Roger Williams Park Museum HVAC Renovations -REBID-1000 Elmwood Ave, Providence, RI 02907







ANDRE GILL ENEGINEERING. LLC MECHANICAL, PLUMBING AND ELECTRICAL ENGINEERS

ARCHITECTS

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ENGINEERS

Bidders Set 2022-03-15



	CODE IN	IFORMATION	LIST OF DRAWINGS
HERMAL AND/OR ACOUSTICAL ATT/BLANKET INSULATION	CODE LIST: International Building Code (2015 Edition) along with International Plumbing Code - 2015 w/ RI Amendmen International Energy Conservation Code - 2015 w/ RI ICC / ANSI A117.1 - 2009 Edition NFPA 1 2018 Edition w/ 2019 Rhode Island Amendm NFPA 101: 2018 Edition w/ 2019 Rhode Island Amen PROJECT DESCRIPTION:	the Rhode Island State Building Code SBC 1 - 2019 Amendments) its SBC-3 2019 Amendments SBC-8, Climate Zone 5 ents dments	GENERAL GI.O SHEET LIST, SYMBOLS, NOTES & ABBREVIATION LEGENDS <u>ARCHITECTURAL</u> AI.O BASEMENT FLOOR PLAN AI.I Ist FLOOR PLAN AI.2 2nd FLOOR PLAN AI.3 3rd FLOOR PLAN
ARTH	The project shall include the following: Provide Architectural, Mechanical and Electrical design t systems serving the exhibit halls, education center, vault Planetarium building. The project will address any code i (including testing). The project will address limited removin place. Sizing of systems, equipment locations, and en- requirements, and full functionality are required. Energy	to provide design documents for the replacement of the HVAC ts, archives and office areas of the Museum of Natural History and ssues and include isolation and making safe of the existing oil tank val of ducting and rigging. Limited ducting and rigging abandonment suring the project meets the design intent, energy efficiency efficiency and ease of operation are to be prioritized. National Grid	A5.1 ROOF PLAN & DETAILS A8.1 2nd FLOOR REFLECTED CEILING PLAN A8.2 3rd FLOOR REFLECTED CEILING PLAN <u>MECHANICAL</u>
ONCRETE	 efficiency incentive applications and submission will be the design will minimize disruption to Museum collections income work with the Parks Department representative to have a Historical Committee. Plumbing: Demo and remove existing water filtration skid. Determine the provide the providet the providet the providet the providet the pro	he responsibility of this vendor. Throughout the project, engineering cluding the Vaults. This is a historic building. the Design Engineer will any impacts or changes to the building exterior approved by the emo and remove existing water heater. ank as required by DEM. If allowed by DEM the owner has a	MU.01 MECHANICAL GENERAL (INDEX, SYMBOLS, ELGEND, NOTE MI.00 (D) MECHANICAL PLANS (BASEMENT) MI.01 (D) MECHANICAL PLANS (FIRST FLOOR) MI.02 (D) MECHANICAL PLANS (SECOND FLOOR) MI.03 (D) MECHANICAL PLANS (THIRD FLOOR)
RICK	 Install new electric water heater per specification a approval by Engineer of Record (EOR) AGE "and" Submit a new water filtration skid meeting specific entry and point of use shall be submitted EOR with filtration skid has been specified in general, but ea Depending on the exact content the systems will v Install fixtures as shown on Architectural drawings 	and drawings. An approved equal water heater may be submitted for 'Architect of Record (AOR) may be allowed. ations and drawings for approval by EOR. Testing of water at point of hin one month of letter of intent is signed. The selection of the ich manufacturer provides slightly different sands and carbons. yary by manufacturer and shall be approved by EOR.	MI.04 (D) MECHANICAL PLANS (ROOF) MI.10 (N) MECHANICAL PLANS BASEMENT MI.11 (N) MECHANICAL (FIRST FLOOR ZONES) MI.12 (N) MECHANICAL (SECOND FLOOR ZONES) MI.13 (N) MECHANICAL (THIRD FLOOR ZONES)
ONCRETE MASONRY UNITS	 Mechanical Demo and remove equipment as shown on drawir equipment "SHALL" be made safe. Abandon in place items may be removed in order clearances. If cost to remove abandon in place ite cost implications exist it shall be brought to the implication of the shown on drawing. 	ng. If equipment is listed as abandon in place all piping, ductwork and install new piping, ductwork, and equipment with appropriate ms is less than working around the equipment it may be removed. If mediate attention of the AOR and EOR. gs. Field routing will be required for complete installation of	M1.14 (N) MECHANICAL (ROOF FLOOR ZONES) M3.01 MECHANICAL SECTIONS M5.01 MECHANICAL DETAILS M5.02 MECHANICAL DETAILS M6.01 MECHANICAL SCHEDULES
IGID INSULATION	 equipment. No substitutions of Mechanical equipm If substitution is necessary contractor shall provide specified equipment. A Rhode Island Mechanical Frequirement. HVAC condensate piping shall be new and routed condensate piping shall be redlined and provided the Electrical 	nent are allowed. e equivalent equipment. The equipment shall meet and/or exceeds Professional Engineer shall sign off equipment meeting specified for ease of installation. The final location and sizes of the to the EOR and AOR for final drawing updates.	M8.00 SEQUENCE OF OPERATIONS <u>ELECTRICAL</u> E0.01 ELECTRICAL GENERAL (INDEX, SYMBOLS, LEGEND, NOTES) E0.02 SINGLE LINE E0.02 (D) ELETRICAL FLANCE (FLACENTENT)
LYWOOD	Demo and remove equipment as shown on drawir Install and connect all new equipment electrically per NE BUILDING CODE Use and Occupancy Classification (Chapter 3): Construction Type /Allowable Height (table 503):	ngs. IC A3 Type IIIB = 55	E I .00 (D) ELETRICAL PLANS (BASEMENT) E I .01 (D) ELETRICAL PLANS (FIRST FLOOR) E I .02 (D) ELETRICAL PLANS (SECOND FLOOR) E I .03 (D) ELETRICAL PLANS (THIRD FLOOR) E I .04 (D) ELETRICAL PLANS (ROOF)
OUGH WOOD	Occupant Load (1004.1.1) Egress Width (1005):	Office = 100 gross Assembly = 5 net (Standing) Assembly = 62 gross (Seating) .3" per occupant - Stairways .2" per occupant - Other egress componants	E1.10 (N) ELETRICAL PLANS (BASEMENT) E1.11 (N) ELETRICAL PLANS (FIRST FLOOR) E1.12 (N) ELETRICAL PLANS (SECOND FLOOR) E1.13 (N) ELETRICAL PLANS (THIRD FLOOR) E1.14 (N) ELETRICAL PLANS (ROOF)
YPSUM WALLBOARD	Stairways (1009) Corridor Fire Rating (Table 1018.1) Corridor Width (1018.2)	44" min width. 0 hr 44" min. width ATION	E2.01 PANEL SCHEDULES E2.02 PANEL SCHEDULES
	- = NO WORK, NEEDED ACT = ACOUSTICAL CEILING TILE ACTT = ACOUSTICAL CEILING TILE-TEGULAR AFF = ABOVE FINISH FLOOR ALUM = ALUMINUM CBB = CEMENTITIOUS BACKER BOARD CJ = CONTROL JOINT CMU = CONCRETE MASONRY UNIT(5) CO = CLEAN OUT CONST = CONSTRUCTION CORR = CORRIDOR CT = CERAMIC TILE CPTT = CARPET CPTT = CARPET CPTT = CARPET TILE DEMO = DEMOLISH/DEMOLITION DIA = DIAMETER DIM = DIMENSION DN = DOWN DWG = DRAWING ECT = ENTRANCE CARPET TILE EJ = EXPANSION JOINT ELEC = ELECTRIC/ELECTRICAL EPX = EPOXY EQ = EQUAL ETR = EXISTING TO REMAIN EXT = EXISTING TO REMAIN EXT = EXISTING FD = FLOOR DRAIN FE = FIRE EXTINGUISHER & CABINET FF = FINISH FLOOR FHC = FIRE HOSE CABINET FIN = FINISH FLR = FLOOR FCC = FACE OF STUD FR = FIRE RATED FRP = FIRE RATED FRP = FIRE-RATED SAFETY GLASS FT = FOOTI/FEET FTG = FOOTI	MECH = MECHANICAL MIN = MINIMUM MISC = MISCELLANEOUS MFR = MANUFACTURER MO = MASONRY OPENING MRT = MOISTURE RESISTANT TILE NIC = NOT IN CONTRACT NTS = NOT TO SCALE OC = ON CENTER OD = OUTSIDE DIAMETER OFF = OFFICE OPNG = OPENING OPP = OPPOSITE OTS = OPEN TO STRUCTURE PLAM = PLASTIC LAMINATE PT = PAINT or PRESSURE TREATED PVC = POLYVINYL CHLORIDE QT = QUARRY TILE R = RISER R&D = REMOVE & DISPOSE OF RAD = RADIUS RAF = RESILIENT ATHLETIC FLOORING RD = ROOF DRAIN REBAR = REINFORCEMENT BAR(S) REINF = REINFORCEMENT RH = ROBE HOOK RM = ROOM RMK = REMARK RO = ROUGH OPENING SF = SQUARE FOOT/FEET SFF = STAIN & FINISH STATIC DISSIPATING TILE SEAL = SEALED CONCRETE SGB = SUSPENDED GYPSUM BOARD SIM = STATIC DISSIPATING TILE SEAL = SEALED CONCRETE SGB = SUSPENDED GYPSUM BOARD SIM = STATIC DISSIPATING TILE SEAL = STARCES STEEL STL = STEEL STOR = STORAGE STRUC = STRUCTURAL SV = SHEAT VINYL SVG = STORAGE STRUC = STRUCTURAL IV = STATIC DISSIPATING TILE SGB = LOP OF STEEL STL = STEEL STOR = STORAGE STRUC = STRUCTURAL SV = SHEAT VINYL SVG = VERIFY AT SITE VB = VINYL BASE VCT = VINYL COMPOSITION TILE VCT = VINYL MALL COVERING W = WITH WC = WATER CLOSET	 DIDERSTAND THAT DNIESS SPECIFICALLY NOTED AS "NOTICE OF TRAVILED BY DIFERS" DK. "REVOIDED CONTRACT DOCUMENTS IS TO BE PERFORMED BY THE GENERAL CONTRACTOR AND/OR THEIR CONTRACT DOCUMENTS IS TO BE PERFORMED BY DIFERSION FOR EXTRA WOR WILL BE CONSIDERED THAT COULD HAVE BEEN DETERMINED BY VISUAL OBSERVATION PROF. UNDERSTAND THAT THESE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOS INADVERTENTLY OMITTED, THE CONTRACTOR SHALL NOT BE SCALED FOR CONSTRUCTION PURPOS INADVERTENTLY OMITTED, THE CONTRACTOR SHALL NOT BE SCALED FOR CONSTRUCTION PURPOS INADVERTENTLY OMITTED, THE CONTRACTOR SHALL NOT BE SCALED FOR CONSTRUCTION PURPOS INADVERTENTLY OMITTED, THE CONTRACTOR SHALL NOT THE ARCHITECT AND THE CORE REQUIRED. UNDERSTAND THAT THE TERM "WATCH EXISTING" AS LISTED ON THESE DRAWINGS SHALL ME MUST BE OF SIMILAR MATERIALS, CONSTRUCTION AND FINISHED TO THE UNES OF ADJACEN ALL OTHER BUILDING (RERIT ALL CONTRACTOR) AND FINISHED TO THE UNES OF ADJACEN IN THE ENSTITUS WAY. DATOH REPAIR ALL WALLS, FLOORS, CEILINGS, ROOFS AND ALL OTHER BUILDING AND E BY DEMOLITON WORK, ALL WORK TO BE PERFORMED MUST BE OF SIMULAR MATERIALS, COLUMNS OF ADJACENT WORK IN ALL RESPECTS. COORDINATE ALL MECHANICAL, FLUMBING, TRE PROTECTION, FLECTRICAL, FIRE ALARM CIVITHES OF ADJACENT WORK IN ALL RESPECTS. COORDINATE ALL MECHANICAL, PLUMBING, TRE PROTECTION, FLECTRICAL, FIRE ALARM CIVITHES CONTRACTOR WILL BE RESPONSIBLE FOR CLEANING BY VIGOR TO PROCEEDING WITH THE NEED CONTRACTOR WILL BE RESPONSIBLE FOR CLEANING ANY AREAS LETT UNFROTECTED. DE RESPONSIBLE TO CLEAN THE WORK AREA AT THE END OF EACH WORK DAY. ALL TRAST THE BUILDING. SURRACTOR WILL BE RESPONSIBLE FOR ALL PLOOR AND WALL PENERATIONS FOR MECHANICAL WORK, ALL OUTRACTOR WILL BE RESPONSIBLE FOR ALL PLOOR AND WALL PENERATIONS FOR MECHANICAL WORK, ALL OUTRACTOR WILL PENERATIONS AS REQUIRED BY CODE. SURDUNING THINGHED AND PAINTS SHALL. MATCH INFERENCE AND DAVISTION. REPARATED AND PAINTS SHALL. MAT
	LAV = LAVATORY LWT = LIGHTWEIGHT MAS = MASONRY MAT = MATERIAL MAX = MAXIMUM	WD = WOOD $WH = WATER HEATER$ $W/O = WITHOUT$ $WP = WATERPROOF(ING)$ $WR = WATER RESISTANT$ $WWM = WELDED WIRE MESH$	defining building features and sensitive, often irreplaceable, collections.

