

INTERIOR RENOVATIONS
to the
TRUMBULL POLICE DEPARTMENT
158 EDISON ROAD
TRUMBULL, CONNECTICUT

RFP #6320

December 13, 2018

CLARIFICATIONS

DRAWING A-7.0 – OVERALL ROOF PLANS

The existing roofing is not under current warrantee. The General Contractor can utilize a roofing contractor of their choice to perform all roofing work necessary to patch and repair existing roofing for new roof penetrations as noted on the drawings.

DRAWING E-1.1 – LOWER LEVEL FLOOR PLAN – ELECTRICAL

Electrical Contractor to provide power circuits to wardrobe lockers as indicated. Wardrobe Locker Manufacturer (section 10 51 13) to furnish modular electrical plug and play kit to include two (2) receptacles for each wardrobe locker being installed. Electrical Contractor to provide necessary wiring from circuits indicated to junction boxes adjacent to wardrobe locker outlet connection in ceiling space of locker rooms.

REQUEST FOR INFORMATION

Question: On plan P-1.1 note on gas line refers us to M drawings for continuation yet there is no gas on M drawings.

Answer: The drawing (P-1.1) calls out for 1-1/2"G to the HVAC equipment. The note to refer to the M drawings was simply for the Plumbing Contractor to coordinate the exact location of the gas connection on the HVAC unit with the Mechanical Contractor. Plumbing Contractor to make all necessary connections as required.

Question: Has a second walk-through data / time been scheduled?

Answer: The Trumbull Police Department will be made available for viewing on **Monday, December 17th at 10:00am**. All visitors to report to the Information Counter within the Public Lobby.

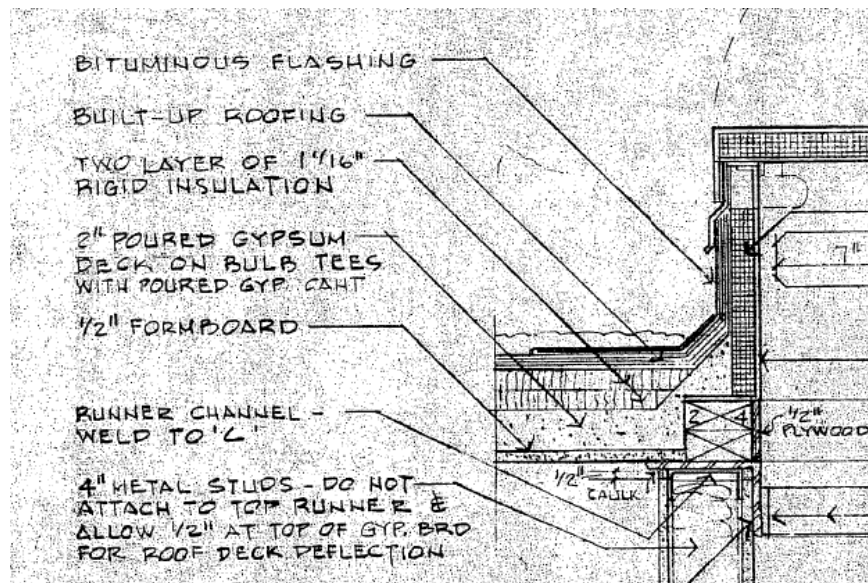
Question: Drawing M-5.3 list Alerton Controls. Drawing M-5.2 indicates DDC interface to the Town Wide central DDC controls. Alerton Controls are utilized in the Town's School District. We do not have a DDC Head-End on the Town's Municipal side. Listed below are the associated questions.

- a. The Alerton control system can operate as a stand-alone DDC control system for this project. Please advise.
- b. We can incorporate the project's controls into the Alerton Trumbull School District DDC head-end. Please advise.

Answer: Alerton Controls is only listed in the specifications as an acceptable manufacturer for duct mounted sensors.

Question: What is the existing roofing composition? Membrane, insulation type and thickness, type of roof deck, etc.

Answer: Drawings from the original construction indicate the following roofing composition: Built-up roof construction over 2-1/8" rigid insulation over poured gypsum on 1/2" form board. Detail illustration below.



CHANGES TO SPECIFICATIONS

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

DELETE Subparagraph 9.2 – "Minority Owned Business Enterprise Goal" in its entirety. All proposals shall comply with Equal Opportunity Employment Practices. This project does not have minority-owned business or small business enterprise goals.

DIVISION 1 - FINISHES

SECTION 01 20 00 – ALLOWANCES

ADD Section 01 20 00 – ALLOWANCES in its entirety (attached)

General Contractor to include \$20,000 allowance amount within their Base Bid Proposal for additional abatement beyond the scope as outlined within the specifications. This allowance amount will be for work that may be encountered within corridors, firing range, or areas beyond that identified within the specifications.

SECTION 01 50 00 – TEMPORARY FACILITIES**3.3 – TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION****SUBPARAGRAPH J – TEMPORARY TOILETS**

ADD subparagraph 5 as follows:

5. Six-month rental and service agreement for the Owner's Temporary Toilets as indicated in subparagraph 3 listed above shall anticipate one (1) service call per week for the duration of the rental period. If additional service calls are required beyond that stated above, the Owner shall be responsible for additional costs incurred.

DIVISION 9 - FINISHES**SECTION 09 65 00 – RESILIENT FLOORING AND BASE**

ADD Paragraph 1.7 – EXTRA MATERIALS as follows:

1.7 – EXTRA MATERIALS

- A. Furnish extra materials that matches products installed and that are packaged with protective covering for storage and identified with labels describing contents.
- B. Furnish, as a minimum, one (1) box of flooring material for every fifty (50) boxes or fraction thereof, for each type of flooring material specified, for each color flooring material being utilized on the project, and for each pattern of flooring material being installed.
 1. Extra Material shall be labeled and turned over to the Owner in sealed boxes, original condition.
 2. No extra material shall be required for base, adhesives, or accessory products.

