MECHANICAL GENERAL NOTES:

SEE ALL PROJECT GENERAL NOTES AND OTHER REQUIREMENTS INCLUDING THE LIFE SAFETY AND INFECTION CONTROL REQUIREMENTS LOCATED WITHIN THE GENERAL DRAWINGS SECTION. COMPLY WITH ALL REQUIREMENTS AS THEY ARE A DIRECT PART OF THIS SECTION AND AS IF THEY WERE DIRECTLY INCLUDED AND PROVIDED BELOW.

EQUIVALENCY SUBSTITUTIONS: THE "BASIS OF DESIGN (BOD) PROTOCOLS" IS TO BE FOLLOWED FOR ALL EQUIPMENT, MATERIALS AND ASSEMBLIES SPECIFIED AND DETAILED THROUGHOUT ALL DRAWINGS AND SPECIFICATION SECTIONS, WHETHER THE BOD DESIGNATE IS SPECIFICALLY REFERENCED THEREIN OR NOT. SEE THE GENERAL DRAWINGS SECTION FOR THE FULL BOD EQUIVALENCY SUBSTITUTION REQUIREMENTS AND PROTOCOLS TO BE FOLLOWED.

1. CONTRACTOR SHALL FULLY REVIEW ENTIRE SET OF CONTRACT DOCUMENTS, THE DRAWINGS AND SPECIFICATIONS, INCLUDING BUT NOT NECESSARILY LIMITED TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, FIRE PROTECTION, LIFE SAFETY, MEDICAL GAS, ETC. AND SHALL ACKNOWLEDGE AND INCLUDE IN THEIR SCOPE OF WORK ALL CONDITIONS PERTINENT TO THE COMPLETION OF THE WORK.
2. CONTRACTOR SHALL FULLY COORDINATE THEIR WORK WITH THE GENERAL/PRIME CONTRACTOR AND THE INSTALLATION WORK OF OTHER TRADES, AND FULLY PROVIDE ALL NECESSARY FIELD ADJUSTMENTS AS REQUIRED TO ACCOMMODATE THE FINAL FULLY COORDINATED SOW INSTALLATION(S).
3. THIS CONTRACTOR SHALL CAREFULLY EXAMINE THE DRAWINGS AND SPECIFICATIONS, VISIT THE SITE OF THE WORK AND FULLY INFORM THEMSELVES AS TO ALL CONDITIONS AND MATTERS THAT CAN, IN ANY WAY, AFFECT THE WORK OR THE COST THEREOF.
4. SHOULD THE CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM THE DRAWINGS, SPECIFICATIONS OR OTHER DOCUMENTS, OR BE IN DOUBT AS TO THEIR MEANING, NOTIFY THE VA/CO AT ONCE IN WRITING OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND WORK, OR BETWEEN THEIR WORK AND THE WORK OF OTHER TRADES AND OBTAIN CLARIFICATION FROM THE VA/CO PRIOR TO SUBMITTING ANY BID. LACK OF SUCH NOTIFICATION DURING THE BIDDING PHASE SHALL BE CONSTRUED AS TO INDICATE NO DISCREPANCIES OR CONFLICTING CONDITIONS EXIST.
5. DRAWINGS ARE INTENDED TO BE GENERALLY DIAGRAMMATIC AND ARE NOT TO BE SCALED FOR LOCATING THE WORK. USE THE GIVEN DIMENSIONS AND SIZES AS INDICATED AND COORDINATE ALL LOCATION, HEIGHT, ELEVATION AND CLEARANCE REQUIREMENTS WITH ALL CONTRACTORS, THE EXISTING CONDITIONS AND ALL ELEMENTS OF WORK YET TO BE INSTALLED.
6. ROUTING OF PIPING, DUCTWORK, CONDUITS, RACEWAYS, ETC., AS SHOWN ON DRAWINGS, IS NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING OR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THE WORK. EACH CONTRACTOR SHALL MAKE THE REQUIRED MODIFICATIONS FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND THE REMAINING EXISTING CONSTRUCTION.
7. IT IS THE INTENT OF THESE DOCUMENTS THAT THE MECHANICAL CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS, INCLUDED IN THE SPECIFICATIONS, AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVICES, CONTROLS, AND APPURTENANCES REQUIRED TO TEST AND PROVIDE COMPLETED SYSTEMS IN FULL FUNCTIONAL OPERATION.
8. SHOULD CONDITIONS NECESSITATE ANY REARRANGEMENTS OR IF ANY SYSTEMS LAYOUT CAN BE RUN TO BETTER ADVANTAGE, PREPARE AND SUBMIT SHOP DRAWINGS SHOWING THE REQUESTED CHANGES BEFORE PROCEEDING WITH THE WORK. IF SUCH CHANGES ARE APPROVED BY THE VA/COR AND SUCCESSFULLY REVIEWED BY THE A/E, THEY WILL BECOME A PART OF THE CONTRACT SOW.
9. CONTRACTOR SHALL FIELD VERIFY ALL MOUNTING REQUIREMENTS, ARRANGEMENTS, HEIGHTS, LOCATIONS, AND SUPPORTS PRIOR TO PERFORMING ANY ROUGH-IN WORK. NO ROUGH-IN WORK WILL BE ALLOWED TO BEGIN UNTIL THE CONTRACTOR OBTAINS BOTH GENERAL/PRIME CONTRACTOR AND VA/COR APPROVAL. ANY MENTION OF SPECIFIC MOUNTING ARRANGEMENT(S), WEIGHT OR LOCATION(S) IN THE CONSTRUCTION DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO VERIFY AND COORDINATE THE SPECIFIC REQUIREMENTS FURNISHED OR THE REQUIREMENTS OF OTHER TRADES WORKING IN THE SAME AREA. NO ADDITIONS TO THE CONTRACT SUM WILL BE CONSIDERED FOR THE CORRECTION OF ITEMS INSTALLED IMPROPERLY, IN WRONG LOCATIONS, IN CONFLICT WITH OTHER WORK, ETC.
10. CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE TEMPERATURE CONTROL SYSTEM AS SPECIFIED AND AS REQUIRED TO FULLY INTEGRATE WITH ALL EXISTING AND NEW EQUIPMENT AND SYSTEMS AS WELL AS WITH THE EXISTING BAS.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPROPRIATE VA DESIGN GUIDES/MANUALS, CURRENT FEDERAL BUILDING CODES, REGULATIONS, AND REQUIREMENTS, LOCAL UTILITY COMPANY REQUIREMENTS, AND ASHRAE STANDARDS.
12. CONTRACTOR SHALL PAY ALL PERMIT FEES, PLAN REVIEW FEES, LICENSE FEES, INSPECTIONS, AND ALL RELATED EXPENSES APPLICABLE TO THEIR DIVISION/WORK IF REQUIRED ON THIS PROJECT. ALL SUCH COSTS/EXPENSES SHALL BE INCLUDED IN THEIR BASE BID CONTRACT AMOUNT AS IDENTIFIED AND COORDINATED WITH THE GENERAL/PRIME CONTRACTOR.
13. CONTRACTOR SHALL BE LICENSED, BONDED, INSURED AND CAPABLE OF PERFORMING QUALITY WORKMANSHIP AND GUARANTEES HIS WORK AND MATERIALS FOR THE PERIOD(S) AS REQUIRED IN THE SPECIFICATIONS IN ORDER TO RECEIVE FINAL ACCEPTANCE BY THE VA/COR.
14. CONTRACTOR SHALL ESTABLISH SAFE WORKING PROCEDURES FOR THE PROTECTION OF THEIR PERSONNEL AND ALL OTHERS THROUGHOUT ALL PHASES OF THEIR WORK. THEY SHALL COMPLY WITH ALL VA REQUIREMENTS AND THE APPLICABLE PROVISIONS OF ALL LOCAL, STATE, FEDERAL SAFETY LAWS (OSHA) AND AS RECOMMENDED IN THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" AS ISSUED BY THE ASSOCIATION OF GENERAL CONTRACTORS OF AMERICA, 20TH AND E. STREETS, N.W. WASHINGTON, D.C., LATEST EDITION.
15. CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF ANY OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY THE GENERAL/PRIME CONTRACTOR AND THE VA/COR TO OBTAIN DIRECTION AND APPROVALS BEFORE PROCEEDING WITH THE PREPARATION AND INSTALLATION OF THEIR WORK.
16. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE FULLY COORDINATED WITH THE GENERAL/PRIME CONTRACTOR FIRST AND IN TURN WITH ALL CONTRACTORS AND THE VA/COR. THE SCHEDULING, SEQUENCING AND PERFORMANCE OF ALL WORK SHALL BE IN STRICT ACCORDANCE WITH SCHEDULE AS APPROVED, STIPULATED AND MODIFIED BY THE VA/COR.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, REPAIRING, REFINISHING, REMOVAL, REWORK AND REPLACEMENT OF ALL NEW OR EXISTING BUILDING CONSTRUCTION REQUIRED FOR THE INSTALLATION AND/OR REMOVAL OF THEIR WORK.
18. CONTRACTOR SHALL BE RESPONSIBLE TO X-RAY ALL CONCRETE SLABS AND MASONRY CONSTRUCTION IN PLACE PRIOR TO ANY CORING IF REQUIRED.
19. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION AS CLOSELY AS POSSIBLE TO PROVIDE A LIKE NEW CONDITION THAT IS NOT DISTINGUISHABLE AS A PATCH/REPAIR. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK OR REMOVAL OF EXISTING WORK, IF REQUIRED, SHALL BE REPAIRED AND REPLACED TO THE SATISFACTION OF THE VA/COR. REFER TO ARCHITECTURAL DRAWINGS AND SEQUENCE OF CONSTRUCTION FOR BUILDING CONSTRUCTION THAT IS SUBJECT TO PATCHING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT AT THE TIME THAT WORK IS TO BE PERFORMED.
20. WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL COORDINATE WITH THE GENERAL/PRIME CONTRACTOR AND MEET ON THE JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL VERIFY EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITH FIELD CONDITIONS, SHOP DRAWINGS, AND WORK OF OTHER TRADES PRIOR TO PERFORMING ANY ROUGH-IN WORK. EACH CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK THAT WAS INSTALLED WITHOUT CONSULTING AND COORDINATING WITH OTHER TRADES AS WELL AS OBTAINING THE GENERAL/PRIME CONTRACTORS APPROVAL BEFORE INSTALLING THEIR WORK.
21. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA APPROVED BY THE VA/COR. IF MATERIAL IS ALLOWED TO BE STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6"), SET ON 6 X 6 PLANKS OR WOOD PALLETS, AND BE COMPLETELY COVERED WITH WATERPROOF TARPS OR HEAVY DUTY VISQUEEN THAT IS PROPERLY TIED DOWN AND SECURED. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED/SEALED TO KEEP OUT DIRT AND OTHER DEBRIS.
22. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE VA/COR FOR APPROVAL, AS REQUIRED IN THE PROJECT SPECIFICATIONS, PRIOR TO THE START OF INSTALLATION OF ANY WORK REQUIRING AN APPROVED SUBMITTAL. AN APPROVED SUBMITTAL REQUIRES THE VA/COR APPROVAL AND THE SUCCESSFUL REVIEW OF THE A/E, BOTH PROPERLY DOCUMENTED ON THE FINAL SHOP DRAWING TO BE ISSUED FOR ASSEMBLY AND/OR CONSTRUCTION.
23. CONTRACTOR SHALL FURNISH AS-BUILT DRAWINGS TO THE VA/COR BEFORE THE CLOSE-OUT OF THE PROJECT AS PER THE CONTRACT REQUIREMENTS. THE AS-BUILT DRAWINGS SHALL BE SUBMITTED IN THE VA APPROVED ELECTRONIC REPRODUCIBLE FORMAT.
24. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE STARTUP, TESTING, ADJUSTMENTS AND MODIFICATIONS REQUIRED OF ALL EQUIPMENT AND SYSTEMS THAT ARE A PART OF THEIR WORK.
25. THIS CONTRACTOR SHALL PROVIDE A COMPETENT OPERATING TECHNICIAN TO INSTRUCT THE VA PERSONNEL IN THE OPERATION AND MAINTENANCE OF THE EQUIPMENT ALONG WITH THE OPERATION OF THE EQUIPMENT CONTROLS.
26. UPON COMPLETION OF THE WORK, THIS CONTRACTOR SHALL REVIEW AND CHECK THEIR ENTIRE PORTION OF WORK, CLEAN EQUIPMENT AND DEVICES. REMOVE SURPLUS MATERIALS AND RUBBISH FROM THE PROPERTY AND LEAVE THE WORK IN NEAT AND CLEAN ORDER AND IN COMPLETE WORKING CONDITION. EACH RESPECTIVE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ANY CARTONS, DEBRIS, EQUIPMENT, ETC., INSTALLED BY THEM INCLUDING EQUIPMENT FURNISHED BY OTHERS AND UNPACKED OR REMOVED FROM CARTONS BY THEM.
27. ALL ITEMS THAT REQUIRE ACCESS, SUCH AS FOR OPERATING, CLEANING, SERVICING, MAINTENANCE, AND CALIBRATION, SHALL BE EASILY AND SAFELY ACCESSIBLE BY PERSONS STANDING AT FLOOR LEVEL OR BY STANDING ON PERMANENT PLATFORMS WITHOUT THE USE OF PORTABLE LADDERS. EXAMPLES OF THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO ALL TYPES OF VALVES, FILTERS AND STRAINERS, TRANSMITTERS AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK, REFER CONFLICTS BETWEEN THIS REQUIREMENT AND CONTRACT DRAWINGS TO THE VA/COR FOR RESOLUTION. FAILURE OF THE CONTRACTOR TO NOTIFY THE VA/COR AND RESOLVE ANY SUCH ISSUES WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR CORRECTING ANY SUCH CONDITIONS AT NO ADDITIONAL COST TO THE VA.
28. UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, LEAD, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE GENERAL/PRIME CONTRACTOR AND THE VA/COR IMMEDIATELY.
29. ALL EQUIPMENT DEVICES REQUIRING PIPING CONNECTIONS SHALL BE INSTALLED WITH UNIONS IN SUCH A MANNER TO FACILITATE EASY REMOVAL AND MAINTENANCE OF EQUIPMENT WITHOUT DISRUPTING SERVICE AND CAUSING MAJOR PIPING REVISIONS.
30. ALL PIPING CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH THE APPROPRIATE DIELECTRIC UNIONS, COUPLINGS OF FITTINGS.
31. IN CASE OF CONFLICTS OR DISCREPANCIES WITHIN OR AMONG THE CONTRACT DRAWINGS, THE BETTER QUALITY, MORE STRINGENT REQUIREMENTS, OR GREATER QUANTITY OF WORK, AS DETERMINED BY THE VA/CO DURING BIDDING AND/OR DURING THE CONSTRUCTION PHASES, SHALL BE PROVIDED.
32. MEP CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE PRESENCE OF EXISTING REINFORCING BARS AND CONDUIT AS WELL AS DETERMINE ITS EXACT LOCATION IN THE EXISTING FLOOR SLAB PRIOR TO ANY CORING AND/OR DRILLING WORK TAKING PLACE.
33. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS OF DESIGN FOR PERFORMANCE AS WELL AS THE BASIS FOR DIMENSIONAL DESIGN. SEE THE "BASIS OF DESIGN (BOD)- PROTOCOLS" ESTABLISHED IN THE GENERAL DRAWINGS THAT ARE TO BE ADHERED TO FOR ALL EQUIPMENT, MATERIAL OR ASSEMBLY EQUIVALENT SUBSTITUTIONS BEING REQUESTED FOR CONSIDERATION. IF THE CONTRACTOR PURCHASES EQUIPMENT OR MATERIAL FROM A SPECIFIED ACCEPTABLE MANUFACTURER, BUT NOT THE SCHEDULED MANUFACTURER USED FOR THE BASIS OF DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND THE EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE OF THE EQUIPMENT. WHEN EQUIPMENT SUBMITTED FOR REVIEW DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO THE VA. CONTRACTOR WILL ALSO BE FULLY RESPONSIBLE FOR ALL COSTS OF ANY ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, AND THE VA IN ORDER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

MECHANICAL EQUIPMENT

1. ALL EQUIPMENT/DEVICES SHALL BE AND OF FIRST RATE QUALITY AND IS TO BEAR THE APPROPRIATE AGA, CSA OR UL APPROVED LABELS, LISTINGS, AND CERTIFICATIONS FOR THE SPECIFIC DESIGN PURPOSE.
2. ALL EQUIPMENT SOUND LEVELS SHALL NOT EXCEED 50 DB AT PROPERTY LINE.
3. ALL INTERCONNECTING WIRING AT UNIT SHALL BE FACTORY PRE-WIRED AND REQUIRE ONLY ONE (1) POWER CONNECTION TO THE UNIT BY THE ELECTRICAL CONTRACTOR.
4. SUBMIT THE REQUIRED NUMBER OF COPIES OF EACH CATALOG CUT, FOR THE EQUIPMENT SPECIFIED, TO THE VA/COR FOR APPROVAL AND TO THE A/E FOR HIS/HER SUCCESSFUL REVIEW PRIOR TO THE BEGINNING OF CONSTRUCTION. THIS CONTRACTOR SHALL ALSO ASSEMBLE PRINTED INSTRUCTIONS FOR THE OPERATION AND MAINTENANCE OF EACH ITEM INSTALLED AND BIND TOGETHER WITH EQUIPMENT CUTS AND CONTROL WIRING DIAGRAMS. SUBMIT THE REQUIRED NUMBER OF COPIES TO THE VA/COR AND TO THE A/E FOR HIS/HER SUCCESSFUL REVIEW.
5. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL STRUCTURAL STEEL MEMBERS, SLEEVES, AND SHIMS REQUIRED TO LEVEL AND SUPPORT EQUIPMENT.
6. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY AND CERTIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT BEING SUBMITTED FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED. WHEN EQUIPMENT SUBMITTED FOR REVIEW REQUIRES MODIFICATIONS TO THE WORK OF OTHER CONTRACTORS, SUBMITTING CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL COSTS AND FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, AND/OR THE VA TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FUNCTION SAFELY AND PROPERLY.

MECHANICAL SYMBOLS AND ABBREVIATIONS

AD	ACCESS DOOR
ACH	AIR CHANGES PER HOUR
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSEPOWER
BOD	BASIS OF DESIGN
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CO	CONTRACTING OFFICER
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CUH	CABINET UNIT HEATER
D	DRAIN LINE
(D)	DEMOLISH AND REMOVE
DB	DRY BULB
DH	DOOR HEATER
DN.	DOWN
(E)	EXISTING TO REMAIN
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
F	FAHRENHEIT
FPF	FINS PER FOOT
FPM	FEET PER MINUTE
FT	FLASH TANK
G	NATURAL GAS
GC	GENERAL CONTRACTOR
GLY	GLYCOL
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HWC	HOT WATER COIL
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
IFB	INTEGRAL FACE AND BYPASS
LAT	LEAVING AIR TEMPERATURE
LPCS	LOW PRESSURE CLEAN STEAM
LWT	LEAVING WATER TEMPERATURE
MCA	MINIMUM CIRCUIT AMPS
MOCP	MAXIMUM OVERCURRENT PROTECTION
MU	MAKE-UP WATER
OA	OUTSIDE AIR
ODP	OPEN DRIP PROOF
NK	NECK
PCR	PUMPED CONDENSATE RETURN
PD	PRESSURE DROP
PHC	PREHEAT COIL
PP	PRESSURE PUMP
PSI	POUNDS PER SQUARE INCH
PRV	PRESSURE REDUCING VALVE
RPM	REVOLUTIONS PER MINUTE
RO	REVERSE OSMOSIS
SF	SUPPLY FAN
SOW	SCOPE OF WORK
SP	STATIC PRESSURE
TC	TEMPERATURE CONTROL
TSP	TOTAL STATIC PRESSURE
TYP.	TYPICAL
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB
W.C.	WATER COLUMN
WG	WATER GAUGE

BUTTERFLY VALVE
GLOBE VALVE
GATE VALVE
CHECK VALVE
BALL VALVE (2" & SMALLER)
BUTTERFLY VALVE (2 1/2" & LARGER)
3 WAY CONTROL VALVE
2 WAY CONTROL VALVE
CIRCUIT BALANCING VALVE W/BALANCING PORTS (8" AND UNDER) CIRCUIT FLOW INDICATOR W/BALANCING PORTS AND MEMORY STOP BUTTERFLY VALVE FOR BALANCING (10" AND ABOVE)
S — SOLENOID VALVE
PRESSURE REDUCING VALVE
PLUG VALVE (GAS COCK)
PRESSURE RELIEF VALVE (PIPE TO FLOOR DRAIN)
D — DRAIN VALVE WITH HOSE THREADED OUTLET
AUTOMATIC BALL OR BUTTERFLY VALVE
PIPE UNION (OR FLANGES IF 2 1/2" OR LARGER PIPE)
CONCENTRIC PIPE REDUCER OR INCREASER
T — STEAM TRAP ASSEMBLY
PS — PRESSURE SWITCH (WITH THREAD OR WELD-O-LET)
PRESSURE GAUGE AND NEEDLE VALVE
FS — FLOW SWITCH (WITH THREAD OR WELD-O-LET)
THERMOMETER (WITH PIPE WELL)
THERMOMETER WELL
TEMPERATURE WELL WITH DDC SENSOR
PRESSURE WELL WITH DDC SENSOR
PRESSURE/TEMPERATURE PLUG WITH CAP
STRAINER
STRAINER WITH BLOWDOWN VALVE
REFRIGERANT EXPANSION VALVE
DIRECTION OF FLOW
PITCH — PITCH OF PIPE (DOWN)
PIPE ELBOW (TURNED UP)
PIPE ELBOW (TURNED DOWN)
PIPE TEE DOWN (DROP)
PIPE TEE UP
PIPE TEE UP OR ANGLE
PIPE TEE DOWN OR ANGLE
NC — NEW CONNECTION
ANCHOR
D — DRAIN LINE
CHWS — CHILLED WATER SUPPLY
CHWR — CHILLED WATER RETURN
CR — CONDENSATE RETURN
G — NATURAL GAS
HWS — HOT WATER SUPPLY
HWR — HOT WATER RETURN
HPS — HIGH PRESSURE STEAM SUPPLY (61 PSIG AND ABOVE)
HPR — HIGH PRESSURE CONDENSATE RETURN
MPS — MEDIUM PRESSURE STEAM SUPPLY (16 TO 60 PSIG)
MPR — MEDIUM PRESSURE CONDENSATE RETURN
LPS — LOW PRESSURE STEAM (UP TO 15 PSIG)
LPR — LOW PRESSURE CONDENSATE RETURN
GCS — CHILLED GLYCOL WATER SUPPLY
GCR — CHILLED GLYCOL WATER RETURN
PCR — PUMPED CONDENSATE RETURN
VC — VACUUM CONDENSATE

FLEXIBLE DUCT CONNECTION
MANUAL SINGLE BLADE OR OPPOSED BLADE DAMPER
MOTOR OPERATED DAMPER
FID — VERTICAL FIRE DAMPER WITH ACCESS DOOR
AIR FLOW
12x24 — DUCT SIZE FREE AREA (1ST FIGURE, SIDE OF DUCT SHOWN)
CROSS-SECTION OF SUPPLY OR OUTSIDE AIR INTAKE DUCT
CROSS-SECTION OF RETURN DUCT
CROSS-SECTION OF EXHAUST DUCT
R D — INCLINED RISE (R) OR DROP (D)
90° ELBOW WITH TURNING VANES
90° BRANCH TAKE-OFF W/45 DEGREE ENTRY
ROUND FLEXIBLE DUCT
SQUARE OR RECTANGLE DUCT TRANSITION
SQUARE OR RECTANGLE TO ROUND DUCT TRANSITION
DUCT UP TO ROOF MOUNTED EXHAUST FAN OR VENTILATOR
XXX-1 — EQUIPMENT TAG
WALL THERMOSTAT OR TEMPERATURE SENSOR
WALL THERMOSTAT OR TEMPERATURE SENSOR WITH GUARD
H — WALL HUMIDISTAT
WATER FLOW METER
Ø — ROUND
PIPING, DUCTWORK, OR EQUIPMENT TO BE REMOVED
DSD — DUCT SMOKE DETECTOR
CONNECT TO EXISTING
DAMPER
EXISTING TERMINAL UNIT TO BE DEMOLISHED AND REMOVED. RETURN UNIT TO VA.
EXISTING RETURN GRILLE TO BE DEMOLISHED AND REMOVED. RETURN TO VA.
EXISTING SUPPLY DIFFUSER TO BE DEMOLISHED AND REMOVED. RETURN TO VA.

S-SUPPLY
R-RETURN
E-EXHAUST
XX — DIFFUSER/GRILLE IDENTIFICATION
DIFFUSER/GRILLE SIZE
DIFFUSER/GRILLE AIRFLOW RATE — CFM

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

CONSULTANT

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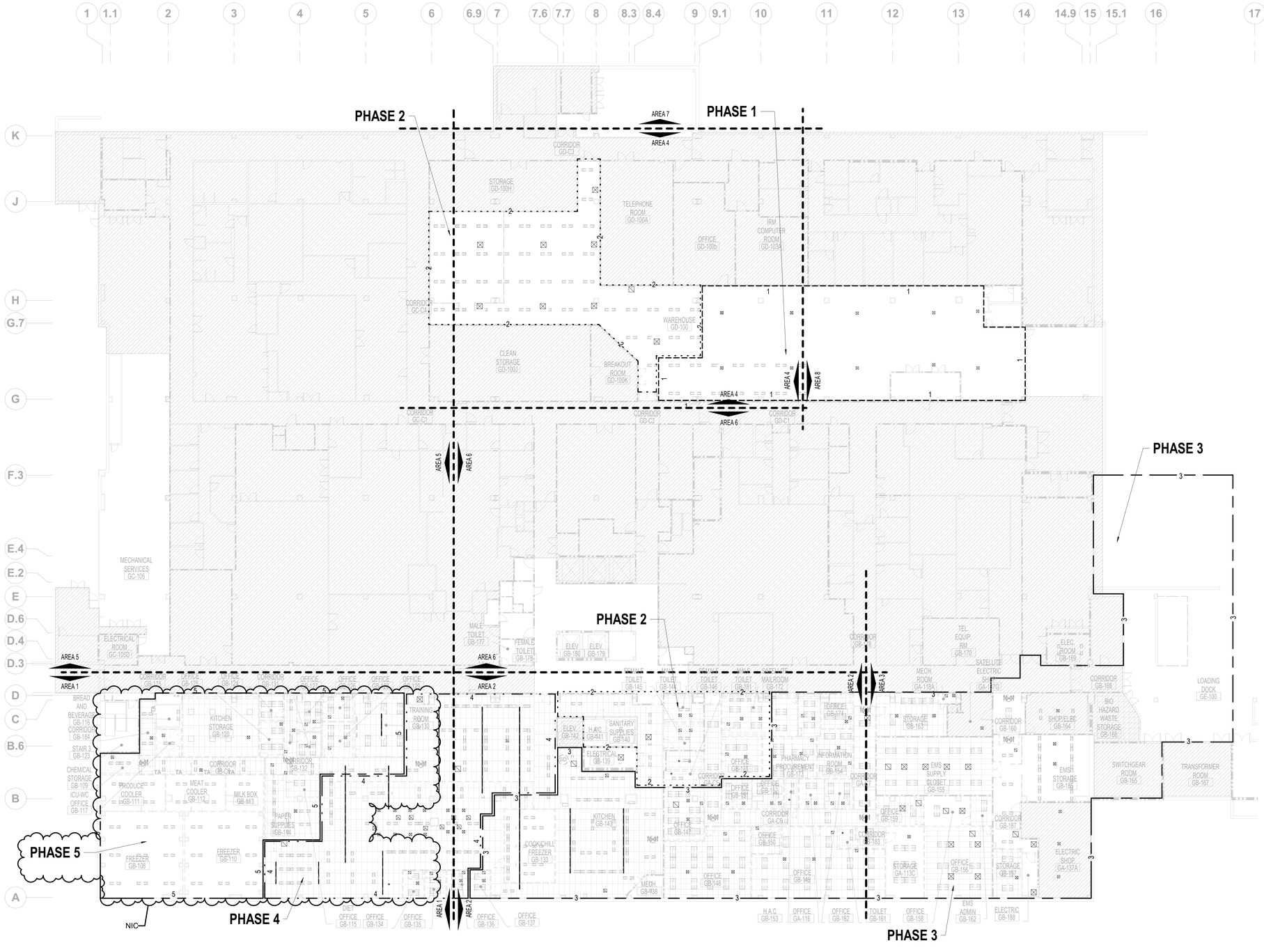
Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL - GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
Approved: Project Director
Phase: 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED
Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN
Location: MARTINSBURG VA MEDICAL CENTER
Issue Date: 07/23/21
Checked: RAH
Drawn: TH
Project Number: 613-19-103
Building Number: 500
Drawing Number: M001

VA FORM 08-6231



FIRE BARRIER LEGEND

- 1 HOUR FIRE & SMOKE SEPARATION
- 2 HOUR FIRE & SMOKE SEPARATION

PHASING LEGEND

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF DUCTWORK TO BE REMOVED: 7500FT.

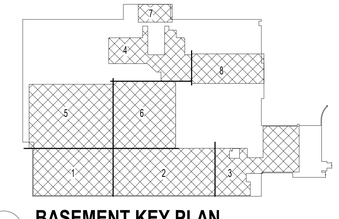
J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

N

1 **MECHANICAL VENTILATION - OVERALL BASEMENT CEILING DEMOLITION PLAN**

1/16" = 1'-0"

0 8' 16' 32'



BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL BASEMENT CEILING DEMOLITION PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

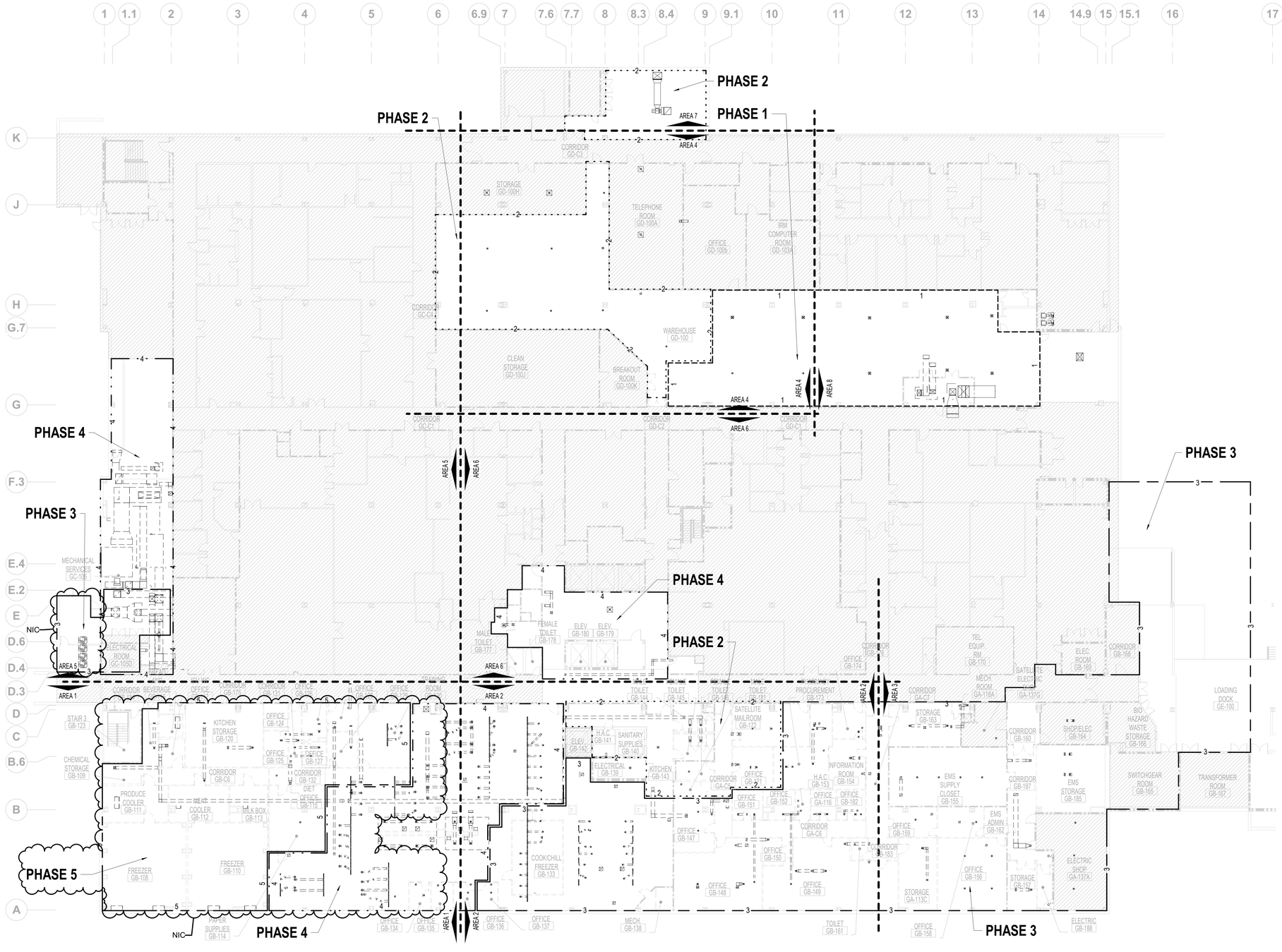
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MCD100

VA FORM 08-6231



MECHANICAL VENTILATION - OVERALL BASEMENT DEMOLITION PLAN

1 — 1/16" = 1'-0"

N

0 8' 16' 32'

FIRE BARRIER LEGEND

- 1 HOUR FIRE & SMOKE SEPARATION
- 2 HOUR FIRE & SMOKE SEPARATION

PHASING LEGEND

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED. LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

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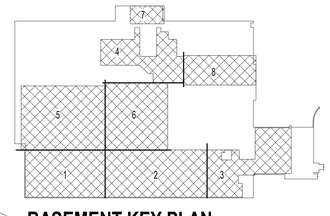

BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL BASEMENT DEMOLITION PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

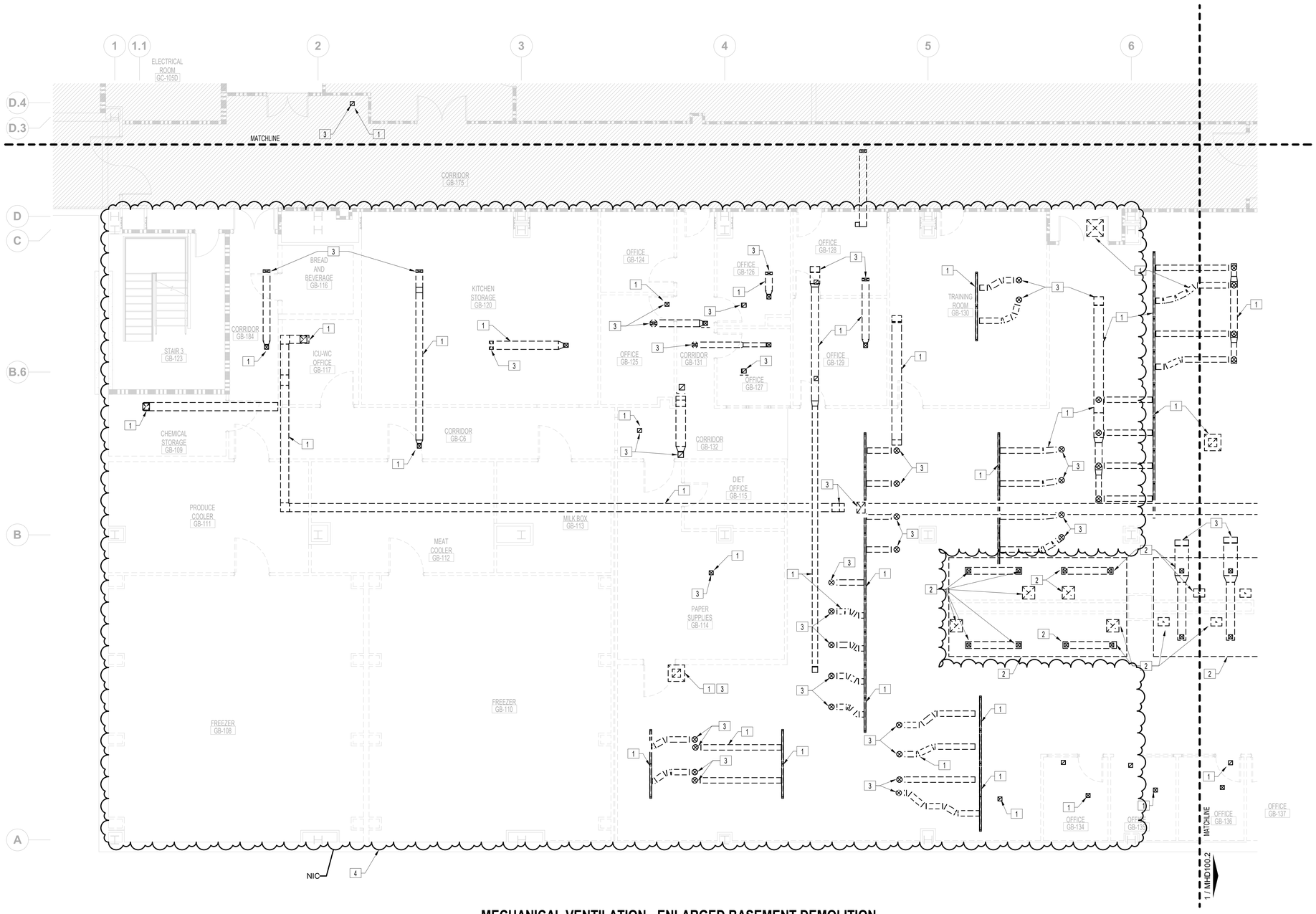
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MHD100

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 1

1 — 3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

- 1 HOUR FIRE & SMOKE SEPARATION
- 2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

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G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

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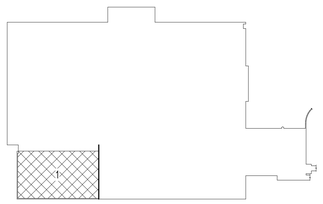
1. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES. (TYP.)
2. REMOVE EXHAUST HOOD AND ASSOCIATED DUCTWORK AS SHOWN. PREPARE STAINLESS STEEL DUCTWORK FOR RECONNECTION.
3. DUCTWORK UP TO INTERSTITIAL. REFER TO MHD200.1 FOR CONTINUATION.
4. DUCTWORK AND DIFFUSER DEMOLITION IN THIS AREA IS NOT IN CONTRACT.



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

Revisions:	Date:
100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

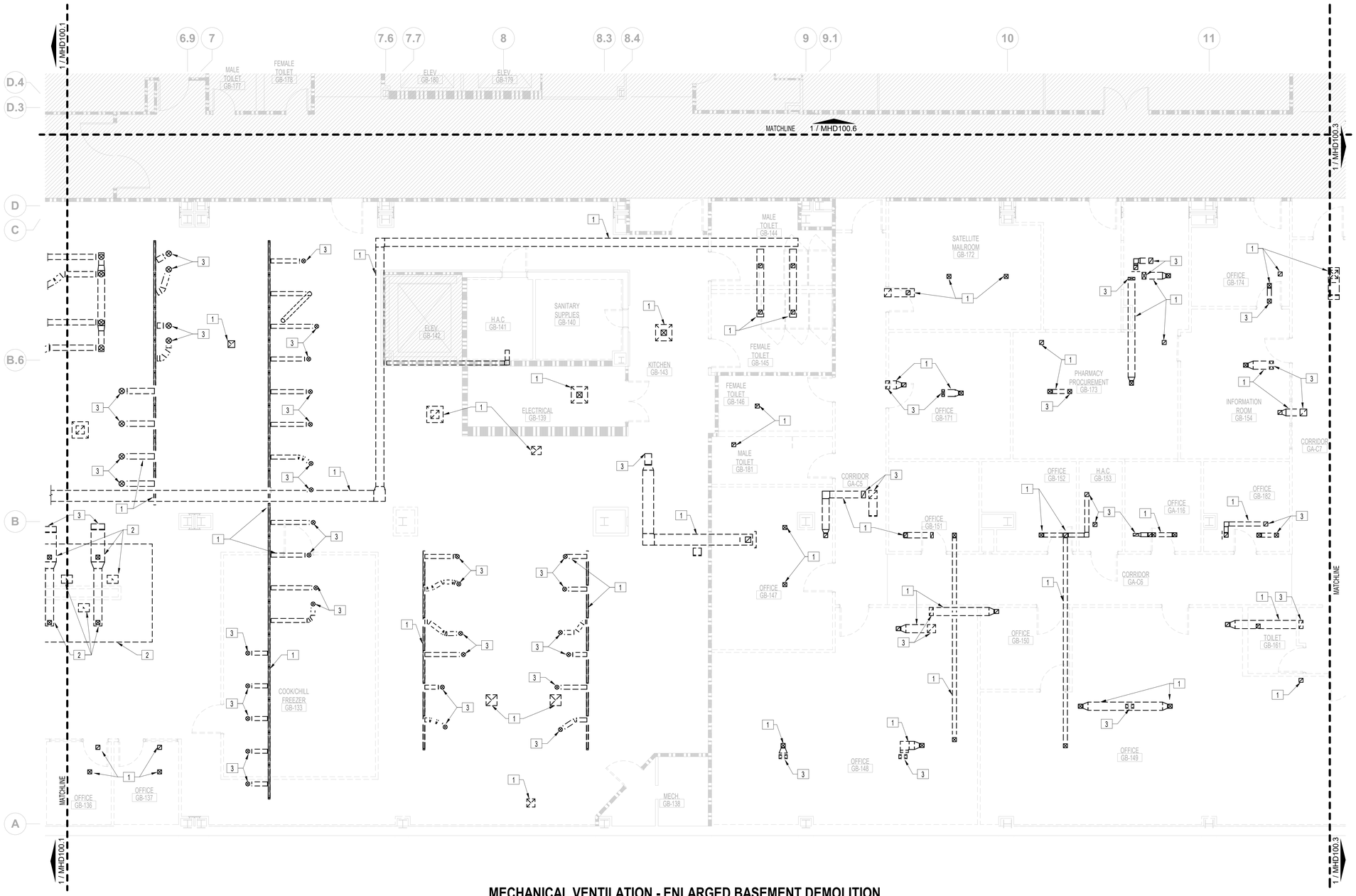
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MHD100.1

VA FORM 08-6231



N

1 MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 2

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

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X MECHANICAL DEMOLITION KEY NOTES

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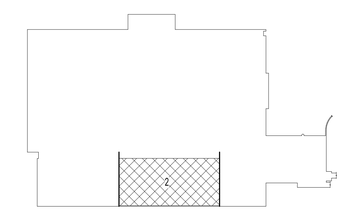
2. REMOVE EXHAUST HOOD AND ASSOCIATED DUCTWORK AS SHOWN. PREPARE STAINLESS STEEL DUCTWORK FOR RECONNECTION.
3. DUCTWORK UP TO INTERSTITIAL. REFER TO MHD200.2 FOR CONTINUATION.



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MHD100.2

VA FORM 08-6231

MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 3

1

3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

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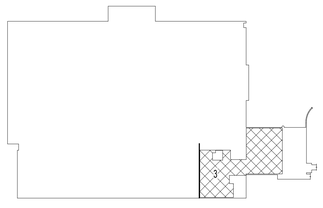
3. DUCTWORK UP TO INTERSTITIAL. REFER TO MHD203.3 FOR CONTINUATION.



BASEMENT KEY PLAN - AREA 3

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
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Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 3

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MHD100.3

VA FORM 08-6231

MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 4

1

3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

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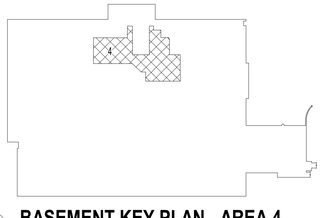

BASEMENT KEY PLAN - AREA 4

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 4

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

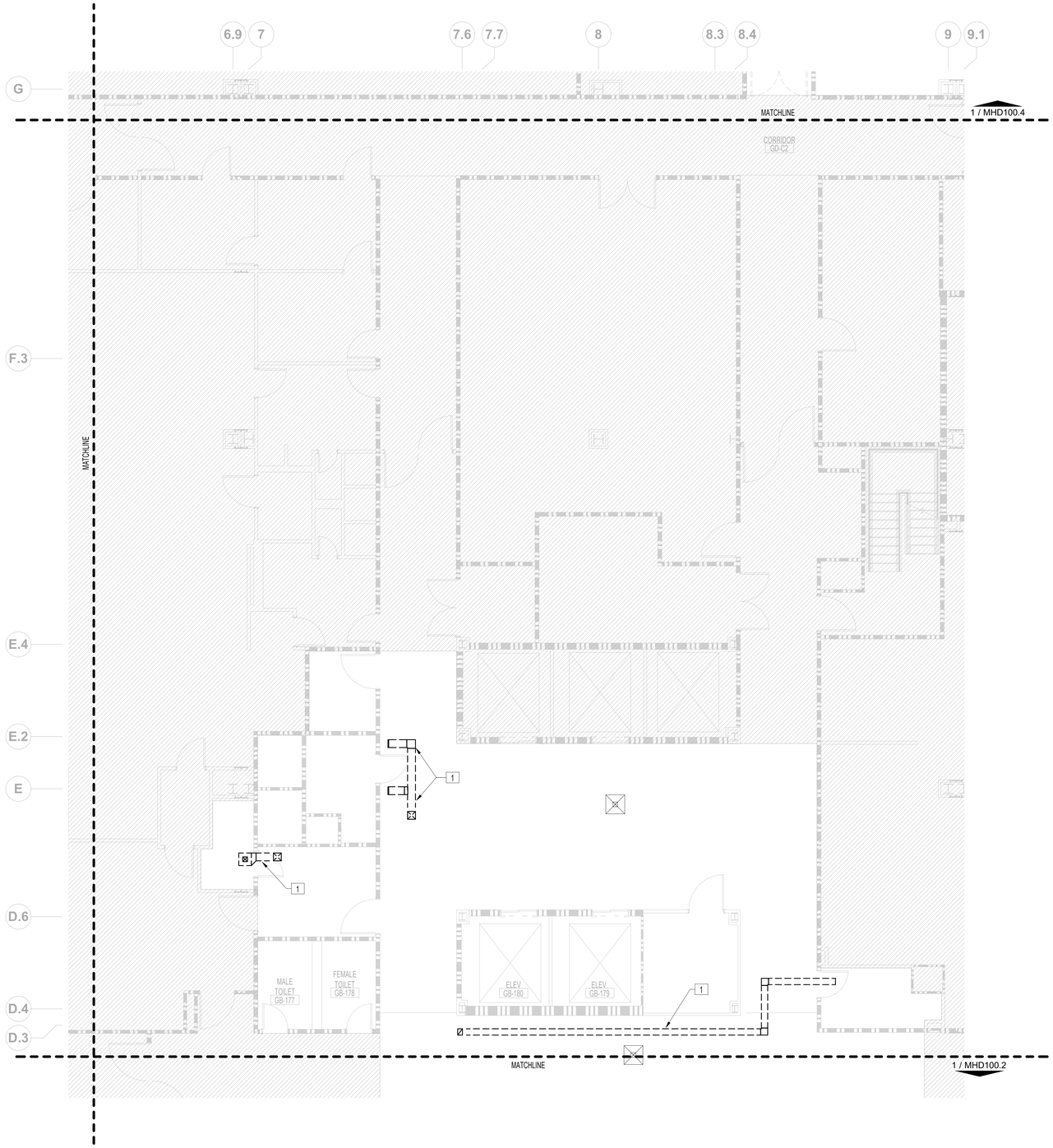
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MHD100.4

VA FORM 08-6231



N

1 MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 6

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

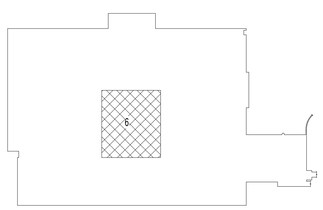
H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF DUCTWORK TO BE REMOVED: 7500FT.

J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES. (TYP.)



BASEMENT KEY PLAN - AREA 6

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 6

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

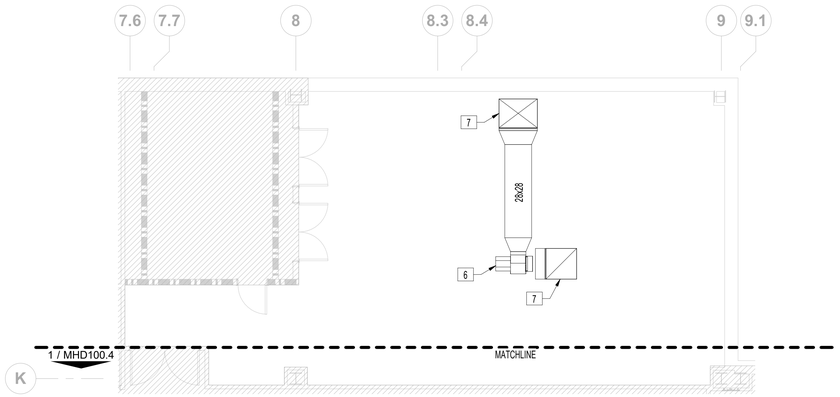
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MHD100.6

VA FORM 08-6231

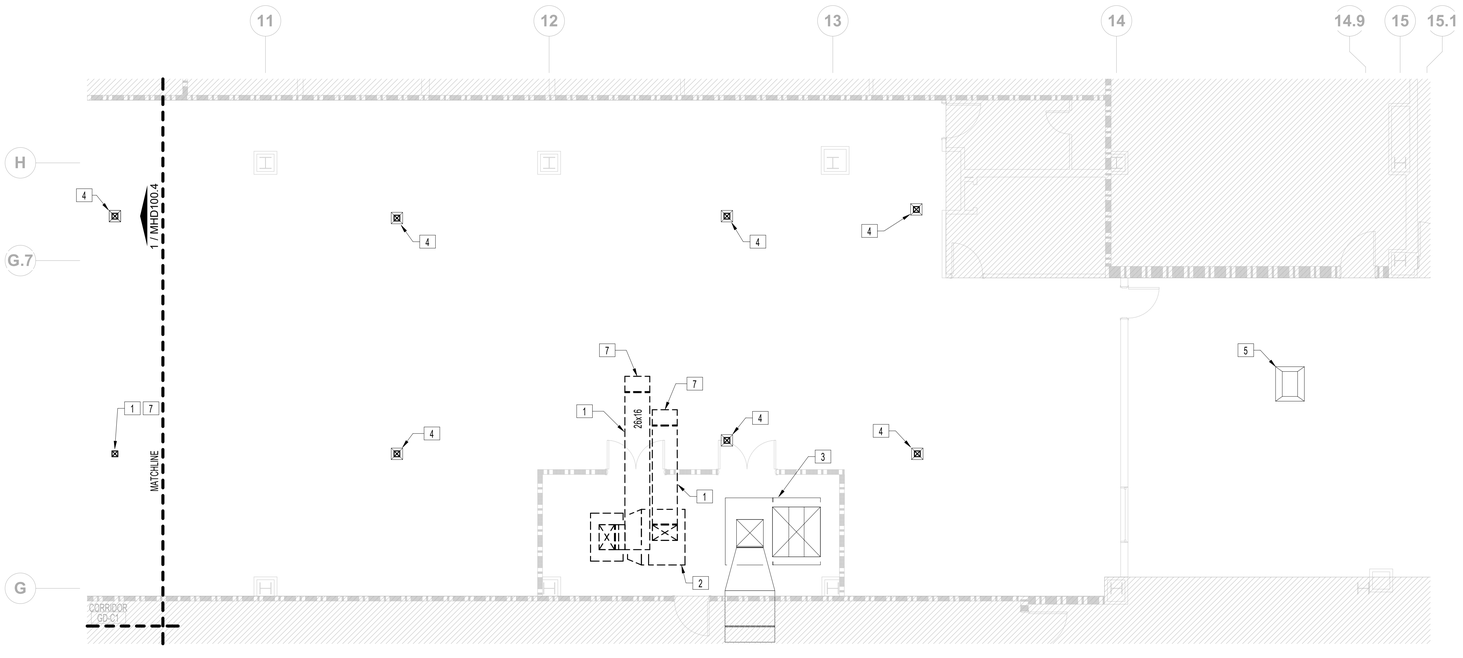


N

1 MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 7

3/16" = 1'-0"

0 4' 8' 12'



N

2 MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 8

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

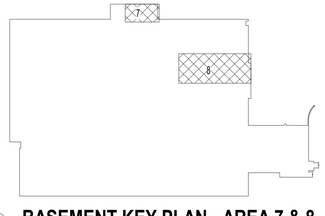
H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF DUCTWORK TO BE REMOVED: 7500FT.

J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AND DIFFUSERS AS SHOWN. (TYP.)
2. REMOVE EXISTING AIR HANDLING UNIT HV-2 AND ALL ASSOCIATED DUCTWORK, DAMPERS, PIPING, VALVING, CONTROLS, HANGERS, SUPPORTS, INSULATION, CONDENSATE PUMP, CONCRETE PAD, ETC.
3. EXISTING AIR HANDLING UNIT HV-3 TO REMAIN. PROTECT DURING CONSTRUCTION.
4. EXISTING DIFFUSER TO REMAIN. PROTECT DURING CONSTRUCTION. DUCTWORK ROUTED UP TO INTERSTITIAL SPACE ABOVE. REFER TO MHD200.7 FOR CONTINUATION.
5. EXISTING 36x30 OUTSIDE AIR INTAKE LOUVER WITH 26x16 DUCT UP TO INTERSTITIAL SPACE TO REMAIN. SEE MHD200.7 FOR CONTINUATION.
6. EXISTING RETURN FAN MOUNTED ON FLOOR. RETURN FAN SERVES AIR HANDLING UNIT HV-2 MOUNTED FROM CEILING ABOVE.
7. DUCTWORK ROUTED UP. TIES IN TO EXISTING DUCTWORK SYSTEM ABOVE.



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
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Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

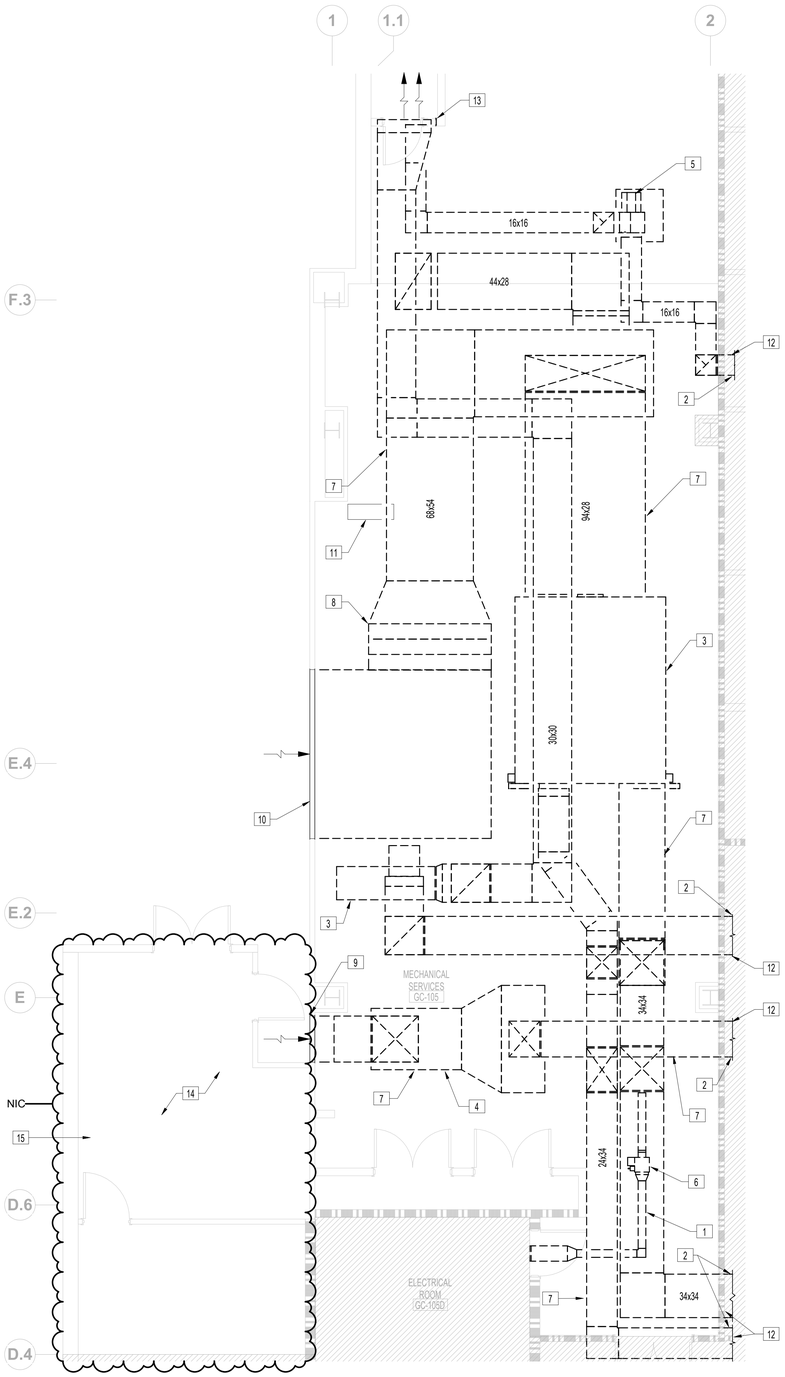
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MHD100.7

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



N

1 **MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - GC105 MECHANICAL ROOM - SOUTH**

1/4" = 1'-0"

0 2' 4' 8'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

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H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

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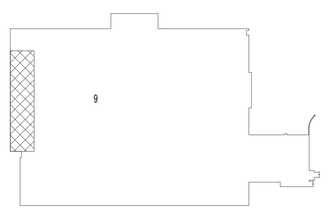
J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES. (TYP.)
2. DUCTWORK TO INTERSTITIAL SPACE. REFER TO MHD200.5 FOR CONTINUATION.
3. REMOVE EXISTING AIR HANDLING UNIT AC-1, INCLUDING REMOTE RETURN FAN RF-1, AND ALL ASSOCIATED COMPONENTS INCLUDING SUPPLY FAN, RETURN FAN, DUCTWORK, PIPING, CONTROLS, CONCRETE PAD, ETC.
4. REMOVE EXISTING EXHAUST HOOD MAKE UP AIR UNIT SF-24 AND ALL ASSOCIATED COMPONENTS INCLUDING CONCRETE PAD, DUCTWORK, ETC.
5. REMOVE EXISTING GENERAL EXHAUST FAN EF-1 AND ALL ASSOCIATED COMPONENTS INCLUDING CONCRETE PAD, DUCTWORK, ETC.
6. REMOVE DUAL DUCT BOXES, THERMOSTAT, AND ALL ASSOCIATED CONTROLS.
7. REMOVE EXISTING SUPPLY, RETURN, AND EXHAUST DUCT AS SHOWN AND ALL ASSOCIATED MISCELLANEOUS DUCT COMPONENTS.
8. REMOVE EXISTING STEAM PREHEAT COIL 500-PH1 AND ALL ASSOCIATED STEAM PIPING AND VALVING.
9. EXISTING 36x60 LOUVER TO REMAIN. PREPARE LOUVER FOR NEW CONNECTION.
10. EXISTING 132x60 LOUVER TO REMAIN. PREPARE LOUVER FOR NEW CONNECTION.
11. EXISTING UNIT HEATER UH-15 TO REMAIN. PROTECT DURING CONSTRUCTION.
12. REMOVE EXISTING FIRE DAMPER AT DUCTWORK PENETRATION OF FIRE RATED WALLS. PATCH AND SEAL OPENINGS NOT BEING USED TO MATCH EXISTING CONDITIONS. FIELD VERIFY EXACT FIRE DAMPER LOCATIONS.
13. WALL DEMOLITION WORK TO ENLARGE EXISTING OPENING IN EXHAUST AREA WELL TO BE INCLUDED IN HAZARDOUS MATERIAL SURVEY. SEE NEW MECHANICAL WORK FOR DIMENSIONS.
14. REMOVE ALL EXHAUST FANS LOCATED WITHIN OR SERVING REMOTE CONDENSING UNIT HOUSING. FIELD VERIFY EXACT NUMBER AND LAYOUT OF FANS. REPAIR STRUCTURE ROOF IF REQUIRED TO PREVENT WATER INFILTRATION TO THE SPACE. (NIC)
15. ABANDON IN PLACE ALL EQUIPMENT AND MATERIALS ASSOCIATED WITH EXISTING CONDENSING UNITS NOT USED IN NEW CONSTRUCTION.



