTING THERMOSTAT. PROVIDE NEW THERMOSTAT AS SHOWN. MOUNT 48" ABOVE FINISHED FLOOR & COORDINATE WITH ARCHITECT AND OWNER TO MEET ADA REQUIREMENTS. PROVIDE CLEAR LOCKING COVER FOR ALL SENSORS.
3. DEMOLISH EXISTING REFRIGERANT PIPING. PROVIDE NEW REFRIGERANT PIPING. AND ROUTE TO INDOOR UNIT. COORDINATE ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION. ROUTE INSIDE WALL TO AVOID EXPOSED PIPING WITHIN THE SPACE. (TYPICAL)
4. PROVIDE NEW 1" INSULATION & ALUMINUM METAL JACKET ON EXPOSED REFRIGERANT LINES. SEE SPECIFICATIONS. PROVIDE NEW REFRIGERANT LINE SUPPORTS PER SPECIFICATIONS. SEE ASSOCIATED DETAIL.
5. DEMOLISH EXISTING ACCU AND INSTALL NEW AIR COOLED CONDENSING UNIT AND INSULATED REFRIGERANT PIPING PER SPECIFICATIONS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AND PROVIDE NEW 4" TALL HOUSEKEEPING CONCRETE PAD FOR NEW EQUIPMENT. 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 EXISTING CONCRETE SLAB. ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING THE LOCAL WIND PRESSURES.
6. 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.
7. RETAIN EXISTING CONDENSATE DRAIN LINE. RECONNECT EXISTING CONDENSATE DRAIN LINE TO NEW CASSETTE UNIT. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS.
8. RETAIN EXISTING REFRIGERANT PIPING FOR REINSTALLATION. CLEAN AND VACUUM REFRIGERANT PIPING. REPLACE ALL REFRIGERANT SPECIALTIES, SERVICE VALVES, GASKETS, EXPANSION VALVES, ETC. PROVIDE NEW PIPING CONNECTIONS FROM EXISTING LINES TO UNITS' CONNECTIONS. VERIFY PIPING SIZES AND PIPING MATERIAL TO BE TYPE-L COPPER (TYPE-K FOR 1-5/8" AND HIGHER), IF NOT PROVIDE NEW. RECONNECT TO EXISTING PIPING TO CREATE A FULLY OPERATIONAL SYSTEM.
9. RECONNECT EXISTING PIPING TO NEW PIPING AT THIS LOCATION. ROUTE OVER EXISTING PIPING AS SHOWN AND CONNECT TO UNIT'S CONNECTIONS.



02 IDEA QUEST
ENLARGED MECHANICAL & ELECTRICAL PLAN
SCALE: 1/4" = 1'- 0"



KEYPLAN

NO:	REVISION:	BY:
2 ADD	4/03/2024	ETHOS

RFP # 23-URMU-0424

STATE OF TEXAS
CESAR A. GONZALEZ
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03.15.2023

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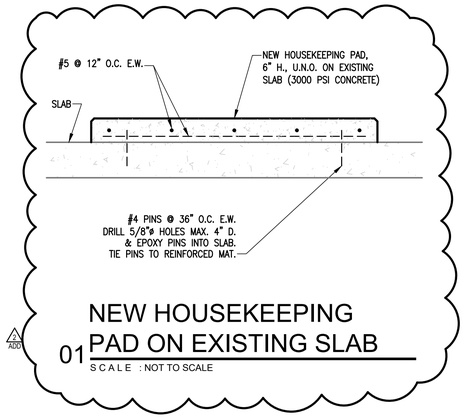
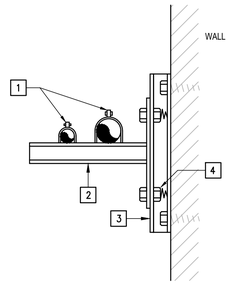