CHANGES TO DRAWINGS**M-0.3 - FLOW AND CONTROL DIAGRAMS - MECHANICAL**

See attached revised drawing with the following revisions incorporated:

- Removed Ebtron flow meters on HVAC-4 RA and SA, flow meters shall be provided by unit manufacturer
- Removed HVAC-4 dashed line for clarification

M-3.1 – SCHEDULES - MECHANICAL

See attached revised drawing with the following revisions incorporated:

- EF-10 motor requirements changed from 208V/ 3-PH to 208V/ 1-PH
- Clarification: basis of design air handlers are BACnet compatible
- HVAC-4 shall be furnished with barometric relief dampers

E-1.2 – ROOF PLAN - ELECTRICAL

See attached revised drawing with the following revisions incorporated:

- Revised fan EF-10 branch circuit and circuit breaker to correspond with a 208V, 1Ø load

ATTACHMENTS

SECTION 01 20 00 – ALLOWANCES, 2 pages

M-0.3 - FLOW AND CONTROL DIAGRAMS – MECHANICAL, revised 12/13/18

M-3.1 – SCHEDULES - MECHANICAL, revised 12/13/18

E-1.2 – ROOF PLAN - ELECTRICAL, revised 12/13/18

END OF ADDENDUM NO. 1

TRUMBULLPD.LOCKERROOMRENOVATIONS.ADDENDUM.ADDNDM1

SECTION 01020 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing handling and processing allowances. Allowances shall be included in Contractor's Bid Proposal and Contract Sum.
- B. Types of allowances required include the following:
 - 1. Lump sum-allowance for additional abatement of applied spray fireproofing beyond the base bid scope as indicated in the specifications.
- C. Expenditure of allowances shall be as directed by the Owner, in accordance with procedures for submitting and handling Change Orders which are included in General Conditions, AIA Document A-201.

1.3 SUBMITTALS

- A. Submit proposals for expenditures related to in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to indicate actual quantities of materials delivered to the site for use in fulfillment of each allowance.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect products covered by an allowance promptly upon delivery for damage or defects.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related construction activities.

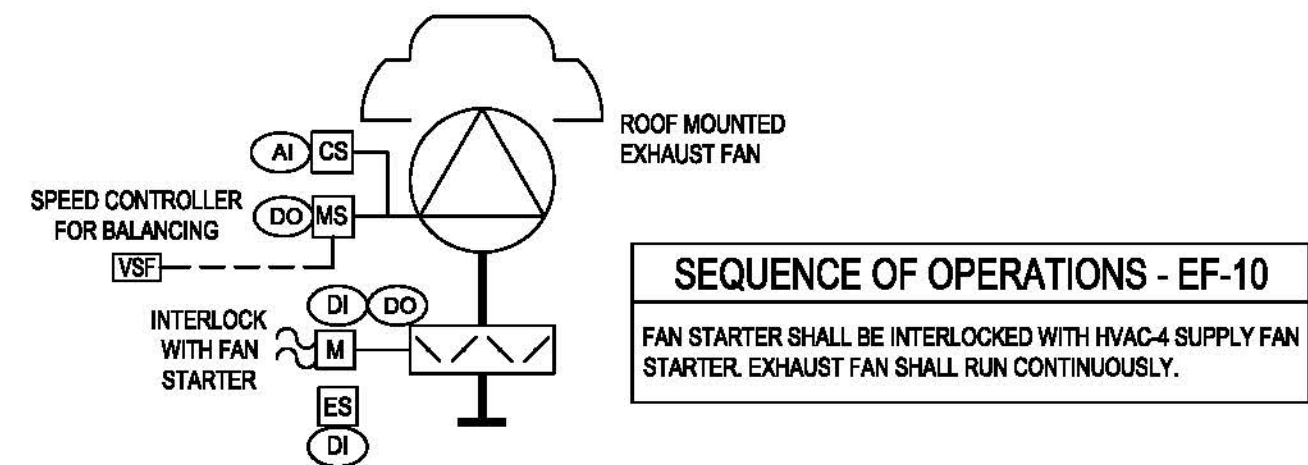
3.3 SCHEDULE OF ALLOWANCES

- A. **Included** in the General Contractor's Bid Proposal is the following Allowance:

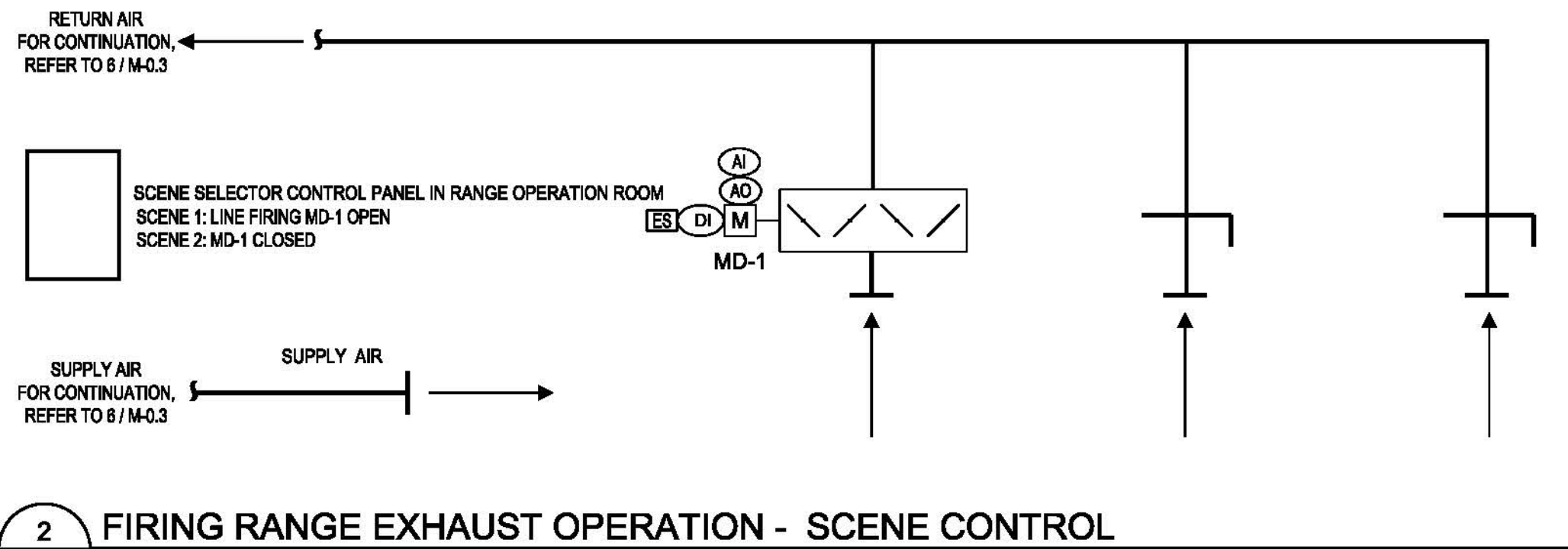
- 1. **Additional Abatement of Existing Spray Fireproofing: \$20,000**