BASEMENT KEY PLAN - GC105 MECHANICAL ROOM

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT DEMOLITION PLAN - GC105 MECHANICAL ROOM

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

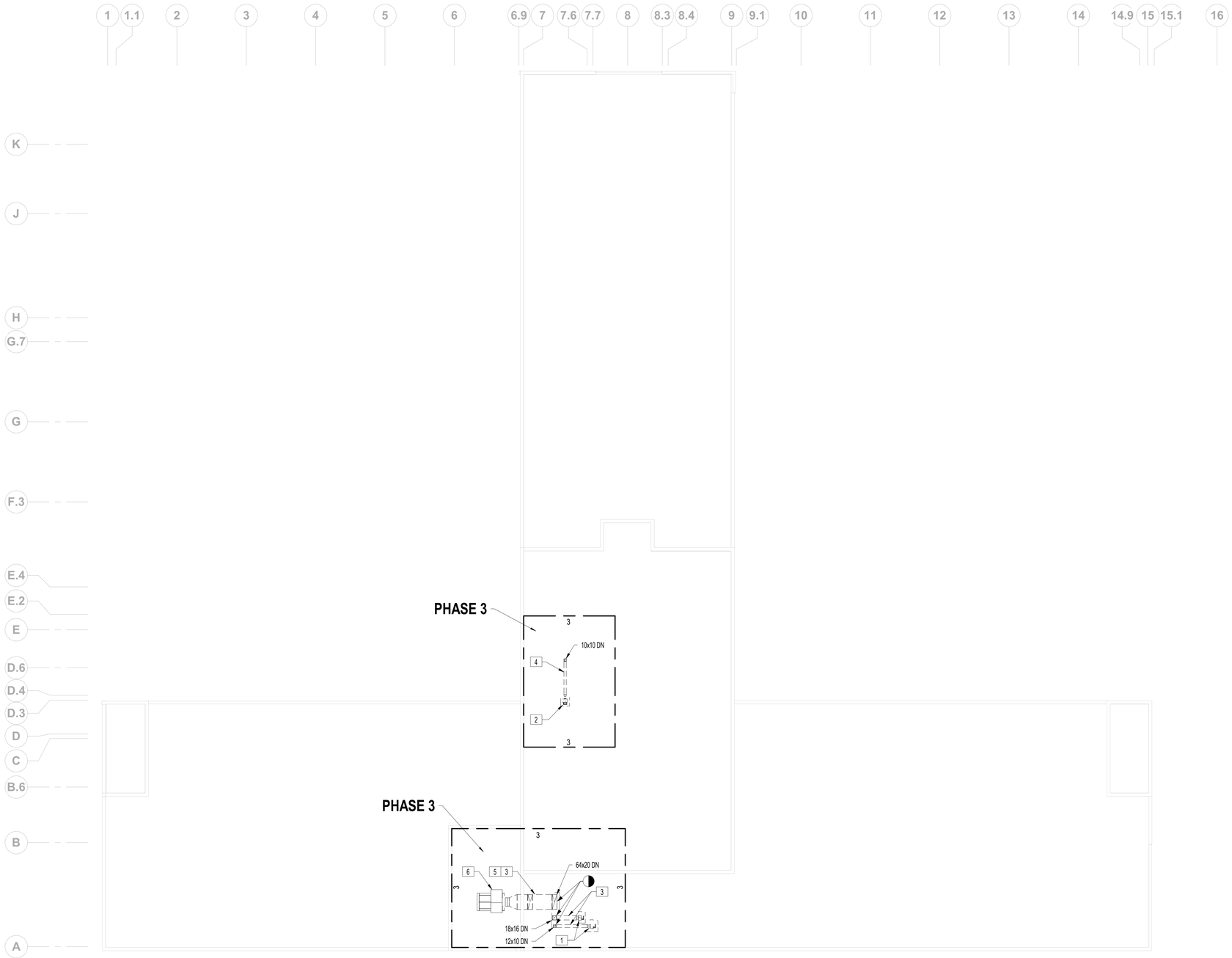
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MHD100.8

VA FORM 08-6231



N

1 **MECHANICAL VENTILATION - OVERALL ROOF DEMOLITION PLAN**

1/16" = 1'-0"

0 8' 16' 32'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

PHASING LEGEND

PHASE 1

PHASE 2

PHASE 3

PHASE 4

PHASE 5

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

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X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE EXHAUST FAN ALONG WITH ASSOCIATED COMPONENTS INCLUDING CONTROLS, WIRING, AND RAILS. PREPARE ROOF FOR NEW EXHAUST FAN.
2. REMOVE EXHAUST FAN ALONG WITH ASSOCIATED COMPONENTS INCLUDING CONTROLS, WIRING, AND RAILS.
3. REMOVE DUCTWORK BACK TO VERTICAL DUCTWORK RISER.
4. REMOVE EXHAUST DUCTWORK AS SHOWN DOWN TO ROOF LEVEL. PATCH AND SEAL ROOF OPENING TO MEET EXISTING CONDITIONS.
5. REMOVE EXHAUST DUCTWORK DOWN TO LOWER ROOF LEVEL. PREPARE EXHAUST DUCT FOR NEW CONNECTION.
6. PREPARE EXHAUST FAN MOTOR FOR NEW VFD. COORDINATE WITH OTHER DISCIPLINE TO REBALANCE AND PROVIDE ALL NEEDED CONTROLS TO FACILITATE SCOPE OF WORK.

VA CONTRACT NO: 36C24519C0171

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL ROOF DEMOLITION PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

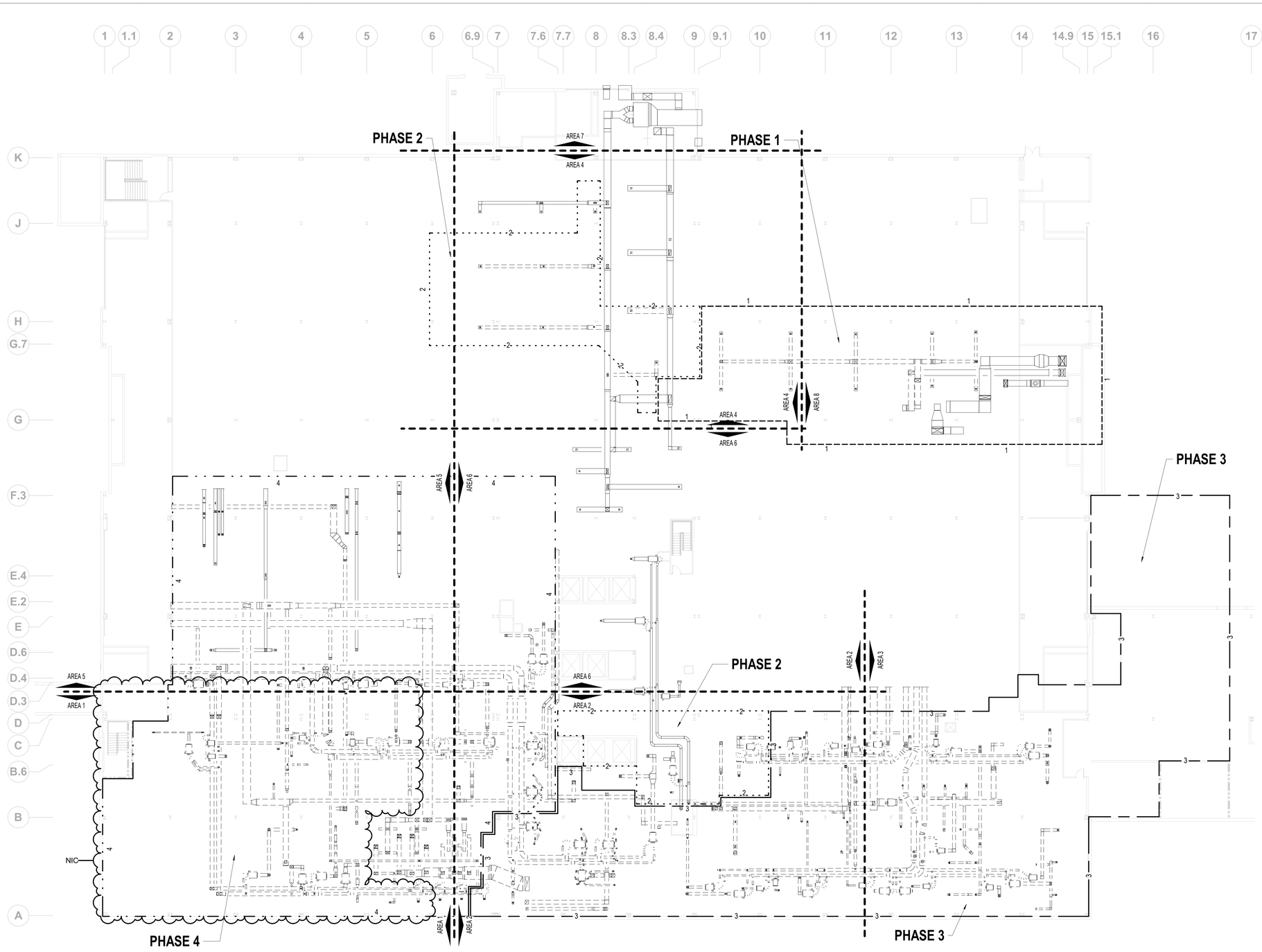
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MHD101

VA FORM 08-6231



MECHANICAL VENTILATION - OVERALL INTERSTITIAL FLOOR DEMOLITION PLAN

1 — 1/16" = 1'-0"

0 8' 16' 32'

FIRE BARRIER LEGEND

- 1 HOUR FIRE & SMOKE SEPARATION
- 2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

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E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

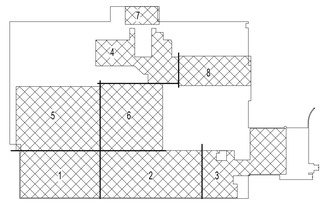
F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF DUCTWORK TO BE REMOVED: 7500FT.

J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.



BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

CONSULTANT

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STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL INTERSTITIAL FLOOR DEMOLITION PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

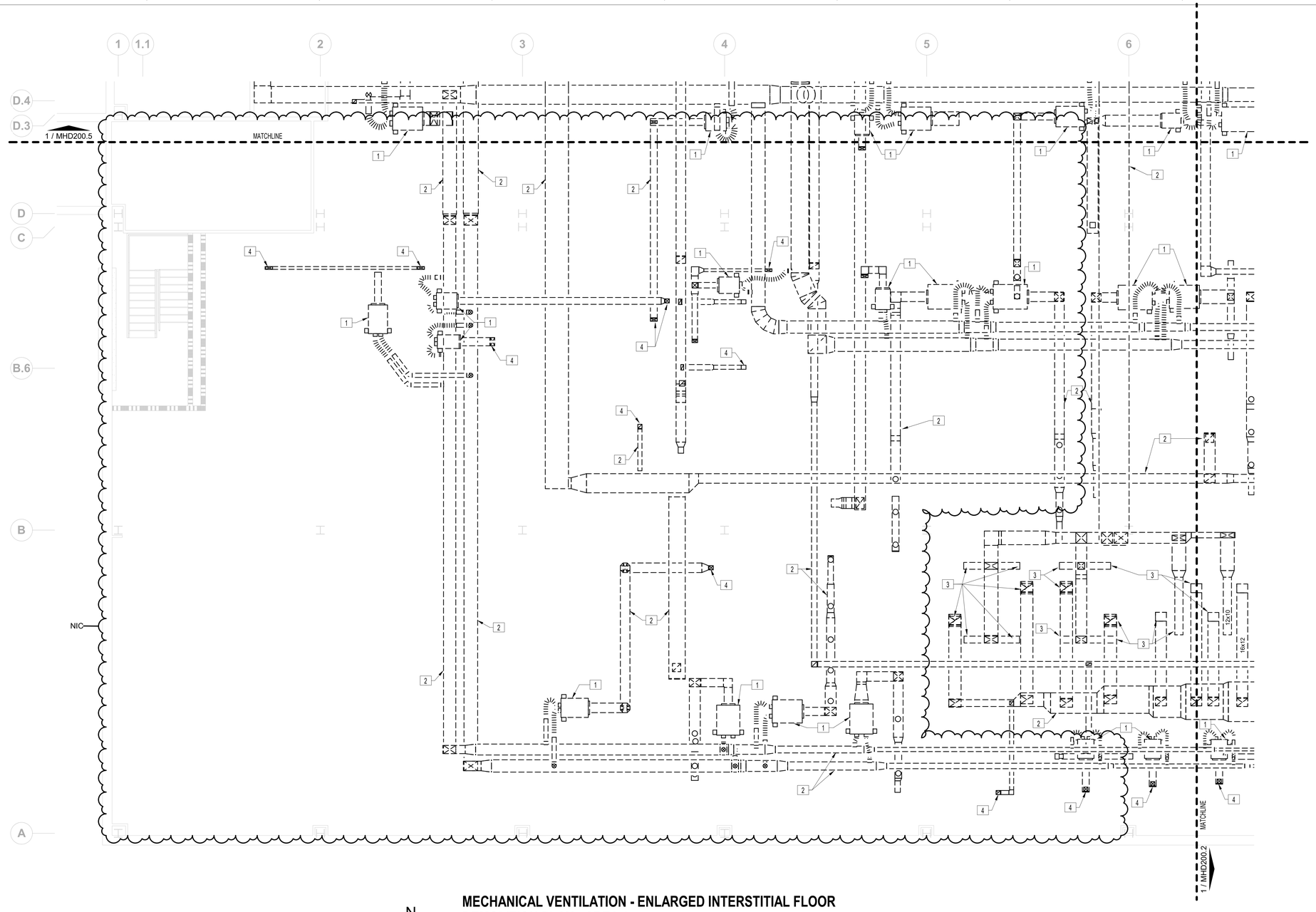
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MHD200

VA FORM 08-6231



N

1 **MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 1**

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

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G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

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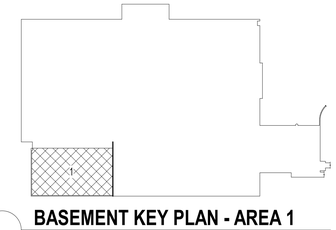
J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE DUAL DUCT BOXES, THERMOSTAT, AND ALL ASSOCIATED CONTROLS.
2. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES (TYP.). CAP AT MAIN WHEN APPLICABLE.
3. REMOVE EXHAUST HOOD AND ASSOCIATED DUCTWORK AS SHOWN. PREPARE STAINLESS STEEL DUCTWORK FOR RECONNECTION.
4. DUCTWORK DOWN TO FLOOR BELOW. REFER TO MHD100.1 FOR CONTINUATION. (NOT ALL LOCATIONS TAGGED. COORDINATE IN FIELD.)



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

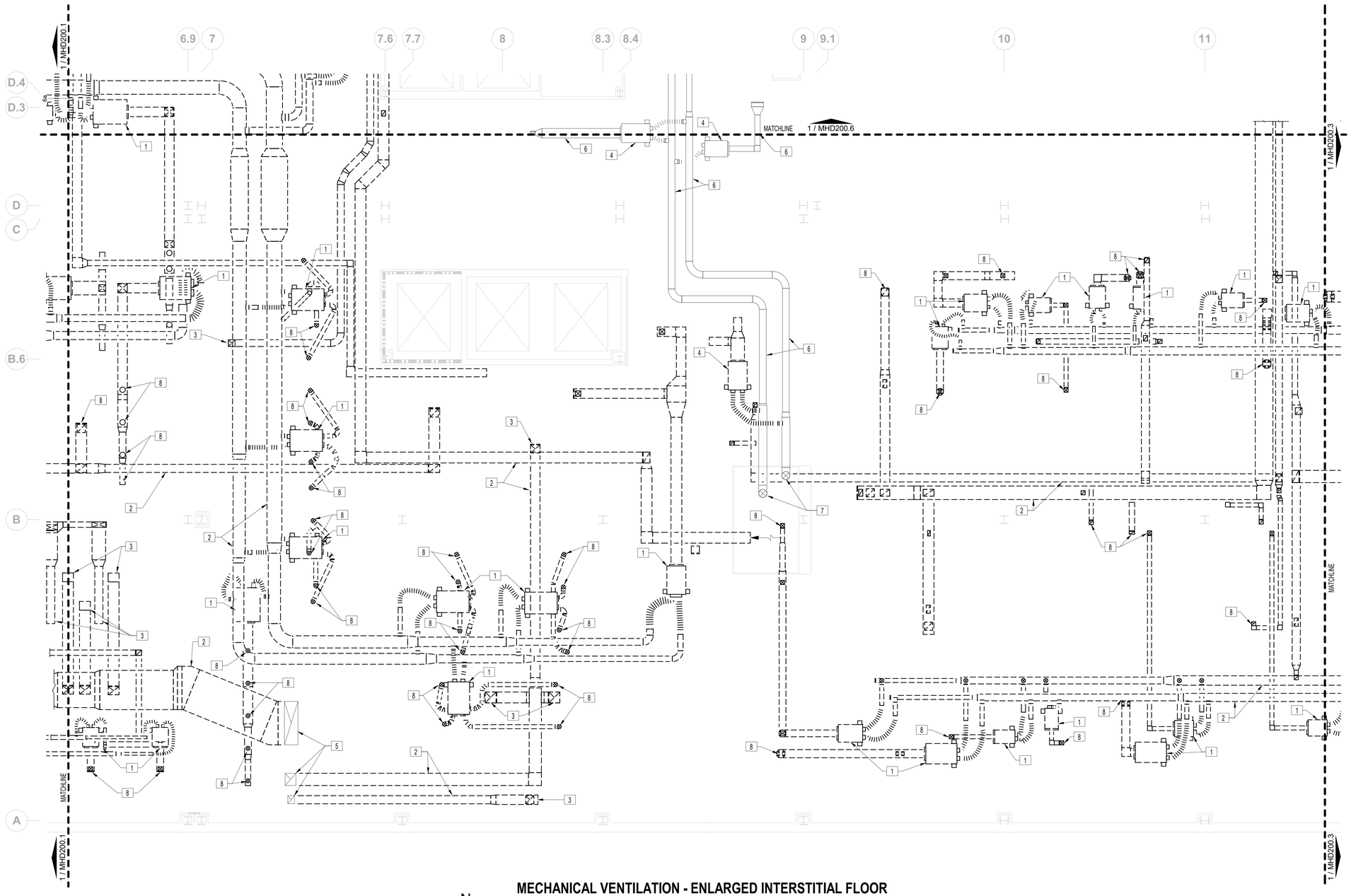
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MHD200.1

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 2

1 — 3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

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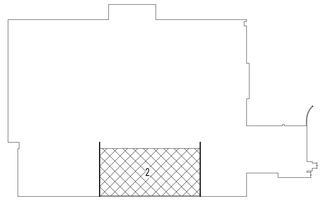
J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE DUAL DUCT BOXES, THERMOSTAT, AND ALL ASSOCIATED CONTROLS.
2. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES. (TYP.)
3. REMOVE EXHAUST HOOD AND ASSOCIATED DUCTWORK AS SHOWN. PREPARE STAINLESS STEEL DUCTWORK FOR RECONNECTION.
4. EXISTING DUAL DUCT BOX TO REMAIN.
5. EXISTING DUCTWORK RISER UP TO EXHAUST FANS ON ROOF TO REMAIN. PROTECT DURING CONSTRUCTION.
6. EXISTING DUCTWORK TO REMAIN. PROTECT DURING CONSTRUCTION.
7. EXISTING SUPPLY DUCTWORK UP TO UNKNOWN LOCATION. PROTECT DURING CONSTRUCTION.
8. DUCTWORK DOWN TO FLOOR BELOW. REFER TO MHD100.2 FOR CONTINUATION. (NOT ALL LOCATIONS TAGGED. COORDINATE IN FIELD.)



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

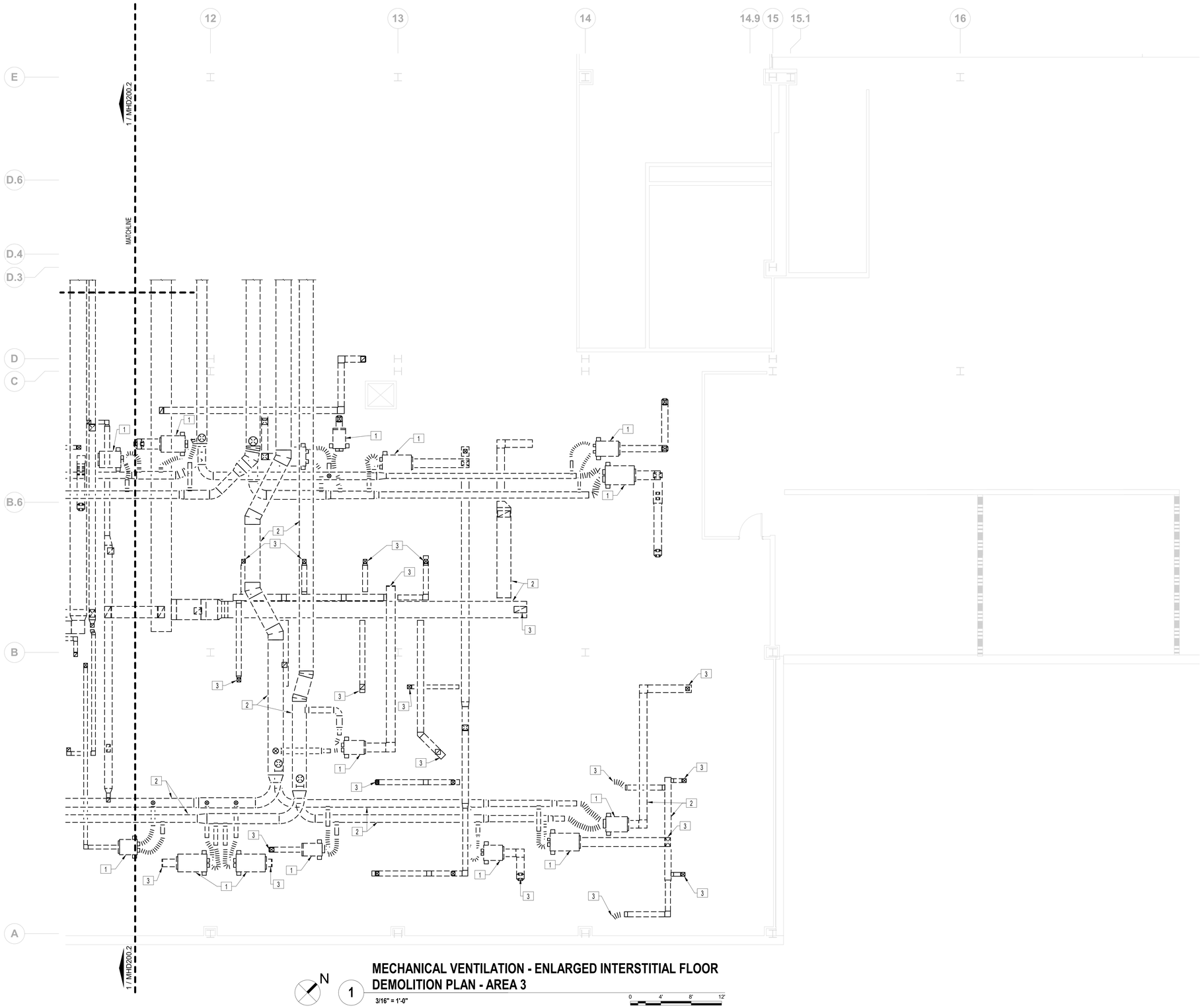
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MHD200.2

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 3

1 — 3/16" = 1'-0"

0 4' 8' 12'

N

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

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3. DUCTWORK DOWN TO FLOOR BELOW. REFER TO MHD100.2 FOR CONTINUATION. (NOT ALL LOCATIONS TAGGED. COORDINATE IN FIELD.)

BASEMENT KEY PLAN - AREA 3

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 3

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

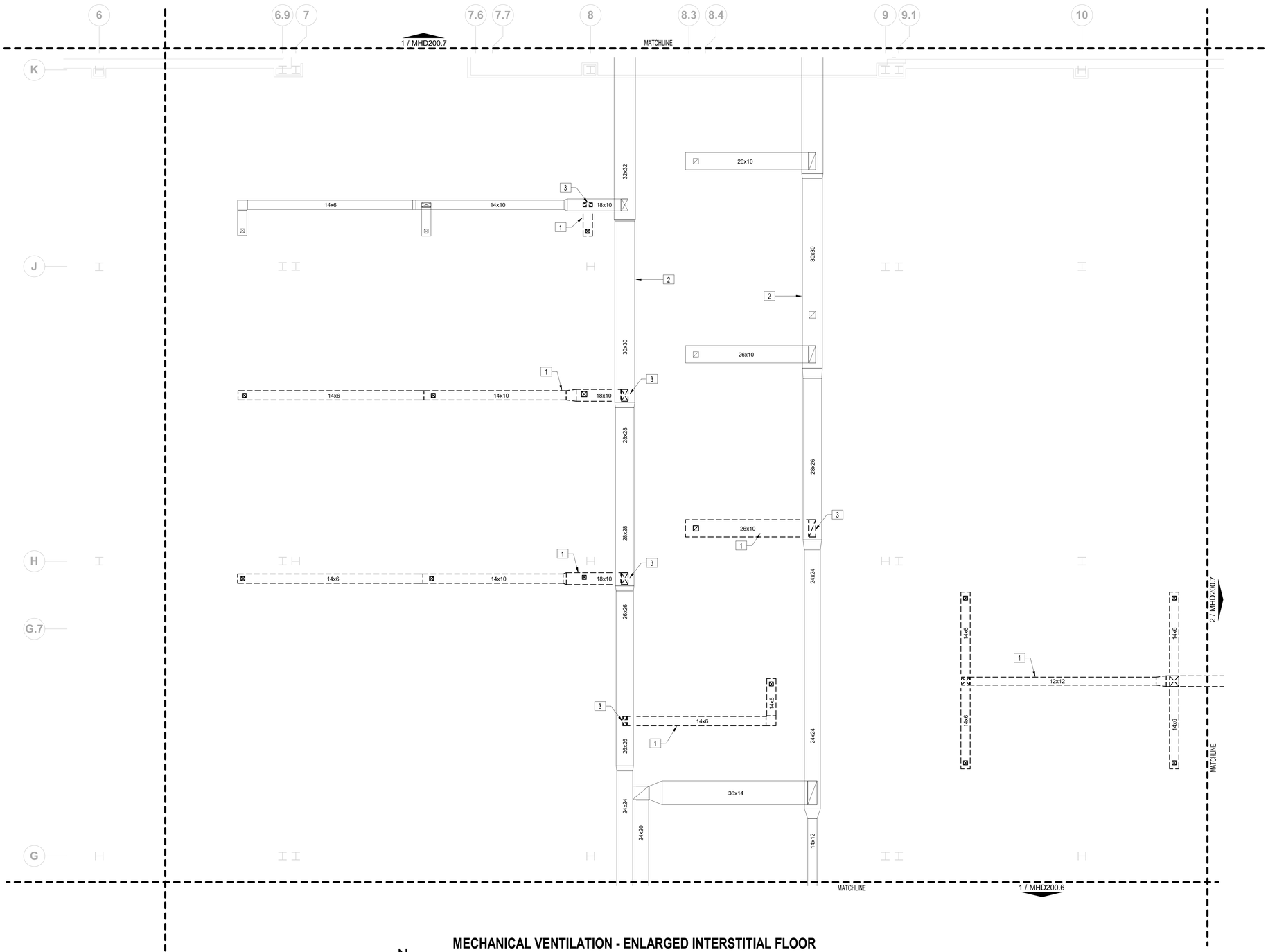
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MHD200.3

VA FORM 08-6231



N

MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 4

1

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

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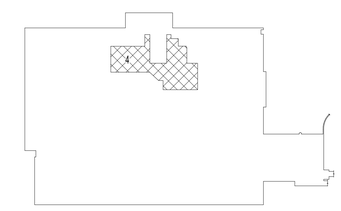
2. EXISTING DUCTWORK TO REMAIN. PROTECT DURING CONSTRUCTION.
3. REMOVE DUCTWORK BACK TO MAIN. CAP AND SEAL DUCTWORK.



BASEMENT KEY PLAN - AREA 4

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
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Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 4

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

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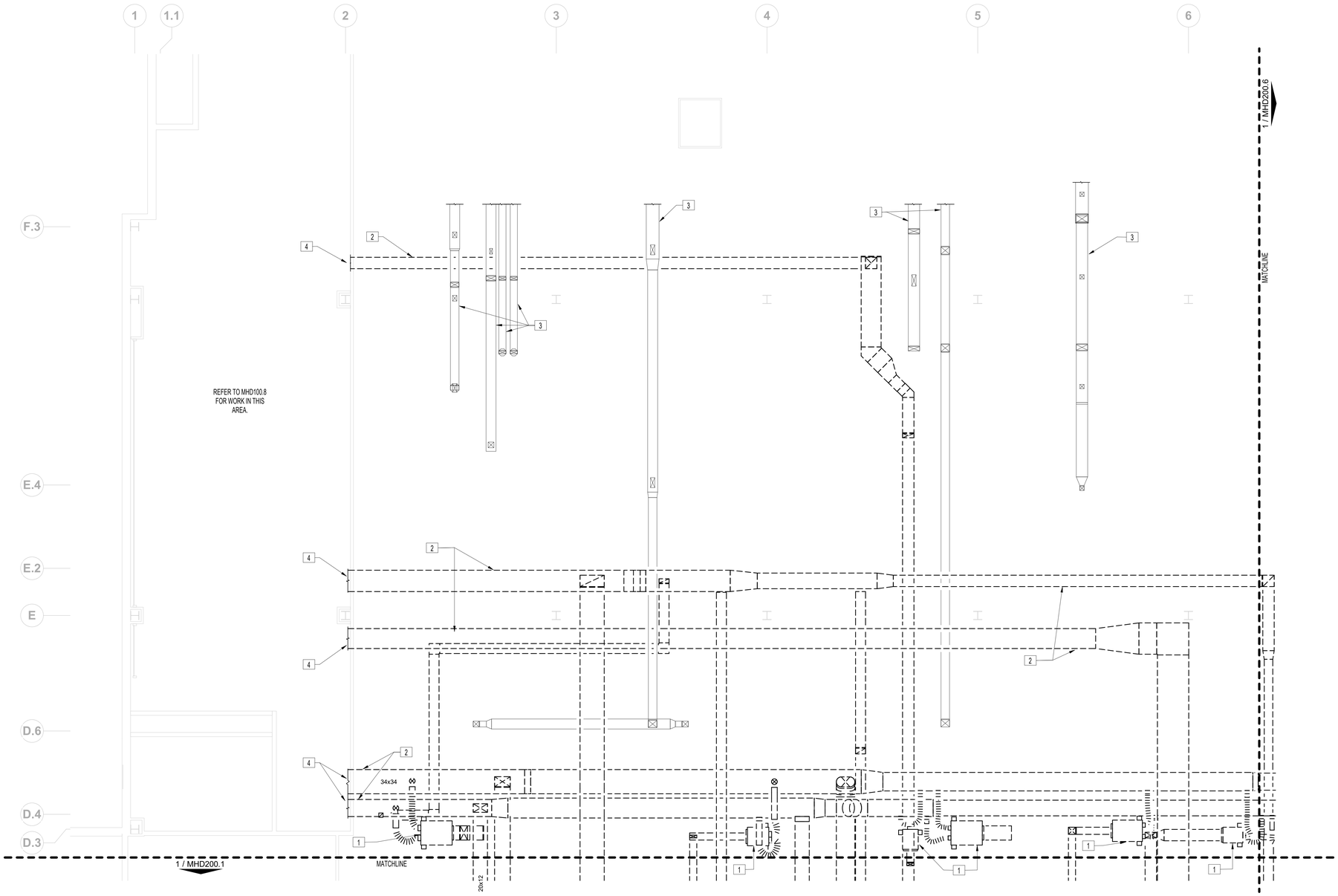
VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 5

1

3/16" = 1'-0"

0 4' 8' 12'

N

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

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G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

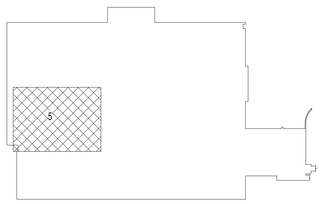
H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF DUCTWORK TO BE REMOVED: 7500FT.

J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE DUAL DUCT BOXES, THERMOSTAT, AND ALL ASSOCIATED CONTROLS.
2. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES. (TYP.)
3. EXISTING DUCTWORK TO REMAIN. PROTECT DURING CONSTRUCTION.
4. DUCTWORK TO BASEMENT LEVEL MECHANICAL ROOM GC-105. REFER TO MHD100.8 FOR CONTINUATION.



BASEMENT KEY PLAN - AREA 5

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 5

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

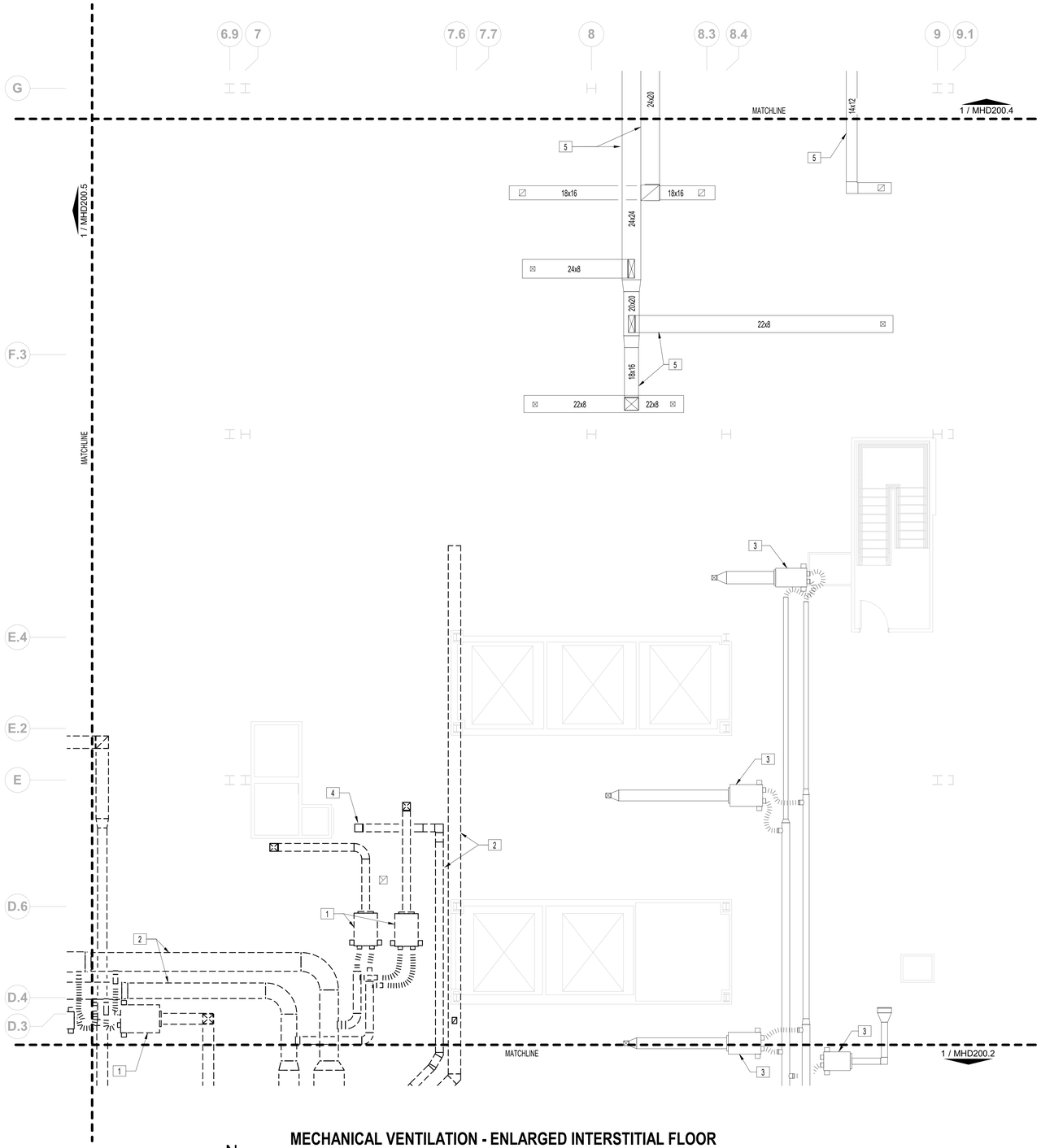
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MHD200.5

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 6

1 — 3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH DUCTWORK REMOVAL.

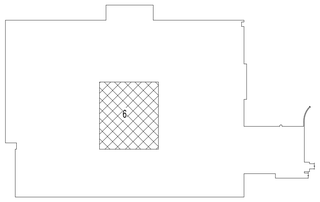
H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF DUCTWORK TO BE REMOVED: 7500FT.

J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE DUAL DUCT BOXES, THERMOSTAT, AND ALL ASSOCIATED CONTROLS.
2. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES. (TYP.)
3. EXISTING DUAL DUCT BOX TO REMAIN. PROTECT DURING CONSTRUCTION.
4. EXISTING DUCTWORK RISER UP TO EXHAUST FANS ON ROOF TO REMAIN. PROTECT DURING CONSTRUCTION.
5. EXISTING DUCTWORK TO REMAIN. PROTECT DURING CONSTRUCTION.



BASEMENT KEY PLAN - AREA 6

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 6

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

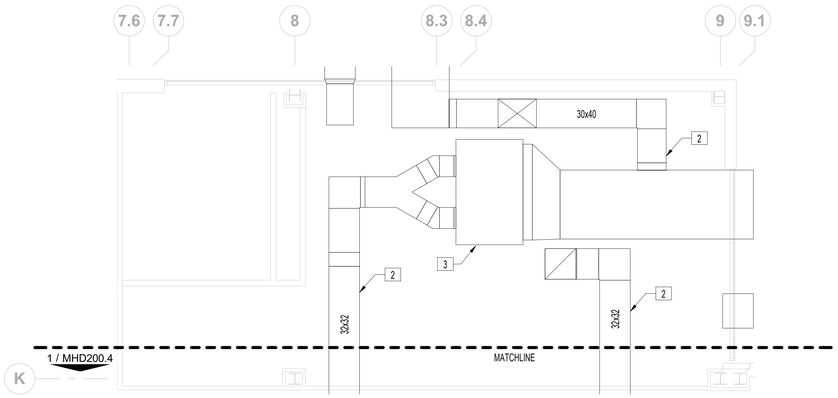
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MHD200.6

VA FORM 08-6231

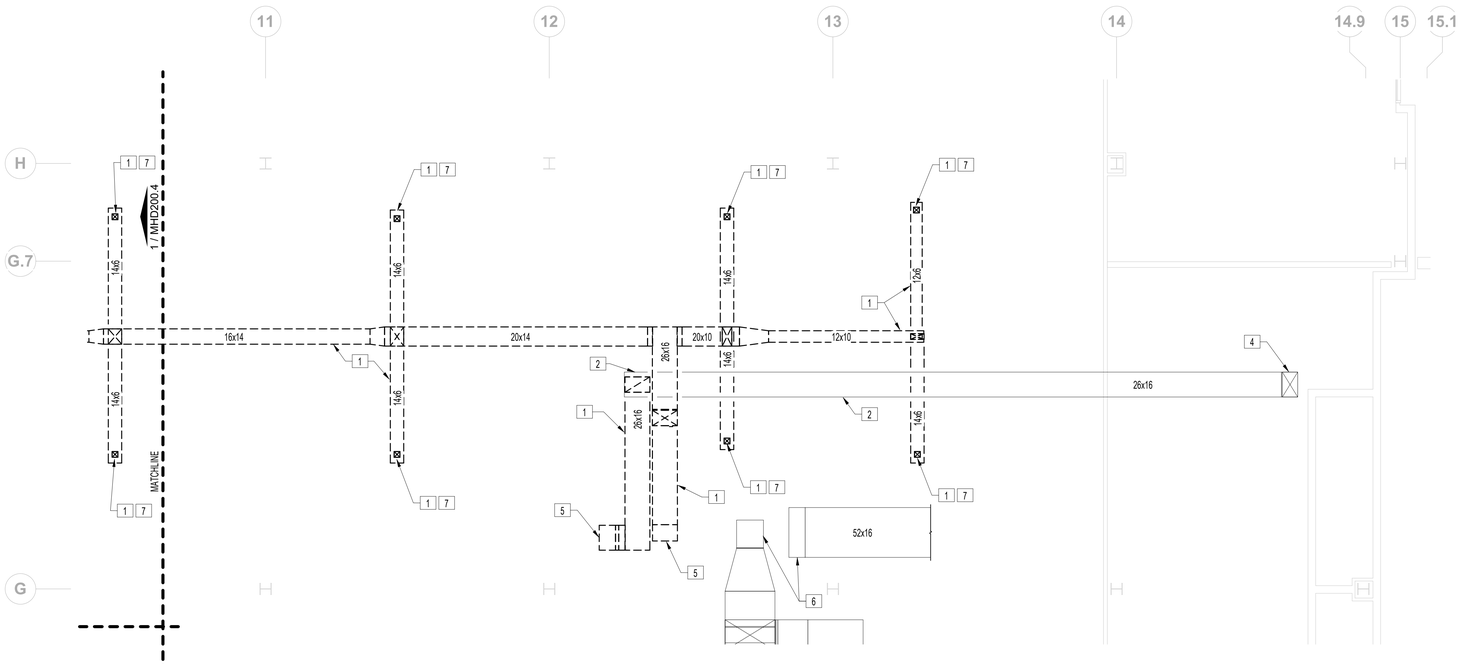


N

1 MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 7

3/16" = 1'-0"

0 4' 8' 12'



N

2 MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 8

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

E. REMOVE UNUSED SECTIONS OF SUPPLY AND RETURN AIR DUCTWORK BACK TO MAINS. PATCH OPENING WITH SHEET METAL AND SEAL AIRTIGHT. PATCH EXISTING INSULATION TO MATCH EXISTING. WHERE EXISTING DUCTWORK IS TO BE CAPPED AND REUSED, LOCATE THE END CAP WITHIN 6" OF THE LAST BRANCH. END CAPS SHALL BE 3" PRESSURE CLASS AND SEAL CLASS "A".

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H. EXISTING OPENINGS IN CONCRETE SLAB TO BE FILLED IN WITH CONCRETE TO MATCH EXISTING. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING FILL. APPROXIMATE NUMBER OF OPENINGS TO BE FILLED: 185

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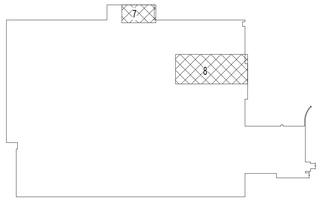
J. REVIEW THIS DRAWING IN CONJUNTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOODSERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE SUPPLY, RETURN, AND EXHAUST DUCTWORK AS SHOWN WITH ALL ASSOCIATED DIFFUSERS AND GRILLES. (TYP.)
2. EXISTING DUCTWORK TO REMAIN. PROTECT DURING CONSTRUCTION.
3. EXISTING AIR HANDLING UNIT TO REMAIN. ADJUST/RESHEAVE SUPPLY FAN AND REPLACE PULLEYS AS REQUIRED TO ALLOW AHU TO MEET REQUIRED AIRFLOWS.
4. EXISTING 26x16 OUTSIDE AIR DUCT DOWN TO 36x30 OUTSIDE AIR INTAKE LOUVER TO REMAIN. SEE MHD100.7 FOR CONTINUATION.
5. REMOVE EXISTING SUPPLY AND RETURN DUCTWORK DOWN TO AIR HANDLING UNIT.
6. EXISTING SUPPLY AND RETURN DUCTWORK DOWN TO EXISTING AIR HANDLING UNIT HV-3
7. DUCTWORK DOWN TO FLOOR BELOW. REFER TO MHD100.7 FOR CONTINUATION.



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

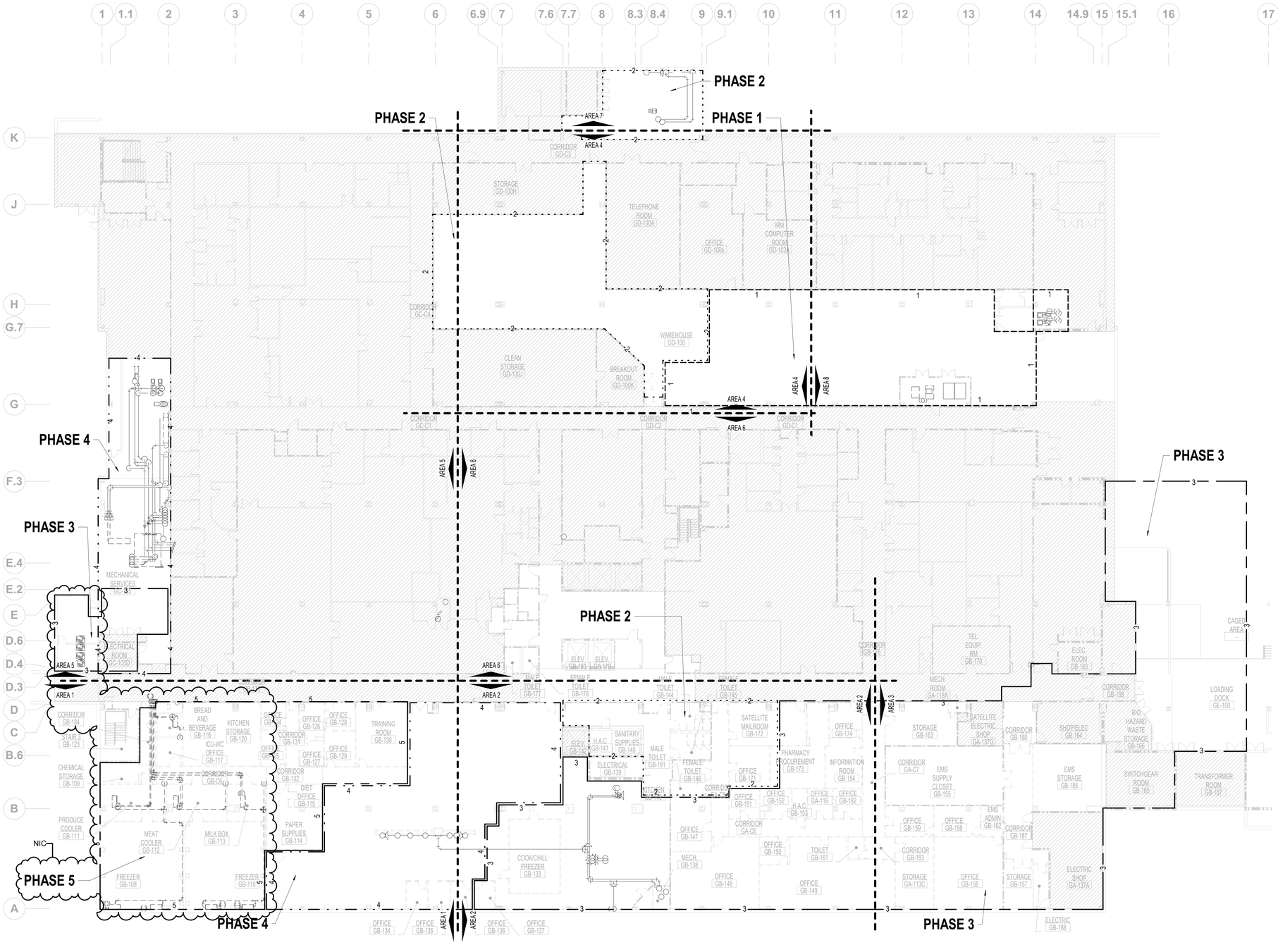
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MHD200.7

VA FORM 08-6231



1 MECHANICAL PIPING - OVERALL BASEMENT DEMOLITION PLAN

1/16" = 1'-0"

0 8' 16' 32'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

PHASING LEGEND

PHASE 1

PHASE 2

PHASE 3

PHASE 4

PHASE 5

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

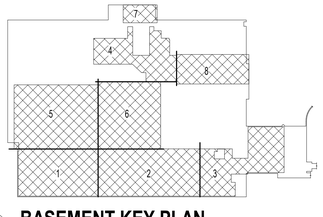
F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE SEALED. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING SEALING.

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF PIPING TO BE REMOVED: 2800FT.

J. REVIEW THIS DRAWING IN CONJUNCTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOOD SERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED. CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION, AND PERFORMANCE OF THE WORK.



BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - OVERALL BASEMENT DEMOLITION PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

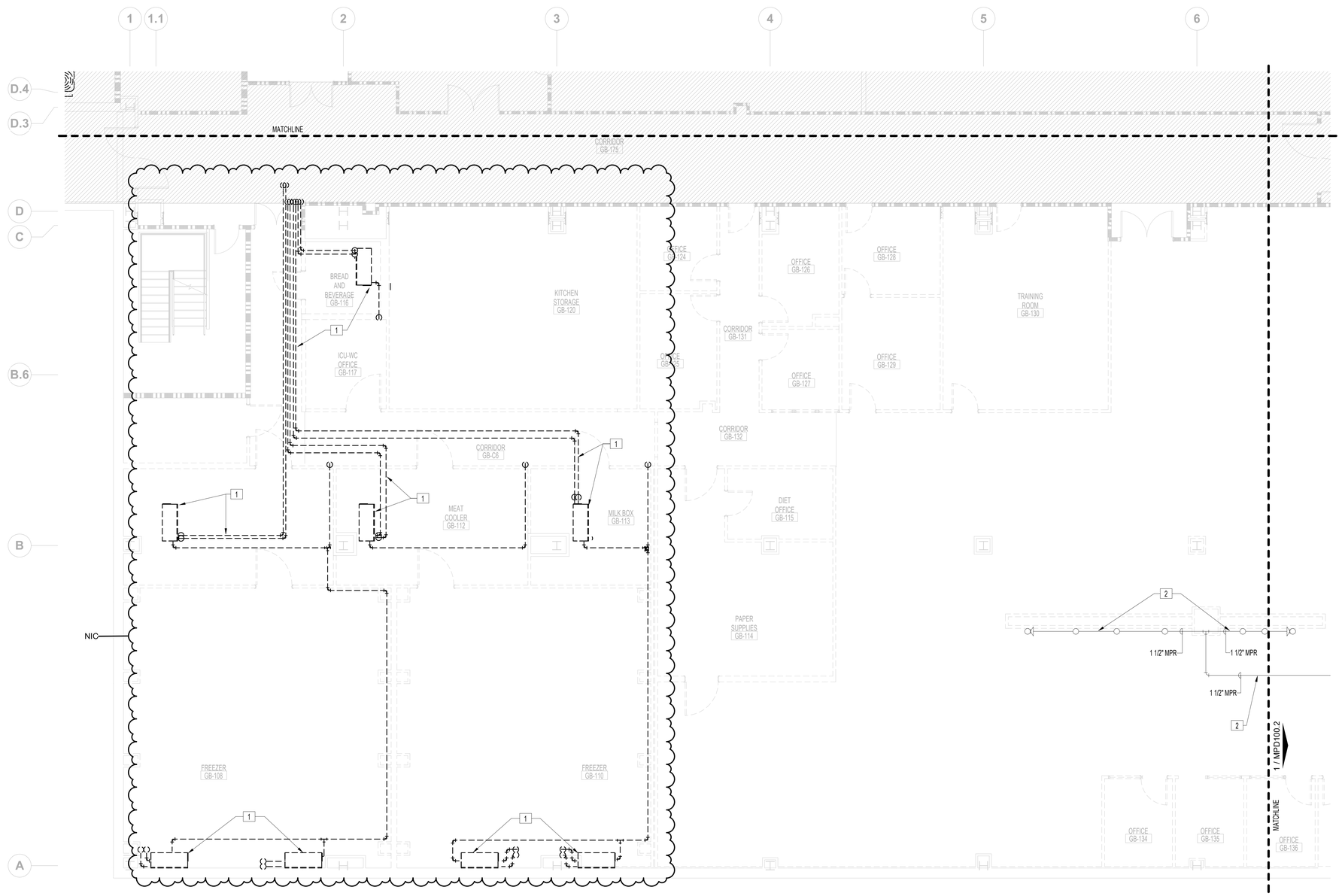
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MPD100

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - AREA 1

1 — 3/16" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

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G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE SEALED. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING SEALING.

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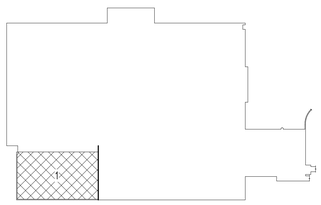
J. REVIEW THIS DRAWING IN CONJUNCTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOOD SERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION, AND PERFORMANCE OF THE WORK.

MECHANICAL DEMOLITION KEY NOTES

X

NIC

1. REMOVE EXISTING EVAPORATOR, REFRIGERANT PIPING, DRAIN, AND ALL ASSOCIATED CONTROLS.
2. EXISTING UNDERGROUND PIPING TO BE ABANDONED IN PLACE. (TYP.)