RESOURCE

OF CULTURAL RESOURCE PROPERTIES - MUSEUMS. ECT CULTURALLY SIGNIFICANT PROPERTIES FROM FIRE AND OTHER HAZARDS WITH THE THE PROTECTION OF CULTURAL RESOURCE PROPERTIES - MUSEUMS, LIBRARIES, AND IPLES AND PRACTICES OF PROTECTION FOR CULTURAL RESOURCE PROPERTIES WORSHIP) AND THEIR CONTENTS AND COLLECTIONS FROM CONDITIONS OR PHYSICAL USE DAMAGE OR LOSS THROUGH A COMPREHENSIVE PROTECTION PROGRAM. AREAS FIRE PROTECTION MANAGEMENT; SECURITY; EMERGENCY PREPAREDNESS; AND E OF PROTECTION SYSTEMS. THIS IMPORTANT CODE ALSO COVERS ONGOING ACKNOWLEDGES THE NEED TO PRESERVE CULTURALLY SIGNIFICANT AND CHARACTER-BITIVE, OFTEN IRREPLACEABLE, COLLECTIONS.

IERAL

OW THE EPA'S LEAD RENOVATION, REPAIR AND PAINTING RULE (RRP) REQUIRING THAT FIRMS PAINTING PROJECTS THAT DISTURB LEAD-BASED PAINT MUST BE CERTIFIED BY EPA (OR AN D RENOVATORS WHO ARE TRAINED BY EPA-APPROVED TRAINING PROVIDERS AND FOLLOW

GS SHALL BE FRAMED AND STRUCTUALLY REINFORCED. PROVIDE FIRE BLOCKING AT ANY NEW SUROUNDING FINISHES AND PAINTS SHALL MATCH EXISTING.

INGS TO THE ARCHITECT FOR REVIEW OF LOCATIONS OF ALL SYSTEMS TO AVOID

NS OF ALL DEVICES AND LIGHTING. INSIBLE FOR ALL FLOOR AND WALL PENETRATIONS FOR ARCHITECTURAL, ELECTRICAL AND

K AREA AT THE END OF EACH WORK DAY. ALL TRASH AND DEBRIS TO BE REMOVED FROM

ED TO KEEP AREAS OUTSIDE OF SCOPE FREE OF DIRT AND DUST. THE GENERAL R CLEANING ANY AREAS LEFT UNPROTECTED.

ING, FIRE PROTECTION, ELECTRICAL, FIRE ALARM CIVIL, AND ALL OTHER WORK INCLUDED IN IRAL DRAWINGS PRIOR TO PROCEEDING WITH THE NEW WORK IN ALL AREAS.

E PERFORMED MUST BE OF SIMILAR MATERIALS, CONSTRUCTION AND FINISHED TO THE CTS.

, CEILINGS, ROOFS AND ALL OTHER BUILDING AND SITE ELEMENTS IN ALL AREAS AFFECTED

STRUCTION AND FINISHED TO THE LINES OF ADJACENT WORK IN ALL RESPECTS. LING, PATCHING AND/OR REPAIRING OF EXISTING WALLS, FLOORS, CEILINGS, ROOFS, AND UIRED FOR THE INSTALLATION OF ALL NEW MECHANICAL, ELECTRICAL AND PLUMBING WORK CONDITIONS AT THE SITE).

EXISTING" AS LISTED ON THESE DRAWINGS SHALL MEAN THAT ALL WORK TO BE PERFORMED

SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. IF ANY DIMENSION IS CTOR SHALL NOTIFY THE ARCHITECT AND THE CORRECT DIMENSION/S WILL BE RETURNED AS

IEMSELVES COMPLETELY WITH ALL EXISTING CONDITIONS RELATIVE TO THE NEW WORK PECIFICATIONS. NO COMPENSATION FOR EXTRA WORK ON BEHALF OF THE CONTRACTOR E BEEN DETERMINED BY VISUAL OBSERVATION PRIOR TO BIDDING.

" AS LISTED ON THE ARCHITECTURAL DRAWINGS SHALL MEAN "FURNISH AND INSTALL". LLY NOTED AS "PROVIDED BY OTHERS" OR "PROVIDED BY OWNER", ALL WORK IN THESE ORMED BY THE GENERAL CONTRACTOR AND/OR THEIR SUB CONTRACTORS.

RAL (INDEX, SYMBOLS, LEGEND, NOTES, ABBREVIATION) NS (BASEMENT)

IERAL (INDEX, SYMBOLS, LEGEND, NOTES, ABBREVIATION, LOCATION MAP)



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Consultant



ANDRE GILL

ENEGINEERING. LLC

Museum of Natural History

> HVAC Renovations -REBID-

Roger Williams Park R.I.

Revision Date

Revision Schedule

Revision

Number

BIDDERS SET NOT FOR CONSTRUCTION

SHEET TITLE SHEET LIST, SYMBOLS, NOTES & ABBREVIATION

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DRAWN BY: PJ JOB NUMBER: 21041

CHECKED BY: MvH DATE: 03-15-2022

OF:

G1.0

SHEET:









1 3rd FLOOR PLAN

NEW HVAC UNITS AND DUCTS LOCATED ABOVE / AROUND / NEAR PREVIOUS ROOF PENETRATIONS. NEW PENETRATIONS REQUIRED. MECANICAL CONTRACTOR SHALL FURNISH AND LOCATE CURBS. GENERAL CONTRACTOR SHALL PROVIDE OPENING AND INSTALL CURB PER UNITS REQUIREMENTS, PROVIDE NECCASSARY STRUCTURAL SUPPORTS AND MODIFY FRAMING AS REQUIRED, PROVIDE AND INSTALL FLASHING AND EPDM ROOFING AND COORDINATE ROOFWORK TO MAINTAIN ALL WARRANTIES. DUCTWORK OFFSETS ARE SHOWN FOR PICTORIAL REPRESENTATION. CONTRACTOR TO SEE MI.14 FOR PLANS AND NOTES.

GENERAL NOTES

- ENGINEER, OWNER AND ARCHITECT. INCLUDING SIZE, INVERT ELEVATIONS, DIRECTION OF FLOW PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE
- CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
- INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS'
- RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS. ALL PIPING ON THIS PLAN SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
- REPAIR PAVING/FLOOR AFTER INSTALLATION AND INSPECTION OF UTILITIES INSTALLED. PAINT FLOOR TO
- MATCH PREVIOUS OR MATCH AND COMPLY WITH ARCHITECTURAL DRAWINGS. CONTRACTOR TO RECONNECT EXISTING ELECTRICAL GROUNDING/BONDING TO COLD WATER PIPING SYSTEM. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE
- PROVIDE VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS CONNECTED TO AND WITHIN 50 FEET OF ISOLATED EQUIPMENT (EXCEPT AT BASE ELBOW SUPPORTS AND ANCHOR POINTS) THROUGHOUT MECHANICAL EQUIPMENT ROOMS. DO THE SAME FOR SUPPORTS OF STEAM MAINS WITHIN 50 FEET OF BOILER OR PRESSURE REDUCING VALVES.
- PROVIDE VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS OF STEAM MAINS WITHIN 50 FEET OF BOILERS AND PRESSURE REDUCING VALVES.
- THE LOCATION OF EXISTING UNDERGROUND/UNDERSLAB UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES UNLESS OTHERWISE INDICATED. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS
- MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
- ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTION OF PIPE OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY. PROVIDE ACCESS PANELS WHERE REQUIRED
- TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE
- MANUFACTURER SHALL BE USED REINFORCEMENT, DETAILING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ASTM 315 AND ACI 318. CONCRETE SHALL CONFORM TO ASTM C94. CONCRETE WORK SHALL CONFORM TO ACI 318, PART ENTITLED "CONSTRUCTION REQUIREMENTS." COMPRESSIVE STRENGTH IN 28 DAYS SHALL BE 3,000 PSI. TOTAL AIR
- CONTENT OF EXTERIOR CONCRETE SHALL BE BETWEEN 5 AND 7 PERCENT BY VOLUME. SLUMP SHALL BE BETWEEN 3 AND 4 INCHES. CONCRETE SHALL BE CURED FOR 7 DAYS AFTER PLACEMENT. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION
- ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND DIVISION 16 OF THE SPECIFICATION.
- V. Q. CONCRETE HOUSEKEEPING PADS TO SUIT MECHANICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY THE MECHANICAL CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE 6 INCHES. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 6 INCHES ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE SIZE AND LOCATION OF CONCRETE HOUSEKEEPING PADS WITH GENERAL CONTRACTOR.
- ALL MECHANICAL ROOM DOORS SHALL BE A MINIMUM OF 4'-0" WIDE. WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH DUCTWORK OR PIPING, COORDINATE DUCTWORK
- AND PIPING LAYOUT WITH BEAM OPENING SIZE AND OPENING LOCATIONS. COORDINATION SHALL BE DONE PRIOR TO FABRICATION OF DUCTWORK, CUTTING OF PIPING, OR FABRICATION OF BEAMS. WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS, WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS
- FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO
- SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS. AA. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- BB. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO GENERAL CONTRACTOR FOR INSTALLATION. CC. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED, AND REQUIRED
- TO PROVIDE A VIBRATION FREE INSTALLATION. DD. ALL DUCTWORK, PIPING AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS.
- EE. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE PFRMITTFD FF. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM METAL DECK.
- GG. ALL ROOF MOUNTED EQUIPMENT CURBS FOR EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR
- SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR. HH. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL. ALL AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT AND ROOFTOP UNIT SHALL
- BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, AND PIPED TO NEAREST DRAIN. SEE DETAILS SHOWN ON THE DRAWINGS OR THE CONTRACT SPECIFICATIONS FOR DEPTH OF AIR CONDITIONING CONDENSATE TRAP
- KK. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.

PIPING NOTES

- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE. ELEVATIONS AS SHOWN ON THE DRAWINGS ARE TO THE CENTERLINE OF ALL PRESSURE PIPING AND TO THE
- INVERT OF ALL GRAVITY PIPING. MAINTAIN A MINIMUM OF 3'6" OF GROUND COVER OVER ALL UNDERGROUND HVAC PIPING BUT ENSURE FROST C.
- LINE IN CONSIDERED AND MET. UNLESS OTHERWISE NOTED, ALL CHILLED WATER AND HEATING WATER PIPING SHALL BE 34 INCH SIZE (EDIT
- SYSTEM TYPE OR PIPE SIZE TO SUIT PROJECT REQUIREMENTS). PROVIDE AN AIR VENT AT THE HIGH POINT OF EACH DROP ALL HYDRONIC PIPING SYSTEMS INCLUDING BUT NOT LIMITED TO IN THE HEATING WATER, CHILLED WATER, AND OTHER CLOSED WATER PIPING SYSTEMS (EDIT SYSTEM TYPES TO SUIT PROJECT REQUIREMENTS). ALL PIPING SHALL GRADE TO LOW POINTS. PROVIDE HOSE END DRAIN VALVES AT THE BOTTOM OF ALL RISERS AND LOW POINTS.

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- UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO UNDERSIDE OF STRUCTURE OR SLAB, WITH SPACE FOR INSULATION IF REQUIRED.
- INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
- ALL VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND
- MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS) PROVIDE CHAINWHEEL OPERATORS FOR ALL VALVES IN EQUIPMENT ROOMS MOUNTED GREATER THAN 7'-0"
- ABOVE FLOOR LEVEL; CHAIN SHALL EXTEND TO 7'-0" ABOVE FLOOR LEVEL ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.
- UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG PIPING RUNS (100 FEET OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS. PITCH STEAM PIPING DOWNWARD IN THE DIRECTION OF FLOW 1/4 INCH IN 10 FEET (1 INCH IN 40 FEET) MINIMUM. PITCH ALL STEAM RETURN LINES DOWNWARD IN THE DIRECTION OF CONDENSATE FLOW 1/2 INCH PER 10 FEET (1 INCH IN 20 FEET) MINIMUM. WHERE LENGTH OF BRANCH LINES ARE LESS THAN 8 FEET, PITCH BRANCH LINES
- TOWARD MAINS 1/2 INCH PER FOOT MINIMUM PITCH UP ALL STEAM AND CONDENSATE RUNOUTS TO RISERS AND EQUIPMENT 1/2 INCH PER FOOT. WHERE THIS
- PITCH CANNOT BE OBTAINED, RUNOUTS OVER 8 FEET IN LENGTH SHALL BE ONE SIZE LARGER THAN NOTED. TAP ALL BRANCH LINES FROM TOP OF STEAM MAINS (45 DEGREES PREFERRED, 90 DEGREES ACCEPTABLE)
- PROVIDE AN END OF MAIN DRIP AT EACH RISE IN THE STEAM MAIN. PROVIDE CONDENSATE DRIPS AT THE BOTTOM OF ALL STEAM RISERS, DOWNFED RUNOUTS TO EQUIPMENT, RADIATORS, ETC., AT END OF MAINS AND LOW POINTS, AND AHEAD OF ALL PRESSURE REGULATORS, CONTROL VALVES, ISOLATION VALVES, AND EXPANSION JOINTS.
- ON STRAIGHT STEAM PIPING RUNS WITH NO NATURAL DRAINAGE POINTS, INSTALL DRIP LEGS AT INTERVALS NOT EXCEEDING 200 FEET WHERE PIPE IS PITCHED DOWNWARD IN THE DIRECTION OF STEAM FLOW AND A MAXIMUM OF 100 FEET WHERE THE PIPE IS PITCHED UP SO THAT CONDENSATE FLOW IS OPPOSITE OF STEAM FLOW. STEAM TRAPS SHALL BE MINIMUM 3/4" SIZE
- INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING. ALL PIPING SHALL CLEAR DOORS AND WINDOWS.
- ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
- ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS, CHILLERS, COOLING
- TOWERS, AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION EXCEPT WATER COILS. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE OR AS INDICATED ON THE DRAWINGS
- SLOPE REFRIGERANT PIPING ONE PERCENT IN THE DIRECTION OF OIL RETURN. LIQUID LINES MAY BE INSTALLED
- I FVFI INSTALL HORIZONTAL REFRIGERANT HOT GAS DISCHARGE PIPING WITH 1/2" PER 10 FEET DOWNWARD SLOPE AWAY FROM THE COMPRESSOR.Z. INSTALL HORIZONTAL REFRIGERANT SUCTION LINES WITH 1/2" PER 10 FEET DOWNWARD SLOPE TO THE COMPRESSOR, WITH NO LONG TRAPS OR DEAD ENDS WHICH MAY CAUSE OIL TO SEPARATE FROM THE SUCTION GAS AND RETURN TO THE COMPRESSOR IN DAMAGING SLUGS. PROVIDE LINE SIZE LIQUID INDICATORS IN MAIN LIQUID LINE LEAVING CONDENSER OR RECEIVER. INSTALL
- MOISTURE-LIQUID INDICATORS IN LIQUID LINES BETWEEN FILTER DRYERS AND THERMOSTATIC EXPANSION VALVES AND IN LIQUID LINE TO RECEIVER. AA PROVIDE LINE SIZE STRAINER UPSTREAM OF EACH AUTOMATIC VALVE. PROVIDE SHUTOFF VALVE ON EACH SIDE
- OF STRAINER. BB. PROVIDE PERMANENT FILTER DRYERS IN LOW TEMPERATURE SYSTEMS AND SYSTEMS USING HERMETIC
- COMPRESSORS CC. PROVIDE REPLACEABLE CARTRIDGE FILTER DRYERS WITH THREE VALVE BYPASS ASSEMBLY FOR SOLENOID
- VALVES, ADJACENT TO RECEIVERS. PROVIDE REFRIGERANT CHARGING VALVE CONNECTIONS IN LIQUID LINE BETWEEN RECEIVER SHUTOFF VALVE AND EXPANSION VALVE.

