

LEGAL NOTICE

The **Town of Ridgefield** invites all interested parties to submit sealed bids on the following:

BID DUE DATE: October 22, 2026

BID DUE TIME: 11:00 am EDT

BID ITEM: Ridgefield Rec Center Rooftop HVAC Replacement

BID NUMBER: 27-06

Terms and conditions as well as the description of items being bid are stated in the specifications. **Specifications may be obtained at the following address:**

**Town of Ridgefield
David McFate
400 Main Street
Ridgefield, CT. 06877
(203) 431-2720**

Bids shall be submitted via email to the following:

**purchasing@ridgefieldct.gov
SUBJECT: 27-06 (Company Name) Bid Package**

Bids must be received no later than the date and time stated above by the Purchasing Director's office via email. **For further information,** please call **David McFate at (203) 431-2720 or email at purchasing@ridgefieldct.gov**

Results may be viewed at https://www.ridgefieldct.gov/departments/purchasing/bid_notices.php after the bid opening.

TOWN OF RIDGEFIELD CONNECTICUT

BOARD OF SELECTMEN

INSTRUCTIONS TO BIDDERS

1. Bids shall be submitted via email to purchasing@ridgefieldct.gov. The time stamp of the email shall be on or before the bid due date.
2. Withdrawals of or amendments to bids received later than the time and date specified for bid opening will not be considered.
3. The Board of Selectpersons of the Town of Ridgefield reserves the right to accept or reject any or all options, bids or proposals; to waive any technicality in any bid or part thereof, and to accept any bid deemed to be in the best interest of the Town of Ridgefield, Connecticut.
4. Bidders may be present at the opening of bids.
5. Bids may be held by the Town of Ridgefield for a period not to exceed sixty (60) days from the opening of bids for the purpose of reviewing the bids and investigating the qualifications of bidders prior to the awarding of the contract.
6. **Insurance requirements:** must be submitted with the bid. This includes any Hold Harmless requirements as well as Certificates of Insurance for the full amounts specified. **Unauthorized changes** to these forms, i.e. adding, striking out and/or changing any words, language or limits **will cause the bidder to be disqualified.**
 - a. **Please Note:** Prior to the start of work, the Town of Ridgefield and/or the Board of Education shall be endorsed on the Contractor's policies of insurance as additional insured. The Contractor shall obtain a policy of insurance, with minimum limits of liability as specified containing an endorsement that covers this agreement to indemnify, defend and hold harmless the Town/City and/or Board of Education or any of their officers, employees, agents, servants and volunteers. The Contractor shall obtain an

endorsement to said insurance policy stating that the Contractor's insurance is primary and any insurance obtained, or self insurance provided, by the Town of Ridgefield and/or Board of Education is excess. The Contractor's insurance carrier will waive all rights of subrogation against the Town of Ridgefield and/or Board of Education, and all of their respective officers, employees, agents, servants and volunteers. The Contractor shall furnish a copy of the insurance policy that meets all of the above requirements before any work or use of the property commences. Failure to do so will result in disqualification of the Bid. There will be no exceptions.

7. **Permits**: It is the Contractor's responsibility to obtain any necessary permits prior to the start of construction. All work shall be completed in compliance with the latest edition of the prevailing Federal and State of Connecticut regulations, Town of Ridgefield Standards, or as set forth in these specifications. Any local (Town of Ridgefield) permits will have the permit fee waived.
8. **Emergency Work**: The Contractor shall file with the Project Manager a telephone number of a person authorized by them who may be contacted regarding emergency work at the job site that may be required during non-working hours for reasons of public safety. The person shall be readily available and have full authority to deal with any emergency that may occur.
9. **Sales Tax**: In accordance with the provisions of Special Act No. 77-98, as amended, and Section 12-412(a) of the Connecticut General Statutes, sales of tangible personal property and services to the Town are not subject to the Connecticut Sales and Use Tax, and such tax shall not be included as part of the bid.
10. **Contractor's Qualification Statement**: The Contractor's Qualification Statement must be filled out as part of the bid package and the experience and references listed therein will be one to the determining factors in the awarding of the bid.
11. **Hold Harmless Agreement**: In order for the bid to be considered valid, the Contractor **must** sign the enclosed hold harmless agreement. Bids submitted without the signed hold harmless agreement will be rejected.
12. **Prevailing Wage Rates**: This project **is** subject to the State of Connecticut prevailing wage rate requirements.

13. **SBE/MBE and Contract Compliance Requirements:** This project is not subject to State of Connecticut SBE/MBE set aside and contract compliance requirements.
14. **Bonds:** Bonds are not required for this project.
15. **Time of Completion:** Work shall be completed during appropriate window during spring 2027. Awarded contractor shall coordinate exact scheduling details with the Department of Parks and Recreation.
16. **Weather Delays:** Weather delays shall be determined by the Town based upon conditions unsuitable for proper preparation or application.
17. **Project Location:** The project is located at the Ridgefield Recreation Center, 195 Danbury Rd, Ridgefield CT. Contractors intending to submit a bid must familiarize themselves with the project location. Contractors wishing to submit a bid must attend the MANDATORY pre-bid site meeting.
18. **Bid Schedule:**
 - a. **RFB Issued: September 22, 2026**
 - b. **Mandatory Pre-bid Meeting: Wednesday October 7, 2026 at 9:00, 195 Danbury Rd, Ridgefield CT**
 - c. **RFI's Due: Thursday October 15, 2026 at 11:00 AM**
 - d. **Proposals Due: Thursday October 22, 2026 at 11:00 AM**
19. **RFB Submissions:** The following items shall be submitted for a RFB to be considered complete:
 - (a) Project Cost and Schedule
 - (b) Hold Harmless Agreement
 - (c) Contractor's Qualification Statement
 - (d) Contractor's List of Subcontractors
 - (e) Contractor's Certificates of Insurance
20. **Requests for Information:** Questions or requests for information must be submitted in writing. All questions or requests for information shall be submitted to David McFate, Purchasing and Finance Manager, at purchasing@ridgefieldct.gov.

GENERAL CONDITIONS

1. CONTRACTOR'S UNDERSTANDING:

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character quality and quantity of materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this Contract. No verbal agreement or conversation with any officer, agent or employee of the Owner, either before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.

2. DEFINITIONS:

OWNER:

The word "Owner" when it appears in the Contract Documents shall mean The Town of Ridgefield, Connecticut.

PROJECT MANAGER:

The title "Project Manager" when it appears in the contract Documents shall mean: Denis DiPinto, Director of Parks and Recreation, or his specifically designated Agent.

CONTRACTOR:

The word "Contractor" when it appears in the Contract Documents shall mean the party to whom the Contract has been awarded.

3. MATERIALS, APPLIANCES AND EMPLOYEES:

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times endorse strict discipline and good order among their employees, and shall not employ on the work any unfit person or any one not skilled in the work assigned to him.

4. PROTECTION OF WORK AND PROPERTY:

The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. They shall make good any such damage, injury or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. They shall adequately protect adjacent property as provided by law and the Contract Documents. They shall provide and maintain all passageways, guard fences, lights and other facilities for protection required by public authority or local conditions.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the Project Manager, is hereby permitted to act at their discretion, to prevent such threatened loss or injury, and they shall so act, without appeal, if so instructed or authorized. Any compensation claimed by the Contractor on account of emergency work, shall be determined by agreement or arbitration.

5. CHANGES IN THE WORK:

The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract Sum being adjusted accordingly. All such work shall be executed under the conditions of the original Contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In giving instructions, the Project Manager shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work, but otherwise, except in an emergency, endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Project Manager, and no claim for an addition to the Contract Sum shall be valid unless so ordered.

The value of any such extra work or change shall be determined in one or more of the following ways:

- (a) By estimate and acceptance in a lump sum.
- (b) By unit prices named in the Contract subsequently agreed upon.
- (c) By cost and percentage or by cost and a fixed fee.

If none of the above methods is agreed upon, the Contractor, provided they receive an order as above, shall proceed with the work. In such case, and also under case (c), they shall keep and present in such form as the Project Manager may direct, a correct account of the net cost of labor and materials, together with

vouchers. In any case, the Project Manager shall certify to the amount, including reasonable allowance for overhead and profit, due to the Contractor. Pending final determination of value, payments on account of changes shall be made on the Engineer's estimate.

6. CLAIMS FOR EXTRA COST:

If the Contractor claims that any instructions by drawings or otherwise involve extra cost under this Contract, they shall give the Project Manager written notice thereof within a reasonable time after the receipt of such instructions and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure shall then be as provided for changes in the work. No such claim shall be valid unless so made.

7. SUSPENSION OF WORK:

The Owner may at any time suspend the work, or any part thereof by giving 24 hours notice to the Contractor in writing. The work shall be resumed by the Contractor within ten (10) days after the date fixed in the written notice from the owner to the Contractor to do so. The Owner shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this contract as a result of such suspension.

8. THE OWNER'S RIGHT TO DO WORK:

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the Owner, after three days written notice to the Contractor may, without prejudice to any other remedy they may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

9. PAYMENTS WITHHELD:

The Owner may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to such extent as may be necessary to protect him from loss on account of the following:

- (a) Defective work not remedied.
- (b) Claims filed or reasonable evidence indicating probable filing of claims.
- (c) Failure of the Contractor to make payments properly to subcontractors or for material or labor.
- (d) A reasonable doubt that the Contract can be completed for the balance then unpaid.
- (e) Damage to another Contractor.

When the above grounds are removed, payment shall be made for amount withheld because of them.

10. CONTRACTOR'S LIABILITY INSURANCE:

The Contractor shall maintain such insurance as will protect him from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. Certificates of such insurance shall be filed with the Project Manager, if they so require and shall be subject to their approval for adequacy of protection.

11. INDEMNITY:

The Contractor shall indemnify and save harmless the Owner from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against him, by reason of any act or omission of the said Contractor, their agents or employees, in the execution of the work or in the guarding of it.

The Contractor shall, and is hereby authorized to maintain and pay for such insurance, issued in the name of the Owner, as will protect the Owner from their contingent liability under this Contract, and the Owner's right to force against the Contractor any provision of this article shall be contingent upon the full compliance by the Owner with the terms of such insurance policy or policies, a copy of which shall be deposited with the Owner.

12. DAMAGES:

Any claim for damage arising under this Contract shall be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except as expressly stipulated otherwise in the case of faulty work or materials, and shall be adjusted by agreement or arbitration.

13. ASSIGNMENT:

Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due to or to become due to him hereunder, without the previous written consent of the Project Manager.

14. PROJECT MANAGER'S STATUS:

The Project Manager shall have general supervision and direction of the work. He has authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract. He shall also have authority to reject all work and materials which do not conform to the Contract, to direct the application of forces to any portion of the work, as in his judgment is required, and to order the force increased or diminished, and to decide questions which arise in the execution of the work.

15. METHOD OF PAYMENT:

At the end of each calendar month, the Contractor shall submit to the Project Manager a requisition for payment which requisition shall be based upon the actual amount of the work performed during the previous month. The requisition may include materials stored on the site but not installed. The Project Manager shall, within ten (10) days, check the requisition against their review of the work which has been done and submit it to the Owner, a written statement as to the validity of the requisition. The Owner shall then pay to the Contractor one hundred percent (100%) of the amount stated in the Engineer's report.

In the event that this contract is subject to the State of Connecticut SBE/MBE set aside and contract compliance requirements, the Contractor's attention is directed to Appendix "B", State of Connecticut SBE/MBE requirements regarding the withholding of 2% of the State Funded portion of the contract value each month if the contract value exceeds \$500,000, pending the review and approval of the Contractor's Affirmative Action Plan by CHRO.

16. FINAL PAYMENT:

When the Contract has been completed, the Contractor shall notify the Project Manager in writing. Upon receipt of this notification, the Project Manager shall proceed to make final measurements of the work done under the provisions of this Contract. The Project Manager shall then submit to the Owner a written statement setting forth these final measurements and the amount due the Contractor consistent with the unit prices and lump sum bid in the bid. The Owner shall within sixty (60) days pay to the Contractor this sum except that they may deduct any moneys which are to be retained under the terms of the Contract for repairs or otherwise.

17. ORDER OF THE WORK:

The order of the work shall be subject to the approval of the Project Manager in all cases. The Contractor may be required to submit a work schedule in writing to the Project Manager for his approval.

18. PROTECTION TO PUBLIC:

The Contractor shall conduct the work in such a manner as to offer minimum disturbance to the public. They shall not close off traffic without specific permission of the Project Manager and shall provide flagmen if such becomes necessary, in the opinion of the Project Manager. Proper barricades, lights, and other protective devices shall be supplied at the Contractor's expense and properly maintained during the entire course of the work.

20. GUARANTEE:

The Contractor guarantees that the work to be done under this Contract and the materials furnished by him and used in the construction of the project are free from defects or flaws. The guarantee is for a term of one (1) year from and after the date upon which the final estimate of the Project Manager is formally approved by the party of the first part. It is hereby agreed and understood that this guarantee shall not include any repairs made necessary by any cause or causes other than defective materials furnished by or defective work done by the Contractor. Where warranty requirements conflict, the project-specific warranty requirements shall govern.

21. RATE OF PROGRESS AND TIME OF COMPLETION:

The Contractor shall commence work as coordinated with the Project Manager. Subsequent treatment shall be completed within the approved treatment window and in accordance with the schedule submitted by the Contractor and approved by the Project Manager. Weather and regulatory conditions shall be considered in establishing the annual treatment schedule.

22. EXTENSION OF TIME:

The Contractor expressly covenants and agrees that, in undertaking to complete the work within the time specified, they have taken into consideration and made allowance for all of the ordinary delays and hindrances incident to such work, whether growing out of delays in securing materials, workmen, or otherwise. Should the Contractor, however, be substantially delayed in the prosecution and completion of the work by any changes, additions, or omissions therein ordered in writing by the Project Manager, or by fire, lightning, earthquake, tornado, cyclone, riot, insurrection of war, or by the abandonment of the work by the workmen engaged therein, through no fault of the Contractor, or by the discharge of all or any material number of workmen in consequence of difficulties arising between the Contractor and such workmen, or by the neglect, delay, or default of any other contractor of the town, then the Contractor may, within five (5) days after the occurrence of the delay for which they claim allowance, notify the Project Manager in writing, and thereupon, and otherwise, the Contractor shall be allowed such additional time for the completion of the work, as the Project Manager in his discretion shall award in writing, and his decision shall be final and conclusive upon the parties. Such additional time shall be the sole and exclusive remedy for any delay claimed by the Contractor.

23. SALES TAX:

In accordance with the provisions of Special Act No. 77-98, as amended, and Section 12-412(a) of the Connecticut General Statutes, sales of tangible personal property and services to the Town are not subject to the Connecticut Sales and Use Tax, and such tax shall not be included as part of the bid.

24. TERMINATION OF CONTRACT

If the Owner fails to make payment thereon for a period of 30 days, the Contractor may, upon seven additional days written notice to the Owner, terminate the Contract and recover from the Owner payment for work executed and for proven loss with respect to materials, equipment tools, and construction equipment and machinery, including reasonable overhead, profit and damages applicable to the project.

If the contractor defaults or persistently fails or neglects to carry out the work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor and without prejudice to any other remedy the Owner may have, may make good such deficiencies and may deduct the cost thereof, including compensation for the Engineer's services and expenses made necessary thereby, from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and upon certification by the Project Manager that sufficient cause exists to justify such action, the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Engineer's services and expenses made necessary thereby, such excess shall be paid to the Contractor, but if such costs exceed such unpaid balance, the Contractor shall pay the difference to the Owner.

CONTRACTOR'S QUALIFICATION STATEMENT

List below references for similar projects, including all information requested. This page must be completed and submitted with the bid.

1. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

2. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

3. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

4. Client: _____

Project Address: _____

Approximate Value: _____ Date: Started _____ Completed _____

Contact: Name _____ Telephone _____

Company: _____ Bid Title: _____

Street: _____ Bid No.: _____

City, State: _____ Telephone No.: _____

CONTRACTOR'S LIST OF SUBCONTRACTORS

List below the subcontractors intended to be utilized for this project. This page must be completed and submitted with the bid.

General Contractor: _____

Bid Number: _____

Address: _____

Phone Number: _____

[illegible]

APPENDIX - INSURANCE REQUIREMENTS

Each bidder shall carry and maintain the following insurance coverage during the period of the contract : The Certificate of Insurance for the Limits of Liability stated below should be submitted with your bid to the Purchasing Department at Town Hall. **Bidders may not perform any work until all insurance requirements are met.**

1. **Comprehensive General Liability Insurance** as will protect him, the Town, and any subcontractor performing work covered by this Contract, from claims for damages for personal injury, including accidental or wrongful death, as well as claims for property damages, which may arise from operations under this Contract whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. Liability insurance shall include premises and operations, products, contractual, owners, and contractors protective. The minimum amounts of such insurance shall be as follows:
 - Bodily Injury Liability and Property Damage Liability:
\$1,000,000 each occurrence.
 - **The Town shall be named as an Additional Insured**
This **MUST** be stated explicitly on the Certificate or you will be **disqualified**
2. **Worker's Compensation Insurance and Employer's Liability** for all of his employees, employed at the site and in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all employees of the later unless such employees are covered by the protection afforded by the Contractor.
 - Worker's Compensation and Employer Liability:
Statutory Limits
3. **Comprehensive Auto Liability Insurance:**
 - **Bodily Injury Insurance and Property Damage Insurance** covering the operation of all Motor Vehicles owned, hired and/or non-owned by the Contractor, or used by the Contractor in the Prosecution of the work

under the Contract, shall be in the minimum of **\$1,000,000 each occurrence.**

All policies relating to this Contract shall be so written so that the Town shall be notified of cancellation or change at least thirty (30) days prior to the effective date for each policy and type of coverage except for nonpayment which shall be ten (10) days prior to the cancellation. Renewal certificate covering the renewal of all policies expiring during the life of the Contract shall be filed with the Town not less than ten (10) days before the expiration of such policies. Failure to do so will result in work stoppage and possible contract cancellation.

HOLD HARMLESS AGREEMENT

The undersigned covenants and agrees to and shall at all times indemnify, protect and save harmless the Town of Ridgefield from and against all costs or expenses resulting from any and all losses, damages, detriments, claims, demands, cost and charges including attorneys fees the Town of Ridgefield may directly or indirectly suffer, sustain or be subjected to by reason or on account of the work to be performed pursuant to this Contract or any activities in connection with said Contract whether such losses and damages be suffered or sustained by the Town of Ridgefield directly or by its employees, licensees or invitees or be suffered or sustained by other persons or corporations who may seek to hold the Town of Ridgefield liable therefore.

The Contractor shall comply with the Provisions of the Immigration Reform and Control Act of 1986 effective and enforceable as of June 6, 1987 which Act makes unlawful the hiring for employment or subcontracting individuals failing to provide documentation of legal eligibility to work in the United States. The Contractor shall hold the Town of Ridgefield harmless for the failure of the Contractor to comply with the provisions of said Act.

IN WITNESS WHEREOF, the parties hereto have set their hand and seal this on the _____ day of _____

Signed, Sealed and Delivered in the
Presence of:

Signed:

Notary Public

GENERAL DRAWING ABBREVIATIONS & SYMBOLS			
W/	WITH	W/O	WITHOUT
TYP	TYPICAL	NIC	NOT IN CONTRACT
AD	ACCESS DOOR	DN	DOWN
AFF	ABOVE FINISH FLOOR	VIF	VERIFY IN FIELD
DWG	DRAWING	C/L	CENTER LINE
N	NEW	UON	UNLESS OTHERWISE NOTED
D	DEMOLISH	SQFT	SQUARE FOOT
E	EXISTING EQUIPMENT TO REMAIN	RE	RELOCATED POSITION OF EXISTING EQUIPMENT
ER	EXISTING EQUIPMENT TO BE REMOVED	ERR	EXISTING EQUIPMENT TO BE REMOVED & RELOCATED
KW	KILOWATT	VSD	VARIABLE SPEED DRIVE
HP	HORSEPOWER	VFD	VARIABLE FREQUENCY DRIVE
BHP	BRAKE HORSEPOWER	TEFC	TOTALLY ENCLOSED FAN-COOLED
ODP	OPEN DRIP PROOF		
—	NEW WORK		DRAWING NOTE
—	EXISTING TO REMAIN		REVISION SYMBOL
+++++	TO BE DEMOLISHED		CONTINUATION SYMBOL
	POINT OF CONNECTION TO EXISTING		SECTION DRAWING SYMBOL
	POINT OF DISCONNECTION	OR S.F.	SQUARE FOOT

HVAC DUCTWORK ABBREVIATIONS & SYMBOLS			
OA	OUTSIDE AIR	FD	FIRE DAMPER
SA	SUPPLY AIR	FSD	FIRE/SMOKE DAMPER
RA	RETURN AIR	BDD	BACKDRAFT DAMPER
EA	EXHAUST AIR	VD	VOLUME DAMPER
TA	TRANSFER AIR	MD	MOTORIZED DAMPER
(100)	AIR FLOW - CFM	CFM	CUBIC FEET PER MINUTE
Ø	ROUND DIAMETER	AD	ACCESS DOOR
CD	CEILING DIFFUSER	WMS	WIRE MESH SCREEN
RG	RETURN GRILLE	FC	FLEXIBLE CONNECTION
LD	LINEAR DIFFUSER	AL	ACOUSTICAL LINING
TS	TEMPERATURE SENSOR	OBD	OPPOSED BLADE DAMPER
FA	NET FREE AREA	OAI	OUTSIDE AIR INTAKE

SINGLE LINE SYMBOL	DOUBLE LINE SYMBOL		
		NEW DUCT - FIRST DIMENSION IS TOP SIZE (CLEAR INSIDE DIMENSION, INCHES)	
		INTERNALLY LINED DUCT (ALSO REFER TO SPECIFICATIONS)	
		FLEXIBLE DUCT (8 INCH DIAMETER)	
		DUCT UP (RETURN SHOWN)	
		DUCT DOWN (RETURN SHOWN)	
		MITERED ELBOW (W/ TURNING VANES)	
		RADIUS ELBOW	
		BRANCH TAKE-OFF (45 DEGREES)	
		RADIUS TAKE-OFF	
SUPPLY/INTAKE SYMBOLS		RETURN/EXHAUST SYMBOLS	
	DUCT		DUCT
	AIRFLOW DIRECTION		AIRFLOW DIRECTION
	CEILING DIFFUSER		CEILING GRILLE
	LINEAR DIFFUSER		LINEAR RETURN
OTHER SYMBOLS			
	DIFFUSER THROW (NO AIRFLOW IN SHADED DIRECTION)		FD= FIRE DAMPER FSD= FIRE/SMOKE DAMPER SMD= SMOKE
	LINEAR DIFFUSER		CONTROL DAMPER
	SPLITTER DAMPER		DUCT SMOKE DETECTOR
	BACKDRAFT DAMPER		THERMOSTAT/SENSOR
	VAV BOX		CARBON DIOXIDE SENSOR
	ACCESS DOOR		PRESSURE SENSOR
	DUCT COIL		HUMIDISTAT/SENSOR
	FLEXIBLE CONNECTION		DUCT RISE/DROP (R/D) IN DIRECTION OF ARROW. # INDICATES INCHES RISE/DROP
	RECTANGULAR TO ROUND TRANSITION		

HVAC PIPING ABBREVIATIONS AND SYMBOLS			
LPS(S/R)	LOW PRESSURE STEAM (SUPPLY/RETURN)	HWS(R)	HOT WATER SUPPLY (RETURN)
CWS(R)	CONDENSER WATER SUPPLY (RETURN)	CHWS(R)	CHILLED WATER SUPPLY (RETURN)
DR	DRAIN	PD	PUMP DISCHARGE
BFP	BACKFLOW PREVENTER	PS	PRESSURE SWITCH
GPM	GALLONS PER MINUTE	FS	FLOW SWITCH
	BALL VALVE		ELECTRIC ACTUATOR
	GATE VALVE		SOLENOID ACTUATOR
	GLOBE VALVE		PNEUMATIC ACTUATOR
	BUTTERFLY VALVE		PLUG VALVE
	BALANCING VALVE		ECCENTRIC REDUCER
	FLOW LIMITING VALVE		CONCENTRIC REDUCER
	PRESSURE REDUCING VALVE		STRAINER W/ BLOWDOWN VALVE
	SAFETY RELIEF VALVE		PUMP
	CHECK VALVE		THERMOMETER
	3-WAY VALVE		PRESSURE GAUGE
	THERMOWELL		MANUAL AIR VENT (AUTO)
	EXPANSION JOINT		FLEXIBLE CONNECTION
	UNION		BOTTOM CONNECTION
	PIPE GUIDE		TOP CONNECTION
	ELBOW DOWN		
	ELBOW UP		
	CONTROL VALVE & TRIM		

MECHANICAL DRAWING LIST		
M-100	-	MECHANICAL SPECIFICATIONS
M-200	-	MECHANICAL DEMOLITION ROOF PLAN
M-300	-	MECHANICAL CONSTRUCTION ROOF PLAN
M-301	-	MECHANICAL FIRST FLOOR PLAN
M-400	-	MECHANICAL SCHEDULES, DETAILS AND CONTROLS

MECHANICAL SPECIFICATIONS:

1.0 GENERAL

- REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS AND WORK RELATED TO OTHER TRADES. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS AND PROVIDE WRITTEN REQUEST FOR INFORMATION.

1.1 SCOPE OF WORK

A. THE WORK UNDER THIS SECTION OF THE SPECIFICATIONS INCLUDES ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES FOR AIR HANDLING SYSTEMS REPLACEMENT AND CONTROLS UPGRADE AND OTHER WORK AS SHOWN ON THE CONTRACT DRAWINGS. WORK SHALL BE IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE CONTRACT DRAWINGS AND BE SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT. THE WORK IN GENERAL CONSISTS OF, BUT IS NOT LIMITED TO, THE FOLLOWING:

- DEMOLITION OF ONE (1) ROOF MOUNTED AIR HANDLING UNIT.
- INSTALLATION OF ONE (1) NEW ROOF MOUNTED AIR HANDLING UNIT.
- RIGGING.
- GAS PIPING.
- ROOFING AS REQUIRED.
- DUCTWORK, PIPING, INSULATION AND ASSOCIATED WORK.
- COORDINATION WITH OWNERS DDC CONTROLS CONTRACTOR FOR INSTALLATION & START-UP.
- INSTALLATION OF DUCT SMOKE DETECTORS AND ASSOCIATED FIRE ALARM WORK.
- AIR BALANCING.
- RECORD AS-BUILT DRAWINGS AND OPERATING AND MAINTENANCE MANUALS FOR EQUIPMENT PROVIDED BY THIS CONTRACTOR.
- ELECTRICAL: SUBCONTRACT WITH ELECTRICAL CONTRACTOR TO PROVIDE ALL REQUIRED ELECTRICAL SERVICES, INCLUDING DISCONNECTION OF EXISTING AND RECONNECTION OF NEW UNIT, UPGRADING BREAKER/FEEDER SIZES, AND DISCONNECTION & RECONNECTION OF LIGHTNING PROTECTION SIZES AS REQUIRED.
- THE CONTROLS FOR THE ROOF TOP UNIT ARE TO BE SELF CONTAINED. THE BUILDINGS CONTROL VENDOR (ECS) WILL INTERFACE WITH THE UNIT VIA BACNET TO PROVIDE REMOTE MONITORING AND CONTROL. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN HIS BID, COOPERATE WITH BUILDING CONTROL VENDOR, UNIT MANUFACTURER SHALL FURNISH BACNET COMPATIBLE SYSTEMS AND PROVIDE ASSISTANCE WITH THE MAPPING AND ACCESS TO INPUT AND OUTPUT POINTS.

