



ROOM SCHEDULE	
1C-55	PATIENT ADVOCATE
1C-56	POLICE OFFICE
1C-70	ONCOLOGY
1C-70A	CLEAN UTILITY
1C-70B	PROCEDURE
1C-70C	TOILET
1C-70D	PUMP STORAGE
1C-85	PATIENT/BROW
1C-85A	PREP AREA
1C-85B	PREP AREA
1C-85C	STORAGE
1C-88	KIOSK
1C-89	MY HEALTH
C101	HALL
C102	CORRIDOR
C103	CORRIDOR
C104	CORRIDOR
C105	CORRIDOR
C106	CORRIDOR
C106A	VEST

SPRINKLER HEAD LEGEND	
✕	CHROME PLATED RECESSED TYPE SPRINKLER HEAD
•	BRASS UPRIGHT PENDENT TYPE SPRINKLER HEAD
•	BRASS PENDENT TYPE SPRINKLER HEAD
○	WHITE CONCEALED PENDENT TYPE SPRINKLER HEAD
◄	SIDEWALL PENDENT TYPE SPRINKLER HEAD
◄	BRASS UPRIGHT SIDEWALL PENDENT TYPE SPRINKLER HEAD

FIRE PROTECTION NOTES:	
A.	CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS.
B.	COORDINATE ALL FIRE PROTECTION INSTALLATION WITH GENERAL, PLUMBING, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL FIRE PROTECTION PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP FIRE PROTECTION PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET FIRE PROTECTION PIPING TO AVOID BEAMS AND INSTALLATION BY ALL TRADES.
C.	ALL FIRE PROTECTION WORK SHALL ADHERE TO CURRENT NFPA 13 STANDARDS.
D.	ENTIRE BUILDING SHALL BE SPRINKLED. VERIFY WHERE MULTIPLE FLOORS EXIST.
E.	FIRE PROTECTION PIPING AND SPRINKLER HEADS ARE SHOWN FOR REFERENCE ONLY.
F.	SPRINKLER HEADS IN LAY-IN-TILE CEILINGS SHALL BE LOCATED IN THE CENTER OF TILE.
G.	REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC.
H.	THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE INSTALLATION OF NEW FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING WORK BY THE GENERAL CONTRACTOR. ANY CEILING TILE OR GRID DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW BY THIS CONTRACTOR.
I.	THIS CONTRACTOR SHALL OPEN ALL EXISTING WALLS AND/OR CEILINGS FOR INSTALLATION OF NEW FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC. AS REQUIRED. PATCH WALLS AND/OR CEILINGS TO MATCH EXISTING.
J.	MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
1	REMOVE FIRE PROTECTION PIPING AND SPRINKLER HEADS AS REQUIRED BY NFPA 13 FOR NEW FLOOR PLAN LAYOUT IN OUTLINED AREA. RELOCATE PIPING AS REQUIRED FOR INSTALLATION OF NEW UTILITIES (ELEC, HVAC, PLUMBING, ETC.).
2	REMOVE AND REINSTALL SPRINKLER HEADS AND ESCUTCHEON PLATES AS REQUIRED FOR CEILING WORK.
3	REMOVE AND REINSTALL SPRINKLER HEADS AND ESCUTCHEON PLATES AS REQUIRED FOR CEILING WORK. REMOVE THIS WORK FROM THE PROJECT UNDER ALTERNATE DEDUCT NO. 1.

2 FIRST FLOOR FIRE PROTECTION PLAN  
FP1 1/8"=1'-0"



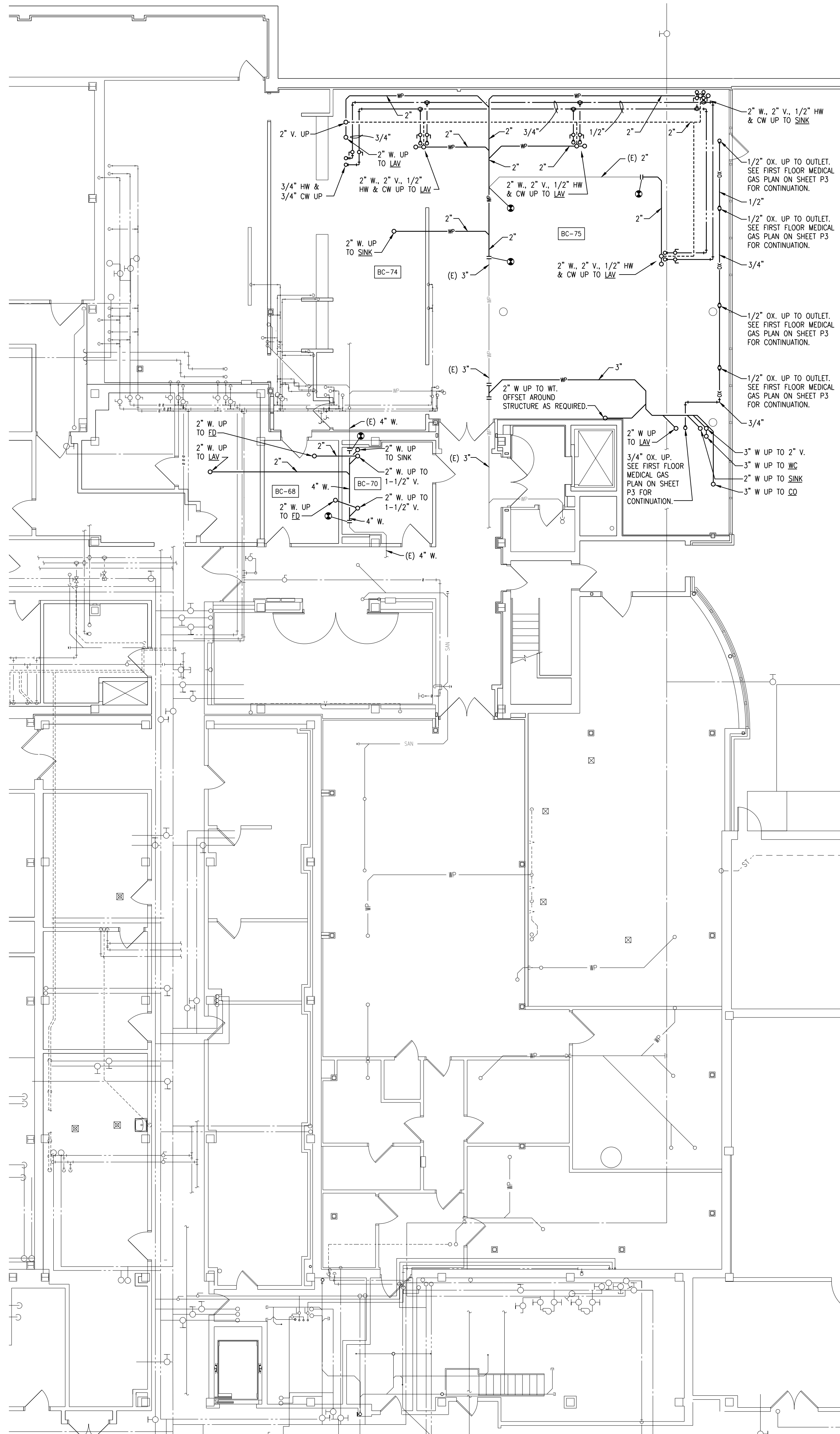
FIRE PROTECTION DEMOLITION NOTES:	
A.	DEMOLITION DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE BASED ON FIELD OBSERVATION AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS. PROVIDE ADDITIONAL DEMOLITION AS REQUIRED BASED ON FIELD CONDITIONS.
B.	THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE DEMOLITION OF EXISTING FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING WORK BY THE GENERAL CONTRACTOR. ANY CEILING TILE OR GRID DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW BY THIS CONTRACTOR.
C.	THIS CONTRACTOR SHALL OPEN ALL WALLS AND/OR CEILINGS FOR DEMOLITION OF EXISTING FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC. AS REQUIRED.
D.	THIS CONTRACTOR IS RESPONSIBLE FOR PATCHING ALL HOLES/WALLS AND/OR CEILINGS FROM DEMOLISHED FIRE PROTECTION PIPING, SPRINKLER HEADS, EQUIPMENT, ETC. IN FLOORS, WALLS, AND CEILINGS TO MATCH EXISTING.
△	DISCONNECT AND REMOVE EXISTING SPRINKLER HEAD. PREPARE REMAINING SPRINKLER PIPING FOR NEW CONNECTION.
△	DISCONNECT AND REMOVE EXISTING SPRINKLER HEAD SERVING EXISTING AUDIO BOOTH. PREPARE REMAINING SPRINKLER PIPING FOR NEW CONNECTION.