- a. It is understood that the General Contractor has included within their Base Bid proposal an amount of money to provide complete abatement of existing spray fireproofing as further defined within Asbestos Abatement Specifications, Trumbull Police Department, Lower Level, 158 Edison Road, Trumbull, CT, dated October 31, 2018 (85 pages), as prepared by Chem Scope, Inc., North Haven, CT
- b. It is further understood that there are multiple areas that are not readily identified which would also involve disturbing the existing spray fireproofing. These areas include, but are not limited to: salvaged lights re-hung at the firing range, firing range baffles, new hangers within corridors for new mechanical / plumbing fixtures, etc.
- c. General Contractor shall include within their Base Bid Proposal an allowance amount of twenty thousand dollars (\$20,000.00) to perform this additional abatement, in excess of the base contract scope as outlined within Asbestos Abatement Specifications, Trumbull Police Department, Lower Level, 158 Edison Road, Trumbull, CT, dated October 31, 2018 (85 pages), as prepared by Chem Scope, Inc., North Haven, CT

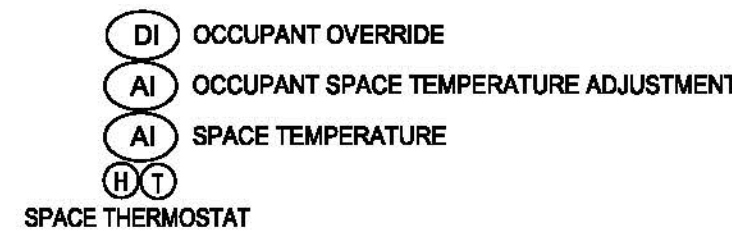
END OF SECTION 01020



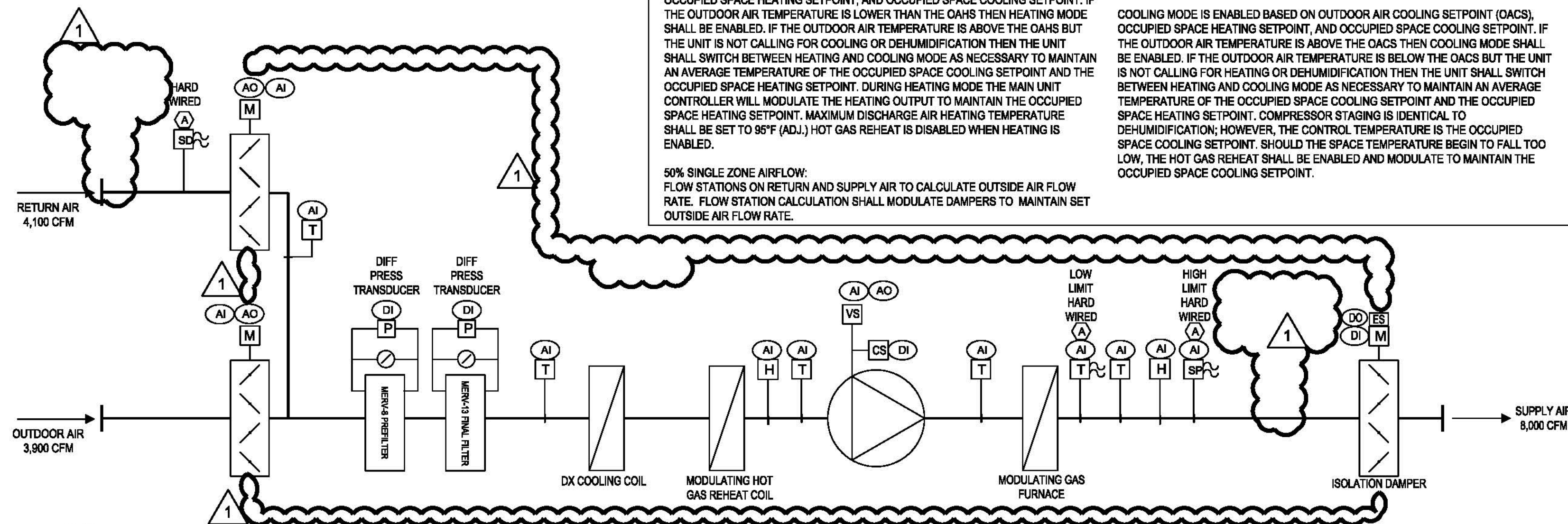
1 ROOF MOUNTED LOCKER ROOM EXHAUST FAN EF-10 CONTROL DIAGRAM
M-0.3 SCALE: NONE



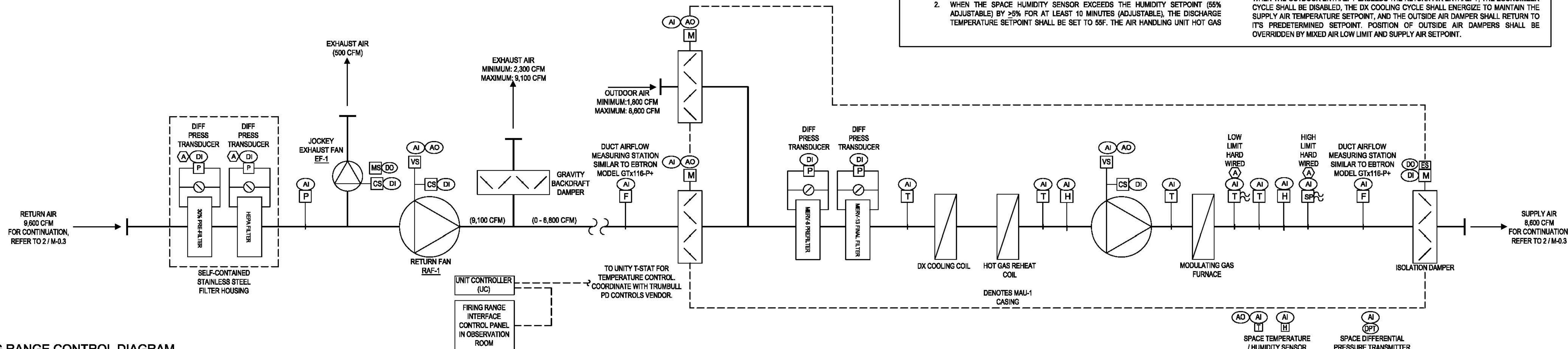
2 FIRING RANGE EXHAUST OPERATION - SCENE CONTROL
M-0.3 SCALE: NONE



3 SPACE THERMOSTAT CONTROL DIAGRAM
M-0.3 SCALE: NONE



5 HVAC-4 FLOW AND CONTROL DIAGRAM
M-0.3 SCALE: NONE



6 FIRING RANGE CONTROL DIAGRAM
M-0.3 SCALE: NONE

MECHANICAL CONTROLS SYMBOL LIST

(A)	ALARM
(AI)	DDC ANALOG INPUT POINT
(AO)	DDC ANALOG OUTPUT POINT
(CS)	CURRENT SENSOR
(DI)	DDC DIGITAL INPUT POINT
(DO)	DDC DIGITAL OUTPUT POINT
(DPT)	DIFFERENTIAL PRESSURE TRANSMITTER
(ES)	END SWITCH
(F)	FLOW MEASURING STATION
(H)	ROOM HUMIDISTAT / HUMIDITY SENSOR
(H)	HUMIDITY SENSOR
(HL)	HIGH LIMIT HUMIDISTAT
(L)	ELECTRONIC LIQUID LEVEL SENSOR
(M)	DAMP/VALVE MOTOR
(MS)	MOTOR STARTER
(P)	PRESSURE SENSOR
(SD)	SMOKE DETECTOR; FURNISHED AND WIRED BY DIVISION 26 CONTRACTOR AND MOUNTED BY DIVISION 23 CONTRACTOR
(SP)	STATIC PRESSURE SENSOR
(TCP)	TEMPERATURE CONTROL PANEL
(T)	THERMOSTAT**
(T)	TEMPERATURE SENSOR (NO ADJUSTMENT)
(T)	TAMPER-PROOF TEMPERATURE SENSOR (FOR USE IN CELL BLOCKS)
(VFD)	VARIABLE FREQUENCY CONTROLLER*
(VSP)	VARIABLE SPEED FAN SWITCH
(VSP)	COIL
(VSP)	OPPOSED BLADE DAMPER
(VSP)	PUMP / FAN
(VSP)	DISCONNECT
(VSP)	HARDWIRED

ALL SYMBOLS MAY NOT BE USED IN THESE DOCUMENTS.
* REFER TO VARIABLE FREQUENCY CONTROLLER CONTROL DIAGRAM FOR REQUIRED CONTROL POINTS FOR ALL VFD & VS SYMBOLS INDICATED.
** REFER TO SPACE THERMOSTAT CONTROL DIAGRAM FOR REQUIRED CONTROL POINTS FOR ALL T SYMBOLS INDICATED.

4 GLOBAL OUTDOOR AIR SENSORS
M-0.3 SCALE: NONE

SEQUENCE OF OPERATIONS - MAU-1

- A. GENERAL**
- THE UNIT SHALL CYCLE ON AND OFF AT 50% (ADJ.) AIRFLOW BASED ON TEMPERATURE SETPOINT, AND MANUALLY VIA AN OPERATING INTERFACE IN THE OBSERVATION ROOM. TEMPERATURE SETPOINT ADJUSTMENT DURING NORMAL OPERATING MODE SHALL BE ACCOMPLISHED THROUGH UNITY CONTROLS WIFI ENABLED THERMOSTAT.
 - A CONTROL PANEL FOR MANUAL UNIT OPERATION SHALL BE PROVIDED IN THE FIRING RANGE OBSERVATION ROOM FOR FULL SPEED MANUAL OPERATION OF THE SYSTEM. THE UNIT SHALL RUN FOR A PREDETERMINED SET TIME BASED ON USERS REQUIREMENTS. THE CONTROLLER SHALL HAVE A TABLET STYLE INTERFACE WITH FUNCTIONS CLEARLY OUTLINED AND VENTILATION STATUS CLEARLY DENOTED. DEFAULT SCENE SELECTION SHALL BE PER OWNERS DIRECTION. TEMPERATURE ADJUSTMENT SHALL BE AVAILABLE. CONTRACTOR TO FURNISH DDC UNIT CONTROLLER.