B. THE CONTRACTOR (MECHANICAL) SHALL ACT AS THE PRIME CONTRACTOR FOR THIS PROJECT AND CONTACT AND COORDINATE WORK WITH OTHER TRADES INCLUDING G.C. ROOFING, RIGGING, PLUMBER, ELECTRICAL, FIRE ALARM AND CONTROLS. FOR THIS PROJECT.

C. THIS CONTRACTOR SHALL ENGAGE GENERAL CONTRACTORS TO PROVIDE PROTECTION OF EXISTING ROOFTOP AND ALL WORK AREAS.

D. THIS CONTRACTOR SHALL HIRE AND ENGAGE RIGGING CONTRACTOR TO REMOVE EXISTING RTU AND INSTALL NEW INCLUDING:
1. OBTAIN ALL PERMITS AND CITY APPROVALS FOR CRANE AND RIGGING WORK, INCLUDE ALL TRAFFIC CONTROL MEASURES, WORK ONLY AT TIME APPROVED BY LOCAL AUTHORITIES.
2. SUBMIT RIGGING PLAN TO TOWN FOR APPROVAL.
3. COORDINATE RIG WITH TOWN, STORE UNIT UNTIL APPROVAL RIGGING DATE.

1.2 BIDDING

- A. CONTRACTOR SHALL VISIT THE JOB AND FULLY FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS PRIOR TO SUBMISSION OF BIDS.
- B. CONTRACTOR SHALL COORDINATE THE REQUIREMENTS OF ANY AND ALL DRAWINGS INCLUDING MECHANICAL, ELECTRICAL AND CONTROLS. ANY CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER DURING THE BIDDING PERIOD.
- C. CONTRACTOR IS TO OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS PRIOR TO BID SUBMISSION TO DETERMINE THE REQUIREMENTS AND THE EXTENT OF PREMIUM TIME WORK REQUIRED BY THE BUILDING.

1.3 GENERAL REQUIREMENTS

- A. ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES AND ALL BUILDING OWNER RULES AND REGULATIONS INCLUDING USE OF BUILDINGS ROOFING CONTRACTOR AND BMS CONTRACTOR.
- B. CONTRACTOR SHALL PAY ALL FEES AND TAXES, OBTAIN ALL PERMITS AND APPROVALS, FILE THE REQUIRED DOCUMENTS. SCHEDULE AND PAY ALL FEES FOR ALL BUILDING AND FIRE DEPARTMENT INSPECTIONS.
- C. THE CONTRACTOR SHALL WARRANTY ALL WORK FOR A PERIOD OF 12 MONTHS FROM ACCEPTANCE BY OWNER. DURING THIS WARRANTY PERIOD, CONTRACTOR SHALL RESPOND TO ALL CALLS FOR SERVICE, REPAIRS AND ADJUSTMENTS REQUIRED BY OWNER. CONTRACTOR SHALL INSTALL REPLACEMENT PARTS AND MATERIAL REQUIRED AT NO COST TO THE OWNER. ALL EQUIPMENT WARRANTIES SHALL BE TRANSFERRED TO OWNER AND SERVICED BY CONTRACTOR AS PART OF THIS CONTRACT.

- D. CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS INCLUDING, ELECTRICAL, PLUMBING, FIRE PROTECTION, CONTROLS AND GENERAL CONTRACTOR. CONTRACTOR SHALL PARTICIPATE IN DEVELOPMENT OF COORDINATED SHOP DRAWINGS.
- E. CONTRACTOR SHALL PROVIDE PROTECTION TO ALL ROOF SURFACES THROUGHOUT THE CONSTRUCTION PROCESS. THIS CONTRACTOR SHALL REPAIR AND REPLACE ANY SECTIONS OF ROOFING DAMAGED BY THE INSTALLATION OF NEW WORK. ALL REPAIRS TO BE PERFORMED BY ROOFERS BONDED TO WORK ON EXISTING ROOF, AS APPROVED BY OWNER.

- F. CONTRACTOR SHALL INFORM PROJECT MANAGER IMMEDIATELY UPON DISCOVERY OF ANY ASBESTOS OR OTHER HAZARDOUS MATERIAL THAT WILL BE DISTURBED DUE TO THIS WORK.

G. DEMOLITION AND OTHER WORK WHICH MAY CREATE A DISTURBANCE MUST BE COORDINATED WITH THE OWNER. THE DELIVERY, HANDLING AND INSTALLATION OF MATERIALS, EQUIPMENT AND REMOVAL OF DEBRIS MUST BE ARRANGED TO AVOID ANY INCONVENIENCE AND ANNOYANCE TO OWNER. THE CONTRACTOR SHALL DISPOSE OF ALL DEMOLITION AND UNUSED MATERIALS.

H. THOROUGHLY BRUSH AND CLEAN UP WORK AT THE END OF EACH DAY. REMOVE ALL DEBRIS FROM INSIDE AND OUTSIDE OF ALL DUCTWORK, PIPING AND EQUIPMENT. PAINTED EXPOSED WORK, SOILED OR DAMAGED, SHALL BE CLEANED OR REPAINTED TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE.

- I. SUBSTITUTIONS FOR THE SPECIFIED EQUIPMENT SHALL NOT BE PERMITTED WITHOUT APPROVAL FROM THE ENGINEER. THE ASSOCIATED CHANGE IN THE CONTRACT PRICE SHALL BE INCLUDED WITH ANY PROPOSED SUBSTITUTIONS AT THE TIME OF BID.

- J. SEISMIC MOUNTING AND BRACING OF ALL EQUIPMENT, PIPING ETC. SHALL BE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS. THE SEISMIC REQUIREMENTS SHALL BE BASED ON A USE TYPE [3]

- K. THE CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER'S SERVICE REPRESENTATIVE TO ENSURE PROPER INSTALLATION, PIPING AND SERVICE CLEARANCE REQUIREMENTS ARE MET.

L. LAYOUT SYSTEMS TO MAINTAIN ACCESS AND SERVICE CLEARANCES FOR INSTALLED EQUIPMENT, VALVES, CONTROLS, VOLUME DAMPERS, FIRE/SMOKE DAMPERS AND ALL COMPONENTS REQUIRING ACCESS. SERVICE ACCESS SHALL BE AS RECOMMENDED BY MANUFACTURER OR AS REQUIRED BY CODE WHICHEVER IS GREATER.

M. IF BUILDING REMAINS OPEN DURING CONSTRUCTION (TBD), MAINTAIN OPERATION OF BUILDING SYSTEMS DURING CONSTRUCTION. ANY REQUIRED SHUTDOWNS OF BUILDING SYSTEMS MUST BE COORDINATED WITH THE OWNER.

N. UNLESS OTHERWISE SPECIFIED, THE MOST RECENT VERSIONS OF THE FOLLOWING CODES AND STANDARDS APPLY AND ARE MADE A PART OF THIS SPECIFICATION

- CT STATE BUILDING CODE.
- INTERNATIONAL MECHANICAL CODE (IMC).
- INTERNATIONAL ENERGY CONSERVATION CODE (IECC).
- UNDERWRITER'S LABORATORIES, INC. (UL).
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
- AMERICAN NATIONAL STANDARD INSTITUTE (ANSI).
- OSHA - FEDERAL STANDARDS
- AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS, INC. (ASHRAE).
- AIR CONDITIONING & REFRIGERATION INSTITUTE (ARI).
- AMERICAN WELDING SOCIETY (AWS).
- AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM).
- SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA)

1.4 COORDINATION WITH BUILDING MANAGEMENT

A. THIS CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE BUILDING OWNER'S RULES AND REGULATIONS. ANY DISCREPANCIES BETWEEN THE CONTRACTOR DOCUMENTS AND THE BUILDING RULES AND REGULATIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER FOR REVIEW, WITH BID SUBMISSION.

B. COORDINATE WITH BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS OR A MINIMUM OF TWO (2) DAYS PRIOR TO ANY WORK, WHICHEVER IS MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME, IF SO DIRECTED BY BUILDING OWNER, SO AS NOT TO INTERRUPT BUILDING SERVICES DURING OCCUPIED PERIODS.

1.5 SUBMITTALS

A. SHOP DRAWINGS OF THE FOLLOWING SHALL BE SUBMITTED FOR REVIEW PRIOR TO PURCHASE AND INSTALLATION.

- MANUFACTURER'S SUBMITTAL DATA FOR ALL EQUIPMENT SUPPLIED. SUBMITTALS SHALL CLEARLY INDICATE SPECIFIC ITEMS PROPOSED AND WHERE EACH ITEM IS TO BE APPLIED.
- EQUIPMENT SOUND POWER DATA BROKEN INTO OCTAVE BANDS.
- DIMENSIONED AND DETAILED PIPING, EQUIPMENT AND DUCTWORK LAYOUT AT 3/8" = 1'-0" SCALE, MINIMUM. THIS MUST BE COORDINATE WITH OTHER TRADES.
- SHOP STANDARDS AND INSTALLATION DETAILS FOR DUCTWORK, PIPING, INSULATION, STRUCTURAL SUPPORTS, VIBRATION ISOLATION, AND SEISMIC SUPPORT.
- PIPE CLEANING AND FLUSHING PROCEDURE.
- AIR BALANCING REPORTS.
- OTHER SUBMITTAL DATA NOTED ELSEWHERE.

B. SUBMITTAL QUANTITIES AND METHODS SHALL BE AS OUTLINED IN THE GENERAL PROVISIONS OF THE CONTRACT DOCUMENTS AS APPLICABLE. OTHERWISE A MINIMUM OF TWO HARD COPIES AND ONE "PDF" COPY SHALL BE SUBMITTED.

C. SUBMIT DETAILED PROJECT SCHEDULE, WITHIN TWO (2) WEEKS OF CONTRACT AWARD.

1.6 RECORD DRAWINGS

A. MAINTENANCE MANUALS, AS-BUILT DRAWINGS SHOWING ALL DUCTWORK, PIPING AND EQUIPMENT AND TEST AND BALANCING REPORTS SHALL BE SUBMITTED TO THE OWNER AT THE COMPLETION OF THE WORK. THE AS-BUILT DRAWINGS SHALL ALSO SHOW EXISTING WORK WITHIN THE WORK AREA INCLUDING DUCTS AND PIPING THAT WAS CAPPED, REROUTED AND REMAINING IN WORK AREA.

B. RECORD DOCUMENTS TO BE ISSUED IN "PDF" AND TWO PRINTED COPIES.

1.7 GUARANTEE

A. ALL MATERIALS AND WORKSMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE MECHANICAL WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER, AND IS UNDER CARE, CUSTODY, AND CONTROL OF THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP AND OPERATION OF ALL SYSTEMS INSTALLED. INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND SERVICING OF THE SYSTEM.

B. THE CONTRACTOR SHALL GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL INCLUDE RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS, IN EQUIPMENT SUPPLIED BY THIS CONTRACTOR.

C. ALL EQUIPMENT WARRANTIES SHALL BE TRANSFERRED TO OWNER AND SERVICED BY CONTRACTOR AS PART OF THIS CONTRACT.

D. ALL AIR CONDITIONING UNIT COMPRESSORS AND REFRIGERATION COMPONENTS SHALL HAVE A 5-YEAR WARRANTY.

2.0 DUCTWORK MATERIALS AND INSTALLATIONS

2.1 DUCTWORK

A. ALL DUCTWORK SHALL BE LOCK FORMING QUALITY G-90 GALVANIZED STEEL SHEETS UNLESS OTHERWISE NOTED ON DRAWINGS. ALL DUCTWORK SHALL CONFORM TO THE CONSTRUCTION DETAILS AND RECOMMENDATIONS IN THE LATEST ISSUES OF THE ASHRAE GUIDE, NFPA BULLETINS 90A, 8 & C AND THE SMACNA DUCT MANUAL. INSTALLATION OF DUCTWORK SHALL BE AS RECOMMENDED BY THE ABOVE. NOTE THAT SOME DUCTWORK IS LARGE, AND DUCT MUST BE CONSTRUCTED TO PREVENT "TIN CANNING". ALL DUCT SEAMS SHALL BE SEALED WITH DUCT SEALANT. DUCT LEAKAGE SHALL NOT EXCEED VALUES SET BY THE SMACNA STANDARDS, AND RECOMMENDATIONS BY ASHRAE, AND IN NO CASE SHALL BE MORE THAN 5 PERCENT.

B. PRESSURE CLASSIFICATIONS SHALL BE MINIMUM OF 2" W.G. EXCEPT AS INDICATED BELOW AND AS INDICATED ON DRAWINGS. ALL SYSTEM COMPONENTS SHALL BE SELECTED AND INSTALLED TO ACHIEVE THE PRESSURE RATINGS.

SERVICE	PRESSURE RATING
ALL DUCTWORK	2" IN. W.G

C. ALL 90 DEGREE MITER ELBOWS SHALL HAVE DOUBLE THICKNESS AIR FOIL TYPE TURNING VANES AS DETAILED IN THE SMACNA STANDARDS. ALL OTHER ELBOWS SHALL HAVE A MINIMUM TURNING RADIUS OF ONE DUCT WIDTH AS MEASURED FROM THE CENTER LINE. ALL DUCT SUPPORTS SHALL CONFORM TO SMACNA STANDARDS.

D. DUCT DIMENSIONS SHOWN ON DRAWINGS SHALL BE CLEAR INSIDE DIMENSIONS.

2.2 DUCT AND AIR SYSTEMS INSULATION

A. DUCTWORK INSULATION SHALL CONFORM TO MAXIMUM FLAME SPREAD/SMOKE DEVELOPMENT/FUEL CONTRIBUTION RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED AND 50 FUEL CONTRIBUTED IN ACCORDANCE WITH ASTM E84, WITH "K" VALUE OF 0.29 AT 75 DEGREES F. INSULATION SHALL PROVIDE CONTINUOUS, VAPOR BARRIER AND JOINTS SHALL BE SECURED WITH PRESSURE SENSITIVE TAPE. MOISTURE VAPOR TRANSMISSION PER ASTM E96, 1.3 PERM. MINIMUM DUCTWORK INSULATION R VALUES SHALL BE AS FOLLOWS:

B. DUCT AND PLENUM INSULATION SCHEDULE.

SERVICE	THICKNESS	
	WITHIN COND. AREA	OUTDOORS AND UNCOND. AREA
CONDITIONED SUPPLY	1-1/2"	2" (R-12)
CONDITIONED RETURN	1-1/2"	2" (R-12)

C. DUCTS AND PLENUMS IN EXPOSED LOCATIONS: 3.0 LBS/CF DENSITY, RIGID GLASS FIBER BOARD INSTALLED ON EXTERIOR OF DUCTS AND PLENUMS: OUTSIDE AIR DUCTS AND PLENUMS, MIXED AIR PLENUMS, AND SUPPLY DUCTS WITHIN MECHANICAL ROOMS AND OTHER EXPOSED LOCATIONS.

D. DUCTS AND PLENUMS IN CONCEALED (ACCESSIBLE) LOCATIONS: 1.5 LBS/CF DENSITY, FLEXIBLE GLASS FIBER WRAP.

E. SCHEDULE - ACOUSTICAL LINING

SERVICE	THICKNESS	DISTANCE- FEET
UPSTREAM AND DOWNSTREAM OF FANS AND AHUS	1"	15

F. PROVIDE 1", CLOSED CELL ELASTOMERIC, MICROBIAL RESISTANT DUCT LINER, K-FLEX DUCT LINER OR EQUIVALENT, FOR A MINIMUM OF 15 FEET UPSTREAM (RETURN) OF RETURN FANS AND AIR HANDLING UNITS AND OTHER LOCATIONS WHERE INDICATED ON THE DRAWINGS. COAT LINER WITH MANUFACTURERS RECOMMENDED COATING. LINED DUCTWORK MUST MEET AN R-12 INSULATION VALUE AND MAY REQUIRE EXTERNAL DUCT INSULATION.

G. INSULATION SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SMACNA GUIDELINES.

H. EXTERIOR DUCT INSULATION: PROVIDE JOHNS MANSVILLE JM XSPECT AND 3M VENTURELAD DUCT JACKETING. INSTALL INSULATION AND JACKETING IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.

I. EXTERIOR DUCTS AND INSULATION MUST BE PROTECTED AGAINST DAMAGE AND WEATHER WITH A COVERING IN COMPLIANCE WITH IMC (603.15, 603.16, 604.12) AND SMACNA STANDARDS. PROVIDE POLYGUARD PRODUCTS, INC. ALUMAGUARD ALL WEATHER, OR APPROVE EQUAL, WEATHERPROOF JACKETING FOR ALL EXPOSED DUCTWORK ON THE ROOF.

2.3 AIR SYSTEM - VIBRATION ISOLATION

A. PROVIDE VIBRATION ISOLATION FOR ALL FANS WHERE NOT INTERNALLY ISOLATED.

B. WHERE FANS ARE NOT PROVIDED WITH INTERNALLY ISOLATED FANS -PROVIDE NEOPRENE FLEXIBLE CONNECTIONS IN DUCTWORK AT FAN CONNECTIONS TO DUCTWORK.

3.0 PIPING MATERIALS AND INSTALLATION

3.1 GENERAL

A. PRESSURE RATINGS FOR PRESSURIZED PIPING SHALL BE AS INDICATED BELOW AND AS NOTED ON THE DRAWINGS. ALL SYSTEM MATERIALS AND COMPONENTS SHALL BE SELECTED AND INSTALLED TO ACHIEVE THE PRESSURE RATINGS AS FOLLOWS:

SERVICE	PRESSURE RATING
ALL PIPING	125 PSI

3.1 PIPE AND FITTINGS

A. PROVIDE PIPING AS INDICATED ON SCHEDULE BELOW AND INDICATED ON DRAWINGS.

SERVICE	PIPING	JOINTS
AC CONDENSATE	PVC	
GAS PIPING	STEEL	SEE BELOW

B. STEEL PIPING: ASTM 53 SCHEDULE 40 SEAMLESS STEEL. ASTM SCHEDULE 80 SEAMLESS STEEL. FITTINGS SHALL BE ANSI/ASTM B16.3 THREADED [B16.5 WELDED] MALLEABLE IRON CLASS [150], OR ASTM B234, FORGED STEEL CLASS [150]. ALL JOINTS FOR PIPING 2" AND LESS TO BE SCREWED AND PIPING 2-1/2" AND LARGER SHALL BE WELDED OR FLANGED. REDUCER FITTINGS SHALL BE ECCENTRIC TYPE. ALL TURNS AND BRANCHES IN PIPING SHALL BE MADE USING FITTINGS EXCEPT WELDOLETS MAY BE USED WHEN THE SIZE OF THE BRANCH PIPING IS 1/2 THE SIZE OR LESS OF THE MAIN BRANCH.

C. JOINTS: SCREWED FOR PIPE 2 INCH AND UNDER; ANSI/AWS D1.1 WELDED FOR PIPE OVER 2 INCH.

D. FLANGES, UNIONS, AND COUPLINGS: PIPE SIZE 2 INCHES AND UNDER: SERVICE 150 PSI WORKING PRESSURE MALLEABLE IRON UNIONS FOR THREADED FERROUS PIPING. PIPE SIZE OVER 2 INCHES: SERVICE 150 PSI WORKING PRESSURE FORGED STEEL SLIP-ON FLANGES FOR FERROUS PIPING.

E. CONDENSATE DRAIN PIPING SHALL BE PVC.

F. PROVIDE DIELECTRIC FITTINGS AT THE JOINING OF ALL DISSIMILAR METALS.

G. PROVIDE SUFFICIENT HANGERS, SUPPORTS, ANCHORS AND MOUNTING DEVICES TO SUPPORT ALL PIPING INSTALLED UNDER THIS CONTRACT WITHOUT SAGGING OR INTERFERENCE. PROPERLY PITCHED AND SO LOCATED AND ARRANGED AS TO PERMIT FREE EXPANSION AND CONTRACTION.

3.2 VALVES AND PIPING SPECIALTIES

A. ALL VALVES SHALL BE OF A DESIGN WHICH THE MANUFACTURER LISTS FOR THE SERVICE AND SHALL BE OF MATERIALS ALLOWED BY THE LATEST EDITION OF THE ASME CODE FOR PRESSURE PIPING, FOR THE MAXIMUM OPERATING PRESSURE AND TEMPERATURE, UNLESS A HIGHER GRADE OR QUALITY IS HEREIN SPECIFIED. ALL VALVES SHALL BE OF THE SAME MANUFACTURER, EXCEPT FOR SPECIAL APPLICATIONS.

B. EACH VALVE SHALL HAVE THE MAKER'S NAME OR BRAND, THE FIGURE OR LIST NUMBER AND THE GUARANTEED WORKING PRESSURE CAST ON THE BODY AND CAST OR STAMPED ON THE BONNET, OR SHALL BE PROVIDED WITH OTHER MEANS OF EASY IDENTIFICATION.

C. BALL VALVES UP TO 2-1/2 INCHES: BRONZE TWO PIECE BODY, STAINLESS STEEL FULL PORT BALL, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE SOLDER ENDS.

D. ALL VALVES 2 INCHES IN DIAMETER AND SMALLER SHALL BE ALL BRONZE WITH BRONZE BODIES. VALVES 2-1/2 INCHES IN DIAMETER AND LARGER SHALL HAVE IRON BODIES WITH BRONZE MOUNTINGS UNLESS OTHERWISE SPECIFIED.

E. ALL VALVES AND SPECIALTIES SHALL BE SO PLACED AS TO PERMIT EASY OPERATION AND ACCESS.

F. ALL VALVES UP TO 2 INCHES IN DIAMETER SHALL HAVE SWEAT OR SCREW ENDS, 2-1/2" IN DIAMETER AND OVER SHALL HAVE FLANGED ENDS.

3.3 PIPING SYSTEMS INSTALLATION

A. DIELECTRIC FITTINGS MUST BE USED AT JOINTS CONNECTING DISSIMILAR METAL PIPE OR VALVE MATERIALS.

B. ROUTE PIPING IN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN SPECIFIED GRADIENTS.

C. ALL VALVES AND SPECIALTIES SHALL BE SO PLACED AS TO PERMIT EASY OPERATION AND ACCESS.

D. PROVIDE VALVES IN ALL APPARATUS; SO LOCATED, ARRANGED AND OPERATED AS TO GIVE COMPLETE SHUTOFF.

E. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES OR UNIONS.

F. PROVIDE CLEARANCE FOR ACCESS TO VALVES AND FITTINGS.

G. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.

3.4 PIPING SYSTEMS HANGERS, ANCHORS AND SUPPORTS

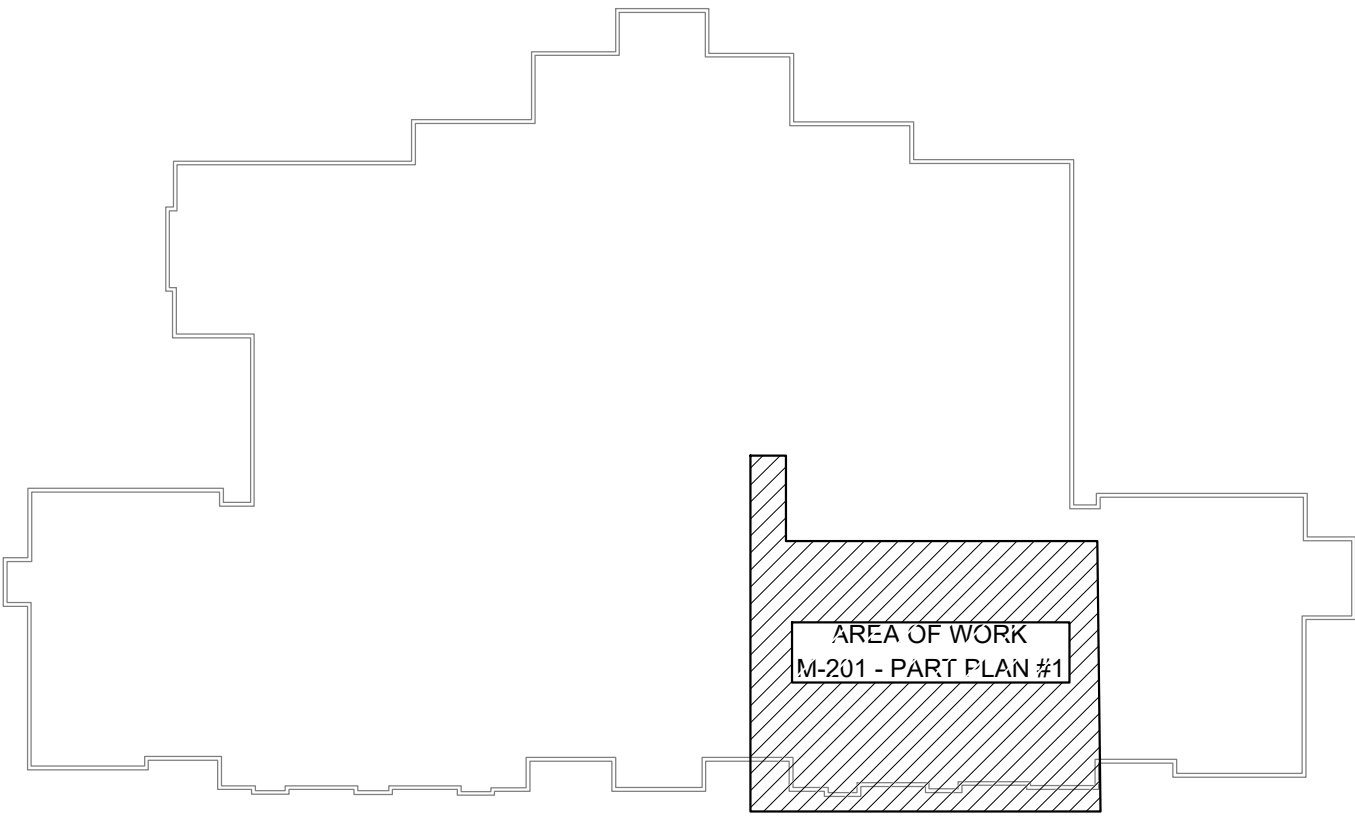
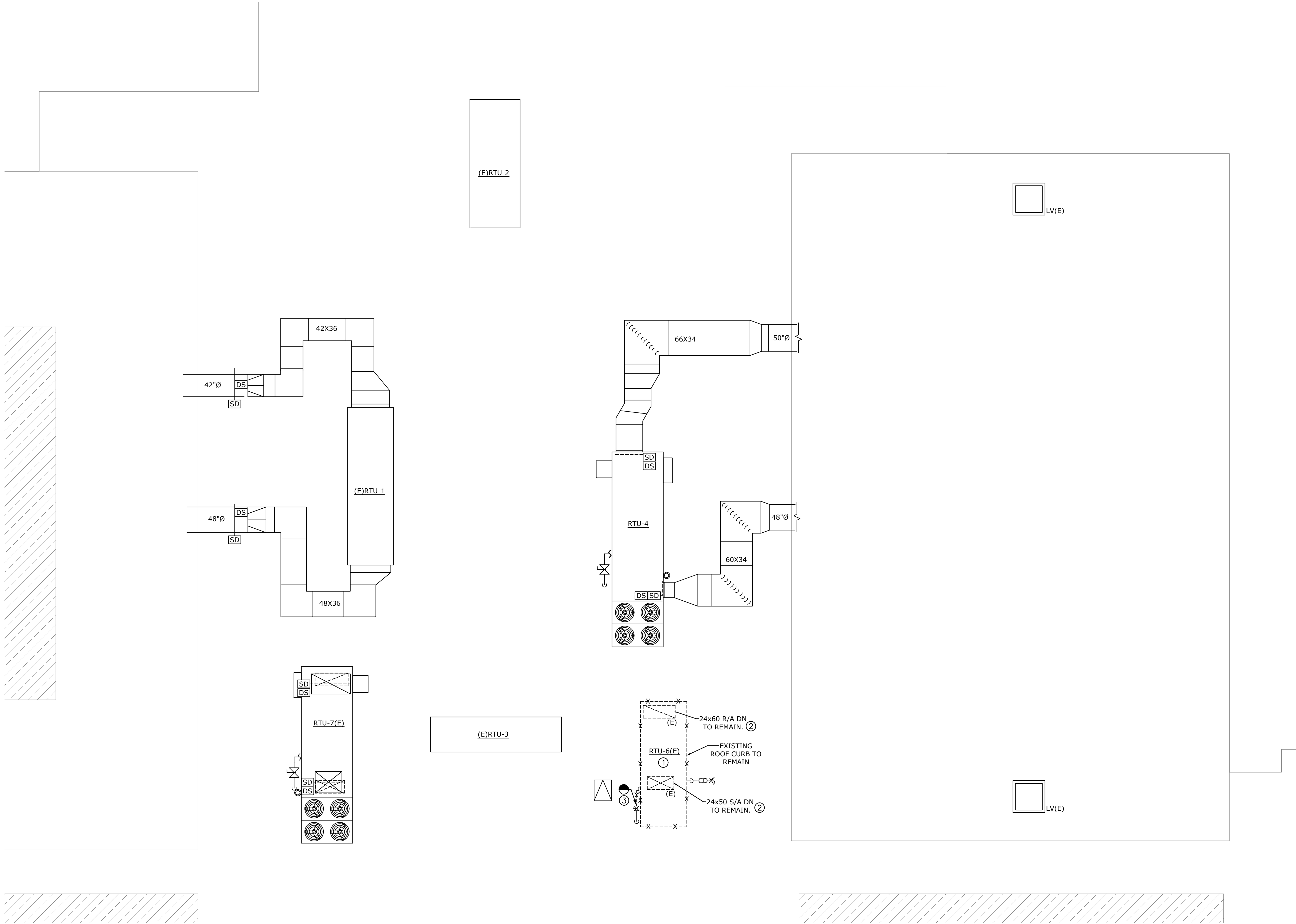
A. ATTACHMENTS FOR PIPING 2" AND SMALLER WITH LOADS ONLY UP TO 250 LBS. IS TO BE ACCOMPLISHED BY DRILLED-IN EXPANSION SHIELD TYPE ANCHORS.