1 FIRST FLOOR FIRE PROTECTION DEMOLITION PLAN  
FP1 1/8"=1'-0"

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										<table><tr><td colspan="2">Drawing Title</td><td colspan="2">Project Title</td><td colspan="2">Date</td></tr><tr><td colspan="2">FIRST FLOOR FIRE PROTECTION PLANS</td><td colspan="2">FARGO VA HEALTH CARE SYSTEM RENOVATE FIRST FLOOR, BUILDING 1</td><td colspan="2">MAY 10, 2013</td></tr><tr><td colspan="2">VA Project No. 437-13-104</td><td colspan="2">Contract No. VA263-P-1217</td><td colspan="2">Scale AS SHOWN</td></tr><tr><td colspan="2">Building No. 1, 46</td><td colspan="2">AutoCAD File Name 201226-FP1.dwg</td><td colspan="2">Drawing No. FP1</td></tr><tr><td colspan="2"></td><td colspan="2">Location FARGO VA HEALTH CARE SYSTEM FARGO, ND</td><td colspan="2">Dwg. 12 of 25</td></tr></table>		Drawing Title		Project Title		Date		FIRST FLOOR FIRE PROTECTION PLANS		FARGO VA HEALTH CARE SYSTEM RENOVATE FIRST FLOOR, BUILDING 1		MAY 10, 2013		VA Project No. 437-13-104		Contract No. VA263-P-1217		Scale AS SHOWN		Building No. 1, 46		AutoCAD File Name 201226-FP1.dwg		Drawing No. FP1				Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		Dwg. 12 of 25			
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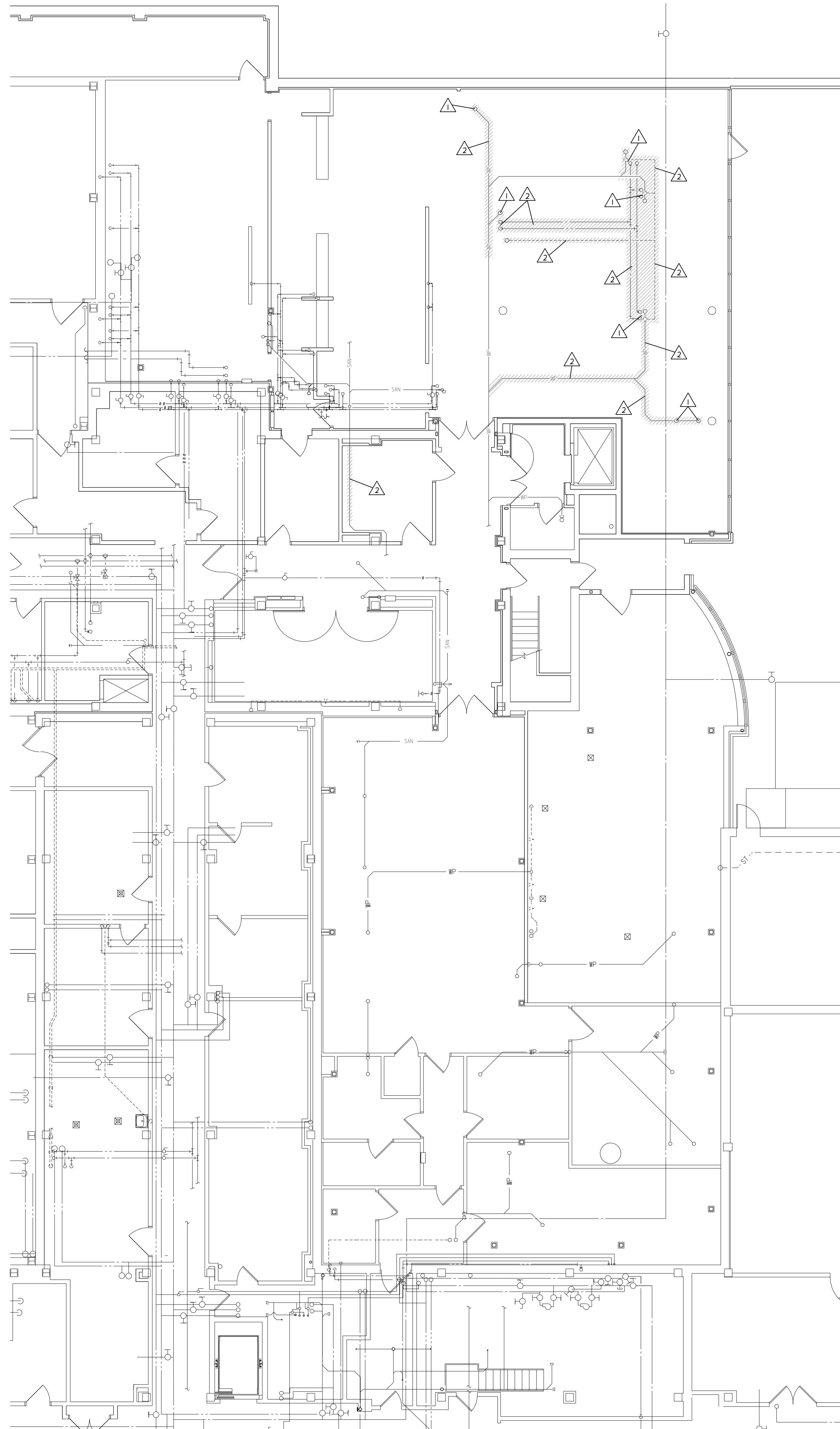
**2 BASEMENT PLUMBING PLAN**  
1/8"=1'-0"

ROOM SCHEDULE	
BC-68	CANTEN STORAGE
BC-70	CANTEN STORAGE
BC-74	FOOD SERVING AREA
BC-75	CANTEN DINING AREA

- PLUMBING NOTES:**
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS.
  - COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL, FIRE PROTECTION, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS AND INSTALLATION BY ALL TRADES.
  - REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW PLUMBING PIPING, EQUIPMENT, ETC.
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  - MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
  - ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.

PLUMBING FIXTURE CONNECTION SCHEDULE				
FIXTURE	WASTE	VENT	CW	HW
CLEAN OUT	4"	-	-	-
FLOOR DRAIN	2"	1-1/2"	-	-
LAVATORY	2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FV)	4"	2"	1"	-
SINK	2"	1-1/2"	1/2"	1/2"
EMERG. EYE WASH	2"	1-1/2"	1/2"	1/2"
WASHING MACHINE TRIM	2"	1-1/2"	-	-

NOTES:  
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.



**1 BASEMENT PLUMBING DEMOLITION PLAN**  
1/8"=1'-0"

- PLUMBING DEMOLITION NOTES:**
- DEMOLITION DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE BASED ON FIELD OBSERVATION AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS. PROVIDE ADDITIONAL DEMOLITION AS REQUIRED BASED ON FIELD CONDITIONS.
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- DISCONNECT AND REMOVE EXISTING PLUMBING PIPING UP TO FIXTURE INCLUDING ALL ASSOCIATED VALVES, INSULATION, SUPPORTS, ETC.
- DISCONNECT AND REMOVE EXISTING PLUMBING PIPING INCLUDING ALL ASSOCIATED VALVES, INSULATION, SUPPORTS, ETC.

- PHASING NOTES:**
- BEFORE REMOVAL OF THE EXISTING PLUMBING MAINS, INSTALL NEW MAINS AS MUCH AS POSSIBLE.
  - REFER TO PHASING DRAWINGS ON ARCHITECTURAL PLANS.
  - PLUMBING WORK IN THE BASEMENT SPACE SHALL OCCUR DURING OVERTIME OR WEEKEND HOURS. COORDINATE THE WORK IN ADVANCE WITH THE OWNER A MINIMUM OF TWO WEEKS PRIOR TO IMPLEMENTATION.



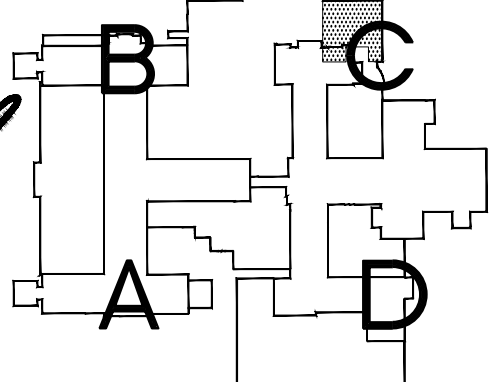
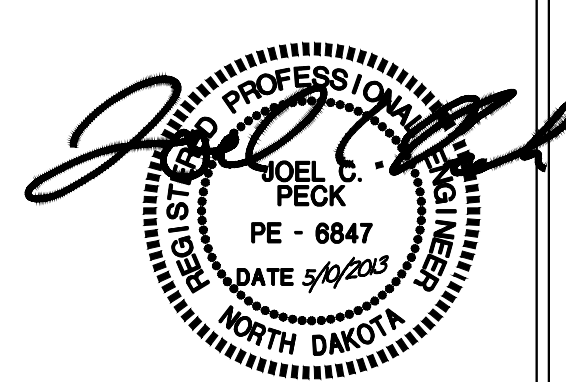
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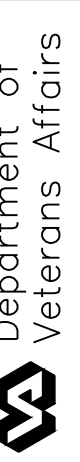
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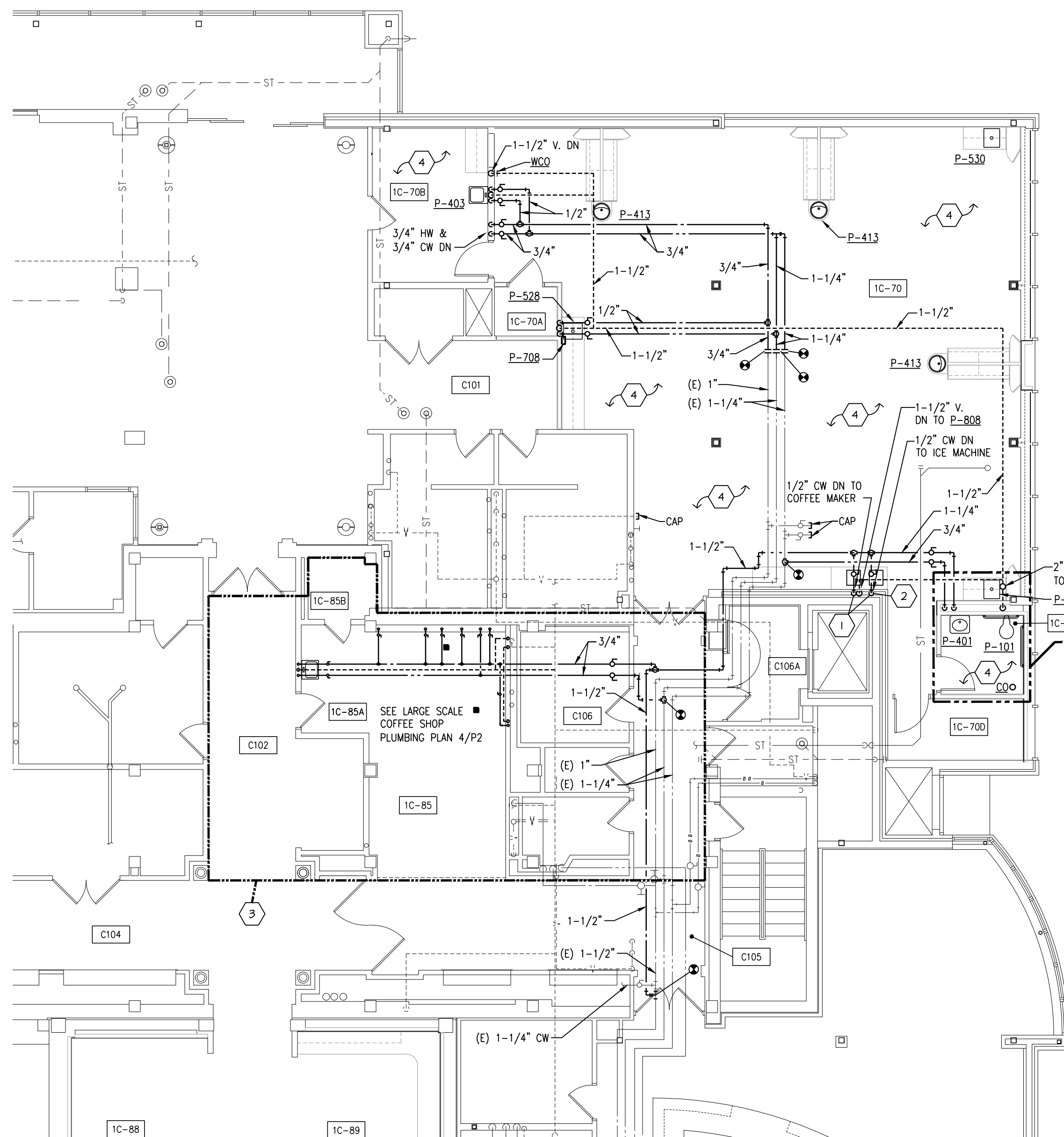
Drawing Title <b>BASEMENT PLUMBING PLANS</b>	
VA Project No. 437-13-104	Contract No. VA263-P-1217 VA263-C-
Building No. 1, 46	AutoCAD File Name 2012226-Pl.dwg