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

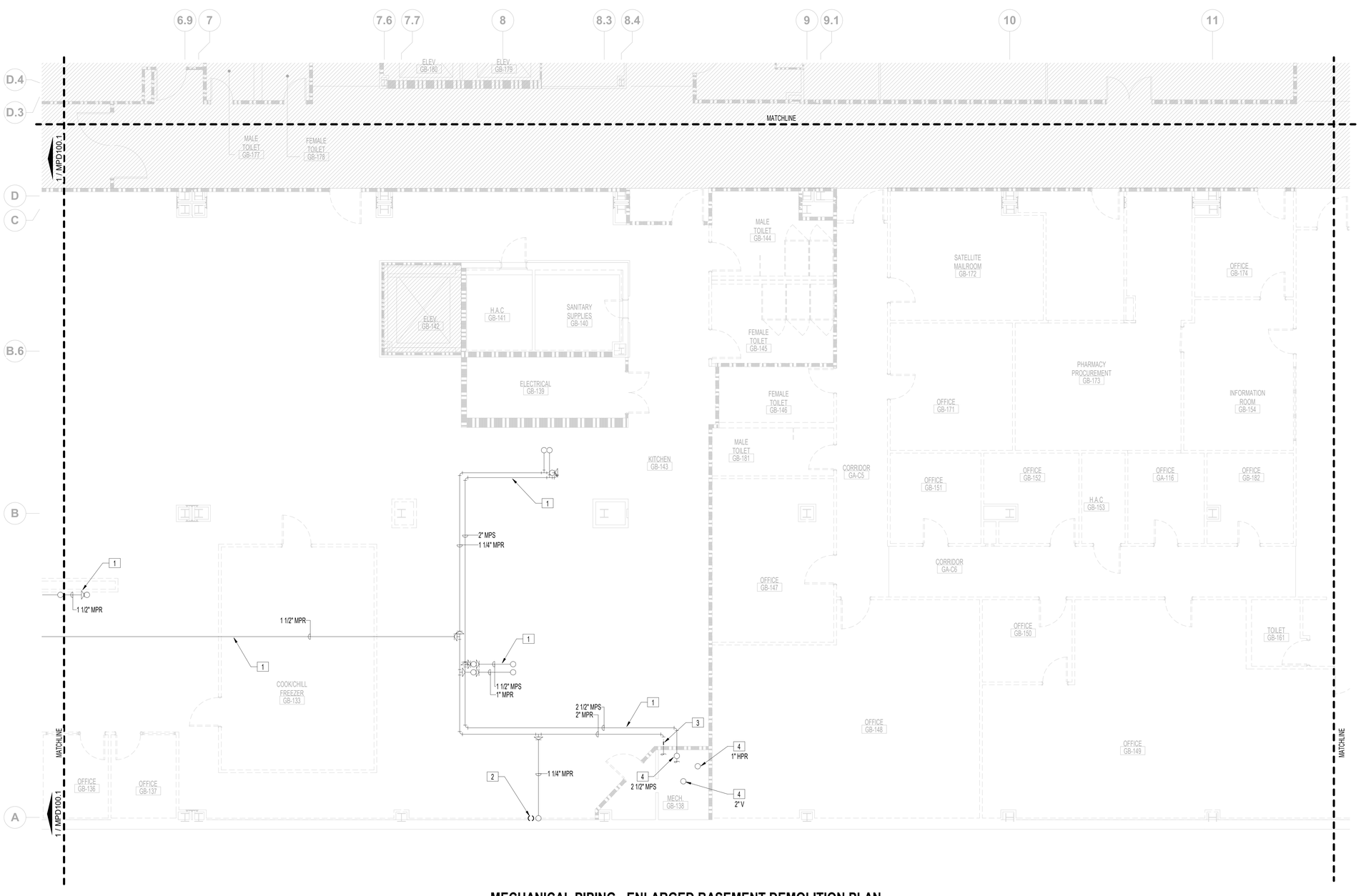
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MPD100.1

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - AREA 2

1 — 3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

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G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

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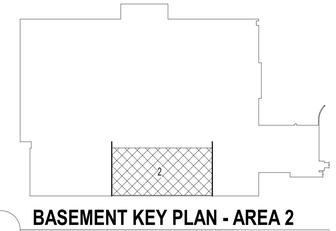
I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF PIPING TO BE REMOVED: 2800FT.

J. REVIEW THIS DRAWING IN CONJUNCTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOOD SERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION, AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. EXISTING UNDERGROUND PIPING TO BE ABANDONED IN PLACE. (TYP.)
2. REMOVE 2" MPS PIPING SERVING KITCHEN EQUIPMENT FROM INTERSTITIAL SPACE.
3. DISCONNECT MPS/MPR FROM MAIN SYSTEM. CAP AND SEAL ALL PIPING DEMOLISH PORTION OF 2" MPR UNDERGROUND PIPING AS SHOWN. PREPARE EQUIPMENT FOR NEW CONNECTIONS.
4. EXISTING PIPING OF INDICATED SIZE AND TYPE UP TO INTERSTITIAL SPACE. REFER TO MPD2200.2 FOR CONTINUATION. DRAWINGS DO NOT SHOW ALL EXISTING WORK IN GB-138 MECH. PIPING TO AND FROM GB-138 IS SHOWN FOR CLARITY.



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

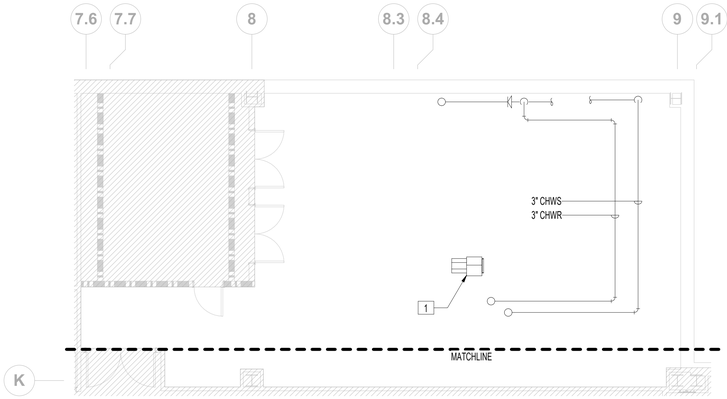
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MPD100.2

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231

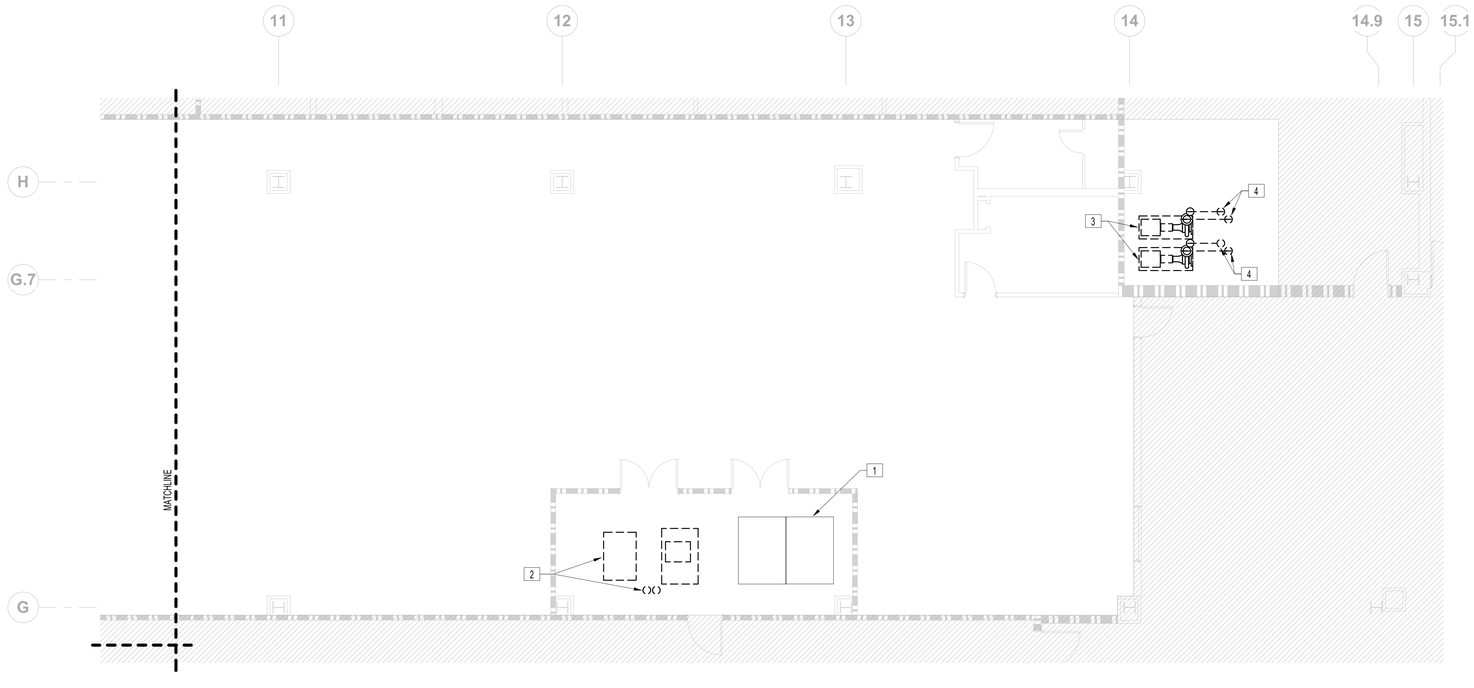


N

1 MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - AREA 7

3/16" = 1'-0"

0 4' 8' 12'



N

2 MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - AREA 8

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

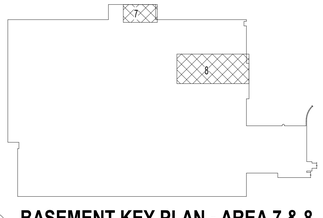
H. EXISTING OPENINGS IN CONCRETE SLAB TO BE SEALED. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING SEALING.

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF PIPING TO BE REMOVED: 2800FT.

J. REVIEW THIS DRAWING IN CONJUNCTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOOD SERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION, AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. EXISTING AIR HANDLING EQUIPMENT TO REMAIN. PROTECT DURING CONSTRUCTION.
2. AIR HANDLING UNIT HV-2 TO BE REMOVED. REMOVE HOT WATER PIPING BACK TO MAIN LOCATED IN INTERSTITIAL SPACE ABOVE. PREPARE TO ROUTE NEW HOT WATER AND CHILLED WATER PIPING BACK TO MECHANICAL ROOM AS PART OF NEW CONSTRUCTION.
3. REMOVE EXISTING CHILLED WATER PUMPS P-1 AND P-2 INCLUDING ALL PIPING, INSULATION, MOUNTING DEVICES, CONTROLS, ETC. REMOVE PIPING BACK TO EXISTING MAIN ABOVE. COORDINATE CHILLED WATER OUTAGES WITH VA/COR, PROVIDE MINIMUM 14 DAYS NOTICE BEFORE COMMENCING WORK.
4. CHILLED WATER PIPING UP. DEMOLISH AND REMOVE BRANCH BACK TO MAIN.



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

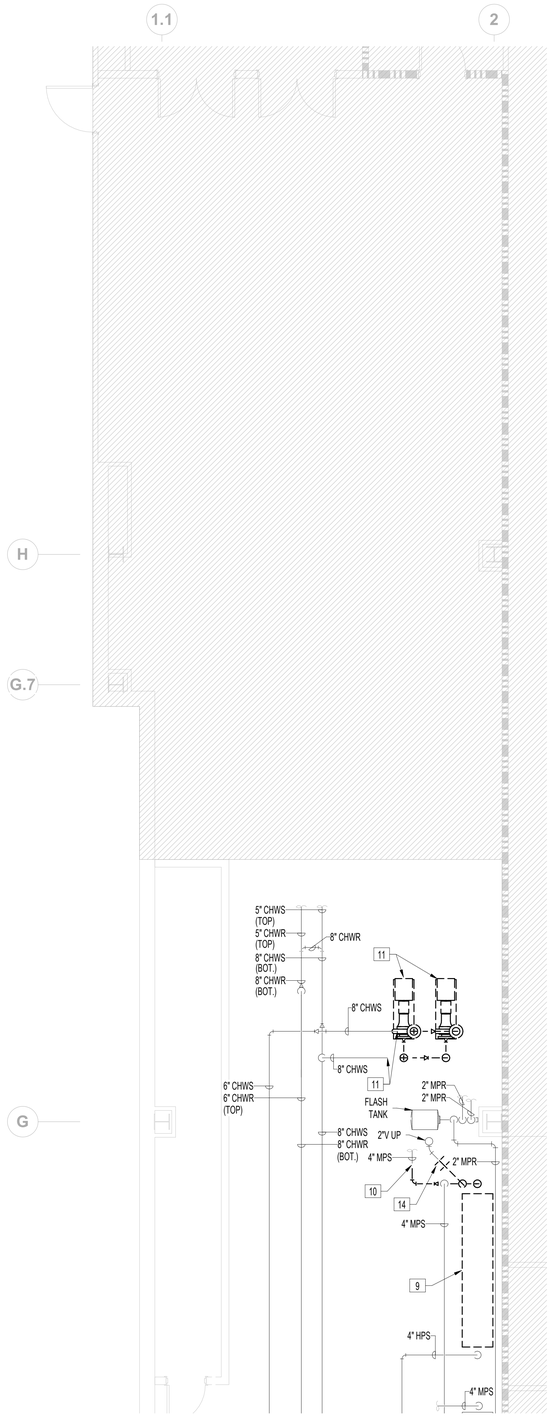
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MPD100.7

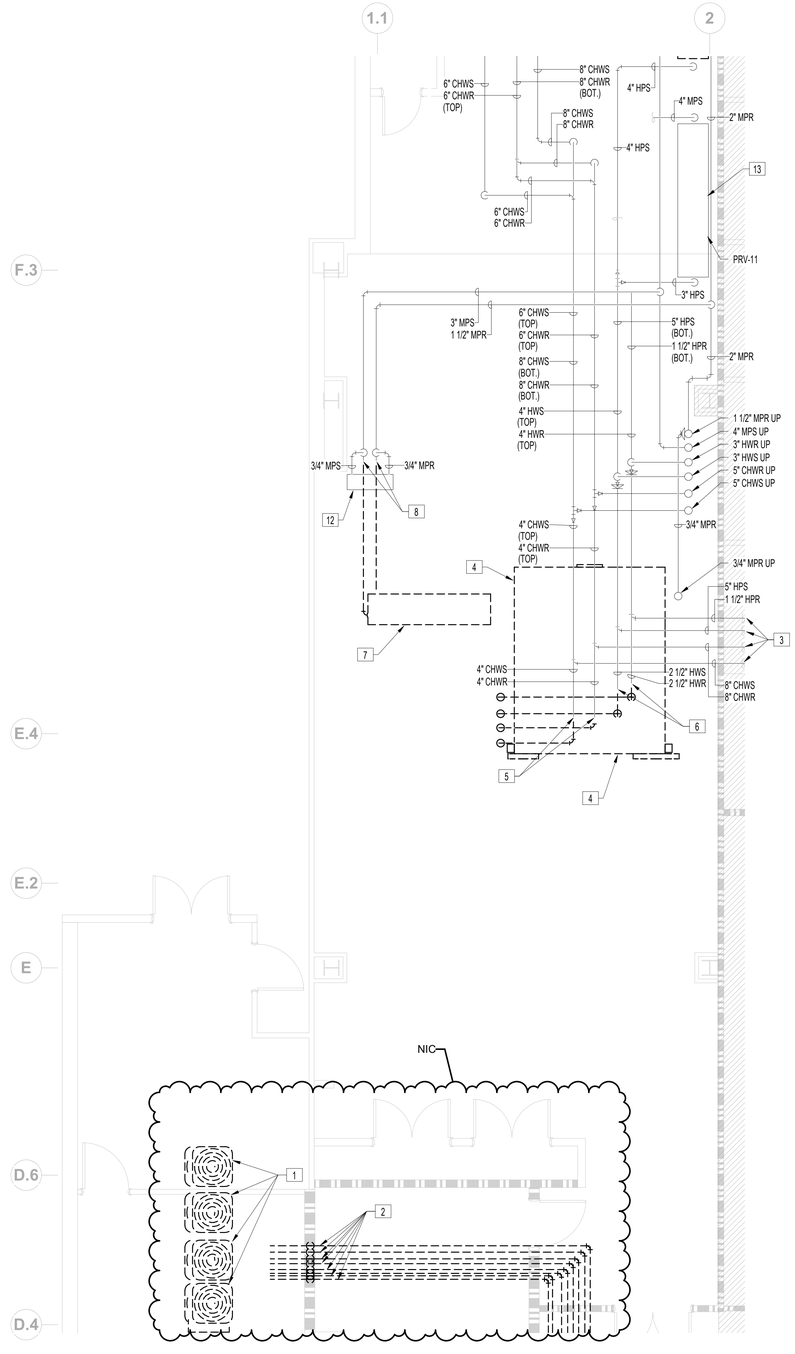
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - GC105 MECHANICAL ROOM - NORTH

1 — 1/4" = 1'-0"



MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - GC105 MECHANICAL ROOM - SOUTH

2 — 1/4" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE SEALED. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING SEALING.

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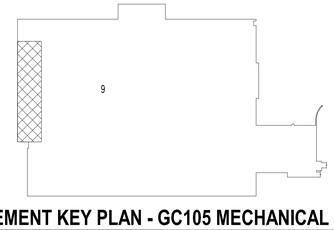
MECHANICAL DEMOLITION KEY NOTES

X

NIC

1. REMOVE CONDENSING UNITS AND ALL ASSOCIATED PIPING AND COMPONENTS.
2. REMOVE ALL REFRIGERANT PIPING SERVING EVAPORATORS IN BASEMENT. (TYP.)
3. PIPING TO INTERSTITIAL SPACE. NO DEMOLITION WORK IS TO BE DONE IN ADJACENT AREA (AREA 5). REFER TO MP200.5 FOR CONTINUATION.
4. REMOVE EXISTING AIR HANDLING UNIT AC-1 AND ALL ASSOCIATED COMPONENTS INCLUDING SUPPLY FAN, RETURN FAN, DUCTWORK, PIPING, CONTROLS, CONCRETE PAD, ETC.
5. REMOVE 4" CHWS/R PIPING FROM EXISTING AIR HANDLING UNIT AC-1 TO THIS POINT. PREPARE PIPING FOR NEW CONNECTIONS.
6. REMOVE 2 1/2" HWS/R PIPING FROM EXISTING AIR HANDLING UNIT AC-1 TO THIS POINT. PREPARE PIPING FOR NEW CONNECTIONS.
7. REMOVE EXISTING STEAM PREHEAT COIL 500-PH1 AND ALL ASSOCIATED STEAM PIPING AND VALVING.
8. REMOVE EXISTING 1 1/2" MPS/R PIPING FROM EXISTING PREHEAT COIL 500-PH1 TO THIS POINT.
9. REMOVE EXISTING PRV-12. PREPARE STEAM PIPING FOR NEW CONNECTIONS.
10. REMOVE 4" MPS PIPING FROM EXISTING PRV-12 TO THIS POINT. PREPARE PIPING FOR NEW CONNECTIONS.
11. REMOVE EXISTING CHILLED WATER PUMPS P-15 AND P-16 AND ASSOCIATED 5" PIPING TO POINT SHOWN. PREPARE EXISTING 8" CHWS PIPING FOR NEW CONNECTIONS. REMOVE EXISTING CONCRETE PADS THAT PUMPS SIT ON.
12. EXISTING UNIT HEATER UH-15 TO REMAIN.
13. EXISTING PRV TO REMAIN. PROTECT DURING CONSTRUCTION.
14. REMOVE EXISTING STEAM VENT PIPING TO THIS POINT. PREPARE PIPING FOR NEW CONNECTION.



BASEMENT KEY PLAN - GC105 MECHANICAL ROOM

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT DEMOLITION PLAN - GC105 MECHANICAL ROOM

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

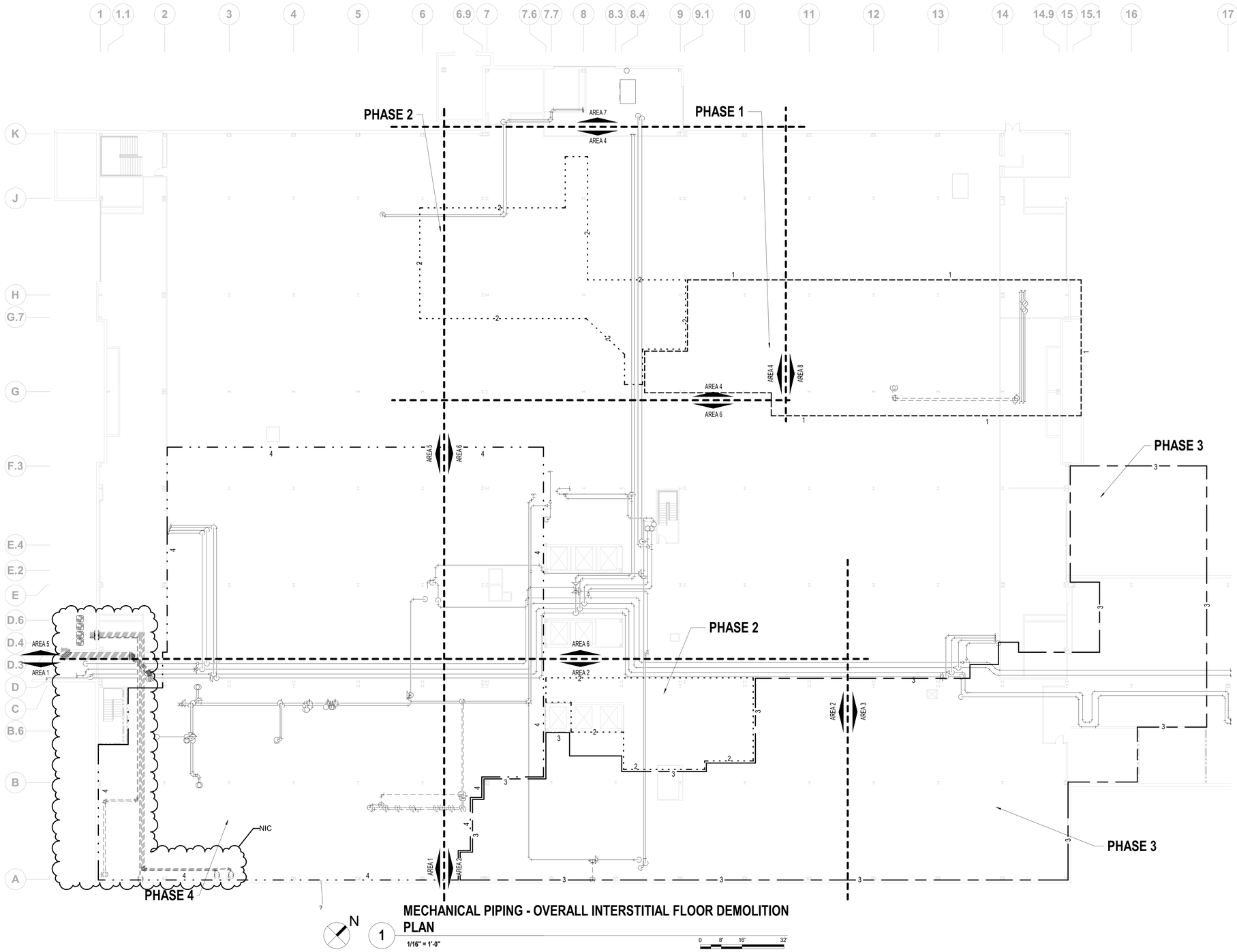
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MPD100.8

VA FORM 08-6231



MECHANICAL PIPING - OVERALL INTERSTITIAL FLOOR DEMOLITION PLAN

1 — 1/16" = 1'-0"

FIRE BARRIER LEGEND

- 1 HOUR FIRE & SMOKE SEPARATION
- 2 HOUR FIRE & SMOKE SEPARATION

PHASING LEGEND

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE SEALED. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING SEALING.

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J. REVIEW THIS DRAWING IN CONJUNCTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOOD SERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED. CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION, AND PERFORMANCE OF THE WORK.

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - OVERALL INTERSTITIAL FLOOR DEMOLITION PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

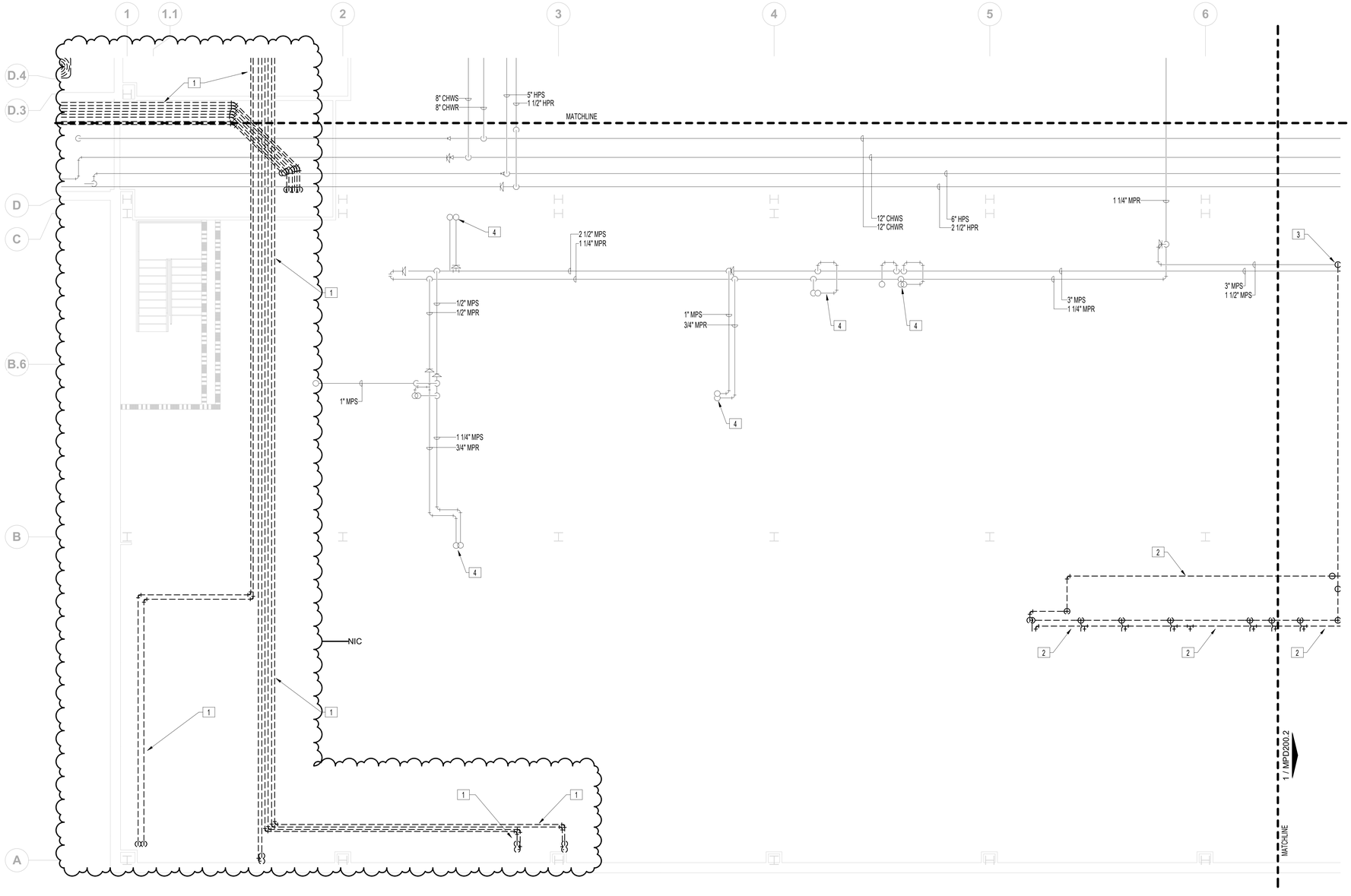
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MPD200

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 1

3/16" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

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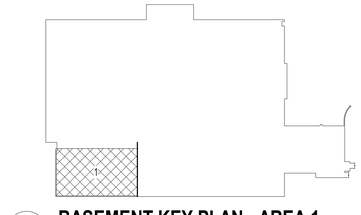
MECHANICAL DEMOLITION KEY NOTES

X

NIC

1. REMOVE ALL REFRIGERANT PIPING SERVING EVAPORATORS IN BASEMENT. (TYP.)
2. REMOVE ALL MPS PIPING SERVING KITCHEN EQUIPMENT ON BASEMENT LEVEL.
3. REMOVE 1 1/2" MPS PIPING FROM BASEMENT KITCHEN EQUIPMENT TO THIS POINT.
4. EXISTING MPS/R PIPING SERVING FIRST FLOOR TO REMAIN. (TYP.)



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

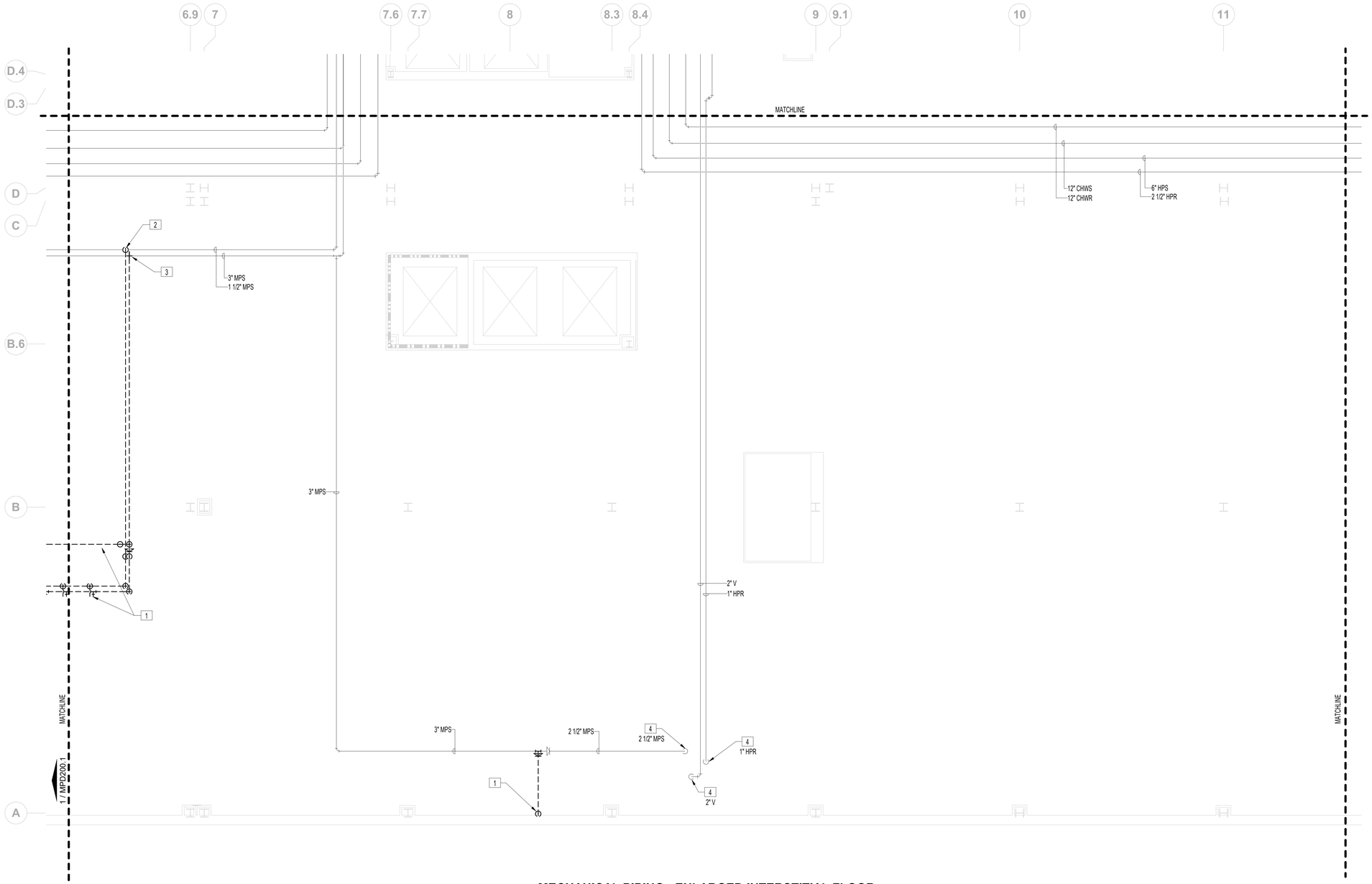
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MPD200.1

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 2

1

3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

H. EXISTING OPENINGS IN CONCRETE SLAB TO BE SEALED. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING SEALING.

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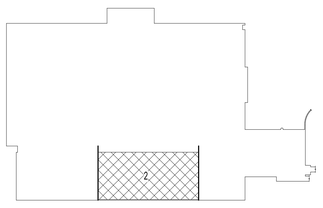
J. REVIEW THIS DRAWING IN CONJUNCTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOOD SERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION, AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. REMOVE ALL MPS PIPING SERVING KITCHEN EQUIPMENT ON BASEMENT LEVEL.
2. REMOVE 1 1/2" MPS PIPING FROM BASEMENT KITCHEN EQUIPMENT TO THIS POINT.
3. REMOVE 2" MPS PIPING FROM BASEMENT KITCHEN EQUIPMENT TO THIS POINT.
4. EXISTING PIPING OF INDICATED SIZE AND TYPE DOWN TO FLOOR BELOW. REFER TO MPD100.2 FOR CONTINUATION.



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21

Checked: RAH

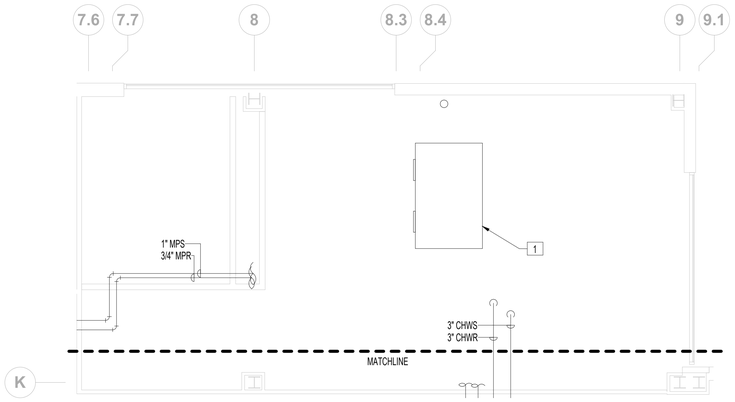
Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MPD200.2

VA FORM 08-6231



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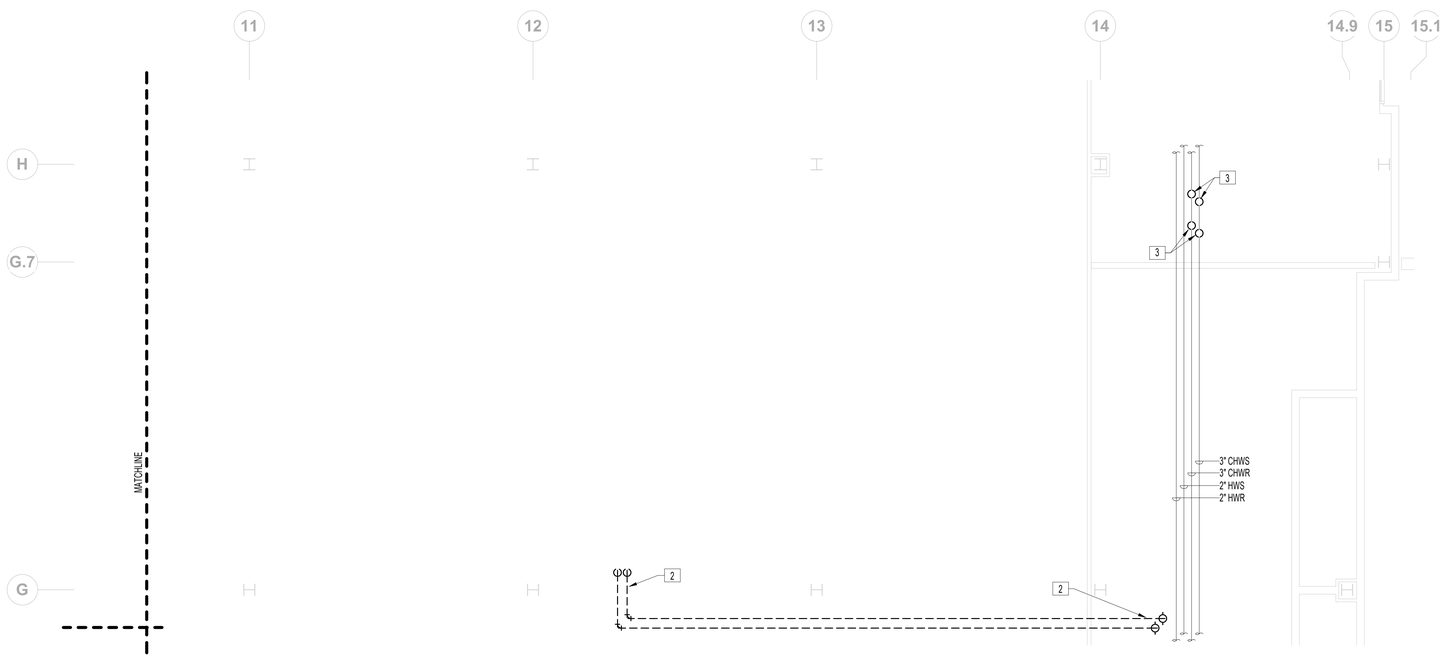
1 MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 7

3/16" = 1'-0"

0 4' 8' 12'



N

2 MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 8

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL DEMOLITION NOTES

A. CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING PIPING NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.

B. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION.

C. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

D. CONTRACTOR TO COORDINATE WITH VA/COR FOR ALL MECHANICAL SERVICE OUTAGES.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FINISHES OR COMPONENTS NOT SCHEDULED FOR DEMOLITION. DAMAGED ITEMS SHALL BE REPLACED OR REPAIRED TO MEET OR EXCEED FORMER CONDITIONS.

G. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC. ASSOCIATED WITH PIPING REMOVAL.

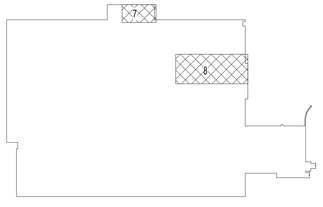
H. EXISTING OPENINGS IN CONCRETE SLAB TO BE SEALED. SEE ARCHITECTURAL FOR DETAILS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR EXACT NUMBER OF OPENINGS REQUIRING SEALING.

I. PRIOR TO START OF DEMOLITION, GC SHALL ENSURE THAT A CURRENT VA PROVIDED HAZARDOUS MATERIAL SURVEY HAS BEEN CONDUCTED IDENTIFYING ALL HAZARDOUS MATERIAL FOUND IN SOW AREAS. GC TO VERIFY QUANTITIES AND LOCATIONS OF ALL HAZARDOUS MATERIALS FOUND TO BE REMOVED PRIOR TO DEMOLITION. REMOVAL TO BE IN ACCORDANCE WITH ANY REGULATORY PLANS OR APPROVALS IN STATE OF WEST VIRGINIA. APPROXIMATE LINEAR LENGTH OF PIPING TO BE REMOVED: 2800FT.

J. REVIEW THIS DRAWING IN CONJUNCTION WITH SHEETS GI401 & GI403 AND CORRESPONDING ARCHITECTURAL, FIRE PROTECTION, PLUMBING, MECHANICAL, ELECTRICAL, AND FOOD SERVICE DEMOLITION AND NEW WORK DRAWINGS FOR A FULL SCOPE OF PROJECT CONSTRUCTION PHASING. THIS INFORMATION IS SUGGESTED, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL PHASED CONSTRUCTION PLANNING, SEQUENCING, MEANS, METHODS, PROCEDURES, COORDINATION, AND PERFORMANCE OF THE WORK.

X MECHANICAL DEMOLITION KEY NOTES

1. EXISTING AIR HANDLING UNIT TO REMAIN. PROTECT DURING CONSTRUCTION.
2. REMOVE 1 1/4" HWS/R PIPING BACK TO MAIN AS SHOWN. PREPARE PIPING FOR NEW CONNECTION.
3. CHILLED WATER PIPING DOWN TO PUMPS P-1 AND P-2 BELOW. DEMOLISH BRANCH PIPING BACK TO MAIN.



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR DEMOLITION PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MPD200.7

VA FORM 08-6231

N

1 **MECHANICAL VENTILATION - OVERALL BASEMENT CEILING PLAN**

1/16" = 1'-0"

0 8' 16' 32'

FIRE BARRIER LEGEND

	1 HOUR FIRE & SMOKE SEPARATION
	2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

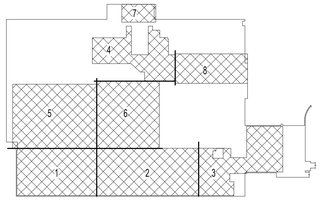
A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. COORDINATE EXACT LOCATION OF DAMPERS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.



BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL BASEMENT CEILING PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

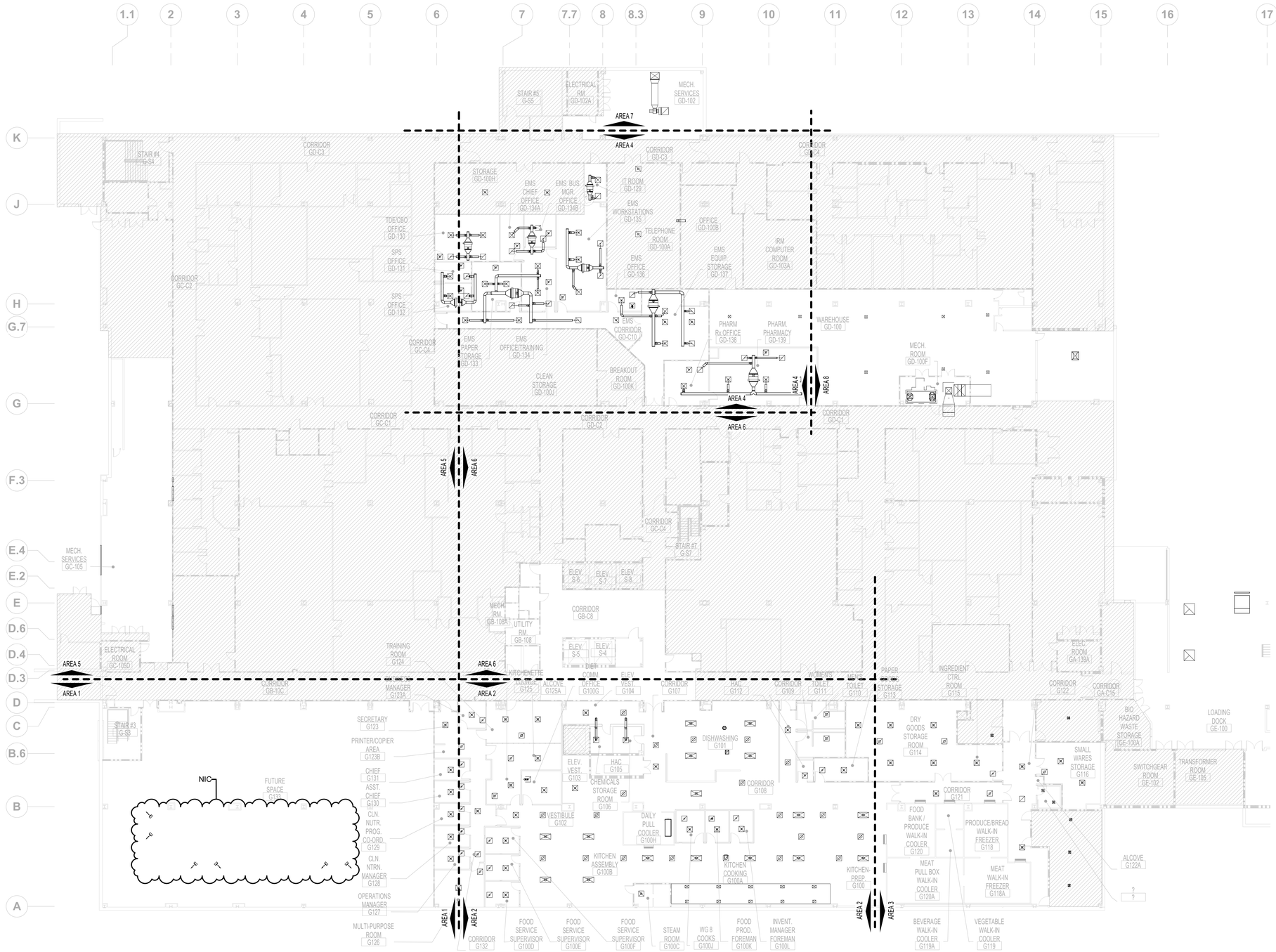
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MC100

VA FORM 08-6231



1 **MECHANICAL VENTILATION - OVERALL BASEMENT PLAN**

1/16" = 1'-0"

0 8' 16' 32'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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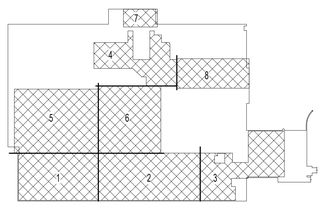
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.



BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL BASEMENT PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

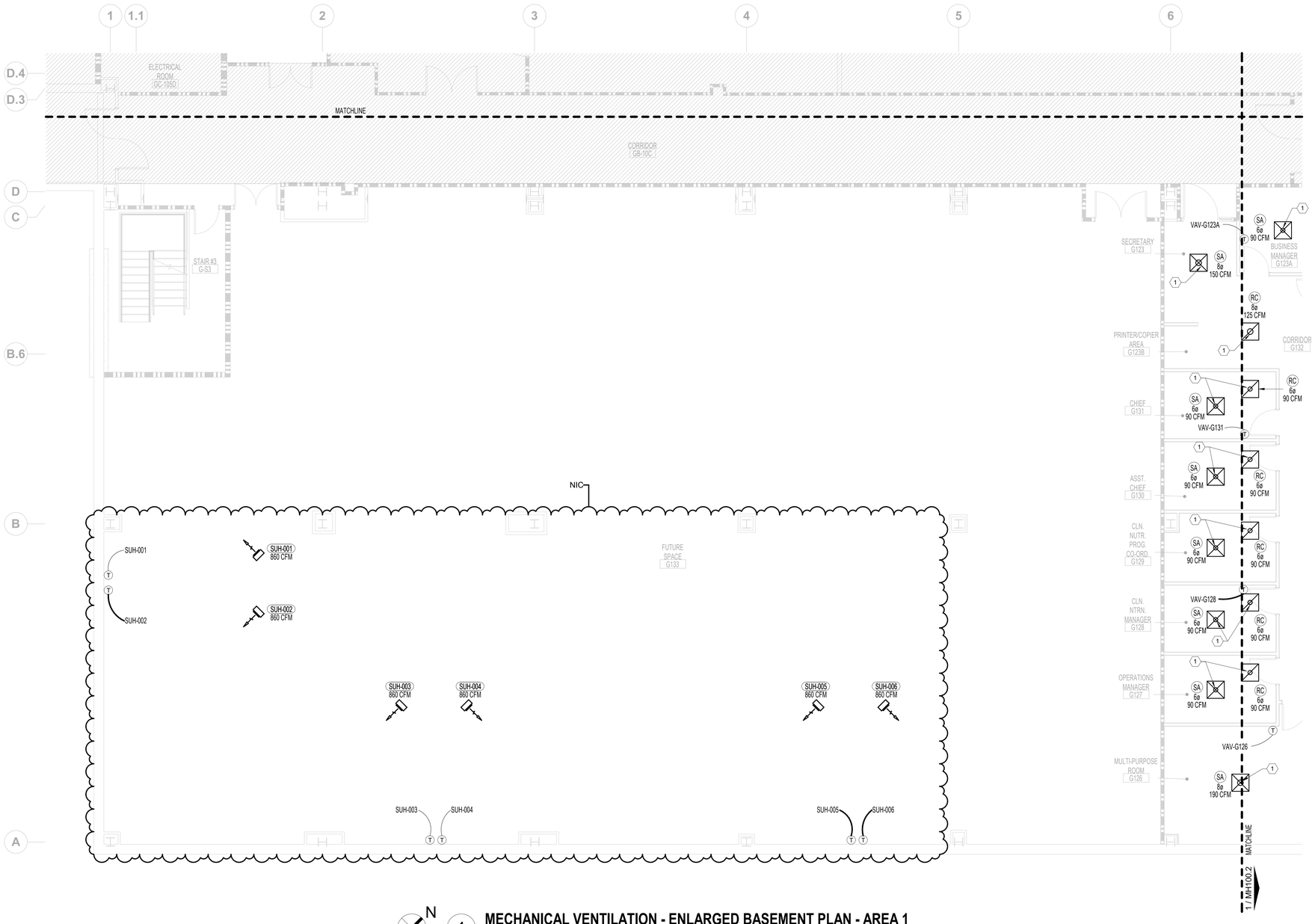
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH100

VA FORM 08-6231



1 MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 1

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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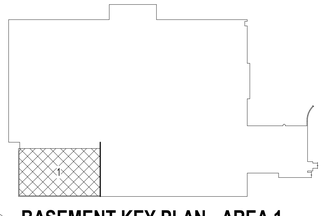
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

MECHANICAL KEY NOTES

1. DUCT WITH SIZE MATCHING INDICATED NECK SIZE UP TO INTERSTITIAL SPACE. REFER TO MH200.1 FOR CONTINUATION. (TYP.)



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MH100.1

VA FORM 08-6231

1 MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 2

3/16" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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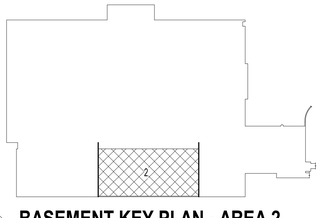
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. DUCT WITH SIZE MATCHING INDICATED NECK SIZE UP TO INTERSTITIAL SPACE. REFER TO MH200.2 FOR CONTINUATION. (TYP.)
2. 16"ø UP FROM DISHWASHER (SPECIFIED BY KITCHEN CONSULTANT) TO EXISTING EXHAUST RISER IN INTERSTITIAL.
3. 15"ø UP FROM CART WASHER (SPECIFIED BY KITCHEN CONSULTANT) TO EXISTING EXHAUST RISER IN INTERSTITIAL.
4. PROVIDE ALL NECESSARY TRANSITIONS TO CONNECT DUCTWORK TO EXHAUST HOOD. COORDINATE WITH KITCHEN CONTRACTOR FOR SIZE AND INSTALLATION PROCEDURES.
5. INSTALL KITCHEN EXHAUST HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO KITCHEN CONSULTANT DRAWINGS FOR MORE DETAILS.
6. PROVIDE TEMPERATURE SENSOR PER HALTON DESIGN/DRAWINGS FOR CONTROLLING KITCHEN HOOD EQUIPMENT. REFER TO KITCHEN CONSULTANT DRAWINGS FOR MORE INFORMATION.



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MH100.2

VA FORM 08-6231

N

1 **MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 3**

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. COORDINATE EXACT LOCATION OF DAMPERS IN FIELD.

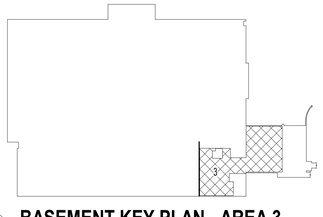
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. DUCT WITH SIZE MATCHING INDICATED NECK SIZE UP TO INTERSTITIAL SPACE. REFER TO MH200.3 FOR CONTINUATION. (TYP.)

2. EXISTING DIFFUSER TO REMAIN. NEW CONNECTION TO BE MADE IN INTERSTITIAL SPACE. REBALANCE TO MATCH AIR FLOW RATE INDICATED ON DRAWINGS.



BASEMENT KEY PLAN - AREA 3

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 3

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

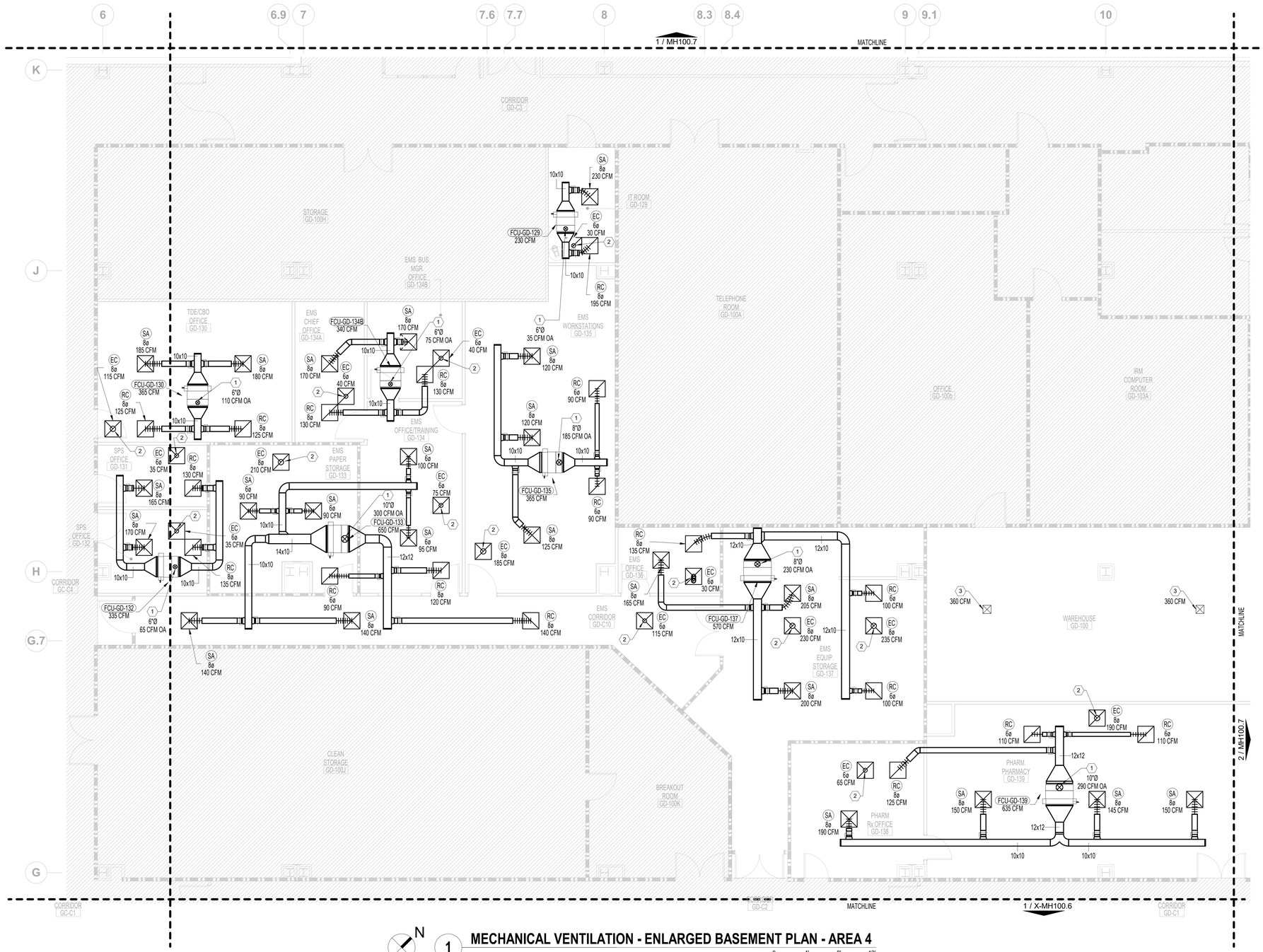
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH100.3

VA FORM 08-6231



N

1 MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 4

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

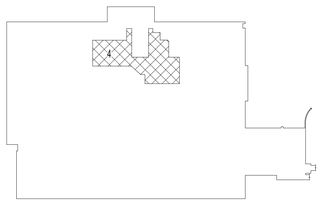
C. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. COORDINATE EXACT LOCATION OF DAMPERS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. OA DUCT WITH INDICATED SIZE AND AIR FLOW UP TO INTERSTITIAL SPACE. REFER TO MH200.4 FOR CONTINUATION.
2. DUCT WITH SIZE MATCHING INDICATED NECK SIZE UP TO INTERSTITIAL SPACE. REFER TO MH200.4 FOR CONTINUATION. (TYP.)
3. EXISTING DIFFUSER TO REMAIN. NEW CONNECTION TO BE MADE IN INTERSTITIAL SPACE. REBALANCE TO MATCH AIR FLOW RATE INDICATED ON DRAWINGS.



BASEMENT KEY PLAN - AREA 4

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 4

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

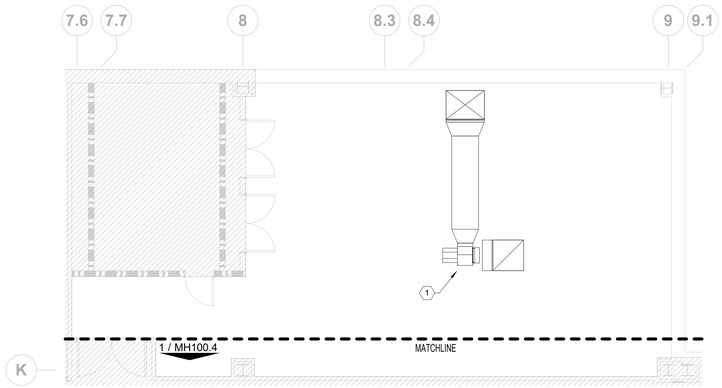
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MH100.4

VA FORM 08-6231



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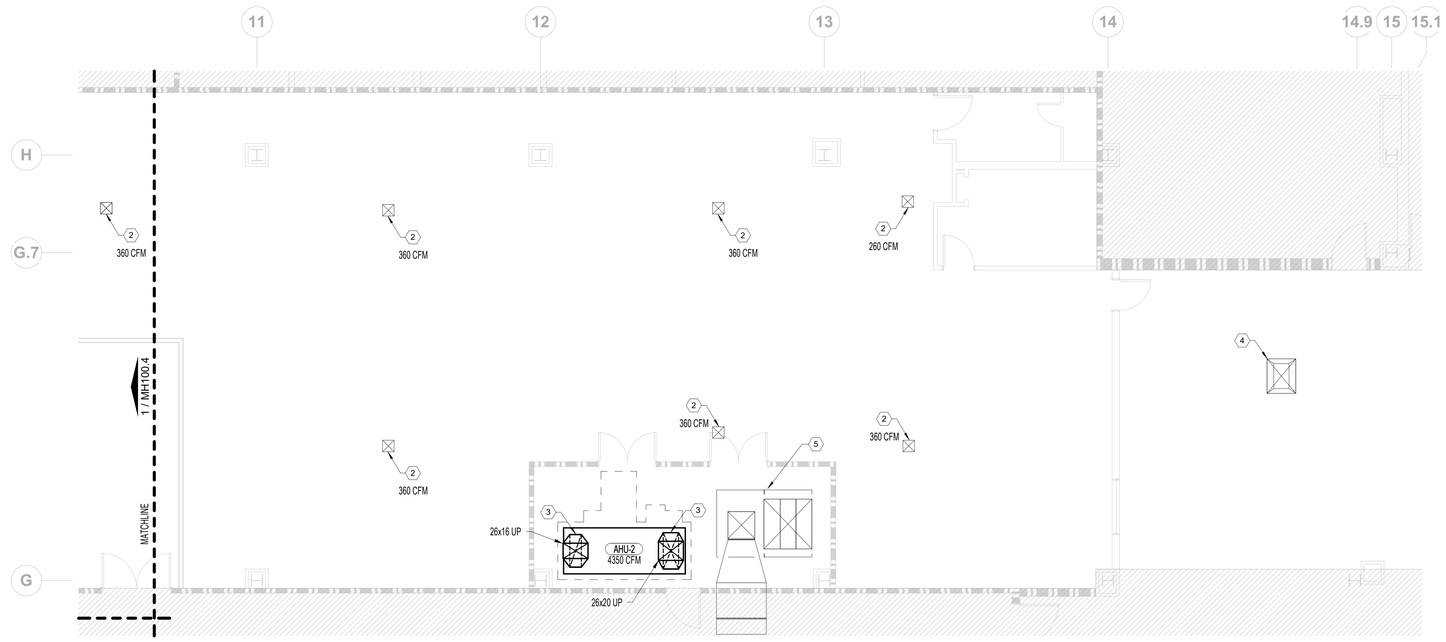
1 MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 7

3/16" = 1'-0"

0 4' 8' 12'



N

2 MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 8

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

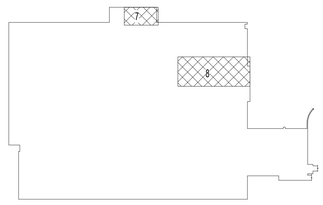
C. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. COORDINATE EXACT LOCATION OF DAMPERS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. MODIFY/ADJUST PULLEYS AND SHIV TO ACCOMMODATE AIR FLOWS SHOWN.
2. EXISTING DIFFUSER TO REMAIN. NEW CONNECTION TO BE MADE IN INTERSTITIAL. REBALANCE TO MATCH CFM INDICATED ON DRAWINGS.
3. SUPPLY AND OUTSIDE AIR CONNECTION DUCTWORK UP FROM AHU-2 TO INTERSTITIAL.
4. EXISTING 36x30 OUTSIDE AIR INTAKE LOUVER WITH 26x16 DUCT UP TO INTERSTITIAL SPACE. SEE MH200.7 FOR CONTINUATION.
5. EXISTING AIR HANDLING UNIT HV-3 TO REMAIN. PROTECT DURING CONSTRUCTION.