B. BUILDING FIRE PROOFING SHALL BE RESTORED WHERE DISTURBED

C. WHERE PIPING IS RUN NEAR THE FLOOR AND NOT HUNG FROM THE CEILING CONSTRUCTION, BUT IS SUPPORTED FROM THE FLOOR OR IN A TRENCH, SUCH SUPPORTS SHALL BE OF PIPE STANDARDS WITH BASE FLANGE AND ADJUSTABLE TOP YOKE.

4.0 IDENTIFICATION

A. PROVIDE IDENTIFICATION OF PIPING USING SPRAY PAINT AND TEMPLATES OR WITH PLASTIC STRAP ON MARKERS AS MANUFACTURED BY SETON NAME PLATE COMPANY. COLORS AND LETTERING SHALL MATCH EXISTING. PIPING SHALL BE LABELED A MINIMUM OF EVERY 30 FEET AND WHERE PIPING PASSES THROUGH WALLS.



BUILDING KEY PLAN
SCALE: NONE

GENERAL NOTES - DEMOLITION

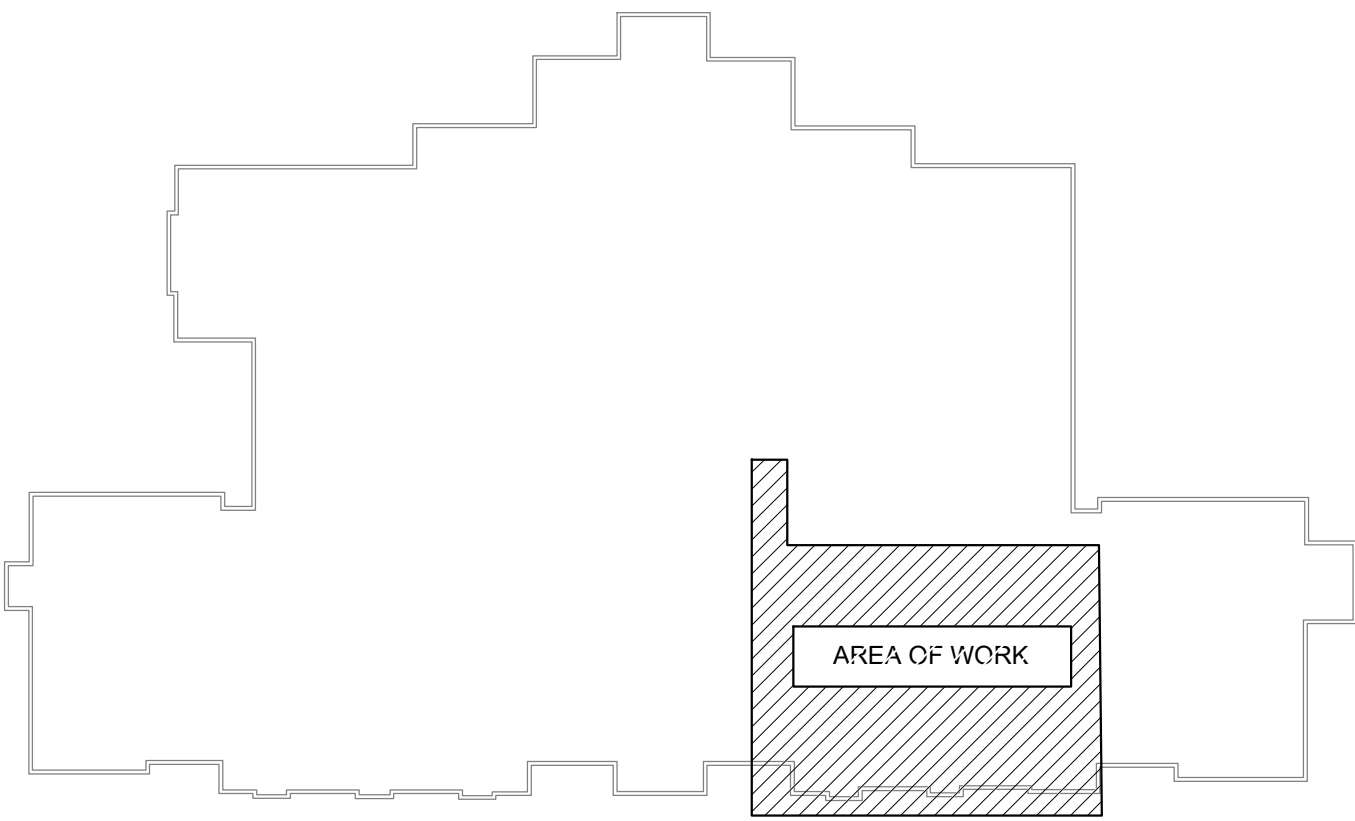
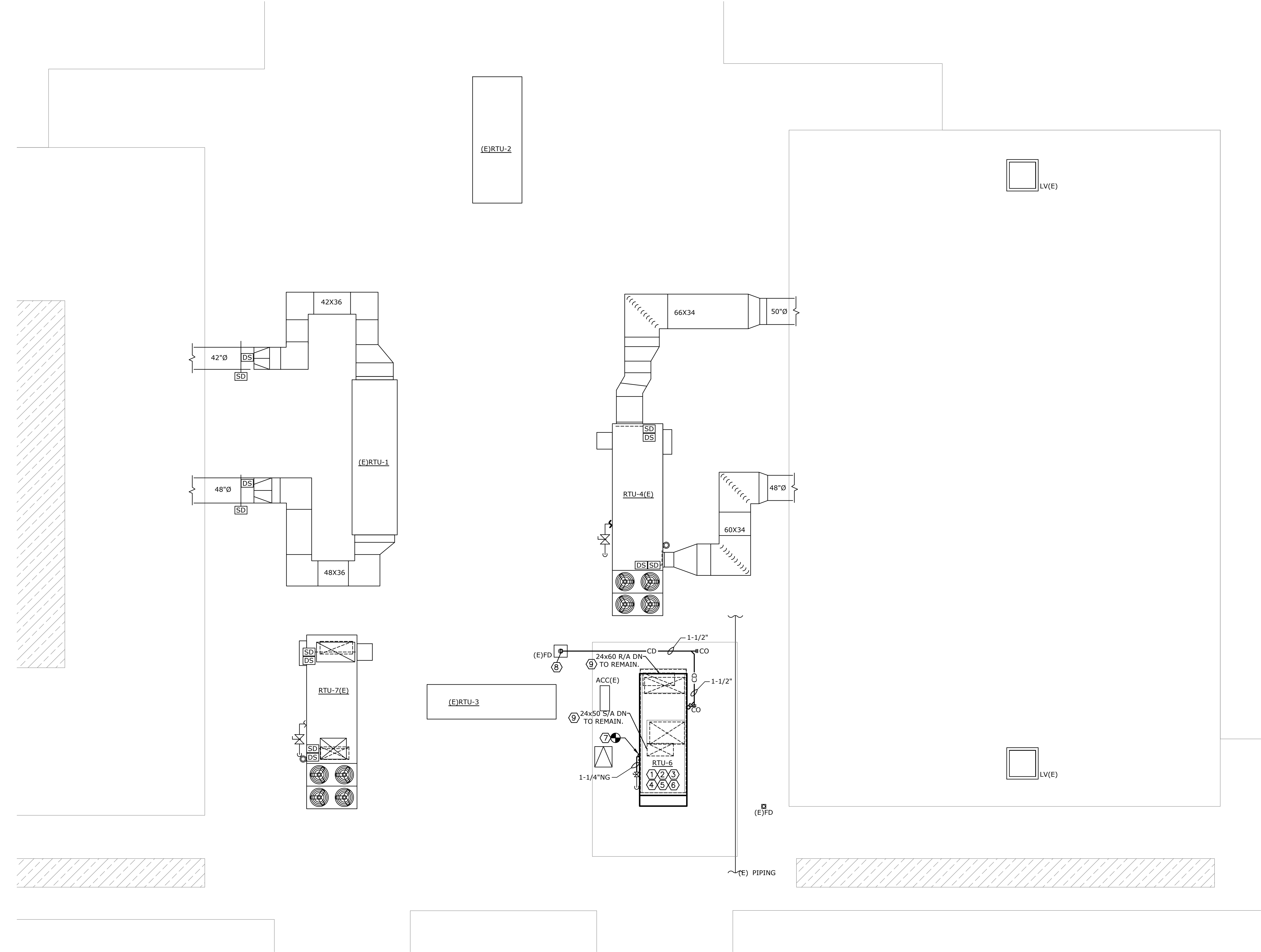
1. REMOVE AND RECLAIM REFRIGERANT FROM EXISTING DX SYSTEMS PRIOR TO DEMOLITION.

MECHANICAL DEMOLITION NOTES

- ① REMOVE EXISTING ROOFTOP UNIT (RTU-6) AND ASSOCIATED CONDENSATE PIPING. COORDINATE WITH ELECTRICAL CONTRACTOR AND CONTROLS VENDOR TO REMOVE ALL ASSOCIATED, CONTROLS AND CIRCUITRY.
- ② EXISTING SUPPLY AND RETURN DUCTWORK AND ASSOCIATED ROOF CURB TO REMAIN. REFER NEW SCOPE OF WORK DWG. M-201.00. COORDINATE WITH BUILDINGS ROOFING CONTRACTOR TO REPAIR, SEAL AND FLASH ROOF THE EXISTING CURB AS REQUIRED.
- ③ DISCONNECT EXISTING GAS PIPE, CUT PIPING BACK TO SHUTOFF VALVE ON ROOF AND CAP FOR FUTURE USE.

1 MECHANICAL DEMOLITION ROOF PLAN
SCALE: 1/8"=1'-0"

09/01/26	00	ISSUED FOR PRICING	BU
DATE	REV	DESCRIPTION	BY
Southport Engineering Associates, PC 11 BAILEY AVENUE RIDGEFIELD, CT 06877 TEL: 203-431-6844 FAX: 203-431-6877			
PROJECT: RIDGEFIELD PARKS & REC ROOF TOP UNIT REPLACEMENTS 195 DANBURY ROAD, RIDGEFIELD, CT 06877			
DRAWING TITLE: MECHANICAL DEMOLITION ROOF PLAN			
SCALE:	AS NOTED	DRAWN BY: NIA	DRAWING NO:
DATE:	08/03/26	CHECKED BY: BU	
PROJECT NO: 0019561.00	APPROVED BY:	BU	M-200



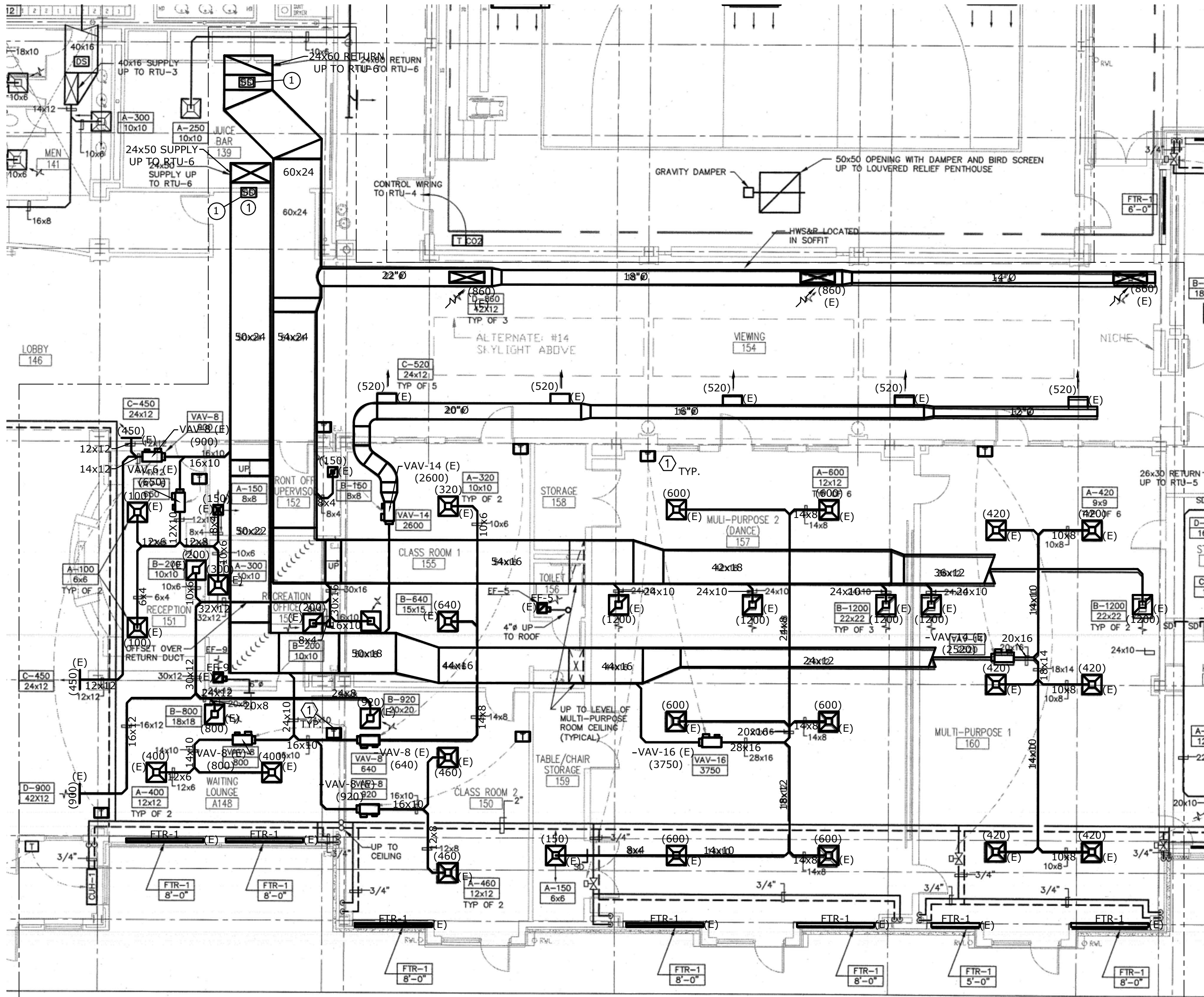
BUILDING KEY PLAN
SCALE: NONE

MECHANICAL CONSTRUCTION NOTES

- BALANCE RTU'S TO THE AIR FLOWS SHOWN ON ITS RESPECTIVE SCHEDULE ON DWG M-400.
- PROVIDE NEW RTU, INCLUDING ALL DUCTWORK, PIPING, APPURTENANCES AND SELF-CONTAINED CONTROLS FOR A COMPLETE SYSTEM.
- PROVIDE NEW INSULATED (R-8 VALUE) ADAPTER CURB.
 - FIELD VERIFY AND EXTEND SUPPLY AND RETURN DUCTWORK TO NEW ADAPTER CURB AS REQUIRED.
 - SECURE AND INSTALL PER MANUFACTURER GUIDELINES.
 - CURB MANUFACTURER TO MEASURE IN FIELD BEFORE FABRICATION.
 - COORDINATE WITH ROOFING CONTRACTOR TO SEAL AND FLASH ROOF AND EXISTING CURB.
 - REMOVE ALL GASKETING FROM EXISTING ROOF CURB AND DUCTWORK AND REPLACE WITH NEW GASKETING SUPPLIED WITH ADAPTER. GASKET THE ENTIRE ROOF CURB PERMITER AND SUPPLY/RETURN PERIMETERS TO ENSURE A GOOD TIGHT FIT WITH NO AIR LEAKAGE.
- COORDINATE WITH ELECTRICAL AND FIRE ALARM CONTRACTORS TO RECONNECT TO EXISTING ELECTRICAL SERVICE AS REQUIRED. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- ROOFTOP UNIT SHALL BE PROVIDED WITH INTEGRAL CARBON DIOXIDE SENSOR IN RETURN. COORDINATE CONNECTION TO BMS WITH BUILDING CONTROLS VENDOR.
- COORDINATE RTU'S SMOKE DETECTORS WITH ELECTRICAL CONTRACTOR AND FIRE ALARM VENDOR.
- PROVIDE NEW NATURAL GAS PIPING TO CONNECT TO EXISTING. PAINT PIPING.
- EXTEND CONDENSATE PIPE TO ROOF DRAIN. PROVIDE PIPE SUPPORTS, CLEANOUT AND 2" AIR GAP. SEE DETAIL DRAWING.
- FOR CONTINUATION REFER TO 1ST FLOOR LEVEL DWG M-301.
- PROVIDE BREAK-OUT PRICE TO RIG ON OVERTIME.

1 MECHANICAL CONSTRUCTION ROOF PLAN
SCALE: 1/8"=1'-0"

09/01/26	00	ISSUED FOR PRICING	BU
DATE	REV	DESCRIPTION	BY
Southport Engineering Associates, PC 11 BAILEY AVENUE RIDGEFIELD, CT 06877 TEL: 203-431-6844 FAX: 203-431-6877			
PROJECT: RIDGEFIELD PARKS & REC ROOF TOP UNIT REPLACEMENTS 195 DANBURY ROAD, RIDGEFIELD, CT 06877			
DRAWING TITLE: MECHANICAL CONSTRUCTION ROOF PLAN			
SCALE: AS NOTED	DRAWN BY: NA	DRAWING NO: M-300	
DATE: 08/03/26	CHECKED BY: BU		
PROJECT NO:0019561.00	APPROVED BY: BU		



1 MECHANICAL CONSTRUCTION 1ST FLOOR PART PLAN (RTU-6)
SCALE: 1/8"=1'-0"

MECHANICAL GENERAL NOTES:

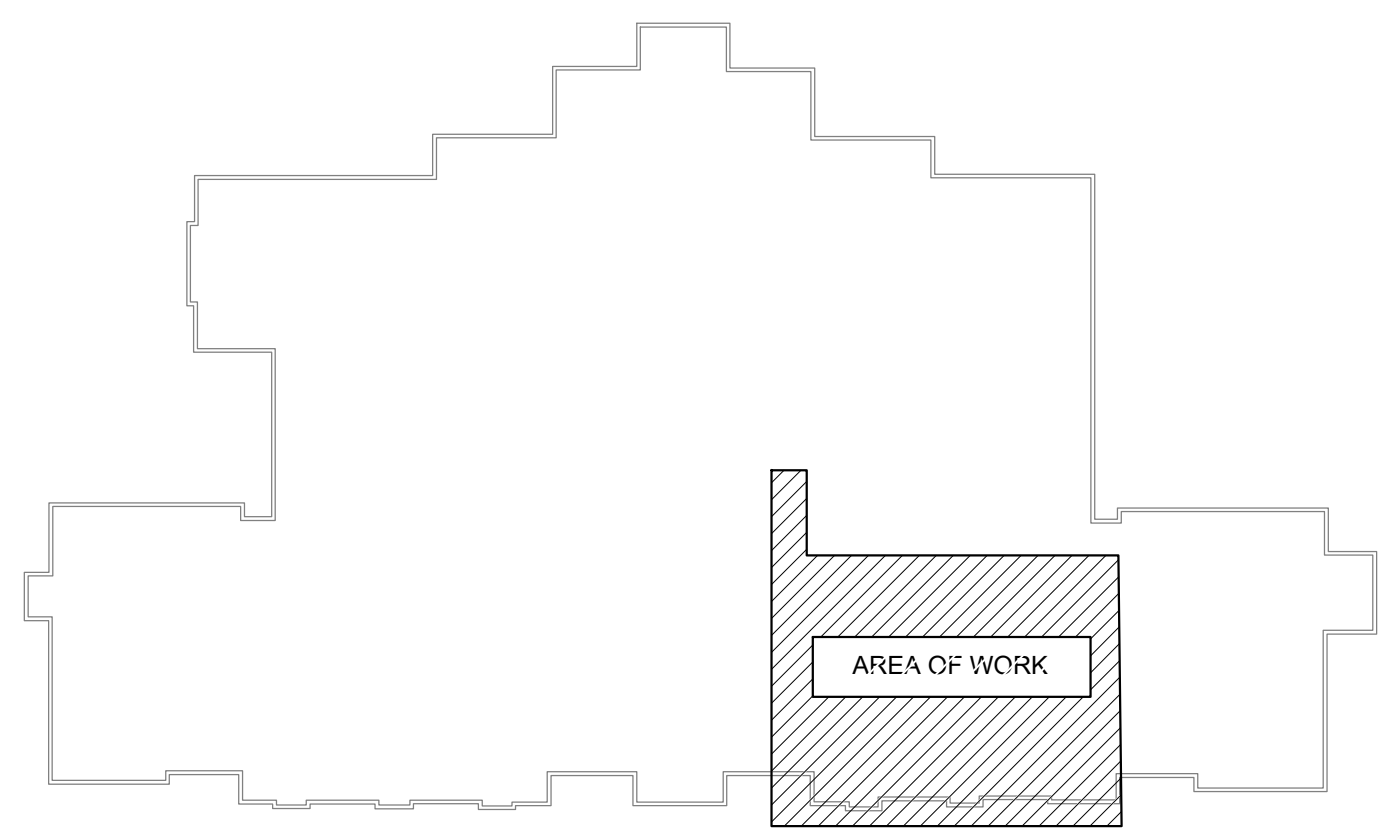
1. EXISTING CEILING AREAS THAT SHALL BE REMOVED TO PERFORM MECHANICAL SCOPE OF WORK SHALL BE REPAIR TO MATCH EXISTING.
2. MECHANICAL SCOPE OF WORK IS LIMITED TO REPLACEMENT OF ROOF TOP UNITS (RTU-6) AND ASSOCIATED DUCT, PIPING AND CONTROLS WORK TO RECONNECT TO EXISTING SYSTEMS.

MECHANICAL DEMOLITION NOTES

- 1 CONTRACTOR SHALL REMOVE EXISTING RTU-6 DUCT SMOKE DETECTORS AND IN SUPPLY/RETURN DUCT. COORDINATE ASSOCIATED CONTROLS DISCONNECTION WITH CONTROLS VENDOR.

MECHANICAL CONSTRUCTION NOTES

- 1 EXISTING VAV BOXES THERMOSTATS TO REMAIN. CONNECT CONTROL WIRING TO NEW RTU AND INTERFACE WITH EXISTING BUILDING BMS.