Project Title <b>FARGO VA HEALTH CARE SYSTEM RENOVATE FIRST FLOOR, BUILDING 1</b>		
Designed By JP	Checked By JP	Drawn By MW
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

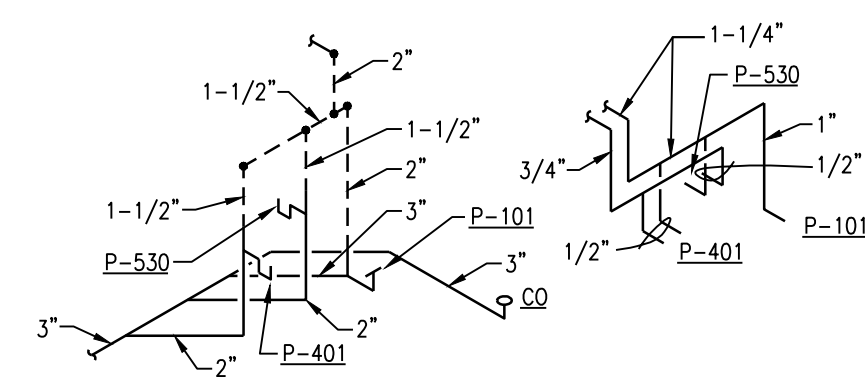
Date MAY 10, 2013	Scale AS SHOWN
Drawing No. P1	Dwg. 13 of 25



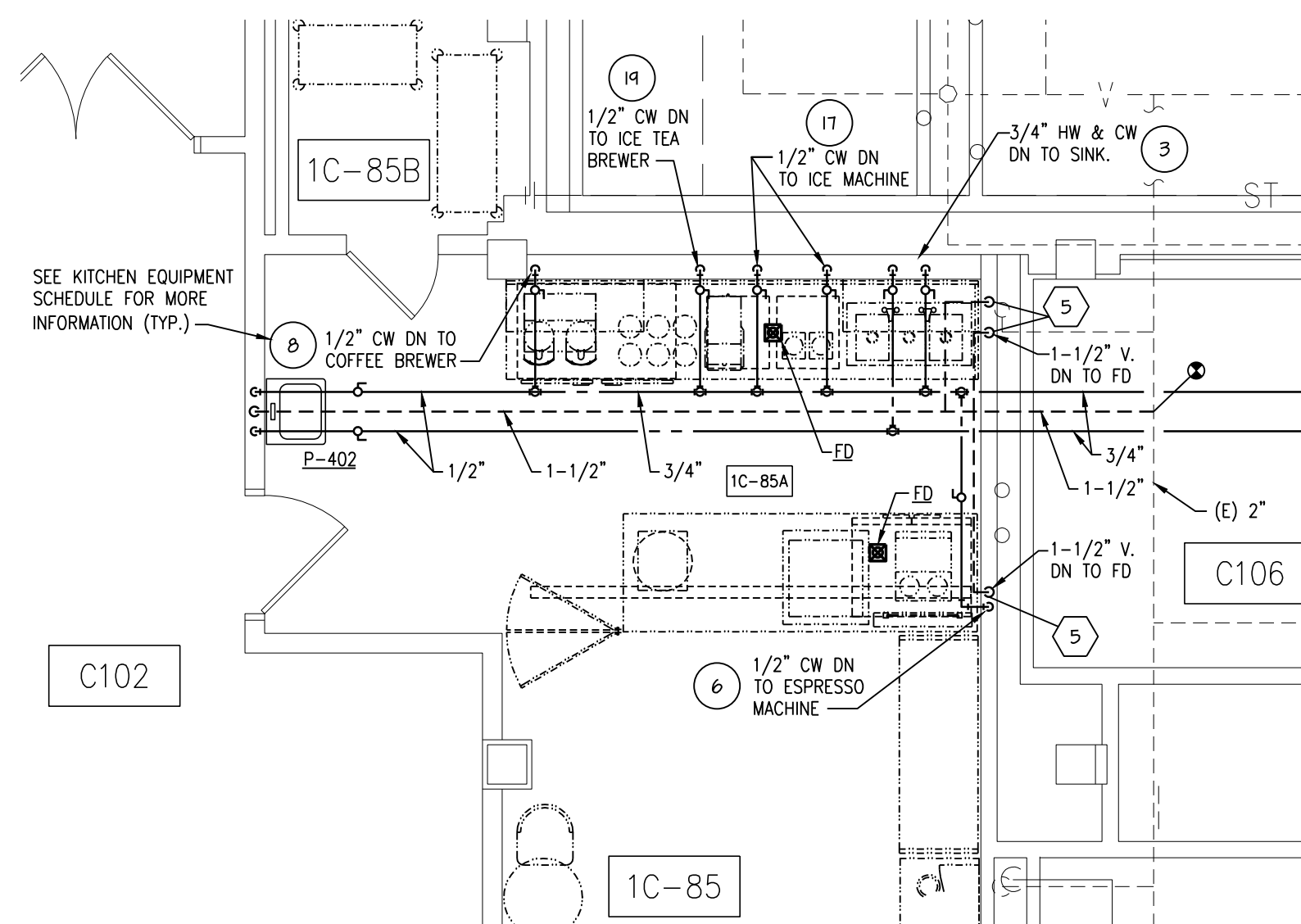




**2 FIRST FLOOR PLUMBING PLAN**  
P2 1/8"=1'-0"



**3 PLUMBING RISER DIAGRAM**  
P2 NTS



**4 LARGE SCALE COFFEE SHOP - PLUMBING PLAN**  
P2 1/4"=1'-0"

ROOM SCHEDULE	
1C-55	PATIENT ADVOCATE
1C-56	POLICE OFFICE
1C-70	ONCOLOGY
1C-70A	CLEAN UTILITY
1C-70B	PROCEDURE
1C-70C	TOILET
1C-70D	PUMP STORAGE
1C-85	PAINT/BREW
1C-85A	PREP AREA
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C101	HALL
C102	CORRIDOR
C103	CORRIDOR
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C105	CORRIDOR
C106	CORRIDOR
C106A	VEST

- PLUMBING NOTES:**
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  - COORDINATE ALL PLUMBING INSTALLATION WITH GENERAL FIRE PROTECTION, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL PLUMBING PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP PLUMBING PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET PLUMBING PIPING TO AVOID BEAMS AND INSTALLATION BY ALL TRADES.
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  - MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL CONTROL AND ACCESS PANELS FOR ACCESSIBILITY.
  - ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.
- PROVIDE IN-LINE WATER FILTER FOR OWNER PROVIDED EQUIPMENT. PROVIDE SHUT-OFF VALVES ON EACH SIDE OF THE FILTER.
  - ROUTE DRAIN FROM ICE MAKER DOWN TO WASH TRIM BOX BELOW THE COUNTER.
  - RAISED FLOOR BELOW THIS AREA. ALL FLOOR PENETRATIONS TO THE BASEMENT SHALL REQUIRE ADDITIONAL PENETRATIONS THROUGH THE DOUBLE FLOOR SLAB. REFER TO THE ARCHITECT'S PLANS FOR ENTIRE RAISED FLOOR AREA.
  - CONTRACTOR TO VERIFY CORD LOCATION IN PRECAST CONCRETE FLOOR IN ONCOLOGY AREA PRIOR TO CUTTING OR DRILLING.
  - CUT AND PATCH EXISTING WALL TO MATCH EXISTING.