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21

Checked: RAH

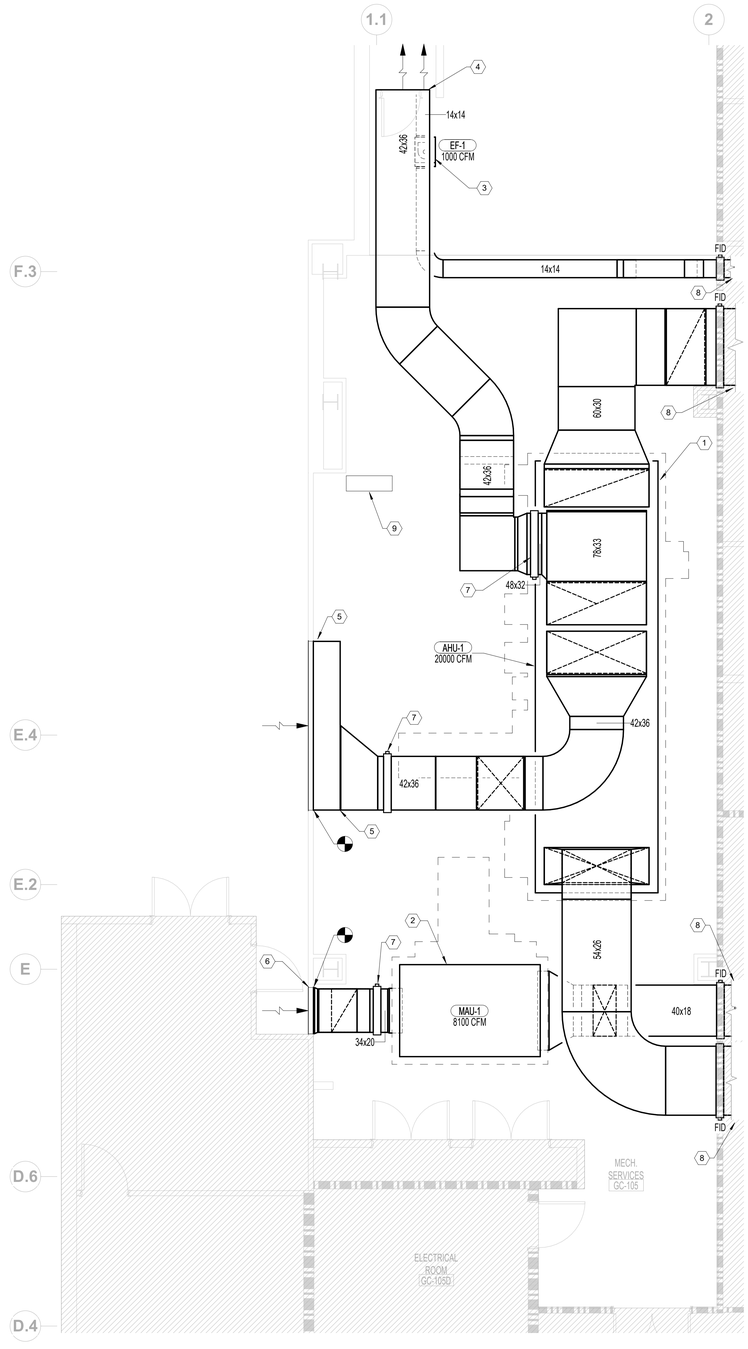
Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MH100.7

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - GC105 MECHANICAL ROOM - SOUTH

1

1/4" = 1'-0"

N

0 2' 4' 8'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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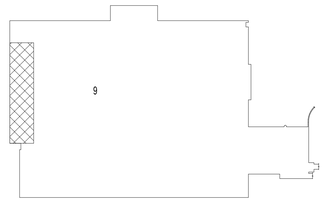
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. FURNISH AND INSTALL AIR HANDLING UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 4" HIGH CONCRETE PAD.
2. FURNISH AND INSTALL MAKE-UP AIR UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 4" CONCRETE PAD.
3. FURNISH AND INSTALL INLINE EXHAUST FAN PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NEEDED SUPPORTS.
4. FURNISH AND INSTALL (2) OPEN END DUCTS WITH 1/2" x 1/2" WIDE MESH SCREEN CLOSURE AND REMOVABLE FRAME. WALL DEMOLITION WORK TO ENLARGE EXISTING OPENING IN EXHAUST AREA WELL TO BE INCLUDED IN HAZARDOUS MATERIAL SURVEY.
5. PROVIDE NEW PLENUM CONNECTION TO EXISTING 132x60 LOUVER. CONNECT NEW OUTSIDE AIR DUCT TO PLENUM WITH 66x60 TRANSITION TO 42x36 DUCT.
6. CONNECT NEW OUTSIDE AIR DUCT TO EXISTING 36x60 LOUVER.
7. NEW MOTORIZED CONTROL DAMPER.
8. DUCTWORK TO INTERSTITIAL SPACE. REFER TO MH200.5 FOR CONTINUATION.
9. EXISTING UNIT HEATER UH-15 TO REMAIN.



BASEMENT KEY PLAN - GC105 MECHANICAL ROOM

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - GC105 MECHANICAL ROOM

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

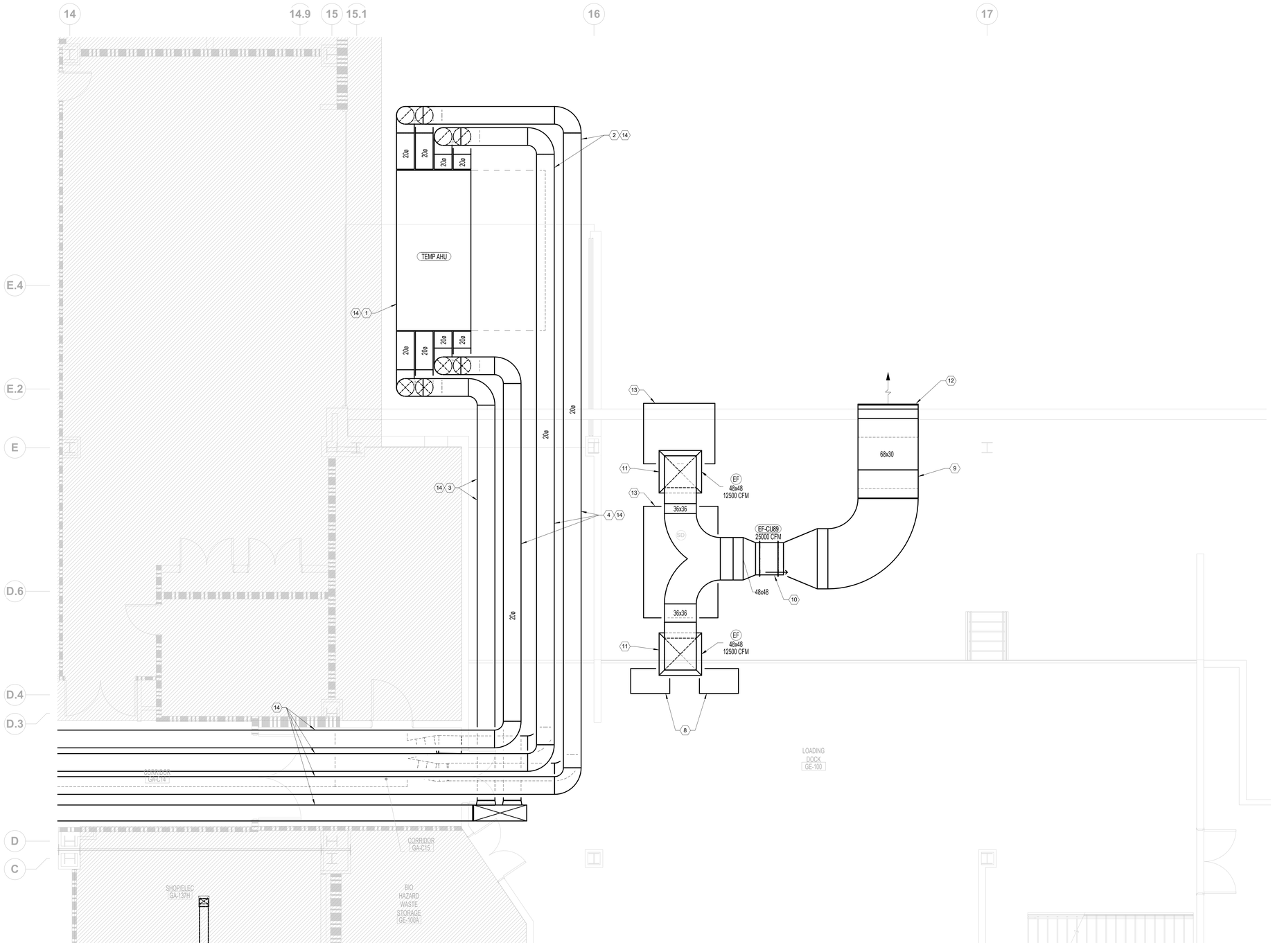
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH100.8

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - LOADING DOCK

1

1/4" = 1'-0"

0 2' 4' 8'

N

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

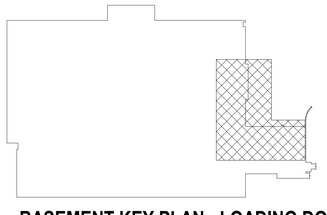
C. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. COORDINATE EXACT LOCATION OF DAMPERS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. TEMPORARY AHU TO BE LOCATED ON EXISTING RAMP NEAR BUILDING 500 EXTERIOR WALL. CONCRETE DEMOLITION MAY BE REQUIRED TO FLATTEN AREA BEFORE AHU CAN BE INSTALLED.
2. TWO 20"Ø DUCTS STACKED VERTICALLY. PROVIDE STEEL SUPPORT SYSTEM.
3. DUCT PENETRATION THROUGH LOADING DOCK CEILING.
4. TWO VERTICALLY STACKED DUCTS TO BE ROUTED BELOW LOADING DOCK CEILING. RUN DUCTWORK AS TIGHT TO CEILING AS POSSIBLE. ORIENTATION OF DUCTS SHALL BE ADJUSTED BASED ON FIELD CONDITIONS.
5. TWO VERTICALLLY STACKED DUCTS TO BE ROUTED INTO INTERSTITIAL SPACE AT THIS POINT.
6. DUCTWORK TO BE ROUTED THROUGH INTERSTITIAL SPACE TO SPECIFIED TEMPORARY TIE LOCATION ON MH200.2. EXACT ROUTE TO BE DETERMINED BASED ON FIELD CONDITIONS.
7. ROUTE DUCTWORK BELOW CEILING AT BASEMENT LEVEL TO SUITABLE LOCATION FOR PENETRATION INTO INTERSTITIAL SPACE.
8. CU-50 AND CU-51 SERVE FOOD SERVICE EQUIPMENT #50 AND #51 (ROLL-IN BLAST FREEZERS), RESPECTIVELY, LOCATED IN G100 KITCHEN PREP. REFER TO KITCHEN CONSULTANT DRAWINGS FOR ADDITIONAL INFORMATION.
9. DROP EXHAUST DUCTWORK DOWN BELOW CEILING AND ROUTE EXPOSED. PROVIDE ALL HANGERS AND SUPPORTS AS NECESSARY TO FACILITATE DESIGN.
10. EXHAUST FAN AND ASSOCIATED DUCTWORK INSTALLED ABOVE LOADING DOCK CEILING. PROVIDE ALL SUPPORTS NECESSARY TO FACILITATE DESIGN.
11. EXHAUST GRILLE OF INDICATED SIZE INSTALLED IN LOADING DOCK CEILING.
12. PROVIDE BIRDSCREEN ON OPEN ENDED EXPOSED EXHAUST DUCTWORK.
13. CU-89 AND CU-94 SERVE WALK-IN COOLERS/FREEZERS LOCATED IN KITCHEN. REFER TO KITCHEN CONSULTANT DRAWINGS FOR MORE INFORMATION.
14. TEMPORARY EQUIPMENT TO BE REMOVED BEFORE COMPLETION OF PROJECT. REFER TO M301, M302, AND PHASING PLAN FOR DETAILS.



BASEMENT KEY PLAN - LOADING DOCK

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED BASEMENT PLAN - LOADING DOCK

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

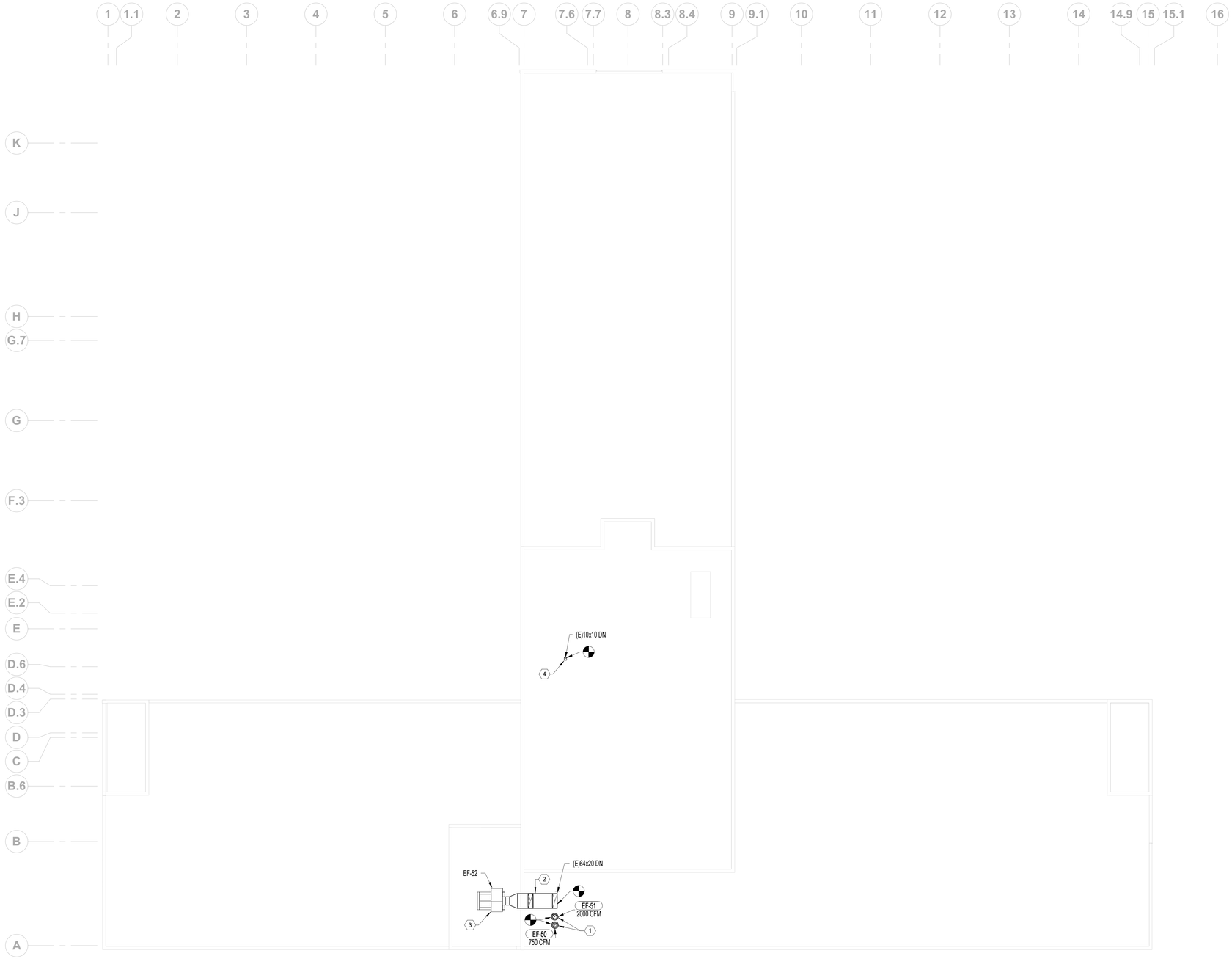
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MH100.9

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



N

1 MECHANICAL VENTILATION - OVERALL ROOF PLAN

1/16" = 1'-0"

0 8' 16' 32'

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. COORDINATE EXACT LOCATION OF DAMPERS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. FURNISH AND INSTALL NEW FAN COMPLETE WITH ALL ACCESSORIES INCLUDING RAILS, DUCTWORK, VFD, CONTROLS, ETC.
2. FURNISH AND INSTALL NEW STAINLESS STEEL DUCTWORK TO CONNECT FAN TO EXISTING VERTICAL DUCTWORK RISER. DUCTWORK SHALL BE SUITABLE FOR TYPE 1 GREASE SYSTEMS AND FOLLOW NFPA 96 REQUIREMENTS.
3. EXISTING FAN EF-52 TO REMAIN AND BE OUTFITTED WITH NEW VFD. CONTRACTOR TO INSPECT FAN AND ENSURE IT IS IN GOOD WORKING CONDITION PRIOR TO NEW WORK.
4. CAP EXISTING VERTICAL DUCTWORK.

VA CONTRACT NO: 36C24519C0171

Revisions:	Date:
100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL ROOF PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

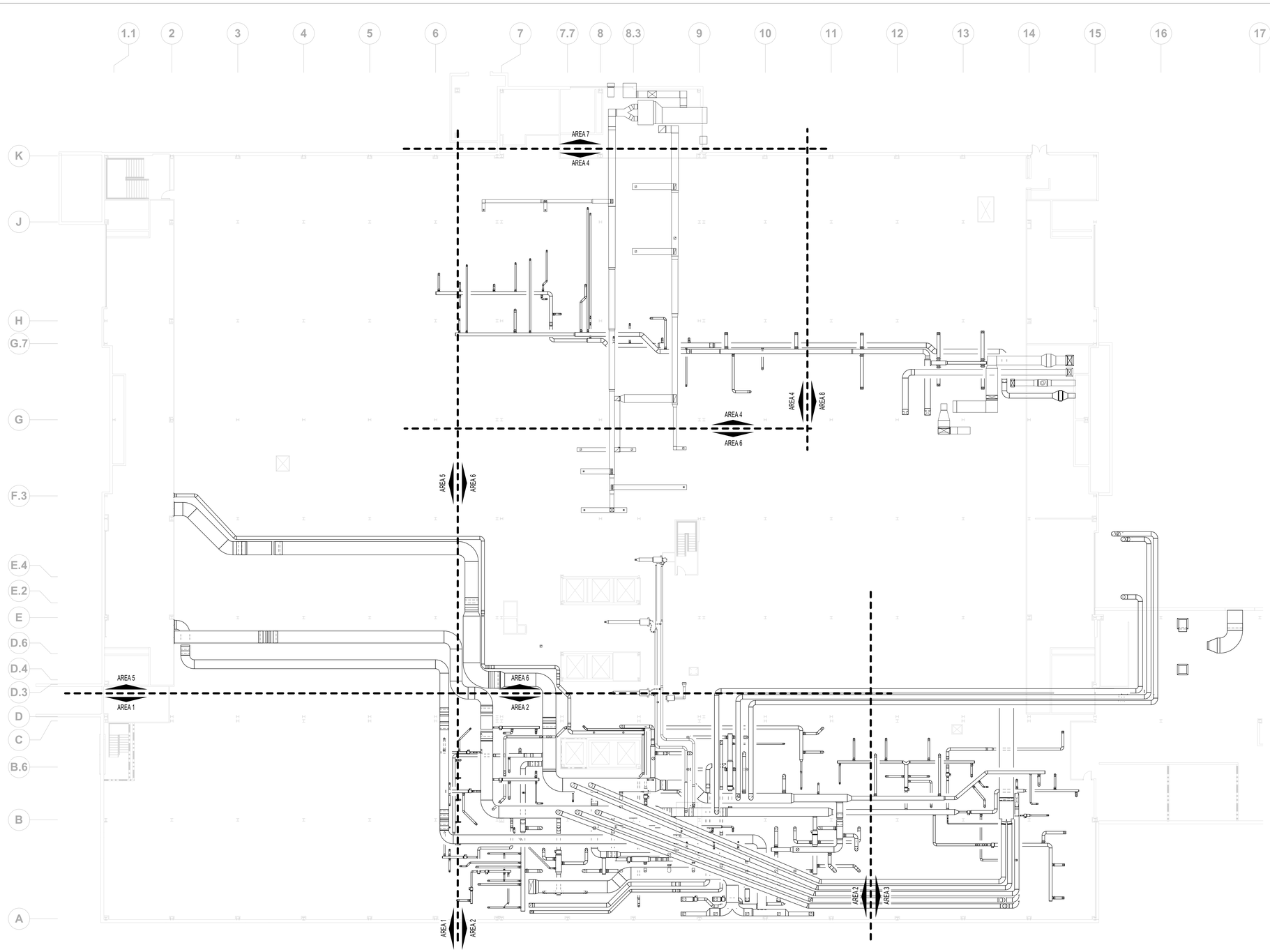
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH101

VA FORM 08-6231



N

1 **MECHANICAL VENTILATION - OVERALL INTERSTITIAL FLOOR PLAN**

1/16" = 1'-0"

0 8' 16' 32'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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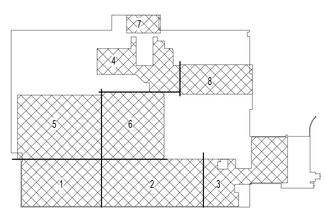

BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - OVERALL INTERSTITIAL FLOOR PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

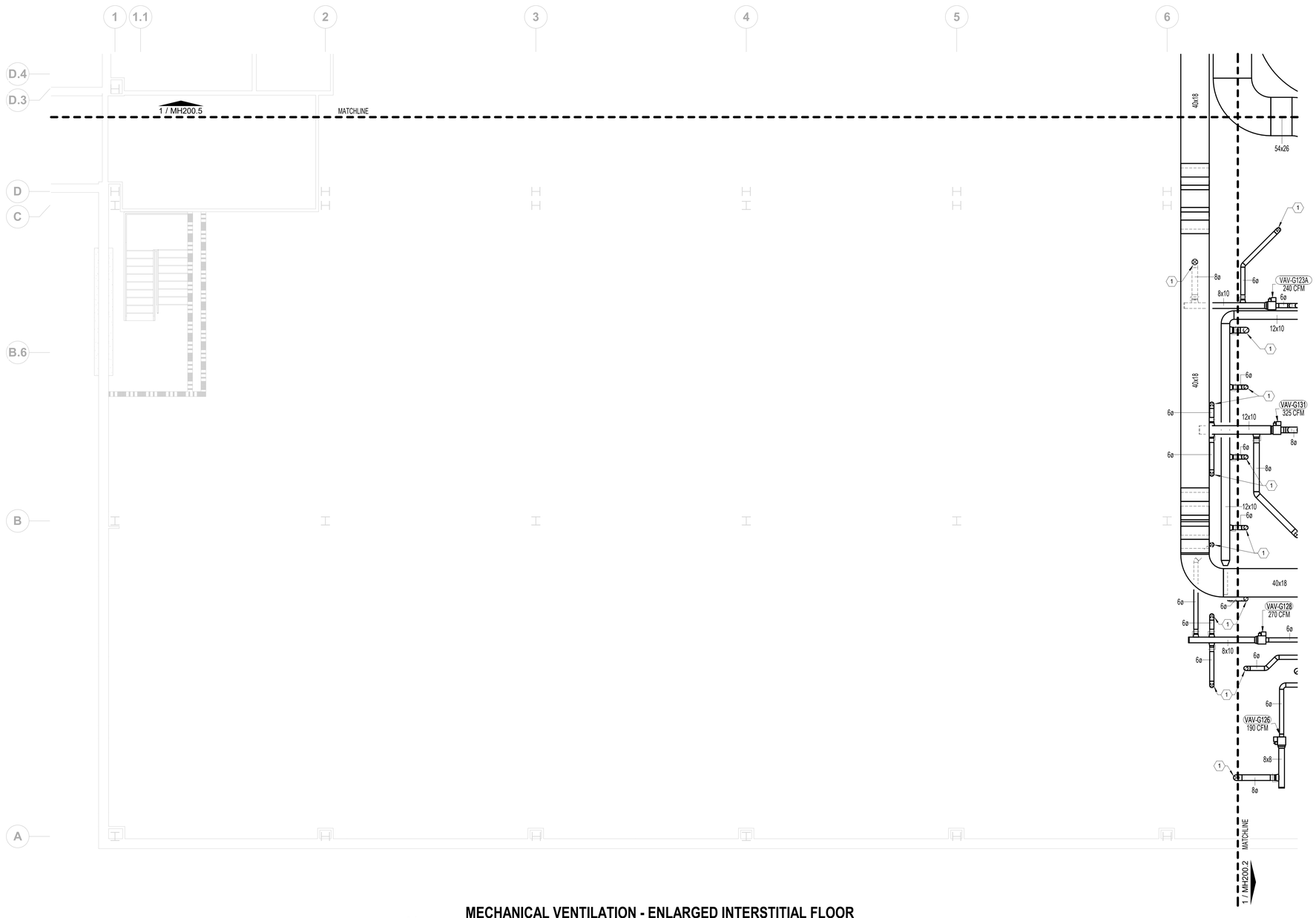
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH200

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 1

3/16" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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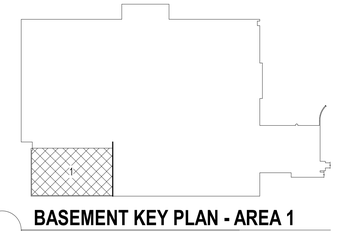
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

MECHANICAL KEY NOTES

1. DUCT OF INDICATED SIZE DOWN TO BASEMENT LEVEL. REFER TO MH100.1 FOR CONTINUATION. (TYP.)



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

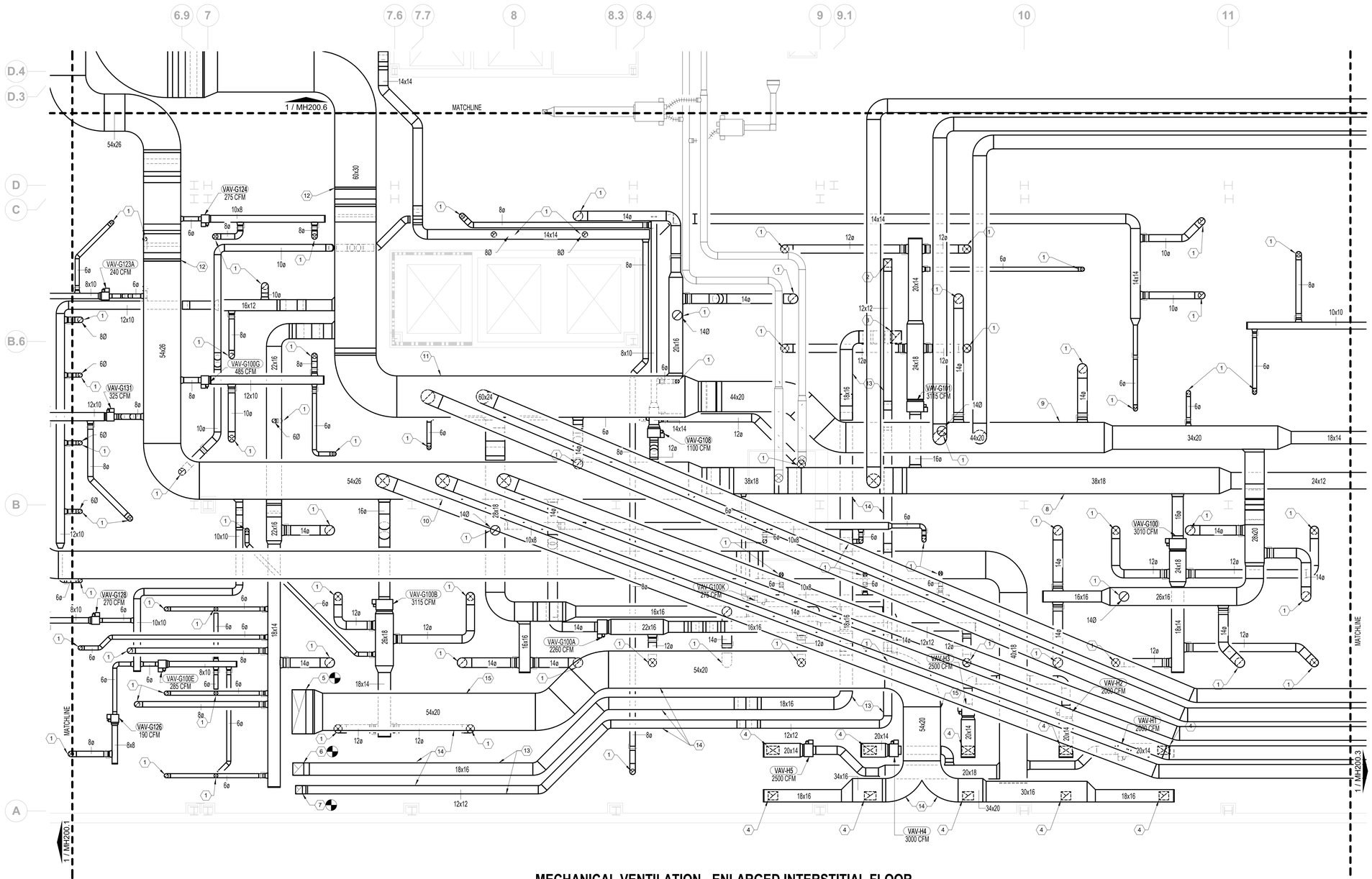
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH200.1

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 2

1

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

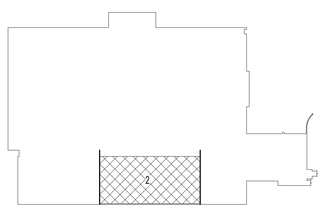
C. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. COORDINATE EXACT LOCATION OF DAMPERS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

MECHANICAL KEY NOTES

1. DUCT OF INDICATED SIZE DOWN TO BASEMENT LEVEL. REFER TO MH100.2 FOR CONTINUATION. (TYP.)
2. 16"ø DOWN TO DISHWASHER.
3. 15"ø DOWN TO CART WASHER.
4. DUCTWORK DOWN TO KITCHEN EXHAUST HOOD. PROVIDE ALL NECESSARY TRANSITION TO MAKE FINAL CONNECTIONS. COORDINATE WITH KITCHEN CONTRACTOR FOR SIZE AND INSTALLATION PROCEDURES.
5. CONNECT TO EXISTING 64x20 EXHAUST RISER UP TO EF-52 ON ROOF.
6. CONNECT TO EXISTING 18x16 EXHAUST RISER UP TO EF-51 ON ROOF.
7. CONNECT TO EXISTING 12x10 EXHAUST RISER UP TO EF-50 ON ROOF.
8. TIE IN LOCATION FOR TEMPORARY DUCTWORK FROM TEMPORARY AIR HANDLING UNIT LOCATED NEAR LOADING DOCK. CONNECT ONE 20"Ø TEMPORARY SUPPLY DUCT.
9. TIE IN LOCATION FOR TEMPORARY DUCTWORK FROM TEMPORARY AIR HANDLING UNIT LOCATED NEAR LOADING DOCK. CONNECT TWO 20"Ø TEMPORARY RETURN DUCTS.
10. TIE IN LOCATION FOR TEMPORARY DUCTWORK FROM TEMPORARY AIR HANDLING UNIT LOCATED NEAR LOADING DOCK. CONNECT THREE 20"Ø TEMPORARY SUPPLY DUCTS.
11. TIE IN LOCATION FOR TEMPORARY DUCTWORK FROM TEMPORARY AIR HANDLING UNIT LOCATED NEAR LOADING DOCK. CONNECT TWO 20"Ø TEMPORARY RETURN DUCTS.
12. END OF PHASE 3 DUCTWORK CONSTRUCTION. INSTALL SHEET METAL DUCTWORK CAP AND PREPARE FOR FUTURE CONNECTION.
13. EXHAUST DUCTWORK SERVING DISHWASHING AND CART WASHING UNIT TO BE COORDINATED BETWEEN PHASES OF CONSTRUCTION. EXHAUST DUCTWORK WILL BE INSTALLED BEFORE DEMOLITION OF MOST EXISTING DUCTWORK IN THE AREA.
14. PROVIDE INSULATION ON EXHAUST DUCTWORK CARYING HOT EXHAUST AIR.
15. TYPE 1 GREASE EXHAUST SHALL BE SLOPED AND CLEANOUTS SHALL BE INSTALLED ACCORDING TO LATEST VERSION OF INTERNATIONAL MECHANICAL CODE.



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

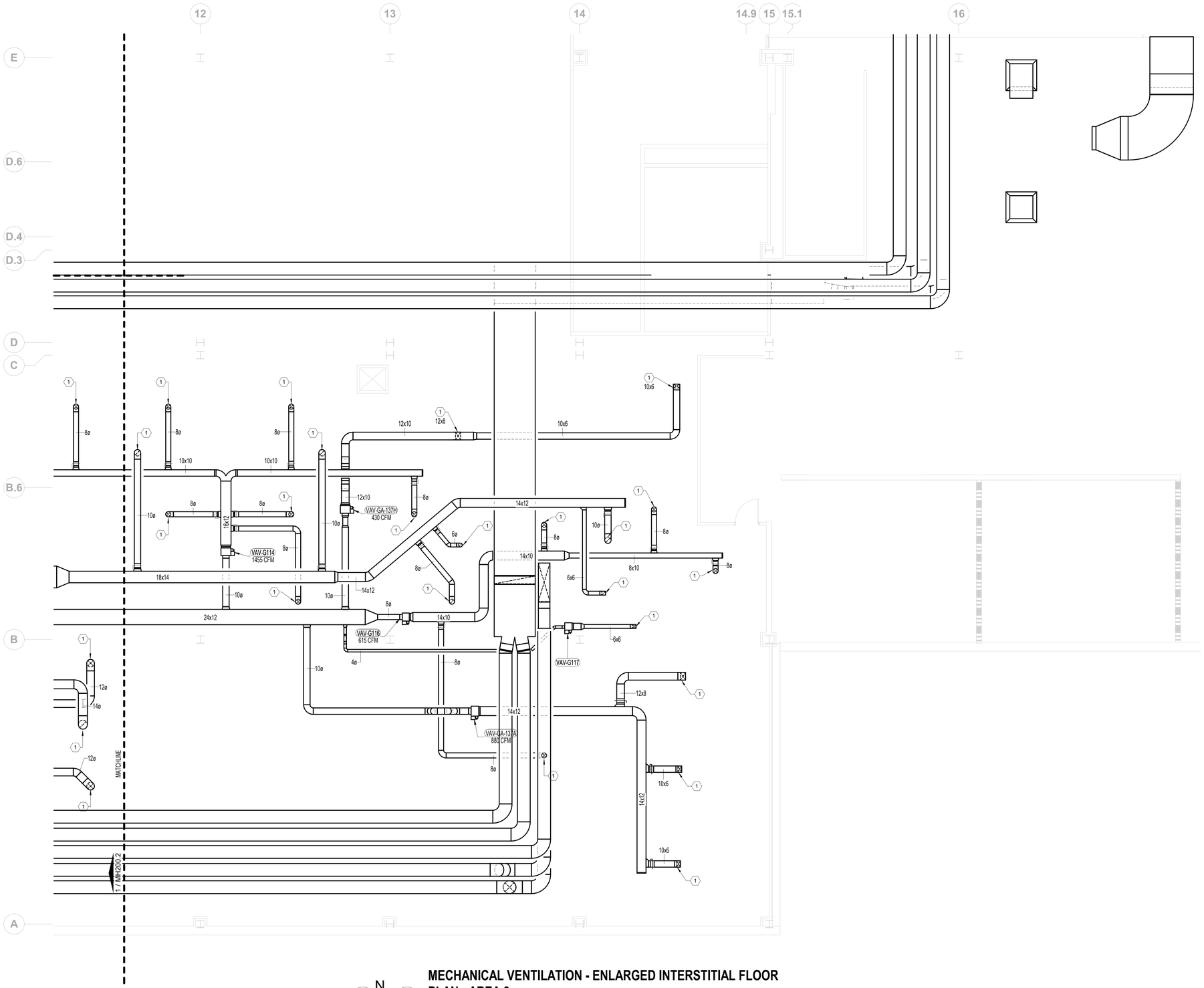
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH200.2

VA FORM 08-6231



FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

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D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

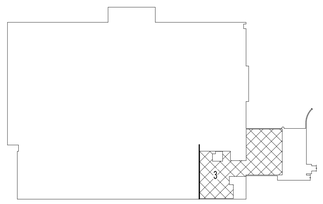
1. DUCT OF INDICATED SIZE DOWN TO BASEMENT LEVEL. REFER TO MH100.3 FOR CONTINUATION. (TYP.)
2. TWO 20"Ø VERTICALLY STACKED DUCTS ROUTED INTO INTERSTITIAL SPACE FROM SPACE ABOVE LOADING DOCK CEILING AT THIS LOCATION.
3. DUCTWORK TO BE ROUTED THROUGH INTERSTITIAL SPACE TO SPECIFIED TEMPORARY TIE IN LOCATION ON MH200.2. EXACT ROUTE TO BE DETERMINED BASED ON FIELD CONDITIONS.

N

1 MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 3

3/16" = 1'-0"

0 4' 8' 12'



BASEMENT KEY PLAN - AREA 3

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 3

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

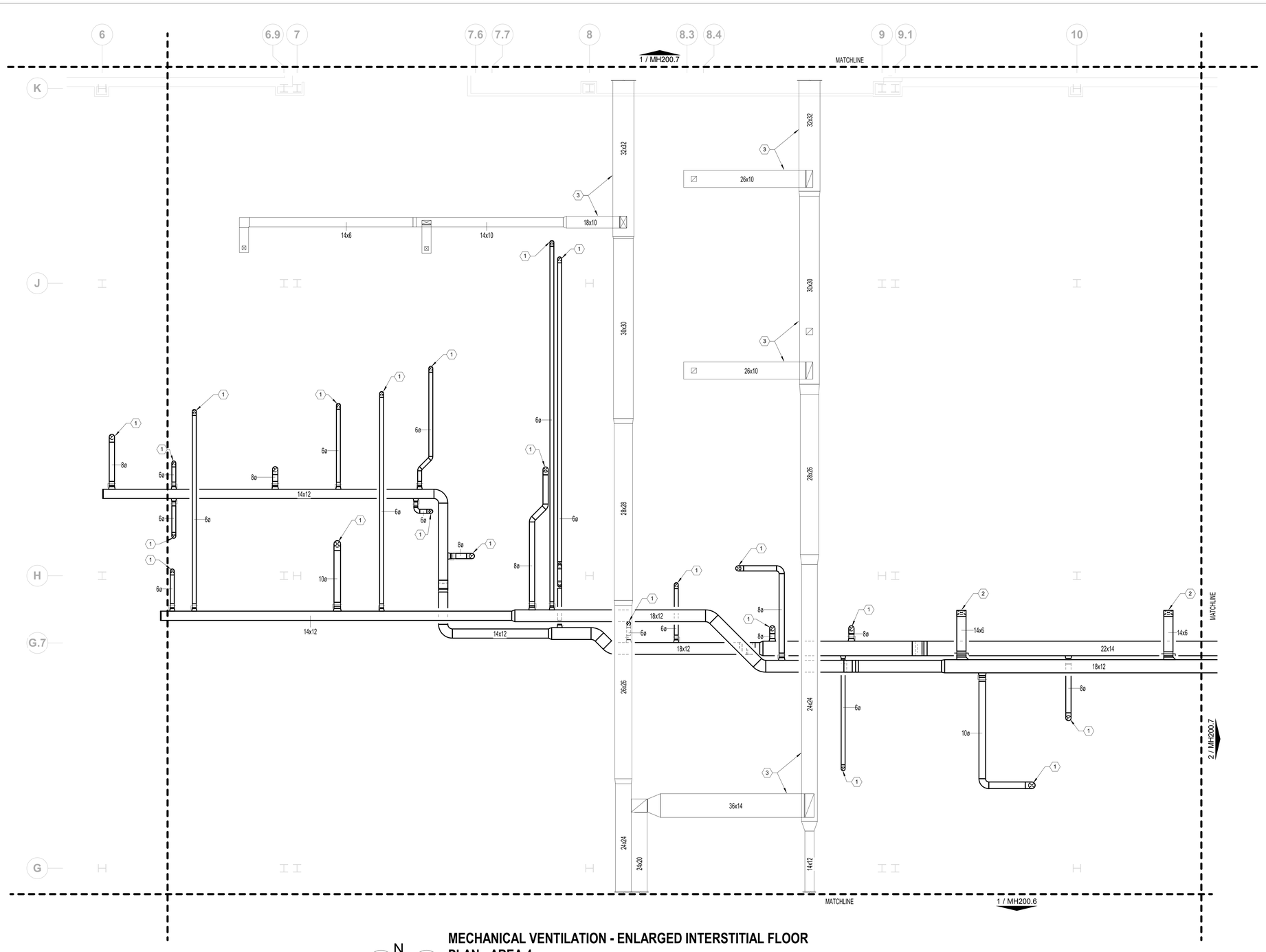
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MH200.3

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 4

1

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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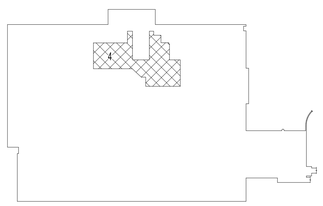
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

MECHANICAL KEY NOTES

1. DUCT OF INDICATED SIZE DOWN TO BASEMENT LEVEL. REFER TO MH100.4 FOR CONTINUATION.
2. DUCTWORK DOWN TO EXISTING CEILING DIFFUSER. MAKE ANY FITTINGS/TRANSITIONS NECESSARY FOR CONNECTION.
3. EXISTING DUCTWORK, PROTECT DURING CONSTRUCTION.



BASEMENT KEY PLAN - AREA 4

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 4

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21

Checked: RAH

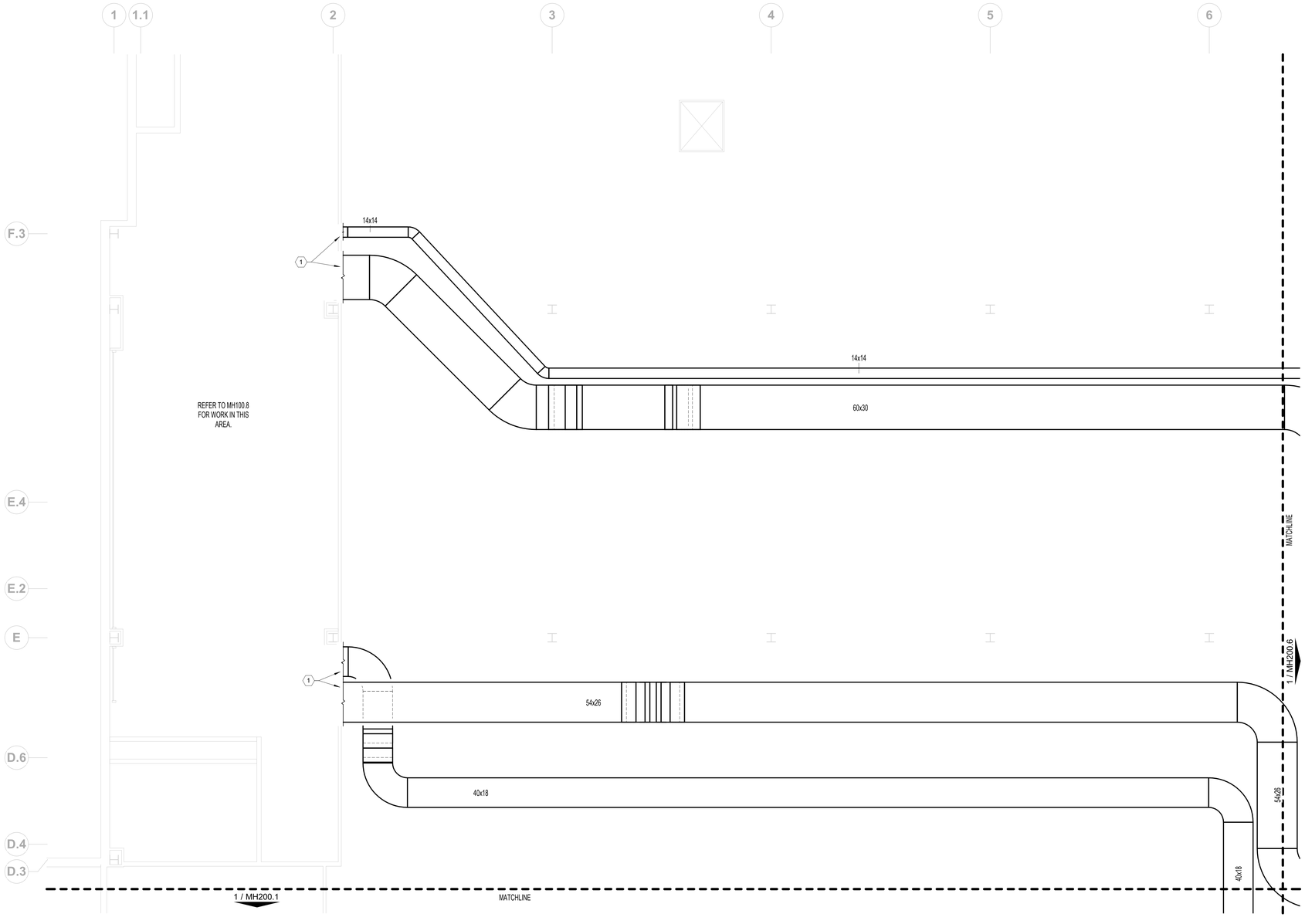
Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MH200.4

VA FORM 08-6231



FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

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D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

MECHANICAL KEY NOTES

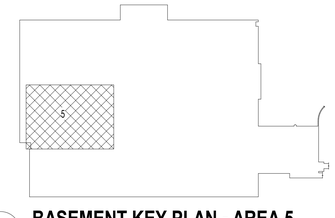
1. DUCTWORK TO BASEMENT LEVEL MECHANICAL ROOM GC-105. REFER TO MH100.8 FOR CONTINUATION.

N

1 MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 5

3/16" = 1'-0"

0 4' 8' 12'



BASEMENT KEY PLAN - AREA 5

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 5

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

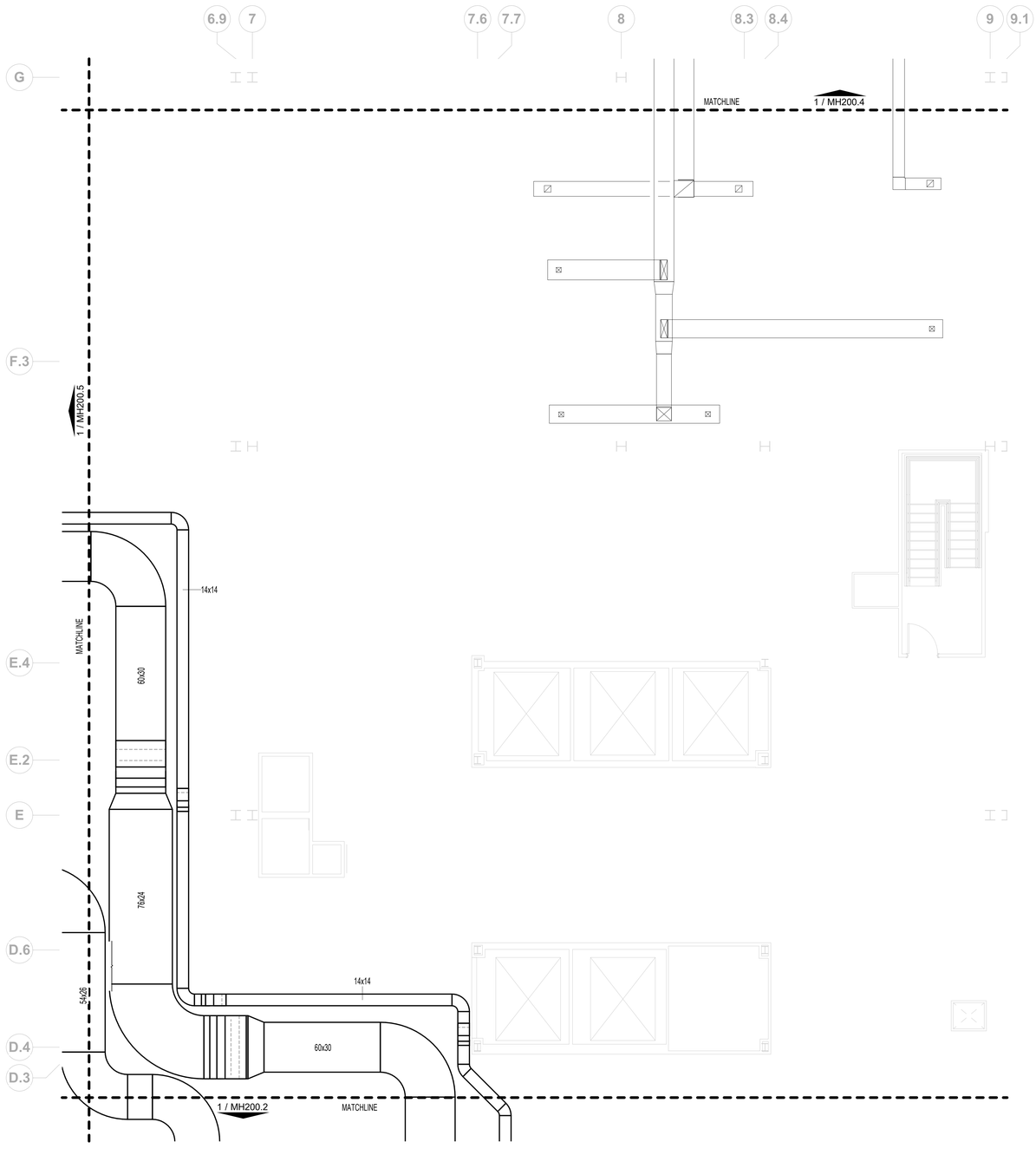
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MH200.5

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 6

1

3/16" = 1'-0"

0 4' 8' 12'

N

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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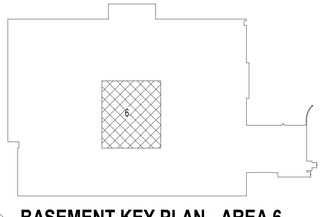
D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

(X) MECHANICAL KEY NOTES

1. DUCT OF INDICATED SIZE DOWN TO BASEMENT LEVEL. REFER TO MH100 AND MH100.X SHEETS FOR CONTINUATION. (TYP.)



BASEMENT KEY PLAN - AREA 6

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 6

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

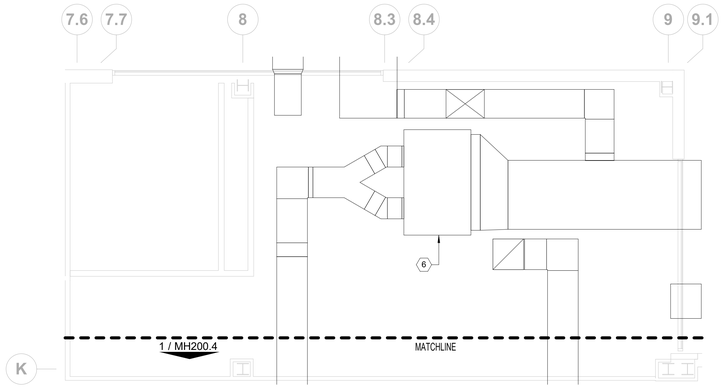
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MH200.6

VA FORM 08-6231



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 7

1 — 3/16" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

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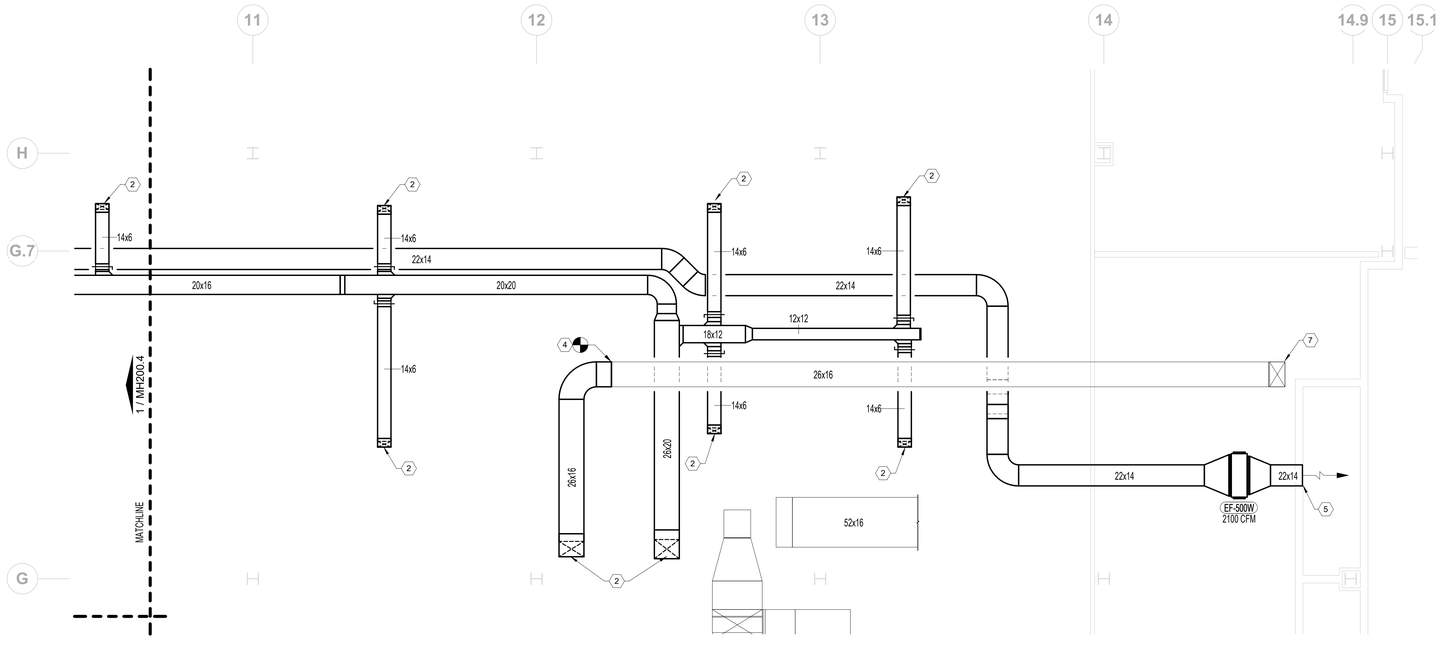
E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.

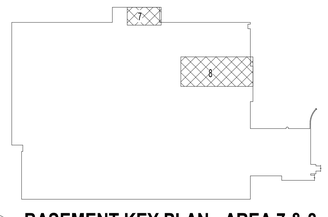
(X) MECHANICAL KEY NOTES

1. DUCT OF INDICATED SIZE DOWN TO BASEMENT LEVEL. REFER TO MH100.7 FOR CONTINUATION. (TYP.)
2. DUCTWORK DOWN TO EXISTING CEILING DIFFUSER. MAKE ANY FITTINGS/TRANSITIONS NECESSARY FOR CONNECTION.
3. SUPPLY AND OUTSIDE AIR DUCTWORK DOWN TO AHU-2.
4. MAKE CONNECTION TO EXISTING OUTSIDE AIR INTAKE DUCTWORK IN INTERSTITIAL SPACE.
5. FURNISH AND INSTALL OPEN END DUCT WITH 1/2" x 1/2" WIDE MESH SCREEN CLOSURE AND REMOVABLE FRAME.
6. EXISTING AIR HANDLING UNIT HV-1 SUSPENDED IN CEILING. REBALANCE UNIT TO NEW REQUIRED AIRFLOWS. ADJUST SHIVS/PULLEYS AS REQUIRED TO MEET DESIGN CRITERIA.
7. EXISTING 26x16 OUTSIDE AIR DUCT DOWN TO 36x30 OUTSIDE AIR INTAKE LOUVER. SEE MH100.7 FOR CONTINUATION.



MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 8

2 — 3/16" = 1'-0"



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL VENTILATION - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MH200.7

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231

FIRE BARRIER LEGEND

	1 HOUR FIRE & SMOKE SEPARATION
	2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

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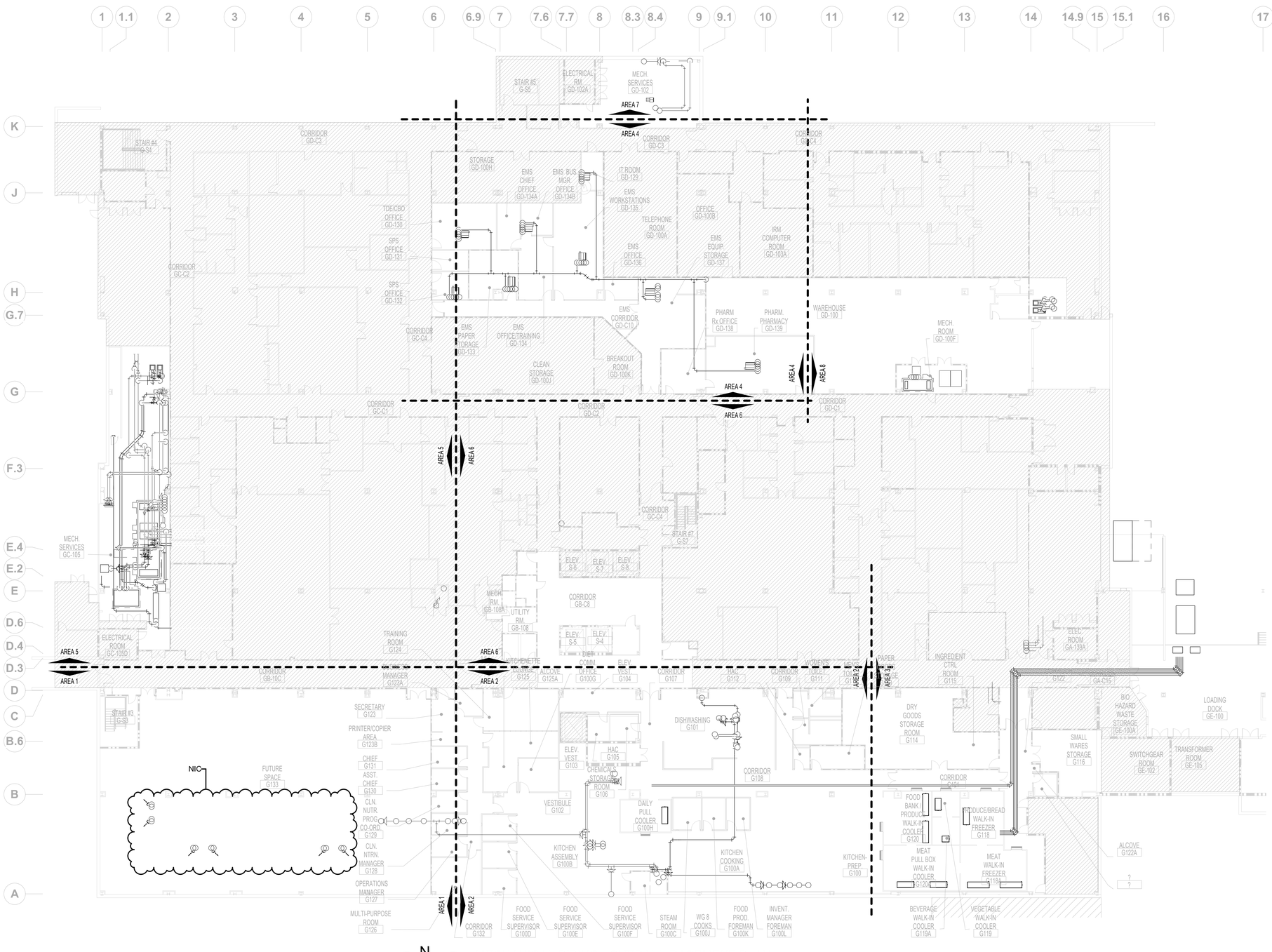
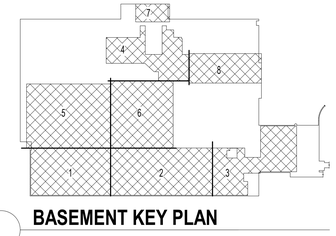
E. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING DUCT.



1 **MECHANICAL PIPING - OVERALL BASEMENT PLAN**

1/16" = 1'-0"

0 8' 16' 32'



BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - OVERALL BASEMENT PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

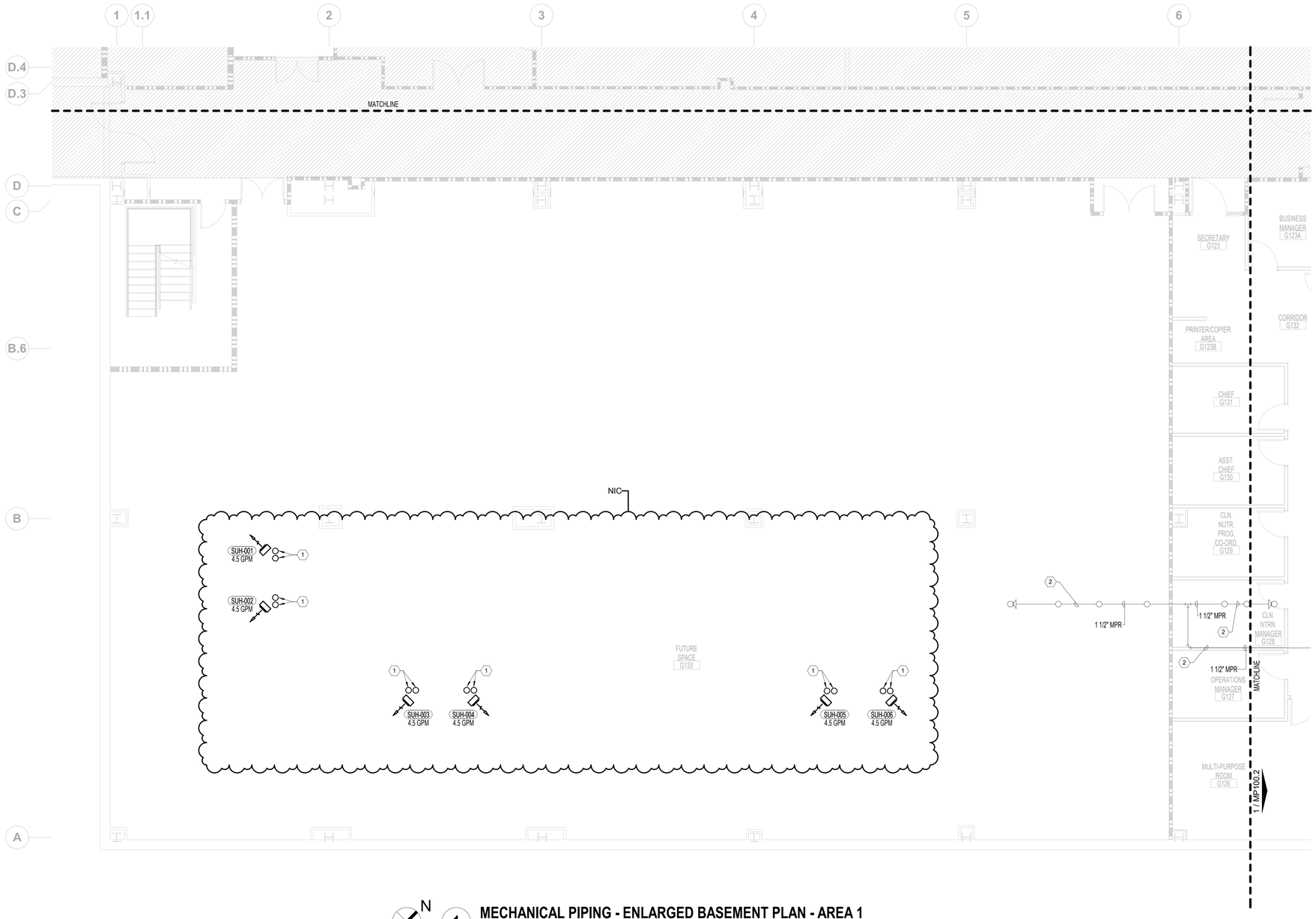
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MP100

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



N

1 MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 1

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

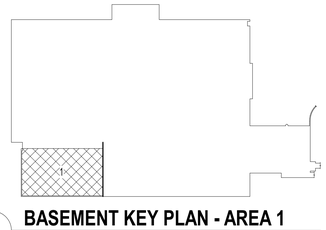
E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

MECHANICAL KEY NOTES

NIC

1. 1" HWS/R PIPING SERVING SUSPENDED UNIT HEATER UP TO INTERSTITIAL SPACE. REFER TO MP200.1 FOR CONTINUATION. (TYP.)
2. EXISTING UNDERGROUND PIPING TO BE ABANDONED IN PLACE. (TYP.)



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

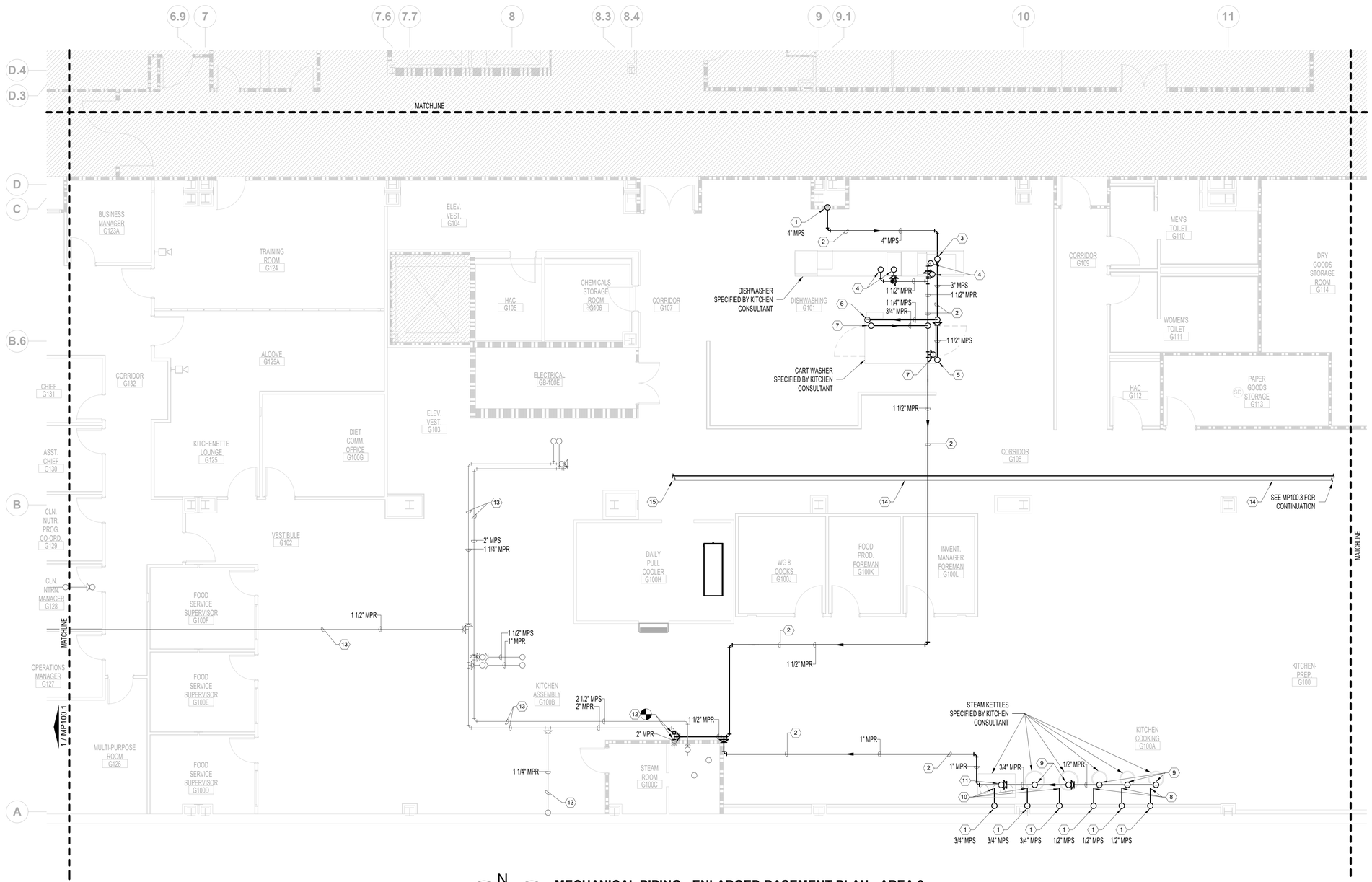
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MP100.1

VA FORM 08-6231



N

1 **MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 2**

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

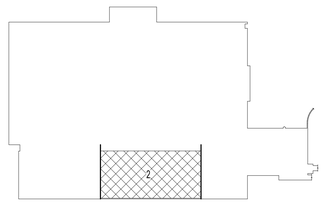
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. PIPING OF INDICATED SIZE UP TO INTERSTITIAL SPACE. REFER TO MP200.2 FOR CONTINUATION.
2. PIPING ROUTED UNDERGROUND.
3. 1-1/2" MPS UP TO DISHWASHER, SPECIFIED BY KITCHEN CONSULTANT.
4. 3/4" MPR UP TO DISHWASHER, SPECIFIED BY KITCHEN CONSULTANT.
5. 1-1/2" MPS UP TO CART WASHER, SPECIFIED BY KITCHEN CONSULTANT.
6. 1-1/4 MPS UP TO CART WASHER, SPECIFIED BY KITCHEN CONSULTANT.
7. 3/4" MPR UP TO CART WASHER, SPECIFIED BY KITCHEN CONSULTANT.
8. 1/2" MPS TO STEAM KETTLE, SPECIFIED BY KITCHEN CONSULTANT.
9. 1/2" MPR UP TO STEAM KETTLE, SPECIFIED BY KITCHEN CONSULTANT.
10. 3/4" MPS TO STEAM KETTLE, SPECIFIED BY KITCHEN CONSULTANT.
11. 3/4" MPR TO STEAM KETTLE, SPECIFIED BY KITCHEN CONSULTANT.
12. PROVIDE NEW CAP TO EXISTING 2" MPR UNDERGROUND PIPING. CONNECT NEW 1-1/2" MPR TO EXISTING 2" MPR.
13. EXISTING UNDERGROUND PIPING TO BE ABANDONED IN PLACE. (TYP.)
14. REFRIGERANT PIPING TO BE ROUTED BETWEEN LOADING DOCK CONDENSING UNITS AND EVAPORATORS LOCATED IN KITCHEN AREA. REFER TO KITCHEN CONSULTANT DRAWINGS FOR CONNECTION DETAILS. SIZE REFRIGERANT LINES PER MANUFACTURERS' RECOMMENDATIONS. COORDINATE INSTALLATION WITH OTHER DISCIPLINES. ROUTING OF REFRIGERANT LINES ARE SHOWN FOR DIAGRAMATIC PURPOSES ONLY. EXACT NUMBER AND LOCATION OF ROUTED LINES SHOULD BE VERIFIED IN FIELD AND COORDINATED WITH KITCHEN CONTRACTOR.
15. REFRIGERANT LINES TO SERVE BLAST CHILERS AND DAILY PULL COOLER.



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

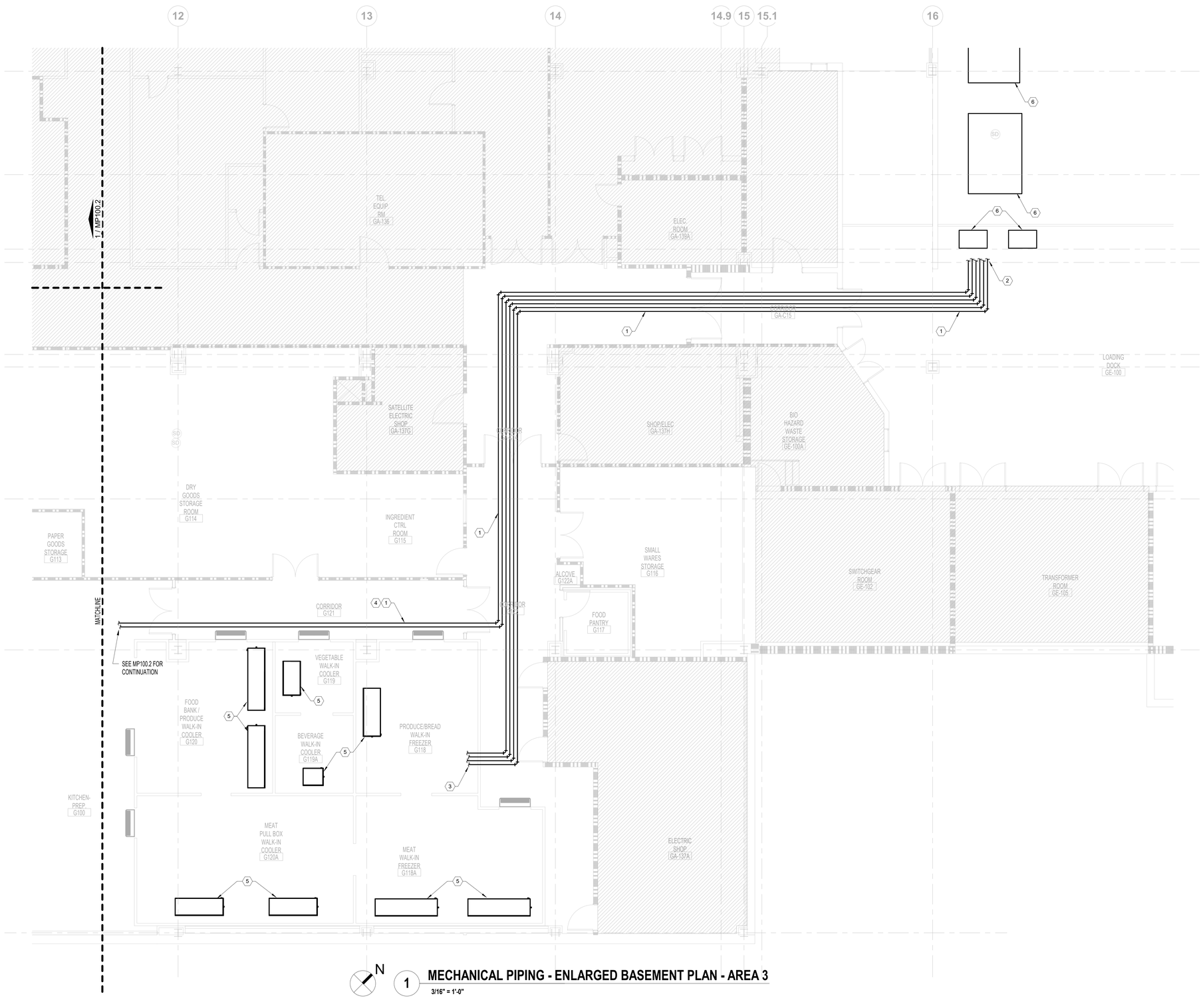
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MP100.2

VA FORM 08-6231



N

1 **MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 3**

3/16" = 1'-0"

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

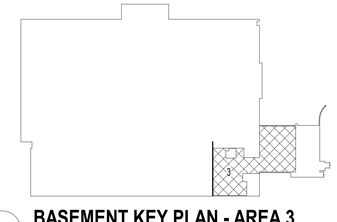
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. REFRIGERANT PIPING TO BE ROUTED BETWEEN LOADING DOCK CONDENSING UNITS AND EVAPORATORS LOCATED IN KITCHEN AREA. REFER TO KITCHEN CONSULTANT DRAWINGS FOR CONNECTION DETAILS. SIZE REFRIGERANT LINES PER MANUFACTURERS' RECOMMENDATIONS. COORDINATE INSTALLATION WITH OTHER DISCIPLINES. ROUTING OF REFRIGERANT LINES ARE SHOWN FOR DIAGRAMATIC PURPOSES ONLY. EXACT NUMBER AND LOCATION OF ROUTED LINES SHOULD BE VERIFIED IN FIELD AND COORDINATED WITH KITCHEN CONTRACTOR.
2. CONNECT REFRIGERANT PIPING TO CONDENSING UNITS ACCORDING TO KITCHEN CONSULTANT DRAWINGS.
3. CONNECT REFRIGERANT PIPING TO WALK-IN COOLER/FREEZER EVAPORATORS ACCORDING TO KITCHEN CONSULTANT DRAWINGS.
4. REFRIGERANT LINES TO SERVE BLAST CHILERS AND DAILY PULL COOLER.
5. INSTALL EVAPORATORS ACCORDING TO KITCHEN CONSULTANT DRAWINGS. COORDINATE WITH OTHER DISCPILINES.
6. REMOTE CONDENSING UNITS.



BASEMENT KEY PLAN - AREA 3

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 3

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

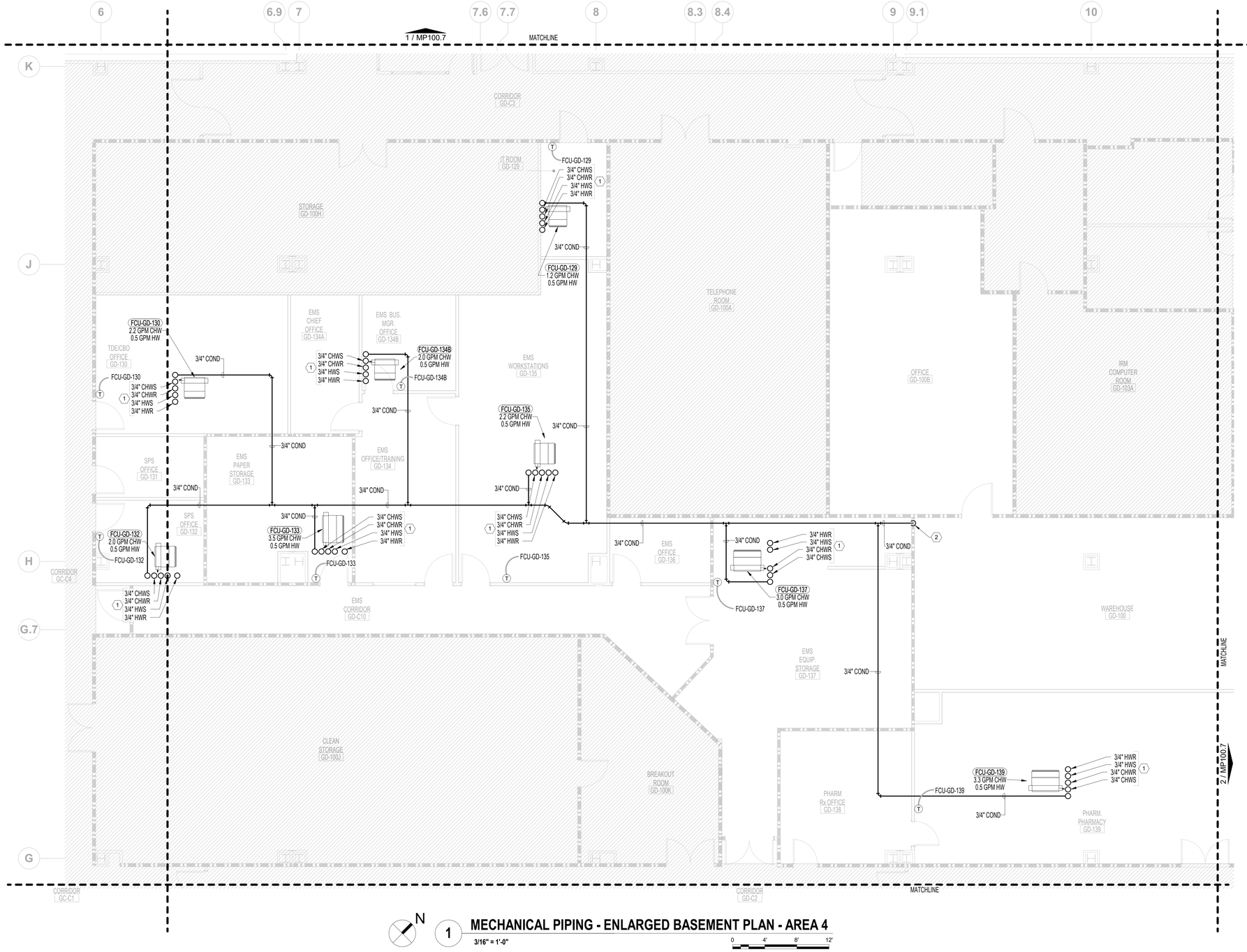
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Drawing Number: MP100.3

VA FORM 08-6231



N

1 MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 4

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

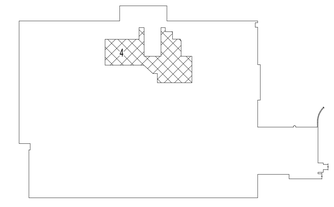
E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. PIPING OF INDICATED SIZE SERVING FAN COIL UNIT UP TO INTERSTITIAL SPACE. REFER TO MP200.4 FOR CONTINUATION. (TYP.)

2. 3/4" CONDENSATE PIPING DOWN. TIE IN WITH PLUMBING SANITARY PIPING. REFER TO PLUMBING DRAWINGS FOR EXACT LOCATION OF SANITARY PIPING.



BASEMENT KEY PLAN - AREA 4

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 4

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

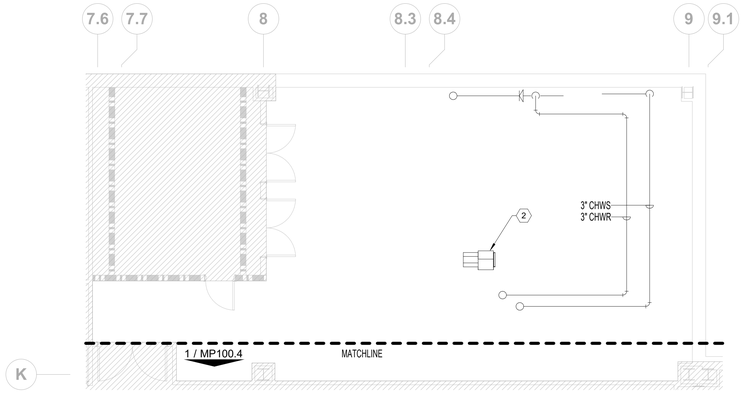
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MP100.4

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



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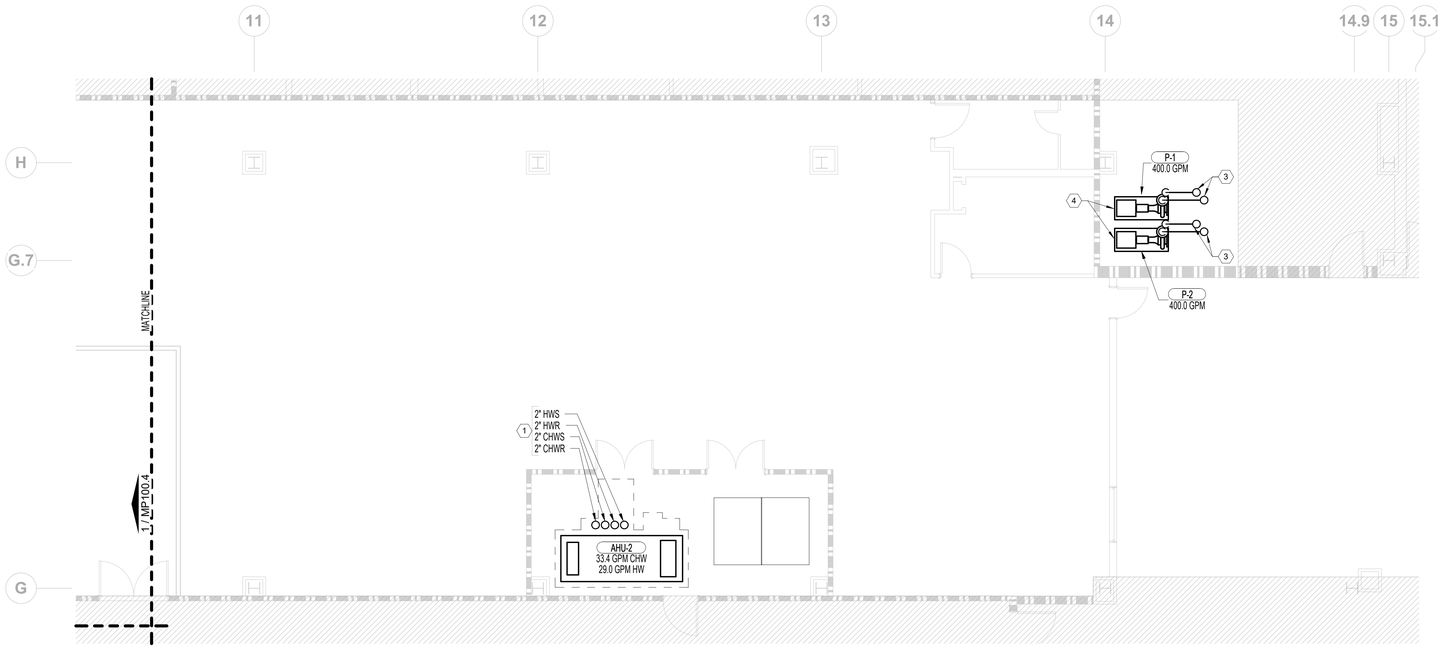
1 **MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 7**

3/16" = 1'-0"



N

2 **MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 8**

3/16" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

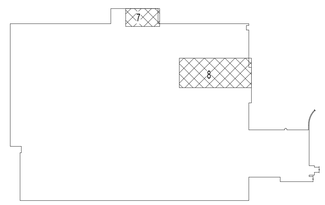
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. PIPE OF INDICATED SIZE SERVING AIR HANDLING UNIT (AHU-2) UP TO INTERSTITIAL SPACE. REFER TO MP200.7 FOR CONTINUATION.
2. EXISTING AIR HANDLING EQUIPMENT TO REMAIN. PROTECT DURING CONSTRUCTION.
3. 3" CHWS/R UP TO MAIN ABOVE. FIELD VERIFY EXACT LOCATIONS AND ROUTINGS.
4. INSTALL NEW CHILLED WATER PUMPS P-1 AND P-2 IN MECHANICAL ROOM GD-121. COORDINATE CHILLED WATER OUTAGES WITH VA/COR, PROVIDE MINIMUM 14 DAYS NOTICE BEFORE COMMENCING WORK. BALANCE PUMPS AND ALL RELATED COOLING COILS AS PART OF INSTALLATION WORK. FIELD VERIFY EXACT COILS SERVED, GPM REQUIREMENTS AND LOCATION. INSTALL DIFFERENTIAL PRESSURE GUAGE BETWEEN SUPPLY AND RETURN PIPING AT FARTHEST COIL SERVED BY P-1 AND P-2.



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

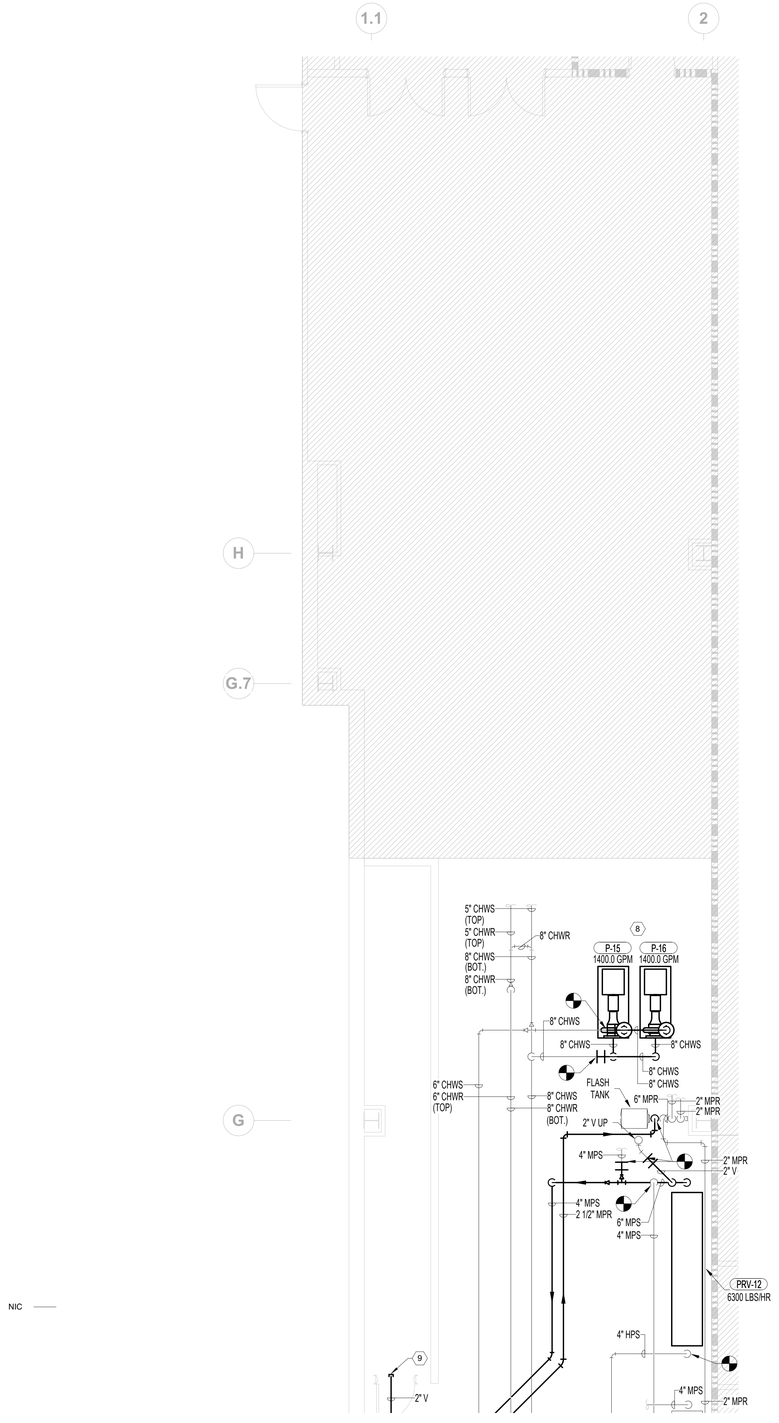
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MP100.7

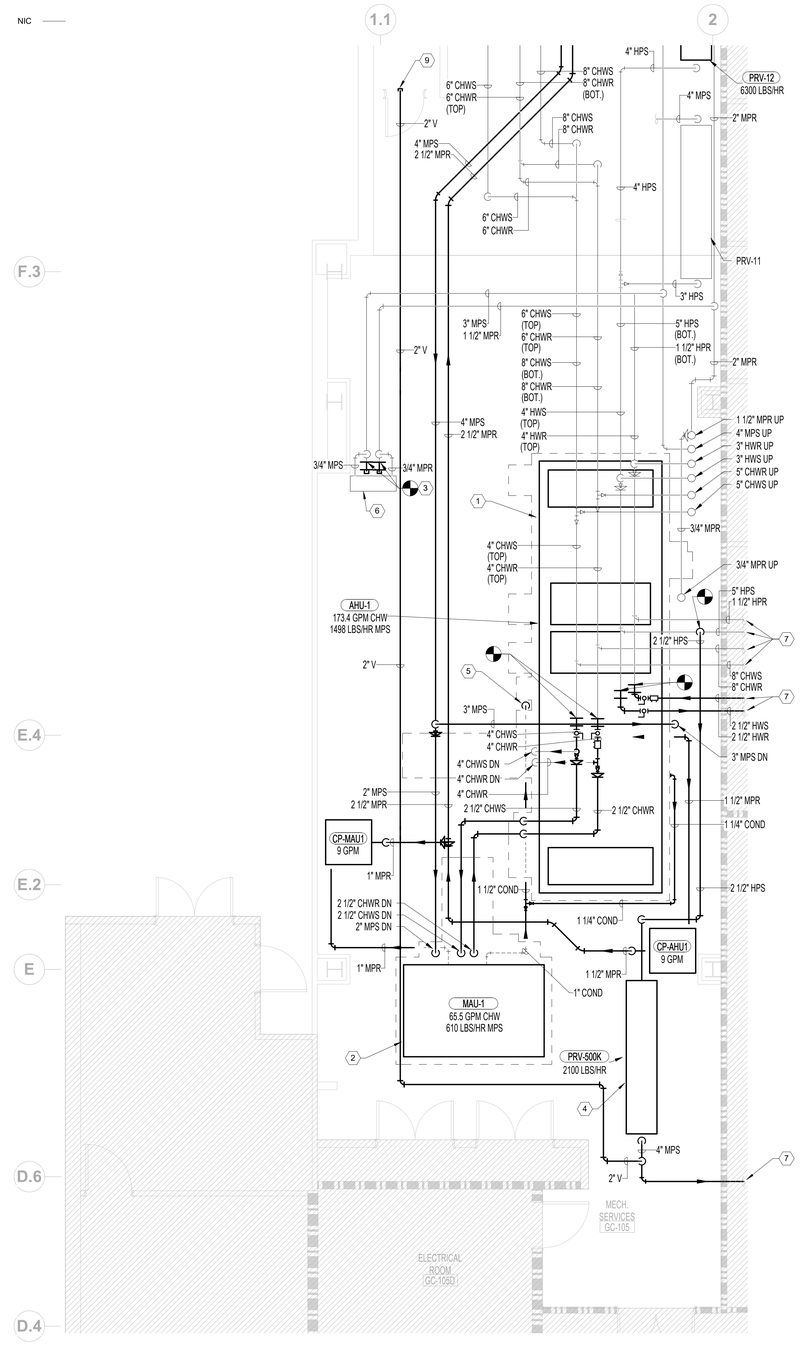
VA FORM 08-6231



MECHANICAL PIPING - ENLARGED BASEMENT PLAN - GC105 MECHANICAL ROOM - NORTH

1

1/4" = 1'-0"



MECHANICAL PIPING - ENLARGED BASEMENT PLAN - GC105 MECHANICAL ROOM - SOUTH

2

1/4" = 1'-0"

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

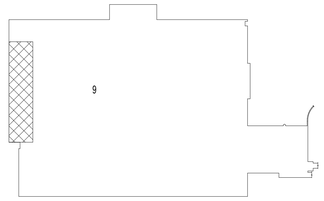
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. FURNISH AND INSTALL AIR HANDLING UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 4" HIGH CONCRETE PAD.
2. FURNISH AND INSTALL MAKE-UP AIR UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 4" CONCRETE PAD.
3. CAP EXISTING MPS/R PIPING.
4. NEW PRV (PRV-500K) TO BE SUSPENDED FROM CEILING.
5. COOLING COIL CONDENSATE DOWN TO EXISTING FLOOR DRAIN.
6. EXISTING UNIT HEATER UH-15 TO REMAIN.
7. CONTRACTOR TO ROUTE 4" MPS TO SERVE EQUIPMENT IN KITCHEN. PIPING TO BE ROUTE IN INTERSTITIAL SPACE. REFER TO MP200.5 FOR CONTINUATION.
8. FURNISH AND INSTALL CHILLED WATER PUMP PER MANUFACTURE'S INSTALLATION INSTRUCTION. CONTRACTOR TO BALANCE PUMPS TO MEET AIR HANDLING UNITS GPM. REFER TO RISER DIAGRAM FOR MODE DETAILS.
9. STEAM VENT PIPING TO ATMOSPHERE. PATCH AND SEAL OPENING TO MEET INDUSTRY STANDARD.



BASEMENT KEY PLAN - GC105 MECHANICAL ROOM

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED BASEMENT PLAN - GC105 MECHANICAL ROOM

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

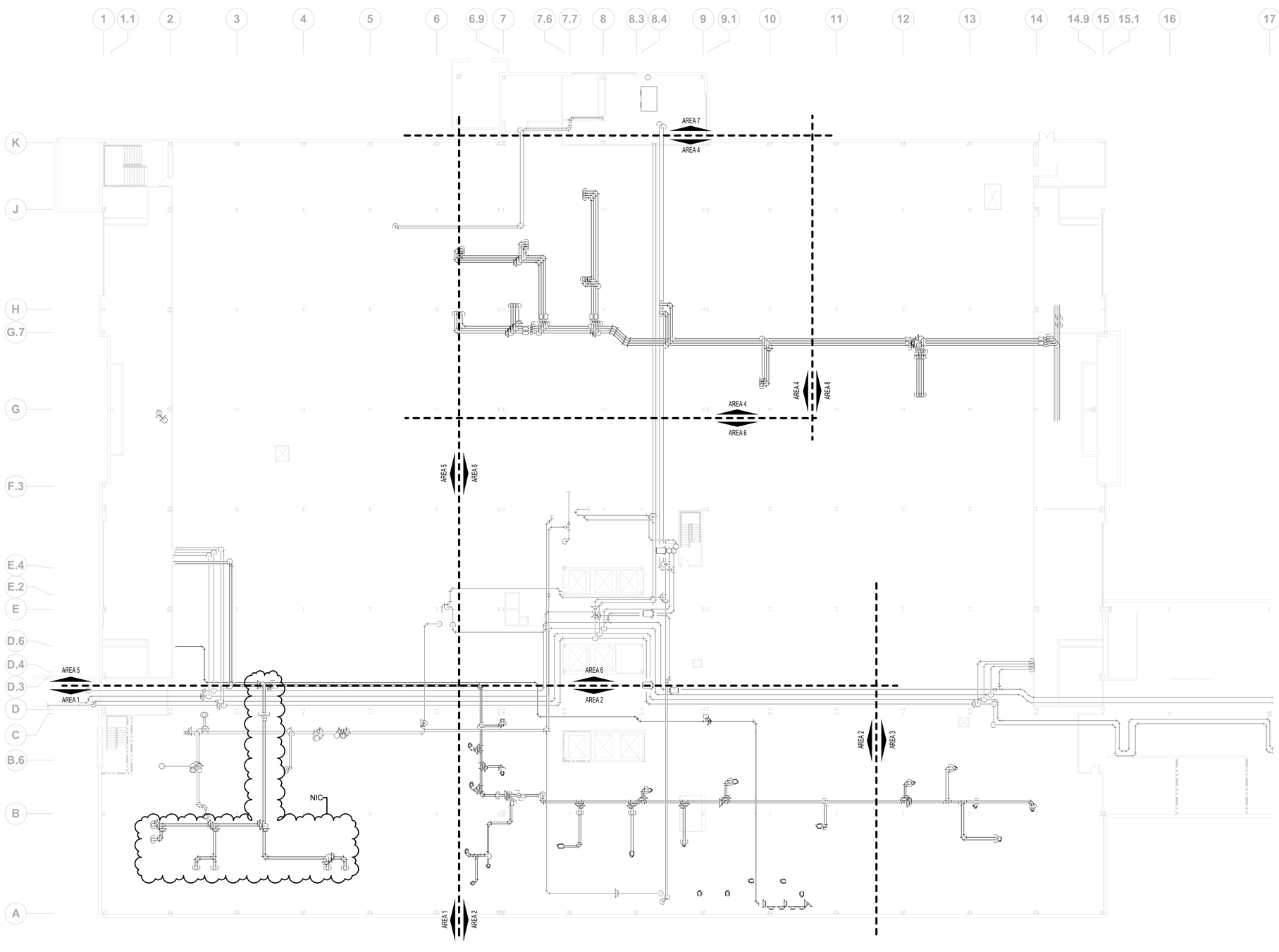
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MP100.8

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



N

1 **MECHANICAL PIPING - OVERALL INTERSTITIAL FLOOR PLAN**

1/16" = 1'-0"

0 8' 16' 32'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

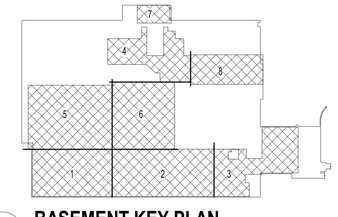
B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.



BASEMENT KEY PLAN

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - OVERALL INTERSTITIAL FLOOR PLAN

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

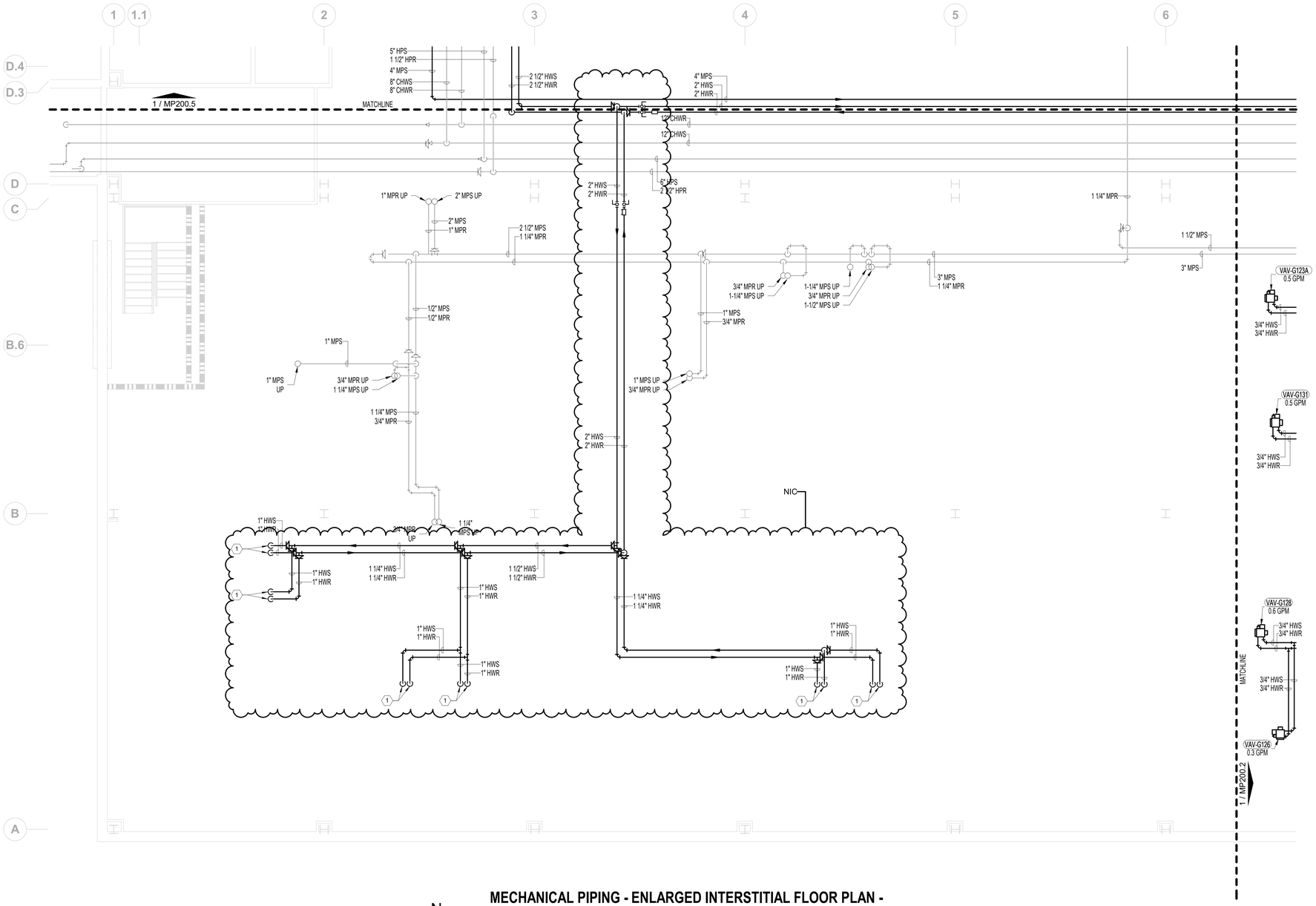
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MP200

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 1

1 — 3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

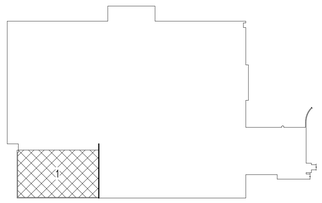
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

MECHANICAL KEY NOTES

NIC — 1. 1" HWS/R PIPING DOWN TO BASEMENT LEVEL TO SERVE SUSPENDED UNIT HEATER. REFER TO MP100.1 FOR CONTINUATION. (TYP.)



BASEMENT KEY PLAN - AREA 1

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 1

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

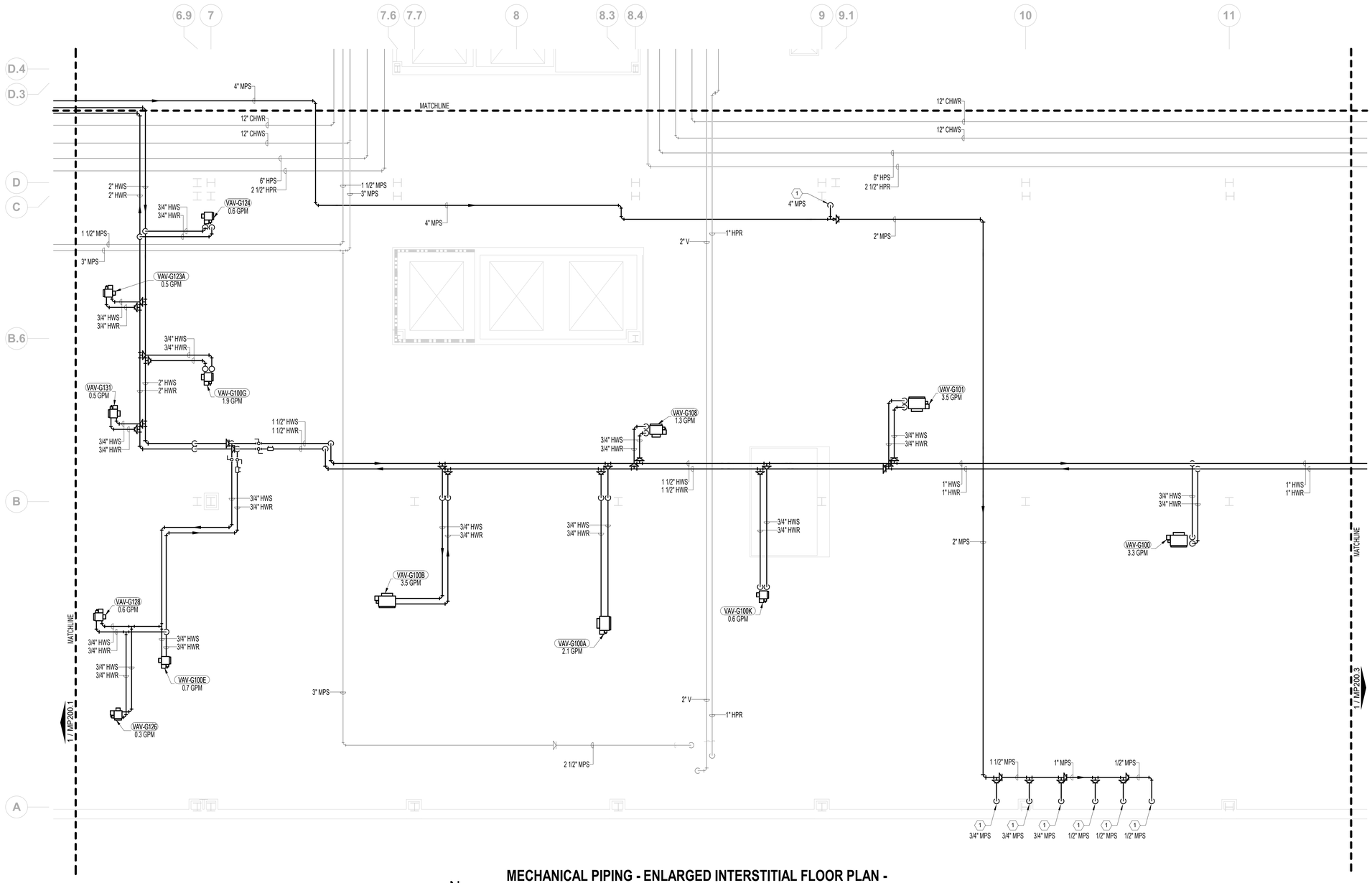
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MP200.1

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 2

1 — 3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

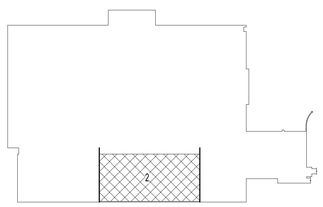
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

MECHANICAL KEY NOTES

1. PIPING OF INDICATED SIZE DOWN TO BASEMENT LEVEL TO SERVE KITCHEN EQUIPMENT. REFER TO MP100.2 FOR CONTINUATION. (TYP.)



BASEMENT KEY PLAN - AREA 2

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 2

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

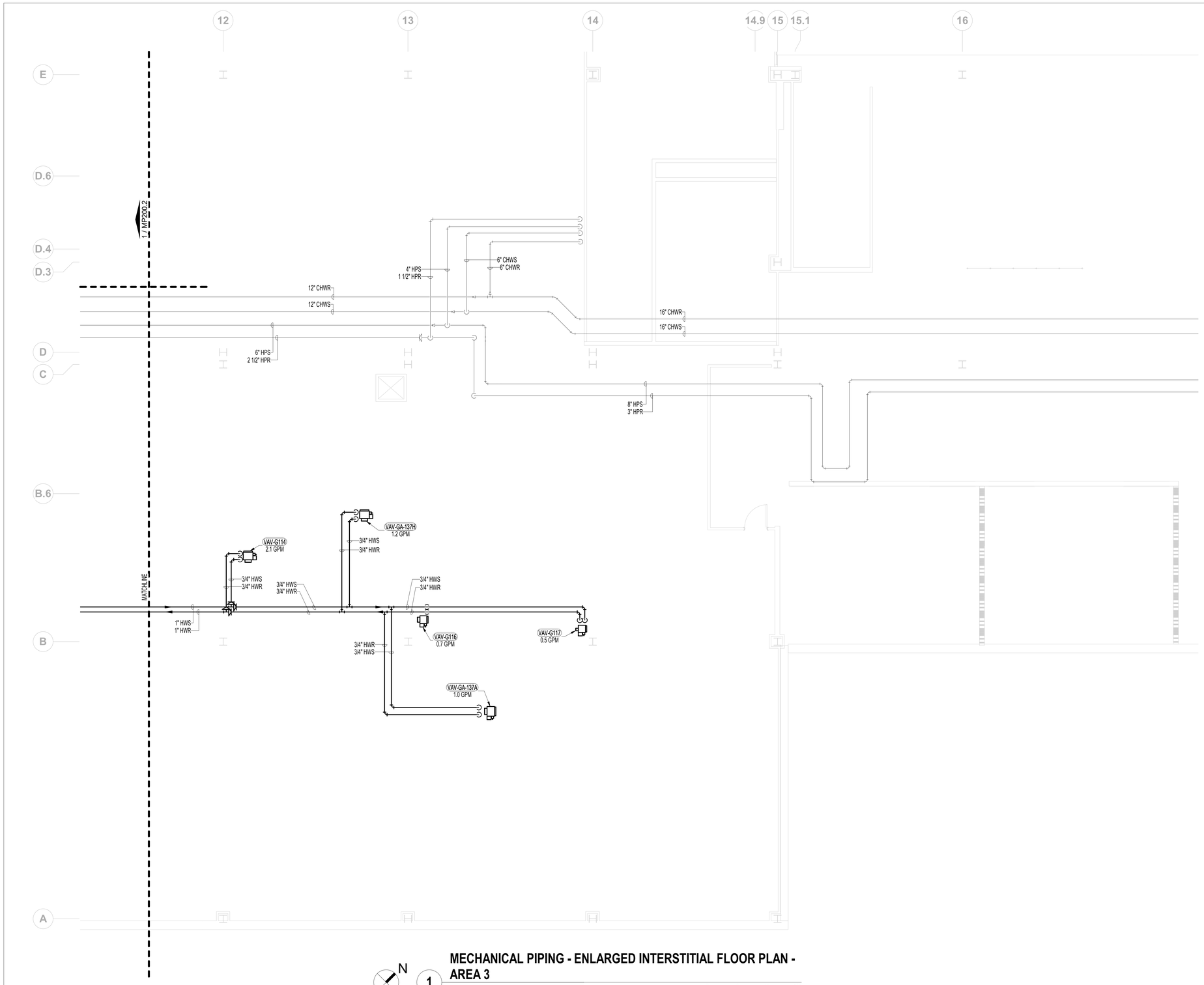
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MP200.2

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 3

1

3/16" = 1'-0"

0 4' 8' 12'

N

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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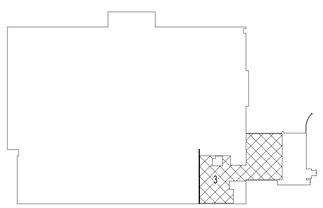
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.