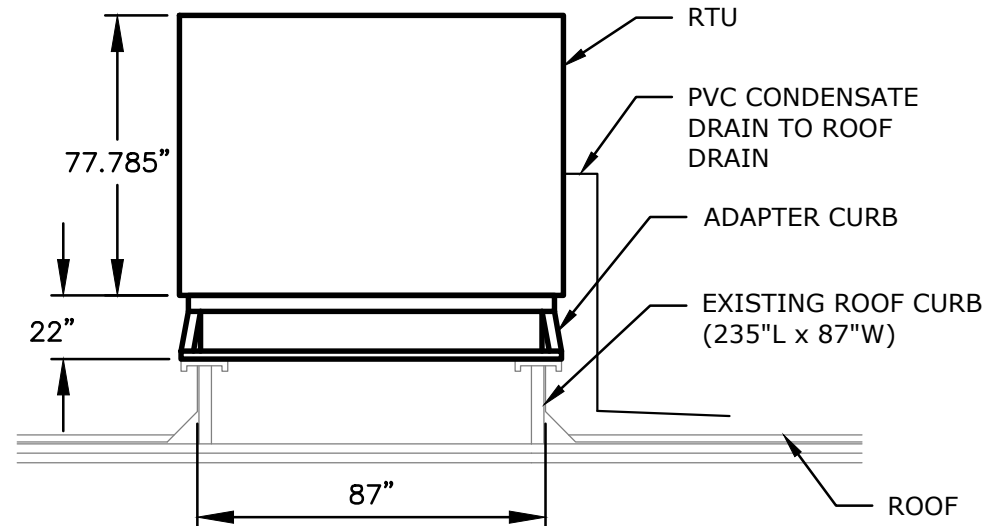


BUILDING KEY PLAN
SCALE: NONE

09/01/26	00	ISSUED FOR PRICING	BU
DATE	REV	DESCRIPTION	BY
Southport Engineering Associates, PC 11 BAILEY AVENUE RIDGEFIELD, CT 06877 TEL: 203-431-6844 FAX: 203-431-6877			
PROJECT: RIDGEFIELD PARKS & REC ROOF TOP UNIT REPLACEMENTS 195 DANBURY ROAD, RIDGEFIELD, CT 06877			
DRAWING TITLE: MECHANICAL FIRST FLOOR PART PLAN			
SCALE: AS NOTED	DRAWN BY: NIA	DRAWING NO:	
DATE: 08/03/26	CHECKED BY: BU		
PROJECT NO:0019561.00	APPROVED BY: BU	M-301	

ROOFTOP DX/GAS AIR CONDITIONING UNIT SCHEDULE																															
TAG NO.	SERVING	AIR FLOW DATA					RETURN FAN DATA				COOLING CAPACITY				HOT GAS REHEAT	HEATING PERFORMANCE				ELECTRICAL DATA				Filter	EER / IEER	REF.	WEIGHT (LBS)	MANUF.	MODEL	REMARKS	
		NOMINAL CFM	MINIMUM OUTDOOR AIR CFM	C02 OVERRIDE CFM	HP	EXT SP (IN. WG)	CFM	ESP	RPM	HP	EAT F DB / WB	LAT F DB / WB	TOTAL MBH	SENSIBLE MBH		TEMP	INPUT / OUTPUT (MBH)	TURNDOWN RATIO	VOLTS / PH	FLA	MCA	MOCp									
																							EAT °F								LAT °F
RTU-6	Multi-Purpose Room	12,500	1,800	3,130	20	2.2	12,000	0.5	1140	2	80 / 67.0	55	432	328	194	NG	60	82.6	800 / 648	5.7 : 1	460 / 3	96.9	101.5	125	4" MERV 11	10.4 / 17	R-454B	8,000	Johnson Controls	VV40T3DW4L2CKS44F1	1,2,3,4,5,6,7,8,9,10,11,12,13,15,16,17

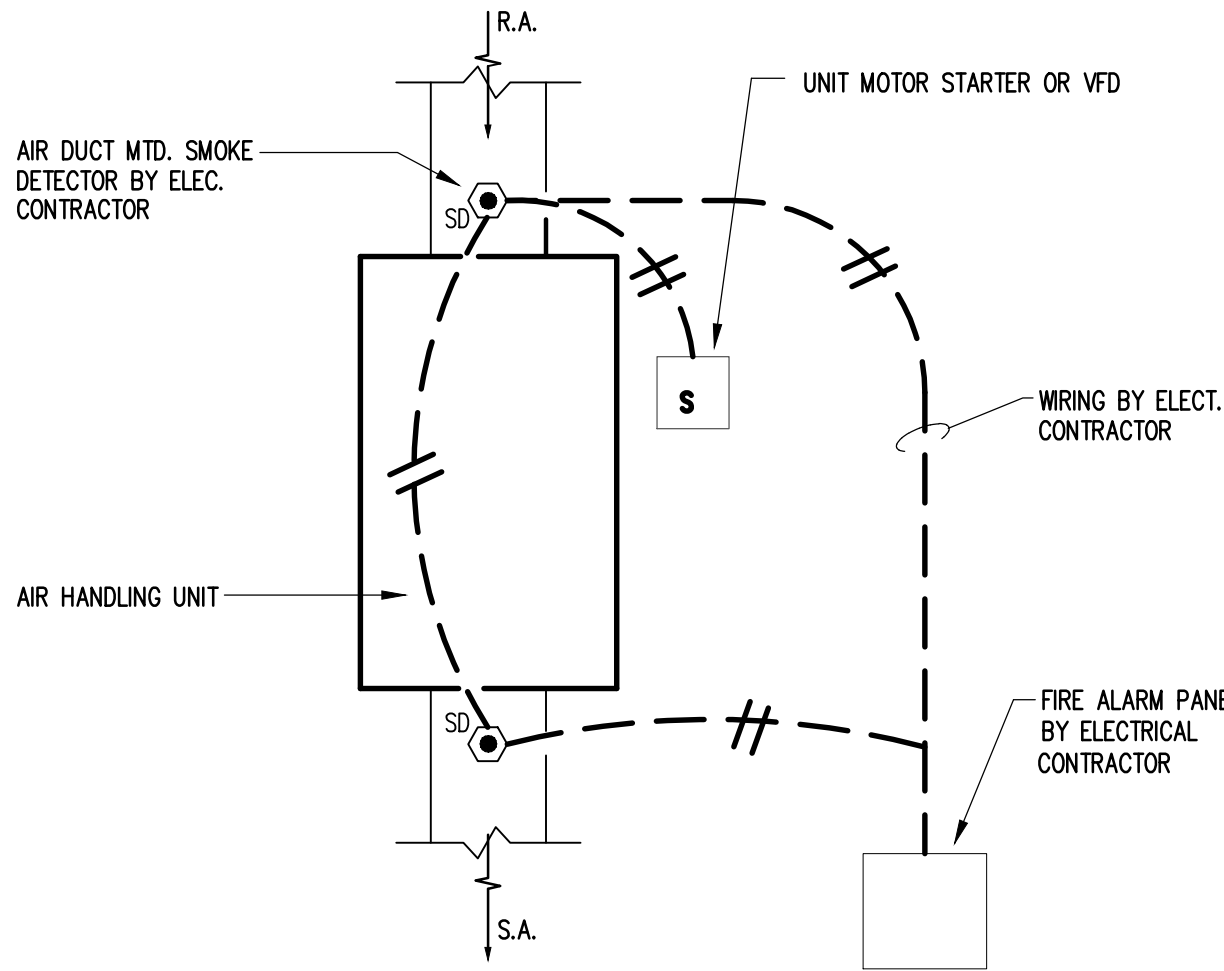
NOTES:		1. Factory mount disconnect switch 2. Provide modulating gas heat (5.7:1) 3. Provide modulating hot gas reheat 4. Provide Manufacturer recommended programmable controller 5. Provide hinged filter access door. 6. Provide unit with economizer 7. RTU Powered convenience outlet 8. Provide downflow supply and return configuration 9. Provide manufacturer recommended refrigerant detection system (RDS) 10. Provide with Bacnet for interface with existing BMS system includign graphics, setpoint and monitoring of the entire system 11. Provide RTU's with filters during construction and new filters at the end of construction 12. Provide factory installed integral supply and return smoke detectors. Coordinate with fire alarm and BMS Control vendor. 13. Provide transition insulated curb adapter as manufacturer by CDI CURBS or approved equal, 22" height (Low as possible), R-8 Value. 14. Provide factory representative startup and BMS Controls interface. 15. Provide differential pressure transmitters for filters (alarm) and VFD static pressure control 16. Provide factory installed controls: Filter differential pressure, discharge air temperature, return air temperature, CO2 sensor, humidity sensor, outside air temperature, outside air humidity as indicated on controls diagram Dwg M-400. 17. Provide differential pressure transmitter. Field installed.																												
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- NOTES:
- CONTRACTOR SHALL FURNISH AND INSTALL INSULATED (R-8 VALUE) ADAPTER CURB. [BASIS OF DESIGN MANUFACTURER: CDICURBS.COM MODEL 1-5025-5032, PHONE NUMBER - (OFFICE) 888-234-7001.
 - CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF THE EXISTING CURB AND HORIZONTAL DUCTWORK TO COORDINATE FINAL ROOFTOP UNIT AND CURB PLACEMENT TO RECONNECT EXISTING SUPPLY/RETURN DUCTS TO INLET/OUTLET CONNECTIONS ON THE FRONT AND SIDE OF THE NEW ROOF TOP UNIT.
 - CONTRACTOR SHALL FURNISH, INSTALL AND/OR PAY FOR ALL SUPPLEMENTARY STRUCTURAL SUPPORTS REQUIRED TO FURNISH AND INSTALL ROOF MOUNTED EQUIPMENT.
 - CONTRACTOR TO RUN CONDENSATE DRAIN LINE TO NEAREST ROOF DRAIN WITH USE OF PROPER ROOF SUPPORTS, ADEQUATE DRAINAGE.
 - CONTRACTOR SHALL COORDINATE AND RETAIN THE BUILDING APPROVED ROOF CONTRACTOR TO MAINTAIN INTEGRITY OF ROOF AND WARRANTY.

① RTU-6 MOUNTING ADAPTER CURB DIAGRAM

SCALE: NONE

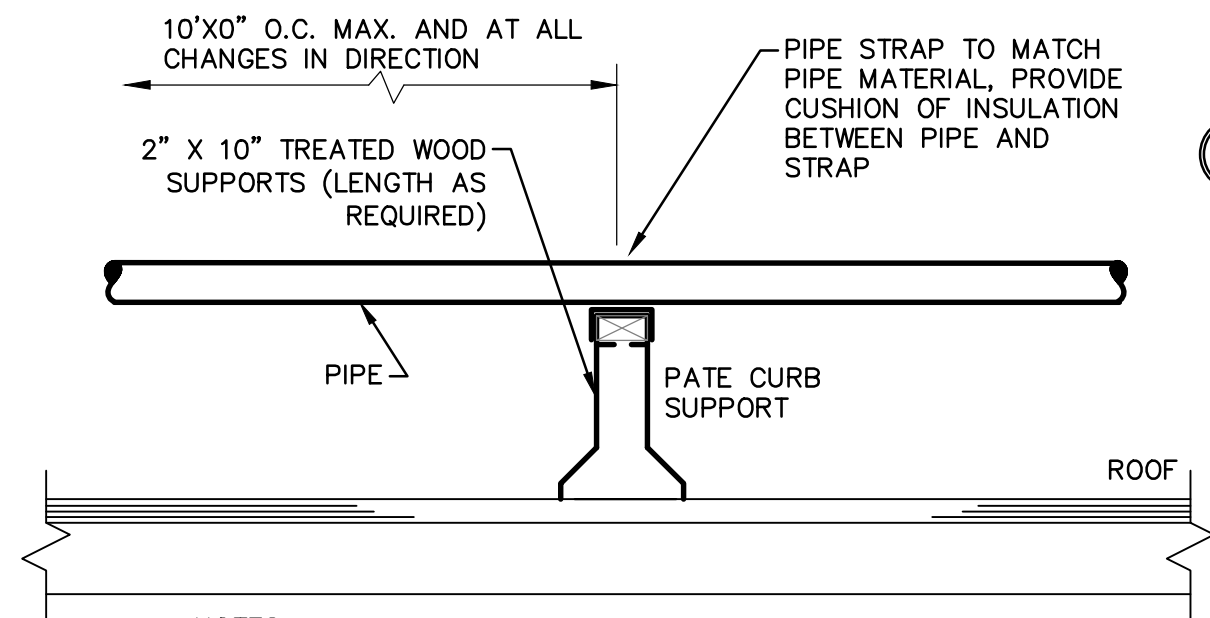


NOTES:

- A. AIR HANDLING UNIT SHUTDOWN VIA DUCT MOUNTED SMOKE DETECTOR AND/OR SIGNAL FROM CENTRAL FIRE ALARM SYSTEM

② SMOKE DETECTOR WIRING DIAGRAM

SCALE: NONE

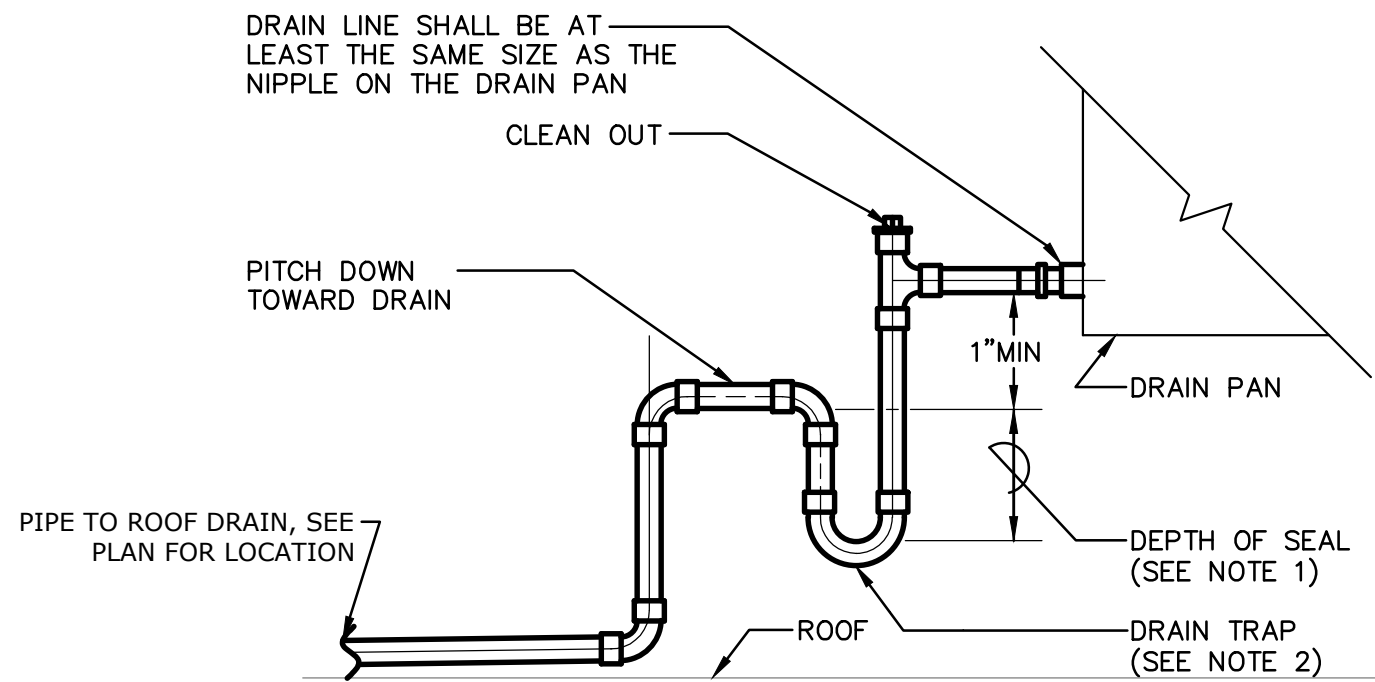


NOTES:

- INSTALL PATE CURB PER MANUFACTURER GUIDELINES
- COORDINATE ALL ROOF RELATED WORK WITH THE GENERAL CONTRACTOR AND ROOF VENDOR

③ SUPPORT FOR PIPE ON ROOF DETAIL

SCALE: NONE



NOTES:

- THE DEPTH OF THE SEAL SHALL BE A MINIMUM OF THE AIR HANDLING UNIT'S TOTAL STATIC PRESSURE IN INCHES OF WATER PLUS 3".
- MANUALLY PRIME FILL TRAP PRIOR TO START-UP OF UNIT.

④ RTU COOLING COIL DRAIN TRAP DETAIL

SCALE: NTS

EXISTING VAV BOX: POINT LIST											
Point Name	Hardware Points				Software Points				Show On Graphic		
	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend		
Airflow	x								x	x	
Zone Carbon Dioxide PPM	x								x	x	
Zone Temp	x								x	x	
Zone Damper	x		x						x	x	
Airflow Setpoint					x				x	x	
Cooling Setpoint					x				x	x	
Heating Setpoint					x				x	x	
Zone Carbon Dioxide PPM Setpoint					x				x	x	
Heating Mode						x			x		
Schedule								x			
High Zone Carbon Dioxide Concentration										x	
High Zone Temp										x	
Low Zone Temp										x	

EXISTING HEATING HW VALVE: POINT LIST											
Point Name	Hardware Points				Software Points				Show On Graphic		
	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend		
Airflow	x								x	x	
Zone Temp	x								x	x	
Perimeter Heating Valve			x						x	x	
Zone Damper	x								x	x	
Airflow Setpoint					x				x	x	
Cooling Setpoint					x				x	x	
Heating Setpoint					x				x	x	
Heating Mode						x			x		
Schedule								x			
High Zone Temp										x	
Low Zone Temp										x	

*NOTE: CONTROLS DIAGRAM AND POINT LIST PROVIDED FOR REFERENCE ONLY. THE CONTROLS FOR THE NEW ROOF TOP UNITS ARE TO BE SELF CONTAINED. THE BUILDINGS CONTROL VENDOR (ECS) WILL BE RESPONSIBLE FOR INSTALLATION OF CONTROLS DEVICES, ASSOCIATED CONTROL WIRING AND INTERFACING THE NEW UNITS WITH THE BUILDING BMS, TO PROVIDE REMOTE MONITORING AND CONTROL, UNDER SEPARATE CONTRACT.

⑤ EXISTING VAV BOXES (FED FROM RTU-6) & HW HEATING ELEMENTS

SCALE: NONE

DEVICE SCHEDULE DESCRIPTIONS

THE FOLLOWING DEVICE SCHEDULE IDENTIFIES THE MINIMUM MONITORING AND CONTROL DEVICE REQUIREMENTS. ADDITIONAL HARDWARE AND SOFTWARE REQUIRED TO PERFORM THE AUTOMATIC CONTROL SEQUENCES AND PROVIDE A COMPLETE WORKING CONTROL SYSTEM SHALL BE INCLUDED BY THIS CONTRACTOR WITHOUT ADDITIONAL COST.

POINT TYPE
DO - DIGITAL OUTPUT
DI- DIGITAL INPUT
AO - ANALOG OUTPUT
AOP - ANALOG OUTPUT - PNEUMATIC
AI - ANALOG INPUT
CALC - CALCULATED POINT

POINT FUNCTIONS - INDICATES THE MINIMUM REQUIRED PROCESSING AND ALARM FUNCTIONS.

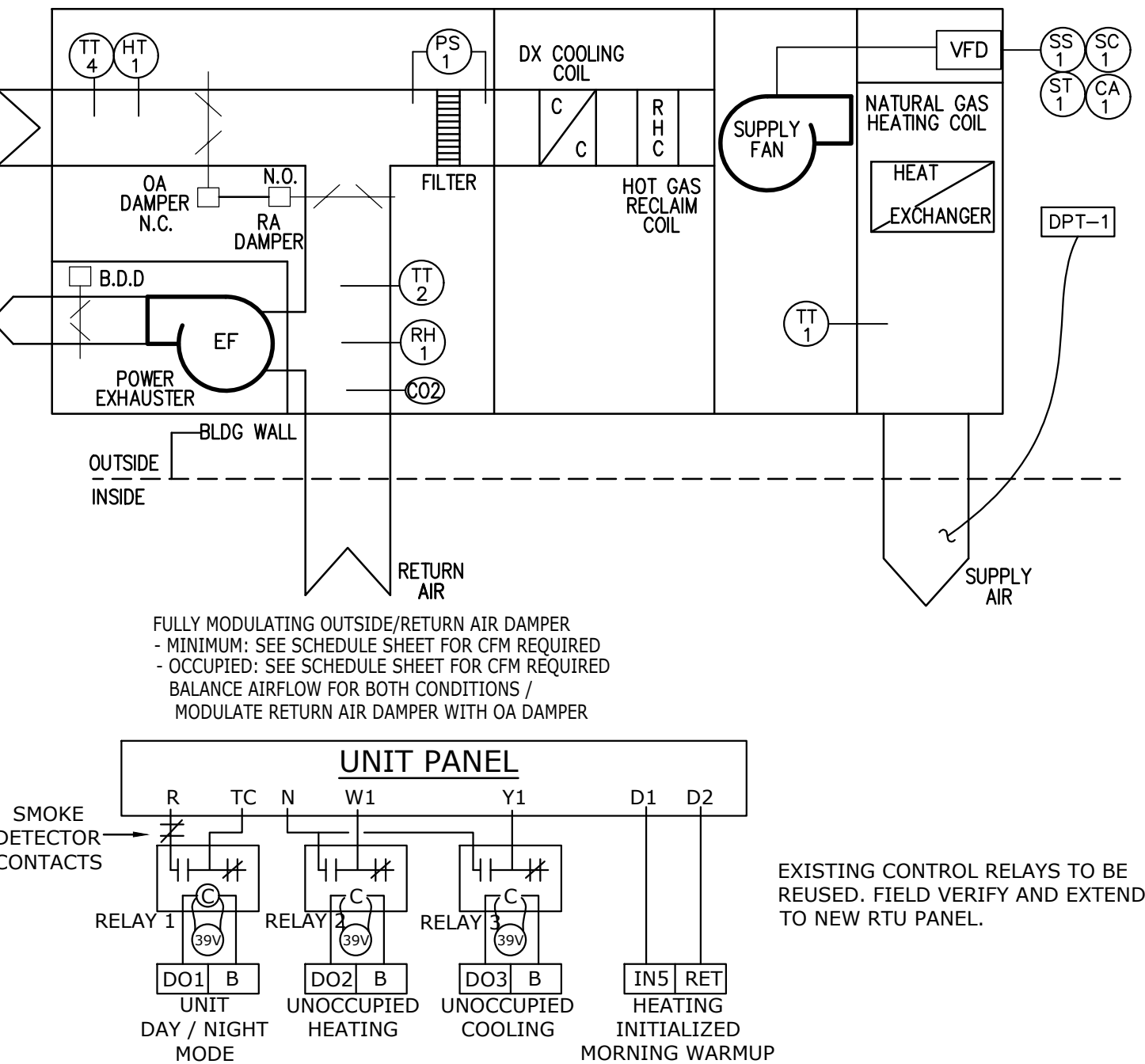
PRF (PROOF ALARM) - IF THE STATUS OF THE CONTROLLED DEVICE DOES NOT MATCH THE COMMANDED STATE OF THE DEVICE, AFTER AND ADJUSTABLE TIME DELAY, A PROOF ALARM SHALL BE ANNUNCIATED AT THE OPERATORS TERMINAL.

ALM (ALARM) - WHENEVER THE POINT CHANGES FROM THE NORMAL STATE AN ALARM SHALL BE ANNUNCIATED AT THE OPERATORS TERMINAL.

HA (HIGH ALARM) - WHENEVER THE POINT VALUE EXCEEDS THE HIGH ALARM LIMIT AN ALARM SHALL BE ANNUNCIATED AT THE OPERATORS TERMINAL.

LA (LOW ALARM) - WHENEVER THE POINT VALUE FALLS BELOW THE LOW ALARM LIMIT AN ALARM SHALL BE ANNUNCIATED AT THE OPERATOR'S TERMINAL.

DEV (SETPPOINT DEVIATION ALARM) - IF THE MEASURED VARIABLE OF A CONTROL LOOP DEVIATES FROM THE SETPOINT BY A PRESET OFFSET FOR MORE THAN A PRESET TIME LIMIT A DEVIATION ALARM SHALL BE ANNUNCIATED AT THE OPERATOR'S TERMINAL.



SCHEMATIC CONTROL DIAGRAM FOR VARIABLE VOLUME RTU-6

DEVICE SCHEDULE					
DESCRIPTION	TAG	POINT TYPE	POINT/DEVICE	POINT FUNCTIONS	NOTES
VAV ROOFTOP-6					
SUPPLY FAN START STOP	SS-1	DO			
SUPPLY FAN SPEED CONTROL	SC-1	AO			
SUPPLY FAN STATUS KW	ST-1	AI		RT,PRF	
SUPPLY FAN COMMON ALARM	CA-1	DI		ALM	
SUPPLY STATIC PRESSURE	DPT-1	AI	DPT	HA, LA	1
FILTER DIFFERENTIAL PRESSURE	PS-1	DI	DPT	ALM	1
DISCHARGE AIR TEMPERATURE	TT-1	AI		RT,PRF	1
RETURN AIR TEMPERATURE	TT-2	AI		HA,LA	1
HUMIDITY SENSOR	RH-1	AI			1
CO2 SENSOR	CD-1	AI		HA	
MISC. DEVICES					
OUTSIDE AIR TEMPERATURE	TT-4	AI			1
OUTSIDE AIR HUMIDITY	HT-1	AI			1

NOTES:

GENERAL NOTE: ALL CONTROLS SHALL BE NEW.

1. FACTORY INSTALLED.

*NOTE: CONTROLS DIAGRAM AND POINT LIST PROVIDED FOR REFERENCE ONLY. THE CONTROLS FOR THE NEW ROOF TOP UNITS ARE TO BE SELF CONTAINED. THE BUILDINGS CONTROL VENDOR (ECS) WILL BE RESPONSIBLE FOR INSTALLATION OF CONTROLS DEVICES, ASSOCIATED CONTROL WIRING AND INTERFACING THE NEW UNITS WITH THE BUILDING BMS, TO PROVIDE REMOTE MONITORING AND CONTROL, UNDER SEPARATE CONTRACT.

⑥ CONTROLS DIAGRAM & POINT LIST - RTU-6

SCALE: NONE

RT (RUN HOURS) - TOTALIZE THE HOURS OF OPERATION OF THE CONTROLLED DEVICE. WHEN THE TOTAL HOURS EXCEEDS A HIGH LIMIT VALUE AN ALARM SHALL BE ANNUNCIATED AT THE OPERATOR'S TERMINAL.

TOT (TOTAL) - TOTALIZE THE CUMULATIVE VALUE OF THE POINT (I.E., CUMULATIVE FLOW FROM A FLOW METER POINT).

PA (PULSE ACCUMULATE.) - COUNT A PULSED DIGITAL SIGNAL AND CALCULATE AN EQUIVALENT ANALOG VALUE.

CALC (CALCULATE) - CALCULATE VALUE FROM OTHER POINT INFORMATION.

CONTROLS & SEQUENCE OF OPERATIONS:

PROVIDED FOR REFERENCE ONLY. THE CONTROLS FOR THE NEW ROOF TOP UNITS ARE TO BE SELF CONTAINED. THE BUILDINGS CONTROL VENDOR (ECS) WILL BE RESPONSIBLE FOR INSTALLATION OF CONTROLS DEVICES, ASSOCIATED CONTROL WIRING AND INTERFACING THE NEW UNITS WITH THE BUILDING BMS, TO PROVIDE REMOTE MONITORING AND CONTROL, UNDER SEPARATE CONTRACT.