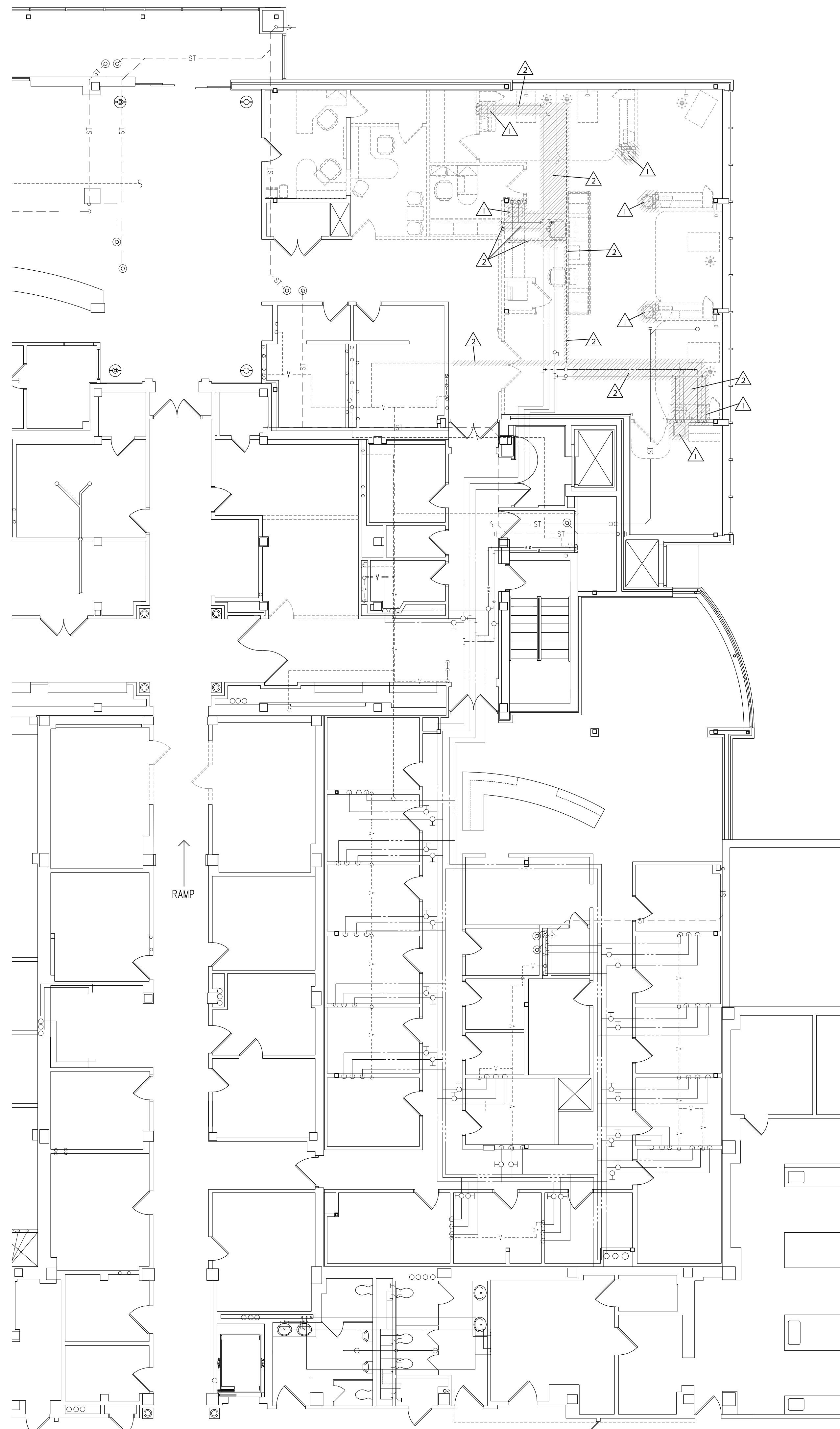
PLUMBING FIXTURE ROUGH-IN CONNECTION SCHEDULE				
FIXTURE	WASTE	VENT	CW	HW
CLEAN OUT	4"	-	-	-
FLOOR DRAIN	2"	1-1/2"	-	-
LAVATORY	2"	1-1/2"	1/2"	1/2"
WATER CLOSET (FY)	4"	2"	1"	-
SINK	2"	1-1/2"	1/2"	1/2"
EMERG. EYE WASH	2"	1-1/2"	1/2"	1/2"
WASHING MACHINE TRIM	2"	1-1/2"	-	-

NOTES:  
1. SIZES SHALL BE AS SCHEDULED UNLESS OTHERWISE NOTED ON DRAWINGS.

KITCHEN EQUIPMENT PLUMBING SCHEDULE						
ITEM NO.	DESCRIPTION	WASTE INDIRECT	WASTE DIRECT	WATER COLD	WATER HOT	NOTES
3	BACKBAR COUNTER W/ SINK	NA	2"	3/4"	3/4"	1, 2
6	ESPRESSO MACHINE	FD	NA	1/2"	NA	2, 3, 4, 5
8	COFFEE BREWER	NA	NA	1/2"	NA	2, 4, 6
17	ICE MAKER (2)	FD	NA	1/2"	NA	2, 3, 4, 6
19	ICED TEA BREWER	NA	NA	1/2"	NA	2, 4, 6

GENERAL NOTES:  
A. ALL WATER AND GAS PIPING TO EQUIPMENT SHALL BE PROVIDED WITH BALL VALVES.  
B. PLUMBING CONTRACTOR SHALL PROVIDE ALL ROUGH-IN AND FINAL CONNECTIONS TO ALL FOOD FACILITIES' EQUIPMENT. VERIFY CONNECTION POINTS AND REQUIREMENTS WITH KITCHEN EQUIPMENT SUPPLIER AND KITCHEN EQUIPMENT PLANS.  
C. PLUMBING CONTRACTOR TO VERIFY FINAL KITCHEN EQUIPMENT SUPPLIER SHOP DRAWINGS TO VERIFY FLOOR DRAIN LOCATIONS. AVOID INSTALLING FLOOR DRAINS BELOW EQUIPMENT LEGS.

NOTES:  
1. FUTURE AND TOW FURNISHED BY OWNER AND INSTALLED BY THE MECHANICAL CONTRACTOR. SEE SPECIFICATIONS FOR MORE INFORMATION.  
2. PROVIDE INDIVIDUAL SHUT-OFF VALVE TO EACH WATER CONNECTION.  
3. ROUTE WASTE LINE TO NEAREST FLOOR DRAIN/SINK WITHIN SIGHT OF EQUIPMENT SERVED.  
4. COORDINATE PLUMBING ROUGH-IN HEIGHT WITH ARCHITECTURAL DRAWINGS AND/OR EQUIPMENT SUPPLIER.  
5. IN-LINE FILTER FURNISHED BY EQUIPMENT SUPPLIER AND INSTALLED BY THE PLUMBING CONTRACTOR. PROVIDE COLD WATER CONNECTIONS ON BOTH SIDES OF FILTER WITH BALL VALVE SHUT-OFFS ON BOTH SIDES. EXTEND THE FILTERED WATER LINE TO EQUIPMENT.  
6. IN-LINE FILTER FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR. SEE 221100 FOR MORE INFORMATION ON FILTERS. PROVIDE COLD WATER CONNECTIONS ON BOTH SIDES OF FILTER WITH BALL VALVE SHUT-OFFS ON BOTH SIDES. EXTEND THE FILTERED WATER LINE TO EQUIPMENT.