CODE OE WODK SCOPE OF WORK

- ALL CONTRACTORS SHALL FOLLOW THE CURRENT ENFORCED RHODE ISLAND STATE BUILDING CODES AS A MINIMUM, HOWEVER SECTIONS OF THESE DOCUMENTS REFLECT CURRENT VERSION OF ICC INTERNATIONAL CODES WHERE THEY SUPERSEDE RISBC. ALL CONTRACTORS SHALL FOLLOW ALL LOCAL REQUIREMENTS BY AUTHORITIES HAVING JURISDICTION. CONTRACTORS SHALL INSTALL ALL EQUIPMENT FOLLOWING ASHRAE, ASME, ASTM, NFPA AND NEC
- STANDARDS. CONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES AS SHOWN AND/OR IMPLIED ON DRAWINGS AND SPECIFICATIONS FOR A COMPLETE AND PROPER INSTALLATION. THE DRAWINGS ARE NOT ALL INCLUSIVE AND THE CONTRACTOR IS RESPONSIBLE FOR A COMPLETE INSTALLATION. THE DRAWINGS SHOW MAJOR COMPONENTS AND ALL QUALIFIED CONTRACTORS SHALL HAVE SUFFICIENT EXPERIENCE IN PERFORMANCE OF THIS INSTALLATION.
- CONTRACTORS SHALL FURNISH AND INSTALL, PURGE, CHARGE, TEST AND OPERATE ALL EQUIPMENT, ACCESS DOORS, CAULKING, SLEEVES, FLASHING, FLEXIBLE CONNECTIONS, INSERTS, DEVICES, HANGERS, SUPPORTS, BRACING, FASTENERS, MISCELLANEOUS HARDWARE AND INSULATION.
- CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, INSPECTIONS AND TESTS REQUIRED BY
- GOVERNING AUTHORITIES HAVING JURISDICTION PROVIDED EQUIPMENT AND/OR EQUIPMENT COMPONENTS WITH UL LABELS TO COMPLY WITH THE NATIONAL ELECTRIC CODE.
- MAINTAIN COMPLIANCE WITH OSHA THROUGHOUT THE CONSTRUCTION PHASE AND WITH COMPLETED
- PROVIDE ALL LABOR, MATERIALS, PLANT EQUIPMENT AND SERVICES NECESSARY AND REQUIRED TO COMPLETE MEP WORK AS SHOWN ON AND/OR REASONABLY IMPLIED BY THE DRAWINGS AND SPECIFICATIONS
- THE FOLLOWING ARE THE GENERAL CLASSIFICATIONS OF WORK INCLUDED IN, BUT NOT LIMITED TO THIS SECTION.
- RECEIVING, RIGGING, SETTING AND INSTALLATION OF THE PURCHASED EQUIPMENT. PROVIDING OF SHOP DRAWINGS FOR APPROVAL WITHIN ALLOWANCE OF ACCEPTANCE AND
- INSTALLATION TO NOT HINDER CONSTRUCTION SCHEDULE. PURCHASE INSTALL, ELECTRICAL AND PIPING OF NEW EQUIPMENT AS SCHEDULED.
- DEMOLITION OF EXISTING PIPING AND ASSOCIATED HANGERS AS INDICATED ON DRAWINGS.
- DEMOLITION OF EXISTING ELECTRICAL AND CONDUIT AS REQUIRED LOW PRESSURE COMPRESSED AIR PIPING, VALVES, FITTINGS, LABELING, TAGGING, ETC.
- STEAM AND CONDENSATE PIPING, VALVES, FITTINGS, LABELING, TAGGING, ETC. PIPING SUPPORTS INSIDE AND OUTSIDE.
- GAS PIPING, VALVES, FITTINGS, LABELING, TAGGING, PAINTING, ETC
- CONTROL WIRING. STEAM, CONDENSATE AND COMPRESSED AIR PIPING, TESTING AND CLEANING.
- CUTTING AND PATCHING FOR ALL MECHANICAL WORK. START- UP OPERATIONS.
- CLEAN UP.
- COORDINATION AND COOPERATION WITH CONTRACTORS AND SUPPLIERS FOR OTHER SECTIONS AND WITH THE OWNER.
- AS- BUILT DRAWINGS.
- WARRANTY AND GUARANTEE
- ELECTRICAL POWER WIRING OF NEW EQUIPMENT. CONCRETE PADS AS REQUIRED RR
 - CONSULTANTS

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HVAC/ SHEETMETAL NOTES

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- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE HVAC SYSTEMS AS INDICATED ON THE DRAWINGS AS SPECIFIED AND AS REQUIRED BY CODE.
- CERTAIN ITEMS SUCH AS RISES AND DROPS IN DUCTWORK, ACCESS DOORS, VOLUME DAMPERS, ETC., ARE INDICATED ON THE CONTRACT DOCUMENT DRAWINGS FOR CLARITY FOR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS. CONTRACTOR IS
- REQUIRED TO INSTALL ACCESSORIES INCLUDED BUT NOT LIMITED TO ACCESS PANELS, DAMPERS (INCLUDING FIRE, SMOKE AND COMBO), TEST PORTS AS REQUIRED BY CODE. IN CORRIDORS WHERE CEILING SPEAKERS AND AIR DIFFUSERS ARE INDICATED
- BETWEEN THE SAME LIGHT FIXTURES, INSTALL BOTH DEVICES AT THE QUARTER POINTS BETWEEN THE SAME FIXTURE.
- UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS AND HUMIDISTATS 4'-0" (CENTERLINE) ABOVE FINISHED FLOOR. NOTIFY THE ENGINEER OF ANY ROOMS WHERE THE ABOVE LOCATION CANNOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION.
- ALL DUCTWORK SHALL CLEAR DOORS AND WINDOWS. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS
- PROVIDE ALL 90 DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. ELBOWS IN DISHWASHER. KITCHEN, AND LAUNDRY EXHAUST SHALL BE UNVANED SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 11/2 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES. COORDINATE DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH ARCHITECTURAL
- REFLECTED CEILING PLANS, LIGHTING, AND OTHER CEILING ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT. FIELD ERECTED AND FACTORY ASSEMBLED AIR HANDLING UNIT COILS SHALL BE
- ARRANGED FOR REMOVAL FROM THE UPSTREAM SIDE WITHOUT DISMANTLING SUPPORTS, PROVIDE GALVANIZED STRUCTURAL STEEL SUPPORTS FOR ALL COILS (EXCEPT LOWEST COIL) IN BANKS OVER TWO COILS HIGH TO PERMIT INDEPENDENT REMOVAL OF ANY COIL
- ALL AIR HANDLING UNITS SHALL OPERATE WITHOUT MOISTURE CARRYOVER. LOCATE ALL MECHANICAL EQUIPMENT (SINGLE DUCT, DUAL DUCT, VARIABLE VOLUME, CONSTANT VOLUME AND FAN POWERED BOXES, FAN COIL UNITS, CABINET HEATERS, UNIT HEATERS, UNIT VENTILATORS, COILS, STEAM HUMIDIFIERS, ETC.) FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS AND VALVING.
- FINNED TUBE RADIATION ENCLOSURES SHALL BE WALL TO WALL UNLESS OTHERWISE INDICATED PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN, AND
- EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS, AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED. UNLESS OTHERWISE NOTED, ALL DUCTWORK IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE, WITH SPACE FOR INSULATION IF REQUIRED.
- RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FEET (EDIT MAXIMUM LENGTH OF FLEXIBLE DUCT TO SUIT PROJECT; 5 FEET MAXIMUM RECOMMENDED LENGTH, 8 FEET MAXIMUM LENGTH)
- ALL DUCTWORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS. INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL
- BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS, SMOKE DAMPERS, VOLUME DAMPERS, HUMIDIFIERS, COILS, AND OTHER ITEMS LOCATED IN THE DUCTWORK WHICH REQUIRE SERVICE
- AND/OR INSPECTION. PROVIDE ACCESS DOORS IN DUCTWORK FOR OPERATION. ADJUSTMENT, AND MAINTENANCE OF ALL FANS, VALVES, AND MECHANICAL EQUIPMENTS. ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.
- SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTOR IN DUCTWORK AS SHOWN ON THE DRAWINGS AND
- IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. TERMINATE GAS VENTS FOR UNIT HEATERS, WATER HEATERS, HIGH PRESSURE PARTS WASHER, HIGH PRESSURE CLEANER, AND OTHER GAS APPLIANCES A MINIMUM OF 3'0" ABOVE ROOF WITH RAIN CAP (EDIT APPLIANCES AND HEIGHT ABOVE ROOF TO MEE CODE AND TO SUIT PROJECT REQUIREMENTS). SEE SPECIFICATIONS FOR DUCTWORK GAUGES, BRACING, HANGERS, AND OTHER
- REQUIREMENTS EXTERIOR LOUVERS ARE INDICATED FOR INFORMATION ONLY. DETAILED V.
- DESCRIPTIONS ARE PROVIDED IN THE ARCHITECTURAL SPECIFICATIONS.

W. EXTERIOR LOUVERS ARE INDICATED FOR INFORMATION ONLY. LOUVER SIZES LOCATIONS, AND DETAILS SHALL BE COORDINATED WITH GENERAL CONTRACTOR. EXTERIOR LOUVERS ARE INDICATED FOR INFORMATION ONLY. LOUVER SIZES, LOCATIONS, MOUNTING, AND DETAILS SHALL BE COORDINATED WITH OTHER TRADES INVOLVED.

			_			
MECHAN	NICAL PIPING LEGEND		MECHAN	ICAL PIPING LEGEND	-	
SYMBOL	DESCRIPTION	ABR.	SYMBOL	DESCRIPTION	ABR.	
(E) HWH 4"	EXISTING HOT WATER HEATING SUPPLY	нwн	(E) Al 4"	EXISTING AIR INTAKE	AI	
(N)HWH 4"	NEW HOT WATER HEATING SUPPLY BELOW FLOOR	нжн	(N)AI 4"	NEW AIR INTAKE BELOW FLOOR	AI	
(N)HWH 4"	NEW HOT WATER HEATING SUPPLY ON LEVEL	нwн	(N)AI 4"	NEW AIR INTAKE ON LEVEL	AI	/
(E) HWR 4"	EXISTING HOT WATER RECIRCULATION	HWR	(E) AG 4"	EXISTING ANAEROBIC GAS	AG	1
(\)HWR 4 "	NEW HOT WATER RECIRCULATION BELOW FLOOR	HWR	(N)AG 4*	NEW ANAEROBIC GAS BELOW FLOOR	AG	
(N)HWR 4"	NEW HOT WATER RECIRCULATION ON LEVEL	HWR	(N)AG 4"	NEW ANAEROBIC GAS ON LEVEL	AG	
(E) HWS 4"	EXISTING HOT WATER SUPPLY	HWS	(E) CWR 4"	EXISTING CHILLED WATER RETURN	CWR	
(N)HWS 4*	NEW HOT WATER SUPPLY BELOW FLOOR	HWS		NEW CHILLED WATER RETURN BELOW FLOOR	CWR	
(N)HWS 4"	NEW HOT WATER SUPPLY ON LEVEL	HWS	(N)CWR 4"	NEW CHILLED WATER RETURN ON LEVEL	CWR	
(E) HR 4"	EXISTING HYDRONIC RETURN	HR	(E) CWS 4"		CWS	
(N)HR 4"		HR			CWS	
(N)HR 4"		шр	(N)CWS 4"		000	
(E) HS 4"			(E) C0 4"		CWS	E
		нз		EXISTING C02 GAS	со	
(N)HS 4"	NEW HYDRONIC SUPPLY BELOW FLOOR	HS	(N)C0 4 [#]	NEW C02 GAS BELOW FLOOR	со	
(E) COND 4"	NEW HYDRONIC SUPPLY ON LEVEL	HS		NEW C02 GAS ON LEVEL	со	
	EXISTING STEAM CONDENSATE	COND	(E) CA 4"	EXISTING COMPRESSED AIR	CA	
(N)COND 4"	NEW STEAM CONDENSATE BELOW FLOOR	COND	(N)CA 4"	NEW COMPRESSED AIR BELOW FLOOR	CA	<u> </u> –
(N)COND 4"	NEW STEAM CONDENSATE ON LEVEL	COND	(N)CA 4"	NEW COMPRESSED AIR ON LEVEL	CA	
(E) STM 4"	EXISTING STEAM	STM	(E) C 4"	EXISTING CONDENSATE	с	
(N)STM 4"	NEW STEAM BELOW FLOOR	STM	(N)C 4"	NEW CONDENSATE BELOW FLOOR	с	
(N)STM 4"	NEW STEAM ON LEVEL	STM	(N)C 4"	NEW CONDENSATE ON LEVEL	с	11,
(E) VHWHR 4"	EXISTING VARIABLE HEATING WATER RETURN	VHWHR	(E) <u>HWHR</u> 4"	EXISTING HOT WATER HEATING RETURN	HWHR	`
(N)VHWHR 4"	NEW VARIABLE HEATING HOT WATER RETURN BELOW FLOOR	VHWHR	(N) HWHR 4"	NEW HOT WATER HEATING RETURN BELOW FLOOR	HWHR	
(N)VHWHR 4"	NEW VARIABLE HEATING HOT WATER RETURN ON LEVEL	VHWHR	(N)HWHR 4"	NEW HOT WATER HEATING RETURN ON LEVEL	HWHR	
(E) VHWH 4"	EXISTING VARIABLE HEATING WATER SUPPLY	VHWHS	(N)V 4"	EXISTING TO BE DEMOLISHED ON LEVEL	DIAMETER ONLY	
(N)VHWH 4"	NEW VARIABLE HEATING HOT WATER SUPPLY BELOW FLOOR	VHWHS	(N)V 4"			
(N)VHWH 4*	NEW VARIABLE HEATING HOT WATER SUPPLY ON LEVEL	VHWHS				1
		-	J			