01 NEW HOUSEKEEPING PAD ON EXISTING SLAB

SCALE : NOT TO SCALE

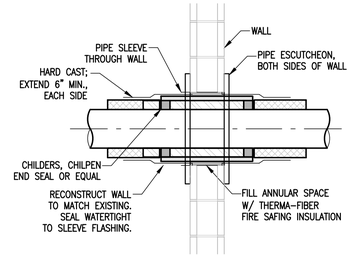


KEYED NOTES:

1. PROVIDE CONDUIT CLAMPS.
2. PROVIDE GALVANIZED UNISTRUT WALL BRACKET.
3. PROVIDE RAMSET OR BOLT GALVANIZED UNISTRUT TO WALL.
4. PROVIDE SELF HOLDING CLAMPING NUT WITH SPRING.

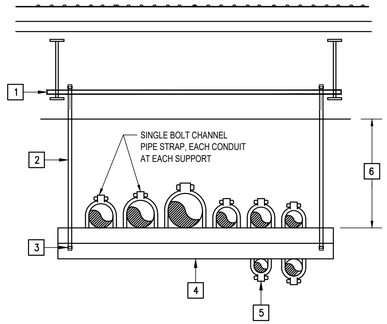
02 RACEWAY RUNS SUPPORT DETAIL

SCALE : NOT TO SCALE



03 PIPE PENETRATION DETAIL

SCALE : NOT TO SCALE

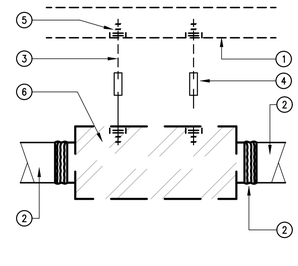


KEYED NOTES:

1. PROVIDE UNISTRUT STRUCTURAL CHANNEL SECURED TO TO JOIST AT BOTH ENDS.
2. PROVIDE 1/2" GALVANIZED ROD MINIMUM.
3. PROVIDE LOCKNUT.
4. PROVIDE GALVANIZED UNISTRUT 8'-0" O/C MAXIMUM.
5. PROVIDE 0'-1" MAXIMUM SIZE ON BOTTOM OF UNISTRUT.
6. VARIES.

04 HORIZONTAL RACEWAYS SUPPORT DETAIL

SCALE : NOT TO SCALE



KEYED NOTES

1. "UNISTRUT" STRUCTURAL CHANNEL - SECURE TO STRUCTURE.
2. EXHAUST DUCT. SEE PLAN.
3. GALVANIZED ALL THREADED ROD.
4. VIBRATION ISOLATORS.
5. HEX NUTS AND WASHERS (TYP.)
6. INLINE EXHAUST FAN AS SCHEDULED.
7. FLEXIBLE CONNECTION.

05 INLINE EXHAUST FAN DETAIL

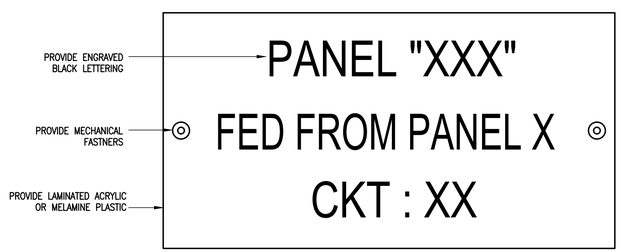
SCALE : NOT TO SCALE

KEYED NOTES:

1. PROVIDE ROOF SUPPORT BLOCK PIPE PIER MODEL NO. PP30 EVERY 10'-0".
2. EXISTING ROOF.
3. PROVIDE RACEWAYS AS SPECIFIED.

06 ROOF MOUNTED RACEWAYS SUPPORT DETAIL

SCALE : NOT TO SCALE



NOTE: ATTACH NAMEPLATES TO ALL ELECTRICAL GEAR AS NOTED ON SECTION 260553.

07 EQUIPMENT IDENTIFICATION LABEL DETAIL

SCALE : NOT TO SCALE

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