**1 FIRST FLOOR PLUMBING DEMOLITION PLAN**  
P2 1/8"=1'-0"

- PLUMBING DEMOLITION NOTES:**
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  - THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE DEMOLITION OF EXISTING PLUMBING PIPING, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING WORK BY THE GENERAL CONTRACTOR. ANY CEILING TILE OR GRID DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW BY THIS CONTRACTOR.
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- DISCONNECT AND REMOVE EXISTING PLUMBING FIXTURE INCLUDING ALL ASSOCIATED PLUMBING PIPING, VALVES, INSULATION, SUPPORTS, ETC.
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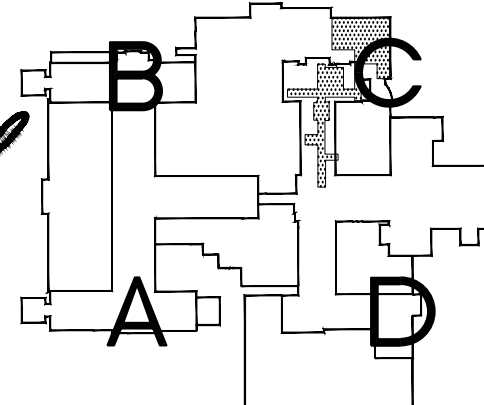
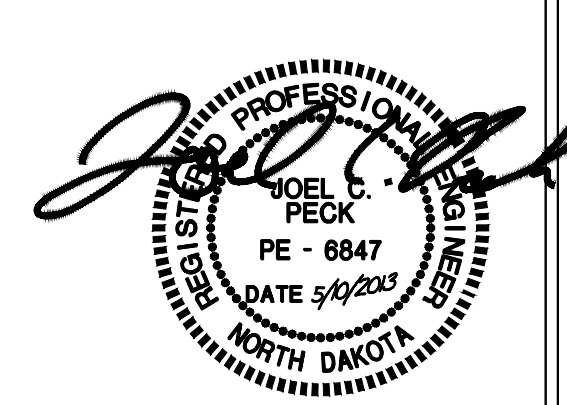
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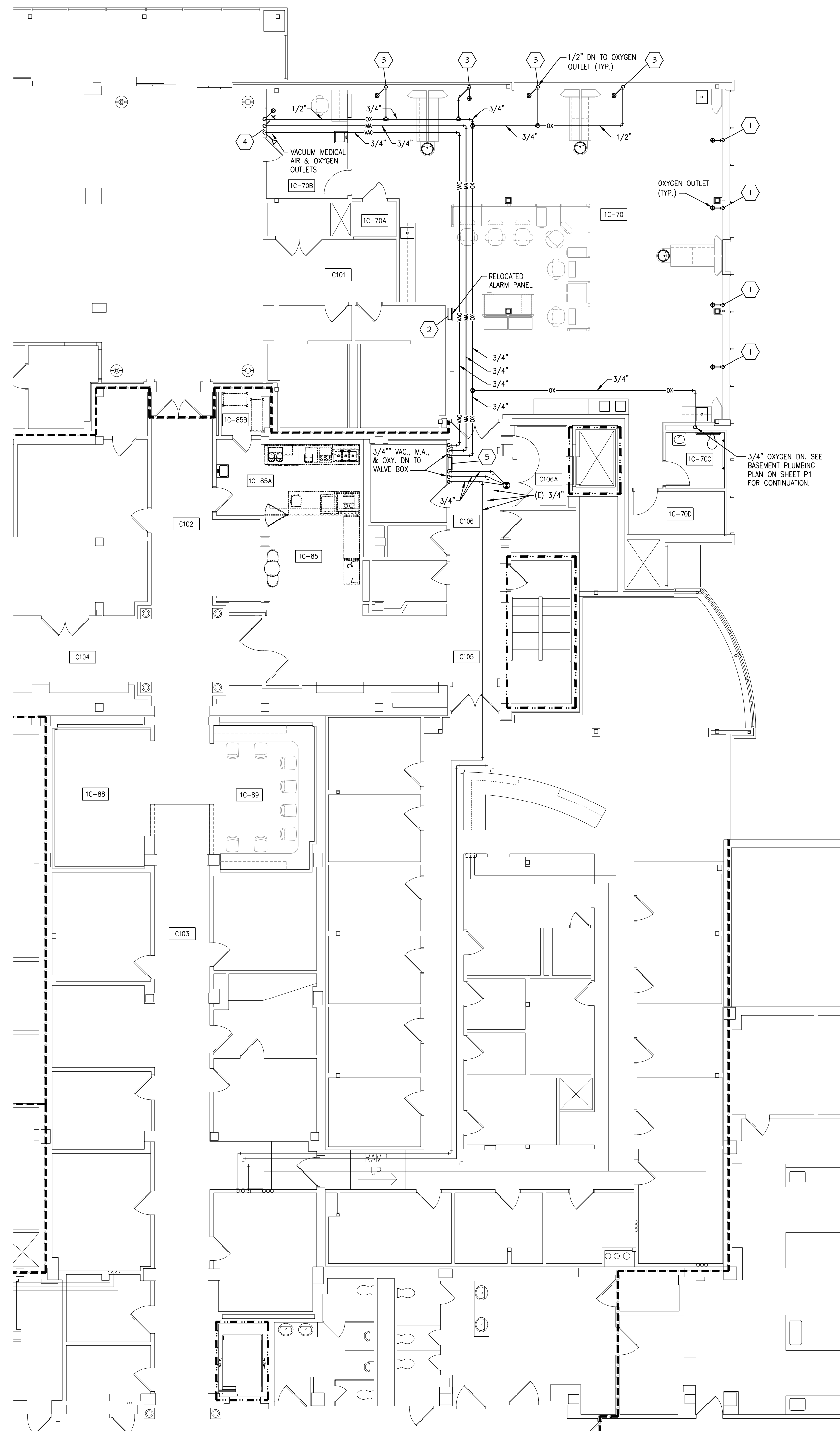
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VA Project No. 437-13-104	Contract No. VA263-P-1217 VA263-C-
Building No. 1, 46	AutoCAD File Name 2012226-P2.dwg

Project Title <b>FARGO VA HEALTH CARE SYSTEM RENOVATE FIRST FLOOR, BUILDING 1</b>		
Designed By JP	Checked By JP	Drawn By MW
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date MAY 10, 2013
Scale AS SHOWN
Drawing No. <b>P2</b>
Dwg. 14 of 25



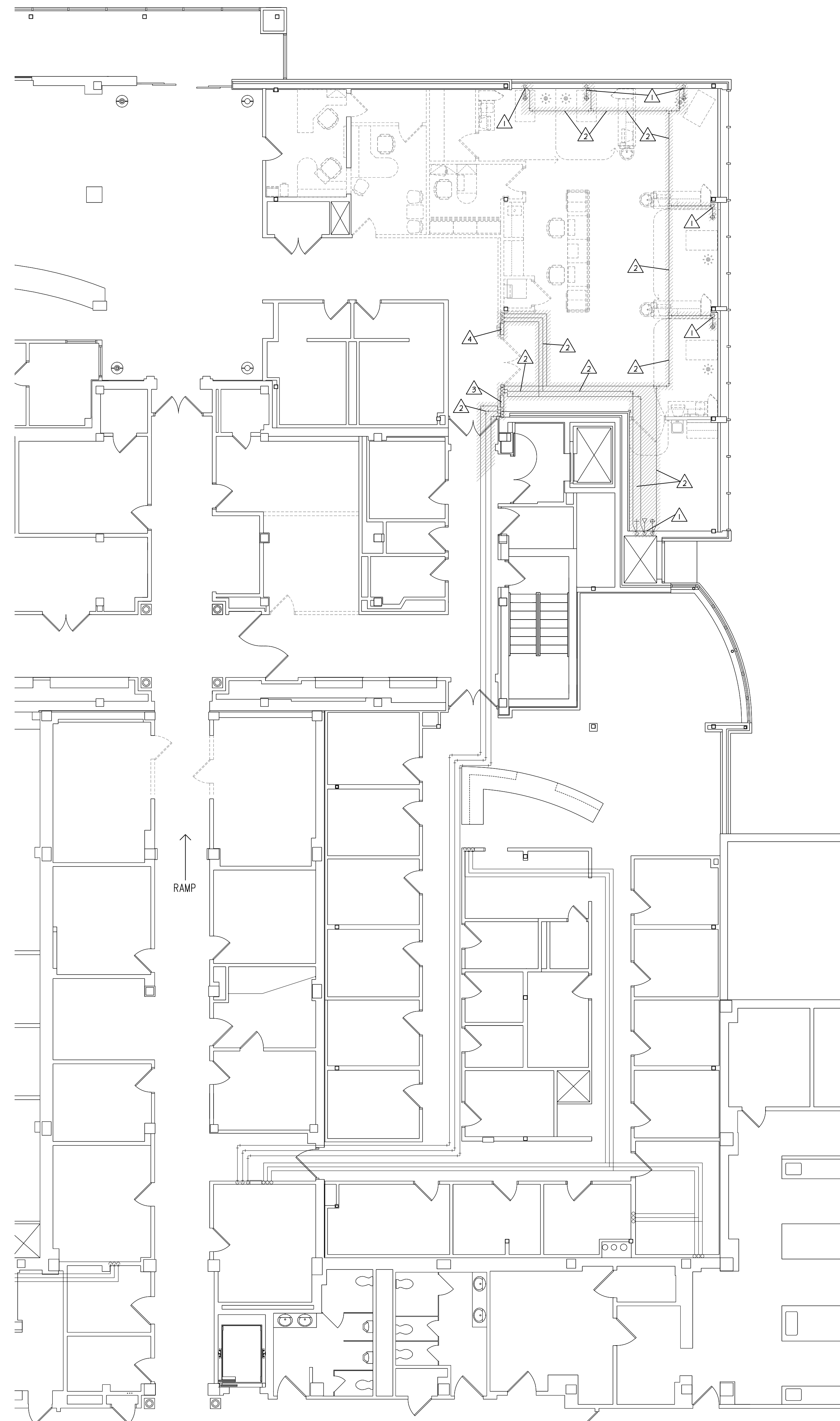




2 FIRST FLOOR MEDICAL GAS PLAN  
P3 1/8"=1'-0"

ROOM SCHEDULE	
1C-55	PATIENT ADVOCATE
1C-56	POLICE OFFICE
1C-70	ONCOLOGY
1C-70A	CLEAN UTILITY
1C-70B	PROCEDURE
1C-70C	TUBING
1C-70D	PUMP STORAGE
1C-85	PAIN/BURN
1C-85A	PREP AREA
1C-85B	STORAGE
1C-88	KIOSKS
1C-89	MY HELIX
1C101	HALL
1C102	CORRIDOR
1C103	CORRIDOR
1C104	CORRIDOR
1C105	CORRIDOR
1C106	CORRIDOR
1C106A	VEST