BASEMENT KEY PLAN - AREA 3

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 3

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21

Checked: RAH

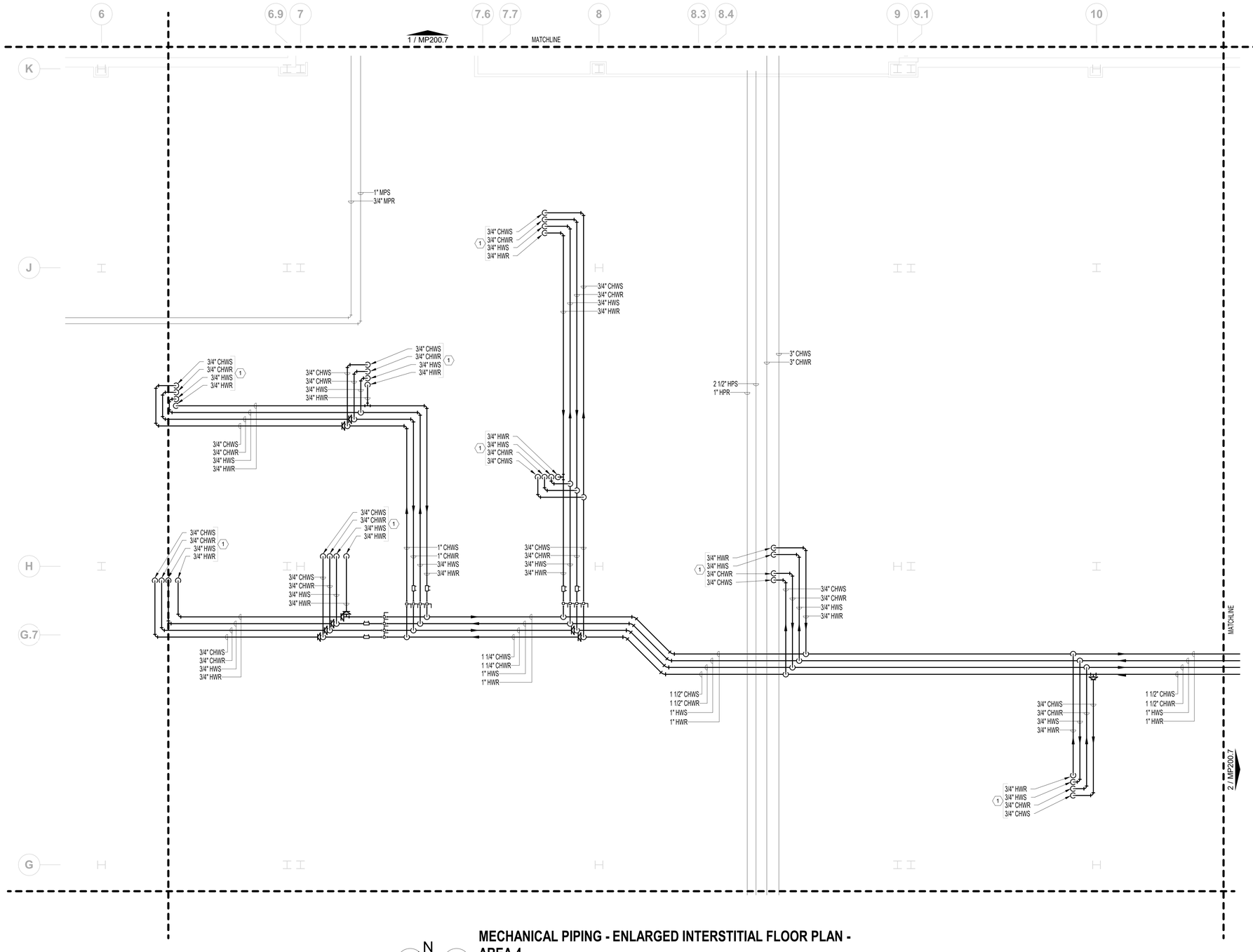
Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MP200.3

VA FORM 08-6231



MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 4

1 — 3/16" = 1'-0"

0 4' 8' 12'

N

FIRE BARRIER LEGEND

	1 HOUR FIRE & SMOKE SEPARATION
	2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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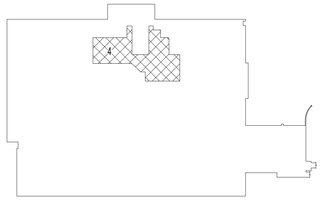
E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

MECHANICAL KEY NOTES

1. PIPING OF INDICATED SIZE DOWN TO BASEMENT LEVEL TO SERVE FAN COIL UNIT. REFER TO MP100.4 FOR CONTINUATION. (TYP.)



BASEMENT KEY PLAN - AREA 4

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 4

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

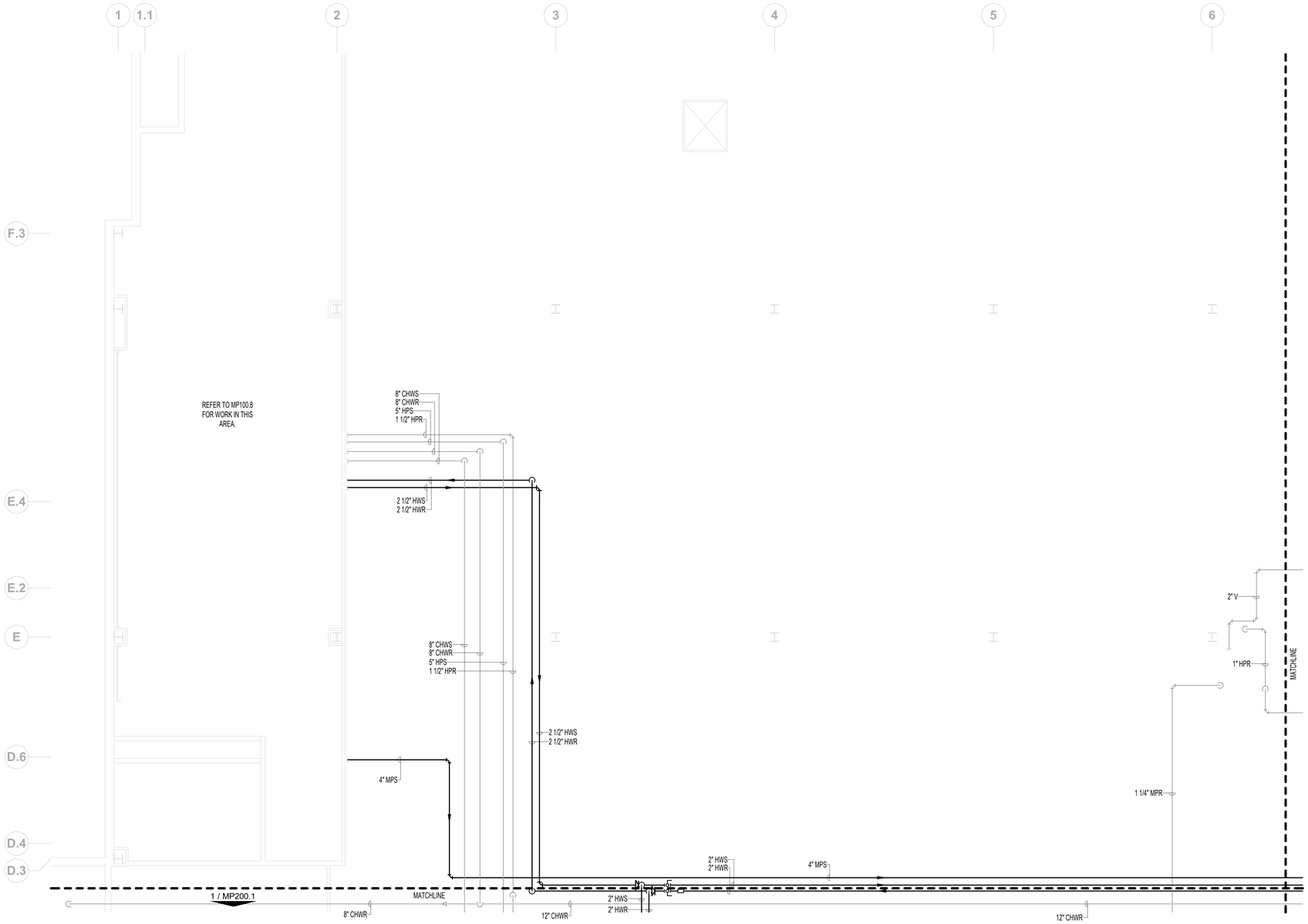
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: MP200.4

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



N

1 **MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 5**

3/16" = 1'-0"

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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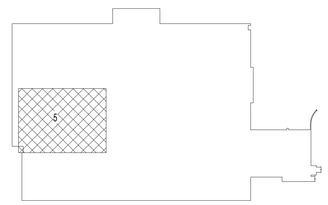
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. PIPING TO BASEMENT LEVEL MECHANICAL ROOM GC-105. REFER TO MP100.8 FOR CONTINUATION.



BASEMENT KEY PLAN - AREA 5

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 5

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

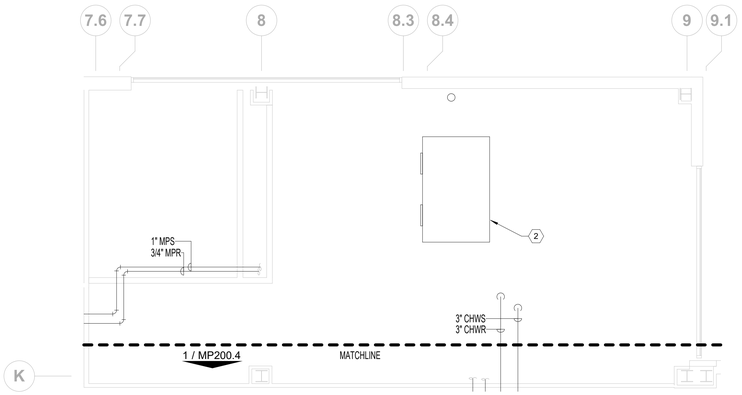
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: MP200.5

VA FORM 08-6231

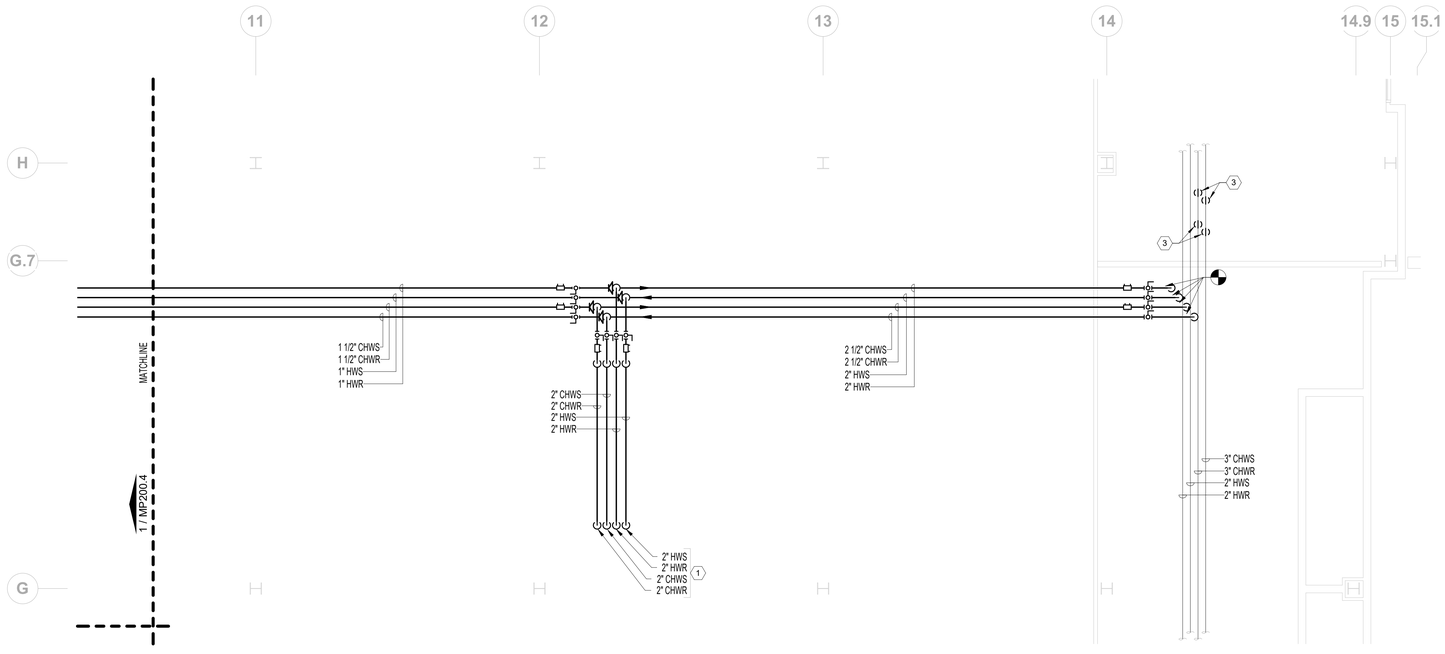


MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 7

1 — 3/16" = 1'-0"

N

0 4' 8' 12'



MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 8

2 — 3/16" = 1'-0"

N

0 4' 8' 12'

FIRE BARRIER LEGEND

1 HOUR FIRE & SMOKE SEPARATION

2 HOUR FIRE & SMOKE SEPARATION

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

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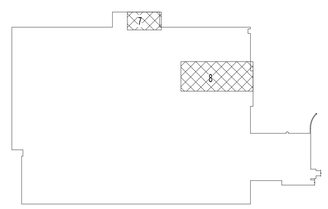
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. PIPE OF INDICATED SIZE DOWN TO BASEMENT LEVEL TO SERVE AIR HANDLING UNIT (AHU-2). REFER TO MP100.7 FOR CONTINUATION.
2. EXISTING AIR HANDLING UNIT TO REMAIN. PROTECT DURING CONSTRUCTION.
3. 3" CHWS/R DOWN TO PUMPS P-1 AND P-2 BELOW. FIELD VERIFY EXACT LOCATIONS AND ROUTING.



BASEMENT KEY PLAN - AREA 7 & 8

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL PIPING - ENLARGED INTERSTITIAL FLOOR PLAN - AREA 7/8

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

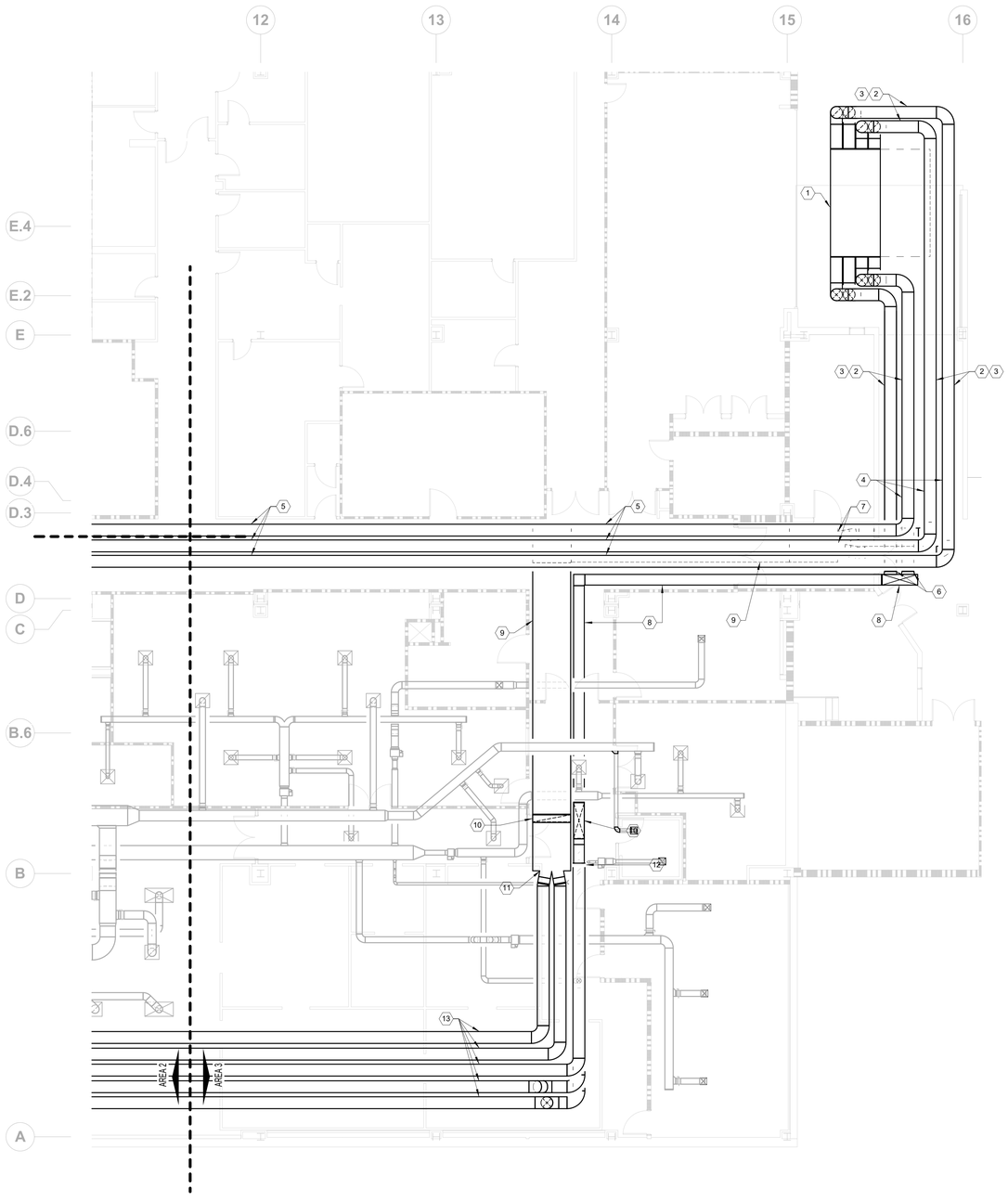
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: MP200.7

VA FORM 08-6231



N

1 **MECHANICAL TEMPORARY DUCTWORK EAST**

1/8" = 1'-0"

0 4' 8' 16'

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. LIGHT LINEWEIGHT REPRESENTES NEW PERMENANT DUCTWORK. BOLD LINEWEIGHT REPRESENTS TEMPORARY DUCTWORK.

F. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS.

(X) MECHANICAL KEY NOTES

1. TEMPORARY AIR HANDLING UNIT LOCATED IN LOADING DOCK LOCATION.
2. TWO 20"Ø DUCTS SHOWN STACKED.
3. ROUND TEMPORARY DUCTWORK TO BE ROUTED UP HIGH TO AVOID OBSTRUCTIONS.
4. TWO 20"Ø RETURN DUCTS AND ONE 20"Ø SUPPLY DUCT ROUTED ABOVE CEILING IN LOADING DOCK AREA.
5. TWO 20"Ø RETURN DUCTS AND ONE 20"Ø SUPPLY DUCT ROUTED INTO INTERSTITIAL SPACE.
6. THREE 20"Ø SUPPLY DUCTS ROUTED BELOW CEILING AND CONNECTED INTO SHEET METAL PLENUM.
7. TWO 20"Ø RETURN DUCTS ROUTED BELOW CEILING AND CONNECTED INTO SHEET METAL PLENUM.
8. 18x60 SHEET METAL SUPPLY DUCTWORK PLENUM ROUTED BELOW CEILING. INSTALL DUCTWORK CLOSE TO WALL TO MINIMIZE OBSTRUCTION OF CORRIDOR.
9. 64x12 SHEET METAL RETURN DUCTWORK PLENUM ROUTED BELOW CEILING. INSTALL DUCTWORK TIGHT TO CEILING TO MINIMIZE OBSTRUTION OF CORRIDOR.
10. TEMPORARY DUCTWORK ROUTED UP INTO INTERSTITIAL SPACE.
11. RETURN DUCTWORK CONVERTED BACK TO TWO 20"Ø TEMPORARY FLEX DUCTS.
12. SUPPLY DUCTWORK CONVERTED BACK TO THREE 20"Ø TEMPORARY FLEX DUCTS.
13. COORDINATE ELEVATION AND EXACT ROUTING OF ALL TEMPORARY DUCTWORK WITH EXISTING CONDITIONS AND NEW PERMENANT DUCTWORK LOCATIONS.

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL TEMPORARY DUCTWORK EAST

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

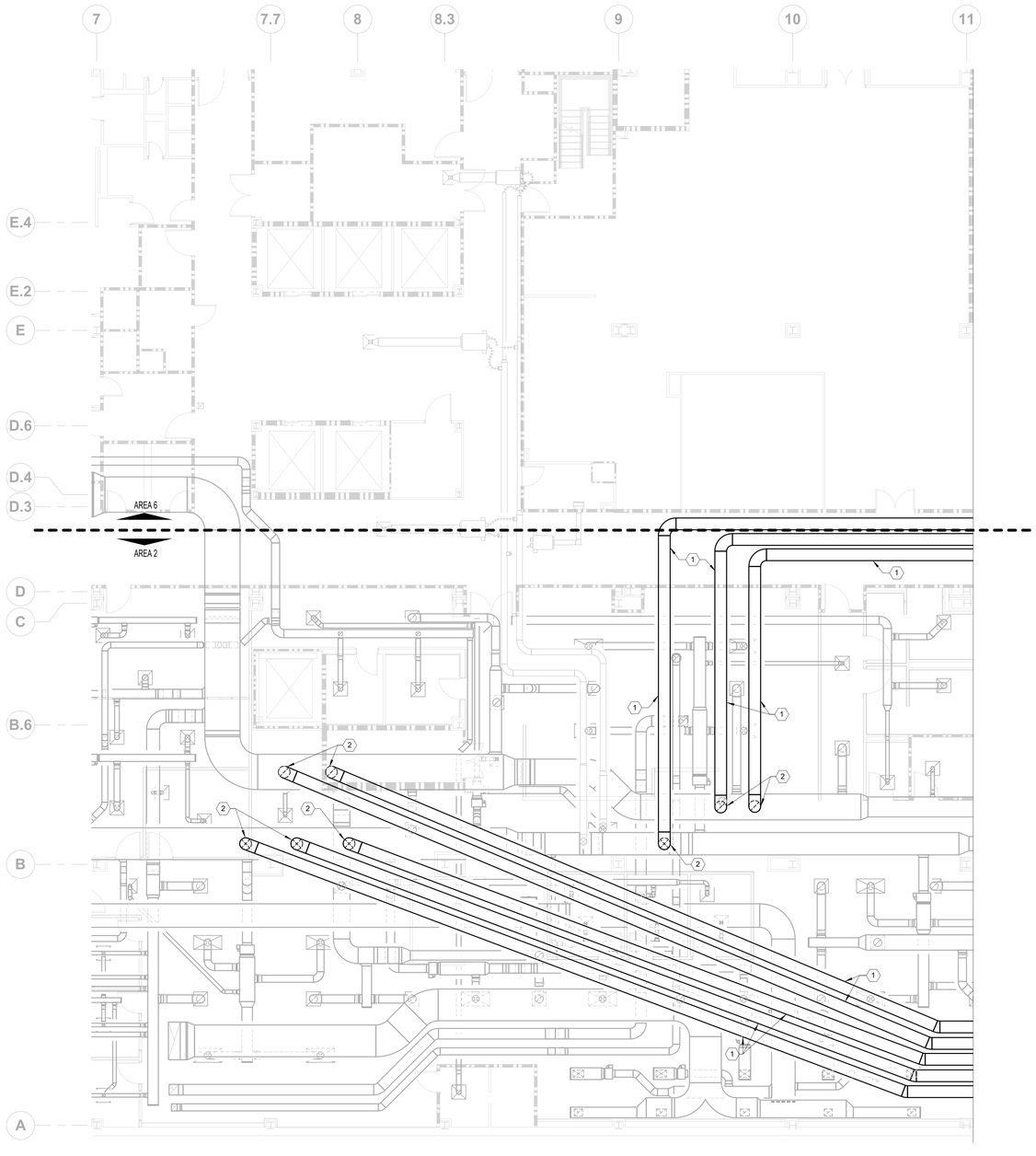
Issue Date: 07/23/21 | Checked: RAH | Drawn: RRR

Project Number: 613-19-103

Building Number: 500

Drawing Number: M301

VA FORM 08-6231



N

1 **MECHANICAL TEMPORARY DUCTWORK WEST**

1/8" = 1'-0"

0 4' 8' 16'

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING DAMPERS. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

D. CONTRACTOR TO COORDINATE DIFFUSER/REGISTER LOCATIONS WITH REFLECTIVE CEILING PLAN AND LIGHTING.

E. LIGHT LINEWEIGHT REPRESENTES NEW PERMENANT DUCTWORK. BOLD LINEWEIGHT REPRESENTS TEMPORARY DUCTWORK.

F. PROVIDE FIRE DAMPERS ON ALL FIRE RATED DUCT PENETRATIONS. FIRE DAMPERS TO MATCH EXISTING WALL RAITINGS.

(X) MECHANICAL KEY NOTES

1. COORDINATE ELEVATION AND EXACT ROUTING OF ALL 20"ø TEMPORARY DUCTWORK WITH EXISTING CONDITIONS AND NEW PERMENANT DUCTWORK LOCATIONS.
2. CONNECT 20"ø TEMPORARY DUCTWORK TO NEW PERMENANT DUCTWORK AT OR NEAR THIS LOCATION.

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL TEMPORARY DUCTWORK WEST

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: M302

Issue Date: 07/23/21 | Checked: RAH | Drawn: RRR

VA FORM 08-6231

GENERAL MECHANICAL NOTES

A. CONTRACTOR TO COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

B. ITEMS THAT REQUIRE ACCESS, SUCH AS THOSE FOR OPERATING, CLEANING, SERVICING, MAINTENANCE AND CALIBRATION SHALL BE EASILY AND SAFELY ACCESSIBLE. SUCH ITEMS INCLUDE VALVES, FILTERS, STRAINERS, TRANSMITTERS, AND CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK ANY CONFLICTS BETWEEN THIS REQUIREMENT AND THE CONTRACT DRAWINGS SHALL BE REFERRED TO THE VA/COR FOR RESOLUTION.

C. PROVIDE ACCESS FOR ALL NEW AND EXISTING VALVES. CONTRACTOR TO COORDINATE EXACT LOCATIONS IN FIELD.

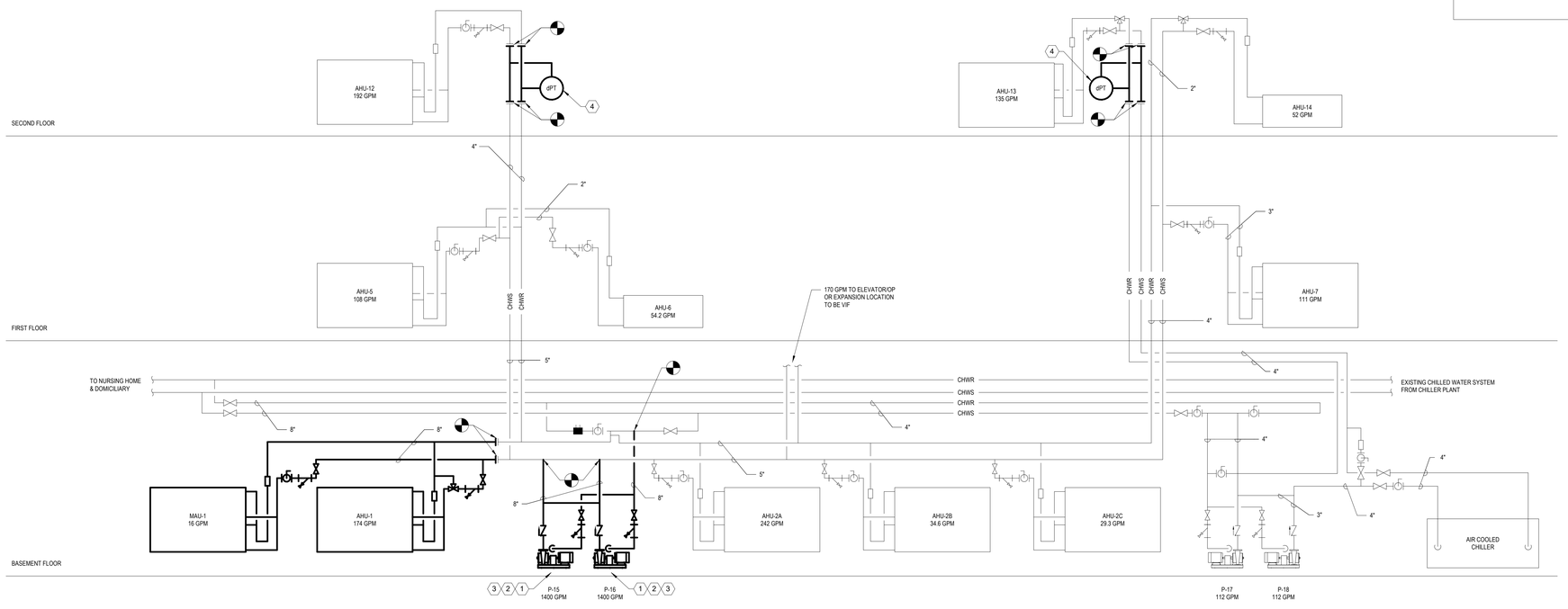
D. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS OR COUPLINGS.

E. FIRESTOP ALL PIPE PENETRATIONS OF FIRE RATED WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS.

F. ALL LIGHT LINE WEIGHT REPRESENTS EXISTING PIPE.

(X) MECHANICAL KEY NOTES

1. REFER TO DETAIL 11 ON M502 FOR BASE MOUNTED PIPING DETAILS.
2. FURNISH AND INSTALL CONCRETE INERTIA BASE PER DETAIL X ON MXXX.
3. FURNISH AND INSTALL CHILLED WATER PUMPS AND BALANCE SYSTEM TO MEETTHE REQUIRED GPM. FIELD LOCATE THE PRESSURE SENSOR. REFER TO CONTROLS DIAGRAM FOR DETAILS.
4. FURNISH AND INSTALL DIFFERENTIAL PRESSURE GUAGE ON CHILLED WATER PIPE NEAR COOLING COIL INDICATED ON CHILLED WATER FLOW DIAGRAM. FIELD VERIFY AND COORDINATE EXACT LOCATION WITH VA/COR. REFER TO MECHANICAL CONTROLS DRAWINGS FOR DETAILS.



1 CHILLED WATER FLOW DIAGRAM

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: CHILLED WATER FLOW DIAGRAM

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

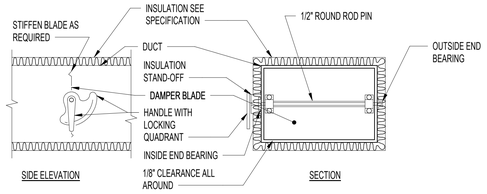
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: M401

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231

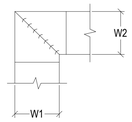


NOTE:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

4 VOLUME DAMPER DETAIL

NOT TO SCALE

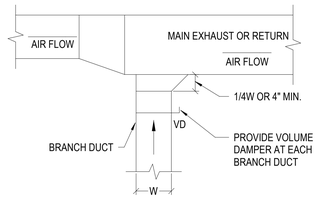


NOTE:

1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE VANE TYPE.

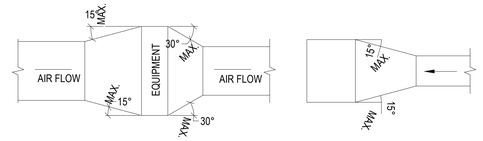
3 DUCTWORK SQUARE VANE ELBOWS

NOT TO SCALE



2 EXHAUST OR RETURN BRANCH DUCTWORK

NOT TO SCALE



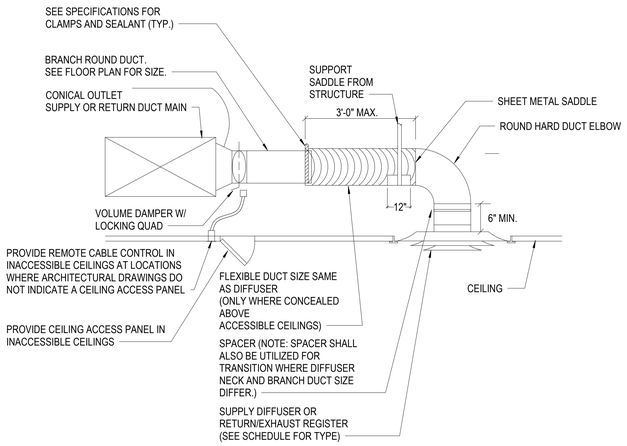
TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT PLAN OR SIDE VIEW

TYPICAL DUCTWORK TRANSITION PLAN OR SIDE VIEW

NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

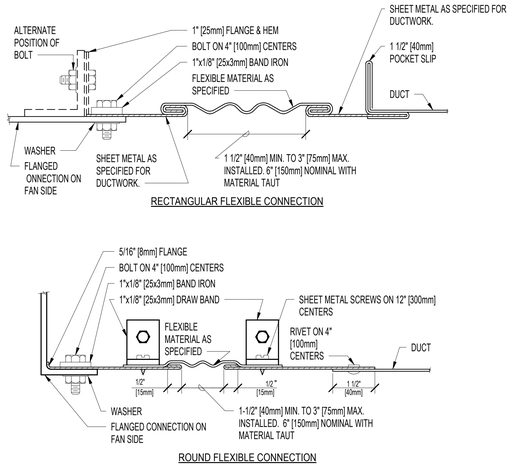
1 DUCTWORK TRANSITIONS (WITH EQUIPMENT MOUNTED IN DUCT)

NOT TO SCALE



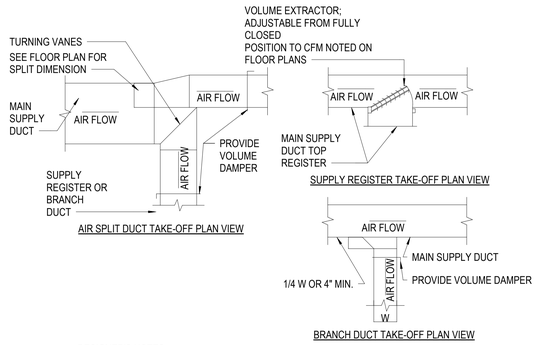
8 DIFFUSER INSTALLATION

NOT TO SCALE



7 FLEXIBLE DUCT CONNECTIONS

NOT TO SCALE

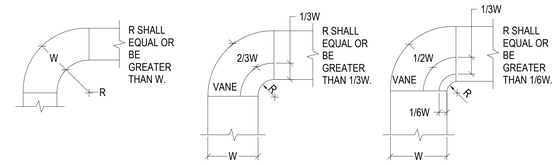


DESIGNER'S NOTES:

1. THE SUPPLY REGISTER TAKE-OFF MAY BE USED FOR UP UP TO 25% OF THE MAIN DUCT CFM. THE BRANCH DUCT TAKE-OFF MAY BE USED FOR UP TO 15% OF THE MAIN DUCT CFM ANYTIME AND UP TO 40% WHEN THE MAIN DUCT VELOCITY IS 1000 FPM [5.1 M/S] OR LESS. THE AIR SPLIT DUCT TAKE-OFF SHALL BE USED IN ALL OTHER CASES AND MAY BE USED AT ANYTIME.
2. SHOW ALL VOLUME DAMPERS ON FLOOR PLANS.

6 DUCTWORK - TAKEOFF

NOT TO SCALE



STANDARD RADIUS OR LONG RADIUS ELBOW

SHORT RADIUS ELBOW WITH ONE VANE

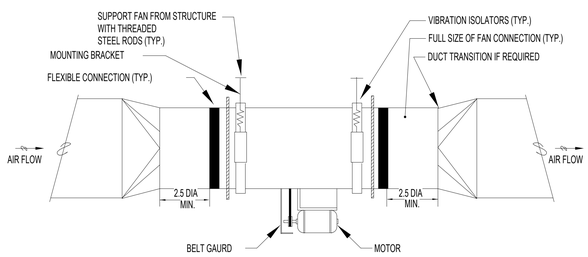
SHORT RADIUS ELBOW WITH TWO VANES

NOTE:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

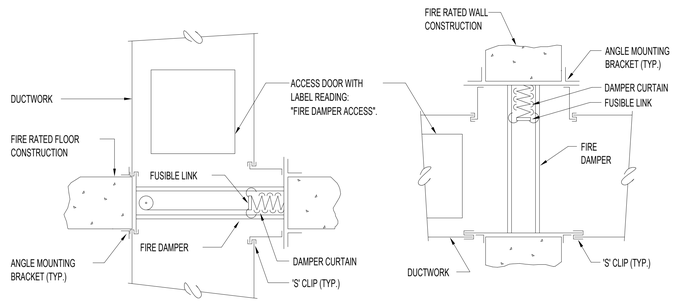
5 DUCTWORK RADIUS ELBOWS

NOT TO SCALE



11 IN-LINE EXHAUST FAN

NOT TO SCALE



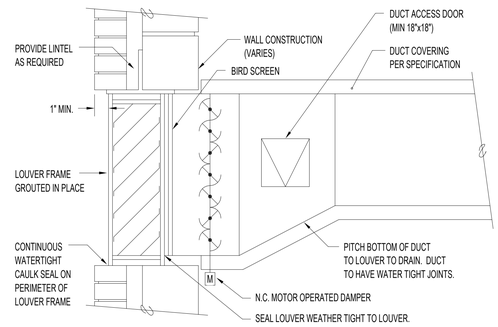
FLOOR DAMPER

WALL DAMPER

NOTES:
1. ACCESS DOORS TO BE SIZED/LOCATED SUCH THAT RESETTING FIRE DAMPER LINK CAN BE ACCOMPLISHED VIA ACCESS DOOR.
2. MINIMUM SIZE IS 12"x12". PROVIDE MULTIPLE ACCESS DOORS AT WIDE DUCTS.
3. COORDINATE GENERAL CONTRACTOR FURNISHED/INSTALLED WALL OR CEILING ACCESS PANELS REQUIRED AT OTHERWISE INACCESSIBLE LOCATIONS.

10 FIRE DAMPER

NOT TO SCALE



9 DUCT CONNECTION TO WALL LOUVER

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL DETAILS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

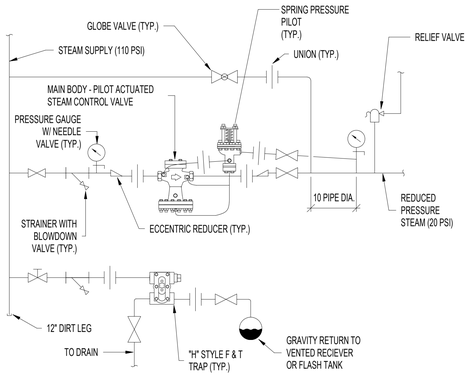
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

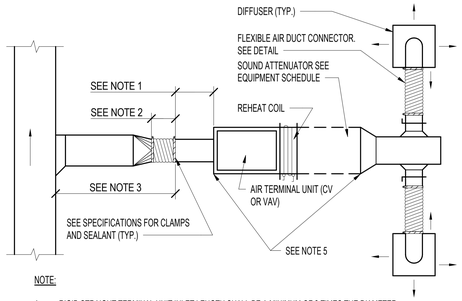
Drawing Number: M501

VA FORM 08-6231



4 STEAM PRESSURE REDUCING STATION

NOT TO SCALE

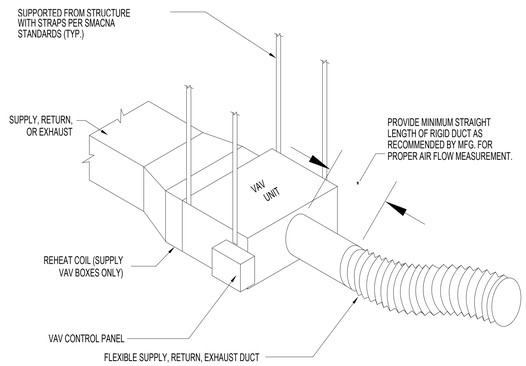


NOTE:

1. RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET.
2. A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'-0".
3. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET. FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100'.
4. FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'-0". USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45°.
5. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.
6. USE OF THE FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

3 DUCT CONNECTION - AIR TERMINAL UNITS

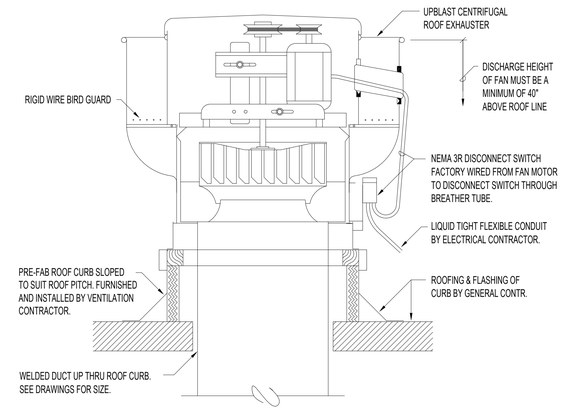
NOT TO SCALE



NOTE:
VERIFY RIGHT OR LEFT HAND CLEARANCE REQUIREMENTS WITH PLANS.

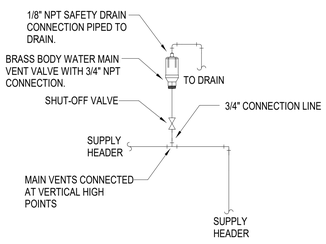
2 VAV BOX INSTALLATION

NOT TO SCALE



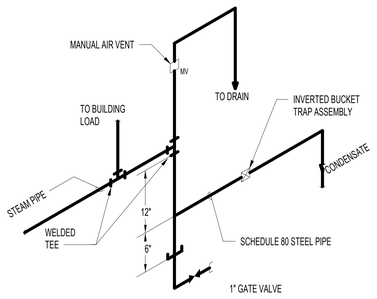
1 UPBLAST KITCHEN ROOF EXHAUSTER

NOT TO SCALE



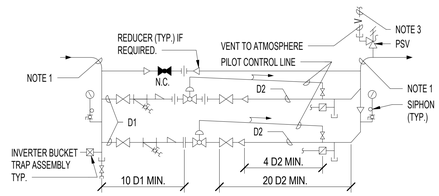
8 MAIN AIR VENT DETAIL

NOT TO SCALE



7 END OF STEAM LINE DRIP TRAP

NOT TO SCALE

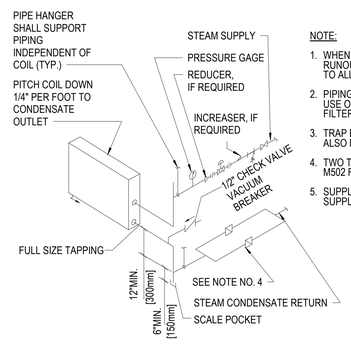


NOTE:

1. SEE FLOOR PLANS FOR PIPE SIZES.
2. SEE EQUIPMENT SCHEDULES FOR VALVE DATA AND PIPE SIZES D1 AND D2. INSTALL VALVES AS RECOMMENDED BY MANUFACTURER.
3. MAKE BYPASS VALVE DISCHARGE PIPE THE SAME SIZE AS D2 FOR THE LARGEST PRV.
4. PROVIDE NECESSARY UNIONS FOR THE REMOVAL OF VALVE WITH SCREWED CONNECTIONS.

6 STEAM PRESSURE REDUCING STATION 2-VALVE

NOT TO SCALE

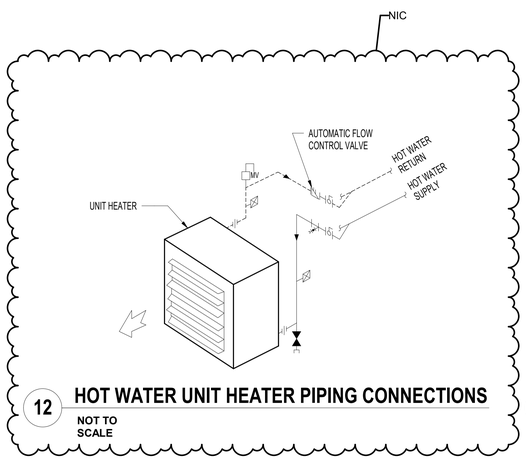


NOTE:

1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATOR UNITS, THE RUNOUT PIPING FOR CONNECTIONS TO COIL SHALL BE INSTALLED WITH SWING JOINTS TO ALLOW FOR THE VIBRATION.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALVES, OR EQUIPMENT.
3. TRAP EACH COIL SEPARATELY WHEN INSTALLED IN A BANK OF TWO OR MORE HIGH. ALSO PROVIDE SEPARATE VACUUM BREAKER FOR EACH COIL.
4. TWO TRAP ASSEMBLIES IN PARALLEL ARE SHOWN. REFER TO DETAIL 5 ON SHEET M502 FOR FLOAT AND THERMOSTATIC STEAM TRAP ASSEMBLY.
5. SUPPLY & RETURN PIPES ARE SHOWN FROM SAME END. REHEAT COIL MAY HAVE SUPPLY & RETURN PIPES FROM OPPOSITE ENDS.

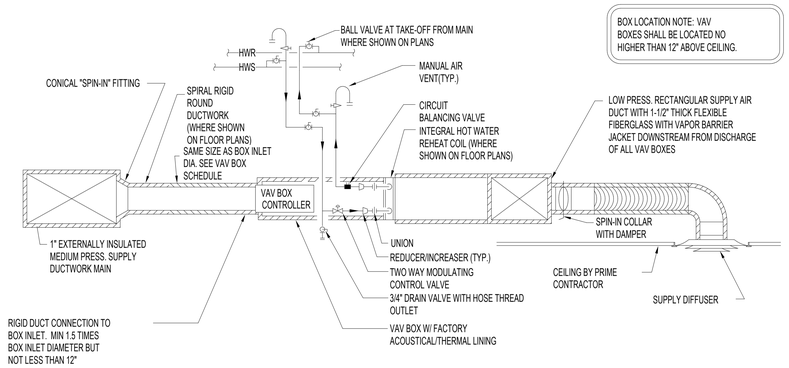
5 STEAM PRE-HEAT COIL - PIPING CONNECTIONS

NOT TO SCALE



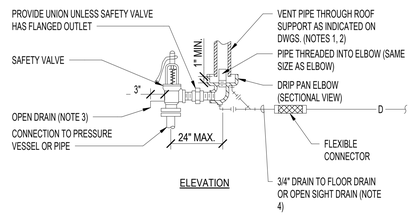
12 HOT WATER UNIT HEATER PIPING CONNECTIONS

NOT TO SCALE



11 VAV BOX PIPING DETAIL

NOT TO SCALE

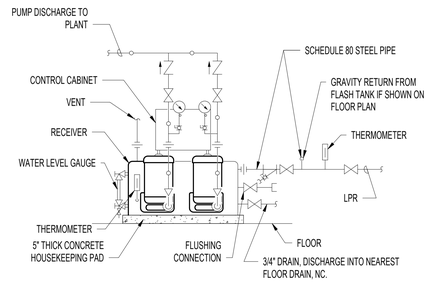


NOTES:

1. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, SIZE THE VENT PIPE SO THAT STEAM IS NOT BLOWN OUT AT THE VENT PIPE ENTRANCE. UTILIZE THE CALCULATION METHOD CONTAINED IN ANSI B31.1. POWER PIPING CODE, APPENDIX II.
2. VENT PIPE SHALL TERMINATE 6' MIN. ABOVE FINISHED ROOF.
3. DISCHARGE OF DRAIN MUST BE DIRECTED AWAY FROM PLATFORMS OR OTHER AREAS WHICH PERSONNEL MAY OCCUPY.
4. DO NOT CONNECT ANY OTHER DRAIN TO THE DRIP PAN ELBOW DRAIN PIPE.

10 STEAM SAFETY VALVE

NOT TO SCALE



9 CONDENSATE PUMPS - PIPING CONNECTIONS

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
30% SCHEMATIC DESIGN DEVELOPMENT	05/24/2020
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL DETAILS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

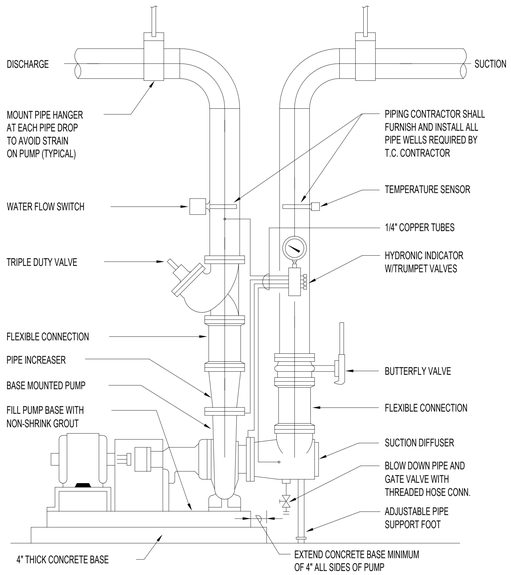
Project Number: 613-19-103

Building Number: 500

Drawing Number: M502

VA FORM 08-6231

NOTE:
PIPING CONTRACTOR SHALL FURNISH/INSTALL WELL FOR TEMPERATURE SENSOR AND TAP FOR FLOW SWITCH REGARDLESS IF DDC CONTROLS ARE ON PROJECT. IF DDC CONTROLS ARE NOT ON PROJECT, PIPING CONTRACTOR SHALL PROVIDE THERMOMETER IN DISCHARGE WELL.

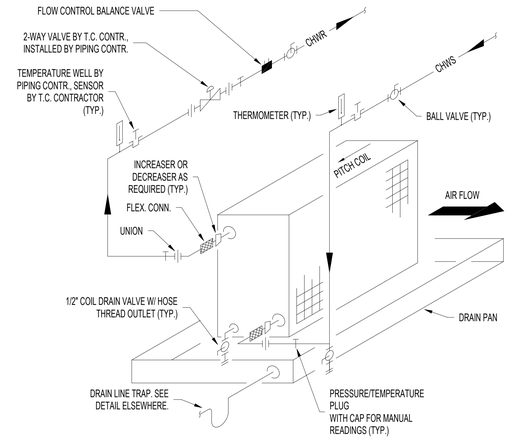


5 BASE MOUNTED PUMP

NOT TO SCALE

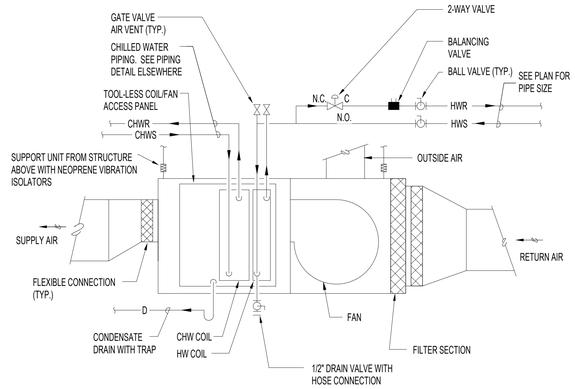
NOTES:

1. ALL VALVES 2" AND SMALLER TO BE BALL VALVES, 2 1/2" AND LARGER TO BE BUTTERFLY VALVES.
2. INSTALL PIPE UNIONS ON 2" AND SMALLER PIPE, FLANGED PIPE 2 1/2" AND LARGER.
3. ALL COILS TO BE FACTORY TAPPED FOR MANUAL AIR VENT AT HIGH POINT AND DRAIN AT LOW POINT OF COIL.
4. ALL COILS TO BE PIPED FOR COUNTER FLOW OF AIR AND WATER.
5. PIPING TO COIL SHALL BE ARRANGED SO AS NOT TO BLOCK OFF ANY ACCESS REQUIREMENTS OR SERVICE AREAS OF AIR HANDLING UNIT.
6. SEE FLOOR PLANS FOR PIPE SIZES.
7. PROVIDE FLEXIBLE PIPING CONNECTIONS AS SHOWN WHERE AIR HANDLING UNIT IS NOT INTERNALLY ISOLATED OR WHERE SPECIFICALLY CALLED FOR ON DRAWINGS.
8. PIPING CONTRACTOR SHALL FURNISH/INSTALL TEMPERATURE WELLS AS SHOWN FOR FUTURE USE EVEN IF SENSORS ARE NOT PROVIDED UNDER THIS PROJECT.



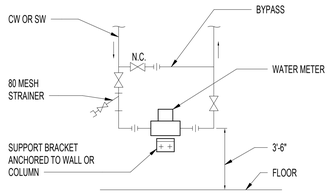
4 CHILLED WATER COIL 2-WAY VALVE PIPING

NOT TO SCALE



1 FAN COIL UNIT INSTALLATION

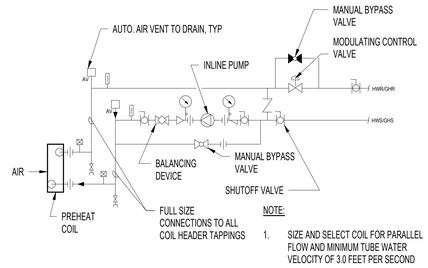
NOT TO SCALE



ELEVATION

3 WATER METER INSTALLATION

NOT TO SCALE

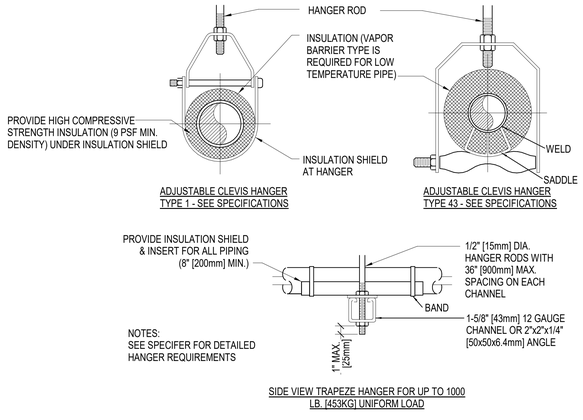


NOTE:

1. SIZE AND SELECT COIL FOR PARALLEL FLOW AND MINIMUM TUBE WATER VELOCITY OF 3.0 FEET PER SECOND

2 HOT WATER PREHEAT COIL PIPING CONNECTIONS

NOT TO SCALE



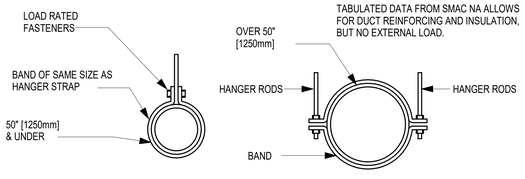
MAXIMUM PIPE/TUBING SUPPORT SPACING																			
NOM. SIZE	IN. [mm]	THRU 3/4 THRU [20]	1 [25]	1 1/4 [32]	1 1/2 [40]	2 [50]	2 1/2 [65]	3 [75]	4 [100]	5 [125]	6 [150]	8 [200]	10 [250]	12 [300]	14 [350]	16 [400]	18 [450]	20 [500]	24 [600]
PIPE	FT. [mm]	7 [2100]	7 [2100]	7 [2100]	9 [2700]	10 [3000]	11 [3400]	12 [3700]	14 [4100]	16 [4900]	17 [5200]	19 [5800]	22 [6700]	23 [7000]	25 [7600]	27 [8200]	28 [8500]	30 [9100]	32 [9600]
TUBING	FT. [mm]	5 FT [1500]	6 [1800]	7 [2100]	8 [2400]	8 [2400]	9 [2700]	10 [3000]	12 [3700]	13 [4000]	14 [4100]	16 [4900]	- -	- -	- -	- -	- -	- -	- -
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.																			

8 PIPE HANGER DETAIL

NOT TO SCALE

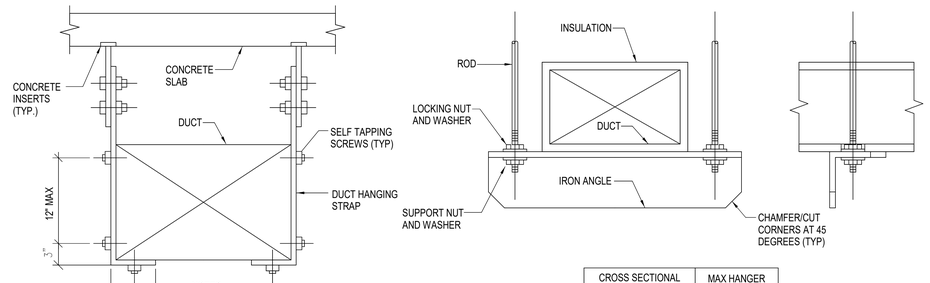
HANGER STRAPS OR RODS			
MAX. DUCT Ø IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [kg]	MAX. SPACING IN. [mm]
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3600]
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3600]
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3600]
60 [1500]	TWO 3/8 [10]. RODS	1320 [598]	144 [3600]
84 [2100]	TWO 1/2 [13] RODS	2500 [1133]	144 [3600]

NOTE:
TABULATED DATA FROM SMAC NA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.



7 ROUND DUCT HANGER DETAIL

NOT TO SCALE



NOTES:

1. DUCT SHALL BE SUSPENDED WITH GALVANIZED BAND IRON STRAPS SECURELY FASTENED TO THE BOTTOM AND SIDE OF THE DUCT. STRAPS SHALL BE SIZED IN ACCORDANCE WITH SMACNA TABLE 4-1 OR ACCORDING TO LOCAL CODES, WHICHEVER IS MORE STRINGENT.
2. DUCTS WIDER THAN 60 INCHES SHALL BE SUPPORTED BY TRAPEZE ANGLES IN ACCORDANCE WITH SMACNA TABLE 4-1.