SA Machanical Shoot List

	SA Mechanical Sheet List		
Sheet		Sheet Issue	
Number	Sheet Name	Date	Discipline
M0.01	MECHANICAL GENERAL (INDEX, SYMBOLS, LEGEND, NOTES, ABBREVIATION, LOCATION MAP)	15MAR22	MECHANICAL
M1.00	(D) MECHANICAL PLANS (BASEMENT)	15MAR22	MECHANICAL
M1.01	(D) MECHANICAL PLANS (FIRST FLOOR)	15MAR22	MECHANICAL
M1.02	(D) MECHANICAL PLANS (SECOND FLOOR)	15MAR22	MECHANICAL
M1.03	(D) MECHANICAL PLANS (THIRD FLOOR)	15MAR22	MECHANICAL
M1.04	(D) MECHANICAL PLANS (ROOF)	15MAR22	MECHANICAL
M1.10	(N) MECHANICAL PLANS BASEMENT	15MAR22	MECHANICAL
M1.11	(N) MECHANICAL (FIRST FLOOR ZONES)	15MAR22	MECHANICAL
M1.12	(N) MECHANICAL (SECOND FLOOR ZONES)	15MAR22	MECHANICAL
M1.13	(N) MECHANICAL (THIRD FLOOR ZONES)	15MAR22	MECHANICAL
M1.14	(N) MECHANICAL (ROOF FLOOR ZONES)	15MAR22	MECHANICAL
M3.01	MECHANICAL SECTIONS	15MAR22	MECHANICAL
M5.01	MECHANICAL DETAILS	15MAR22	MECHANICAL
M5.02	MECHANICAL DETAILS	15MAR22	MECHANICAL
M6.01	MECHANICAL SCHEDULES	15MAR22	MECHANICAL
M8.00	SEQUENCE OF OPERATIONS	15MAR22	MECHANICAL

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	PLANETA	ARIUM	
	(D) S-3 787 CFM	(D) S-3 (D) S-3 787 CFM (D) R-1 (C) R-1 (D) R-1 (C) R-1 (C	
	(D) S-3 787 CFM	(D) S-3 787 CFM	
1 (D) SECOND FLOOR 3/16" = 1'-0"	DEMO CALLOUT NOTES NOTE (D) DEMO AND REMOVE EQUIPMENT/DUCTWORK/PIPING (SHALL	/ORK/PIPING L BE TESTED FOR FIT FOR LISE)	BE DIS
1 2 (E) EVICTI) ABANDON IN PLACE EQUIPMENT/DUCTWORK/PIPING SER ON SECOND ELOOP, CUT AND CAP AND USE TRAN	G (SHALL BE MADE SAFE) 12 INSITION AS FLOOR TO FLOOR. 13	

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(D) ROOF PLAN 3/16" = 1'-0"

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NOTE
ES PER NFPA 90A AND WITHIN 5' OF EACH SIDE OF FIRE/SMOKE DAMPERS
SHALL COORDINATE ALL EQUIPMENT CLEARANCE REQUIREMENTS.
COORDINATE ALL DUCTWORK ROUTING
OVE AND BELOW. CONTRACTOR SHALL COORDINATE INSTALLATION OF FIRE/SMOKE DAMPERS.

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Project Number 2120 Drawing Scale 3/16" = 1'-0" Drawing Number M1.13 Checked By: Drawn By: AGE AG 7 5 6 8

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EVENTS.

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PROVIDE APPROPRIATE SCREENS AND PROTECTION. CAP AND SECURE DUCTWORK CONTRACTOR TO REPAIR ROOF IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

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SETTINGS CAN BE REDUCED BY ADDITIONAL 100 TO 200 PPM DURING HIGH OCCUPANCY

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				FIRST FLOOR 0' - 0"
A	$ \begin{array}{c} & & & \\ & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array} $	 	(D)8"x18" → ∰ RH-1 (D)10"x20"	
		AC-9		7/ <u>UNDERGROUND</u> -15' - 10"
	Section DEMO MECHANICAL 3/16" = 1'-0"			
		2nd FLO 	<u>OR</u> - 6"	
В		6 7		
		1st FLO 0'	<u>OR</u> - 0"	
С	WH-1			
	● BASEMENT	BASEMENT/UNDERGROU н-2 -15' -	ND 10"	3
	2 Section WOMENS RESTROOM 3/16" = 1'-0"			
D				9
	M3 (
	# 1 CONTRACTOR TO DEMO DUCTW 2 CONTRACTOR TO DEMO AND/OR ABANDON IN 3 CONTRACTOR TO EVEL D ROUTE DU	NOTE ORK TO PROVIDE ENOUGH ROOM FOR NEW E PLACE PIPING IN MECHANICAL ROOM TO ENSU CAN BE INSTALLED.	QUIPMENT. JRE H-1 AND DUCTWORK	EDUCATION CENTER HALL WAY
	4 CONTRACTOR TO FIELD ROOTE DO 5 INSTALL FIR 6 WOMEN 7 STAL 8 9 9 CONTRACTOR SHALL COOR	LL FINAL CONNECTIONS TO AHU'S CONNECTIO MANUFACTURERS IOM. E DAMPER ARE REQUIRED PER CODE VS RESTROOM RETURN 600 CFM FF OFFICE RETURN 1,200 CFM TIE-IN POINT DINATE INSTALLATION OF FIRE DAMPERS PER	A Section 3/16"	ASEMENT 5' - 10" on MECHANICAL CLOSE = 1'-0"
E				ONSULTANTS
			MEP ENGINEER: Andre Gill Engineering, LLC	<u>A</u> Sa
			40 Overlea Road North Smithfield, RI 02896	1(C
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3 Section NEW PLANETARIUM 1/4" = 1'-0"

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CLOSET

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DUCT MOUNTED SMOKE DETECTOR WITH SAMPLING TUBES AND CLOSED AUXILIARY CONTACTS FURNISHED AND WIRED BY EC AND INSTALLED IN THE DUCT BY MC. ⁾ 120V DAMPER POWER BY EC.

SMOKE DAMPER SEQUENCE OF OPERATIONS:

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THE DAMPER SHALL BE POWERED OPEN AND FAIL CLOSED. UPON DETECTION OF SMOKE BY THE DUCT MOUNTED SMOKE DETECTOR, THE DETECTOR SHALL INTERRUPT POWER AND

CLOSE THE DAMPER. THE FIRE ALARM SYSTEM SHALL ALARM THE BAS TO SHUTDOWN THE ASSOCIATED AHU.

UPON RISE IN AIRFLOW TEMPERATURE ABOVE 165 DEG F, THE RESETTABLE LINK SHALL INTERUPT POWER AND CLOSE THE DAMPER. THE LINK SHALL BE RESETTABLE VIA PUSHBUTTON.

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TYP	E MARI	K MARK	MAN	UFACTURE	R COOL	.ING (BTU/H	IR) H	EATING (BTU/HR) DESIG	GN OUTI EMP DB	DOOR (F)	R HEA ⁻ T	TING EMP	OU ⁻ WB
	CU-1 CU-2	CU-1 CU-2		Trane Trane		690,000 300,000		N/A N/A						
. <u> </u>														
		1							R # A \ 2 '	4 O F	W	ATER FIL	TER	
	MA	RK	MANUF	ACTURER	MODEL		NKS	GRAINS	GRAI	F INS	FLO	W MIN (G	PM)	FLC
(N)	WATER T	REATMENT	PURE	AQUA, INC	MF-400		2					9.7		
1. 2. 3. 4.	TANI TANI THE ROU	K 1 58F1645 K 2 58F1645 INFORMAT TE ALL WA	AC IS A GS IS A ON IN T STE TO	N ACTIVATE GREENSAN HE SCHEDU FLOOR DRA	d carbon d filter ile is per ins. capa	N SAND TO TO REDUC TANK, WIT CITIES TO	IMPROVE E FE, MN FH BRINE BE CONF	E TASTE, ODOR A AND H2S REDUC CAPACITIES TO IRMED AS WAST	AND REMO TION WITH BE DETER E MAY NE	VE COLO H GRAIN MINED ED TO B	OR W I CAPA BE PUI	VITH GRAU ACITY TC MPED TC	IN CA BE I ADE	
N/A	ARK	Type Mark	ΜΔΝΙ		MODEI) TAGE NUMBER		K/V	/	NOTE	S	-
	1	UH-1		MODINE	VE 75	25,600			3	7.5	v	NOTE	0	
		I	1											
						VVATER HE	HOUR	HEDULE (WH-#)	STORA	GE				W
M	lark	MANUFAC	TURER	MODEL	KW	RATIN	G (GAL)	CAPACITY (GA	L) VOL (G	AL)	UEF	VOLT	AGE	
W	VH-1	AO SMI	TH	FPTU-80	4.5		84	80	82		3.45	20	8	
	1									—		1/14/		
<u>М</u>						GALS/ H		208/1/60	(v/PH/HZ)	+LA		KVV 		
	H-2 H-3		EM FM		12 12 12			208/ 1/ 60		19.2 19.2		4 4		
1. 	ARK 3-2.5' 3B-4' 3-8.5'	MANUFAC		HUMIDIFIER TO ENGINEE BTU/HR 1,706 3,413 8,533	R DOES NO ER FOR AP ELEC APPARE	OT REQUIRE PROVAL W CTRIC BASE NT LOAD	E WATER VITH EQU BOARD H HEATER 2 8	IEATER (BB- LEN LENGTH NUME 6" 6"	GTH) ER OF POI		ECTS FLA 2.4 4.8 12.0	S VOLT 20 20 20 20	AGE 18 18 18	1, 2
1. M/ BE BE 1. 2. 3	ARK 3-2.5' 3B-4' 3-8.5' INSTA	MANUFAC QMAR QMAR QMAR QMAR ALL TAMPE ALL TRANS		HUMIDIFIER TO ENGINEE BTU/HR 1,706 3,413 8,533 STANT THER (ITCH AS AP ROVIDE CO	ELEC APPARE 50 1,0 2,5 2,5 2,5 2,5 2,5 2,5 2,5 2,5 2,5 2,5	OT REQUIRE PROVAL W CTRIC BASE NT LOAD	E WATER VITH EQU BOARD H HEATER	IEATER (BB- LEN LENGTH NUME 6" 4' 6"	GTH) ER OF POI		ECTS FLA 2.4 4.8 12.0	S VOLT 20 20 20	AGE 18 18	1, 2 1, 2
1. M/ BE B BE 1. 2. 3.	ARK 3-2.5' 3B-4' 3-8.5' INSTA INSTA CON	MANUFAC QMAR QMAR QMAR QMAR ALL TAMPE ALL TRANS TRACTOR S		HUMIDIFIER TO ENGINEE BTU/HR 1,706 3,413 8,533 STANT THER /ITCH AS AP ROVIDE COI	R FOR AP ELEC APPARE 50 1,0 2,5 RMOSTAT PLICABLE MPLETE IN	OT REQUIRE PROVAL W CTRIC BASE NT LOAD	E WATER VITH EQU BOARD H HEATER 22 8	IEATER (BB- LEN LENGTH NUME 6" 4' 6"			ECTS FLA 2.4 4.8 12.0	S VOLT 20 20 20	AGE 18 18 18	1, 2
1. M/ BE BE 1. 2. 3. TYPI	ARK 3-2.5' 3B-4' 3-8.5' INSTA CON	MANUFAC QMAR QMAR QMAR QMAR ALL TAMPE ALL TRANS TRACTOR S		HUMIDIFIER TO ENGINEE BTU/HR 1,706 3,413 8,533 STANT THER ITCH AS AP ROVIDE COI	R FOR AP ELEC APPARE 50 1,0 2,5 RMOSTAT PLICABLE MPLETE IN R CFM RA	OT REQUIRE PROVAL W CTRIC BASE NT LOAD 00 500 500 ISTALLATIC	E WATER VITH EQU BOARD H HEATER 22 8 0N	EXHAUST FAN	CONTRAC MENT. GTH) ER OF POI 2 2 2 (EF-#) VOLTAGE		ECTS FLA 2.4 4.8 12.0	S VOLT 20 20 20 20	AGE 18 18 18	1, 2 1, 2 1, 2
1. M/ BE B BE 1. 2. 3. TYPI	ARK 3-2.5' 3B-4' 3-8.5' INSTA INSTA CON ⁻ E MARF EF-1	MANUFAC QMAR QMAR QMAR QMAR ALL TAMPE ALL TRANS TRACTOR S		HUMIDIFIER TO ENGINEE BTU/HR 1,706 3,413 8,533 STANT THER ITCH AS AP ROVIDE COI UFACTUREF	R FOR AP ELEC APPARE 50 1,0 2,5 RMOSTAT PLICABLE MPLETE IN R CFM RA 100-50	OT REQUIRE PROVAL W CTRIC BASE NT LOAD	E WATER VITH EQU BOARD H HEATER 22 8 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	IREATIMENT. IF VILANCY STATE IEATER (BB- LEN LENGTH NUME 6" 4' 6" 6" EXHAUST FAN (HZ) PHASE	CONTRAC MENT. GTH) ER OF POI 2 2 2 (EF-#) VOLTAGE		ECTS FLA 2.4 4.8 12.0 ERNAL 0.05	S VOLT 20 20 20 20 20 20	AGE 18 18 18 18 18	1, 2 1, 2 1, 2 1, 2
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1. M/ BE B B B B B B B B B B B B B B B B B B	ARK 3-2.5' 3B-4' 3-8.5' INSTA INSTA INSTA CON E MARA EF-1 PROF SHUT EXTE PROF SHUT EXTE PROF SHUT EXTE PROF SHUT EXTE PROF SHUT EXTE PROF SHUT EXTE PROF SHUT EXTE PROF SHUT EXTE PROF SHUT VARI SHUT	MANUFAC QMAR QMAR QMAR QMAR ALL TAMPE ALL TAMPE ALL TRANS TRACTOR S K MARK DELLER WA TTER GUAR ENDED MOU PELLER WA CKDOWN W TTER DISCH THER HOOI A 1 (LOCKA CT DRIVE I-FLOW EC I		HUMIDIFIER TO ENGINEE BTU/HR 1,706 3,413 8,533 STANT THER INCH AS AP ROVIDE CON UFACTUREF n Cook Company WIRE GUAR FLANGE WALL COLL R HOOD DOOR GENE DRIVE	ELEC APPARE 50 1,0 2,5 MOSTAT PLICABLE MPLETE IN R CFM RA 100-50 RD AR ERAL PURF	PROVAL W PROVAL W CTRIC BASE NT LOAD 00 500 ISTALLATIC ANGE FRE 00 POSE DISC		IEATER (BB- LEN LENGTH NUME 6" 4' 6" 4 6" 4 6" 4 6" 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CONTRAC MENT. GTH) ER OF POI 2 2 (EF-#) VOLTAGE	TOR SEI	ECTS			HI 1,2 1,2 1,2 1,2