- MEDICAL GAS NOTES:**
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS.
  - COORDINATE ALL MEDICAL GAS INSTALLATION WITH GENERAL FIRE PROTECTION, VENTILATION, AND ELECTRICAL CONTRACTORS. INSTALL ALL MEDICAL GAS PIPING AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP MEDICAL GAS PIPING TIGHT TO THE STRUCTURE OR DUCTWORK ABOVE. OFFSET MEDICAL GAS PIPING TO AVOID BEAMS AND INSTALLATION BY ALL TRADES.
  - REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW MEDICAL PIPING, EQUIPMENT, ETC.
  - THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE INSTALLATION OF NEW MEDICAL GAS PIPING, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING WORK BY THE GENERAL CONTRACTOR. ANY CEILING TILE OR GRID DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW BY THIS CONTRACTOR.
  - THIS CONTRACTOR SHALL OPEN ALL EXISTING WALLS AND/OR CEILINGS FOR INSTALLATION OF NEW MEDICAL GAS PIPING, EQUIPMENT, ETC. AS REQUIRED. PATCH WALLS AND/OR CEILINGS TO MATCH EXISTING.
  - MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
  - ALL SHUT-OFF VALVES, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.
- MOUNT OUTLET AS HIGH AS POSSIBLE BELOW THE WINDOW. SEE ARCHITECTURAL ELEVATIONS ON THIS WALL FOR MOUNTING HEIGHTS. SEE SHEET P1 FOR CONTINUATION OF PIPING DOWN.
  - REINSTALL EXISTING MEDICAL GAS SENSORS AND PROVIDE ALL WIRING BETWEEN ALARM PANEL AND SENSORS. MOUNT EXISTING PANEL IN EXISTING WALL AT 4'-6" FROM CENTER OF PANEL TO FINISHED FLOOR. CUT AND PATCH WALL AS REQUIRED TO MATCH EXISTING.
  - CUT AND PATCH WALL AS REQUIRED TO MATCH EXISTING IN ORDER TO INSTALL NEW OUTLETS. INSTALL NEW OUTLETS AT 4'-0" ON CENTER ABOVE THE FINISHED FLOOR.
  - MOUNT OUTLETS AT 4'-0" ON CENTER ABOVE THE FINISHED FLOOR.
  - REINSTALL THE EXISTING MEDICAL GAS VALVE BOX IN THE EXISTING WALL AT 4'-6" FROM CENTER OF CABINET TO FINISHED FLOOR.



1 FIRST FLOOR MEDICAL GAS DEMOLITION PLAN  
P3 1/8"=1'-0"

- MEDICAL GAS DEMOLITION NOTES:**
- DEMOLITION DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE BASED ON FIELD OBSERVATION AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS. PROVIDE ADDITIONAL DEMOLITION AS REQUIRED BASED ON FIELD CONDITIONS.
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  - THIS CONTRACTOR SHALL OPEN ALL WALLS AND/OR CEILINGS FOR DEMOLITION OF EXISTING MEDICAL GAS PIPING, EQUIPMENT, ETC. AS REQUIRED.
  - THIS CONTRACTOR IS RESPONSIBLE FOR PATCHING ALL HOLES/WALLS AND OR CEILINGS FROM DEMOLISHED MEDICAL GAS PIPING, EQUIPMENT, ETC. IN FLOORS, WALLS, AND CEILINGS TO MATCH EXISTING.
- DISCONNECT AND REMOVE EXISTING MEDICAL GAS OUTLET INCLUDING ALL ASSOCIATED MEDICAL GAS PIPING, VALVES, SUPPORTS, ETC. CUT AND PATCH WALL AS REQUIRED TO MATCH EXISTING.
  - DISCONNECT AND REMOVE EXISTING MEDICAL GAS PIPING INCLUDING ALL ASSOCIATED VALVES, SUPPORTS, ETC.
  - DISCONNECT AND REMOVE EXISTING MEDICAL GAS VALVE BOX INCLUDING ALL ASSOCIATED MEDICAL GAS PIPING, VALVES, SUPPORTS, ETC. RETAIN FOR RE-INSTALLATION.
  - DISCONNECT AND REMOVE EXISTING MEDICAL GAS ALARM PANEL INCLUDING ALL ASSOCIATED WIRING, SENSORS, ETC. RETAIN FOR RE-INSTALLATION.

- PHASING NOTES:**
- BEFORE REMOVAL OF THE EXISTING MEDICAL GAS MAINS, VALVE BOX, AND ALARM PANEL, INSTALL NEW MAINS AS MUCH AS POSSIBLE.
  - REFER TO PHASING DRAWINGS ON ARCHITECTURAL PLANS.
  - RELOCATION OF THE MEDICAL GAS ALARM PANEL AND VALVE BOX AND RECONFIGURATION OF PIPING THAT WILL CREATE SHUT DOWNS IN SERVICE SHALL OCCUR DURING OVERTIME OR WEEKEND HOURS. COORDINATE THE WORK IN ADVANCE WITH THE OWNER A MINIMUM OF TWO WEEKS PRIOR TO IMPLEMENTATION.



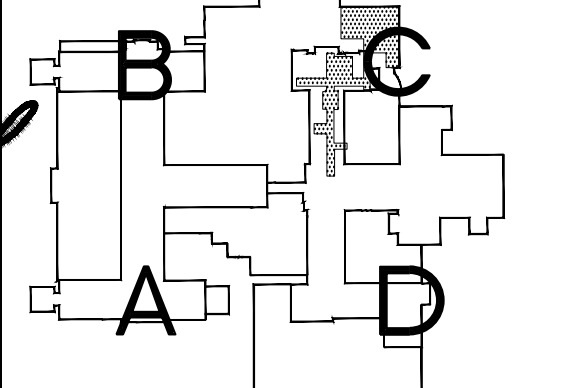
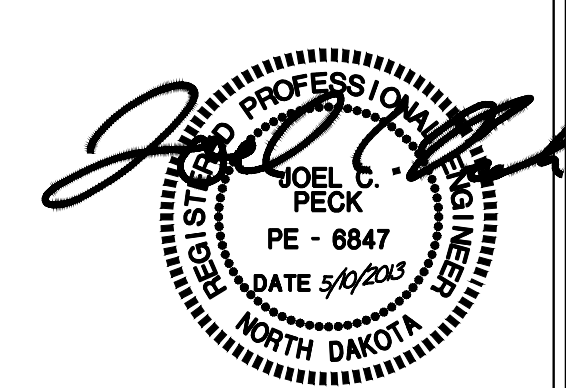
Dept. of Veterans Affairs  
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Drawing Title <b>FIRST FLOOR MEDICAL GAS PLANS</b>	
VA Project No. 437-13-104	Contract No. VA263-P-1217 VA263-C-
Building No. 1, 46	AutoCAD File Name 2012226-P3.dwg

Project Title <b>FARGO VA HEALTH CARE SYSTEM RENOVATE FIRST FLOOR, BUILDING 1</b>		
Designed By JP	Checked By JP	Drawn By MW
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date MAY 10, 2013	Scale AS SHOWN
Drawing No. P3	Dwg. 15 of 25



Department of  
Veterans Affairs



# ROOM SCHEDULE

BC-68 CANTEN STORAGE  
BC-70 CANTEN STORAGE  
BC-74 FOOD SERVING AREA  
BC-75 CANTEN DINING AREA

## HVAC PIPING NOTES:

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- MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- ALL SHUT-OFF VALVES, CONTROL VALVES, STRAINERS, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS. VALVES SHALL BE LOCATED NOT MORE THAN 2 FEET ABOVE ACOUSTICAL CEILINGS.
- SHUT-OFF VALVES FOR ALL TERMINAL DEVICES SHALL BE AS ACCESSIBLE AS POSSIBLE TO THE CONTROLLED DEVICE.
- PROVIDE 1/2" DRAIN VALVE AT ALL LOW POINTS OF EACH SYSTEM TO ENABLE COMPLETE DRAINAGE. PROVIDE 1/2" VENT VALVES AT ALL HIGH POINTS OF EACH SYSTEM TO ENABLE COMPLETE VENTING.

## MECHANICAL SYMBOLS & ABBREVIATIONS LEGEND

### PIPING SYMBOLS

**HEATING**

- HPS HIGH PRESSURE STEAM (60 PSIG & ABOVE)
- HPR HIGH PRESSURE STEAM CONDENSATE RETURN
- LPS LOW PRESSURE STEAM (15 PSIG AND BELOW)
- LPR LOW PRESSURE STEAM CONDENSATE RETURN
- MPS MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)
- MPR MEDIUM PRESSURE STEAM CONDENSATE RETURN
- CPD CONDENSATE PUMP DISCHARGE
- HHW HOT WATER HEATING SUPPLY
- HHWR HOT WATER HEATING RETURN
- QHS HOT GLYCOL-WATER HEATING SUPPLY
- QHR HOT GLYCOL-WATER HEATING RETURN
- V VENT LINE

### GENERAL

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ⊥ ANCHOR
- ⊥ REDUCER OR INCREASER
- ⊥ ECCENTRIC REDUCER
- ⊥ TOP CONNECTION, 45° OR 90°
- ⊥ BOTTOM CONNECTION, 45° OR 90°
- ⊥ SIDE CONNECTION
- ⊥ CAPPED OUTLET
- ⊥ RISE OR DROP IN PIPE
- ⊥ UNION
- ⊥ POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- ⊥ INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES (SEE STD. DETAIL)
- ⊥ FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES (SEE STD. DETAIL)
- ⊥ STRAINER
- ⊥ THERMOMETER
- ⊥ PRESSURE GAUGE
- ⊥ WATER FLOW MEASURING DEVICE
- ⊥ WATER FLOW MEASURING DEVICE
- ⊥ NATURAL GAS
- ⊥ COMPRESSED AIR

### FIRE PROTECTION

- ⊥ ZONE VALVE
- ⊥ VALVE SUPERVISORY SWITCH
- ⊥ FLOW SWITCH
- ⊥ PRESSURE GAUGE
- ⊥ FIRE PROTECTION RISER

### VALVES SYMBOLS

- ⊥ GATE VALVE
- ⊥ GLOBE VALVE
- ⊥ GATE VALVE w/ 3/4" HOSE ADAPTOR
- ⊥ CHECK VALVE
- ⊥ ANGLE GLOBE VALVE
- ⊥ BUTTERFLY VALVE
- ⊥ BALL VALVE
- ⊥ BALANCING COCK
- ⊥ STRAIGHT-THRU MODULATING CONTROL VALVE
- ⊥ THREE-WAY MODULATING CONTROL VALVE
- ⊥ SAFETY OR PRESSURE RELIEF VALVE
- ⊥ PRESSURE REDUCING VALVE
- ⊥ MANUAL AIR VENT
- ⊥ TEST PLUG (PRESSURE/TEMPERATURE)