1.0 PACKAGED RTU-6 (SERVES VAV BOXES IN THE CLASSROOMS & MULTIPURPOSE AREAS

- A. ROOFTOP UNIT MANUFACTURER SHALL PROVIDE FACTORY MOUNTED AND PREPROGRAMMED BUILDING AUTOMATION CONTROLLERS WITH BACNET MS/TP COMMUNICATION PROTOCOL TO ALLOW THE EXISTING BUILDING AUTOMATION SYSTEM TO INTEGRATE IT'S ASSOCIATED POINTS REFERENCED BELOW.
- B. UNIT TO HAVE FACTORY MOUNTED AND INSTALLED CONTROLS

2.0 PSEQUENCE OF OPERATION

- A. OCCUPIED/UNOCCUPIED MODE
THE UNIT WILL OPERATE BASED ON AN OCCUPIED/UNOCCUPIED SCHEDULE PER THE BMS. WHEN IN THE OCCUPIED MODE, THE BMS WILL ENABLE THE UNIT "DAY MODE" (CONTACT CLOSURE AT TC & R), IN THE UNOCCUPIED MODE THE BMS WILL OPEN THE CONTACT AT TC & R AND THE UNIT WILL TRANSITION INTO "NIGHT MODE"
- B. UNIT "DAY MODE / MORNING WARMUP"
WHEN THE BMS ENABLES THE UNITS "DAY MODE", THE UNIT'S PACKAGED CONTROLS WILL START THE UNIT N A MORNING WARM UP MODE. THE OUTDOOR AIR DAMPER WILL BE CLOSED, THE RETURN DAMPER WILL BE FULLY OPEN, THE HEAT WILL BE ENERGIZED AND THE SUPPLY FAN WILL RUN AT FULL SPEED. THE UNIT'S PACKAGED CONTROLS WILL ALSO SIGNAL THE BMS THAT IS IS IN MORNING WARMUP MODE AND THE BMS WILL DRIVE EACH VAV BOX DAMPER. ON THIS SYSTEM FULLY OPEN THIS WILL CONTINUE UNTIL THE RETURN AIR TEMPERATURE REACHES SETPOINT. THEN THE UNIT WILL TRANSITION TO "DAY MODE". THE UNIT'S ECONOMIZER LOGIC MODULE CONTROLS THE POSITION OF THE MIXING DAMPERS AND STAGES COMPRESSORS AS NEEDED TO MAINTAIN A DISCHARGE AIR TEMPERATURE SETPOINT AND ENABLES THE POWER EXHAUST FAN. FREE COOLING WILL BE USED IF OUTSIDE AIR CONDITIONS ARE SUITABLE. THE SUPPLY FAN VFD SPEED WILL COME UNDER CONTROL BY THE UNIT'S DUCT STATIC PRESSURE CONTROL. THE HEATING SIGNAL TO THE BMS WILL BE CANCELLED AND THE VAV BOXES WILL REVERT TO NORMAL OCCUPIED CONTROL.
- B. UNIT "NIGHT MODE"
WHEN THE BMS ENABLES INITIALIZES THE UNOCCUPIED MODE, THE UNIT'S "NIGHT MODE" IS SEQUENCED AND THE UNIT SHUTDOWN. THE MIXING DAMPERS RETURN TO THE CLOSED OUTDOOR AIR POSITION.

NIGHT SETBACK: THE BMS WILL POLL THE SPACE TEMPERATURE SENSORS OF THE SYSTEM AND IF ANY ONE SENSOR DROPS BELOW THE NIGHT SETBACK TEMPERATURE SETPOINT OF 56°F ADJ., THE BMS WILL ENERGIZE THE NIGHT SETBACK MODE. THE UNIT WILL OPERATE SIMILAR TO THE MORNING WARMUP MODE, UNTIL THE NIGHT SETBACK SETPOINT IS SATISFIED. THEN THE BMS WILL CANCEL THE CALL FOR NIGH SETBACK.

NIGHT SETUP: THE BMS WILL POLL THE SPACE TEMPERATURE SENSORS ON THE SYSTEM AND IF THE AVERAGE TEMPERATURE RISES ABOVE THE NIGHT SETBACK SETUP TEMPERATURE SETPOINT OF 85°F ADJ., THE BMS WILL ENERGIZE THE NIGHT SETUP MODE. THE UNIT WILL OPERATE SIMILAR TO THE DAY MODE, UNTIL THE NIGHT SETUP SETPOINT IS SATISFIED. THEN THE BMS WILL CANCEL THE CALL FOR NIGHT SETUP.

- C. TEMPERATURE CONTROL: THE REFRIGERANT CIRCUIT (DX COOLING COIL/COMPRESSOR/CONDENSER) AND THE GAS FIRE FURNACE IN THE UNIT SHALL FUNCTION TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 75° F ADJ. INTERLOCK HEATING/COOLING CIRCUITRY TO PREVENT BOTH HEATING AND COOLING FROM OPERATION AT THE SAME TIME.
- D. DEHUMIDIFICATION: UPON THE RTU IS IN COOLING MODE AND THE SPACE HUMIDITY RISES ABOVE ITS SETPOINT (70% ADJ.), THE RTU HOT GAS REHEAT SYSTEM (HGRH) SHALL BE ENABLED.
- E. OUTDOOR AIR OVERRIDE
UPON RETURN CO2 SENSOR IS ABOVE ITS SETPOINT 700 PPM THE OUTDOOR, THE OUTDOOR AIR DAMPER MINIMUM POSITION SHALL BE RESET HIGHER (25% ADJ) AND THE RETURN DAMPERS SHALL MODULATE IN SEQUENCE. UPON CO2 ACHIEVE ITS SETPOINT THE OUTDOOR AIR DAMPER SHALL MODULATE TO THE MINIMUM POSITION (12% ADJ).
- F. SAFETIES
THE BMS WILL MONITOR CONTACTS AT THE SUPPLY AND RETURN DUCT SMOKE DETECTORS AND SHUTDOWN THE UNIT UPON ALARM. THE BMS ALL MONITORS DISCHARGE AIR AND RETURN AIR TEMPERATURE.
- G. ALARMS
THE FOLLOWING CONDITIONS WILL GENERATE ALARMS AT THE OPERATOR'S WORKSTATION: SUPPLY FAN FAILURE, A LOW SPACE TEMPRATRE (50° F ADJ), AND SMOKE ALARM CONDITION.
- H. VAV BOX CONTROL:
THE BMS MONITOR SPACE TEMPERATURE, MEASURES AIRFLOW AND PROVIDES CONTROL OF THE VAV BOX DAMPER. WHEN THE RTU IS IN THE OCCUPIED MODE, THE VAV BOX WILL BE IN THE OCCUPIED MODE. THE LOCAL VAV SPACE TEMPERATURE SENSOR SHALL MODULATE THE VAV BOX DAMPER TO MAINTAIN AN OCCUPIED TEMPERATURE SETPOINT OF 70° ADJ. ON A CALL FOR COOLING THE DAMPER WILL BE MODULATE OPEN. ON A DROP IN SPACE TEMPERATURE THE DAMPER WILL BE MODULATED TOWARDS THE MINIMUM FLOW POSITION. IF THE AREA CONTAINS BASEBOARD RADIATION, ON A FURTHER DROP IN SPACE TEMPERATURE, THE BMS WILL MODULATE THE RADIATION VALVE OPEN TO SATISFY SPACE TEMPERATURE SETPOINT. IN THE UNOCCUPIED MODE, THE VAV BOX DAMPER WILL REMAIN AT ITS MINIMUM POSITION AND THE RADIATION VALVE WILL OPEN TO SATISFY A SPACE TEMPERATURE SETBACK SETPOINT OF 58°F ADJ. NOTE, IF THE BMS RECEIVES A "HEATING SIGNAL" FROM THE RTU, THE RADIATION SETBACK SEQUENCE WILL BE OVERRIDDEN AND THE VAV BOX DAMPERS WILL BE DRIVEN FULLY OPEN. RADIATION SETBACK SEQUENCE WILL CONTINUE ONCE THE RTU HEATING SIGNAL HAS CLEARED.

UPON THE RTU REFRIGERANT DETECTION SYSTEM IS ENABLED THE VAV BOXES SHALL MODULATE OPEN.

09/01/26	00	ISSUED FOR PRICING	BU
DATE	REV	DESCRIPTION	BY
Southport Engineering Associates, PC 11 BAILEY AVENUE RIDGEFIELD, CT 06877 TEL: 203-431-6844 FAX: 203-431-6877			
PROJECT: RIDGEFIELD PARKS & REC ROOF TOP UNIT REPLACEMENTS 195 DANBURY ROAD, RIDGEFIELD, CT 06877			
DRAWING TITLE: MECHANICAL DETAILS, SCHEDULES AND CONTROLS			
SCALE:	AS NOTED	DRAWN BY:	NIA
DATE:	08/03/26	CHECKED BY:	BU
PROJECT NO:	0019561.00	APPROVED BY:	BU
			M-400

ELECTRICAL DRAWING LIST		
E-100	-	ELECTRICAL LEGENDS AND SPECIFICATIONS
E-101	-	ELECTRICAL SPECIFICATIONS (CONTINUED)
E-102	-	ELECTRICAL NOTES AND DETAILS
E-200	-	ELECTRICAL DEMOLITION PART PLAN
E-300	-	ELECTRICAL CONSTRUCTION PART PLAN

ELECTRICAL GENERAL SYMBOLS AND ABBREVIATIONS	
	JUNCTION BOX
	JUNCTION BOX WITH BLANK FACEPLATE
	CONTROL WIRING IN CONDUIT
	EMERGENCY BRANCH CIRCUIT IN CONDUIT
	BRANCH CIRCUIT IN CONDUIT CONCEALED BELOW FLOOR SLAB
	BRANCH CIRCUIT IN FLEXIBLE CONDUIT
	BRANCH CIRCUIT IN CONDUIT - HOT LEG, SWITCH LEG, NEUTRAL AND EQUIPMENT GROUND, RESPECTIVELY
	BRANCH CIRCUIT HOMERUN - PANEL AND SPACE AS INDICATED ON DRAWINGS
	EXISTING EQUIPMENT/WIRE TO BE REMOVED
	EXISTING EQUIPMENT/WIRE TO REMAIN
	NEW EQUIPMENT/WIRE
AFF	ABOVE FINISHED FLOOR
BFF	BELOW FINISHED FLOOR
ER	EXISTING TO REMAIN
RE	RELOCATED EXISTING
TBD	TO BE DETERMINED
UG	UNDERGROUND
WP	WEATHER-PROOF

ELECTRICAL POWER & SYSTEMS SYMBOLS AND ABBREVIATIONS	
	DUPLEX RECEPTACLE, WALL MOUNTED
	QUADRAPLEX RECEPTACLE, WALL MOUNTED
	VOICE AND/OR DATA OUTLET, WALL MOUNTED
	EMERGENCY POWER-OFF PUSH BUTTON
	CONTACTOR
	LOW-VOLTAGE TRANSFORMER
	NONFUSED DISCONNECT SWITCH - TYPE AND SIZE AS INDICATED ON DRAWINGS
	FUSED DISCONNECT SWITCH - TYPE AND SIZE AS INDICATED ON DRAWINGS
	COMBINATION MOTOR STARTER AND NONFUSED DISCONNECT SWITCH - TYPE AND SIZE AS INDICATED ON DRAWINGS
	MOTOR STARTER - TYPE AND SIZE AS INDICATED ON DRAWINGS
	DOUBLE-POLE, DOUBLE-THROW SWITCH FOR RAISE/LOWER CONTROL OF MOTORIZED PROJECTION SCREEN - LOWERCASE LETTER INDICATES CONTROLLED SCREENS
	MANUAL MOTOR STARTER, TOGGLE-OPERATED WITH THERMAL OVERLOADS SIZED PER MANUFACTURER'S SPECIFICATIONS
	VARIABLE FREQUENCY DRIVE - BY OTHERS
	ELECTRIC MOTOR - "#" INDICATES HORSEPOWER RATING, "MD" INDICATES MOTORIZED DOOR AND "PS" INDICATES PROJECTION SCREEN
	FUSE
	SWITCH
	CIRCUIT BREAKER
	EXISTING PANELBOARD/LOADCENTER, FLUSH MOUNTED
	NEW PANELBOARD/LOADCENTER, FLUSH MOUNTED
	EXISTING PANELBOARD/LOADCENTER, SURFACE MOUNTED
	NEW PANELBOARD/LOADCENTER, SURFACE MOUNTED
	EXISTING DISTRIBUTION PANELBOARD, SURFACE MOUNTED
	NEW DISTRIBUTION PANELBOARD, SURFACE MOUNTED
GFI	GROUND-FAULT CIRCUIT INTERRUPTING TYPE DEVICE

ELECTRICAL SPECIFICATIONS

A. GENERAL - 260100:

- PROVIDE LABOR, MATERIALS, EQUIPMENT AND SERVICES FOR THE COMPLETION OF ELECTRICAL SYSTEMS AS SHOWN ON THESE DRAWINGS AND AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), STATE AND LOCAL CODES, AND OSHA REGULATIONS. THE CONTRACTOR SHALL PAY ALL FEES; AND OBTAIN ALL CERTIFICATES AND INSPECTIONS.
- NON-COMPLIANCE: SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF APPLICABLE BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS; THE CONTRACTOR SHALL BEAR ALL COSTS ARISING IN CORRECTING THE DEFICIENCIES.
- IN CASE OF DIFFERENCE BETWEEN BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, UTILITY COMPANY REGULATIONS, THESE SPECIFICATIONS AND THE CONTRACT DRAWINGS; THE MOST STRINGENT SHALL GOVERN. THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER IN WRITING OF ANY SUCH DIFFERENCE.
- ALL EQUIPMENT SHALL BE NEW AND UNUSED; AND SHALL BE "UL" LISTED AND BEAR THE "UL" LABEL.
- ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. ALL MATERIALS SHALL BE OF THE BEST QUALITY FOR PURPOSE INTENDED. TRADE NAMES AND CATALOG NUMBERS ARE INTENDED TO INDICATE THIS QUALITY AND GRADE. OBTAIN WRITTEN APPROVAL FROM THE OWNER FOR ANY SUBSTITUTIONS MADE AFTER ACCEPTANCE OF SUBMITTAL FOR ANY ITEM.
- ON ACCEPTANCE OF CONTRACT, THE CONTRACTOR AGREES TO GUARANTEE ALL WORK AND EQUIPMENT FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF INITIAL OPERATION. MANUFACTURED EQUIPMENT SHALL CARRY FULL PERIOD OF THE MANUFACTURER'S GUARANTEE AND SHALL NOT BE LESS THAN ONE (1) YEAR.
- PRIOR TO SUBMISSION OF BID, THE CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK IN THESE SPECIFICATIONS AND DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO ATTENTION OF THE ARCHITECT AND/OR ENGINEER AT THIS TIME. ALL ITEMS NOT RESOLVED PRIOR TO BID SHALL BE INCLUDED AS WRITTEN QUALIFICATIONS TO THE BID DOCUMENT. SUBMISSION OF BID SHALL BE EVIDENCE THAT VERIFICATION OF THE JOB SITE HAS BEEN PERFORMED.
- THE GENERAL CONTRACTOR SHALL PERFORM ALL CUTTING, CORE DRILLING, SLAB PENETRATIONS, TRENCHING, ETC. NECESSARY FOR PROPER INSTALLATION OF ELECTRICAL WORK. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AS REQUIRED TO INCLUDE ALL WORK IN THE BID SUBMISSION.
 - WHERE FLOOR PENETRATIONS ARE REQUIRED, FLOOR SLABS SHALL BE X-RAYED PRIOR TO THE START OF ANY WORK. COORDINATE SCHEDULING OF THIS WORK WITH THE ARCHITECT AND BUILDING MANAGEMENT.
 - ALL LOCATIONS SHALL BE FIELD COORDINATED WITH THE ARCHITECT AND/OR BUILDING MANAGEMENT; AND SHALL BE APPROVED BY THE BUILDING STRUCTURAL ENGINEER PRIOR TO START OF WORK.
 - COORDINATE WITH THE BUILDING MANAGEMENT TO ENSURE INTEGRITY OF FLOOR SLABS IS MAINTAINED. PROVIDE ALL STRUCTURAL SUPPORTS AS DIRECTED BY THE BUILDING STRUCTURAL ENGINEER IF REQUIRED.
 - OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS, PARTITIONS, FLOORS OR CEILINGS SHALL BE FIRE-STOPPED USING APPROVED METHODS. ACCEPTABLE MANUFACTURERS ARE HILTI AND 3M BUT MATERIAL MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL INSTALLATIONS THAT ARE WITHIN CLOSE PROXIMITY OF OTHER TRADES. CONDUIT SHALL BE INSTALLED AS HIGH AS POSSIBLE ABOVE FINISHED CEILING TO AVOID CONFLICTS WITH OTHER TRADES. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TEMPORARY LIGHTING AND POWER DURING CONSTRUCTION.
- COVER LIGHT FIXTURES, EQUIPMENT, APPARATUS, ETC. TO PROTECT AGAINST CHEMICAL, WATER, DIRT OR MECHANICAL DAMAGE BEFORE AND DURING THE CONSTRUCTION PERIOD UNTIL THE FINAL ACCEPTANCE. ALL EQUIPMENT SHALL BE DELIVERED, PROPERLY PACKED AND STORED AT THE JOB SITE UNTIL FINAL INSTALLATION.
- THE CONTRACTOR SHALL REPAIR ANY DAMAGE DONE BY HIMSELF OR HIS WORKMEN. RESTORE TO ORIGINAL CONDITION ANY APPARATUS, EQUIPMENT OR SURFACE DAMAGED UNDER THIS SCOPE OF WORK PRIOR TO FINAL ACCEPTANCE, INCLUDING RESTORATION OF DAMAGES TO SHOP COATS OF PAINT.
- IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS TO REQUIRE AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL IN THESE SPECIFICATIONS AND DRAWINGS. IF AN ITEM OF WORK IS SHOWN ON THE DRAWINGS, IT SHALL BE CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT THAT IS NECESSARY FOR COMPLETE INSTALLATION WHETHER SPECIFICALLY MENTIONED OR NOT.
- THE DRAWINGS FOR ELECTRICAL WORK UTILIZE SYMBOLS AND SCHEMATIC DIAGRAMS WHICH HAVE NO DIMENSIONAL SIGNIFICANCE. THE WORK SHALL BE INSTALLED TO FULFILL THE DIAGRAMMATICAL INTENT EXPRESSED ON THE DRAWINGS AND IN CONFORMITY WITH DIMENSIONS INDICATED ON FINAL WORKING DRAWINGS, FIELD LAYOUTS AND SHOP DRAWINGS FROM ALL TRADES.
- PROVIDE TO THE OWNER, A COMPLETE SET OF REPRODUCIBLE AS-BUILT DRAWINGS ON AUTOCAD CLEARLY INDICATING ANY DEVIATIONS FROM THE DESIGN AS SHOWN ON THE DRAWINGS.
- PROVIDE TO THE OWNER FOUR (4) COPIES OF THE OPERATING AND MAINTENANCE MANUALS WITH CATALOG INFORMATION ON ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO: TRANSFORMERS, SWITCHBOARDS, PANELBOARDS, GENERATORS, UPS SYSTEMS, TRANSFER SWITCHES, LIGHTING CONTROL SYSTEMS, COMMUNICATION SYSTEMS, SECURITY SYSTEMS AND FIRE ALARM SYSTEMS.
- SHOP DRAWINGS AND OTHER INFORMATION REQUIRED: PRIOR TO PURCHASING ANY EQUIPMENT OR MATERIALS, A MANUFACTURER'S LIST SHALL BE SUBMITTED FOR REVIEW. PRIOR TO ASSEMBLING OR INSTALLING THE WORK, THE FOLLOWING SHALL BE SUBMITTED FOR REVIEW:
 - CATALOG INFORMATION SHEETS, FACTORY ASSEMBLY DRAWINGS AND FIELD INSTALLATION DRAWINGS AS REQUIRED FOR A COMPLETE EXPLANATION AND DESCRIPTION OF ALL ITEMS OR EQUIPMENT SPECIFIED IN THE FOLLOWING SECTIONS.
 - THE PURPOSE FOR THE REVIEW OF SHOP DRAWINGS IS TO MAINTAIN THE INTEGRITY OF THE DESIGN. UNLESS THE CONTRACTOR CLEARLY INDICATED IN WRITING AND ON THEIR COMPANY LETTERHEAD; ANY CHANGES, SUBSTITUTIONS, DELETIONS OR OTHER DIFFERENCES BETWEEN SUBMISSION AND CONTRACT DOCUMENTS, APPROVAL BY THE ENGINEER DOES NOT CONSTITUTE ACCEPTANCE.
 - NO SUBSTITUTIONS FOR ANY EQUIPMENT MATERIAL AND/OR MANUFACTURER SHALL BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL INCLUDING AN EXPLANATION FOR SUBSTITUTION, A LIST OF ANY DEVIATIONS FROM SPECIFIED THE MODEL, SHOP DRAWINGS AND ASSOCIATED CREDIT. IT SHALL NOT BE ASSUMED THAT THE ENGINEER HAS READ TEXT OR REVIEWED ANY TECHNICAL DATA OF A MANUFACTURED ITEM AND ITS COMPONENTS EXCEPT WHERE THE VENDOR HAS SPECIFICALLY MENTIONED ALL DIFFERENCES BETWEEN THE SUBSTITUTED PRODUCT AND THE SPECIFIED MODEL.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EQUIPMENT, WIRING, DEVICES, ETC. REQUIRED FOR THE PROPER INSTALLATION OF THE SUBSTITUTED PRODUCT. THIS INCLUDES MODIFICATIONS OF ANY KIND THAT ARE REQUIRED TO ALL ASSOCIATED SYSTEMS AFFECTED BY THE SUBSTITUTION. SUCH ITEMS SHALL BE PROVIDED AT THE FULL EXPENSE OF THE CONTRACTOR WITH NO COSTS INCURRED TO THE OWNER.
 - ALL SUBSTITUTED PRODUCTS SHALL CONFORM TO PERFORMANCE AND SPATIAL REQUIREMENTS IN THESE SPECIFICATIONS AND DRAWINGS. ALL MODIFICATIONS OR REPLACEMENTS OF ANY PRODUCTS THAT DO NOT MEET THESE REQUIREMENTS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL PROVIDE TESTS FOR EACH OF THE FOLLOWING:
 - PRIOR TO ENERGIZING THE ELECTRICAL SYSTEM, THE CONTRACTOR SHALL PROVIDE 600-VOLT INSULATION RESISTANCE TESTS FOR ALL DISTRIBUTION AND UTILIZATION EQUIPMENT. THE CONTRACTOR SHALL PROVIDE A SUITABLE AND STABLE SOURCE OF TEST POWER. THE INSULATION TEST SHALL BE A "MEGGER" TEST AT 500 VOLTS DC FOR 30 SECONDS. THE TEST SHALL BE CONDUCTED IN THE PRESENCE OF THE OWNER. A TEST REPORT SHALL BE SUBMITTED TO THE OWNER. THE MINIMUM INSULATION RESISTANCE SHALL BE 1,000,000 OHMS FOR #12AWG CONDUCTORS AND 250,000 OHMS FOR LARGER CONDUCTORS. CONDUCTORS TESTING BELOW THE MINIMUM INSULATION RESISTANCE SHALL BE REPLACED AND TESTED AGAIN.
 - THE CONTRACTOR SHALL PERFORM A CONTINUITY TEST ON THE ENTIRE ELECTRICAL SYSTEM PRIOR TO ENERGIZING THE SYSTEM TO INSURE PROPER CABLE CONNECTIONS.
 - THE CONTRACTOR SHALL PERFORM CONNECTION TORQUE TESTS FOR ALL LARGER CONDUCTOR BOLTED CONNECTIONS USING A TORQUE WRENCH. TORQUE SHALL BE TO NATIONAL ELECTRICAL TESTING ASSOCIATION'S (NETA) STANDARDS.
 - THE CONTRACTOR SHALL PERFORM MECHANICAL OPERATION TESTS FOR ALL ELECTRICAL EQUIPMENT, SUCH AS DISCONNECT SWITCHES, CIRCUIT BREAKERS, ETC.; TO VERIFY THAT THE MECHANICAL PORTIONS OF THE DEVICE ARE FUNCTIONING.