 - UNIT CONTROLLER VIA UNITY CONTROL THERMOSTAT SHALL MODULATE DX COOLING AND GAS HEATING TO MAINTAIN REQUIRED AHU DISCHARGE SET POINT TEMPERATURE AND SPACE HUMIDITY DURING UNOCCUPIED TIMES.
- B. UNOCCUPIED MODE**
- WHEN THE UNIT IS DISABLED, THE SUPPLY FAN SHALL BE OFF, RETURN FAN RAF-1 SHALL BE OFF, RETURN AIR AND OUTSIDE AIR DAMPERS SHALL BE CLOSED. UNIT MOUNTED JOCKEY EXHAUST FAN SHALL RUN CONTINUOUSLY TO PROVIDE EXHAUST FOR THE RANGE AREA.
- C. NORMAL OPERATING MODE - STANDBY**
- WHEN THE UNIT IS ENABLED BASED ON A CALL FROM A SPACE TEMPERATURE/HUMIDITY SENSOR, THE SUPPLY FAN SHALL START AT 50%(ADJ.) OF THE DESIGN AIRFLOW AFTER OUTSIDE AIR DAMPERS MODULATE OPEN. RETURN AIR FAN SHALL TRACK SUPPLY AIR FAN RPM AND MODULATE SPEED TO MAINTAIN A CONSTANT NEGATIVE AIRFLOW DIFFERENTIAL EQUIVALENT TO THE EXHAUST FLOW FOR EF-1. DEFAULT SCENE 1 ARRANGEMENT SHALL BE UTILIZED. ON A CALL FOR COOLING, THE DX CYCLE SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT (75°F ADJUSTABLE). ON A CALL FOR HEATING, THE GAS FURNACE SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT (70°F ADJUSTABLE). WHEN THE DISCHARGE TEMPERATURE HAS LOWERED TO 55°F AND THERE IS A FURTHER RISE IN SPACE TEMPERATURE, THE SUPPLY AIRFLOW SHALL INCREASE VIA THE VARIABLE FREQUENCY DRIVE. UPON A DROP IN SPACE TEMPERATURE THE SUPPLY AIRFLOW SHALL DECREASE AND THE DX COOLING DEENERGIZE. UPON A CALL FOR FURTHER HEATING, THE GAS FURNACE SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SENSOR SETPOINT.
 - WHEN THE SPACE HUMIDITY SENSOR EXCEEDS THE HUMIDITY SETPOINT (55% ADJUSTABLE BY 2% FOR AT LEAST 10 MINUTES (ADJUSTABLE), THE DISCHARGE TEMPERATURE SETPOINT SHALL BE SET TO 55F. THE AIR HANDLING UNIT HOT GAS
- D. FIRING RANGE OPERATION**
- THE UNITY CONTROLS THERMOSTAT SHALL BE OVERRIDDEN BY THE SCENE SELECTOR CONTROL PANEL IN THE OBSERVATION ROOM DURING A CALL FOR FIRING RANGE OPERATION. THE UNIT SHALL OPERATE AT FULL SPEED VIA MANUAL OPERATION FROM THE INTERFACE CONTROL PANEL. AN INDICATOR LIGHT SHALL INDICATE UNIT FULL SPEED OPERATION. A SCENE SELECTOR SWITCH SHALL BE PROVIDED FOR RANGE OPERATION MODES AS INDICATED ON THE DRAWINGS.
 - SELECTOR SWITCH FOR RANGE MODES
 - PROVIDE A SELECTOR SWITCH TO DIRECT EXHAUST AIR DURING FULL SPEED OPERATION IN THE FOLLOWING MODES VIA MOTORIZED DAMPER MODULATION:
 - 2,400 CFM AIR EXHAUSTED VIA 1/2 DOWNRANGE EXHAUST OPENING, 3,600 CFM AIR EXHAUSTED VIA 1/2 DOWNRANGE EXHAUST OPENING, AND 3,600 CFM AIR EXHAUSTED VIA BULLET BACKSTOP EXHAUST OPENING.
 - 3,600 CFM AIR EXHAUSTED VIA 1/2 DOWNRANGE EXHAUST OPENING, AND 3,600 CFM AIR EXHAUST VIA BULLET BACKSTOP EXHAUST OPENING.
- E. UNOCCUPIED MODE**
- OUTSIDE AIR DAMPERS SHALL BE CLOSED. RETURN AIR DAMPER AT UNIT SHALL BE CLOSED. RESET THE SPACE AIR TEMPERATURE. SENSORS TO MAINTAIN SPACE TEMPERATURE AT 75 F (ADJUSTABLE) DURING A CALL FOR COOLING AND 60 F (ADJUSTABLE) DURING A CALL FOR HEATING.
 - SUPPLEMENTAL JOCKEY EXHAUST FAN SHALL RUN CONTINUOUSLY WHEN UNIT IS IN UNOCCUPIED MODE TO PROVIDE FOR CONTINUOUS FILTERED EXHAUST OF THE FIRING RANGE AREA.
- F. ENTHALPY ECONOMIZER**
- PROVIDE UNIT WITH AN ENTHALPY CONTROLLED ECONOMIZER. WHEN OUTSIDE AIR ENTHALPY IS LESS THAN RETURN AIR ENTHALPY AND A CALL FOR COOLING HAS BEEN INITIATED, A PID LOOP COMPARING ACTUAL SUPPLY TEMPERATURE TO ITS CALCULATED SETPOINT, SHALL MODULATE THE OUTSIDE AIR DAMPER AND RETURN AIR DAMPER. WHEN THE OUTDOOR ENTHALPY EXCEEDS THE RETURN AIR ENTHALPY, THE ECONOMIZER CYCLE SHALL BE DISABLED. THE DX COOLING CYCLE SHALL ENERGIIZE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT, AND THE OUTSIDE AIR DAMPER SHALL RETURN TO ITS PREDETERMINED SETPOINT. POSITION OF OUTSIDE AIR DAMPERS SHALL BE OVERRIDDEN BY MIXED AIR LOW LIMIT AND SUPPLY AIR SETPOINT.