### DOMESTIC WATER

- ⊥ COLD WATER
- ⊥ HOT WATER
- ⊥ RECIRCULATING HOT WATER
- ⊥ SANITARY VENT
- ⊥ SANITARY WASTE PIPING
- ⊥ REVERSE OSMOSIS
- ⊥ DISTILLED WATER
- ⊥ BICARBONATE SOLUTION
- ⊥ ACID SOLUTION
- ⊥ ACID SOLUTION

### MEDICAL GAS

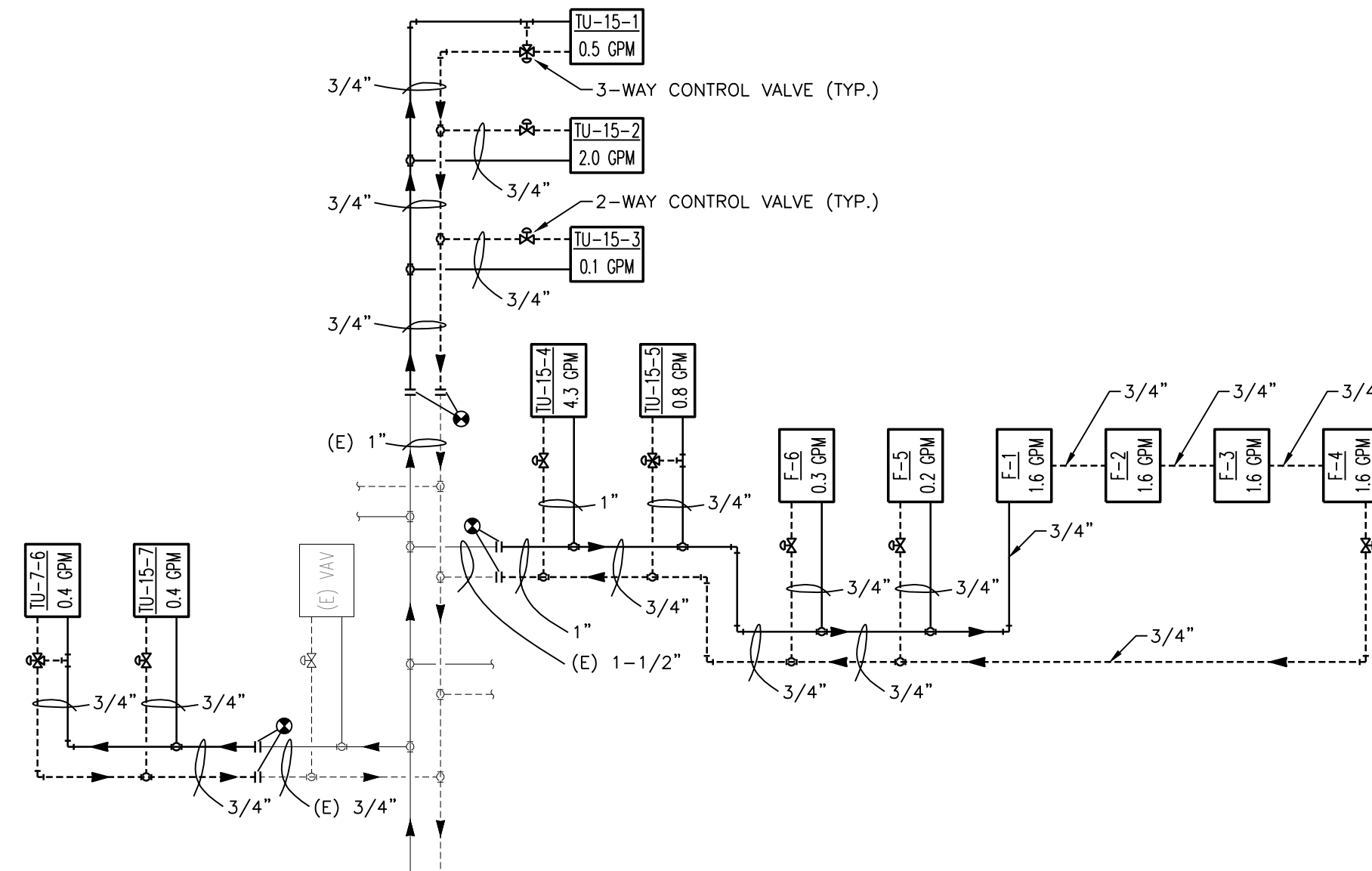
- ⊥ MEDICAL AIR MEDICAL GAS OUTLET
- ⊥ OXYGEN MEDICAL GAS OUTLET
- ⊥ VACUUM MEDICAL GAS OUTLET
- ⊥ NITROGEN MEDICAL GAS OUTLET
- ⊥ NITROUS OXIDE MEDICAL GAS OUTLET
- ⊥ WABD MEDICAL GAS OUTLET
- ⊥ NATURAL GAS MEDICAL GAS OUTLET

### DRAWING SYMBOLS

- ⊥ BUILDING NO. WHERE EQUIPMENT IS LOCATED
- ⊥ EQUIPMENT ABBREVIATION (SUPPLY FAN)
- ⊥ SUPPLY FAN NO. 3 IN BUILDING NO. 26 TYPICAL UNIT NO.
- ⊥ ITEM (TERMINAL UNIT SHOWN)
- ⊥ ITEM NUMBER (TERMINAL UNIT NO. 1)
- ⊥ SERVED BY SUPPLY FAN NO.1
- ⊥ DETAIL NUMBER
- ⊥ DRAWING NUMBER WHERE SHOWN
- ⊥ SECTION LETTER
- ⊥ DRAWING NUMBER WHERE SHOWN

### DUCT SYMBOLS

- ⊥ SUPPLY AIR DUCT (UP & DOWN)
- ⊥ RETURN AIR DUCT (UP & DOWN)
- ⊥ CEILING DIFFUSERS
- ⊥ SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
- ⊥ EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- ⊥ EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- ⊥ EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
- ⊥ VANED ELBOW & AIR SPLIT TYPE DUCT TAKEOFF
- ⊥ INCLINED RISE, IN DIRECTION OF AIR FLOW
- ⊥ INCLINED DROP, IN DIRECTION OF AIR FLOW
- ⊥ FLEXIBLE CONNECTION
- ⊥ DUCT MOUNTED COIL (HOT WATER OR STEAM COIL)
- ⊥ VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- ⊥ VANED ELBOW (SHORT RADIUS)
- ⊥ STANDARD RADIUS ELBOW
- ⊥ NEW DUCT (WIDTH X DEPTH)
- ⊥ EXISTING DUCT TO BE REMOVED
- ⊥ LOUVER
- ⊥ FLEXIBLE DUCTWORK (INSULATED)
- ⊥ MANUAL VOLUME DAMPER
- ⊥ FIRE DAMPER
- ⊥ AIR TERMINAL SYMBOLS
- ⊥ CONSTANT VOLUME TERMINAL UNIT WITH HEATING COIL. LETTER INDICATES SIZE.
- ⊥ VARIABLE VOLUME TERMINAL UNIT WITH HEATING COIL. LETTER INDICATES SIZE.
- ⊥ DOUBLE DUCT MIXING BOX. LETTER INDICATES UNIT SIZE.
- ⊥ FAN POWERED VARIABLE VOLUME TERMINAL UNIT WITH HEATING COIL. LETTER INDICATES SIZE.
- ⊥ ROOM CONTROL: THERMOSTAT, HUMIDISTAT