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		CONDENSING UNITS (C	U-X)							
OUTDOOR WB (F)	EER	INVERTER DRIVEN COMPRESSOR TYPE/ QUANTITY	SOUND PRESSURE (DBA) COP	CONNECTED CAPACITY	RFS	MCA (A)	MOCP (A)	ELECTRIC AL SUPPLY (V/PH/HZ)	WEIGHT (LBS)	Comments
	11.6			50 TON	110	102	110	460/60/3	2 868	
	12			25 TON	60	49	49	460/60/3	857	
FLOW (GPM)	FLOW MA>	TANK SIZE (D" TANK S K (GPM) X H") BRINE (D	SIZE ELECTRICAL V " X H") SUPPLY (V/PH/HZ)	/EIGHT (LBS) NOTES						

196/ 473 1, 2, 3

TY TO BE DETERMINED BASED ON MANUFACTURER ERMINED BASED ON MANUFACTURER

16" X 65"

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ATELY SIZED DRAIN.

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AIR HANDL	ING UNIT SCHEDUL	E (AHU-X)														
			SUPPLY	EXTERNAL		RETURN	TOTAL					ELECTRICAL	COOLING ENERGY	HEAT CAPACITY	WEIGHT	
MARK	MANUFACTURER	MODEL	(CFM)	STATIC	OA (CFM)	(CFM)	STATIC (" w.g)	MCA (A)	MOCP (A)	MOP (A)	HP	SUPPLY (V/PH/HZ)	FROM COIL (BTU/HR)	OUTPUT (MBH)	(LBS)	Schedule
AHU-1	TRANE	UCCAA17	6,133	2.903	3,200	6,133	2.903	85	90	90	15	460/3/60	183,990	201,490	1,538	AHU
AHU-2	TRANE	UCCAA30	13,000	3.207	6,000	13,000	3.207	100.73	110.00	110	15	460/3/60	390,000	201,490	2,425	AHU
			· ·		I											

1. CONTRACTOR TO COORDINATE WITH ALTERNATE MANUFACTURER ENERGY RECOVERY OPTIONS

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ROOF TOP	AIR HANDLING UNIT	SCHEDULE (RTU-X)													
			SUPPLY	EXTERNAL		RETURN	TOTAL STATIC					ELECTRICAL	COOLING ENERGY	HEAT CAPACITY	WEIGHT	
MARK	MANUFACTURER	MODEL	(CFM)	STATIC	OA (CFM)	(CFM)	(" w.g)	MCA (A)	MOCP (A)	MOP (A)	HP	SUPPLY (V/PH/HZ)	FROM COIL (BTU/HR)	OUTPUT (MBH)	(LBS)	Schedule
RTU-1	TRANE	EBC180A4EPC	6,000	1.5		6,000	1.7	72	90	90		460/3/60	180,000	190,000	1,876	RTU
RTU-2	TRANE	PRECENDENT 10 TON (120)	4,000	1		4,000	1.45	60	60	60	2.75	460/3/60	117,270	122,940	1,675	RTU

1. CONTRACTOR TO COORDINATE WITH ALTERNATE MANUFACTURER ENERGY RECOVERY OPTIONS

- 1. ALL EQUIPMENT SHOWN WAS UTILITIZED AS BASIS OF DESIGN EQUIPMENT. 2. WITHOUT APPROVED SHALL NOT BE REIMBURSED.

Ρ	RPM	WATTS	NOTES
20	1075	57	

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REGISTERED

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(1)Owner acknowledges that such Documents are not intended or represented to be suitable for use on the Project unless completed by AGE, or for use or reuse by Owner or others on extensions of the Project, on any other project, or for any other use or purpose, without written verification or adaptatio by AGE; (2)any such use or reuse, or any modification of the Documents, without written verification, completion, or adaptation by AGE, as appropriate for the specific purpose intended, will be at Owner sole risk and without liability or legal exposure to AGE or to its officers, directors, members, partners, agents, employees, and Consultants (3)Owner shall indemnify and hold harmless AGE and its officers, directors, members, partners, agents, employees, and Consultants from all claims, damage losses, and expenses, including attorneys' fees, arising out of or resulting from any use, reuse, or modification of the Documents without written verification, completion, or adaptation by AGE; and (4) PROFESSIONAL ENGINEER (MECHANICAL) such limited license to Owner shall not create any rights in third parties.

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CONTRACTORS ARE ALLOWED TO DEVIATE FROM THIS EQUIPMENT LISTED, IF EQUIVILANCY AND COMPLAINCE WITH SPECIFICATIONS IS DEMONSTRATED AND APPROVED ENGINEER OF RECORD VIA SUBMITTAL PROCESS THROUGH ARCHITECT OF RECORD PRIOR TO PURCHASE. EQUIPMENT THAT IS PURCHASED

3. CONTRACTORS SHALL COMPLY WITH BID DOCUMENTS AND ARCHITECTURAL DOCUMENTS THAT MAY BE MORE STRINGENT THEN THESE NOTES.

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SEQUENCE OF OPERATIONS

2.

CABINET HEATERS

- SINGLE TEMPERATURE ELECTRIC ROOM THERMOSTAT SET AT 68 DEGREES F (20 DEGREES C) MAINTAINS CONSTANT SPACE TEMPERATURE BY CYCLING UNIT FAN MOTOR. SINGLE TEMPERATURE THERMOSTAT ON RETURN HEATING WATER LINE FROM FLOOR MOUNTED CABINET HEATERS DE-ENERGIZES UNIT ON TEMPERATURES BELOW 95 DEGREES F (35 DEGREES C)
- SINGLE TEMPERATURE ROOM THERMOSTAT SET AT 68 DEGREES F (20 DEGREES C) MAINTAINS CONSTANT SPACE TEMPERATURE BY CYCLING UNIT FAN MOTOR AND ELECTRIC HEATING ELEMENTS. INTEGRAL THERMOSTAT CONTINUES FAN OPERATION UNTIL ELEMENT TEMPERATURE FALLS BELOW 100 DEGREES F (38 DEGREES C). D. FAN COIL UNITS

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- AND 8 DEGREES C COOLER AT NIGHT) BY MODULATING TWO-WAY CONTROL HEATING VALVE WITH SPRING RANGE OF 3 TO 7 PSIG (WITH SPRING RANGE OF 20 TO 48 KPA).
- WITH SPRING RANGE OF 8 TO 13 PSIG (WITH SPRING RANGE OF 55 TO 90 KPA) IN SEQUENCE. С
- TO COIL AND DIVERT RETURN WATER TO COOLING RETURN PIPE. WHEN SPACE TEMPERATURE IS AT THERMOSTAT SETTING, PREVENT FLOW FROM OCCURRING IN EITHER CIRCUIT AND IN COIL CHANGE OVER FROM HEATING TO COOLING BY INDEXING THERMOSTAT FROM THERMOSTAT ON SUPPLY PIPING. WHEN SUPPLY IS ABOVE ROOM TEMPERATURE, OPERATE THERMOSTAT IN DIRECT ACTING WHEN SPACE TEMPERATURE RISES ABOVE THERMOSTAT SETTING.
- AVAILABLE. DURING COOLING CYCLE, INCREASE FAN SPEED AS SPACE TEMPERATURE RISES ABOVE THERMOSTAT SETTING, PROVIDED CHILLED WATER IS AVAILABLE. MOUNT THERMOSTAT WITH ADJUSTABLE KNOB AND SPEED SWITCH ON COMMON PLATE ENGRAVED WITH "HEATING CONTROL AND FAN CONTROL" ON TOP. WITH "WARMER AND COOLER" AND DIRECTION INDICATOR AROUND THE THERMOSTAT KNOB.
- HUMIDIFIERS Α.
 - VALVE.
 - TO 50 PERCENT RELATIVE HUMIDITY AT 70 DEGREES F (2 DEGREES C) AND 15 PERCENT RELATIVE HUMIDITY AT MINUS 30 DEGREES F (MINUS 35 DEGREES C). **REFRIGERATION SYSTEMS**
- A. MAINTAIN CONSTANT SUPPLY AIR DUCT TEMPERATURE OF 55 DEGREES F (13 DEGREES C) BY CYCLING REFRIGERATION SYSTEM AND SIGNALLING STEP CAPACITY, MINIMUM NUMBER OF STEPS. UNIT HEATERS
 - SINGLE TEMPERATURE ELECTRIC ROOM THERMOSTAT MAINTAINS CONSTANT SPACE TEMPERATURE OF 68 DEGREES F (20 DEGREES C) BY CYCLING UNIT FAN MOTOR. Α.
 - C
- INTEGRAL THERMOSTAT CONTINUES FAN OPERATION UNTIL ELEMENT TEMPERATURE FALLS BELOW 100 DEGREES F (38 DEGREES C). D **CENTRAL FAN SYSTEMS**
- A. B SAFETY DEVICES:
 - FREEZE PROTECTION: STOP FANS AND CLOSE OUTSIDE AIR DAMPERS IF TEMPERATURE BEFORE SUPPLY FAN IS BELOW 37 DEGREES F (3 DEGREES C); SIGNAL ALARM. HIGH TEMPERATURE PROTECTION: STOP FANS AND CLOSE OUTSIDE DAMPERS IF TEMPERATURE IN RETURN AIR IS ABOVE 300 DEGREES F (150 DEGREES C): SIGNAL ALARM. SMOKE DETECTOR: STOP FANS, CLOSE OUTSIDE DAMPERS, AND CLOSE SMOKE DAMPERS IF SMOKE IS DETECTED; SIGNAL ALARM.
- PREHEAT COIL С. WHEN FAN IS NOT RUNNING, AND OUTSIDE AIR TEMPERATURE IS BELOW 40 DEGREES F (5 DEGREES C), FULLY OPEN PREHEAT COIL VALVE TO HEATING. WHEN FAN IS RUNNING, MAINTAIN CONSTANT MIXED AIR TEMPERATURE OF 55 DEGREES F (12 DEGREES C) BY MODULATING PREHEAT COIL VALVE.
- OUTSIDE AIR DAMPER: WHEN SUPPLY FAN IS RUNNING, OPEN OUTSIDE AIR DAMPER TO MINIMUM POSITION. PREVENT SUPPLY FAN STARTING UNTIL OUTSIDE AIR DAMPER IS OPEN AND POSITION IS VERIFIED. D. HUMIDIFIER: WHEN SUPPLY FAN IS RUNNING, ALLOW HUMIDIFIER TO OPERATE.
- OUTDOOR RESET TO 50 PERCENT RELATIVE HUMIDITY AT 70 DEGREES F (21 DEGREES C) AND 15 PERCENT RELATIVE HUMIDITY AT MINUS 30 DEGREES F (MINUS 35 DEGREES C). OUTSIDE, RETURN, AND RELIEF DAMPERS:
 - WHEN SUPPLY FAN IS NOT RUNNING, OUTSIDE AND RELIEF DAMPERS ARE CLOSED AND RETURN DAMPER IS OPEN.
 - WHEN SUPPLY FAN IS RUNNING, DAMPERS ARE CONTROLLED AND OPERATE WITH OUTSIDE AND RELIEF DAMPERS OPENING, AND RETURN DAMPER CLOSING.
 - FOR COOLING AND OUTSIDE AIR TEMPERATURES ABOVE 55 DEGREES F (12 DEGREES C) OUTSIDE AND RELIEF DAMPERS ARE OPEN AND RETURN DAMPER IS CLOSED.
 - DAMPER TO MINIMUM, CLOSE RELIEF DAMPER, AND OPEN RETURN DAMPER.