RFP 6320

REMARKS:
ADDENDUM No. 01 DECEMBER 19, 2018

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INTERIOR RENOVATION TO THE
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**FLOW AND
CONTROL
DIAGRAMS -
MECHANICAL**

PROJ. NO. JH1826
SCALE As Noted
DATE NOVEMBER 8, 2018

DRAWING NO. **M-0.3**

AIR HANDLING UNITS																												
SYMBOL	AREA SERVED	SUPPLY AIR	VENT. AIR	INDIRECT GAS FIRED FURNACE							DIRECT EXPANSION COOLING COIL							SUPPLY FAN DATA			ELECTRICAL			PRE-FILTER	FINAL FILTER	MAKE/MODEL	REMARKS	
				HEATING (MBH)		FUEL	% AFUE	AIR DATA			AMB. TEMP.	ENT. AIR DB°	AIR WB°	LEAV. AIR DB°	AIR WB°	CAPACITY MBH	REFRIG. TYPE	ESP	TOTAL CFM	MOTOR DATA H.P.	VOLTS	PH	UNIT MCA					UNIT MOP
				INPUT	OUTPUT			CFM	EAT	LAT																		
HVAC-4	BASEMENT LEVEL	8,000	3,900	400.0	320.0	NAT. GAS	80	8,000	50.0	87.0	95.0	81.3	67.9	55.4	55.4	315.9	R-410A	1.0"	8,000	7.5	208	3	143.2	-	MERV-8	MERV-13	TRANE HORIZON K-300	PROVIDE AOD - HOT GAS REHEAT SPACE CONTROL WITH BAGNET
MAU-1	FIRING RANGE	8,600	1,800	300.0	240.0	NAT. GAS	80	8,600	56.9	82.7	95.0	79.2	66.8	55.2	54.8	319.5	R-410A	1.0"	8,600	10	208	3	145.9	175	MERV-8	MERV-13	GREENHECK RV-45-25	PROVIDE AOD - HOT GAS REHEAT SPACE CONTROL WITH BAGNET

- NOTES:
- ALL FAN MOTORS SHALL BE INVERTER DUTY RATED FOR USE WITH A VARIABLE FREQUENCY DRIVES.
 - FANS SHALL BE SELECTED BASED ON THE PRESSURE DROP ACROSS DIRTY FILTERS.
 - UNITS SHALL BE FURNISHED WITH FACTORY MOUNTED VARIABLE FREQUENCY DRIVE FOR THE SUPPLY FAN. VFD SHALL BE MOUNTED ON THE OUTSIDE OF THE UNIT IN A NEMA 3X ENCLOSURE FURNISHED WITH AN ELECTRONIC BYPASS WITH SERVICE SWITCH.
 - UNITS SHALL BE FURNISHED WITH FACTORY INSTALLED DISCONNECT SWITCH.
 - UNITS SHALL BE FURNISHED WITH WEATHERHOOD AND INTEGRAL BIRDSCREEN.
 - PROVIDE (1) SPARE SET OF FILTERS AND BELTS.
 - CONTRACTOR SHALL COORDINATE CONTROLS AND ELECTRICAL WIRING WITH TRUMBULL POLICE DEPARTMENT CONTROLS VENDOR.
 - UNITS SHALL BE PROVIDED WITH AOD OR WITHIN ROOM MERV 12W IN PLenum RECYCLES
 - HVAC-4 SHALL BE PROVIDED WITH AIRFLOW MONITORING - OUTDOOR AIR WITH DISPLAY AND IFM WITH PIEZO RING
 - HVAC-4 SHALL BE PROVIDED WITH BAROMETRIC RELIEF DAMPERS