CROSS SECTIONAL AREA	MAX HANGER SPACING
UP TO 4 FEET	8 FEET
OVER 4 FEET NOT TO EXCEED 10 FEET	6 FEET
OVER 10 FEET	4 FEET

6 RECTANGULAR DUCT INSTALLATION DETAIL

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL DETAILS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

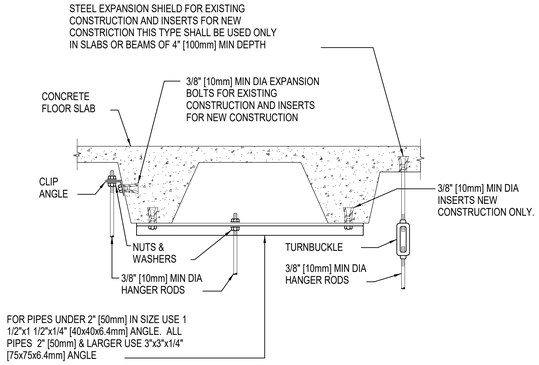
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: M503

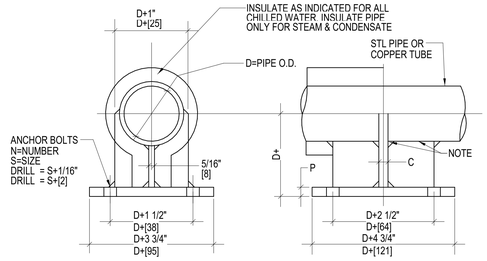
VA FORM 08-6231



4 SECURING HANGER RODS IN CONCRETE DETAIL

NOT TO SCALE

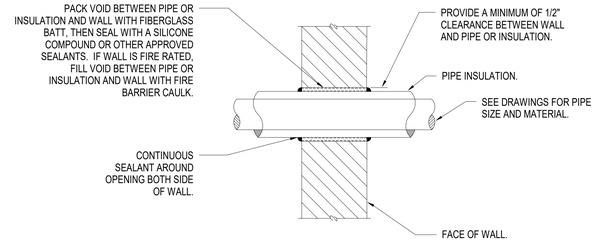
PIPE ANCHOR SCHEDULE										
D		P		C		N		S		BOLT PATTERN
IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
4"	102	5/8"	16	3/4"	19	4"	102	3/4"	19	
3"	76	1/2"	13	1/2"	13	4"	102	5/8"	16	
2 1/2"	64	3/8"	10	3/8"	10	4"	102	5/8"	16	
2"	51	3/8"	10	3/8"	10	4"	102	5/8"	16	
1 1/2"	38	3/8"	10	1/4"	6	4"	102	1/2"	13	



NOTE:
WHERE USED FOR COPPER TUBE OR PIPE, BRAZE TO FABRICATED STEEL ANCHOR

3 SMALL PIPE ANCHOR DETAIL

NOT TO SCALE

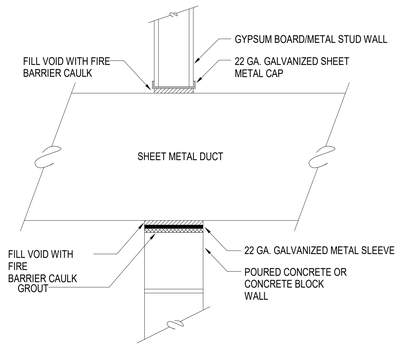


NOTES:

1. I.D. OF WALL OPENING TO BE A MIN. OF 1/2" LARGER THAN O.D. OF PIPE OR INSULATION PASSING THROUGH WALL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR WALL OPENINGS WITH OTHER TRADES AND/OR CONTRACTORS.
3. PIPE PENETRATIONS OF SMOKE OR FIRE WALLS SHALL BE IN COMPLIANCE WITH NFPA-90A.

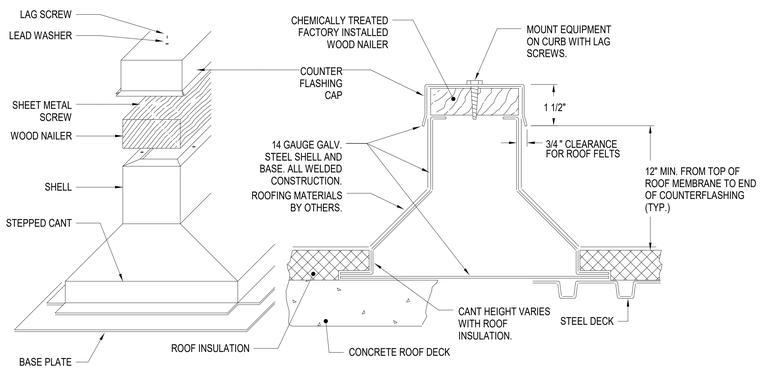
2 PIPE PENETRATION OF INTERIOR WALL DETAIL

NOT TO SCALE



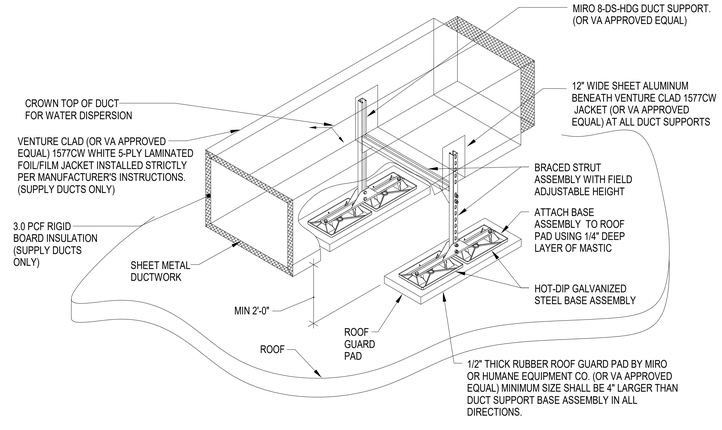
1 DUCT SLEEVE THRU INTERIOR WALL DETAIL

NOT TO SCALE



7 ROOF MOUNTED EQUIPMENT RAIL DETAIL (TYPICAL)

NOT TO SCALE

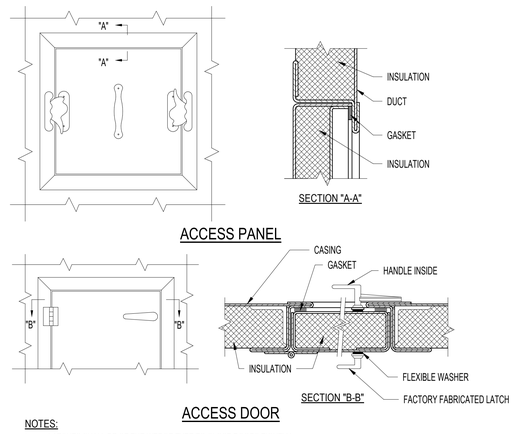


NOTES:

1. PROVIDE QUANTITY OF DUCT SUPPORTS AS REQUIRED SUCH THAT INSTALLED WEIGHT DOES NOT EXCEED 300 LBS. PER DUCT SUPPORT OR 150 LBS. ON EACH BASE.
2. SPACING NOT TO EXCEED 6'-0" CENTERS.
3. CROSSBRACE TWO PIPESTANDS EVERY FOURTH (4TH) PIPESTAND FOR ELEVATIONS 24" AND HIGHER.
4. IT IS NOT ACCEPTABLE FOR DUCT SUPPORT TO PENETRATE VENTURE CLAD JACKET.

6 EXTERIOR DUCT SUPPORT DETAIL

NOT TO SCALE



NOTES:

1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9-15a

5 ACCESS PANEL AND DOOR DETAIL

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
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Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL DETAILS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

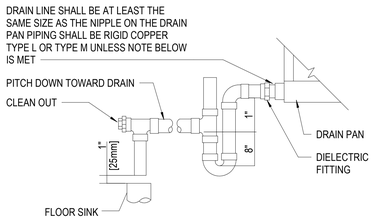
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: M504

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



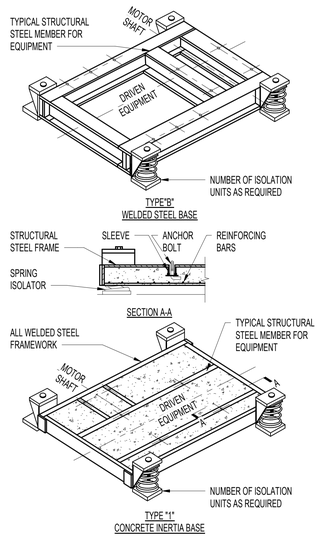
NOTE:
1. DIELECTRIC FITTING TO BE USED WHEN TWO DISSIMILAR METALS ARE TO BE CONNECTED.

UNIT TYPE	A	B
DRAW THRU	2" [50mm] PLUS X	X
BLOW THRU	1" [25mm] MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

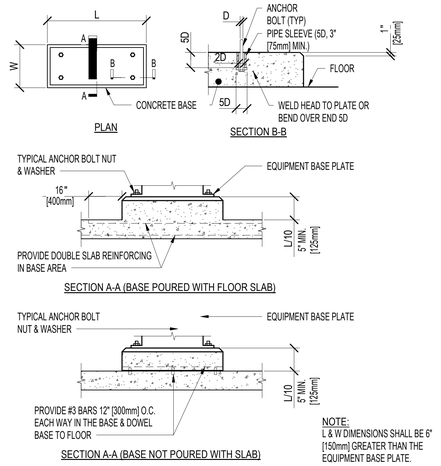
4 AIR HANDLING UNIT DRAIN TRAP

NOT TO SCALE



3 VIBRATION ISOLATION BASES

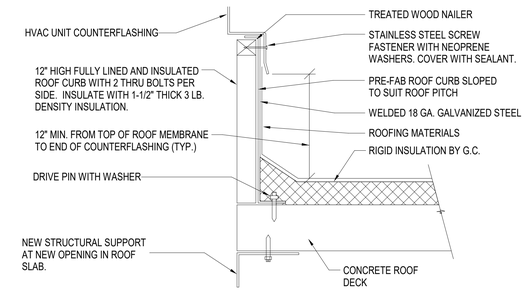
NOT TO SCALE



NOTE:
L & W DIMENSIONS SHALL BE 6" [150mm] GREATER THAN THE EQUIPMENT BASE PLATE.

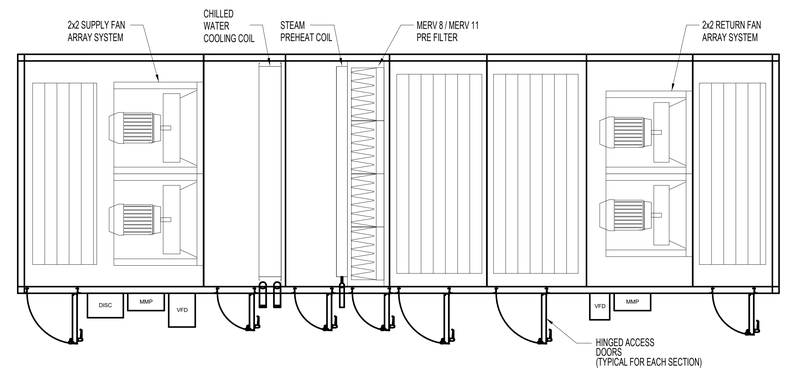
2 CONCRETE EQUIPMENT BASES

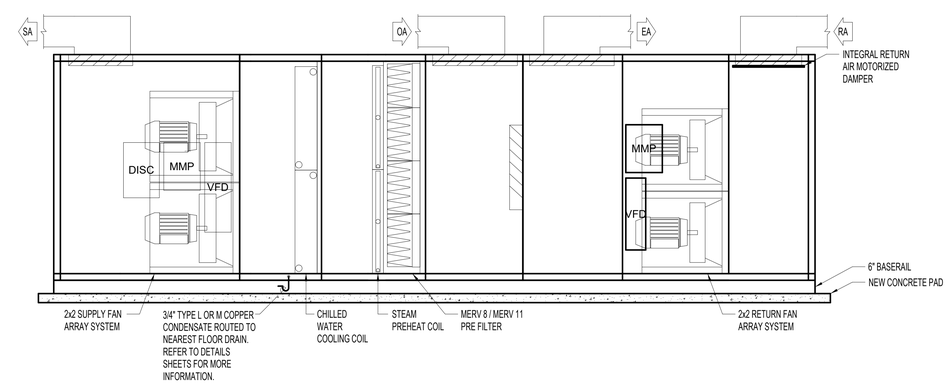
NOT TO SCALE



1 ROOF CURB DETAILS (TYPICAL)

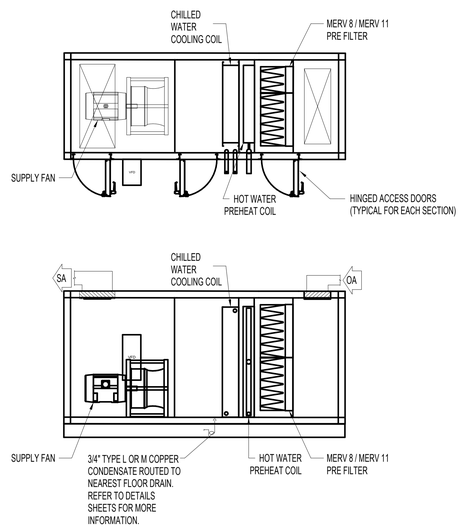
NOT TO SCALE





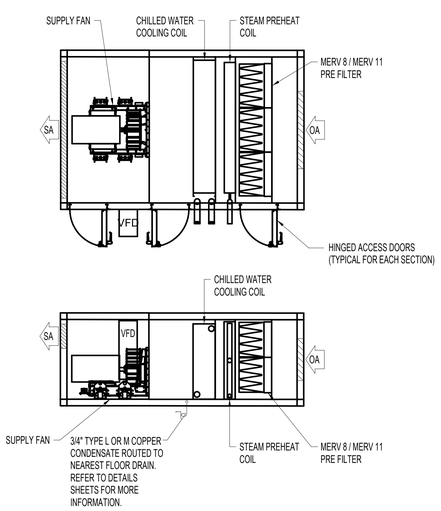
5 AIR HANDLING UNIT DETAIL (AHU-1)

NOT TO SCALE



6 AIR HANDLING UNIT DETAIL (AHU-2)

NOT TO SCALE



7 AIR HANDLING UNIT DETAIL (MAU-1)

NOT TO SCALE

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
Revisions:	Date:

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Drawing Title: MECHANICAL DETAILS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: M505

VA FORM 08-6231

MAKE UP AIR UNIT SCHEDULE

EQUIPMENT TAG	LOCATION	TYPE OF SYSTEM	APPROX. OVERALL DIMENSIONS (IN.)			WEIGHT (LBS)	MIN. O.A.	SUPPLY FAN									COOLING COIL												STEAM PREHEAT COIL								PRE FILTERS TYPE	FINAL FILTER TYPE	NOTES	BASIS OF DESIGN	
								SUPPLY CFM	TSP (IN. WG)	ESP (IN. WG)	TYPE	FAN RPM	MOTOR				EAT DB/WB (%%DF)	LAT DB/WB (%%DF)	EWT (%%DF)	LWT (%%DF)	AIR P.D. (IN)	AIR VELOCITY (FPM)	TOTAL MBH	SENS. MBH	ROWS/ FPI	FLUID TYPE	FLUID P.D. (FT)	GPM	EAT DB (%%DF)	LAT DB (%%DF)	STEAM PRESSURE (PSI)	STEAM FLOW (LBS/HR)	TOTAL MBH	AIR P.D. (IN)	COIL FACE AREA (FT2)	ROWS/ FPI				MANUFACTURER	MODEL
			H	W	L								BHP	HP	PH	VOLT																									
MAU-1	GC-105 MECHANICAL ROOM	CV	42	72	110	2,351	8,100	8,100	5.5	2.5	AIRFOIL	2,806	10.98	15	3	460	80/67	71.0/64.1	45	55	0.18	600	80	80	2/10	WATER	0.9	16.0	20	85.9	30	610	576	0.09	13.5	1/10	BY OTHERS	MERV 11	1,2,3,4,5,6,7,8,9,10,11,12,13	YORK	XTI-42x72

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. INTERNAL SPRING VIBRATION ISOLATORS FOR EACH FAN.
3. SAME END CHILLED WATER AND STEAM COIL CONNECTIONS.
4. PROVIDE FAN WITH PREMIUM EFFICIENCY MOTOR WITH GROUND SHAFTING RING.
5. HINGED ACCESS DOORS AND MARINE LIGHTS AT EACH SECTION.
6. PRE-INSULATED STAINLESS STEEL DRAIN PAN.
7. PROVIDE WITH 6" BASERAIL.
8. FACTORY INSTALLED VFD WITH INTEGRAL BYPASS AND DISCONNECT FOR EACH FAN.
9. COORDINATE LEFT HANDED/RIGHT HANDED COIL CONNECTIONS WITH DESIGN DRAWINGS AND EXISTING FIELD CONDITIONS.
10. UNIT TO BE SHIPPED IN SECTIONS FOR ASSEMBLY IN FIELD.
11. UNIT SHALL HAVE THE FOLLOWING CONFIGURATION: (SEE DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION)
    INLET PLENUM, OPEN FILTER SECTION, INTEGRAL FACE AND BYPASS PREHEAT COIL, COOLING COIL, SUPPLY FAN,
    HIGH EFFICIENCY MERV 11 FILTER SECTION, DISCHARGE PLENUM.
    SEE MAU DETAILS ON DRAWINGS FOR REQUIRED SECTIONS AND COMPONENTS.
12. MAGNEHELIC GAGES ACROSS EACH FILTER.
13. WIRING TO LIGHTING AND RECEPTACLES SHALL BE IN PARALLEL, TO PREVENT HARMONICS FROM LED LIGHTS FROM TRIPPING THE GFCIS.

DIFFUSER, GRILLE, AND REGISTER SCHEDULE

EQUIPMENT TAG	MANUFACTURER	MODEL	TYPE	NOMINAL FACE SIZE	MATERIAL	MAX. N.C.	NOTES
A	TITUS	OMNI	SQUARE PANEL FACE	24"x24"	STEEL	30	1,2,3,4
B	HALTON	KCD	KITCHEN DIFFUSER	48"x24"	STAINLESS STEEL	30	1,2,3,4
C	TITUS	PAR	PERFORATED FLUSH FACE	24"x24"	STEEL	30	1,2,3,4
D	TITUS	PAR	PERFORATED FLUSH FACE	24"x24"	ALUMINIUM	30	1,2,3,4
E	HALTON	KCD	KITCHEN DIFFUSER	24"x24"	STAINLESS STEEL	30	1,2,3,4
F	TITUS	350ZR	LOUVERED RETURN	48"x48"	STEEL	35	1,2,3,4

NOTES:

1. *OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.*
2. *FINISH AS SELECTED BY ARCHITECT.*
3. *PROVIDE DAMPER AT NECK.*
4. *1/2"x1/2"x1" GRID.*

AIR HANDLING UNIT SCHEDULE

EQUIPMENT TAG	LOCATION	TYPE OF SYSTEM	APPROX. OVERALL DIMENSIONS (IN.)			WEIGHT (LBS)	MIN. O.A.	SUPPLY FAN										COOLING COIL											STEAM PREHEAT COIL							
			H	W	L			NUMBER OF FANS	TOTAL SUPPLY CFM	TSP (IN. WG)	ESP (IN. WG)	TYPE	FAN RPM	MOTOR QUANTITY	MOTOR BHP	MOTOR HP	MOTOR PH	MOTOR VOLT	EAT DB/WB (°F)	LAT DB/WB (°F)	EWT (°F)	LWT (°F)	AIR P.D. (IN)	AIR VELOCITY (FPM)	TOTAL MBH	SENS. MBH	ROWS/ FPI	FLUID TYPE	FLUID P.D. (FT)	GPM	EAT DB (°F)	LAT DB (°F)	STEAM PRESSURE (PSI)	STEAM FLOW (LBS/HR)	TOTAL MBH	AIR P.D. (IN)	COIL FACE AREA (FT2)	ROWS/ FPI
AHU-1	GC-105 MECHANICAL ROOM	VAV	90	96	335	12,931	3,855	4	20,000	5.1	3.0	AIRFOIL	1,931	4	6.76	7.5	3	460	80/67	52.8/52.3	45	55	0.68	442	863	575	5/10	WATER	10.6	173.4	20	85.5	30	1498	1,414	0.04	45.0	1/8
AHU-2	GD-100F MECHANICAL ROOM	CV	60	48	129	2,412	4,350	1	4,350	3.5	1.5	AIRFOIL	1,957	1	3.42	5	3	460	80/67	56.1/54.6	45	55	0.32	348	167	116	4/11	WATER	6.6	33.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TEMP AHU	LOADING DOCK	VAV	90	84	181	6,240	20,000	1	20,000	6.7	5.0	AIRFOIL	1,833	1	29.99	30	3	460	95.0	78.0	45	55	0.77	517	1,559	839	4/10	WATER	16.5	310.6	20	92.3	30	1652	1,561	0.07	38.5	1/10

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. INTERNAL SPRING VIBRATION ISOLATORS FOR EACH FAN.
3. SAME END CHILLED WATER AND STEAM/HOT WATER COIL CONNECTIONS.
4. PROVIDE FAN WITH PREMIUM EFFICIENCY WITH GROUND SHAFTING RING.
5. HINGED ACCESS DOORS AND MARINE LIGHTS AT EACH SECTION.
6. PRE-INSULATED STAINLESS STEEL DRAIN PAN.
7. PROVIDE WITH 6" BASERAIL.
8. FACTORY INSTALLED VFD WITH DISCONNECT FOR EACH FAN.
9. FACTORY INSTALLED VFD TO SERVE 2 FANS EACH. PROVIDE INDIVIDUAL DISCONNECT FOR EACH FAN.
10. COORDINATE LEFT HANDED/RIGHT HANDED COIL CONNECTIONS WITH DESIGN DRAWINGS AND EXISTING FIELD CONDITIONS.
11. UNIT TO BE SHIPPED IN SECTIONS FOR ASSEMBLY IN FIELD.
12. UNIT SHALL HAVE THE FOLLOWING CONFIGURATION: (SEE DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION)
    INLET PLENUM, RETURN FAN, ECONOMIZER SECTION, HIGH EFFICIENCY MERV 8 / MERV 11 FILTER SECTION, HEATING COIL,
    COOLING COIL, SUPPLY FAN, DISCHARGE PLENUM.
    SEE AHU DETAILS ON DRAWINGS FOR REQUIRED SECTIONS AND COMPONENTS.
13. MAGNEHELIC GAGES ACROSS EACH FILTER.
14. WIRING TO LIGHTING AND RECEPTACLES SHALL BE IN PARALLEL, TO PREVENT HARMONICS FROM LED LIGHTS FROM TRIPPING THE GFCIS.

EXHAUST FAN SCHEDULE

EQUIPMENT TAG	BASIS OF DESIGN		LOCATION	AREA SERVED	TYPE	DRIVE	WEIGHT (LBS)	CFM	SP (IN.)	MAXIMUM SONES	FAN RPM	BHP	MOTOR				CONTROL TYPE	NOTES
	MANUFACTURER	MODEL											HP	RPM	PHASE	VOLT		
EF-1	GREENHECK	BDF-80-7	GC-105 MECHANICAL ROOM	KITCHEN TOILET AND GENERAL EXHAUST	INLINE	BELT	80	1,000	1.5	15.9	1,782	0.48	3/4	1776	3	460	BAS	1,2,4,5
EF-50	GREENHECK	CUE-141HP-A	ROOF	DISHWASHER	CENTRIFUGAL UPBLAST	DIRECT	81	750	1.5	15.3	1,725	0.41	3/4	1725	3	460	BAS	1,2,3,4,5,7
EF-51	GREENHECK	CUE-141-A	ROOF	CART WASH	CENTRIFUGAL UPBLAST	DIRECT	83	2,000	1.5	13.7	1,725	0.95	1	1725	3	460	BAS	1,2,3,4,5,6
EF-CU89	GREENHECK	TDI-3-36-615-A75	GE-100 LOADING DOCK	CONDENSING UNITS ON LOADING DOCK	TUBE AXIAL	DIRECT	317	25,000	0.25	-	1,701	6.52	7 1/2	1725	3	460	T-STAT	1,2,5,8,9
EF-500W	GREENHECK	CSP-A3600	WAREHOUSE CEILING	TEMPORARY SWING SPACE	INLINE CABINET	DIRECT	123	2,100	0.919	3.5	1,100	FLA 12.0	689 W	1100	1	115	BAS	1,2,5,9

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. PROVIDE THE FOLLOWING OPTIONS AND ACCESSORIES: DISCONNECT SWITCH, NEOPRENE VIBRATION ISOLATORS, FLANGED INLET AND OUTLET, AND BACKDRAFT DAMPER.
3. PROVIDE PRE-FABRICATED 18" TALL INSULATED ROOF CURB.
4. PROVIDE ALUMINUM BIRDSCREEN.
5. FAN SHALL COME IN STANDARD ENAMEL GREY COLOR.
6. FAN SHALL OPERATE WHILE CART WASH IS IN OPERATION.
7. FAN SHALL OPERATE WHILE DISHWASHER IS IN OPERATION.
8. FAN SHALL OPERATE TO MAINTAIN MAXIMUM TEMPERATURE OF 95°F.
9. FAN SHALL COME WITH FACTORY SPECIFIED VFD.

AIR HANDLING UNIT SCHEDULE

HOT WATER PREHEAT COIL											RETURN FAN										PRE FILTERS TYPE	FINAL FILTER TYPE	NOTES	BASIS OF DESIGN	
EAT DB (°F)	LAT DB (°F)	EWT (°F)	LWT (°F)	AIR P.D. (IN)	AIR VELOCITY (FPM)	TOTAL MBH	ROWS/ FPI	FLUID TYPE	FLUID P.D. (FT)	GPM	NUMBER OF FANS	TOTAL RETURN CFM	TSP (IN. WG)	ESP (IN.)	TYPE	FAN RPM	MOTOR BHP	MOTOR HP	MOTOR PH	MOTOR VOLT				MANUFACTURER	MODEL
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	20,000	2.5	2.0	AIRFOIL	1,490	3.23	5.0	3	460	MERV 8	MERV 11	1,2,3,4,5,6,7,9,10,11,12,13,14	YORK	XTI-90x96
20	79.8	180	160	0.04	348	282	1/12	WATER	2.8	29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	MERV 8	MERV 11	1,2,3,4,5,6,7,8,10,11,13,14	YORK	XTI-60x48
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	MERV 8	MERV 11	1,2,3,4,5,6,7,8,10,11,13,14	YORK	XTO-90x84

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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Drawing Title: MECHANICAL SCHEDULES

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: M601

VA FORM 08-6231

FAN COIL UNIT SCHEDULE

GENERAL											HEATING/COOLING COIL															FILTER TYPE	ELECTRICAL DATA			NOTES
							CABINET				COOLING COIL						HEATING COIL													
EQUIPMENT TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL	STANDARD AIR DELIVERY (CFM)	OUTSIDE AIR FLOW (CFM)	TYPE	L (IN.)	W (IN.)	D (IN.)	GPM	ROWS	PD. (FT.)	EWT (°F)	EAT (°F) DB/WB	CAP. (MBH)	GPM	ROWS	PD. (FT.)	EWT (°F)	EAT (°F) DB/WB	LAT (°F)	CAP. (MBH)		FAN (HP)	PHASE	VOLTS	
FCU-GD-129	GD-129	GD-129	TITUS	THBP-30	230	35	DUCTED, CONCEALED	32	40	10	1.2	3	2.7	45	75/63	6	0.5	1	0.77	180	70	116.3	11.2	MERV 8	(1) @ 1/10	1	277	1,2,3,4,5,6
FCU-GD-130	GD-130	GD-130, GD-130A	TITUS	THBP-40	365	110	DUCTED, CONCEALED	32	50	10	2.2	4	1.5	45	75/63	10.5	0.5	1	0.94	180	70	107.9	14.6	MERV 8	(1) @ 1/6	1	277	1,2,3,4,5,6
FCU-GD-132	GD-132	GD-131, GD-132	TITUS	THBP-40	335	65	DUCTED, CONCEALED	32	50	10	2.0	4	1.3	45	75/63	9.7	0.5	1	0.94	180	70	110.1	14.2	MERV 8	(1) @ 1/6	1	277	1,2,3,4,5,6
FCU-GD-133	GD-133	GD-133, GD-134, GD-C10	TITUS	THBP-50	650	300	DUCTED, CONCEALED	32	60	10	3.5	4	2.2	45	75/63	16.6	0.5	1	1.13	180	70	97	18.5	MERV 8	(2) @ 1/6	1	277	1,2,3,4,5,6
FCU-GD-134B	GD-134B	GD-134A, GD-134B	TITUS	THBP-40	340	75	DUCTED, CONCEALED	32	50	10	2.0	4	1.3	45	75/63	9.7	0.5	1	0.94	180	70	109.7	14.2	MERV 8	(1) @ 1/6	1	277	1,2,3,4,5,6
FCU-GD-135	GD-135	GD-135	TITUS	THBP-40	365	185	DUCTED, CONCEALED	32	50	10	2.2	4	1.5	45	75/63	10.5	0.5	1	0.94	180	70	107.9	14.6	MERV 8	(1) @ 1/6	1	277	1,2,3,4,5,6
FCU-GD-137	GD-137	GD-136, GD-137	TITUS	THBP-50	570	230	DUCTED, CONCEALED	32	60	10	3.0	4	1.6	45	75/63	14.7	0.5	1	1.12	180	70	99.7	17.9	MERV 8	(2) @ 1/6	1	277	1,2,3,4,5,6
FCU-GD-139	GD-139	GD-138, GD-139	TITUS	THBP-50	635	290	DUCTED, CONCEALED	32	60	10	3.3	4	2.0	45	75/63	16.2	0.5	1	1.13	180	70	97.4	18.4	MERV 8	(2) @ 1/6	1	277	1,2,3,4,5,6

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. PROVIDE FACTORY INSTALLED VALVING PACKAGE INDICATED ON FAN COIL UNIT COIL PIPING DETAIL.
3. ELECTRONIC CONTROL WITH WALL MOUNTED PROGRAMMABLE T-STAT.
4. COORDINATE LEFT OR RIGHT HAND COIL CONNECTIONS WITH INSTALLATION AND EXISTING CONDITIONS.
5. PROVIDE WITH NEOPRENE RUBBER VIBRATION ISOLATORS IN EACH HANGER ROD.
6. FACTORY INSTALLED DISCONNECT.

VAV BOX WITH HOT WATER REHEAT SCHEDULE

EQUIPMENT TAG	LOCATION	MANUFACTURER	MODEL	AIRFLOW (CFM)		APPROX. DIMENSIONS (IN.)					HOT WATER COIL							NOISE LEVEL(NC)		INTEGRAL SOUND ATTENUATOR	NOTES
				MIN.	MAX.	INLET SIZE	OUTLET SIZE	H	L	W	HEATING CFM	CAPACITY (MBH)	EAT (°F)	LAT (°F)	EWT (°F)	GPM	ROWS	RADIATED	DISCHARGE		
VAV-G100	G100	TITUS	DESV	1,660	3,010	16	24x18	18.0	15.5	24.0	3010	81.6	55	80	180	3.3	2	22	23	NO	1,2,3,4,5,6,7,8
VAV-G100A	G100A	TITUS	DESV	1,245	2,260	14	20x17.5	17.5	15.5	20.0	2260	61.3	55	80	180	2.1	2	23	22	NO	1,2,3,4,5,6,7,8
VAV-G100B	G100B	TITUS	DESV	1,715	3,115	16	24x18	18.0	15.5	24.0	3115	84.5	55	80	180	3.5	2	22	24	NO	1,2,3,4,5,6,7,8
VAV-G100E	G100E	TITUS	DESV	160	285	6	12x8	8.0	15.5	12.0	285	7.7	55	80	180	0.7	1	18	25	NO	1,2,3,4,5,6,7,8
VAV-G100G	G100G	TITUS	DESV	270	485	8	12x10	10.0	15.5	12.0	485	13.2	55	80	180	1.9	1	19	25	NO	1,2,3,4,5,6,7,8
VAV-G100K	G100K	TITUS	DESV	155	275	6	12x8	8.0	15.5	12.0	275	7.5	55	80	180	0.6	1	18	25	NO	1,2,3,4,5,6,7,8
VAV-G101	G101	TITUS	DESV	1,715	3,115	16	24x18	18.0	15.5	24.0	3115	84.5	55	80	180	3.5	2	22	23	NO	1,2,3,4,5,6,7,8
VAV-G108	G108	TITUS	DESV	605	1,100	10	14x12.5	12.5	15.5	14.0	1100	29.8	55	80	180	1.3	2	23	27	NO	1,2,3,4,5,6,7,8
VAV-G114	G114	TITUS	DESV	800	1,455	14	20x17.5	17.5	15.5	20.0	1455	34.7	55	77	180	1.3	2	20	19	NO	1,2,3,4,5,6,7,8
VAV-G116	G116	TITUS	DESV	340	615	8	12x10	10.0	15.5	12.0	615	16.7	55	80	180	0.7	2	20	25	NO	1,2,3,4,5,6,7,8
VAV-G123A	G123A	TITUS	DESV	135	240	6	12x8	8.0	15.5	12.0	240	6.5	55	80	180	0.5	1	16	23	NO	1,2,3,4,5,6,7,8
VAV-G124	G124	TITUS	DESV	155	275	6	12x8	8.0	15.5	12.0	275	7.5	55	80	180	0.6	1	18	24	NO	1,2,3,4,5,6,7,8
VAV-G126	G126	TITUS	DESV	105	190	6	12x8	8.0	15.5	12.0	190	5.2	55	80	180	0.3	1	13	20	NO	1,2,3,4,5,6,7,8
VAV-G128	G128	TITUS	DESV	150	270	6	12x8	8.0	15.5	12.0	270	7.3	55	80	180	0.6	1	17	25	NO	1,2,3,4,5,6,7,8
VAV-G131	G131	TITUS	DESV	180	325	8	12x10	10.0	15.5	12.0	325	8.8	55	80	180	0.5	1	15	23	NO	1,2,3,4,5,6,7,8
VAV-GA-137A	GA-137A	TITUS	DESV	485	880	10	14x12.5	12.5	15.5	14.0	880	21.0	55	95	180	1	2	22	25	NO	1,2,3,4,5,6,7,8
VAV-GA-137H	GA-137H	TITUS	DESV	430	240	10	14x12.5	12.5	15.5	14.0	240	10.2	55	95	180	1.2	1	20	22	NO	1,2,3,4,5,6,7,8
VAV-H1	G100A	HALTON		1,100	2,000	12	16x15	15.0	15.5	16.0	2000	N/A	N/A	N/A	N/A	N/A	N/A	29	31	NO	1,2,3,4,5,6,7,8
VAV-H2	G100A	HALTON		1,100	2,000	12	16x15	15.0	15.5	16.0	2000	N/A	N/A	N/A	N/A	N/A	N/A	29	31	NO	1,2,3,4,5,6,7,8
VAV-H3	G100A	HALTON		1,375	2,500	14	20x17.5	17.5	15.5	20.0	2500	N/A	N/A	N/A	N/A	N/A	N/A	27	24	NO	1,2,3,4,5,6,7,8
VAV-H4	G100A	HALTON		1,650	3,000	14	20x17.5	17.5	15.5	20.0	3000	N/A	N/A	N/A	N/A	N/A	N/A	29	25	NO	1,2,3,4,5,6,7,8
VAV-H5	G100A	HALTON		1,375	2,500	14	20x17.5	17.5	15.5	20.0	2500	N/A	N/A	N/A	N/A	N/A	N/A	27	24	NO	1,2,3,4,5,6,7,8
VAV-G117	G117	TITUS	DESV	50	100	4	12x8	8.0	15.5	12.0	100	4.7	55	97.9	180	.5	1	14	27	NO	1,2,3,4,5,6,7,8

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. BOX SHALL BE LINED WITH 1" FIBER-FREE INSULATION.
3. SOUND LEVELS (NC) AST FULL AIR FLOW WITH 0.75" INLET STATIC PRESSURE AND 0.5" DISCHARGE PRESSURE. NOISE CRITERIA (NC) SOUND INFORMATION IS BASED ON ARI-880-98.
4. REGARDLESS OF HOT WATER COIL AIR PRESSURE DROP, AVAILABLE DISCHARGE STATIC PRESSURE SHALL NOT BE LESS THAN 0.25" AT AIR FLOW RATE SCHEDULED.
5. HOT WATER COIL WATER PRESSURE DROP SHALL NOT EXCEED 5' AND AIR PRESSURE DROP SHALL NOT EXCEED 0.3" WG.
6. PROVIDE WITH ACCESS DOORS FOR REHEAT COIL AND FACTORY MOUNTED DISCONNECT.
7. COORDINATE LEFT HANDED/RIGHT HANDED COIL CONNECTIONS WITH DESIGN DRAWINGS AND EXISTING FIELD CONDITIONS
8. PROVIDE NECESSARY 120V / 24V POWER SUPPLY FOR CONTROLLER POWER. COORDINATE WITH ELECTRICAL DRAWINGS FOR QUANTITY AND LOCATION.

SUSPENDED UNIT HEATER SCHEDULE

NIC

EQUIPMENT TAG	LOCATION	MANUFACTURER	MODEL	TYPE	FAN			HEATING COIL						MOTOR			NOTES
					TYPE	CFM	RPM	MBH	GPM	PRESS. DROP	EWT (°F)	LWT (°F)	EAT (°F)	HP	VOLT	PHASE	
SUH-001	G133 FUTURE SPACE	REZNOR	WS 44/62	HOT WATER SUSPENDED UNIT HEATER	PROPELLER	860	1600	62	4.54	0.15	180	160	60	0.082	115	1	1,2
SUH-002	G133 FUTURE SPACE	REZNOR	WS 44/62	HOT WATER SUSPENDED UNIT HEATER	PROPELLER	860	1600	62	4.54	0.15	180	160	60	0.082	115	1	1,2
SUH-003	G133 FUTURE SPACE	REZNOR	WS 44/62	HOT WATER SUSPENDED UNIT HEATER	PROPELLER	860	1600	62	4.54	0.15	180	160	60	0.082	115	1	1,2
SUH-004	G133 FUTURE SPACE	REZNOR	WS 44/62	HOT WATER SUSPENDED UNIT HEATER	PROPELLER	860	1600	62	4.54	0.15	180	160	60	0.082	115	1	1,2
SUH-005	G133 FUTURE SPACE	REZNOR	WS 44/62	HOT WATER SUSPENDED UNIT HEATER	PROPELLER	860	1600	62	4.54	0.15	180	160	60	0.082	115	1	1,2
SUH-006	G133 FUTURE SPACE	REZNOR	WS 44/62	HOT WATER SUSPENDED UNIT HEATER	PROPELLER	860	1600	62	4.54	0.15	180	160	60	0.082	115	1	1,2

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. HORIZONTAL AND VERTICAL DEFLECTION LOUVERS.

PUMP SCHEDULE

EQUIPMENT TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	TYPE	GPM	HEAD (FT.)	NPSHr	IMP. DIA. (IN.)	RPM	MINIMUM EFFICIENCY	MOTOR			NOTES
												HP	PHASE	VOLT	
P-15	GC-105 MECHANICAL ROOM	CHILLED WATER LOOP	BELL & GOSSETT	e-1510 6E	CENTRIFUGAL BASE MOUNTED	1400	70.0	11.2	10	1648	76.8%	40	3	460	1,2,3
P-16	GC-105 MECHANICAL ROOM	CHILLED WATER LOOP	BELL & GOSSETT	e-1510 6E	CENTRIFUGAL BASE MOUNTED	1400	70.0	11.2	10	1648	76.8%	40	3	460	1,2,3
P-1	GA-139 MECHANICAL ROOM	CHILLED WATER LOOP	BELL & GOSSETT	e-1510 3EB	CENTRIFUGAL BASE MOUNTED	400	70.0	5.5	10 1/4	1561	74.9%	15	3	277	1,2,3
P-2	GA-139 MECHANICAL ROOM	CHILLED WATER LOOP	BELL & GOSSETT	e-1510 3EB	CENTRIFUGAL BASE MOUNTED	400	70.0	5.5	10 1/4	1561	74.9%	15	3	277	1,2,3

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. REMOTE VFD TO BE PROVIDED.
3. PROVIDE PREMIUM EFFICIENCY MOTORS WITH SHAFT GROUNDING RING, VIRBATION ISOLATION, AND NON-FUSED DISCONNECT.

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
60% DESIGN DEVELOPMENT	09/11/2020
Revisions:	Date:

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STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL SCHEDULES

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: M602

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231

SINGLE STAGE STEAM PRESSURE REGULATOR VALVE SCHEDULE

EQUIPMENT TAG	LOCATION	MANUFACTURER	SERVES	1ST STAGE		VALVE SIZE (IN)	CAPACITY (LBS / HR)	NOTES
				INLET PRESSURE (PSI)	OUTLET PRESSURE (PSI)			
PRV-500K	GC-105 BSMT WEST MECHANICAL ROOM	ITT INDUSTRIES	KITCHEN EQUIPMENT	110	20	1-1/2	2,100	1,2

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. PROVIDE PRESSURE PILOT ACOUSTIC ORIFICE PLATE AND HARDWARE KIT.

TWO STAGE STEAM PRESSURE REGULATOR VALVE SCHEDULE

EQUIPMENT TAG	LOCATION	MANUFACTURER	SERVES	1ST STAGE (PRV-12A)				2ND STAGE (PRV-12B)				NOTES
				INLET PRESSURE (PSI)	OUTLET PRESSURE (PSI)	CAPACITY (LBS/HR)	VALVE SIZE (IN)	INLET PRESSURE (PSI)	OUTLET PRESSURE (PSI)	CAPACITY (LBS/HR)	VALVE SIZE (IN)	
PRV-12	GC-105 BSMT WEST MECHANICAL ROOM	ITT INDUSTRIES	STEAM LOOP	110	35	4158	1-1/2	110	35	2142	1-1/4	1

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.

CONDENSATE PUMP SCHEDULE

EQUIPMENT TAG	LOCATION	SYSTEM SERVE	RECIEVER L x W (INCHES)	RECIEVER TANK (GALLON)	CONDENSATE TEMPERATURE (F)	CIRCULATING FLUID		ELECTRICAL					MANUFACTURER	MODEL	REMARKS
						FLOW (GPM)	HEAD (PSI)	QTY.	POWER (HP)	RPM	VOLTS	PHASE			
CP-AHU1	GC-105 MECHANICAL ROOM	STEAM RETURN	21 x 13	23	274	9	20	1	1/3	3500	115	1	BELL AND GOSSETT	23CB9-20	1,2,3,4
CP-MAU1	GC-105 MECHANICAL ROOM	STEAM RETURN	21 x 13	23	274	9	20	1	1/3	3500	115	1	BELL AND GOSSETT	23CB9-20	1,2,3,4

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. PROVIDE BASKET STRAINER, HIGH ALARM W/SILENCER, POWER SWITCHING RELAY, STARTER WITH AUTO/OFF/HAND SWITCH, ELECTRON IC ALTERNATOR, BUTTERFLY ISOLATION VALVES, PUMP PILOT, AND DISCHARGE PRESSURE GAUGE.
3. PROVIDE NON-FUSED DISCONNECT, U.L. LISTED CONTROL PANEL, AND TEFC MOTORS.
4. REFER TO SPECIFICATION SECTION 23 22 23 STEAM CONDENSATE PUMPS.

WALL LOUVER SCHEDULE

EQUIPMENT TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	TYPE	SIZE (IN.)			CFM	FREE AREA VELOCITY (FPM)	P.D. (IN. W.G.)	WATER PENETRATION VELOCITY (FPM)	NOTES
						W	H	D					
LV-1	LOADING DOCK	EF-CU89	VIBRO-ACOUSTIC	ALA-HV-24	ACOUSTIC LOUVER AIRFOIL BLADE	132	48	24	25000			N/A	1,2,3,4

NOTES:

1. OTHER ACCEPTABLE MANUFACTURERS: VA APPROVED EQUAL.
2. PROVIDE ALUMINIUM BIRDSCREEN.
3. COLOR AND FINISH TO BE SELECTED BY ARCHITECT.
4. WATER PENETRATION VELOCITY IF BASED ON 0.01 OUNCES/SQ.FT. WITH A 48"x48" LOUVER AND A TEST PERIOD OF 15 MIN.

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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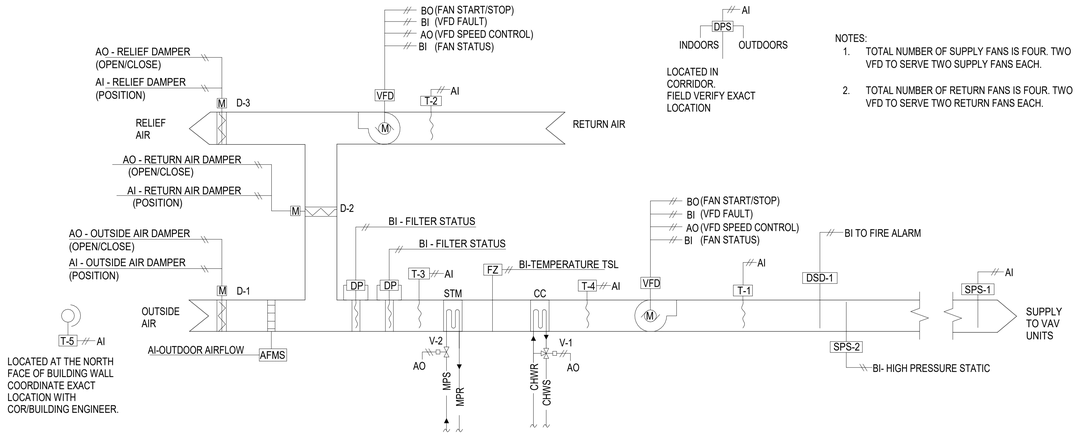
VA FORM 08-6231



NOTES:
1. TOTAL NUMBER OF SUPPLY FANS IS FOUR. TWO VFD TO SERVE TWO SUPPLY FANS EACH.
2. TOTAL NUMBER OF RETURN FANS IS FOUR. TWO VFD TO SERVE TWO RETURN FANS EACH.

1 VARIABLE AIR VOLUME AIR HANDLING UNITS (AHU-1)

NTS

SEQUENCE OF OPERATION

VARIABLE VOLUME AIR HANDLING UNIT

1. GENERAL
   A. UNIT IS NORMALLY STARTED AND STOPPED REMOTELY AT THE DDC. H-O-A SWITCH SHALL BE KEPT IN THE "AUTO" POSITION.
   "HAND" AND "OFF" POSITIONS SHALL BE USED ONLY FOR MAINTENANCE. WHEN THE UNIT IS "OFF" D-1, D-2, & D-3, SHALL BE FULLY CLOSED. WHEN THE UNIT IS "ON" D-1, D-2, & D-3 SHALL BE OPEN TO ITS MINIMUM POSITION. DAMPER SHALL MODULATE IN ACCORDANCE WITH THE FOLLOWING SEQUENCE:

2. SCHEDULED
   A. THE UNIT SHALL RUN BASED ON THE FOLLOWING TENTATIVE ADJUSTABLE SCHEDULE
      a. MORNING START-UP
         - MONDAY - FRIDAY 4:00AM - 7:00AM (ADJ)
         - SATURDAY - SUNDAY 4:00AM - 7:00AM (ADJ)
      b. OCCUPIED MODE
         - MONDAY - FRIDAY 6:00AM - 7:00PM (ADJ)
         - SATURDAY - SUNDAY 6:00AM - 7:00PM (ADJ)
      c. UNOCCUPIED MODE
         - MONDAY - FRIDAY 7:00PM - 6:00AM (ADJ)
         - SATURDAY - SUNDAY 7:00PM - 6:00AM (ADJ)

   B. OPTIMAL START SHALL START PRIOR TO SCHEDULED OCCUPANCY BASED ON THE TIME NECESSARY FOR THE ZONES TO REACH THEIR OCCUPIED SETPOINTS. THE START TIME SHALL AUTOMATICALLY ADJUST BASED ON CHANGES IN OUTSIDE AIR TEMPERATURE AND ZONE TEMPERATURES.

3. TEMPERATURE CONTROL
   A. SUPPLY AIR TEMPERATURE, SENSED BY T-1, SHALL BE MAINTAINED AT SETPOINT VIA DDC BY MODULATING D-1, D-2 AND
   D-3 OR V-1 OR V-2 IN SEQUENCE.

   B. DURING OCCUPIED MODE, THE SETPOINT IS RESET FROM Tmin (53°F ADJ.) PROPORTIONALLY UP TO Tmax BASED ON THE ZONE WITH THE HIGHEST DEVIATION FROM SETPOINT.

4. PREHEATING COIL STEAM VALVES:
   A. THE CONTROLLER SHALL MODULATE THE STEAM PREHEAT COIL STEAM VALVE TO MAINTAIN THE DISCHARGE AIR SETPOINT.

   B. THE PREHEATING SHALL BE ENABLED WHENEVER:
      a. OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
      b. AND THE ECONOMIZER (IF PRESENT) IS DISABLED.
      c. AND THE HEATING IS ACTIVE.
      d. AND COOLING IS NOT ACTIVE.
      e. AND THE SUPPLY FAN STATUS IS ON.

4. COOLING VALVE:
   A. THE CONTROLLER SHALL MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

   B. THE COOLING SHALL BE ENABLED WHENEVER:
      a. OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.).
      b. AND THE ECONOMIZER IS DISABLED OR FULLY OPEN.
      c. AND THE SUPPLY FAN STATUS IS ON.
      d. AND THE HEATING IS NOT ACTIVE.
      e. DISCHARGE AIR TEMPERATURE IS ABOVE DISCHARGE AIR TEMPERATURE SETPOINT +1°F(ADJ.)

5. AIR FLOW CONTROL
   A. THE RETURN FAN WILL RUN WHENEVER THE SUPPLY FAN IS RUNNING. THE RETURN FAN SPEED SHALL LAG THE SUPPLY FAN SPEED BY THE %LAG SETPOINT (ADJ.) THE %LAG SETPOINT WILL BE RESET BASED ON THE BUILDING STATIC PRESSURE (SEE 13.A)

   B. THE DDC, USING HIGH PRESSURE SENSOR SPS-2 LOCATED AT THE SUPPLY FAN DISCHARGE, SHALL PREVENT THE SUPPLY FAN FROM DEVELOPING OVER 5" OF STATIC PRESSURE (FIELD ADJUSTABLE). IF STATIC PRESSURE AT SPS-2 DOES EXCEED 5"
   THE SUPPLY AIR FAN SHALL STOP. SPS-2 SHALL BE HARDWIRED TO THE SUPPLY FAN VSMC AND UNIT SHALL BE SHUTDOWN
   IN HAND, AUTO OR BYPASS MODE. SPS-2 WILL REQUIRE MANUAL RESET AT THE DEVICE.

   C. THE STATIC PRESSURE SETPOINT OF 1.0" (ADJ.) OF DUCT STATIC PRESSURE SENSED BY SPS-1 SHALL BE BASED UPON ON ACTUAL BUILDING LOAD. STATIC PRESSURE RESET SHALL BE BASED ON THE POSITION OF 2-3 ZONE DAMPERS, WITH THE GOAL OF REDUCING THE STATIC PRESSURE 0.1" WATER COLUMN UNTIL AT LEAST 2-3 ZONE DAMPERS IS NEARLY WIDE OPEN. IF MORE DAMPERS NEAR THE WIDE OPEN POSITION THE SETPOINT SHALL INCREMENTALLY INCREASE UP 0.1" WATER COLUMN. ONLY ONE RESET OPTION SHALL BE ENABLED AT A TIME.

8. FREEZE PROTECTION
   A. IF THE AIR TEMPERATURE AS SENSED BY T-4 FALLS BELOW 40°F, AN ALARM SIGNAL SHALL INDICATE AT THE DDC. IF THIS TEMPERATURE FALLS BELOW 35°F, AS SENSED BY THE TSL, THE SUPPLY AND RETURN FANS SHALL SHUT DOWN AND A CRITICAL ALARM SHALL INDICATE AT THE DDC. TSL SHALL BE HARDWIRED TO THE SUPPLY FAN VFD AND UNIT SHALL BE SHUTDOWN IN HAND, AUTO OR BYPASS MODE. TSL WILL REQUIRE MANUAL RESET AT THE DEVICE. DURING FAN SHUTDOWN,
   T-4 (PREHEAT TEMP) SENSOR MODULATE PREHEAT VALVE TO MAINTAIN 60°F (ADJ.).

9. AUTOMATIC SHUTDOWN/RESTART
   A. WHEN SMOKE IS DETECTED BY DUCT SMOKE DETECTOR, DSD, THE SUPPLY FANS SHALL SHUT "OFF" AND AN ALARM SIGNAL SHALL BE TRANSMITTED TO THE FIRE ALARM SYSTEM. ALL SMOKE DAMPERS IN THE SUPPLY AND RETURN DUCTS SHALL CLOSE. (HARDWIRE CONNECTION FROM FIRE RELAY AND THE VFD SAFETY CIRCUIT.)

   B. SUPPLY AND RETURN FANS SHALL RESTART AND SMOKE DAMPERS SHALL OPEN WHEN FIRE ALARM CIRCUIT IS RESET.

10. EMERGENCY CONSTANT SPEED OPERATION
   A. UPON FAILURE OF THE VFD, THE SUPPLY AND RETURN FANS SHALL BE STARTED/STOPPED MANUALLY AT THE DDC THROUGH THE BY-PASS STARTER. FANS SHALL THEN BE OPERATED AT CONSTANT SPEED.

   B. ALL VAV BOXES WILL BE INDEXED TO MAXIMUM FLOW TO ACCOMMODATE THE MAXIMUM SUPPLY FAN FLOW.

11. ALARMS
   A. PROVIDE ALARMS FOR SUPPLY FAN VFD FAULT, SUPPLY FAN FAILURE, (COMMANDED ON BUT "ON" BUT THE STATUS IS "OFF"; SUPPLY FAN RUNNING IN HAND (COMMANDED "OFF" BUT THE STATUS IS "ON", AND HIGHER PRE FILTER AND FINAL FILTER DIFFERENTIAL STATIC PRESSURES.

   B. IF THE DISCHARGE AIR TEMPERATURE IS ABOVE DISCHARGE AIR SETPOINT +5°F (ADJ.) FOR GREATER THAN 5 MINUTES, AN ALARM SHALL BE SIGNALED TO THE DDC SYSTEM.

12. ECONOMIZER CYCLE
   A. PROVIDE THE UNIT WITH AN ECONOMIZER CYCLE. OPERATION SHALL BE SUCH THAT WHEN
      a. THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE THE ECONOMIZER IS ENABLED. (DISABLE ECONOMIZER WHEN OUTSIDE AIR TEMPERATURE IS GREATER THAN RETURN AIR TEMPERATURE BY 1° (ADJ) AND OA-T< 60°F (ADJ))
      b. AND THE SUPPLY FAN STATUS IS ON.
      c. THE ECONOMIZER SHALL BE DISABLED ANYTIME THE MIXED AIR TEMPERATURE DROPS LESS THAN 40°F (ADJ.) OR THE FREEZESTAT IS ON.

13. BUILDING DIFFERENTIAL PRESSURE
   A. PROVIDE BUILDING DIFFERENTIAL PRESSURE SENSORS AT EACH FLOOR SERVED BY THE AHU. IN OCCUPIED MODE, ON A RISE IN BUILDING DIFFERENTIAL PRESSURE ABOVE SETPOINT (0.05 W.C., ADJ), THE RETURN FAN %LAG SETPOINT WILL BE DECREASED, INCREASING THE RETURN FAN SPEED. IF THE BUILDING DIFFERENTIAL PRESSURE DROPS BELOW SETPOINT, THE %LAG SETPOINT WILL BE INCREASED, DECREASING THE RETURN FAN SPEED. THE RESET SHALL BE ACTIVE WHENEVER THE AHU'S FANS ARE OPERATING.

14. MINIMUM OUTSIDE AIR VENTILATION
   A. WHEN IN THE OCCUPIED MODE, THE CONTROLLER SHALL MEASURE THE OUTSIDE AIRFLOW AND MODULATE THE OUTSIDE AIR DAMPERS TO MAINTAIN THE PROPER MINIMUM OUTSIDE AIR VENTILATION, OVERRIDDING NORMAL DAMPER CONTROL. ON DROPPING OUTSIDE AIRFLOW, THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPERS OPEN TO MAINTAIN THE OUTSIDE AIRFLOW SETPOINTS (ADJ).

15. SUPPLY AIR SMOKE DETECTION:
   A. THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A SUPPLY AIR SMOKE DETECTOR STATUS.

REMARKS:
   A. LOCATE OUTSIDE SENSOR ON THE EXTERIOR NORTH SIDE OF THE BUILDING. LOCATE OUT OF ANY HEAT SOURCE RELATED EQUIPMENT. COORDINATE FINAL LOCATION WITH COR/BUILDING ENGINEER AND ALL MANUFACTURER'S RECOMMENDATIONS.