- AT THE COMPLETION OF THE LIFE-SAFETY SYSTEM INSTALLATION, THE CONTRACTOR SHALL TEST ALL FIRE ALARM AND EMERGENCY LIGHTING DEVICES. EMERGENCY LIGHTING DEVICES TEST SHALL INCLUDE VERIFICATION THAT THE MINIMUM LIGHT LEVELS REQUIRED BY THE LATEST EDITION OF INTERNATIONAL BUILDING CODE ARE MET ALONG THE PATH OF EGRESS. THE CONTRACTOR SHALL SUBMIT A REPORT TO THE ENGINEER VERIFYING THAT THE SYSTEMS ARE FULLY OPERATIONAL AND HAVE MET ALL CODE REQUIREMENTS.
- ELECTRICAL DEMOLITION - 260501:
 - PRIOR TO SUBMISSION OF BID, THE CONTRACTOR SHALL THOROUGHLY INSPECT THE WORK AREA. BASED ON THIS INSPECTION, THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT TO ACCOMPLISH DEMOLITION WORK.
 - THE ELECTRICAL CONTRACTOR SHALL INCLUDE A CONTINGENCY TO RELOCATE AND/OR RE-SUPPORT AS REQUIRED ANY EXISTING EQUIPMENT, DEVICES, WIRING, CONDUIT, ETC. THAT WILL BE AFFECTED BY THE SCOPE OF WORK WHETHER SUCH ITEMS ARE SPECIFICALLY SHOWN ON THE DRAWINGS OR NOT. NO ADDITIONAL COSTS SHALL BE INCURRED TO THE OWNER DURING CONSTRUCTION FOR RELOCATION OF THESE ITEMS.
 - THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CIRCUIT TRACING TO DETERMINE THE SOURCE OF WIRING DEVICES AND/OR EQUIPMENT AS REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS.
 - AS PART OF DEMOLITION WORK, THE CONTRACTOR IS RESPONSIBLE FOR KEEPING EXISTING SYSTEMS (NOT SCHEDULED FOR REMOVAL) ENERGIZED. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPPORTS, WIRING DEVICES, WIRE AND CONDUIT AS REQUIRED TO KEEP EXISTING EQUIPMENT AND/OR DEVICES ACTIVE, WHETHER THEY SHARE THE SAME CIRCUITS AS DEMOLITION ITEMS OR NOT. THIS INCLUDES EQUIPMENT FEEDERS, RECEPTACLE AND LIGHTING CIRCUITS, COMMUNICATION SYSTEMS, FIRE ALARM SYSTEMS AND CIRCUITS, ETC.
 - EXTEND EXISTING INSTALLATIONS USING MATERIALS AND METHODS COMPATIBLE WITH THE EXISTING ELECTRICAL SYSTEMS.
 - VERIFY THAT ALL ABANDONED WIRING AND EQUIPMENT SERVE ONLY ABANDONED FACILITIES.
 - REMOVE ALL ABANDONED WIRING AND EXPOSED CONDUIT, INCLUDING THOSE ABANDONED ABOVE ACCESSIBLE FINISHED FINISHES. CUT CONDUIT FLUSH WITH WALLS AND FLOORS; AND PATCH SURFACES.
 - ALL EXISTING BRANCH CIRCUITS NOT TO BE REUSED SHALL BE REMOVED BACK TO SERVING PANELBOARD. CIRCUIT BREAKERS SHALL BE LABELED AS SPARE AND PLACED IN THE "OFF" POSITION. EXISTING CONDUIT SHALL REMAIN FROM PANELBOARD TO ABOVE ACCESSIBLE CEILING SPACE.
 - SINCE PROPOSED RENOVATIONS OF THE PROJECT DO NOT ENCOMPASS THE ENTIRE FLOOR, IT IS ANTICIPATED THAT MANY OF THE EXISTING CIRCUITS AND BRANCH CIRCUIT BREAKERS IN THE EXISTING PANELBOARDS MAY BE NEEDED TO SERVE EXISTING LOADS NOT AFFECTED BY THE MODIFICATIONS. HOWEVER, IT IS THE INTENTION OF THE ELECTRICAL DESIGN TO USE EXISTING SPARE CIRCUITS AND THOSE CIRCUITS MADE SPARE BY THE DEMOLITION WORK TO MAXIMUM EXTENT POSSIBLE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT CIRCUIT NUMBER AND PANELBOARD DESIGNATION.
 - ASBESTOS PROCEDURE: THE CONTRACTOR SHALL, UPON CONTACTING MATERIAL SUSPECTED OF BEING ASBESTOS, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY AND WORK AROUND SUSPECTED AREA.
- WIRES AND CABLES - 260519:
 - ALL CONDUCTORS SHALL BE SOFT 98% MINIMUM CONDUCTIVITY REFINED COPPER, INSULATION TYPE "THHW/THWN" RATED 600 VOLTS UNLESS INDICATED OTHERWISE.
 - ALL CONDUCTORS INSTALLED UNDERGROUND SHALL BE INSULATION TYPE "XHHW-2" UNLESS INDICATED OTHERWISE REGARDLESS IF THE CONDUCTORS ARE INSTALLED IN CONDUIT.
 - MINERAL INSULATED (TYPE MI) CABLE SHALL BE 2-HOUR FIRE-RATED SOLID HIGH-CONDUCTIVITY COPPER RATED 600 VOLTS WITH 90° TEMPERATURE RATING. CONDUCTORS SHALL HAVE MAGNESIUM OXIDE INSULATION MATERIAL AND SEAMLESS SOFT-DRAWN COPPER SHEATH MATERIAL.
 - MI CABLE SHALL COMPLY WITH UL 2196, "TESTS FOR FIRE RESISTIVE CABLES".
 - ALL CONDUCTOR CABLE FOR VARIABLE FREQUENCY DRIVE (VFD) FEEDERS SHALL BE FLEXIBLE TYPE TC (FINELY STRANDED TINNED COPPER) INSULATION TYPE XLPE RATED 600 VOLTS WITH SPIRALED COPPER TAPE SHIELDING, THREE SYMMETRICAL TINNED COPPER 100%-RATED GROUNDS; AND BLACK SUNLIGHT- AND OIL-RESISTANT TYPE JACKET MATERIAL.
 - VFD CONDUCTOR CABLE SHALL BE INSTALLED BETWEEN VARIABLE FREQUENCY DRIVE AND ASSOCIATED MOTOR.
 - METAL CLAD CABLE MAY BE USED FOR INDOOR CONCEALED LIGHTING AND RECEPTACLE BRANCH CIRCUITS WHEN WRITTEN APPROVAL IS GIVEN BY THE OWNER AND SHALL BE INSTALLED ONLY WHERE PERMITTED BY CODE. METAL CLAD CABLE SHALL BE LIGHTWEIGHT GALVANIZED STEEL INTERLOCKED ARMOR WITH CONDUCTORS AS SPECIFIED ABOVE. CABLE SHALL BE PROVIDED WITH SEPARATE EQUIPMENT GROUNDING CONDUCTOR. ARMOR SHALL NOT BE USED AS MEANS OF GROUNDING.
 - INCLUDE IN OVERALL JACKET, TWO (2) #16AWG LOW-VOLTAGE CONDUCTORS (PURPLE/PINK) SEPARATELY INSULATED FROM POWER CONDUCTORS FOR 0-10V DIMMING APPLICATIONS.
 - ALL WIRES #10AWG AND SMALLER SHALL BE SOLID COPPER. ALL WIRES #8AWG AND LARGER SHALL BE STRANDED COPPER.
 - USE SAME FACTORY COLOR CODE THROUGHOUT FOR CONDUCTORS AS FOLLOWS:

120/208 VOLTS - BLACK, RED, BLUE AND WHITE NEUTRAL CONDUCTOR
277/480 VOLTS - BROWN, ORANGE, YELLOW AND GRAY NEUTRAL CONDUCTOR
GREEN CONDUCTOR SHALL BE USED WHERE EQUIPMENT GROUND WIRE IS SPECIFIED.
GREEN WITH YELLOW STRIPE CONDUCTOR SHALL BE USED WHERE ISOLATED GROUND WIRE IS SPECIFIED.
 - MINIMUM CONDUCTOR SIZES SHALL BE #12AWG FOR POWER AND LIGHTING CIRCUITS, #10AWG FOR BRANCH CIRCUIT RUNS LONGER THAN 100 FEET AND #14AWG FOR CONTROL CIRCUITS UNLESS INDICATED OTHERWISE.
 - NO CONDUCTORS SHALL BE PULLED INTO ANY CONDUIT RUN BEFORE ALL CONDUIT JOINTS ARE TIGHT AND ENTIRE RUN IS SECURED IN PLACE. WHERE NECESSARY FOR WIRING INSTALLATION, PULLING COMPOUND SHALL BE POWDERED SOAPSTONE, MINERALALLC #100 OR APPROVED EQUAL.
 - TERMINATIONS OF #6AWG OR LARGER AT SWITCHBOARDS, TRANSFORMERS AND UPS SYSTEMS SHALL BE MADE WITH COMPRESSION TYPE CONNECTORS. TERMINATIONS OF #6AWG OR LARGER AT PANELBOARDS SHALL BE MADE WITH MECHANICAL LUGS.
 - JOINS AND TAPS OF #6AWG OR LARGER SHALL BE MADE WITH PRESSURE-INDENT TYPE CONNECTORS.
 - TAG ALL FEEDERS ROUTED THROUGH ELECTRICAL BOXES, GUTTER SPACES AND WIREWAYS.
 - ACCEPTABLE MANUFACTURERS ARE ALLIED, GENERAL CABLE, PHELPS DODGE, ROME, SIMPLEX AND SOUTHWIRE FOR WIRES AND CABLES.
 - ACCEPTABLE MANUFACTURERS ARE NVENT PYROTENAX OR APPROVED EQUAL FOR TYPE MI CABLE.
 - ACCEPTABLE MANUFACTURERS ARE ALLIED, BELDEN AND SOUTHWIRE FOR VFD CABLE.
 - ACCEPTABLE MANUFACTURERS ARE AFC, ALLIED AND SOUTHWIRE FOR METAL CLAD CABLE.
- GROUNDING AND GROUND-FAULT PROTECTION - 260526:
 - GROUNDING SHALL COMPLY WITH NEC ARTICLE 250.
 - EACH CIRCUIT SHALL HAVE AN EQUIPMENT GROUND CONDUCTOR. MULTI-WIRE CIRCUITS OF DIFFERENT PHASES MAY SHARE EQUIPMENT GROUND CONDUCTOR. THE EQUIPMENT GROUND CONDUCTOR SHALL NOT BE LESS THAN #12AWG OR AS SHOWN ON DRAWINGS. PROVIDE ELECTRICALLY CONTINUOUS, TIGHT GROUNDING CONNECTIONS FOR ALL WIRING DEVICES UNLESS NOTED OTHERWISE. WIRING DEVICE GROUNDING CONNECTIONS SHALL BE MADE VIA PITGAL FROM GROUND SCREW WITHIN DEVICE BACK BOX. INSTALL IN STRICT ACCORDANCE WITH NEC ARTICLE 300.13 (B).
 - EQUIPMENT GROUND CONDUCTORS SHALL BE INSTALLED IN CONDUIT OR SUITABLY PROTECTED FROM DAMAGE.
 - CONDUITS ARE NOT TO BE USED AS MEANS OF GROUNDING.
 - ACCEPTABLE MANUFACTURERS ARE BURNDY, ERICO AND SQUARE D.
- SUPPORTING DEVICES - 260529:
 - SUPPORT OF NEW ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE BEST INDUSTRY PRACTICES. DO NOT FASTEN SUPPORTS TO MECHANICAL EQUIPMENT, DUCTWORK, PIPING OR CONDUIT.
 - FURNISH AND INSTALL STEEL SUPPORT FRAMES, MEMBERS, HANGERS, BRACKETS, ETC. AS REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL EQUIPMENT.

- SUPPORT FRAMES FOR NEW LIGHT FIXTURES INDEPENDENT OF OTHER SUPPORTS WHEREVER POSSIBLE.
- SUPPORT FRAMES BOLTED TO FLOOR SLAB AND EXTENDING TO SLAB ABOVE SHALL BE PROVIDED AS REQUIRED FOR FREE STANDING EQUIPMENT OR WHERE WALLS ARE UNABLE TO SUPPORT EQUIPMENT WEIGHT.
- ALL CONDUITS UP TO 1 1/2" TRADE SIZE SHALL BE SUPPORTED BY CLAMPS OR PIPE STRAPS SECURED TO BLACK IRON CEILING SUPPORT SYSTEM, STRUCTURAL MEMBERS OR SLAB ABOVE AT INTERVALS NO GREATER THAN 7'-0" AND WITHIN 12" OF CONDUIT END. ALL CONDUITS 2" TRADE SIZE OR LARGER SHALL BE SUPPORTED BY APPROVED HANGERS AND INSERTS FROM SLAB ABOVE AT INTERVALS NO GREATER THAN 10'-0" AND WITHIN 18" OF CONDUIT END. SUPPORT FROM CEILING TEES, CROSS TEES OR WIRES IS PROHIBITED.
- ACCEPTABLE MANUFACTURERS ARE COOPER B-LINE, KINDORF AND UNISTRUT.
- RACEWAYS FOR ELECTRICAL SYSTEMS - 260533:

- MATERIALS:
 - EMT: THIN WALL, HOT-DIPPED GALVANIZED STEEL (3/4" MINIMUM) - CONDUIT TO BE USED FOR ALL WORK CONCEALED IN WALLS AND ABOVE FINISHED CEILINGS; AND FOR EXPOSED RUNS UP TO 1 1/2" TRADE SIZE. USE WITH STEEL COMPRESSION FITTINGS ONLY.
 - IMC: HOT-DIPPED GALVANIZED STEEL - CONDUIT MAY BE USED FOR RISERS, PANELBOARD FEEDERS, THREE-PHASE MOTOR FEEDERS; AND FOR CONCEALED RUNS 2" TRADE SIZE AND LARGER. USE WITH THREADED FITTINGS ONLY.
 - PMC: HOT-DIPPED RIGID GALVANIZED STEEL - UNLESS OTHERWISE NOTED; CONDUIT TO BE USED FOR ALL RISERS, PANELBOARD FEEDERS, THREE-PHASE MOTOR FEEDERS, CONDUIT INSTALLED IN SLAB; AND FOR EXPOSED RUNS 2" TRADE SIZE AND LARGER. CONDUIT SHALL BE GALVANIZED FOR CORROSION PROTECTION FOR CONDUIT INSTALLED IN CONCRETE SLAB. USE WITH THREADED FITTINGS ONLY.
 - PMC: INTERLOCKING COIL FORMED GALVANIZED STEEL STRIP (72" MAXIMUM LENGTH) - CONDUIT TO BE USED FOR ALL LIGHT FIXTURE WHIPS AND FINAL CONNECTIONS TO TRANSFORMERS AND MOTORS. USE WITH INSULATED-THROAT, COMPRESSION CONNECTORS.
 - LMFC: HELICALLY WOUND GALVANIZED STEEL STRIP WITH MOISTURE SEALING JACKET (72" MAXIMUM LENGTH) - CONDUIT TO BE USED FOR ALL LOCATIONS WITHIN 6'-0" OF A WATER SOURCE OR WHERE EXPOSED TO DAMP ATMOSPHERES OR CORROSIVE MATERIALS. USE WITH LIQUID-TIGHT, INSULATED-THROAT, COMPRESSION CONNECTORS.
 - RNC: RIGID SCHEDULE 80 PVC - CONDUIT TO BE USED FOR ALL WORK BELOW GRADE. PROVIDE WITH RIGID GALVANIZED STEEL ELBOWS.
- KEEP CONDUITS AND OTHER OPENINGS CLOSED TO PREVENT ENTRY OF FOREIGN MATTER DURING CONSTRUCTION AND PRIOR TO WIRE OR CABLE INSTALLATION.
- ALL CONDUIT IN FINISHED AREAS SHALL BE CONCEALED IN WALLS OR ABOVE FINISHED CEILING WHERE POSSIBLE. IN FINISHED AREAS WHERE ANY CONDUIT CANNOT BE CONCEALED DUE TO FIELD CONDITIONS, THE GENERAL CONTRACTOR SHALL PAINT CONDUIT AS DIRECTED BY THE ARCHITECT.
- ALL CONDUIT SHALL BE SECURELY FASTENED IN PLACE TO STRUCTURAL MEMBERS. DO NOT FASTEN TO PIPING, MECHANICAL EQUIPMENT, ETC. PROVIDE HANGERS AND/OR SUPPORTS AT EACH ELBOW AND WITHIN 12" OF EACH CONDUIT TERMINATION INTO A BOX, ENCLOSURE OR CABINET. PROVIDE APPROVED BEAM CLAMPS, PIPE STRAPS OR HEAVY IRON TIES WHERE CONDUITS PENETRATE FLOOR/CEILING SLABS.
- ALL CONDUIT TERMINATING IN METAL ENCLOSURES SHALL BE PROVIDED WITH AN INSULATED BUSHING. PROVIDE "GROUNDING" TYPE BUSHING WHERE REQUIRED.
- EXPANSION FITTINGS SHALL BE PROVIDED AT ALL EXPANSION JOINTS.
- CONDUIT TO BE INSTALLED TO AVOID PROXIMITY WITH STEAM AND HOT WATER PIPING. MAINTAIN 12" BETWEEN CONDUIT AND PIPING WHEREVER POSSIBLE. AT NO POINT SHALL SPACING BE LESS THAN 4" BETWEEN CONDUIT AND PIPING INSULATION.
- ACCEPTABLE MANUFACTURERS ARE ALLIED TUBE & CONDUIT, NATIONAL WIRE PRODUCTS, REPUBLIC AND TRIANGLE FOR CONDUITS AND ASSOCIATED FITTINGS.
- ACCEPTABLE MANUFACTURERS ARE HUBBELL, THOMAS & BETTS AND WIREMOLD FOR SURFACE RACEWAYS.
- BOXES FOR ELECTRICAL SYSTEMS - 260534:
 - OUTLET, JUNCTION AND PULL BOXES SHALL BE INDUSTRY STANDARD GAUGE, GALVANIZED SHEET STEEL. BOXES SHALL BE INSTALLED WHERE NECESSARY TO FULFILL DESIGN INTENT REGARDLESS OF INDICATIONS AS SHOWN ON DRAWINGS. ALL BOXES SHALL BE MADE ACCESSIBLE. PROVIDE ACCESS PANELS WHERE NECESSARY AND COORDINATE LOCATIONS WITH THE ARCHITECT.
 - FLOOR AND POKE-THRU BOXES SHALL BE SIZED AS REQUIRED FOR INSTALLATION OF ALL WIRING DEVICES OR MODULAR FURNITURE CONNECTIONS AS SHOWN ON DRAWINGS. PROVIDE BOXES WITH METALLIC FLANGE AND DEVICE COVER OF COLOR AND FINISHES AS DIRECTED BY THE ARCHITECT. BOXES SHALL BE FIRE-RATED AS REQUIRED TO MAINTAIN THE FIRE RATING OF FLOOR SLAB WHERE APPLICABLE.
 - FLOOR BOXES SHALL BE GALVANIZED STEEL WHERE INSTALLED IN RAISED FLOORS. FLOOR BOXES SHALL BE SHALLOW DEPTH, FIRE-RATED CAST IRON WHERE INSTALLED IN CONCRETE FLOOR SLABS.
 - POKE-THRU BOXES SHALL BE FIRE-RATED GALVANIZED STEEL WITH AN INTUMESCENT FIRE-STOP MATERIAL AND STAMPED STEEL JUNCTION BOXES FOR POWER AND VOICE/DATA CONNECTIONS.
 - POWER CIRCUITS AND COMMUNICATIONS CABLING SHALL BE INSTALLED IN HARD CONDUIT FROM ALL BOXES TO ABOVE THE SERVING TENANT'S ACCESSIBLE CEILING SPACE. CONDUIT SHALL BE ROUTED TO NEAREST AVAILABLE WALL CAVITY AND LABELED WITH THE SERVING TENANT'S NAME AT 10'-0" ON CENTERS.
 - FIELD VERIFY EXACT LOCATIONS OF ALL FLOOR AND/OR POKE-THRU BOXES WITH THE ARCHITECT AND/OR BUILDING MANAGEMENT PRIOR TO ROUGH-IN. REFER TO ITEM 8 UNDER GENERAL 260100 SECTION FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

09/01/26	00	ISSUED FOR PRICING	BU
DATE	REV	DESCRIPTION	BY

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PROJECT: **RIDGEFIELD PARKS & REC
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DRAWING TITLE: **ELECTRICAL
LEGENDS AND SPECIFICATIONS**

SCALE:	AS NOTED	DRAWN BY:	MM	DRAWING NO:
DATE:	08/03/26	CHECKED BY:	BU	
PROJECT NO:	0019561.00	APPROVED BY:	BU	

E-100

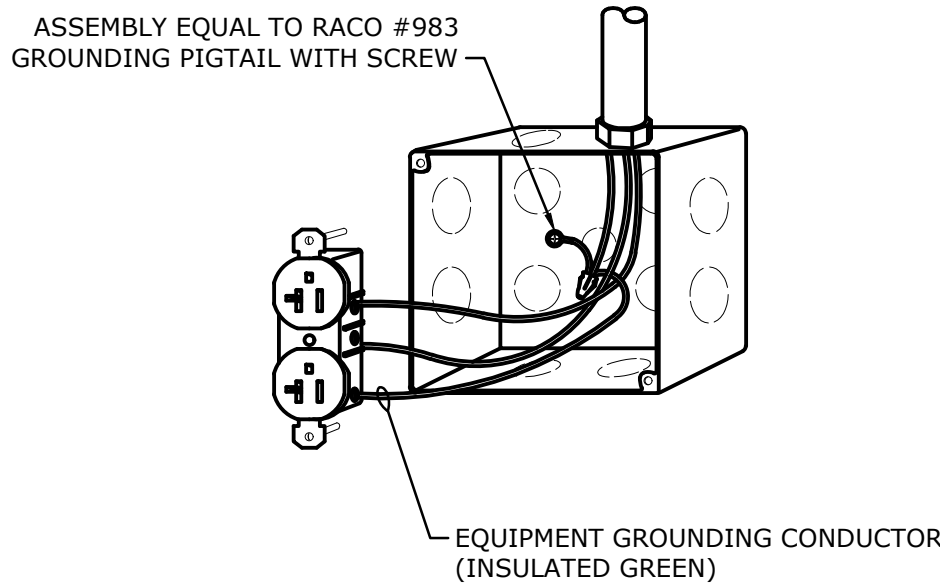
ELECTRICAL SPECIFICATIONS (CONTINUED)