FOR OUTSIDE AIR TEMPERATURES ABOVE 79 DEGREES F (26 DEGREES C), DRIVE OUTSIDE DAMPER TO MINIMUM, CLOSE RELIEF DAMPER, AND OPEN RETURN DAMPER. FOR HEATING, DRIVE OUTSIDE DAMPER TO MINIMUM, CLOSE RELIEF DAMPER, AND OPEN RETURN DAMPER. MODULATE MIXED AIR DAMPERS IN SEQUENCE TO MAINTAIN CONSTANT MIXED AIR TEMPERATURE. MULTIZONE SYSTEM:

- DAY AND 8 DEGREES C COOLER AT NIGHT).
- ROOM CALLING FOR GREATEST HEATING MODULATES REHEAT COIL VALVE. ROOM THERMOSTAT CALLING FOR GREATEST COOLING MODULATES COOLING COIL VALVE. OF SUPPLY FAN IN SUPPLY AIR DUCT
- AT GRADE BY MODULATING RETURN AIR FAN INLET VANE DAMPERS.
 - DISPLAY:

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- SYSTEM GRAPHIC. SYSTEM ON/OFF INDICATION.
- SYSTEM DAY/NIGHT MODE.
- SYSTEM FAN ON/OFF INDICATION.
- **RETURN FAN ON/OFF INDICATION**
- PREHEAT COIL PUMP ON/OFF INDICATION.
- SPRAY PUMP ON/OFF INDICATION.
- OUTSIDE AIR TEMPERATURE INDICATION. MIXED AIR TEMPERATURE INDICATION.
- FAN DISCHARGE AIR TEMPERATURE INDICATION.
- REHEAT ZONE AIR TEMPERATURE INDICATION. 11.
- **RETURN HUMIDITY INDICATION.** 12.
- 13 FAN DISCHARGE TEMPERATURE CONTROL POINT ADJUSTMENT
- 14. RETURN HUMIDITY CONTROL POINT ADJUSTMENT. 15.
- REHEAT ZONE CONTROL POINT ADJUSTMENT. SUPPLY STATIC PRESSURE INDICATION 16
- 17. SUPPLY STATIC PRESSURE CONTROL POINT ADJUSTMENT.
- BUILDING STATIC PRESSURE INDICATION. 18
- BUILDING STATIC PRESSURE CONTROL POINT ADJUSTMENT. 19
- 20. SYSTEM ON/OFF AUTO SWITCH.
- SYSTEM DAY/NIGHT/AUTO SWITCH. 21. SUPPLY FAN ON/OFF SWITCH.
- 22. 23. **RETURN FAN ON/OFF/AUTO SWITCH**
- 24. PREHEAT COIL PUMP ON/OFF SWITCH.
- 25. SPRAY PUMP ON/OFF AUTO SWITCH.

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bad eld, RI 02896

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SINGLE TEMPERATURE UNIT MOUNTED THERMOSTAT SET AT 75 DEGREES F (24 DEGREES C) MAINTAINS CONSTANT SPACE TEMPERATURE DURING THE DAY AND 15 DEGREES F COOLER AT NIGHT (DURING THE DAY SINGLE TEMPERATURE UNIT MOUNTED THERMOSTAT SET AT 75 DEGREES F (24 DEGREES C) MAINTAINS CONSTANT SPACE TEMPERATURE DURING THE DAY AND 15 DEGREES F COOLER AT NIGHT (DURING THE DAY AND 8 DEGREES C COOLER AT NIGHT) BY MODULATING TWO-WAY CONTROL HEATING VALVE WITH SPRING RANGE OF 3 TO 7 PSIG (WITH SPRING RANGE OF 20 TO 48 KPA) AND TWO-WAY COOLING CONTROL VALVE

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SINGLE TEMPERATURE UNIT MOUNTED THERMOSTAT SET AT 75 DEGREES F (24 DEGREES C) MAINTAINS CONSTANT SPACE TEMPERATURE DURING THE DAY AND 15 DEGREES F COOLER AT NIGHT (DURING THE DAY AND 8 DEGREES C COOLER AT NIGHT) BY MODULATING FOUR-WAY CONTROL VALVE. DURING HEATING CYCLE, MODULATE HOT WATER SUPPLY TO COIL AND DIVERT RETURN MODULATE CHILLED WATER SUPPLY MANNER. OPENING VALVE WHEN TEMPERATURE FALLS BELOW THERMOSTAT SETTING. WHEN SUPPLY IS BELOW ROOM TEMPERATURE. OPERATE THERMOSTAT IN REVERSE ACTING MANNER. OPENING VALVE

FOR HEATING AND COOLING FAN COIL UNITS WITH FAN SPEED CONTROL DURING HEATING CYCLE, INCREASE FAN SPEED AS SPACE TEMPERATURE FALLS BELOW THERMOSTAT SETTING. PROVIDED HOT WATER IS

WHEN FAN IS RUNNING AND AIR FLOW SWITCH PROVES AIR FLOW, LINE VOLTAGE ROOM HUMIDISTAT RESET FROM OUTDOORS MAINTAINS HUMIDITY LEVEL OF 30 PERCENT BY CYCLING UNIT FAN TWO-WAY STEAM

WHEN SUPPLY FAN IS RUNNING AIR FLOW SWITCH PROVES AIR FLOW, HUMIDISTAT LOCATED IN RETURN AIR, RESET FROM OUTDOORS MODULATES NORMALLY CLOSED HUMIDIFIER VALVE. SET OUTDOOR RESET

SINGLE TEMPERATURE THERMOSTAT ON RETURN HEATING WATER LINE FROM FLOOR MOUNTED CABINET HEATERS DE-ENERGIZES UNIT ON TEMPERATURES BELOW 95 DEGREES F (35 DEGREES C) SINGLE TEMPERATURE ROOM THERMOSTAT SET AT 68 DEGREES F (20 DEGREES C) MAINTAINS CONSTANT SPACE TEMPERATURE BY CYCLING UNIT FAN MOTOR AND ENERGIZING ELECTRIC HEATING ELEMENTS.

TIME SCHEDULE: START AND STOP SUPPLY AND RETURN FANS. DETERMINE FAN STATUS THROUGH AUXILIARY CONTACTORS IN MOTOR STARTER. IF FAN FAILS TO START AS COMMANDED, SIGNAL ALARM.

HUMIDIFIER: WHEN SUPPLY FAN IS RUNNING AND THERE IS WATER IN HUMIDIFIER SUMP, HUMIDISTAT LOCATED IN RETURN AIR, RESET FROM OUTDOORS MODULATES NORMALLY CLOSED HUMIDIFIER VALVE. SET

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FOR COOLING AND OUTSIDE AIR TEMPERATURES BELOW 55 DEGREES F (12 DEGREES C), MODULATE DAMPERS TO MAINTAIN MIXED AIR TEMPERATURE OF 55 DEGREES F (12 DEGREES C) OR HIGHER. FOR COOLING AND OUTSIDE AIR TEMPERATURES ABOVE 55 DEGREES F (12 DEGREES C) COMPARE RETURN AND OUTSIDE AIR TEMPERATURES. IF RETURN AIR TEMPERATURE IS LOWER, DRIVE OUTSIDE

SPACE SENSOR SET AT 75 DEGREES F (24 DEGREES C), MODULATES ZONE DAMPERS AND MAINTAINS CONSTANT SPACE TEMPERATURE DURING THE DAY AND 15 DEGREES F COOLER AT NIGHT (DURING THE

MAINTAIN CONSTANT SUPPLY STATIC PRESSURE OF 1.5 INCHES WG (380 PA) BY MODULATING SUPPLY AND RETURN FAN INLET VANE DAMPERS IN SEQUENCE. LOCATE SENSOR MINIMUM 50 FT (15 M) DOWNSTREAM

MAINTAIN CONSTANT SUPPLY STATIC PRESSURE OF 1.5 INCHES WG (380 PA) BY MODULATING SUPPLY FAN INLET VANE DAMPERS. MAINTAIN CONSTANT BUILDING PRESSURE OF 0.05 INCHES WG (12 PA) MEASURED