HVAC PIPING/TUBING MATERIAL, JOINTS & FITTINGS						
SYSTEM	PIPE SIZE	CONSTRUCTION	PIPING	FITTINGS	UNIONS	FLANGES
COOLING COIL CONDENSATE DRAINS	ALL	SOLDER JOINT CONSTRUCTION WITH THREADED ADAPTERS AS REQUIRED. 95-5 TIN/ANTIMONY SOLDER.	COPPER, TYPE L, HARD DRAWN, ANSI H23.1, ASTM B88.	CAST BRONZE OR WROUGHT COPPER, SOLDER ENDS, ANSI B16.9 OR ANSI B16.22.	BRONZE SOLDER ENDS, GROUND JOINTS, ANSI B16.19 OR ANSI B16.22.	USE UNIONS

HVAC DUCT/PLENUM MATERIAL			
APPLICATION	SUPPLY	RETURN	EXHAUST
TYPICAL (UNLESS OTHERWISE SPECIFIED)	G90 GALVANIZED STEEL	G90 GALVANIZED STEEL	G90 GALVANIZED STEEL
EXPOSED AND CONCEALED EXHAUST DUCTWORK AND PLENUMS SERVING TOILET ROOMS, SHOWER ROOMS, ALL EXPOSED DUCTWORK RUNNING THROUGH, OVER OR WITHIN SHOWER ROOMS.	3003 H-14 ALUMINUM	3003 H-14 ALUMINUM	3003 H-14 ALUMINUM
EXPOSED DUCTWORK LOCATED IN AND SERVING AIR-CONDITIONED SPACES TO BE FIELD PAINTED OTHER THAN DUCTWORK LOCATED IN SPACES REQUIRED TO BE ALUMINUM.	A60 GALVANNEALED STEEL	A60 GALVANNEALED STEEL	A60 GALVANNEALED STEEL
EXPOSED DUCTWORK LOCATED IN AND SERVING CONDITIONED SPACES OTHER THAN DUCTWORK LOCATED IN SPACES REQUIRED TO BE ALUMINUM OR TO BE FIELD PAINTED.	G90 GALVANIZED STEEL	G90 GALVANIZED STEEL	G90 GALVANIZED STEEL
EXPOSED DUCTWORK OUTDOOR, ABOVE GRADE	ALUMINUM	ALUMINUM	ALUMINUM

1. DUCT CONSTRUCTION SHALL MEET SMACNA METAL & FLEXIBLE 2005 3RD EDITION STANDARDS.

FANS															
UNIT NO	LOCATION	SYSTEM SERVED	TYPE	CFM	ESP	MAX BHP	FAN RPM	TIP SPEED	SOUND SONES	ELECTRICAL				MAKE/MODEL	REMARKS
										HP	VOLTS	PH	RPM		
RAF-1	GRADE	FIRING RANGE EXHAUST	INLINE	9,600	3.65"	8.26	1,731	12,235	11.0	10	208	3	1,725	GREENHECK GEI-22-I-100	PROVIDE INLET AND OUTLET SILENCERS
EF-1	GRADE	FIRING RANGE JOCKEY	CENTR.	500	0.50"	0.09	1,561	4,445	7.5	1/10	120	1	860	GREENHECK CUE-080-VG	
EF-10	ROOF	LOCKER ROOMS	CENTR.	2,400	0.75"	0.75	1,584	6,063	13.2	1	208	1	1,725	GREENHECK CUE-141-VG	

- NOTES:
- ALL FANS SHALL BE BALANCED TO AIRFLOW QUANTITY INDICATED ON PLANS AT INLETS AND OUTLETS.
 - FANS SHALL BE FURNISHED WITH SPEED CONTROLLER FOR BALANCING.
 - FAN MOTORS SHALL BE INVERTER DUTY RATED FOR USE WITH VARIABLE FREQUENCY DRIVES.

HIGH-EFFICIENCY FILTERS																
SERVES	LOCATION	TAG	CFM	SIZE		TYPE	CLASS	EFF	QUAN		VEL FPM	INITIAL SP	PRE FILTER		MAKE/MODEL	REMARKS
				H X W	DEPTH				H	W			DEPTH	TYPE		
FIRING RANGE EXHAUST	GRADE	BIBO-1	9,600	24 x 24	36.5	HEPA	-	99.97	2	3	400	1.0	4	MERV-8	AAF	SHALL UTILIZE ASTROCEL I HCX CORES

- NOTES:
- BIBO HOUSING SHALL BE CONSTRUCTED OF SEAM WELDED 14 GAUGE 304 STAINLESS STEEL TESTED TO +10" W.G.
 - DOORS SHALL BE WELDED LIFT-OFF TYPE WITH WELDED HANDLES AND DEEP CHAMBER FOR CONTAINMENT BAG.
 - EACH DOOR STANDING SEAL EDGE SHALL BE FITTED WITH HIGH INTEGRITY "U" SHAPED NEOPRENE GASKET SPECIFICALLY DESIGNED FOR CONTAINMENT SERVICE.
 - DOORS SHALL BE SECURED BY LARGE THREADED STAINLESS STEEL STUDS LOCATED ON THE HOUSING AND SPIN-ON THREADED KNOBS
 - PROVIDE WEATHER COVER FOR OUTSIDE SERVICE
 - PROVIDE (4) STATIC TAPS: ONE BEFORE AND AFTER PRE-FILTER, ONE BEFORE AND AFTER HEPA FILTER
 - FURNISH UNIT WITH ADDITIONAL (4) BAGS, (1) ADDITIONAL SECURITY STRAP, AND (1) ADDITIONAL CINCHING STRAP

REGISTERS, GRILLES, DIFFUSERS										
SYM	SERVICE	TYPE	MAKE	MODEL	MATERIAL FINISH	CFM	NECK SIZE	FACE SIZE	NC LEVEL	REMARKS
A	SUPPLY	CD	PRICE	ASPD	ALUMINUM PER ARCHITECT	0-125 126-215 216-330 331-550	6" 8" 10" 12"	24" x 24"	SELECTION SHALL BE ≤ NC-30	
B	SUPPLY	LAM. FLOW DIFFUSER	RVD	RD-2400	-	2150	24" x 12"	48" x 24"	-	
C	X-FER / SUPPLY	CD	-	-	-	-	-	-	-	FURNISHED BY DETENTION EQUIPMENT CONTRACTOR
D	RETURN / EXHAUST	CR	PRICE	10	ALUMINUM PER ARCHITECT	0-1250	-	24" x 24"	SELECTION SHALL BE ≤ NC-30	
E	EXHAUST	CR	PRICE	10	ALUMINUM PER ARCHITECT	0-100	-	12" x 12"	SELECTION SHALL BE ≤ NC-30	
F	X-FER	CR	PRICE	10	ALUMINUM PER ARCHITECT	0-125	6"	12" x 12"	SELECTION SHALL BE ≤ NC-30	

VARIABLE FREQUENCY DRIVES								
ITEM	MANUFACTURER	MODEL	LOCATION	HORSEPOWER	VOLT/PHASE		EQUIPMENT SERVED	REMARKS
					IN	OUT		
VFD-1	AESA BROWN BOVERI	ACH550 + F267	OUTDOOR AT GRADE	REFER TO NOTE #1	208/3	208/3	RAF-1	FREE-STANDING WITH UNI-STRUT SUPPORTS. PROVIDE NEMA 4X ENCLOSURE

- NOTES:
- REFER TO EQUIPMENT SCHEDULES FOR HORSEPOWER REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE FINAL VFD SIZING WITH RATED MOTOR AMPS INDICATED ON APPROVED SHOP DRAWINGS FOR THE EQUIPMENT SERVED.
 - ALL VFD'S SHALL BE PROVIDED WITH ELECTRONIC BYPASS AND SERVICE SWITCH.