BARRIERS SHALL BE INDUSTRY STANDARD GAUGE, CONDUCTIVE MATERIAL WITH ANGLE IRON FRAMING SUPPORT AROUND ITS PERIMETER AND SHALL HAVE ADEQUATE THICKNESS (1/8" MINIMUM) AS REQUIRED FOR MECHANICAL STRENGTH NECESSARY TO FULLY PROTECT THE SYSTEM. BARRIERS SHALL BE PROVIDED BETWEEN SEPARATE SYSTEMS AND BETWEEN SEPARATE VOLTAGES.	2.2.	FAULT CURRENTS SHALL BE DETERMINED AT ALL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS, FUSES, ENCLOSED SWITCHES, CIRCUIT BREAKERS AND TRANSFER SWITCHES OF THE ELECTRICAL POWER DISTRIBUTION SYSTEM.		3.	ALL RECEPTACLE OUTLETS INSTALLED IN DWELLING UNITS, INCLUDING ALL HOTEL GUESTROOMS, SHALL BE TAMPER-RESISTANT TYPE.		U.	ENGINE GENERATORS - 263213: (NOT APPLICABLE)	
4. NORMAL POWER AND EMERGENCY POWER SYSTEMS SHALL NOT BE INSTALLED IN COMMON ELECTRICAL BOXES AND SHALL BE KEPT SEPARATE.	2.3.	PREPARE A WRITTEN REPORT FOR SUBMITTAL TO THE ENGINEER. THE STUDY SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:		4.	ALL RECEPTACLE OUTLETS SHALL BE INSTALLED WITH GROUNDING PIN LOCATED IN THE TOP POSITION.		V.	STATIC UNINTERRUPTIBLE POWER SUPPLY - 263353: (NOT APPLICABLE)	
5. PROVIDE ADEQUATE OUTLET BOXES FOR MOUNTING ALL DEVICES. DO NOT USE ROUND JUNCTION BOXES.	2.3.a.	DETERMINE THE PROTECTIVE DEVICE CHARACTERISTICS AND DURATION OF THE ARC.		5.	ALL SWITCHES SHALL BE INSTALLED WITH "OFF" IN THE BOTTOM POSITION.		X.	SURGE SUPPRESSOR FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS - 264313: (NOT APPLICABLE)	
5.1. FURNISH AND INSTALL 4 11/16" SQUARE BY 1 1/2" OR 2 1/8" DEEP BACK BOX WITH EXTENSION RING FOR SWITCH AND RECEPTACLE OUTLETS. MULTI-GANG BACK BOXES SHALL BE APPROPRIATELY SIZED TO ACCOMMODATE INSTALLED WIRING DEVICES.	2.3.b.	DOCUMENT ALL SYSTEM VOLTAGES AND CLASSES OF EQUIPMENT.		6.	ALL SWITCHES FOR PROJECTION SCREENS, PROJECTOR LIFTS, AND/OR SHADES SHALL BE INSTALLED WITH "RAISE" IN THE TOP POSITION, "OFF" IN THE CENTER POSITION AND "LOWER" IN THE BOTTOM POSITION.		Y.	LIGHT FIXTURES - 265100: (NOT APPLICABLE)	
5.2. FURNISH AND INSTALL 4" OCTAGONAL BY 2 1/8" DEEP BACK BOX WITH 3/8" FIXTURE STUD FOR CEILING AND/OR SUSPENDED LIGHTING OUTLETS.	2.3.c.	SELECT THE APPROPRIATE WORKING DISTANCE FOR EQUIPMENT.		7.	ALL EXTERIOR WIRING DEVICES SHALL BE PROVIDED WITH A WEATHER-PROOF "WHILE-IN-USE" COVER.		Z.	COMMUNICATION SYSTEMS - 270528: (NOT APPLICABLE)	
5.3. FURNISH AND INSTALL WALL BOX, FLOOR BOX OR POKE-THRU DEVICE FOR POWER CONNECTION OF MODULAR FURNITURE FEEDS. REFER TO ARCHITECTURAL DRAWINGS FOR BOX REQUIREMENTS. PROVIDE WITH 3/4" FLEXIBLE CONDUIT WHIP TO FURNITURE SYSTEM POWER CABLING.	2.3.d.	DETERMINE THE INCIDENT ENERGY FOR ALL EQUIPMENT IN THE STUDY.		8.	ALL WIRING DEVICES SHALL BE INSTALLED PLUMB, SQUARE AND TRUE. WIRING DEVICES INSTALLED IN ADJACENT LOCATIONS SHALL BE ALIGNED.		AA.	FIRE ALARM SYSTEM - 283111:	
5.3.a. COORDINATE EXACT BOX QUANTITIES AND LOCATIONS WITH THE MODULAR FURNITURE INSTALLER.	2.3.e.	DETERMINE THE FLASH-PROTECTION BOUNDARY FOR ALL EQUIPMENT IN THE STUDY.		9.	WIRING DEVICES INSTALLED AT A SINGLE LOCATION SHALL BE INSTALLED IN A MULTI-GANG BACK BOX WITH SUITABLE FACEPLATE WHEREVER POSSIBLE. PROVIDE BARRIERS AS REQUIRED BY CODE.		27.	THE CONTRACTOR SHALL FURNISH AND INSTALL FIRE ALARM DEVICES WHERE SHOWN ON DRAWINGS. NEW FIRE ALARM WIRING FOR DEVICES, MODULES AND EQUIPMENT SHALL BE ROUTED TO THE BUILDING MAIN FIRE ALARM CONTROL PANEL.	
6. JUNCTION AND PULL BOXES SHALL HAVE REMOVABLE SCREW-ON COVER PLATES AND BE PROVIDED EVERY 100 FEET OF CONDUIT RUN AND WHERE NECESSARY TO FACILITATE THE INSTALLATION OF EQUIPMENT AND WIRING.	K.	LIGHTING CONTROL DEVICES - 260923: (NOT APPLICABLE)		10.	WIRING DEVICES ON NORMAL POWER SHALL BE COLORED AS DIRECTED BY THE ARCHITECT UNLESS NOTED OTHERWISE. WIRING DEVICES ON EMERGENCY POWER SHALL BE RED IN COLOR.		28.	FINAL CONNECTIONS AND TESTING OF THE SYSTEM SHALL BE PERFORMED BY THE BUILDING FIRE ALARM CONTRACTOR. THE CONTRACTOR SHALL OBTAIN AND PAY THE SERVICES OF THE FIRE ALARM CONTRACTOR TO PERFORM THIS WORK.	
6.1. BOXES SERVING FIRE ALARM SYSTEM SHALL BE PAINTED RED IN COLOR AND LABELED "FIRE".	L.	MODULAR DIMMING CONTROL - 260936: (NOT APPLICABLE)		R.	FUSES - 262813:		29.	PRIOR TO BID, THE CONTRACTOR SHALL COORDINATE REQUIREMENTS WITH THE BUILDING FIRE ALARM CONTRACTOR AND INCLUDE IN HIS PRICE ALL WORK, EQUIPMENT, INTERCONNECTIONS AND PROGRAMMING THAT IS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.	
6.2. BOXES SERVING EMERGENCY SYSTEM SHALL BE PAINTED YELLOW IN COLOR.	M.	TRANSFORMERS - 262200: (NOT APPLICABLE)		S.	ENCLOSED SWITCHES AND CIRCUIT BREAKERS - 262816:		30.	ALL FIRE ALARM EQUIPMENT, DEVICES, CABLING, ETC. NOT SCHEDULED FOR REMOVAL SHALL BE MAINTAINED AND KEPT IN OPERATION AT ALL TIMES.	
6.3. BOXES SHALL BE SIZED TO COMPLY WITH THE MINIMUM BENDING RADIUS CRITERIA AS SPECIFIED BY THE NEC.	N.	SWITCHBOARDS - 262413: (NOT APPLICABLE)		1.	FUSES SHALL BE CURRENT-LIMITING, DUAL-ELEMENT, TIME-DELAY TYPE WITH AN INTERRUPTING CURRENT CAPACITY OF 200,000RMS AMPERES AND A CONTINUOUS CURRENT RATING AS SHOWN ON DRAWINGS.		31.	REFER TO FIRE ALARM DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.	
6.4. BOXES HAVING ANY SINGLE DIMENSION LARGER THAN 36" SHALL BE PROVIDED WITH CABLE SUPPORT RACKS. CABLE SUPPORT RACKS SHALL CONSIST OF 3/4" DIAMETER STEEL PIPING WITH FLANGED ENDS BOLTED TO FRAME OF BOX AND FITTED CONTINUOUS FIBER INSULATING SLEEVES ARRANGED IN TIERS. INSTALL RACKS WITHIN 36" OF BOX.	O.	PANELBOARDS - 262416:		2.	FUSES SHALL HAVE AN AVERAGE MELTING TIME-CURRENT CHARACTERISTIC TO MEET UNDERWRITERS' LABORATORIES REQUIREMENTS OF "CLASS K" FOR 0-600 AMP FUSES AND "CLASS L" FOR OVER 600 AMP FUSES.				
7. ACCEPTABLE MANUFACTURERS ARE APPLETON, CROUSE HINDS, O.Z./GEDNEY, RACO AND THOMAS & BETTS FOR OUTLET, JUNCTION AND PULL BOXES.	P.	ELECTRICITY METERING - 262713: (NOT APPLICABLE)		3.	ACCEPTABLE MANUFACTURERS ARE BUSSMAN, GOULD SHAWMUTT AND GENERAL ELECTRIC.				
8. ACCEPTABLE MANUFACTURERS ARE FSR FL OR SMART-FIT SERIES, HUBBELL SYSTEM ONE SERIES, AND WIREMOLD EVOLUTION SERIES FOR FLOOR AND POKE-THRU BOXES.	Q.	WIRING DEVICES - 262726:		1.1.	ALL FUSED DISCONNECT SWITCHES SHALL BE PROVIDED WITH THE INSTALLED FUSE SIZE LISTED ON THE NAMEPLATE.				
9. ACCEPTABLE MANUFACTURERS ARE BURNDY, CROUSE HINDS, NEPCO, O.Z./GEDNEY, RACO AND THOMAS & BETTS FOR BUSHINGS, CONNECTORS, COUPLINGS AND FITTINGS.	1.	WIRING DEVICES SHALL BE SPECIFICATION GRADE AND AS FOLLOWS:		1.2.	ACCEPTABLE MANUFACTURERS ARE EATON, GENERAL ELECTRIC, SIEMENS AND SQUARE D.				
H. VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS - 260548:	1.1.	RECEPTACLES: PROVIDE UL498 LISTED COMMERCIAL GRADE, 20A/125V NEMA 5-20R, DECORATIVE ARCHITECTURAL STYLE RECEPTACLES UNLESS INDICATED OTHERWISE.		2.	CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC, "QUICK-MAKE, QUICK-BREAK" TYPE WITH NONWELDING CONTACTS COMPENSATED FOR AMBIENT TEMPERATURES. PROVIDE WITH ELECTRONIC, FIELD ADJUSTABLE, LSI TRIP FUNCTIONS FOR CIRCUIT BREAKERS RATED 400 AMPERES AND ABOVE. ALL CIRCUIT BREAKERS SERVING MECHANICAL EQUIPMENT SHALL BE "HACR" RATED.				
1. PROVIDE SEISMIC RESTRAINTS, INCLUDING ALL STRUCTURAL STEEL MEMBERS, INSERTS, ANCHORS, WIRES, ETC. AS REQUIRED FOR ALL ELECTRICAL EQUIPMENT. ALL SEISMIC RESTRAINTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ALL LOCAL CODES, ORDINANCES AND THE LOCAL AUTHORITY HAVING JURISDICTION.	1.2.	GROUND-FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLES: PROVIDE UL498 LISTED COMMERCIAL GRADE, 20A/125V NEMA 5-20R, DECORATIVE ARCHITECTURAL STYLE GFCI TYPE RECEPTACLE WITH SELF-TEST CIRCUITRY.		2.1.	CIRCUIT BREAKERS INDICATED WITH LS, LSI OR LSIG TRIP FUNCTIONS: TRIP FUNCTIONS FOR CIRCUIT BREAKERS SHALL BE ELECTRONIC, FIELD-ADJUSTABLE TYPE.				
I. ELECTRICAL IDENTIFICATION - 260553:	1.3.	CONTROLLED TYPE RECEPTACLES: PROVIDE UL498 AND UL1310 LISTED COMMERCIAL GRADE, 20A/125V NEMA 5-20R, DECORATIVE ARCHITECTURAL STYLE RECEPTACLES WITH FACTORY-ENGRAVED LABEL TO READ, "CONTROLLED" WITH STANDARDIZED POWER SYMBOL.		2.2.	RATED 1200 AMPERES AND ABOVE: SHALL INCLUDE ARC ENERGY REDUCTION TO REDUCE CLEARING TIME BY ONE OF THE FOLLOWING METHODS:				
1. PROVIDE THERMOPLASTIC ENGRAVED NAMEPLATES FOR ALL ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO: CIRCUIT BREAKERS, DISCONNECT SWITCHES, PANELBOARDS, SWITCHBOARDS, TRANSFORMERS, ETC. AS REQUIRED BY THE NATIONAL ELECTRIC CODE. NAMEPLATES SHALL INDICATE EQUIPMENT NAME, VOLTAGE AND AMPERAGE.	1.4.	USB TYPE RECEPTACLES: PROVIDE UL498 AND UL1310 LISTED COMMERCIAL GRADE, 20A/125V NEMA 5-20R, DECORATIVE ARCHITECTURAL STYLE RECEPTACLES WITH TWO (2) USB CHARGING PORTS.		2.2.a.	ZONE-SELECTIVE INTERLOCKING				
1.1. ALL FUSED DISCONNECT SWITCHES SHALL BE PROVIDED WITH THE INSTALLED FUSE SIZE LISTED ON THE NAMEPLATE.	1.5.	TAMPER-RESISTANT TYPE RECEPTACLES: PROVIDE UL498 LISTED COMMERCIAL GRADE, 20A/125V NEMA 5-20R, DECORATIVE ARCHITECTURAL STYLE RECEPTACLES WITH SPRING-LOADED SHUTTERS THAT CLOSE OFF THE CONTACT OPENINGS, OR SLOTS. RECEPTACLES SHALL HAVE 'TR' SYMBOL ON STRAP OR BODY OF DEVICE.		2.2.b.	DIFFERENTIAL RELAYING				
2. NAMEPLATES FOR EQUIPMENT ON NORMAL POWER SHALL BE BLACK WITH WHITE LETTERING. NAMEPLATES FOR EQUIPMENT ON EMERGENCY POWER SHALL BE YELLOW WITH BLACK LETTERING.	1.6.	ISOLATED GROUND TYPE RECEPTACLES: PROVIDE UL498 LISTED HOSPITAL GRADE, 20A/125V NEMA 5-20R IG RECEPTACLE, ORANGE IN COLOR WITH TRIANGLE INDICATOR.		2.2.c.	ENERGY-REDUCING MAINTENANCE SWITCHING WITH LOCAL STATUS INDICATOR				
3. PROVIDE "DANGER" LABELING FOR ALL ELECTRICAL EQUIPMENT, BOXES, ETC. AS REQUIRED BY NEC CODES. LABELING SHALL INCLUDE ALL REQUIREMENTS FOR ARC-FLASH AND FAULT-CURRENT IDENTIFICATION IN ACCORDANCE WITH NEC CODES.	1.7.	SURGE-PROTECTION RECEPTACLES: PROVIDE UL498 LISTED HOSPITAL GRADE, 20A/125V NEMA 5-20R GROUND-FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE WITH BLUE SURGE ARRESTOR.		2.2.d.	ENERGY-REDUCING ACTIVE ARC-FLASH MITIGATION SYSTEM				
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING ALL FIXED EQUIPMENT, RECEPTACLES AND SWITCHES WITH THE PANELBOARD NAME AND CIRCUIT BREAKER NUMBER SERVING EACH DEVICE WITH TYPEWRITTEN LABELS.	1.8.	SINGLE-POLE SWITCHES: PROVIDE U.L. LISTED COMMERCIAL GRADE, 20AMP, 120-277VAC SINGLE-POLE, TOGGLE-OPERATED, QUIET-TYPE, DECORATIVE ROCKER STYLE WALL SWITCH.		2.3.	CIRCUIT BREAKERS SERVING FIRE ALARM CIRCUITS SHALL BE PROVIDED WITH A CIRCUIT LOCK-OUT KIT THAT IS RED IN COLOR, INCLUDES HEX KEY, AND IS PERMANENTLY LABELED, "FIRE ALARM".				
J. OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDIES - 260573:	1.9.	THREE-WAY SWITCHES: PROVIDE U.L. LISTED COMMERCIAL GRADE, 20AMP, 120-277VAC THREE-WAY, TOGGLE-OPERATED, QUIET-TYPE, DECORATIVE ROCKER STYLE WALL SWITCH.		2.3.a.	ACCEPTABLE MANUFACTURER AND MODEL IS ACERBOX BY SPACE AGE ELECTRONICS #ELOCK-FA, OR APPROVED EQUAL.				
1. SHORT-CIRCUIT FAULT CURRENTS:	1.10.	FOUR-WAY SWITCHES: PROVIDE U.L. LISTED COMMERCIAL GRADE, 20AMP, 120-277VAC FOUR-WAY, TOGGLE-OPERATED, QUIET-TYPE DECORATIVE ROCKER STYLE WALL SWITCH.		2.4.	IN DWELLING UNITS; ALL 120-VOLT, 15- AND 20-AMPERE CIRCUIT BREAKERS SERVING ANY ROOM, EXCEPT FOR BATHROOMS, SHALL BE ARC-FAULT, CIRCUIT-INTERRUPTING TYPE. ALL ARC-FAULT CIRCUIT INTERRUPTING TYPE CIRCUIT BREAKERS SHALL HAVE DEDICATED NEUTRALS.				
1.1. CALCULATE THE MAXIMUM AVAILABLE SHORT-CIRCUIT CURRENT IN RMS SYMMETRICAL AMPERES FOR THE ELECTRICAL POWER DISTRIBUTION SYSTEM FROM "NORMAL/UTILITY" AND "EMERGENCY/GENERATOR" SOURCES. INCLUDE STUDIES OF SYSTEM SWITCHING CONFIGURATIONS AND ALTERNATE OPERATIONS THAT COULD RESULT IN MAXIMUM FAULT CONDITIONS. CALCULATE MOMENTARY AND INTERRUPTING DUTIES ON THE BASIS OF MAXIMUM AVAILABLE FAULT CURRENT.	1.11.	ACTUATOR PUSH BUTTON SWITCH: PROVIDE U.L. LISTED COMMERCIAL GRADE, 20AMP, 120-277VAC SINGLE-POLE, ACTUATOR-TYPE PUSHBUTTON SWITCH SUITABLE FOR MOUNTING IN DOOR JAMB.		2.5.	WHERE INSTALLED IN EXISTING PANELBOARDS, CIRCUIT BREAKERS SHALL MATCH THE EXISTING PANELBOARD IN MANUFACTURER AND AIC RATING.				
1.2. FAULT CURRENTS SHALL BE DETERMINED AT ALL SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS AND CIRCUIT BREAKER POSITIONS OF THE ELECTRICAL POWER DISTRIBUTION SYSTEM. THE CALCULATION SHALL BE FOR THE CURRENT IMMEDIATELY AFTER INITIATION AND FOR A THREE-PHASE BOLTED SHORT-CIRCUIT. PERFORM A SELECTIVE DEVICE COORDINATION STUDY USING THE FAULT CURRENT LEVELS ESTABLISHED BY THE SHORT-CIRCUIT CALCULATIONS.	1.12.	DIMMERS: PROVIDE U.L. LISTED COMMERCIAL GRADE, DECORATIVE ARCHITECTURAL STYLE, SLIDE-TO-OFF, 120-277VAC DIMMER SWITCH RATED AS REQUIRED FOR ASSOCIATED LOAD. COORDINATE TYPE OF DIMMER WITH THE LIGHT FIXTURE AND/OR LAMP MANUFACTURER.		2.6.	FOR STAND-ALONE APPLICATIONS, CIRCUIT BREAKERS SHALL BE IN A NEMA 1 ENCLOSURE. PROVIDE MINIMUM SHORT CIRCUIT RATINGS OF 22,000 AMPERES SYMMETRICAL FOR 120/280-VOLT SYSTEMS AND 35,000 AMPERES SYMMETRICAL FOR 277/480-VOLT SYSTEMS UNLESS NOTED OTHERWISE.				
1.3. PREPARE A WRITTEN REPORT FOR SUBMITTAL TO THE ENGINEER. THE STUDY SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:	1.13.	TIMER SWITCHES: PROVIDE TITLE 24 COMPLIANT U.L. LISTED COMMERCIAL GRADE, 20AMP, 120VAC SINGLE-POLE TIMER SWITCH WITH FIVE BUTTONS SET FOR 15MIN, 30MIN, 1HR, 2HRS AND OFF.		2.6.a.	ACCEPTABLE MANUFACTURERS ARE EATON, GENERAL ELECTRIC, SIEMENS AND SQUARE D.				
1.3.a. PROVIDE DEVICE SETTINGS AND RATINGS OF ALL OVERCURRENT PROTECTIVE DEVICES.	1.14.	MOTOR-RATED SWITCHES: PROVIDE U.L. LISTED COMMERCIAL GRADE, 600VAC, TOGGLE-OPERATED, HEAVY-DUTY SWITCH SUITABLE FOR USE AS MOTOR DISCONNECT. PROVIDE AMPERAGE RATING AND TYPE PER THE EQUIPMENT MANUFACTURER'S SPECIFICATIONS.		T.	ENCLOSED CONTROLLERS - 262913:				
1.3.a.1. FOR 600-VOLT OVERCURRENT PROTECTIVE DEVICES, ENSURE THAT INTERRUPTING RATINGS ARE EQUAL TO OR HIGHER THAN CALCULATED 1/2-CYCLE SYMMETRICAL FAULT CURRENT.	1.15.	RAISE/LOWER SWITCHES: PROVIDE U.L. LISTED COMMERCIAL GRADE, 20AMP, 120-277VAC SINGLE-POLE, DOUBLE-THROW, TOGGLE-OPERATED, QUIET-TYPE, DECORATIVE ROCKER STYLE WALL SWITCH WITH CENTER "OFF" FOR MOTORIZED DOORS, SCREENS AND SHADES. COORDINATE EXACT REQUIREMENTS WITH THE EQUIPMENT SUPPLIER.		1.	MOTOR STARTERS TO BE ACROSS-THE-LINE MAGNETIC WITH HAND-OFF-AUTO (HOA) SELECTOR SWITCHES, THERMAL OVERLOAD, PILOT LIGHT AND LOW VOLTAGE PROTECTION FOR ALL PHASES. INCLUDE CONTROL TRANSFORMER WITH ONE (1) SET OF NORMALLY-CLOSED AND NORMALLY-OPEN CONTACTS.				
1.3.a.2. FOR DEVICES AND EQUIPMENT RATED FOR ASYMMETRICAL FAULT CURRENT, APPLY MULTIPLICATION FACTORS LISTED IN THE STANDARDS FOR 1/2-CYCLE SYMMETRICAL FAULT CURRENT.	1.16.	COMBINATION SMOKE AND CARBON MONOXIDE DETECTORS: PROVIDE U.L. LISTED RESIDENTIAL GRADE, INTER-CONNECTABLE, BATTERY BACK-UP, HARD-WIRED 120VAC DETECTOR WITH PHOTOELECTRIC SMOKE AND ELECTROCHEMICAL CARBON MONOXIDE SENSORS. CARBON MONOXIDE SENSOR SHALL ACTUATE ALARM UNDER THE FOLLOWING CONCENTRATION LEVELS: 70ppm AT 60-240 MINUTES, 150ppm AT 10-50 MINUTES AND 400ppm AT 4-15 MINUTES. DETECTOR SHALL HAVE THE FOLLOWING FEATURES:		1.1.	ALL MOTOR STARTERS SHALL BE ASSEMBLED AND INTERNALLY WIRED WITH ALL DEVICES IN CONFORMANCE WITH NEMA STANDARDS.				
1.3.b. VERIFY ADEQUACY OF PHASE CONDUCTORS AT THE MAXIMUM THREE-PHASE BOLTED FAULT CURRENTS. VERIFY ADEQUACY OF EQUIPMENT GROUNDING CONDUCTORS AND GROUNDING ELECTRODE CONDUCTORS AT THE MAXIMUM GROUND-FAULT CURRENTS.	1.16.a.	DEVICES SHALL BE CAPABLE OF BEING INTERCONNECTED WITH OTHER DEVICES WITHIN THE SAME DWELLING UNIT SUCH THAT IF ONE DEVICE IS ACTIVATED, IT WILL INITIATE ALARM OF ALL OTHER DEVICES WITH UNIT.		1.2.	ACCEPTABLE MANUFACTURERS ARE ALLEN BRADLEY, GENERAL ELECTRIC AND SQUARE D.				
1.3.c. ENSURE THAT SHORT-CIRCUIT WITHSTAND RATINGS ARE EQUAL TO OR HIGHER THAN CALCULATED 1/2-CYCLE SYMMETRICAL FAULT CURRENT.	1.16.b.	GREEN VISUAL SIGNAL INDICATING DETECTOR IS FUNCTIONING PROPERLY.		2.	VARIABLE FREQUENCY DRIVE (VFD) SHALL BE ADJUSTABLE, FREQUENCY CONTROL OPEN LOOP SENSORLESS VECTOR CONTROL INTELLIGENT DRIVE WITH RELIABLE BYPASS CONFIGURATION FULLY RATED WITH MECHANICALLY AND ELECTRICALLY INTERLOCKED CONTACTS. DRIVES SHALL BE 480-VOLT, 3-PHASE, 60HZ (VARIATION OF 45-66HZ), 0.96 POWER FACTOR RATED FOR CONTINUOUS DUTY IN NEMA 1 ENCLOSURE.				
1.3.d. DEMONSTRATE SELECTIVE COORDINATION BY COMPUTER-GENERATED, TIME-CURRENT COORDINATION PLOTS.	1.16.c.	RED VISUAL SIGNAL INDICATING DETECTOR IS IN ALARM.		2.1.	PROVIDE EACH VFD WITH THE FOLLOWING FEATURES:				
1.3.e. SHOW CALCULATED X/R RATIOS AND EQUIPMENT INTERRUPTING RATING FOR 1/2-CYCLE FAULT CURRENTS ON THE ELECTRICAL POWER DISTRIBUTION SYSTEM DIAGRAM.	1.16.d.	END-OF-LIFE AUDIBLE SIGNAL		2.1.a.	LIGHT INDICATORS FOR POWER ON AND PROBLEM				
1.3.f. PROVIDE TABULAR FORMAT OF SETTINGS SELECTED FOR OVERCURRENT PROTECTIVE DEVICES.	1.16.e.	LOW BATTERY AUDIBLE SIGNAL		2.1.b.	FRONT-MOUNTED KEYPAD WITH HAND/OFF/AUTO AND DRIVE/BYPASS SELECTOR TO PROGRAM USER FUNCTIONS AND TO INTERFACE WITH DISPLAY				
1.3.g. PROVIDE COORDINATION CURVES:	1.16.f.	AUDIBLE ALARM RATED AT 85db AT 10R MINIMUM. AUDIBLE ALARM SHALL BE A TEMPORAL 3 CODE FOR SMOKE ALARM SIGNAL AND TEMPORAL 4 CODE FOR CARBON MONOXIDE ALARM SIGNAL.		2.1.c.	LCD DISPLAY WITH ALPHANUMERIC, BACK LIGHT ILLUMINATED WITH PREPROGRAMMED MENU TO GUIDE USER AND ABLE TO DISPLAY AS A MINIMUM: SET-UP PARAMETERS, RUNNING PARAMETERS, FAULT REASON AND HISTORY OF PREVIOUS FAULTS.				
1.3.g.1. PREPARE TO DETERMINE SETTINGS OF OVERCURRENT PROTECTIVE DEVICES TO ACHIEVE SELECTIVE COORDINATION.	1.16.g.	ALARM SILENCE BUTTON		2.1.d.	INTEGRAL CIRCUIT BREAKER DISCONNECT				
1.3.g.2. GRAPHICALLY ILLUSTRATE THAT ADEQUATE TIME SEPARATION EXISTS BETWEEN DEVICES INSTALLED IN SERIES, INCLUDING POWER UTILITY COMPANY'S UPSTREAM DEVICES.	1.16.h.	TEST BUTTON		2.1.e.	EMI/RFI FILTERS				
1.3.g.3. PREPARE SEPARATE SETS OF CURVES FOR SWITCHING SCHEMES; AND FOR EMERGENCY PERIODS WHERE POWER SOURCE IS LOCAL GENERATION.	1.16.i.	IN HANDICAP-ACCESSIBLE APARTMENTS; PROVIDE UNIT WITH ADA COMPLIANT, 110cd, XENON STROBE.		2.1.f.	STANDARD 3% LINE REACTORS FOR ENHANCED TRANSIENT AND HARMONIC DISTORTION PROTECTION				
2. ARC-FLASH FAULT CURRENTS:	1.17.	FACEPLATES: PROVIDE THERMOPLASTIC FACEPLATES WITH COLOR AND STYLE AS DIRECTED BY THE ARCHITECT IN ALL PUBLIC SPACES. PROVIDE STAINLESS STEEL FACEPLATES IN MECHANICAL AND ELECTRICAL SPACES. FACEPLATES SHALL BE INSTALLED FLAT AGAINST WALL. NO GAPS WILL BE ALLOWED.		2.1.g.	SOLID STATE MOTOR OVERLOAD RELAY TO PROVIDE MOTOR PROTECTION WHILE IN BYPASS				
2.1. USE FAULT CURRENT LEVELS AND EQUIPMENT DATA CONTAINED IN THE SHORT-CIRCUIT STUDY; AND PERFORM AN ARC-FLASH STUDY THAT COMPLIES WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS:	1.18.	ACCEPTABLE MANUFACTURERS FOR RECEPTACLES AND SWITCHES ARE COOPER ARROW-HART DECORATOR SERIES, LEVITON DECORA SERIES, LUTRON ARCHITECTURAL SERIES AND PASS & SEYMOUR DECORATOR SERIES.		2.1.h.	TWO POWER SOURCES FOR CONTROL TO ENSURE REDUNDANCY AND PROVIDE ADDITIONAL RIDE-THROUGH CAPABILITY				
2.1.a. OSHA CFR 39 PART 1910 SUBPARTS	1.19.	ACCEPTABLE MANUFACTURERS FOR DIMMERS ARE LEVITON DECORA SERIES, LUTRON ARCHITECTURAL SERIES, PASS & SEYMOUR DECORATOR SERIES AND PHILIPS LIGHTING CONTROLS ARCHITECTURAL SERIES. PROVIDE ALL ASSOCIATED WIRING DEVICES, COMPONENTS, WIRING, ETC. AS REQUIRED TO MEET DESIGN INTENT.		2.1.i.	SELF-HEALING POWER SUPPLIES				
2.1.b. NATIONAL ELECTRIC CODE (NFPA 70) SECTION 110.116	1.19.a.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DIMMER AND BALLAST MANUFACTURERS TO ENSURE COMPATIBILITY OF DEVICES.		2.1.j.	STANDARD DRIVE CURRENT RATING OF 100kAIC AND BYPASS CURRENT RATING OF 65kAIC				
2.1.c. STANDARD FOR ELECTRICAL SAFETY IN THE WORK PLACE (NFPA 70E)	1.20.	ACCEPTABLE MANUFACTURERS FOR COMBINATION SMOKE AND CARBON MONOXIDE DETECTORS ARE FIRST ALERT, GENTEX, KIDDE AND UNIVERSAL SECURITY INSTRUMENTS.		2.2.	VFD'S SHALL HAVE AMBIENT OPERATING TEMPERATURE OF 14°F TO 104°F AND NONCONDENSING RELATIVE HUMIDITY OF 0 TO 95% RH.				
2.1.d. IEEE GUIDE FOR PERFORMING ARC-FLASH ANALYSIS CALCULATIONS (IEEE STD. 1584)	2.	ALL RECEPTACLE OUTLETS INSTALLED WITHIN 6'-0" OF SINKS OR OTHER SOURCES OF WATER SHALL BE GROUND-FAULT, CIRCUIT-INTERRUPTING TYPE.		3.	ACCEPTABLE MANUFACTURERS ARE ABB, EATON AND GENERAL ELECTRIC.				
2.1.e. NATIONAL ELECTRIC SAFETY CODE (IEEE STD C2)									

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ELECTRICAL GENERAL NOTES

- A. DEMOLITION WORK:
- ALL SALVAGEABLE ITEMS SUCH AS LIGHT FIXTURES, ETC. THAT ARE NOT TO BE REUSED SHALL BE TURNED OVER TO THE OWNER.
 - THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ACCESS TO WORK AREAS, CONSTRUCTION SCHEDULING AND SERVICE INTERRUPTIONS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION IN AREAS OF RENOVATION. ALL LIGHT FIXTURES, WIRING DEVICES, WIRE AND CONDUIT THAT ARE TO BE REMOVED SHALL BE STORED AS DIRECTED BY THE OWNER OR RELOCATED AS SHOWN ON NEW FLOOR PLANS. APPROPRIATE MEASURES SHALL BE TAKEN TO ASSURE CONTINUITY OF EXISTING CIRCUITS WHERE REQUIRED. ALL OUTAGES WHICH MAY RESULT SHALL BE COORDINATED WITH THE OWNER PRIOR TO THE WORK.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING SCHEDULES IN ALL ELECTRICAL PANELS THAT ARE AFFECTED BY THIS WORK. THE UPDATED SCHEDULES ARE TO BE TYPEWRITTEN.
 - REFER TO ARCHITECTURAL PLANS FOR GENERAL DEMOLITION ITEMS SUCH AS WALLS, CEILINGS, ETC.
- B. NEW WORK:
- ALL WORK SHALL COMPLY WITH THE 2021 EDITION OF THE INTERNATIONAL BUILDING CODES, THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE AND THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE.
 - EACH CIRCUIT SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR. MULTI-WIRE CIRCUITS OF DIFFERENT PHASES MAY SHARE EQUIPMENT GROUNDING CONDUCTOR. EQUIPMENT GROUNDING CONDUCTOR SIZE SHALL NOT BE LESS THAN #12AWG OR AS INDICATED ON THE DRAWINGS.
 - ON THREE-PHASE, FOUR-WIRE SYSTEMS; DO NOT USE A COMMON NEUTRAL FOR MORE THAN THREE BRANCH CIRCUITS. MORE THAN THREE BRANCH CIRCUITS IN ANY ONE CONDUIT IS NOT ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
 - EACH BRANCH CIRCUIT SHALL BE ON A DIFFERENT PHASE. BRANCH CIRCUITS OF THE SAME PHASE SHALL NOT UTILIZE A COMMON NEUTRAL AND/OR BE INSTALLED IN SAME CONDUIT.
 - ALL APPLIANCE AND EQUIPMENT (MICROWAVES, REFRIGERATORS, DATA RACKS/CABINETS, PRINTERS, COPIERS, ETC.) BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL.
 - ALL LIGHTING BRANCH CIRCUITS USED FOR DIMMING PURPOSES SHALL HAVE A DEDICATED NEUTRAL.
 - ON SINGLE-PHASE, THREE-WIRE SYSTEMS; DO NOT USE A COMMON NEUTRAL FOR ANY CIRCUITS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
 - BRANCH CIRCUITS SHARING A COMMON NEUTRAL SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS UTILIZING A MULTI-POLE CIRCUIT BREAKER OR WITH AN IDENTIFIED HANDLE-TIE.
 - MINIMUM CONDUCTOR SIZE SHALL BE #12AWG UNLESS OTHERWISE SPECIFIED. ALL CONDUCTORS #10AWG AND SMALLER SHALL BE SOLID COPPER AND ALL CONDUCTORS #8AWG AND LARGER SHALL BE STRANDED COPPER USING BOLTED LUGS AT TERMINALS.
 - MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS OTHERWISE SPECIFIED. ALL CONDUIT SHALL BE INSTALLED AS HIGH AS POSSIBLE (MOUNT TO BOTTOM OF STRUCTURE) TO AVOID CONFLICTS WITH DUCTWORK AND PIPING. COORDINATE INSTALLATION WITH THE MECHANICAL CONTRACTOR.
 - THE CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT. FIELD COORDINATE THESE LOCATIONS WITH THE MECHANICAL CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL CONTROL WIRING FOR MECHANICAL EQUIPMENT AS DIRECTED BY THE MECHANICAL CONTRACTOR.
 - THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS AND DETAILS FOR THE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL WIRING DEVICES.
 - THE CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR THE EXACT LOCATIONS OF ALL LIGHT FIXTURES. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL LIGHT FIXTURE SCHEDULE FOR MANUFACTURER CATALOG INFORMATION AND DESCRIPTIONS FOR ALL LIGHT FIXTURES.
 - THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE BUILDING MANAGEMENT AS FOLLOWS:
 - THE CONTRACTOR SHALL OBTAIN A COPY OF THE BUILDING RULES & REGULATIONS PRIOR TO BID SUBMISSION TO DETERMINE REQUIREMENTS AND EXTENT OF PREMIUM TIME WORK REQUIRED BY THE BUILDING MANAGEMENT. FOR THE PURPOSE OF THE BID, THE CONTRACTOR SHALL NOT PERFORM ANY NOISY WORK (CHOPPING, CORE DRILLING, ETC.) AND BASE BUILDING SYSTEM INTERRUPTIONS DURING NORMAL BUSINESS HOURS.
 - THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE BUILDING RULES & REGULATIONS. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE BUILDING RULES & REGULATIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND/OR ENGINEER FOR REVIEW WITH BID SUBMISSION.
 - THE CONTRACTOR SHALL COORDINATE WITH THE BUILDING MANAGEMENT FOR ANY SERVICE INTERRUPTIONS OF EXISTING SYSTEMS A MINIMUM OF TWO (2) DAYS PRIOR TO ANY WORK; AND AFTER APPROVAL IS OBTAINED FROM THE BUILDING MANAGEMENT. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER BEFORE PERFORMING WORK ON PREMIUM TIME, IF SO DIRECTED BY THE BUILDING MANAGEMENT; SO AS NOT TO DISTURB OTHER EXISTING TENANTS.