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	SYMBOLS	
Α	LIGHTING MANUAL ON BUTTON/DIMMER, MOUNTED AT +48"UON. DIMMER LIGHT SWITCH. LOWERCASE LETTER INDICATES ZONE WHEN APPLIED. K KEYED SWITCH. VS WALL MOUNTED VACANCY SENSOR WITH MANUAL ON BUTTON. MOUNTED AT 48". UON. UON. JIGHT FIXTURE. UPPER CASE LETTER INDICATES FIXTURE TYPE, LOWER CASE LIGHT FIXTURE. UPPER CASE LETTER INDICATES FIXTURE TYPE, LOWER CASE LIGHT FIXTURE. UPPER CASE LETTER INDICATES SOURCE CIRUIT PANEL - # LETTER INDICATES LIGHTING ZONE, PANEL # INDICATES SOURCE CIRUIT B WALL MOUNTED, TWO HEADED EMERGENCY LED WALL PACK C CEILING MOUNTED LED EXIT SIGN WITH GREEN LETTERING AND NICKEL CADMIUM BATTERY BACK UP, SHADED SIDE INDICATE LIT SIDE, ARROW INDICATES DIRECTION WHEN PRESENT WALL MOUNTED LED EXIT SIGN, SAME ATTRIBUTES AS ABOVE CEILING MOUNTED EXIT SIGN. DUAL TECHNOLOGY (INFRARED AND ULTRASONIC) VACANCY/OCCUPANCY SENSOR	
	PHOTOCELL	
В		
2/28/2022 7:26:02 PM	DISCONNECT AND OVERCURRENT DEVICES CIRCUIT BREAKER SAFETY SWITCHES NUMBERS OF POLES 3 TRIP (AMPERES) • FRAME (AMPERES) 100 I.C. (1000 AMPS) 10 * "N4" INDICATES NON-AUTOMATIC C/B * "NF" INDICATES NON-FUSED SWITCH * "S0" INDICATES TRIP OR FUSE SIZE * "**" INDICATES FUSE SIZE PER MANUFACTURER'S RECOMMENDATION	
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	SYMBOLS	GENERAL NOTES:	ABBREVIATIONS:
	GENERAL SYMBOLS: DASHED SYMBOL WITH HATCHING INDICATES DEVICE OR EQUIPMENT EXISTING TO DEMOLISHED.	 THE FOLLOWING GENERAL NOTES APPLY TO ELECTRICAL DRAWINGS. INSTALLATION OF ELECTRICAL MATERIAL SHALL CONFORM WITH LOCAL REGULATIONS AND THE 2020 NATIONAL ELECTRICAL CODE (NEC), RHODE ISLAND BUILDING CODE, AND OTHER GOVERNING CODES AND ODDIMANCES 	A OR AMP – AMPERE AF – AMP FUSE AF – AMP FRAME
□ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	LIGHT SOLID SYMBOL INDICATES DEVICE OR EQUIPMENT EXISTING TO REMAIN. DARKER SOLID SYMBOL INDICATES DEVICE, OR EQUIPMENT TO BE PROVIDED; ON DEMO DRAWINGS, DARKER SYMBOL INDICATES EQUIPMENT TO BE DEMOLISHED. INDICATES SURFACE MOUNTED BOX FOR ITEM SHOWN. MECHANICAL SCHEDULE REFERENCE. NOTE REFERENCE DETAIL OR SECTION REFERENCES IN NOTES. INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR. RACEWAY SYSTEMS CONDUIT CONDUIT TURNING DOWN.	 AND ORDINANCES. 3. ELECTRICAL EQUIPMENT SHALL BE NRTL LABELED. 4. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING AREAS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH THE CONTRACTOR SHALL BE REQUIRED TO PERFORM THE WORK. 5. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AT THE SITE. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL CHECK THE DRAWINGS OF THE OTHER TRADES AND SHALL CAREFULLY READ THE ENTIRE SPECIFICATIONS AND DETERMINE RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM DOING THE WORK IN COMPLETE ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. 6. THE CONTRACTOR SHALL SECURE AND PAY FOR PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING CHARGES BY THE LOCAL GOVERNMENT AGENCIES. 7. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AT THE SITE. COSTS TO ROUTE CONDUIT OTHER THAN AS SHOWN ON THE PLANS SHALL BE INCURRED BY THE CONTRACTOR. 	AF-AMP FRAMEA.F.FABOVE FINISHED FLOORAIC-AMPS INTERRUPTING CAPACITYAS-AMP SWITCHAT-AMP TRIPBCG-BARE COPPER GROUNDC-CONDUITCONT-CONTINUEDDIA-DIAMETERDISC-POWER DISCONNECTDIST-DISTRIBUTIONEQUIP-EQUIPMENTEG-ELECTRICAL GROUNDEXIST. (E)-EXISTINGFF-FINISHED FLOORFT-GROUNDGI-GROUNDGRI-GROUND FAULT INTERRUPTERGND-GROUNDHP-HORSE POWERKAIC-THOUSAND AMPERE INTERRUPT CURRENT
 A−1,3 	HOMERUN TO PANELBOARD "A" - CIRCUITS 1 & 3. CROSS MARKS, IF SHOWN, INDICATE NUMBER OF WIRES. FEEDER OR CIRCUIT NUMBERS AS NOTED. IF NO WIRE SIZE IS CALLED OUT WITH SYMBOL, EACH WIRES ARE #12AWG. FOR EXAMPLE: 2 #12 & #12G, 3/4" C. 3 #12 & #12G, 3/4" C.	 WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, TRANSFORMERS, GROUND FAULT PROTECTION SYSTEM, ETC. (MATERIALS, ARISES ON THE DRAWINGS AND/OR SPECIFICATIONS), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER OR ENGINEER. CONDUIT SIZES ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN-2 INSULATION UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE COPPER. CONDUCTOR INSULATION SHALL BE 	KCMIL - THOUSAND CIRCULAR MILS KVA - KILA-VOLT-AMP (POWER) KW - KILOWATT(S) NEC - NATIONAL ELECTRICAL CODE NTS - NOT TO SCALE PH, Ø - PHASE PNL - ELECTRICAL POWER DISTRIBUTION PANEL RMC - RIGID METAL CONDUIT REF - REFERENCE REQD - REQUIRED
O O- FLUSH T OF	MISCELLANEOUS JUNCTION OR OUTLET BOX. CEILING OR WALL MOUNTED AS INDICATED. LOCATE ABOVE ACCESSIBLE CEILINGS UON. SPECIAL PANEL OR CABINET, AS NOTED. PANELBOARD. TRANSFORMER, FLOOR MOUNTING TYPE. (PLAN VIEW) ENCLOSED CIRCUIT BREAKER.	 THHN/THWN-2 UNLESS OTHERWISE NOTED. MINIMUM POWER CONDUCTOR SIZE IS #12 AWG. 10. MINIMUM CONDUIT SIZE SHALL BE 3/4", UNLESS OTHERWISE NOTED. 11. INSTALL EQUIPMENT, DEVICES, CONDUIT AND CONDUIT SUPPORTS TO MEET SEISMIC CATEGORY "D" REQUIREMENTS. 12. CONDUIT RUNS SHOWN ARE DIAGRAMMATIC. INSTALL CONDUITS TO SUIT FIELD CONDITIONS. 13. PROVIDE PROPERLY SIZED LUGS AT CIRCUIT BREAKER PANELS, FOR THE CONDUCTORS SHOWN TO CONNECT TO THESE LUGS. 	RM – ROOM SEC – SECONDARY SWBD – SWITCHBOARD TRANSF – TRANSFORMER TVSS – TRANSIENT VOLTAGE SURGE SUPPRESSOR TYP – TYPICAL XFMR – TRANSFORMER 3W – THREE WIRE 3PH – THREE PHASE V – VOLT WP – WEATHERPROOF
⊠∽ ⊑∽ \$ _м	FUSED SAFETY DISCONNECT SWITCH MOTOR STARTER SWITCH.	 INSTALL EXTERIOR MOUNTED ELECTRICAL EQUIPMENT IN WEATHERPROOF, NEMA 3R ENCLOSURES. SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250.122, SHALL BE PROVIDED, INSTALLED IN THE SAME CONDUIT AS THE CIRCUIT CONDUCTORS, FOR FEEDER AND BRANCH CIRCUITS. THE CONTRACTOR SHALL SUPPLY POWER TO AND MAKE CONNECTION TO MOTORS AND EQUIPMENT PEOLIDING ELECTRICAL INCLUDING ERACTIONAL HORSEROWER MOTORS IT SHALL BE THE 	ELECTRICAL SHEET LIST SHEET NUMBER SHEET NAME REVISION
Ę G	SINGLE LINE DIAGRAM: GROUNDING ELECTRODE GROUND BUS OR TERMINALS SPLICE	 REQUIRING ELECTRICAL, INCLUDING FRACTIONAL HORSEPOWER MOTORS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE MECHANICAL AND PLUMBING DRAWINGS FOR DUCTS, LINES AND EQUIPMENT. 17. EXACT METHOD AND LOCATION OF CONDUIT PENETRATIONS AND/OR OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE AS DIRECTED BY A STRUCTURAL ENGINEER. 18. COMPLY WITH NFPA 70E. 	E0.01ELECTRICAL GENERAL (INDEX, SYMBOLS, LEGEND, NOTES, ABBREVIATION)E0.02SINGLE LINEE1.00(D) ELETRICAL PLANS (BASEMENT)E1.01(D) ELETRICAL PLANS (FIRST FLOOR)E1.02(D) ELETRICAL PLANS (SECOND FLOOR)E1.03(D) ELETRICAL PLANS (THIRD FLOOR)E1.04(D) ELETRICAL PLANS (ROOF)E1.10(N) ELETRICAL PLANS (BASEMENT)E1.11(N) ELETRICAL PLANS (BASEMENT)E1.12(N) ELETRICAL PLANS (FIRST FLOOR)
	TERMINAL FUSED SWITCH CARTRIDGE FUSE SHORT CIRCUIT CURRENT, AMPS TRANSFORMER	 INTERRUPTION OF EXISTING ELECTRIC SERVICE: DO NOT INTERRUPT ELECTRIC SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHER UNLESS PERMITTED UNDER TO FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY ELECTRIC SERVICE ACCORDING TO REQUIREMENTS INDICATED: A. NOTIFY OWNER NO FEWER THAN THIRTY DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF ELECTRIC SERVICE. B. NOTIFY OWNER, IN WRITING, FOURTEEN DAYS IN ADVANCE OF THE REQUIRED OUTAGE IF THE SCHEDULE FOR PERFORMING WORK HAS CHANGED OR IF REVISIONS TO THE OUTAGE PLAN ARE REQUIRED. C. INDICATE METHOD OF PROVIDING TEMPORARY ELECTRIC SERVICE IF SERVICE CAN NOT BE RESTORED WITHIN DESIRED TIME. 	E1.13 (N) ELETRICAL PLANS (THIRD FLOOR) E1.14 (N) ELETRICAL PLANS (ROOF) E2.01 PANEL SCHEDULES E2.02 PANEL SCHEDULES
	GROUND ROD LOW VOLTAGE CIRCUIT BREAKER - ENCLOSED. MOTOR, "3" INDICATES HORSEPOWER. METER.	20. THE CONTRACTOR SHALL PROVIDE AND KEEP UP-TO-DATE A COMPLETE RECORD SET OF DRAWINGS. THESE PRINTS SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS. THIS SET OF DRAWINGS SHALL BE KEPT ON THE JOB SITE AND SHALL BE USED ONLY AS A RECORD SET. THIS SHALL NOT BE CONSTRUED AS AUTHORIZATION FOR THE CONTRACTOR TO MAKE CHANGES IN THE LAYOUT WITHOUT DEFINITE INSTRUCTIONS IN EACH CASE. UPON COMPLETION OF THE WORK, A SET OF REPRODUCIBLE CONTRACT DRAWINGS SHALL BE OBTAINED FROM THE OWNER, AND CHANGES AS NOTED ON THE RECORD SET OF DRAWINGS SHALL BE INCORPORATED THEREON WITH BLACK INK IN A NEAT, LEGIBLE, UNDERSTANDABLE AND PROFESSIONAL MANNER.	

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Project Number

Project Title: RWP MNH HVAC UPGRADE-REBID

Location: 1000 ELMWOOD AVE PROVIDENCE, RI 02907

Approved By:

MTO

01MAR22

Drawn By:

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KEY NOTES

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1 EQUIPMENT SHALL BE SERVICE ENTRANCE RATED. LABEL AS "SERVICE DISCONNECTING MEANS".

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- 2 PROVIDE CONDUCTORS AS SHOWN PER NEC 230.50(B). REFER TO ESB 759B SECTION 21.
- 3 PROVIDE CONDUCTORS AND CONDUIT AS INDICATED.
- 4 PROVIDE CONDUCTORS AND CONDUIT AS SHOWN ON POWER PLANS.
- 5 PROVIDE 2/0 AWG CU OR LARGER MAIN BONDING TO COMPLY WITH NEC 250.28.
- 6 PROVIDE CONNECTION TO ALL PRESENT GROUNDING ELECTRODES DESCRIBED IN NEC 250.52. PROVIDE GROUND ROD ELECTRODE(S) PER NEC 250.52(A)(5). CONNECTION TO GROUND ROD MAY BE #6 AWG CU PER NEC 250.66(A).
- 7 PROVIDE TRANSFORMER AS INDICATED. REFER TO E1.10 FOR LOCATION OF TRANSFORMER.
- 8 PROVIDE CONCRETE PAD, TRANSFORMER GROUNDING, AND PRIMARY CONDUIT AS REQUIRED BY NATIONAL GRID. COORDINATE LOCATION BY EXISTING TRANSFORMER WITH NATIONAL GRID. COORDINATE INSTALLATION OF NEW UTILITY TRANSFORMER AND SERVICE WITH NATIONAL GRID. REFER TO AND ADHERE TO NATIONAL GRID SPECIFICATIONS FOR ELECTRICAL INSTALLATIONS AND ESB 759B. PROVIDE CUSTOMER SUPPLIED ITEMS STATED IN ESB 759B AND PER ESB 759B
- 9 DEMOLISH CONDUCTORS IN CONDUIT. CONDUIT MAY BE RE-USED TO SUPPLY CU-1 AFTER CLEANING THE CONDUIT WITH MANDREL.
- 10 OPEN CIRCUIT BREAKER, DISCONNECT EXISTING SERVICE, AND MARK AS SPARE PRIOR TO ENERGIZING PANEL FROM T-1.
- [11] REMOVE BONDING BETWEEN NEUTRAL (GROUNDED CONDUCTOR) AND GROUND PRIOR TO ENERGIZING MDP FROM T-1.
- 12 REMOVE CONNECTION TO GROUNDING ELECTRODES PRIOR TO ENERGIZING MDP FROM T-1. GROUNDING ELECTRODES ARE TO BE REUSED FOR 'MB4'. REFER TO NOTE 5.
- PROVIDE CIRCUIT BREAKER IN SWITCHBOARD AS 13 INDICATED. LABEL AS MAIN INCOMING CIRCUIT BREAKER.
- 14 COORDINATE DEMOLITION OF EXISTING SERVICE WITH NATIONAL GRID.
- 15 MAINTAIN EXISTING PANEL AND MODIFY PER PANEL SCHEDULE ON E2.01.
- 16 DEMOLISH CONDUCTORS IN CONDUIT.
- 17 DEMOLISH CONDUCTORS AND CONDUIT.
- 18 CONFIRM HLA IS SUPPLIED BY CIRCUIT BREAKER AND LABEL IN PANEL A. IF NOT SUPPLIED BY PANEL A, NOTIFY ENGINEER AND DO NOT LABEL.
- 19 VALUE FOR SECONDARY. VALUE BASED ON NATIONAL GRID SPECIFICATIONS FOR ELECTRICAL INSTALLATIONS FOR A 3 PHASE, 500 KVA TRANSFORMER WITH A 480Y/277V SECONDARY.

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В			AC-1	RAF-1	
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E	# 1 2 ISSUE FOR BID	E1 DEMOLISH DISCONNECT AND CONNEC DEMOLISH DISCONNECT AND	.03 CALLOUT NOTES NOTE CTION TO MECHANICAL UNIT. DEMOLIS D MOTOR STARTER. DEMOLISH CIRCU	SH CIRCUIT BACK TO SOURCE. IT BACK TO SOURCE. MEP ENGINEER: Andre Gill Engineering, LLC 40 Overlea Road North Smithfield, RI 02896 T: 401.441.3414	CONSULTAN
Ε	# 1 1 2	E1 DEMOLISH DISCONNECT AND CONNEC DEMOLISH DISCONNECT AND	.03 CALLOUT NOTES NOTE CTION TO MECHANICAL UNIT. DEMOLIS D MOTOR STARTER. DEMOLISH CIRCU	SH CIRCUIT BACK TO SOURCE. IT BACK TO SOURCE. MEP ENGINEER: Andre Gill Engineering, LLC 40 Overlea Road North Smithfield, RI 02896 T: 401.441.3414 W: www.andregillengineering.co	m

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MEP ENGINEER:
Andre Gill Engineering, LLC