HVAC VIBRATION-CONTROL			
EQUIPMENT	BASE	ISOLATOR*	DEFLECTION
ROOF MOUNTED AIR HANDLING UNITS	RC	-	2"
BAG-IN / BAG-OUT FILTER HOUSING	18" HIGH EQUIPMENT RAILS	NP	-
INLINE FANS, FLOOR MOUNTED	-	FSN ***	1.5"
AHUS, FLOOR MOUNTED	HOUSEKEEPING PAD, BSF	NP	-
ROOF MOUNTED FANS	RC	-	-
DUCTWORK WITHIN 50FT OF CONNECTED VIBRATION-ISOLATED EQUIPMENT	-	HN	0.25"

- REMARKS:
- REFER TO SPECIFICATION SECTION 230548 - "VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT" FOR A DESCRIPTION OF EACH VIBRATION CONTROL DEVICE.
BSF - BASE, STEEL FRAME
PPC - FLEXIBLE PIPE CONNECTIONS
FNC - FLOOR NEOPRENE RESTRAINED MOUNTS
FSN - FLOOR SPRING AND NEOPRENE SPRING ISOLATOR
FSNTL - FLOOR SPRING AND NEOPRENE TRAVEL LIMITED RESTAINED SPRING ISOLATOR
HN - NEOPRENE HANGER
HSN - SPRING AND NEOPRENE HANGER
NP - NEOPRENE PAD
RC - ROOF CURB

- PROVIDE SUPPLEMENTAL STEEL WITHIN THE ROOF CURB TO SUPPORT DUCTWORK INDEPENDENT FROM THE ROOF CURB.
- * IN ADDITION TO ANY INTERNAL VIBRATION ISOLATION.
** SYSTEM SHALL BE DESIGNED TO BE 90% EFFICIENT.
*** WHERE OUTDOORS ALL COMPONENTS SHALL BE CADMIUM PLATED

HVAC DUCT/PLENUM INSULATION			
SYSTEM	INSULATION TYPE	MINIMUM INSTALLED INSULATION VALUES	NOMINAL DENSITY
INDOOR DUCT/PLENUM CONCEALED SA, RA, OA; OTHER THAN PRE-MANUFACTURED LINEAR SUPPLY AND RETURN GRILLE PLENUMS.	MINERAL FIBER BLANKET	2" R-6.0	3/4 LB/FT ³
	MINERAL FIBER BOARD WITH REFLECTIVE VAPOR BARRIER.	2" R-6.0	3 LB/FT ³
INDOOR DUCT/PLENUM EXPOSED SA AND RA; LOCATED WITHIN THE AIR-CONDITIONED SPACE IT SERVES.	NONE; UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATION.	-	-
DUCT LINING DUCTS/PLENUMS INSTALLED OUTDOORS, ATTICS, AND CRAWL SPACES SA AND RA, SA AND RA DUCTWORK WHERE INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION, 15 FT UPSTREAM & DOWNSTREAM OF SUPPLY FANS, RETURN FANS WHETHER INDICATED OR NOT.	FIBROUS-GLASS DUCT LINER WITH CLEANABLE COMPOSITE COATING ON AIRSTREAM SIDE. METAL NOSING SHALL BE FURNISHED ON ALL LEADING EDGES. (REFER TO NOTES #1, #2, #4)	2" R-8.0	1.5 LB/FT ³
DUCT LINING DUCTS/PENUMS INSTALLED IN INDOOR SPACES: EXPOSED AND CONCEALED SA OR RA DUCTWORK WHERE INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION, 15 FT UPSTREAM & DOWNSTREAM OF SUPPLY FANS.	FIBROUS-GLASS DUCT LINER WITH CLEANABLE COMPOSITE COATING ON AIRSTREAM SIDE. METAL NOSING SHALL BE FURNISHED ON ALL LEADING EDGES. (REFER TO NOTES #2, #4)	1-1/2" R-6.0	1.5 LB/FT ³
ABOVEGROUND, OUTDOOR DUCT/PLENUM CONCEALED OR EXPOSED SA, RA, AND OA.	MINERAL FIBER BOARD (REFER TO NOTE #1)	2" R-8.0	3 LB/FT ³

- ALL DUCTWORK INSTALLED OUTDOOR. PROVIDE A PRE-MANUFACTURED SELF ADHERING PRODUCT WITH AN UV
RESISTANT, STUCCO EMBOSSED FACING. WATER VAPOR TRANSMISSION OF THE INSTALLED PRODUCT SHALL
BE .020 PERMS OR LESS. PRODUCT SHALL BE SUITABLE FOR CONTINUOUS USE IN LOW TEMPERATURES OF
-10°F. MANUFACTURERS SHALL BE SIMILAR TO FLEX-CLAD 400, MFM BUILDING PRODUCTS CORP. OR
ALUMAGUARD 60, POLYGUARD PRODUCTS, INC.
- INSULATION TYPES INDICATED IN THE SCHEDULE SHALL USED UNLESS OTHERWISE INDICATED ON THE PLANS
OR SPECIFICATIONS.
- CLOSED CELL, FIBER FREE, ANTI-MICROBIAL COATED, LOW VOC CERTIFIED, MOISTURE AND MOLD RESISTANT
DUCT LININGS SHALL BE PROVIDED IN DUCTWORK AND EQUIPMENT WITHIN HOSPITAL AND HEALTHCARE
FACILITIES AND ROOMS CLASSIFIED AS MOIST OR WET ENVIRONMENTS WHERE THIS SCHEDULE, DRAWINGS
AND SPECIFICATION INDICATE DUCT LINING.
- DUCTWORK SHALL BE FIRE WRAPPED FROM THE APPLIANCE CONNECTION TO THE TERMINATION POINT.