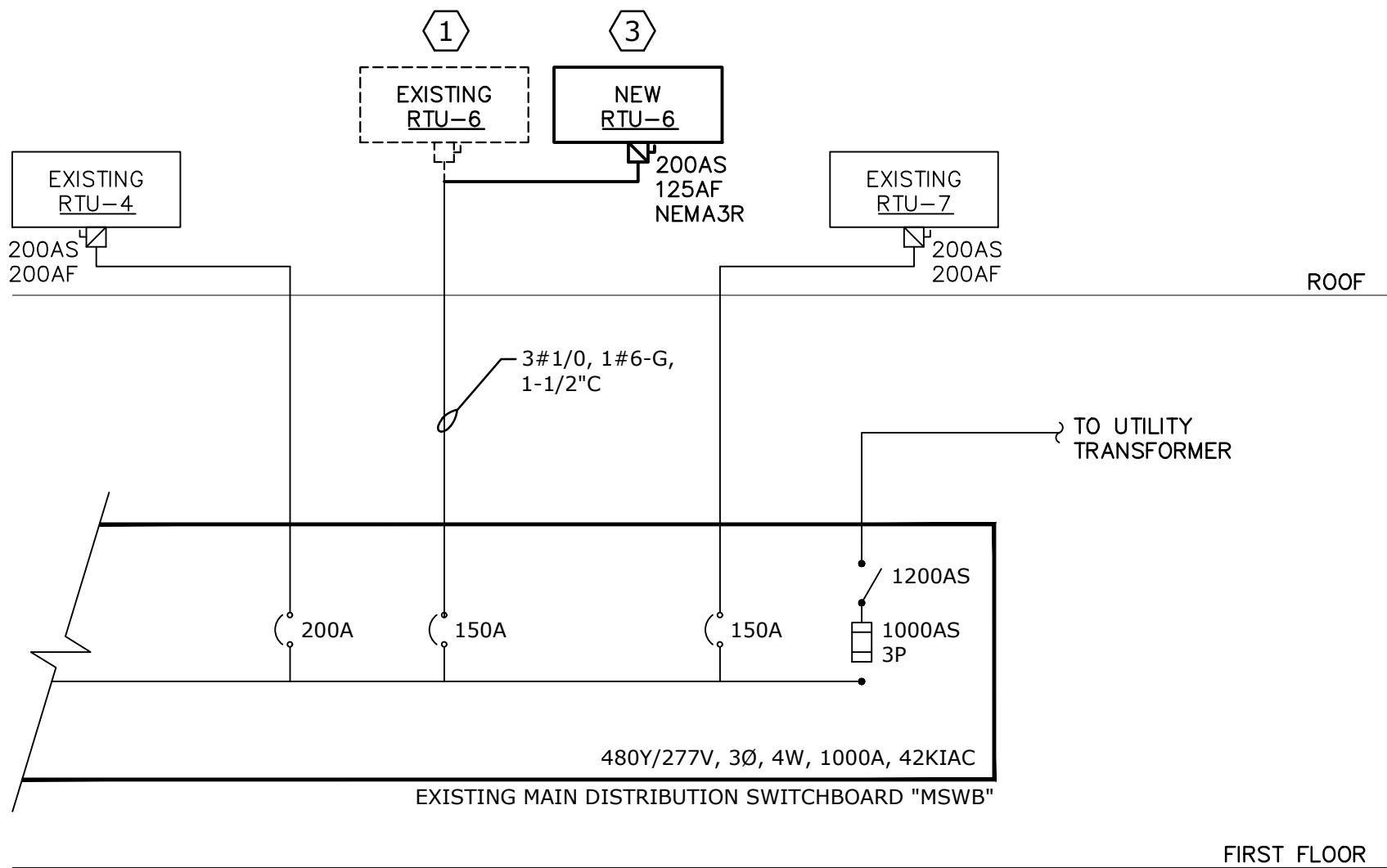


1 Device/Junction Box Grounding Detail

Scale: None

NOTES:

- UTILIZE SAME GROUNDING METHOD FOR SWITCHES.



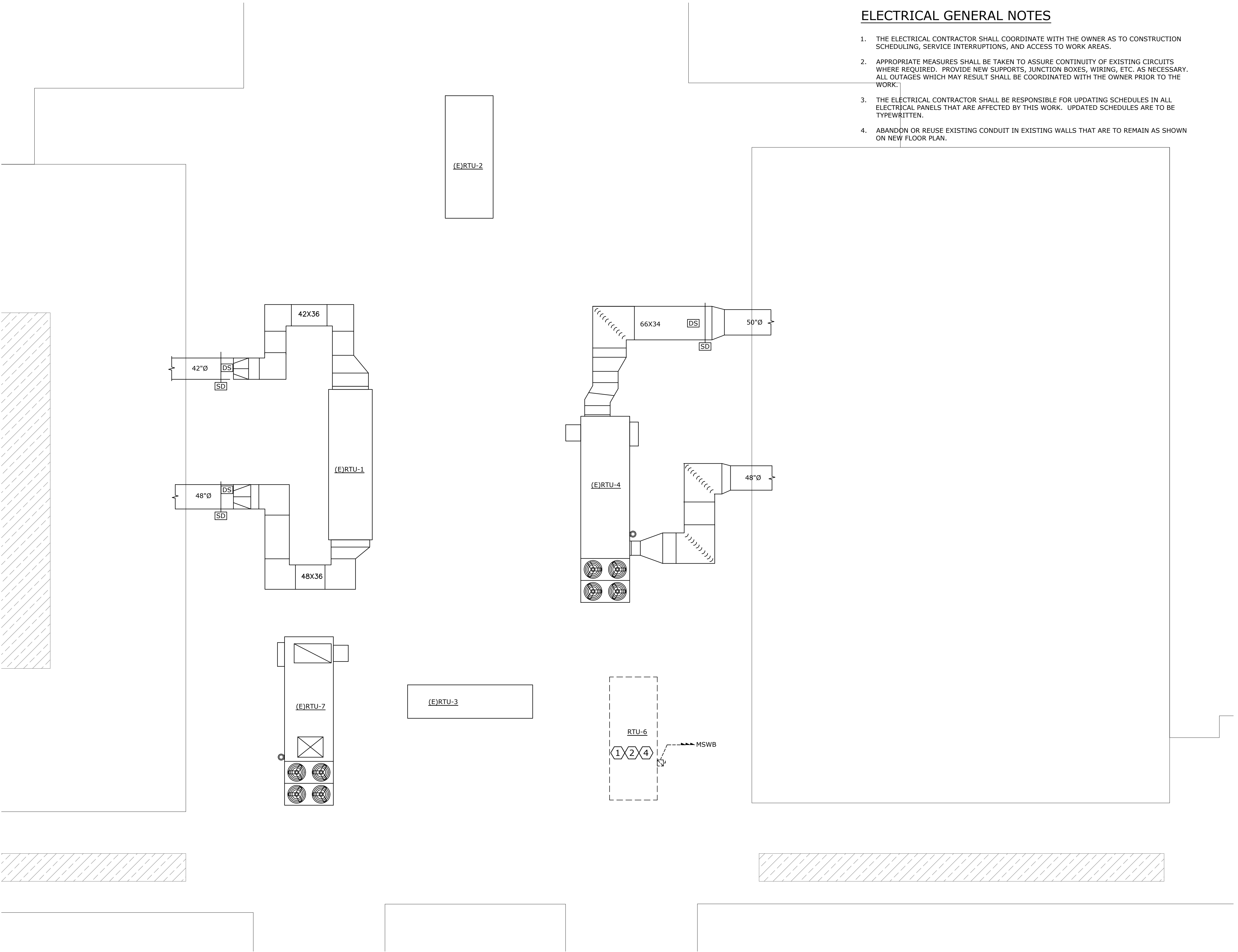
2 ELECTRICAL PARTIAL SINGLE LINE DIAGRAM

Scale: None

ELECTRICAL DESIGN NOTES:

- EXISTING RTU'S TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO L.O.T.O EXISTING CIRCUIT BREAKER FOR RTU-4 & RTU-7. DISCONNECT EXISTING POWER AND MAKE SAFE WIRING ON ROOF AT RTU-4 & RTU-7. COORDINATE WITH MECHANICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO VERIFY EXISTING ELECTRICAL CONDUCTOR IS PROPERLY SIZED AND VERIFY CONDUCTOR CONTINUITY (MEGGER TEST). ELECTRICAL CONTRACTOR TO NOTIFY ENGINEER AND REPLACE CONDUCTOR IF UNDERSIZED OR DAMAGED. CONFIRM REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
- NEW RTU TO BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. E.C. TO PROVIDE AND INSTALL NEW NEMA-3R 200A FUSIBLE DISCONNECT SWITCH WITH FUSES SIZED AS NOTED AT EACH RTU (RTU-4 & RTU-7). CONNECT SWITCH TO EXISTING FEEDER WIRING AND CONDUIT AND EXTEND AS REQUIRED. ELECTRICAL CONTRACTOR TO MAKE FINAL CONNECTIONS AND REMOVE L.O.T.O FROM FEEDER BREAKER. COORDINATE SIZING AND LOCATIONS WITH MECHANICAL CONTRACTOR.

09/01/26	00	ISSUED FOR PRICING	BU
DATE	REV	DESCRIPTION	BY
Southport Engineering Associates, PC 11 BAILEY AVENUE RIDGEFIELD, CT 06877 TEL: 203-431-6844 FAX: 203-431-6877			
PROJECT: RIDGEFIELD PARKS & REC ROOF TOP UNIT REPLACEMENTS 195 DANBURY ROAD, RIDGEFIELD, CT 06877			
DRAWING TITLE: ELECTRICAL NOTED AND DETAILS			
SCALE: AS NOTED	DRAWN BY: MM	DRAWING NO:	
DATE: 08/03/26	CHECKED BY: BU	E-102	
PROJECT NO:0019561.00	APPROVED BY:		

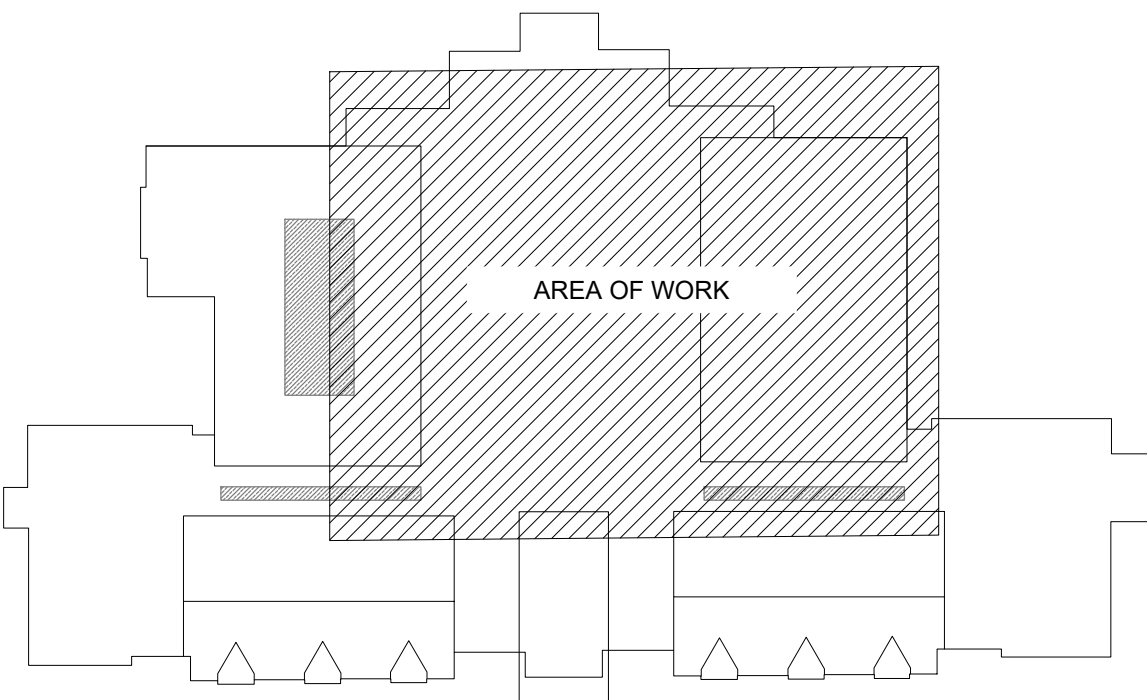


ELECTRICAL GENERAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER AS TO CONSTRUCTION SCHEDULING, SERVICE INTERRUPTIONS, AND ACCESS TO WORK AREAS.
2. APPROPRIATE MEASURES SHALL BE TAKEN TO ASSURE CONTINUITY OF EXISTING CIRCUITS WHERE REQUIRED. PROVIDE NEW SUPPORTS, JUNCTION BOXES, WIRING, ETC. AS NECESSARY. ALL OUTAGES WHICH MAY RESULT SHALL BE COORDINATED WITH THE OWNER PRIOR TO THE WORK.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING SCHEDULES IN ALL ELECTRICAL PANELS THAT ARE AFFECTED BY THIS WORK. UPDATED SCHEDULES ARE TO BE TYPEWRITTEN.
4. ABANDON OR REUSE EXISTING CONDUIT IN EXISTING WALLS THAT ARE TO REMAIN AS SHOWN ON NEW FLOOR PLAN.

ELECTRICAL DESIGN NOTES:

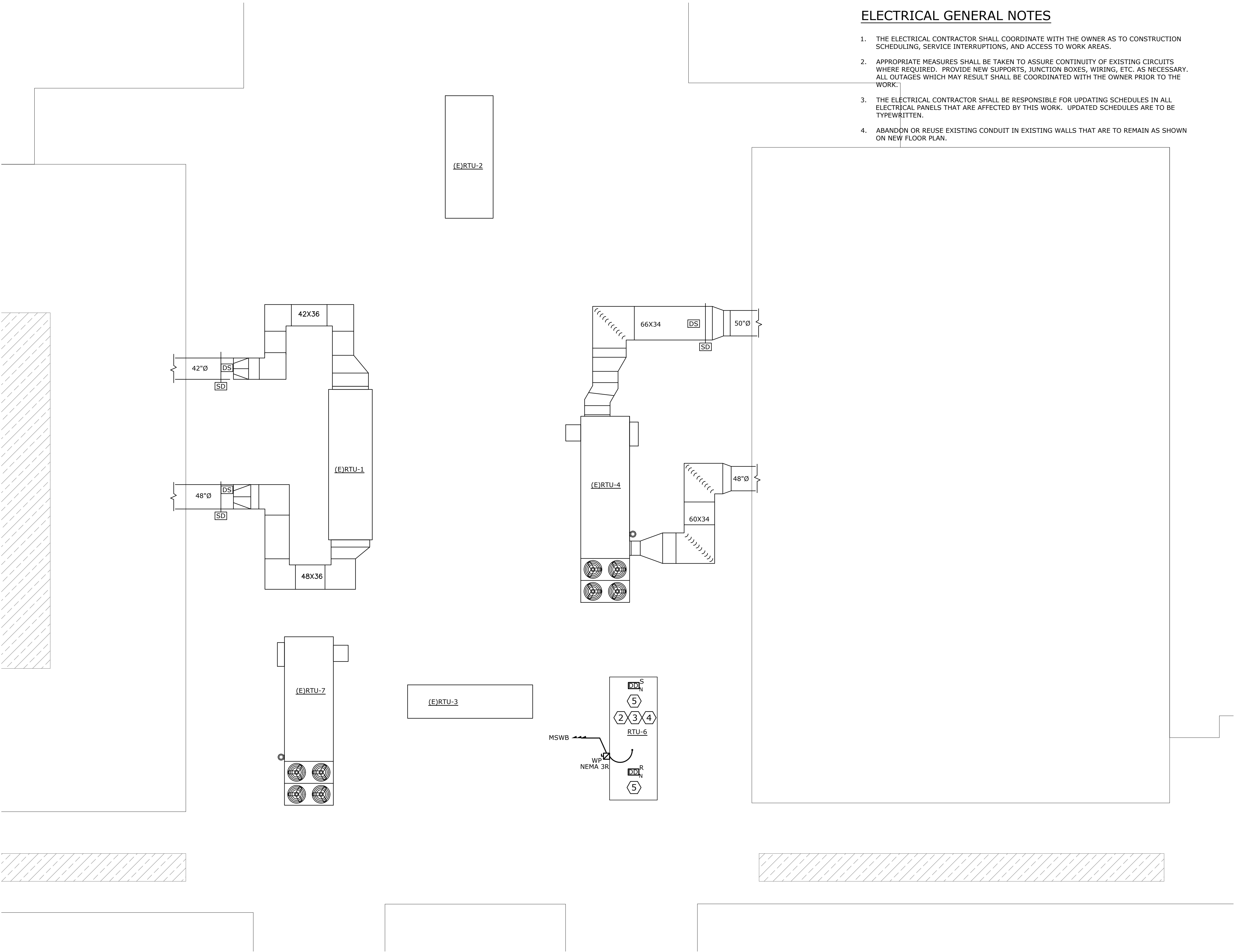
1. EXISTING RTU'S TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO L.O.T.O EXISTING CIRCUIT BREAKER FOR RTU-6. DISCONNECT EXISTING POWER AND MAKE SAFE WIRING ON ROOF AT RTU-6. COORDINATE WITH MECHANICAL CONTRACTOR.
2. ELECTRICAL CONTRACTOR TO VERIFY EXISTING ELECTRICAL CONDUCTOR IS PROPERLY SIZED AND VERIFY CONDUCTOR CONTINUITY (MEGGER TEST). ELECTRICAL CONTRACTOR TO NOTIFY ENGINEER AND REPLACE CONDUCTOR IF UNDERSIZED OR DAMAGED. CONFIRM REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
3. NEW RTU TO BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. E.C. TO PROVIDE AND INSTALL NEW NEMA-3R 200A FUSIBLE DISCONNECT SWITCH WITH FUSES SIZED AS NOTED AT NEW RTU (RTU-6). CONNECT SWITCH TO EXISTING FEEDER WIRING AND CONDUIT AND EXTEND AS REQUIRED. ELECTRICAL CONTRACTOR TO MAKE FINAL CONNECTIONS AND REMOVE L.O.T.O FROM FEEDER BREAKER. COORDINATE SIZING AND LOCATIONS WITH MECHANICAL CONTRACTOR.CONFIRM OPERATION OF UNIT SHUTDOWN UPON ACTIVATION OF SMOKE DETECTOR.
4. ELECTRICAL CONTRACTOR TO REMOVE EXISTING LIGHTING PROTECTION LOCATED ON RTU PRIOR TO DEMOLITION AND REINSTALL ON NEW RTU IN SIMILAR LOCATIONS, EXTEND WIRING AS REQUIRED WITH SIMILAR MATERIAL.
5. CONFIRM EXISTING DUCT SMOKE DETECTOR AND UNIT SHUTDOWN FUNCTIONALITY. REMOVE EXISTING DUCT SMOKE DETECTORS FROM DEMOLISHED RTU (RTU-6) AND PROVIDE AND INSTALL NEW DUCT SMOKE DETECTORS IN NEW RTU SUPPLY AND RETURN DUCTWORK EXTEND WIRE AND CONDUIT AS REQUIRED. CONFIRM OPERATION OF UNIT SHUTDOWN UPON ACTIVATION OF DUCT SMOKE DETECTOR.



2 KEY PLAN
SCALE: NONE

1 ELECTRICAL DEMOLITION PART PLAN - ROOF
SCALE: 1/8"=1'-0"

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PROJECT: RIDGEFIELD PARKS & REC ROOF TOP UNIT REPLACEMENTS 195 DANBURY ROAD, RIDGEFIELD, CT 06877			
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SCALE:	AS NOTED	DRAWN BY:	MM
DATE:	08/03/26	CHECKED BY:	BU
PROJECT NO:	0019561.00	APPROVED BY:	BU
			E-200

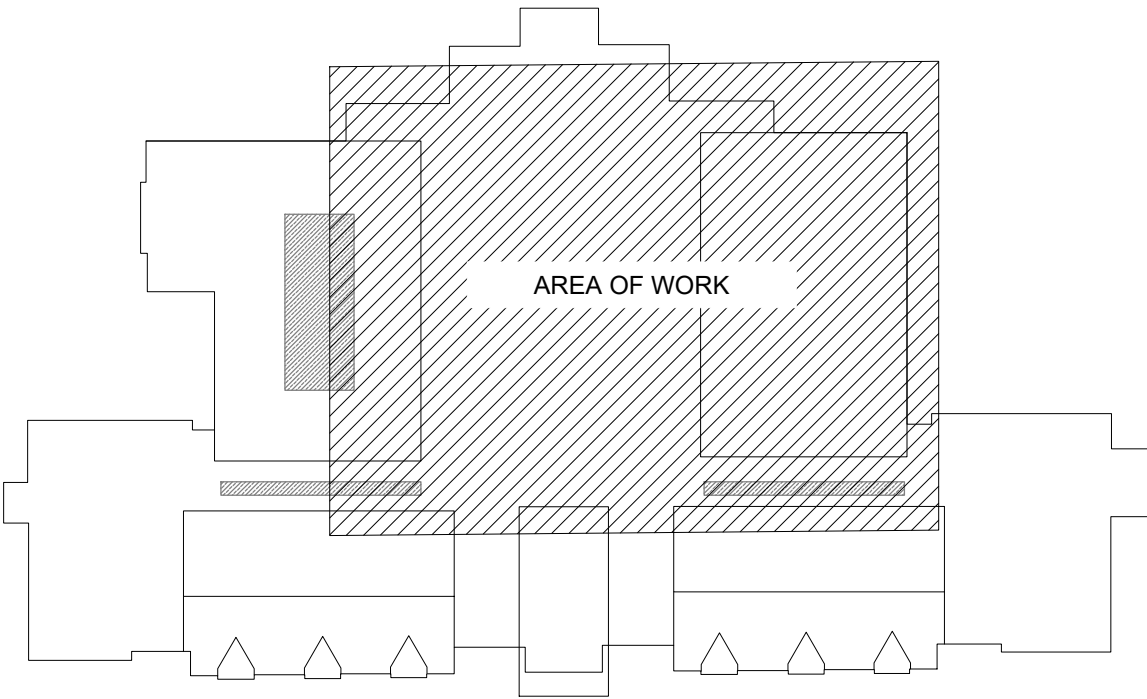


ELECTRICAL GENERAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER AS TO CONSTRUCTION SCHEDULING, SERVICE INTERRUPTIONS, AND ACCESS TO WORK AREAS.
2. APPROPRIATE MEASURES SHALL BE TAKEN TO ASSURE CONTINUITY OF EXISTING CIRCUITS WHERE REQUIRED. PROVIDE NEW SUPPORTS, JUNCTION BOXES, WIRING, ETC. AS NECESSARY. ALL OUTAGES WHICH MAY RESULT SHALL BE COORDINATED WITH THE OWNER PRIOR TO THE WORK.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING SCHEDULES IN ALL ELECTRICAL PANELS THAT ARE AFFECTED BY THIS WORK. UPDATED SCHEDULES ARE TO BE TYPEWRITTEN.
4. ABANDON OR REUSE EXISTING CONDUIT IN EXISTING WALLS THAT ARE TO REMAIN AS SHOWN ON NEW FLOOR PLAN.

ELECTRICAL DESIGN NOTES:

1. EXISTING RTU'S TO BE DEMOLISHED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO L.O.T.O EXISTING CIRCUIT BREAKER FOR RTU-6. DISCONNECT EXISTING POWER AND MAKE SAFE WIRING ON ROOF AT RTU-6. COORDINATE WITH MECHANICAL CONTRACTOR.
2. ELECTRICAL CONTRACTOR TO VERIFY EXISTING ELECTRICAL CONDUCTOR IS PROPERLY SIZED AND VERIFY CONDUCTOR CONTINUITY (MEGGER TEST). ELECTRICAL CONTRACTOR TO NOTIFY ENGINEER AND REPLACE CONDUCTOR IF UNDERSIZED OR DAMAGED. CONFIRM REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
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1 ELECTRICAL CONSTRUCTION PART PLAN - ROOF
SCALE: 1/8"=1'-0"

2 KEY PLAN
SCALE: NONE

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