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	Branch Panel: BR Location: BOILER Supply From: MDP Mounting: Surface Enclosure: Type 1 Notes:			1 ROOM-2 009-2					120/208 3 4	20/208 Wye } !			A.I.C. Ra Mains Mains Ra MCB Ra	
	CKT BR-1 BR-3	Circuit Desci Lighting H-2	ription	Trip 20 A 30 A	Poles 1 2	192 VA	4 0 VA	E	3 0 VA	(Poles 3 	Trip 30 A	Cir Spare
\bigcirc	BR-5 BR-7	 Heating		 20 A	2	1250	2500			2000	0 VA	 3	 30 A	 UH-1
(Z) (2)	BR-9 BR-11	 Heating		 20 A	 2	1250	1250	1250	2500	1250	2500	 	 	
2	BR-15 BR-17	 Heating 		20 A	2	1250	1250	1000	1250	1000	1250	2 2	20 A 20 A	 Heating
2	BR-19 BR-21	MAHU-1 		20 A 	2	500 VA	1250	500 VA	1250			 2	 20 A	 Heating
2	BR-23 BR-25	WH-1 		20 A	2	2250	1250	E00 \/A	1250	2250	1250	 2	 20 A	 Heating
2	BR-29 BR-31	 Heating		20 A 20 A	 2	1250	1250	300 VA	1230	500 VA	1250	2	20 A	 Heating
(2) ~	BR-33 BR-35	 Receptacle BOILER ROOM-3	3 19-3	 20 A	 1			1250	0 VA	180 VA	0 VA	1 1	20 A 20 A	RESTROOM EXH Spare
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	Lighting				192 VA			100.00%	•		192 VA			Total Est. De
	Notos:	Enclos	sure: Type 1					Phases: Wires:	3 4					Mains Type: M Mains Rating: 1 MCB Rating: 1
	Notes:	Enclos	sure: Type 1		- -			Phases: Wires:	3 4			. .		Mains Type: M Mains Rating: 1 MCB Rating: 1
	Notes: CKT HLA-1 HLA-3	Enclos Circuit Desci	ription	Trip	Poles		A	Phases: Wires:	3 4 3		C	Poles	Trip	Mains Type: M Mains Rating: 1 MCB Rating: 1
	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7	Enclos Circuit Desci H-1 (HUMIDIFIER)	ription	Trip	Poles 2	2000	4 0 VA	Phases: Wires:	3 4 3			Poles	Trip 20 A	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare
3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13	Enclos Circuit Descr H-1 (HUMIDIFIER) Spare 	ription	Trip 20 A 30 A	Poles 2 3	2000	A 0 VA	Phases: Wires: E 2000	3 4 3	(Poles	Trip 20 A	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare
3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13 HLA-15 HLA-17	Enclos Circuit Descu Circuit Descu H-1 (HUMIDIFIER) Spare Spare Receptacle STORAGE 2 14	ription	Trip 20 A 30 A 20 A	Poles 2 3 1	2000 0 VA	A 0 VA	Phases: Wires: 2000 0 VA	3 4	0 VA 180 VA		Poles 1	Trip	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare
3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13 HLA-15 HLA-17 HLA-19 HLA-21 HLA-22	Enclos Circuit Descu Circuit Descu H-1 (HUMIDIFIER) Spare Receptacle STORAGE 2 14 Spare 	ription	Trip 20 A 30 A 20 A 20 A	Poles 2 3 1 3 1 1	2000 0 VA	A 0 VA	Phases: Wires: Wires: 2000 2000 0 VA	3 4 3 3 3 3 1250	0 VA	1250	Poles	Trip 20 A 20 A	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare
3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-11 HLA-11 HLA-13 HLA-15 HLA-17 HLA-21 HLA-23 HLA-25 HLA-27	Enclos Circuit Descu Circuit Descu H-1 (HUMIDIFIER) Spare Spare Receptacle STORAGE 2 14 Spare Spare 	ription	Trip 20 A 30 A 20 A 20 A 20 A	Poles 2 3 1 1 3 1	2000 2000 0 VA	A 0 VA 1250	Phases: Wires: Wires: 2000 2000 0 VA 0 VA	3 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 VA	1250	Poles 1 1 2 2 2	Trip 20 A 20 A 20 A 	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare Spare Heating Heating
$\langle 3 \rangle$	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13 HLA-15 HLA-15 HLA-19 HLA-21 HLA-23 HLA-25 HLA-27 HLA-29 HLA-31	Enclos Circuit Descu Circuit Descu H-1 (HUMIDIFIER) Spare Spare Receptacle STORAGE 2 14 Spare Spare	ription	Trip 20 A 30 A 20 A 20 A 20 A 20 A	Poles 2 3 1 3 1 3 1 1 1	2000 2000 0 VA	A 0 VA 1250	Phases: Wires: 2000 2000 0 VA 0 VA	3 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 VA 180 VA 0 VA	1250	Poles	Trip 20 A 20 A 20 A 	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare Spare Heating Heating
3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13 HLA-15 HLA-19 HLA-21 HLA-21 HLA-23 HLA-27 HLA-27 HLA-27 HLA-31 HLA-33 HLA-35 HLA-37	Enclos Circuit Descu Circuit Descu H-1 (HUMIDIFIER) Spare Spare Spare Spare Receptacle STORAGE 2 14	ription	Trip 20 A 30 A 20 A 20 A 20 A 20 A	Poles 2 3 1 3 1	2000 2000 0 VA	A 0 VA 0 VA 0 1250	Phases: Wires: 2000 2000 0 VA 0 VA	3 4 3 3 3 3 3 3 4 3 3 4 3 3 4 3 3 4 3	0 VA 180 VA 180 VA	C	Poles	Trip 20 A 20 A 20 A 	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare Spare Heating Heating
3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13 HLA-13 HLA-15 HLA-17 HLA-21 HLA-21 HLA-23 HLA-25 HLA-27 HLA-29 HLA-31 HLA-33 HLA-35 HLA-37 HLA-39 HLA-41	Enclos	ription	Trip 20 A 30 A 20 A 20 A 20 A 	Poles 2 3 1 3 1	2000 2000 0 VA 0 VA	A 0 VA 1250	Phases: Wires: 2000 2000 2000 0 VA 0 VA	3 4 3 3 3 3 3 3 3 4 3 3 4 3 3 3 3 3 3 3	0 VA 180 VA 180 VA 0 VA 180 VA		Poles	Trip 20 A 20 A 20 A 	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare Spare Heating Heating
3 3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13 HLA-13 HLA-15 HLA-19 HLA-19 HLA-21 HLA-21 HLA-23 HLA-25 HLA-27 HLA-27 HLA-29 HLA-31 HLA-33 HLA-39 HLA-31 HLA-39 HLA-31 HLA-39 HLA-31 HLA-39 HLA-31 HLA-39 HLA-31 HLA-39 HLA-31 HLA-39 HLA-31 HLA-39 HLA-31 HLA-30 HLA-31 HLA-30 HLA-31 HLA-30 HLA-31 HLA-30 HLA-31 HLA-30	Enclos	ription	Trip 20 A 30 A 20 A 20 A 20 A 20 A 20 A 20 A	Poles 2 3 1 3 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1 1 1 1	2000 2000 0 VA 0 VA	A 0 VA 1250 1250 2 VA 3 A	Phases: Wires: 2000 2000 2000 0 VA 0 VA 0 VA 0 VA 3 0 VA 3 0 VA 3 1 0 VA 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 4 3 3 4 3 3 4 3 3 4 3 3 3 3 3 3 3 3 3	0 VA 180 VA 180 VA 0 VA 180 VA 1308 1398 12	2 1250 3 VA 2 A	Poles	Trip 20 A 20 A 	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare Spare Heating Heating
3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-7 HLA-9 HLA-11 HLA-13 HLA-13 HLA-15 HLA-17 HLA-23 HLA-21 HLA-23 HLA-27 HLA-27 HLA-29 HLA-31 HLA-31 HLA-31 HLA-31 HLA-31 HLA-32 HLA-31 HLA-32	Enclos	ription	Trip 20 A 30 A 30 A 20 A 20 A 20 A 20 A 10 20 A 10 20 A 10 20 A 10 20 A 10 20 A	Poles 2 3 1 3 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 3 1 1 1 3 1 1 1 1 1	2000 2000 0 VA 0 VA 0 VA 2 0 VA 2 0 VA 2 2 0 VA 2 2 0 VA	A 0 VA 1250 1250 2 VA 3 A	Phases: Wires: 2000 2000 2000 0 VA 0 VA 0 VA 0 VA 3 0 VA 3 0 VA 3 1 0 VA 3 1 0 VA 3 1 0 VA 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 VA 180 VA 180 VA 0 VA 130 VA 1308 1398 12	2 1250 3 VA 2 A	Poles	Trip 20 A 20 A 20 A 	Mains Type: M Mains Rating: 1 MCB Rating: 1 Cir Spare Spare Heating Heating
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3	Notes: CKT HLA-1 HLA-3 HLA-5 HLA-11 HLA-13 HLA-15 HLA-15 HLA-17 HLA-13 HLA-14 HLA-15 HLA-17 HLA-23 HLA-21 HLA-23 HLA-23 HLA-23 HLA-31 HLA-31 </td <td>Enclos</td> <td>ription</td> <td>Trip 20 A 30 A 30 A 20 A 20 A 20 A 20 A 20 A 700 20 A 700 700 700 700 700 700 700 700 700</td> <td>Poles 2 3 1 3 1 3 1 1 3 1 1 3 1 1 3 1 1 4 0 0 VA 5000 VA 180 VA</td> <td>2000 2000 0 VA 0 VA 0 VA 0 VA</td> <td>A 0 VA 1250 1250 2 VA 3 A</td> <td>Phases: Wires: Wires: 2000</td> <td>3 4</td> <td>(0 VA 180 VA 180 VA 180 VA 180 VA 180 VA 180 VA 1398 12 1398 12 1398 12 1398 12 1398</td> <td>2 1250 1250 3 VA 2 A 3 VA 2 A 1250 12</td> <td>Poles</td> <td>Trip 20 A 20 A 20 A </td> <td>Mains Type: I Mains Rating: 7 MCB Rating: 7 Ci Ci Spare Spare Heating Heating Heating Total Conn. Total Est. De</td>	Enclos	ription	Trip 20 A 30 A 30 A 20 A 20 A 20 A 20 A 20 A 700 20 A 700 700 700 700 700 700 700 700 700	Poles 2 3 1 3 1 3 1 1 3 1 1 3 1 1 3 1 1 4 0 0 VA 5000 VA 180 VA	2000 2000 0 VA 0 VA 0 VA 0 VA	A 0 VA 1250 1250 2 VA 3 A	Phases: Wires: Wires: 2000	3 4	(0 VA 180 VA 180 VA 180 VA 180 VA 180 VA 180 VA 1398 12 1398 12 1398 12 1398 12 1398	2 1250 1250 3 VA 2 A 3 VA 2 A 1250 12	Poles	Trip 20 A 20 A 20 A 	Mains Type: I Mains Rating: 7 MCB Rating: 7 Ci Ci Spare Spare Heating Heating Heating Total Conn. Total Est. De
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ARCHITECT: Saccoccio & Associates

1085 Park Ave Cranston, RI 02910

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Legend:

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Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel	Totals
HVAC	4000 VA	100.00%	4000 VA		
Heating	7500 VA	100.00%	7500 VA	Total Conn. Load:	10966 VA
				Total Est. Demand:	10966 VA
				Total Conn.:	30 A
				Total Est. Demand:	30 A
Notes:					

	E2.01 CALLOUT NOTES
#	NOTE
1	EXISTING PANEL. PROVIDE MODIFICATIONS TO PANEL LAYOUT AS SHOWN BELOW. AFTER DEMOLI SPARES ARE AS INDICATED. NOTIFY ENGINEER OF LOADS NOT SHOWN AND STILL REMAIN AFTER
2	PROVIDE CIRCUIT BREAKER AS INDICATED FOR LOAD INDICATED.
3	CONFIRM NO LOAD AFTER DEMOLITION, LABEL AS SPARE AND LEAVE CIRCUIT BREAKER OPEN. NOT OTHERWISE.
4	EXISTING CIRCUITS TO REMAIN NOT SHOWN ON PANEL.
5	NEW 2 POLE CIRCUIT BREAKERS MAY BE PLACED IN OTHER LOCATIONS MARKED WITH NOTE 3 IN PA WITH PHASING.
6	CONFIRM NO LOAD AFTER DEMOLITION, PLACE FILLER IN SPACE TO PREVENT EXPOSED BU
7	PROVIDE GFCI CIRCUIT BREAKER AS INDICATED FOR LOAD INDICATED.

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(1)Owner acknowledges that such Documents are not intended or represented to be suitable for use on the Project unless completed by AGE, or for use or reuse by Owner or others on extensions of the Project, on any other project, or for any other use or purpose, without written verification or adaptation by AGE; (2)any such use or reuse, or any modification of the Documents, without written verification, completion, or adaptation by AGE, as appropriate for the specific purpose intended, will be at Owner's sole risk and without liability or legal exposure to AGE or to its officers, directors, members, partners, agents, employees, and Consultants (3)Owner shall indemnify and hold harmless AGE and its officers, directors, members, partners, agents, employees, and Consultants from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from any use, reuse, or modification of the Documents without written verification, completion, or adaptation by AGE; and (4) such limited license to Owner shall not create any rights in third parties.

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	A.I.C. Rating: 10 Mains Type: MLO Mains Rating: 100 A MCB Rating: 1 A	
Trip	Circuit Description	СКТ
30 A	Spare	2
		4
		6
20 A	Spare	8
		10
		12
0 A	Spare	14
		16
		18
20 A	Spare	20
		22
		24
20 A	Spare	26
		28
		30
		32
		34
		36
		38
		40

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ITION CONFIRM R DEMOLITION. TIFY ENGINEER IF

ANEL AC TO HELP USSING.

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В

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	CONSU	JLTA
	MEP ENGINEER:	
	Andre Gill Engineering, LLC	
	40 Overlea Road	
ISSUE FOR BID	01MAR22 T: 401 441 2414	
CLIENT REVIEW	21SEP21 V: www.andregillengineering.com	
Revision:	Date:	

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		Branch Panel: MB4 Location: STORAGE L 6 Supply From: Mounting: Surface Enclosure: NEMA 1 Indoc	r				Volts: Phases: Wires:	: 480/277 : 3 : 4	′ Wye				A.I.C. Rating: Use Panel Short Cir Mains Type: Mains Rating: 800 A MCB Rating: 1 A	cuit & Refer to
N	otes:													
	°KT	Circuit Description	Trip	Polos		٨		D		c	Polos	Trip	Circuit Description	C
	1		110 A	3	2533	2166					2 Y	110 A		
	3				2000	2100	2533	2166						
	5								2533	2166				
	7	CU-2	60 A	3	1162	2533					3	90 A	AHU-2	
	9						1162	2533						1
	11								1162	2533				1
	13	RTU-2	70 A	3	1300	1943					3	90 A	RTU-1	1
	15	-					1300	1943						1
	17								1300	1943				1
]	19	150 kVA, 277 V/480 V, Three Phase, 4 Wires, W	/e 300 A	3	0 VA									2
_	21	-					0 VA		0.1/4					2
	23								0 VA					2
	25													2
-	20													2
-	31													
	33										-			3
	35													3
	37													3
	39													4
	41						_							4
			Tot	al Load:	1106	641 VA	1106	641 VA	1106	41 VA			1	
			Tota	al Amps:	39	99 A	39	99 A	39	9 A	_			
Le	egend						mond Fr		Eatin		mond		Densi Totolo	
	ooling	assincation	COL	65000 V	A	De	100 00%	6	Esun	65000 V	A			
H	VAC			234438 V	/A		100.00%	- /o		234438 V	Ϋ́Α		Total Conn. Load: 331922 VA	
0	ther			39000 V	A		100.00%	6		39000 V	A		Total Est. Demand: 331922 VA	
													Total Conn.: 399 A	
													Total Est. Demand: 399 A	2

ANTS

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