AIR HANDLING UNIT POINT LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
SUPPLY AIR TEMPERATURE, T-1	X							X	X	X
RETURN AIR TEMPERATURE, T-2	X							X	X	X
MIXED AIR TEMPERATURE, T-3	X							X	X	X
TEMPERATURE DETECTION, T-4	X							X	X	X
OUTSIDE AIR DEW POINT TEMPERATURE, T-5 (NETWORK)	X				X			X		X
OUTSIDE AIR FLOW MEASURING STATION	X							X		X
SUPPLY AIR HUMIDITY	X							X		X
OUTSIDE AIR HUMIDITY SENSOR, H-3 (NETWORK)	X							X		X
BUILDING STATIC PRESSURE	X							X	X	X
OUTSIDE AIR DAMPER POSITION, D-1	X							X		X
RETURN AIR DAMPER POSITION, D-2	X							X		X
RELIEF AIR DAMPER POSITION, D-3	X							X		X
FILTER DIFFERENTIAL PRESSURE	X							X		X
FILTER DIFFERENTIAL PRESSURE	X							X		X
ZONE SETPOINT ADJUST	X									X
ZONE TEMPERATURE	X							X		X
SUPPLY FAN VFD SPEED 1		X						X		X
SUPPLY FAN VFD SPEED 2										
RETURN FAN VFD SPEED 1		X						X		X
RETURN FAN VFD SPEED 2										
OUTSIDE AIR DAMPER OPEN/CLOSE, D-1		X						X		X
RETURN AIR DAMPER OPEN/CLOSE, D-2		X						X		X
RELIEF AIR DAMPER OPEN/CLOSE, D-3		X						X		X
COOLING VALVE (V-1)		X						X		X
STEAM HEATING VALVE (V-2)		X						X		X
DUCT STATIC PRESSURE SENSOR, SPS-1			X					X	X	X
SUPPLY FAN VFD FAN STATUS 1			X					X	X	X
SUPPLY FAN VFD FAN STATUS 2			X					X	X	X
SUPPLY FAN VFD FAULT / FAILURE 1			X			X		X	X	X
SUPPLY FAN VFD FAULT / FAILURE 2			X			X		X	X	X
DUCT HIGH PRESSURE SAFETY, SPS-2			X					X	X	X
SUPPLY DUCT SMOKE DETECTOR, STATUS (DSD-1)			X					X	X	X
RETURN FAN VFD FAN STATUS 1			X					X	X	X
RETURN FAN VFD FAN STATUS 2			X					X	X	X
RETURN FAN VFD FAULT / FAILURE 1			X			X		X	X	X
RETURN FAN VFD FAULT / FAILURE 2			X			X		X	X	X
FREEZE PROTECTION			X						X	
SUPPLY FAN VFD START / STOP 1				X			X	X	X	X
SUPPLY FAN VFD START / STOP 2				X			X	X	X	X
RETURN FAN VFD START / STOP 1				X			X	X	X	X
RETURN FAN VFD START / STOP 2				X			X	X	X	X
SUPPLY AIR TEMPERATURE SET POINT					X			X		X
OUTSIDE AIR FLOW SET POINT, D-1					X			X		X
SUPPLY AIR FLOW SET POINT, D-2					X			X		X
RELIEF AIR FLOW SET POINT, D-3					X			X		X
FILTER DIFFERENTIAL PRESSURE ALARM SET POINT					X			X		X
BUILDING STATIC PRESSURE SET POINT					X			X		X
SUPPLY FAN VFD HOA STATUS 1						X		X		X
SUPPLY FAN VFD HOA STATUS 2						X		X		X
RETURN FAN VFD HOA STATUS 1						X		X		X
RETURN FAN VFD HOA STATUS 2						X		X		X

CONTROL SYMBOL LIST

SYMBOL	DESCRIPTION
AFMS	AIRFLOW MEASURING STATION
SPS	STATIC PRESSURE SENSOR
M	MOTORIZED DAMPER (SPRING RETURN)
DSD	DUCT SMOKE DETECTOR
HHL	HIGH HUMIDITY LIMIT
DPS	DIFFERENTIAL PRESSURE SENSOR
T-X	TEMPERATURE TRANSMITTER
TSL	TEMPERATURE SWITCH, LOW (FREEZESTAT)
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BI	BINARY INPUT
BO	BINARY OUTPUT
H	HUMIDITY SENSOR
VFD	VARIABLE FREQUENCY DRIVE
HOA	HAND-OFF-AUTO
N.O.	NORMALLY OPEN
N.C.	NORMALLY CLOSED
SD	SMOKE DETECTOR
DX	COOLING COIL
SC	HEATING COIL
ES	END SWITCH
EP	POWER WIRING
ECC	ENGINEERING CONTROL CENTER
AV	ANALOG VALUE
BV	BINARY VALUE
ADJ	ADJUSTABLE

VA CONTRACT NO: 36C24519C0171

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95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
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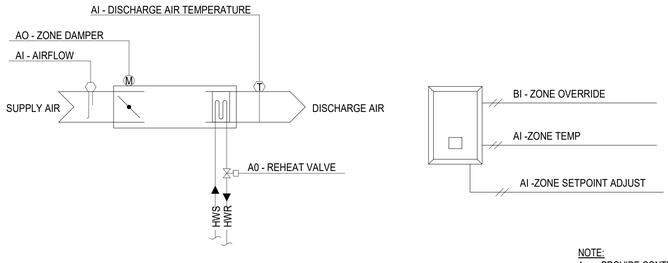
Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

Project Number: 613-19-103

Building Number: 500

Drawing Number: M701

VA FORM 08-6231



1 VARIABLE TERMINAL AIR BOX
NTS

NOTE:
1. PROVIDE CONTROL TRANSFORMER SERVING LOCAL GROUPS OF AIR TERMINAL UNITS (5 VAV BOXES MAX PER TRANSFORMER.)

SEQUENCE OF OPERATION
VARIABLE TERMINAL AIR BOX

1. GENERAL
   A. THE VARIABLE TERMINAL AIR BOX SHALL ACCORDING TO USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:

2. SCHEDULED
   A. THE UNIT SHALL RUN BASED ON THE FOLLOWING TENTATIVE ADJUSTABLE SCHEDULE.
      a. OCCUPIED MODE
         - MONDAY - FRIDAY 6:00AM - 7:00PM (ADJ)
         - SATURDAY - SUNDAY 6:OOAM - 7:00PM (ADJ)
      b. UNOCCUPIED MODE
         - MONDAY - FRIDAY 7:00PM - 6:00AM (ADJ)
         - SATURDAY - SUNDAY 7:OOPM - 6:00AM (ADJ)

3. TEMPERATURE CONTROL
   A. OCCUPIED MODE: THE UNIT SHALL MAINTAIN
      a. A 75°F (ADJ) COOLING SETPOINT
      b. A 72°F (ADJ) HEATING SETPOINT
   B. UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN
      a. A 85°F (ADJ) COOLING SETPOINT
      b. A 65°F (ADJ) HEATING SETPOINT

   C. THE UNIT SHALL MAINTAIN ZONE SETPOINTS BY CONTROLLING THE AIRFLOW THROUGH ONE OF THE FOLLOWING.

   D. OCCUPIED:
      a. WHEN THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM OCCUPIED AIRFLOW (ADJ) AND THE MAXIMUM COOLING AIRFLOW (ADJ) UNTIL THE ZONE IS SATISFIED.
      b. WHEN THE ZONE TEMPERATURE IS BETWEEN THE COOLING SETPOINT AND THE HEATING SETPOINT, THE ZONE DAMPER SHALL MAINTAIN THE MINIMUM ZONE AIRFLOW (ADJ).
      c. WHEN THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT, THE CONTROLLER SHALL ENABLE HEATING VALVE
      AND THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM AND MAXIMUM HEATING CFM TO MAINTAIN THE ZONE TEMPERATURE AT THE HEATING SETPOINT.

   E. UNOCCUPIED:
      a. WHEN THE ZONE IS UNOCCUPIED THE ZONE DAMPER SHALL CONTROL TO ITS MINIMUM UNOCCUPIED AIRFLOW (ADJ). WHEN THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM UNOCCUPIED AIRFLOW (ADJ) AND THE MAXIMUM COOLING AIRFLOW (ADJ) UNTIL THE ZONE IS SATISFIED.
      b. WHEN THE ZONE TEMPERATURE IS LESS THAN ITS UNOCCUPIED HEATING SETPOINT, THE CONTROLLER SHALL ENABLE HEATING TO MAINTAIN THE ZONE TEMPERATURE AT THE SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM UNOCCUPIED AIRFLOW (ADJ) AND THE HEATING AIRFLOW (ADJ) UNTIL THE ZONE IS SATISFIED.

4. ZONE OPTIMAL START
   A. THE UNIT SHALL USE AN OPTIMAL START ALGORITHM FOR MORNING START-UP. THIS ALGORITHM SHALL MINIMIZE THE UNOCCUPIED WARM-UP OR COOL-DOWN PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD.

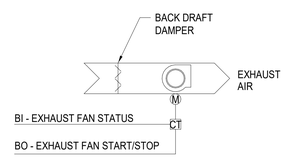
4. ZONE UNOCCUPIED OVERRIDE
   B. A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO OCCUPIED MODE FOR AN ADJUSTABLE PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

VARIABLE TERMINAL AIR BOX POINTS LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
DISCHARGE AIR TEMPERATURE	X							X		X
ZONE SETPOINT ADJUST	X									X
AIRFLOW	X							X		X
ZONE TEMPERATURE	X							X		X
HOT WATER HEATING VALVE		X						X		X
ZONE DAMPER		X						X		X
AIRFLOW SETPOINT					X			X		X
COOLING/HEATING SETPOINT					X			X		X
DISCHARGE AIR TEMPERATURE HEATING LIMIT					X					
HEATING/COOLING MODE						X		X		
SCHEDULE OCCUPANCY							X			
HIGH DISCHARGE AIR TEMPERATURE									X	
HIGH ZONE TEMPERATURE									X	
LOW DISCHARGE AIR TEMPERATURE									X	
LOW ZONE TEMPERATURE									X	

EXHAUST FAN POINTS LIST (EF-1, EF-50, EF-51)

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
FAN STATUS			X					X		X
FAN START/STOP				X				X		X
SCHEDULE							X			
FAN FAILURE									X	
FAN IN HAND									X	
FAN RUNTIME EXCEEDED									X	



2 EXHAUST AIR CONTROL DIAGRAM (EF-1)
NTS

RUN CONDITIONS - CONTINUOUS:
THE FAN SHALL RUN CONTINUOUSLY.

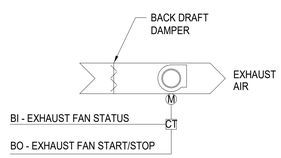
FAN:
THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER SHALL OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE EXHAUST AIR DAMPER SHALL CLOSE SEC (ADJ.) AFTER THE FAN STOPS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE
  LIMIT (ADJ.).



3 EXHAUST AIR CONTROL DIAGRAM (EF-50)
NTS

RUN CONDITIONS - CONTINUOUS:
THE FAN SHALL BE ACTIVATED BY DISHWASHER.

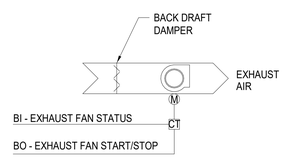
FAN:
THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER SHALL OPEN ANYTIME THE DISHWASHER RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE EXHAUST AIR DAMPER SHALL CLOSE SEC (ADJ.) AFTER THE FAN STOPS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE
  LIMIT (ADJ.).



4 EXHAUST AIR CONTROL DIAGRAM (EF-51)
NTS

RUN CONDITIONS - CONTINUOUS:
THE FAN SHALL BE ACTIVATED BY CART WASHER.

FAN:
THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER SHALL OPEN ANYTIME THE CART WASHER AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE EXHAUST AIR DAMPER SHALL CLOSE SEC (ADJ.) AFTER THE FAN STOPS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
95% CONSTRUCTION DOCUMENTS SUBMISSION	02/12/2021
Revisions:	Date:

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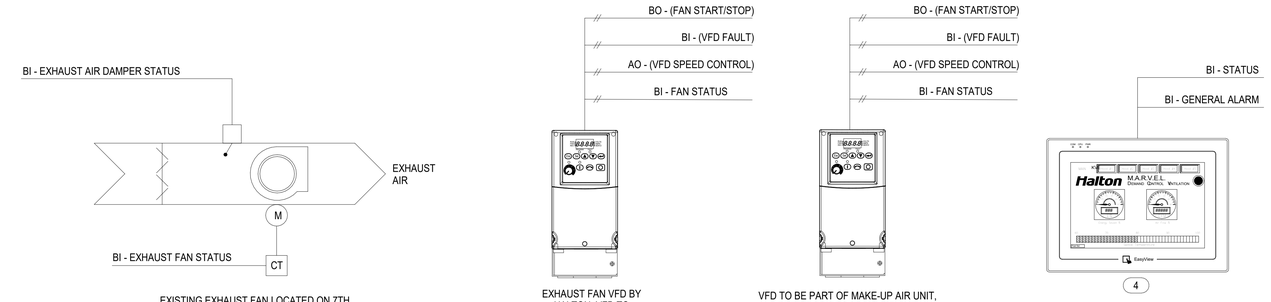
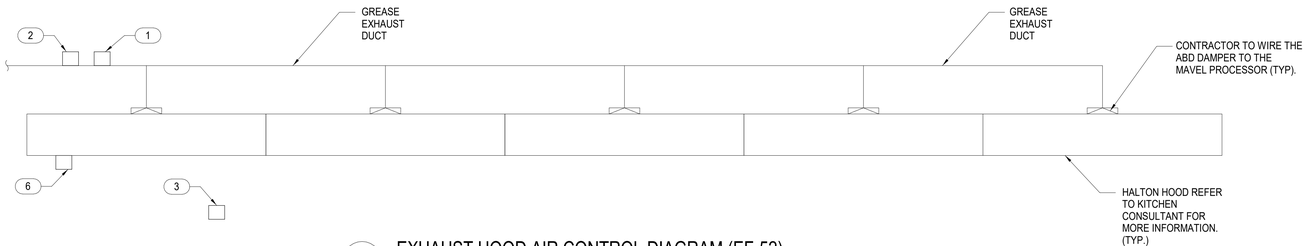
Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL CONTROLS
Approved: Project Director
Phase: 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED
Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN
Project Number: 613-19-103
Building Number: 500
Location: MARTINSBURG VA MEDICAL CENTER
Issue Date: 07/23/21
Checked: RAH
Drawn: TH
Drawing Number: M702

VA FORM 08-6231





1 EXHAUST HOOD AIR CONTROL DIAGRAM (EF-52)

NTS

1. RUN CONDITIONS - SCHEDULED:
   A. THE MARVEL CONTROL SYSTEM SHALL BE CONTROLLED BY FACTORY ASSEMBLED AND MOUNTED MICROPROCESSOR BASE CONTROL AND CONNECTED TO THE FACILITY MANAGEMENT CONTROL SYSTEM FOR MONITORING PURPOSES.

   B. THE MICROPROCESSOR CONTROL SYSTEM SHALL MONITOR ALL INFRARED SENSORS SUCH AS APPLIANCES SURFACE TEMPERATURE, ROOM TEMPERATURE, AND COLLAR TEMPERATURE PROVIDE BY MANUFACTURER.

   C. TOGGLE THE LIGHT SWITCH TO TURN ON THE HOOD LIGHTS.

   D. TOGGLE THE FANS SWITCH TO TURN THE FANS ON IN THE AUTO MODE. THIS WILL ACCOMPLISH THE FOLLOWING.
      a. I/O PROCESSOR WILL SEND A RUN COMMAND AND SPEED REFERENCE SIGNAL TO THE VARIABLE FREQUENCY DRIVE.
      b. I/O PROCESSOR WILL SEND A 0-10 VDC SIGNAL TO THE SUPPLY FAN VFD SO THAT THE SUPPLY AIR WILL MODULATE WITH THE EXHAUST.

   E. THE MARVEL SYSTEM WILL AUTOMATICALLY ADJUST EXHAUST AND SUPPLY AIR FLOWS BASED ON THE ACTUAL COOKING LOADS AS SENSED BY THE TEMPERATURE AND INFRARED SENSORS MOUNTED IN THE HOODS.

2. FAN:
   A. THE MARVEL PANEL SHALL CONTROL THE EXHAUST FAN THRU THE BAS SYSTEM. EXHAUST FAN TO MODULATE TO MEET THE COOKING DEMAND LOAD DEFINED BY THE MARVEL SYSTEM. THE MAKE-UP AIR UNIT TO BE INTERLOCK WITH EXHAUST FAN. THE MAKE-UP AIR UNIT TO START WHEN THE EXHAUST FAN IS ENABLED. THE MAKE-UP AIR UNIT FAN VFD AND EXHAUST FAN VFD SHALL MODULATE TO MAINTAIN SPEED AS DICTATED BY THE HOOD CONTROLLER.

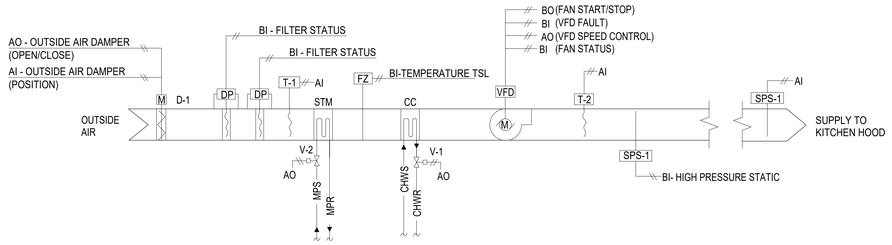
   B. WHEN THE VFD IS IN HAND MODE, THE VFD TO SIGNAL TO THE MARVEL SYSTEM TO PUT ALL DAMPERS FULLY OPEN.

CONTROL KEY NOTE

1	GREASE SENSOR TO BE FURNISHED BY HALTON. INSTALLED BY THE CONTRACTOR.
2	DUCT PRESSURE SENSOR TO BE FURNISHED BY HALTON. INSTALLED BY THE CONTRACTOR. INSTALL SENSOR (3) TIMES THE DIAMETER OF THE DUCT AFTER THE FIRST TURN.
3	TEMPERATURE SENSOR TO BE FURNISHED BY HALTON. INSTALLED BY THE CONTRACTOR. REFER TO DRAWINGS FOR EXACT LOCATION.
4	HALTON M.A.R.V.E.L TOUCH SCREEN TO BE FURNISHED BY HALTON. INSTALLED BY CONTRACTOR.
5	EXHAUST FAN VFD TO BE FURNISHED BY HALTON. INSTALLED BY CONTRACTOR TO SERVE EXISTING EXHAUST FAN.
6	OVERRIDE SWITCH PROVIDE BY HALTON

EXHAUST HOOD CONTROL POINT LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
ROOM AIR TEMPERATURE, T-1	X							X		X
EXHAUST FAN VFD SPEED 1		X						X		X
EXHAUST FAN VFD FAN STATUS 1			X					X	X	X
EXHAUST FAN VFD FAULT / FAILURE 1			X			X		X	X	X
EXHAUST FAN VFD HOA STATUS 1						X		X		X
DUCT STATIC PRESSURE SENSOR, SPS-1			X					X	X	X
HALTON M.A.R.V.E.L CONTROL PANEL STATUS			X					X		X
HALTON M.A.R.V.E.L CONTROL PANEL ALARM			X					X	X	X
HALTON GREASE SENSOR	X							X		X



2 MAKE-UP AIR UNIT CONTROL DIAGRAM (MAU-1)

NTS

RUN CONDITIONS - CONTINUOUS:
THE MAKE-UP AIR UNIT (MAU-1) SHALL BE INTERLOCK TO RUN WHENEVER THE EXHAUST FAN (EF-52) RUNS UNLESS SHUTDOWN ON SAFETIES.

EMERGENCY SHUTDOWN:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING AN EMERGENCY SHUTDOWN SIGNAL.

FREEZE PROTECTION:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZESTAT STATUS.

OUTSIDE AIR DAMPER:
THE OUTSIDE AIR DAMPER SHALL OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE SUPPLY FAN SHALL START ONLY AFTER THE DAMPER STATUS HAS PROVEN THE DAMPER IS OPEN. THE OUTSIDE AIR DAMPER SHALL CLOSE 4 SEC (ADJ.) AFTER THE SUPPLY FAN STOPS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- OUTSIDE AIR DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- OUTSIDE AIR DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME, UNLESS SHUTDOWN ON SAFETIES.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

SUPPLY AIR DUCT STATIC PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE DUCT STATIC PRESSURE AND SHALL MODULATE THE SUPPLY FAN VFD SPEED TO MAINTAIN A DUCT STATIC PRESSURE SETPOINT OF 1.5 IN H2O (ADJ.). THE SUPPLY FAN VFD SPEED SHALL NOT DROP BELOW 30% (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH SUPPLY AIR STATIC PRESSURE: IF THE SUPPLY AIR STATIC PRESSURE IS 25% (ADJ.) GREATER THAN SETPOINT.
- LOW SUPPLY AIR STATIC PRESSURE: IF THE SUPPLY AIR STATIC PRESSURE IS 25% (ADJ.) LESS THAN SETPOINT.SUPPLY FAN VFD FAULT.

COOLING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING COIL VALVE TO MAINTAIN COOLING SETPOINT OF 71°F (ADJ.).

THE COOLING SHALL BE ENABLED WHENEVER:

- OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.).
- AND THE SUPPLY AIR TEMPERATURE IS ABOVE COOLING SETPOINT.
- AND THE FAN STATUS IS ON.

THE COOLING COIL VALVE SHALL OPEN TO 50% (ADJ.) WHENEVER THE FREEZESTAT IS ON.

STEAM HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN HEATING SETPOINT 0F 75°F (ADJ.).

THE HEATING SHALL BE ENABLED WHENEVER:

- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE SUPPLY AIR TEMPERATURE IS BELOW HEATING SETPOINT.
- AND THE FAN STATUS IS ON.

THE HEATING COIL VALVE SHALL OPEN TO 100% (ADJ.) WHENEVER THE FREEZESTAT IS ON.

PREFILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE PREFILTER.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- PREFILTER CHANGE REQUIRED: PREFILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ).

SUPPLY AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
- LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45 °F (ADJ.).

EMERGENCY CONSTANT SPEED OPERATION
   A. UPON FAILURE OF THE VFD, THE SUPPLY AND RETURN FANS SHALL BE STARTED/STOPPED MANUALLY AT THE DDC THROUGH THE BY-PASS STARTER. FANS SHALL THEN BE OPERATED AT CONSTANT SPEED.

   B. ALL VAV BOXES WILL BE INDEXED TO MAXIMUM FLOW TO ACCOMMODATE THE MAXIMUM SUPPLY FAN FLOW.

MAKE UP-AIR UNIT POINT LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
SUPPLY AIR TEMPERATURE, T-1	X							X		X
SUPPLY FAN VFD SPEED 1		X						X		X
SUPPLY FAN VFD FAN STATUS 1			X					X	X	X
SUPPLY FAN VFD FAULT / FAILURE 1			X			X		X	X	X
SUPPLY FAN VFD HOA STATUS 1						X		X		X
COOLING VALVE		X						X		X
PREHEATING STEAM VALVE		X						X		X
HIGH STATIC SHUTDOWN			X					X	X	X
SUPPLY AIR TEMPERATURE SETPOINT					X			X		X
SUPPLY AIR STATIC PRESSURE SETPOINT					X			X		X
FREEZESTAT			X					X	X	X
PREFILTER DIFFERENTIAL PRESSURE	X							X		X
HIGH SUPPLY AIR TEMPERATURE									X	
LOW SUPPLY AIR TEMPERATURE									X	
PREFILTER CHANGE REQUIRED									X	
HIGH SUPPLY AIR STATIC PRESSURE									X	
LOW SUPPLY AIR STATIC PRESSURE									X	
SUPPLY FAN FAILURE									X	
SUPPLY FAN IN HAND									X	

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
Revisions:	Date:

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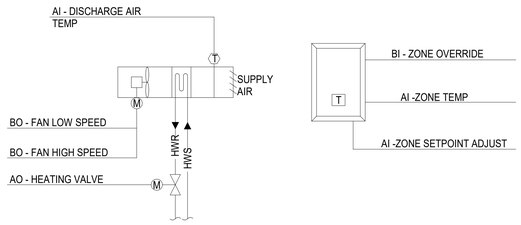
Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL CONTROLS
Approved: Project Director
Phase: 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED
Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN
Project Number: 613-19-103
Building Number: 500
Location: MARTINSBURG VA MEDICAL CENTER
Issue Date: 07/23/21
Checked: RAH
Drawn: TH
Drawing Number: M703

VA FORM 08-6231



1 UNIT HEATER CONTROL DIAGRAM

NTS

1. RUN CONDITIONS - SCHEDULED:
   A. THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:
      a. OCCUPIED MODE: THE UNIT SHALL MAINTAIN A HEATING SETPOINT OF 68°F (ADJ.).
      b. UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN A HEATING SETPOINT OF 60°F (ADJ.).

   B. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      a. LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

2. ZONE SETPOINT ADJUST:
   A. THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR.

3. ZONE UNOCCUPIED OVERRIDE:
   A. A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR AN ADJUSTABLE PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

4. FAN:
   A. THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES. THE FAN SPEEDS SHALL BE INDEXED AS FOLLOWS:
      a. LOW SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE DROPS BELOW SETPOINT.
      b. HIGH SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE DROPS FURTHER BELOW SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

7. HEATING COIL VALVE:
   A. THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

   B. THE HEATING SHALL BE ENABLED WHENEVER:
      a. OUTSIDE AIR TEMPERATURE IS LESS THAN °F (ADJ.).
      b. AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.
      c. AND THE FAN IS ON.

8. DISCHARGE AIR TEMPERATURE:
   A. THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.

   B. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      a. HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
      b. LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 80°F (ADJ.).

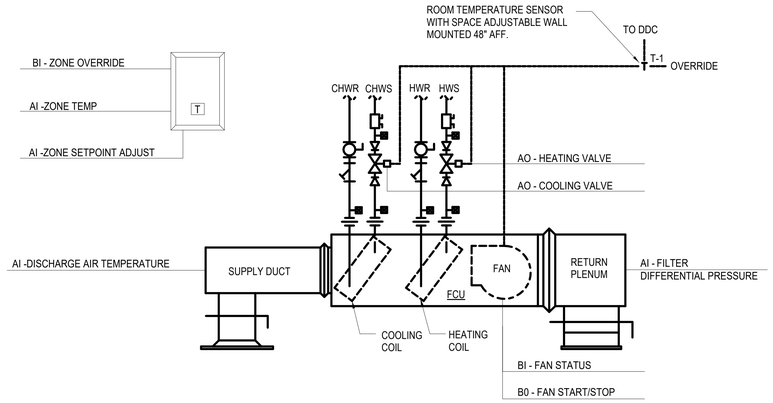
NIC

UNIT HEATER POINTS LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
DISCHARGE AIR TEMP	X							X		X
ZONE SETPOINT ADJUST	X									X
ZONE TEMP	X							X		X
HEATING VALVE		X						X		X
ZONE OVERRIDE			X					X		X
FAN HIGH SPEED				X				X		X
FAN LOW SPEED				X				X		X
HEATING SETPOINT					X			X		X

FAN COIL UNIT POINT LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**SCHED**	**TREND**	**ALARM**	**SHOW ON GRAPHIC**
DISCHARGE AIR TEMPERATURE	X							X		X
FAN STATUS			X					X	X	X
SUPPLY FAN VFD FAULT / FAILURe			X			X		X	X	X
SUPPLY FAN VFD HOA STATUS						X		X		X
COOLING VALVE		X						X		X
PREHEATING STEAM VALVE		X						X		X
HIGH STATIC SHUTDOWN			X					X	X	X
SUPPLY AIR TEMPERATURE SETPOINT					X			X		X
SUPPLY AIR STATIC PRESSURE SETPOINT					X			X		X
FREEZESTAT			X					X	X	X
PREFILTER DIFFERENTIAL PRESSURE	X							X		X
ZONE OVERRIDE			X					X		X
SCHEDULE							X			
HIGH SUPPLY AIR TEMPERATURE									X	
LOW SUPPLY AIR TEMPERATURE									X	
PREFILTER CHANGE REQUIRED									X	
HIGH SUPPLY AIR STATIC PRESSURE									X	
LOW SUPPLY AIR STATIC PRESSURE									X	
SUPPLY FAN FAILURE									X	
SUPPLY FAN IN HAND									X	



2 FOUR PIPE FAN COIL UNIT CONTROLS

NTS

A. RUN CONDITIONS - SCHEDULED
   1. THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:
   2. OCCUPIED MODE: THE UNIT SHALL MAINTAIN
      a. A 75°F (ADJ.) COOLING SETPOINT
      b. A 70°F (ADJ.) HEATING SETPOINT.
   3. UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN
      a. A 80°F (ADJ.) COOLING SETPOINT.
      b. A 60°F (ADJ.) HEATING SETPOINT.
   4. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      a. HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).
      b. LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

B. GENERAL
   1. THE FAN COIL UNIT (FCU) WILL BE CONTROLLED TO MAINTAIN AN OCCUPIED COOLING SETPOINT OF 75°F (ADJ.) AND AN UNOCCUPIED COOLING SETPOINT OF 80°F (ADJ.). THE COOLING SETPOINTS MAY BE ADJUSTED LOCALLY IN THE SPACE BY THE THERMOSTAT UP OR DOWN WITH A +/- 3°F OFFSET FROM THE SETPOINT. ALL SETPOINTS WILL BE ADJUSTABLE THROUGH THE BAS.
   2. THE FAN COIL UNIT (FCU) WILL BE CONTROLLED TO MAINTAIN AN OCCUPIED HEATING SETPOINT OF 70°F (ADJ.) AND AN UNOCCUPIED HEATING SETPOINT OF 60°F(ADJ.). THE HEATING SETPOINTS MAY BE ADJUSTED LOCALLY IN THE SPACE BY THE THERMOSTAT UP OR DOWN WITH A +/- 3°F OFFSET FROM THE SETPOINT. ALL SETPOINTS WILL BE ADJUSTABLE THROUGH THE BAS.
   3. FAN SPEED SHALL BE ADJUSTABLE FROM THE ROOM THERMOSTAT AND PROVIDE THREE FAN SPEEDS.
   4. WHEN DEPRESSED THE ZONE OVERRIDE SWITCH SHALL ENABLE THE FAN COIL UNIT FOR A PERIOD OF TWO HOURS (ADJUSTABLE).
   5. WHENEVER THE FCU IS SHUTDOWN THE FOLLOWING SHALL OCCUR.
      a. CHILLED WATER CONTROL VALVE SHALL CLOSE TO PREVENT CHILLED WATER FLOW THROUGH THE COOLING COIL.
      b. HOT WATER CONTROL VALVE SHALL CLOSE TO PREVENT HOT WATER FLOW THROUGH THE COIL.
      c. SUPPLY FAN SHALL BE DE-ENERGIZED.

C. OCCUPIED MODE FAN CONTROL
   1. FAN COIL SHALL RUN CONTINUOUSLY IN OCCUPIED MODE.
   2. WHEN THE SPACE TEMPERATURE RISES ABOVE THE COOLING SETPOINT, THE SUPPLY FAN WILL BE CYCLED ON. WHEN THE TEMPERATURE FALLS BELOW THE OCCUPIED COOLING SETPOINT, THE SUPPLY FAN WILL BE CYCLED OFF.
   3. ON CALL FOR COOLING THE SUPPLY FAN SHALL START ON LOW SPEED AND THE COOLING CONTROL VALVE V-2 SHALL BE OPEN TO MAINTAIN ROOM AIR TEMPERATURE. AS THE ROOM AIR TEMPERATURE CONTINUES TO RISE ABOVE SETPOINT THE FCU FAN SHALL GO TO MEDIUM SPEED. THE SUPPLY FAN SHALL GO TO HIGH SPEED WHENEVER THE TEMPERATURE GOES OUTSIDE THE SETPOINT BY A DEFINABLE AMOUNT. THE COOLING VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
   4. ON CALL FOR HEATING THE SUPPLY FAN SHALL START ON LOW SPEED AND THE HEATING CONTROL VALVE V-1 SHALL BE OPEN TO MAINTAIN ROOM AIR TEMPERATURE. AS THE ROOM AIR TEMPERATURE CONTINUES TO FALL BELOW SETPOINT THE FCU FAN SHALL GO TO MEDIUM SPEED. THE SUPPLY FAN SHALL GO TO HIGH SPEED WHENEVER THE TEMPERATURE GOES OUTSIDE THE SETPOINT BY A DEFINABLE AMOUNT. THE HEATING VALVE SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
   5. VALVES V-1 AND V-2 WILL NOT BE OPEN SIMULTANEOUSLY.
   6. THE COOLING COIL CHILLED WATER VALVE AND HEATING COIL VALVE ARE NORMALLY CLOSED. THE CHILLED WATER AND HOT WATER VALVES WILL FAIL IN THEIR LAST POSITION UPON A LOSS OF POWER TO THE VALVE ACTUATOR.

C. FILTER DIFFERENTIAL PRESSURE MONITOR:
   1. THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER.
   2. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      a. FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

D. UNOCCUPIED MODE
   1. IN UNOCCUPIED MODE, FAN SHALL RUN ONLY IF THE SPACE TEMPERATURE IS FIVE DEGREES (F) HIGHER THAN THE UNOCCUPIED SUMMER SPACE ROOM SETPOINT TEMPERATURE.
   2. MODULATE THE CHILLED WATER VALVE V-2 TO MAINTAIN SPACE SETPOINT AND FAN SHALL CYCLE WITH TEMPERATURE.

E. SAFETIES
   1. IF THERE IS A CONDENSATE OVERFLOW ALARM, THE SUPPLY FAN WILL BE DISABLED/STOPPED THROUGH A HARD-WIRED INTERLOCK WITH THE ASSOCIATED FLOAT SWITCH. NORMAL OPERATION WILL BE RESTORED WHEN THE ALARM CLEARS.

F. ALARMS
   1. ALARMS WILL BE INITIATED FOR THE FOLLOWING CONDITIONS.
      a. FCU HIGH SPACE TEMPERATURE (85°F ADJ.)
      b. FCU LOW SPACE TEMPERATURE (60°F ADJ.)
      c. SUPPLY FAN FAILURE
   2. ALARMS WILL BE DISPLAYED ON THE BAS OPERATOR INTERFACE SCREEN UNTIL ACKNOWLEDGED.
   3. ALL ALARM SETPOINTS AND TIME DELAYS WILL BE ADJUSTABLE..

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL CONTROLS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

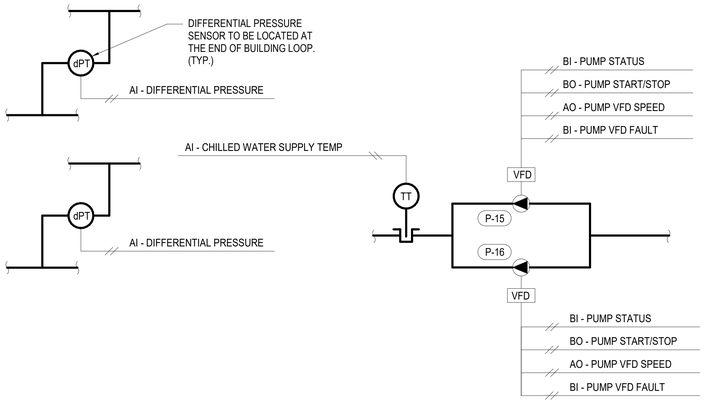
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: M704

VA FORM 08-6231



1 CHILLED WATER PUMP IN CHILLER PLANT 1

NTS

1. CHILLED WATER PUMP (LEAD/STANDBY OPERATION)
   A. THE TWO CHILLED WATER PUMPS ARE SIZED FOR 100% CAPACITY (ONE PUMP IS REDUNDANT). THE CHILLED WATER PUMP SHALL RUN ANYTIME THE CHILLED WATER PUMP IS CALLED TO RUN. THE CHILLED WATER PUMP SHALL OPERATE IN LEAD/STANDBY FASHION.
      a. THE LEAD PUMP SHALL RUN FIRST.
      b. ON FAILURE OF THE LEAD PUMP, THE STANDBY PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.
   B. THE DESIGNATED LEAD PUMP SHALL ROTATE ON A WEEKLY BASIS. GRAPHIC TOGGLE ON THE OPERATOR WORKSTATION GRAPHICAL SCREEN TO ALLOW OPERATOR TO MANUALLY SELECT WHICH PUMP IS LEAD AN WHICH IS LAG.
   C. PROVIDE ALARMS FOR PUMP FAILURE COMMANDED ON BUT THE STATUS IS OFF AND PUMP IS RUNNING IN HAND BUT COMMANDED OFF BUT THE STATUS IS ON.
2. CHILLED WATER PUMP CONTROL
   A. THE MANAGEMENT SYSTEM SHALL MODULATE OUTPUT TO THE PUMP VFD AS REQUIRED TO MAINTAIN DP SETPOINT AT A REMOTE LOCATION (FIELD VERIFY LOCATION). ALL SETPOINTS SHALL BE FIELD ADJUSTED TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
   B. THERE ARE MULTIPLE DIFFERENTIAL PRESSURE SENSORS BEING USED, BOTH dPT SENSORS TO COMMUNICATE TO THE VFD AND CONTROLLED ON THE WORSE CASE.
   C. THE VFD MINIMUM SPEED SHALL NOT DROP BELOW 30%(ADJ.)
3. CHILLED WATER TEMPERATURE MONITORING:
   A. THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
      - CHILLED WATER SUPPLY.
      - CHILLED WATER RETURN.

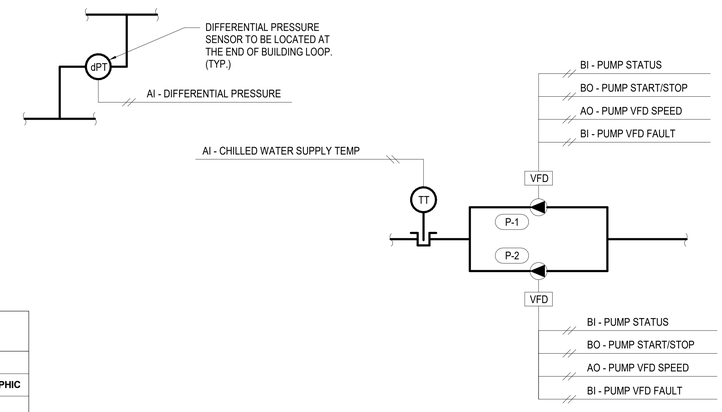
   ALARMS SHALL BE PROVIDED AS FOLLOWS:
      - HIGH CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS GREATER THAN 55°F (ADJ.).
      - LOW CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS LESS THAN 38°F (ADJ.)

CHILLED WATER PUMPS UNIT POINT LIST (P-15 & P-16)

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
Chilled Water Return Temp	X							X		X
Chilled Water Supply Temp	X							X		X
DIFFERENTIAL PRESSURE SENSOR dPT 1	X							X		X
DIFFERENTIAL PRESSURE SENSOR dPT 2	X							X		X
Chilled Water Pump 1 Status			X					X		X
Chilled Water Pump 2 Status			X					X		X
Chilled Water Pump 1 Start/Stop				X				X		X
Chilled Water Pump 2 Start/Stop				X				X		X
Chilled Water Pump 1 Failure									X	
Chilled Water Pump 1 Running in Hand									X	
Chilled Water Pump 1 Runtime Exceeded									X	
Chilled Water Pump 2 Failure									X	
Chilled Water Pump 2 Running in Hand									X	
Chilled Water Pump 2 Runtime Exceeded									X	
High Chilled Water Supply Temp									X	
Low Chilled Water Supply Temp									X	

CHILLED WATER PUMPS UNIT POINT LIST (P-1 & P-2)

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
Chilled Water Return Temp	X							X		X
Chilled Water Supply Temp	X							X		X
DIFFERENTIAL PRESSURE SENSOR dPT 1	X							X		X
Chilled Water Pump 1 Status			X					X		X
Chilled Water Pump 2 Status			X					X		X
Chilled Water Pump 1 Start/Stop				X				X		X
Chilled Water Pump 2 Start/Stop				X				X		X
Chilled Water Pump 1 Failure									X	
Chilled Water Pump 1 Running in Hand									X	
Chilled Water Pump 1 Runtime Exceeded									X	
Chilled Water Pump 2 Failure									X	
Chilled Water Pump 2 Running in Hand									X	
Chilled Water Pump 2 Runtime Exceeded									X	
High Chilled Water Supply Temp									X	
Low Chilled Water Supply Temp									X	



2 CHILLED WATER PUMP IN CHILLER PLANT 1

NTS

1. CHILLED WATER PUMP (LEAD/STANDBY OPERATION)
   A. THE TWO CHILLED WATER PUMPS ARE SIZED FOR 100% CAPACITY (ONE PUMP IS REDUNDANT). THE CHILLED WATER PUMP SHALL RUN ANYTIME THE CHILLED WATER PUMP IS CALLED TO RUN. THE CHILLED WATER PUMP SHALL OPERATE IN LEAD/STANDBY FASHION.
      a. THE LEAD PUMP SHALL RUN FIRST.
      b. ON FAILURE OF THE LEAD PUMP, THE STANDBY PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.
   B. THE DESIGNATED LEAD PUMP SHALL ROTATE ON A WEEKLY BASIS. GRAPHIC TOGGLE ON THE OPERATOR WORKSTATION GRAPHICAL SCREEN TO ALLOW OPERATOR TO MANUALLY SELECT WHICH PUMP IS LEAD AN WHICH IS LAG.
   C. PROVIDE ALARMS FOR PUMP FAILURE COMMANDED ON BUT THE STATUS IS OFF AND PUMP IS RUNNING IN HAND BUT COMMANDED OFF BUT THE STATUS IS ON.
2. CHILLED WATER PUMP CONTROL
   A. THE MANAGEMENT SYSTEM SHALL MODULATE OUTPUT TO THE PUMP VFD AS REQUIRED TO MAINTAIN DP SETPOINT AT A REMOTE LOCATION (FIELD VERIFY LOCATION). ALL SETPOINTS SHALL BE FIELD ADJUSTED TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
   B. THE VFD MINIMUM SPEED SHALL NOT DROP BELOW 30%(ADJ.)
3. CHILLED WATER TEMPERATURE MONITORING:
   A. THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
      - CHILLED WATER SUPPLY.
      - CHILLED WATER RETURN.

   ALARMS SHALL BE PROVIDED AS FOLLOWS:
      - HIGH CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS GREATER THAN 55 °F (ADJ.).
      - LOW CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS LESS THAN 38°F (ADJ.)

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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL CONTROLS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

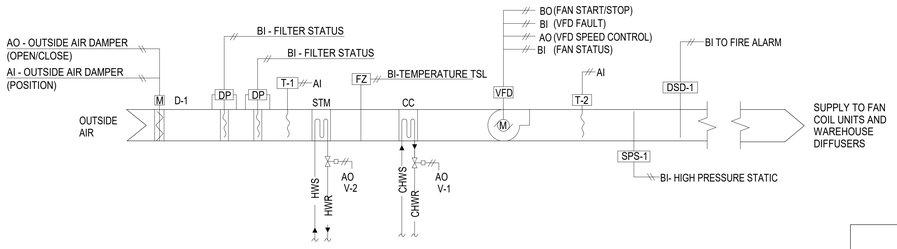
Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Drawing Number: M705

Issue Date: 07/23/21 | Checked: RAH | Drawn: TH

VA FORM 08-6231



1 AIR HANDLING UNIT (AHU-2)

NTS

1. GENERAL
   A. UNIT IS NORMALLY STARTED AND STOPPED REMOTELY AT THE DDC. H-O-A SWITCH SHALL BE KEPT IN THE "AUTO" POSITION.
   "HAND" AND "OFF" POSITIONS SHALL BE USED ONLY FOR MAINTENANCE. WHEN THE UNIT IS "OFF" D-1 SHALL BE FULLY CLOSED. WHEN THE UNIT IS "ON" D-1 SHALL BE OPEN TO ITS POSITION. DAMPER SHALL MODULATE IN ACCORDANCE WITH THE FOLLOWING SEQUENCE:

2. SCHEDULED
   A. THE UNIT SHALL RUN BASED ON THE FOLLOWING TENTATIVE ADJUSTABLE SCHEDULE.
      a. MORNING START-UP
         - MONDAY - FRIDAY 4:00AM - 7:00AM (ADJ)
         - SATURDAY - SUNDAY 4:00AM - 7:00AM (ADJ)
      b. OCCUPIED MODE
         - MONDAY - FRIDAY 6:00AM - 7:00PM (ADJ)
         - SATURDAY - SUNDAY 6:00AM - 7:00PM (ADJ)
      c. UNOCCUPIED MODE
         - MONDAY - FRIDAY 7:00PM - 6:00AM (ADJ)
         - SATURDAY - SUNDAY 7:00PM - 6:00AM (ADJ)

   B. OPTIMAL START SHALL START PRIOR TO SCHEDULED OCCUPANCY BASED ON THE TIME NECESSARY FOR THE ZONES TO REACH THEIR OCCUPIED SETPOINTS. THE START TIME SHALL AUTOMATICALLY ADJUST BASED ON CHANGES IN OUTSIDE AIR TEMPERATURE AND ZONE TEMPERATURES.

3. TEMPERATURE CONTROL
   A. SUPPLY AIR TEMPERATURE, SENSED BY T-2, SHALL BE MAINTAINED AT SETPOINT V-1 OR V-2 IN SEQUENCE.

4. PREHEATING COIL STEAM VALVES:
   A. THE CONTROLLER SHALL MODULATE THE STEAM PREHEAT COIL STEAM VALVE TO MAINTAIN THE DISCHARGE AIR SETPOINT.

   B. THE PREHEATING SHALL BE ENABLED WHENEVER:
      a. OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
      b. AND THE HEATING IS ACTIVE.
      c. AND COOLING IS NOT ACTIVE.
      d. AND THE SUPPLY FAN STATUS IS ON.

4. COOLING VALVE:
   A. THE CONTROLLER SHALL MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

   B. THE COOLING SHALL BE ENABLED WHENEVER:
      a. OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.).
      b. AND THE SUPPLY FAN STATUS IS ON.
      c. AND THE HEATING IS NOT ACTIVE.
      d. DISCHARGE AIR TEMPERATURE IS ABOVE DISCHARGE AIR TEMPERATURE SETPOINT +1°F(ADJ.)

5. AIR FLOW CONTROL
   A. THE EXHAUST FAN (EF-500W) WILL RUN WHENEVER THE SUPPLY FAN IS RUNNING.

   B. THE DDC, USING HIGH PRESSURE SENSOR SPS-1 LOCATED AT THE SUPPLY FAN DISCHARGE, SHALL PREVENT THE SUPPLY FAN FROM DEVELOPING OVER 2.5" OF STATIC PRESSURE (FIELD ADJUSTABLE). IF STATIC PRESSURE AT SPS-1 DOES EXCEED 2.5"
   THE SUPPLY AIR FAN SHALL STOP. SPS-1 SHALL BE HARDWIRED TO THE SUPPLY FAN VSMC AND UNIT SHALL BE SHUTDOWN
   IN HAND, AUTO OR BYPASS MODE. SPS-1 WILL REQUIRE MANUAL RESET AT THE DEVICE.

6. FREEZE PROTECTION
   A. IF THE AIR TEMPERATURE AS SENSED BY T-2 FALLS BELOW 40°F, AN ALARM SIGNAL SHALL INDICATE AT THE DDC. IF THIS TEMPERATURE FALLS BELOW 35°F, AS SENSED BY THE TSL, THE SUPPLY AND RETURN FANS SHALL SHUT DOWN AND A CRITICAL ALARM SHALL INDICATE AT THE DDC. TSL SHALL BE HARDWIRED TO THE SUPPLY FAN VFD AND UNIT SHALL BE SHUTDOWN IN HAND, AUTO OR BYPASS MODE. TSL WILL REQUIRE MANUAL RESET AT THE DEVICE. DURING FAN SHUTDOWN,
   T-2 SENSOR MODULATE PREHEAT VALVE TO MAINTAIN 60°F (ADJ.).

7. AUTOMATIC SHUTDOWN/RESTART
   A. WHEN SMOKE IS DETECTED BY DUCT SMOKE DETECTOR, DSD, THE SUPPLY FANS SHALL SHUT "OFF" AND AN ALARM SIGNAL SHALL BE TRANSMITTED TO THE FIRE ALARM SYSTEM. ALL SMOKE DAMPERS IN THE SUPPLY AND RETURN DUCTS SHALL CLOSE. (HARDWIRE CONNECTION FROM FIRE RELAY AND THE VFD SAFETY CIRCUIT.)

   B. SUPPLY FANS SHALL RESTART AND SMOKE DAMPERS SHALL OPEN WHEN FIRE ALARM CIRCUIT IS RESET.

8. EMERGENCY CONSTANT SPEED OPERATION
   A. UPON FAILURE OF THE VFD, THE SUPPLY FANS SHALL BE STARTED/STOPPED MANUALLY AT THE DDC THROUGH THE BY-PASS STARTER. FANS SHALL THEN BE OPERATED AT CONSTANT SPEED.

9. ALARMS
   A. PROVIDE ALARMS FOR SUPPLY FAN VFD FAULT, SUPPLY FAN FAILURE, (COMMANDED ON BUT "ON" BUT THE STATUS IS "OFF"; SUPPLY FAN RUNNING IN HAND (COMMANDED "OFF" BUT THE STATUS IS "ON", AND HIGHER PRE FILTER AND FINAL FILTER DIFFERENTIAL STATIC PRESSURES.

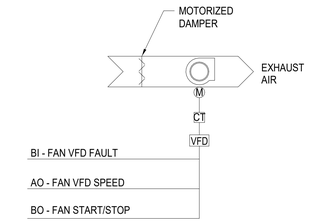
   B. IF THE DISCHARGE AIR TEMPERATURE IS ABOVE DISCHARGE AIR SETPOINT +5°F (ADJ.) FOR GREATER THAN 5 MINUTES, AN ALARM SHALL BE SIGNALED TO THE DDC SYSTEM.

10. SUPPLY AIR SMOKE DETECTION:
   A. THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A SUPPLY AIR SMOKE DETECTOR STATUS.

REMARKS:
   A. LOCATE OUTSIDE SENSOR ON THE EXTERIOR NORTH SIDE OF THE BUILDING. LOCATE OUT OF ANY HEAT SOURCE RELATED EQUIPMENT. COORDINATE FINAL LOCATION WITH COR/BUILDING ENGINEER AND ALL MANUFACTURER'S RECOMMENDATIONS.

AIR HANDLING UNIT POINT LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
SUPPLY AIR TEMPERATURE, T-2	X							X		X
OUTSIDE AIR TEMPERATURE, T-1	X							X		X
SUPPLY FAN VFD SPEED 1		X						X		X
SUPPLY FAN VFD FAN STATUS 1			X					X	X	X
SUPPLY FAN VFD FAULT / FAILURE 1			X			X		X	X	X
SUPPLY FAN VFD HOA STATUS 1						X		X		X
COOLING VALVE (V-1)		X						X		X
PREHEATING STEAM VALVE (V-2)		X						X		X
HIGH STATIC SHUTDOWN			X					X	X	X
SUPPLY AIR TEMPERATURE SETPOINT					X			X		X
SUPPLY AIR STATIC PRESSURE SETPOINT					X			X		X
FREEZESTAT			X					X	X	X
PREFILTER DIFFERENTIAL PRESSURE	X							X		X
HIGH SUPPLY AIR TEMPERATURE									X	
LOW SUPPLY AIR TEMPERATURE									X	
PREFILTER CHANGE REQUIRED									X	
HIGH SUPPLY AIR STATIC PRESSURE									X	
LOW SUPPLY AIR STATIC PRESSURE									X	
SUPPLY FAN FAILURE									X	
SUPPLY FAN IN HAND									X	



2 EXHAUST AIR CONTROL DIAGRAM (EF-500W)

NTS

RUN CONDITIONS - CONTINUOUS:
THE FAN EF-500W SHALL BE INTERLOCKED TO RUN WHENEVER AHU-2 RUNS UNLESS SHUTDOWN ON SAFETIES.

FAN:
THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER SHALL OPEN ANYTIME THE UNITS RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE EXHAUST AIR DAMPER SHALL CLOSE 30 SEC (ADJ.) AFTER THE FAN STOPS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

EXHAUST FAN POINTS LIST (EF-500W)

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
FAN VFD SPEED	X							X		X
DAMPER STATUS		X						X		X
FAN STATUS			X					X		X
FAN VFD FAULT			X						X	
FAN VFD STATUS			X					X		X
DAMPER				X				X		X
FAN START/STOP				X				X		X
DAMPER FAILURE									X	
FAN FAILURE									X	
FAN IN HAND									X	

VA CONTRACT NO: 36C24519C0171

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL CONTROLS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

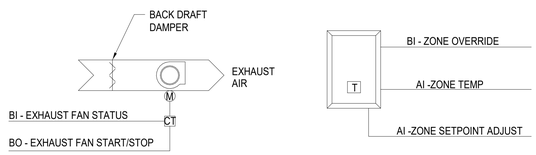
Issue Date: 07/23/21

Checked: RAH

Drawn: TH

Drawing Number: M706

VA FORM 08-6231



1 EXHAUST AIR CONTROL DIAGRAM (EF-CU89)

NTS

RUN CONDITIONS - CONTINUOUS:
THE UNITS SHALL BE CONTINUOUSLY ENABLED TO MAINTAIN A ZONE TEMPERATURE COOLING SETPOINT OF 85°F (ADJ.)

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

FAN:
THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE RISES BELOW COOLING SETPOINT, UNLESS SHUTDOWN ON SAFETIES. THE FAN SPEEDS SHALL BE INDEXED AS FOLLOWS:

- LOW SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE RISES ABOVE SETPOINT.
- MEDIUM SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE RISES FURTHER ABOVE SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).
- HIGH SPEED SHALL RUN ANYTIME THE ZONE TEMPERATURE RISES EVEN FURTHER ABOVE SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER SHALL OPEN ANYTIME THE EXHAUST FAN UNIT IS CALLED TO RUN AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE EXHAUST AIR DAMPER SHALL CLOSE 30 SEC (ADJ.) AFTER THE FAN STOPS.

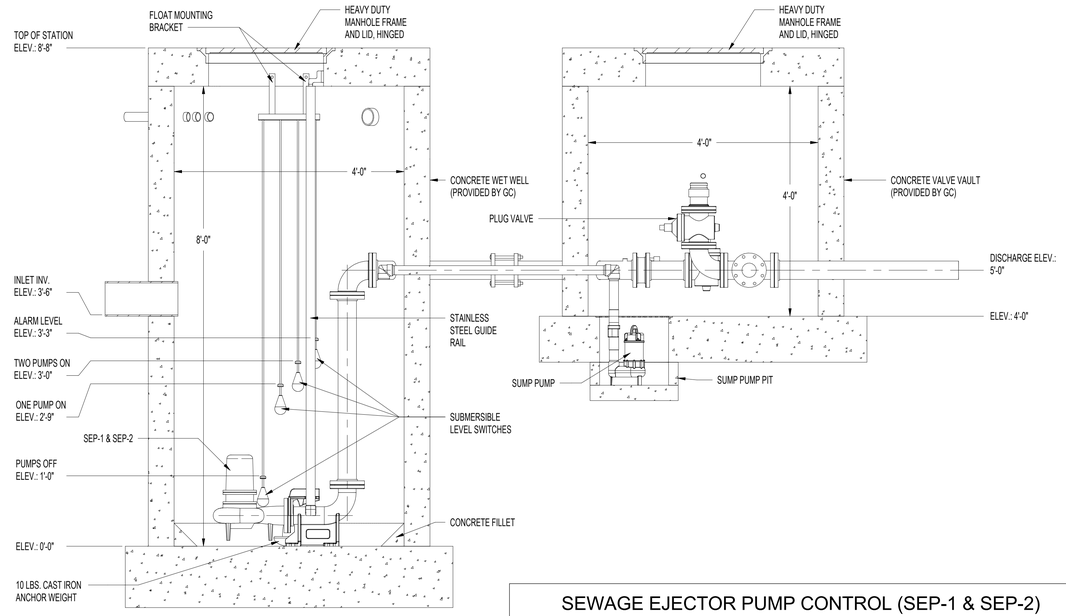
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

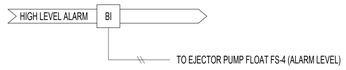
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

EXHAUST FAN POINTS LIST (EF-CU89)

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
ZONE TEMPERATURE	X							X		X
FAN STATUS			X					X		X
EXHAUST AIR DAMPER				X				X		X
FAN HIGH SPEED				X				X		X
FAN MEDIUM SPEED				X				X		X
FAN LOW SPEED				X				X		X
COOLING SETPOINT					X				X	
FAN FAILURE									X	
FAN IN HAND									X	
HIGH ZONE TEMPERATURE									X	



THE REMOTE MOUNTED CONTROL PANEL HAS A LOCAL ALARM AND HORN AND DRY CONTACTS FOR BAS ALARM INTERFACE . FROM THE CONTROL PANEL TRANSFORMER SIDE, THE 24 VOLT CONTROLLER SIGNALS PERFORM THE PUMP SEQUENCES (LEAD / LAG AND STAGES) FROM THE FOUR FLOAT SWITCHES LOCATED IN THE EJECTOR BASIN.

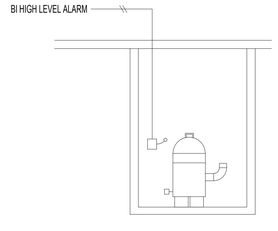


SEWAGE EJECTOR PUMP CONTROL (SEP-1 & SEP-2)

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
HIGH LEVEL ALARM			X						X	X
CONTROL PANEL ALARM			X						X	X
PUMP-1 FAILURE			X						X	
PUMP-2 FAILURE			X						X	X

2 DUPLEX SEWAGE EJECTOR CONTROL DIAGRAM

NTS



PROVIDE SEPARATE FLOAT TO MONITOR HIGH LEVEL ALARM.

SUMP PUMP SYSTEM POINTS LIST

	HARDWARE POINTS				SOFTWARE POINTS					
POINT NAME	AI	AO	BI	BO	AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
HIGH LEVEL ALARM			X					X		X

3 SUMP PUMP CONTROL DIAGRAM

NTS

VA CONTRACT NO: 36C24519C0171

100% CONSTRUCTION DOCUMENTS SUBMISSION	07/23/2021
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VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL CONTROLS

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE/UPGRADE NUTRITION & FOOD SERVICE KITCHEN

Project Number: 613-19-103

Building Number: 500

Location: MARTINSBURG VA MEDICAL CENTER

Issue Date: 07/23/21

Checked: RAH

Drawn: TE

Drawing Number: M707

VA FORM 08-6231