OA = OUTDOOR AIR DUCTWORK
SA = SUPPLY AIR DUCTWORK
RA = RETURN AIR DUCTWORK
EA = EXHAUST AIR DUCTWORK

RFP 6320

REMARKS:
ADDENDUM No. 01 DECEMBER 19, 2018

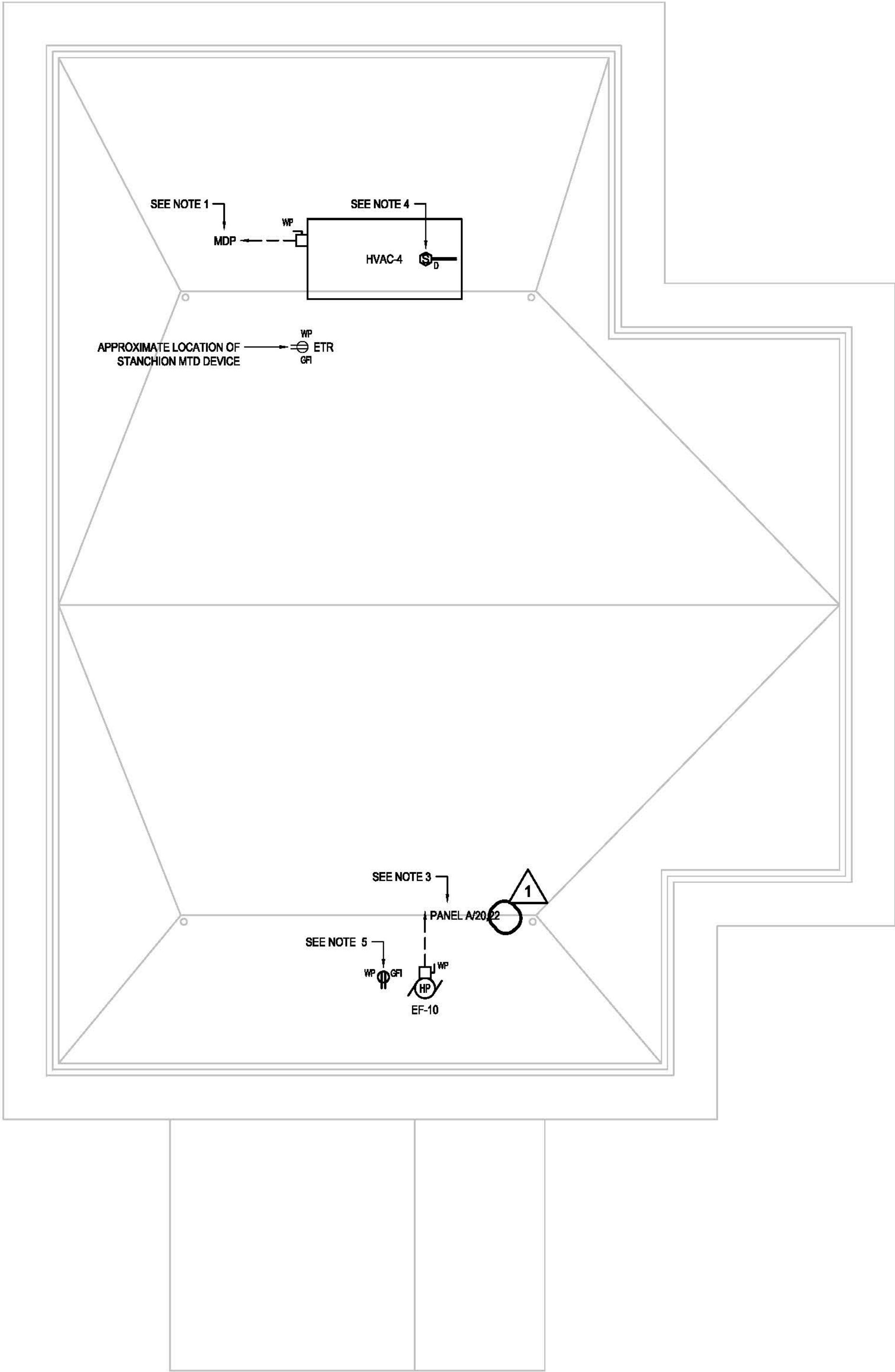


INTERIOR RENOVATION TO THE
**TRUMBULL POLICE
DEPARTMENT**
TRUMBULL, CONNECTICUT
158 EDISON ROAD

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**SCHEDULES -
MECHANICAL**

PROJ. NO. JH182B
SCALE As Noted
DATE NOVEMBER 8, 2018
DRAWING NO. **M-3.1**



- NOTES
- 1

1

1. REPLACE EXISTING 125A/3P CIRCUIT BREAKER LABELED "BASEMENT AC" IN NORMAL DISTRIBUTION SECTION OF MDP WITH 150/3P CIRCUIT BREAKER TO ENERGIZE HVAC-4. CIRCUIT BREAKER SHALL BE COMPATIBLE WITH EXISTING SWITCHBOARD. CONNECT WITH 3#10 + #6G. REUSE EXISTING CONDUIT PREVIOUSLY SERVING REMOVED UNIT. EXTEND CONDUIT AS REQUIRED.
- 2

1

2. PANELBOARD CIRCUIT NUMBERS ARE NOT TO INDICATE ACTUAL AVAILABLE CIRCUIT NUMBERS IN THE PANELBOARD, BUT SHOULD BE USED TO DELINEATE BETWEEN CIRCUITS. E.C. SHALL FIELD VERIFY AVAILABLE CIRCUITS AND UPDATE ALL PANELBOARD DIRECTORIES.
- 3

1

3. PROVIDE 200/25 CIRCUIT BREAKER COMPATIBLE WITH EXISTING PANELBOARD. CONNECT WITH 2#2 + G. REUSE EXISTING CONDUIT PREVIOUSLY SERVING REMOVED FAN. EXTEND CONDUIT AS REQUIRED.
- 4

1

4. EXTEND EXISTING FIRE ALARM BRANCH CIRCUIT ON FLOOR BELOW TO NEW FIRE ALARM DEVICE. PROVIDE ALL NECESSARY HARDWARE AND PROGRAMMING.
- 5

1

5. RECEPTACLE SHALL BE ENERGIZED BY EXISTING NEARBY BRANCH CIRCUIT SERVING CORRIDOR ON FLOOR BELOW. EXTEND CONDUIT AND WIRE AS REQUIRED.

RFP 6320

REMARKS:
APPENDUM No. 01 DECEMBER 19, 2019

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ROOF PLAN -
ELECTRICAL

PROJ. NO.
JH182B

SCALE
As Noted

DATE
NOVEMBER 8, 2019

DRAWING NO.
E-1.2

1 ROOF PLAN

E-1.2 Scale: 1/8"=1'-0"