## 2 HEATING PIPING SCHEMATIC

## ABBREVIATIONS LEGEND

AC	AIR CONDITIONING UNIT	ERP	ELECTRIC RADIANT CEILING PANEL	PFW	PUMPED FEED WATER
ACC	AIR COOLED CONDENSER	ET	ELECTRIC UNIT HEATER	PW	PROPYLENE GLYCOL-WATER SOLUTION
ACCU	AIR COOLED CONDENSING UNIT	EUH	ELECTRIC UNIT HEATER	PH	PREHEAT
ACCU	AIR COOLED RECIPROCATING CHILLER UNIT	EW	EVAPORATIVE WATER COOLER	POD	POWER OPERATED, OPPOSED BLADE DAMPER
AD	ACCESS DOOR	EX	EXISTING	POD	POWER OPERATED, PARALLEL BLADE DAMPER
AF	AFTER FILTER	FCU	FAN COIL UNIT	PRV	PRESSURE REDUCING VALVE
AFCE	AIR FLOW CONTROL VALVE	FF	FORWARD CURVED FAN	R/A	RETURN AIR
AFM	AIR FLOW MEASURING DEVICE	FLR	FLOOR	RCU	RECIPROCATING CHILLER UNIT
AFW	AIR FLOW WHEEL	FLR	FLOOR	RH	RETURN FAN
AHU	AIR HANDLING UNIT	FS	FIRE DAMPER	RH	REHEAT COIL
AP	ACCESS PANEL	FS	FACTORY FABRICATED FAN SECTION	RH	REHEAT COIL
AW	BACKWARD INCLINED WHEEL	FTN	FAN TUBE DOWNFLOW	RH	RELATIVE HUMIDITY
BC	BOTTOM GRILLE (WALL TYPE)	GH	GRAVITY HOOD	RH	POWER TYPE ROOF VENTILATOR
BR	BOTTOM REGISTER (WALL TYPE)	HD	HOOD	S/A	SUPPLY AIR
C	COMPRESSOR	HE	HEATING COIL	SA	SOUND ATTENUATING UNIT
CC	COOLING COIL	HE	AIR TO AIR HEAT EXCHANGER	SCD	SOUND CONTROLLED RECTIFIER
CCF	CENTRIFUGAL CEILING FAN	HE	HEPA FILTER	SD	SPECIFIC GRAVITY
CCU	CENTRIFUGAL OR HELICAL ROTARY SCREW CHILLER UNIT	HP	HORIZONTAL	SD	SOUND DAMPER
CD	CEILING DIFFUSER	HPR	HIGH PRESSURE STEAM CONDENSATE	SH	STEAM HUMIDIFIER
CF	CENTRIFUGAL FAN	HPS	HIGH PRESSURE STEAM	SH	STATIC PRESSURE
CG	CEILING GRILLE	HPR	HIGH PRESSURE STEAM CONDENSATE	SFS	STATIC PRESSURE SENSOR
CG	CLEAN OUT	HV	HEATING AND VENTILATING UNIT	SP	TOP GRILLE (WALL TYPE)
COMP.	COMPRESSOR	IEF	INDUSTRIAL EXHAUST FAN	TR	THRU WALL UNIT
CONJ.	CONNECTOR	ITF	INTRODUCTORY FACE AND BYPASS	UC	UNIT COOLER
CP	CONDENSATE PUMP	IU	INDUCTION UNIT	URV	UPRAST POWER TYPE ROOF VENTILATOR
CR	CEILING REGISTER	LD	LINEAR CEILING DIFFUSER	V	VALVE
CU	CONDENSING UNIT	LCD	LOCAL TEMPERATURE CONTROL PANEL	VCC	VOLUME CONTROL CENTER
CUM	CABINET UNIT HEATER	LCD	LOCAL TEMPERATURE CONTROL PANEL	VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
CW	COLD WATER	LPS	LOW PRESSURE STEAM	VFD	VARIABLE FREQUENCY DRIVE
D	DISCHARGE DAMPERS	LPR	LOW PRESSURE STEAM CONDENSATE RETURN	VS	VARIABLE INLET VANES
DB	DISCHARGE DAMPERS	LTP	LOCAL TEMPERATURE CONTROL PANEL	VSW	VACUUM SWITCH
DD	DISCHARGE DAMPERS	MB	MIXING BOX	VW	VACUUM STEAM CONDENSATE RETURN
DE	DEPOINT TEMPERATURE	ME	MECHANICAL ROOM	VW	VARIABLE SPEED MOTOR CONTROLLER
DX	DIRECT EXPANSION	MFR	MEDIUM PRESSURE STEAM CONDENSATE RETURN	WB	WET BULB TEMPERATURE
EC	EVAPORATIVE CONDENSER	MPS	MEDIUM PRESSURE STEAM	WF	WATER FILTER
EC	ENGINEERING CONTROL CENTER	MIN	MINIMUM	WFM	WATER FLOW MEASURING DEVICE
EDH	ELECTRIC COIL DUCT HEATER	MIN	MINIMUM	WFM	WATER FLOW MEASURING DEVICE
EF	EXHAUST FAN	Q/A	OUTDOOR AIR	WFM	WATER FLOW MEASURING DEVICE
EGW	ETHYLENE GLYCOL-WATER SOLUTION (% GLYCOL BY VOLUME)	PC	PUMPED CONDENSATE	WFM	WATER FLOW MEASURING DEVICE
END	END OF MAIN DRIP (STEAM)	PEF	PROPPELLER TYPE EXHAUST FAN	WFM	WATER FLOW MEASURING DEVICE
ERC	ENERGY RECOVERY COIL	PF	PRE-FILTER	WFM	WATER FLOW MEASURING DEVICE

## 1 BASEMENT HVAC PIPING PLAN

1/8"=1'-0"



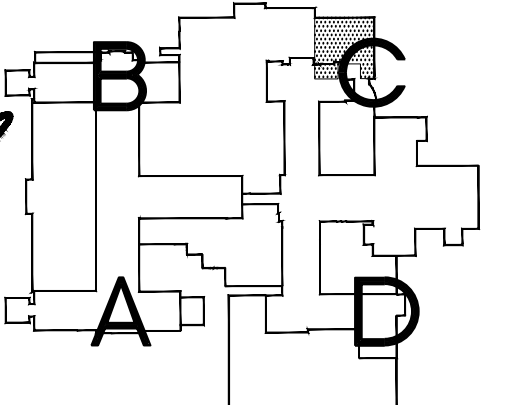
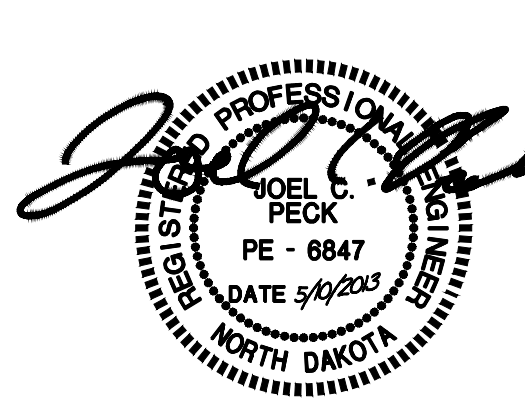
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Drawing Title  
BASEMENT HVAC PIPING PLAN /  
MECHANICAL LEGEND

VA Project No.  
437-13-104

Building No.  
1, 46

Contract No.  
VA263-P-1217  
VA263-C-

AutoCAD File Name  
2012226-H1.dwg

Project Title  
FARGO VA HEALTH CARE SYSTEM  
RENOVATE FIRST FLOOR,  
BUILDING 1

Designed By  
JP

Location  
FARGO VA HEALTH CARE SYSTEM  
FARGO, ND

Checked By  
JP

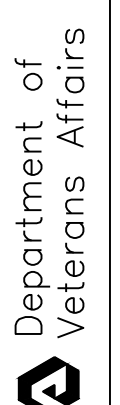
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MW

Date  
MAY 10, 2013

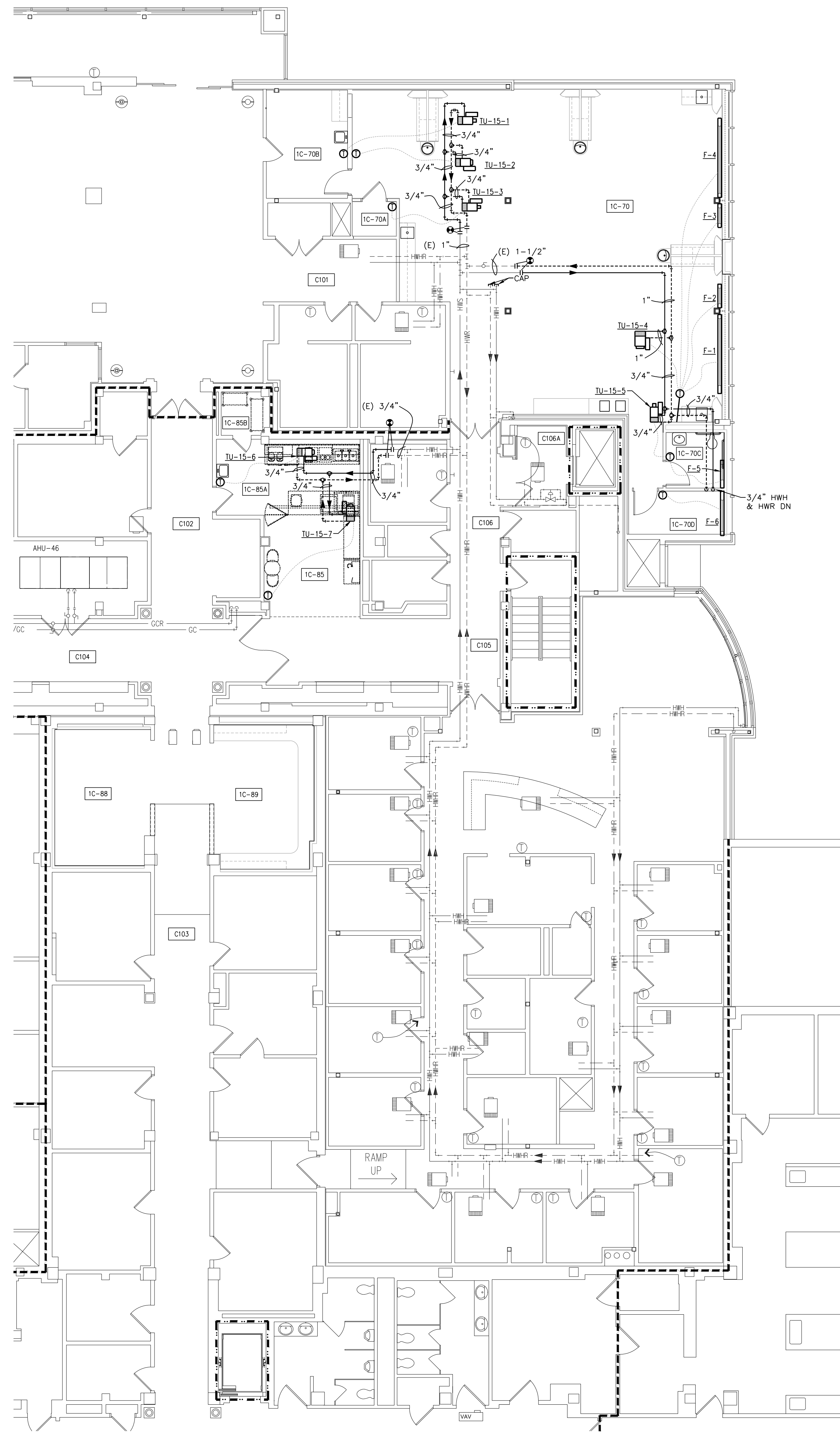
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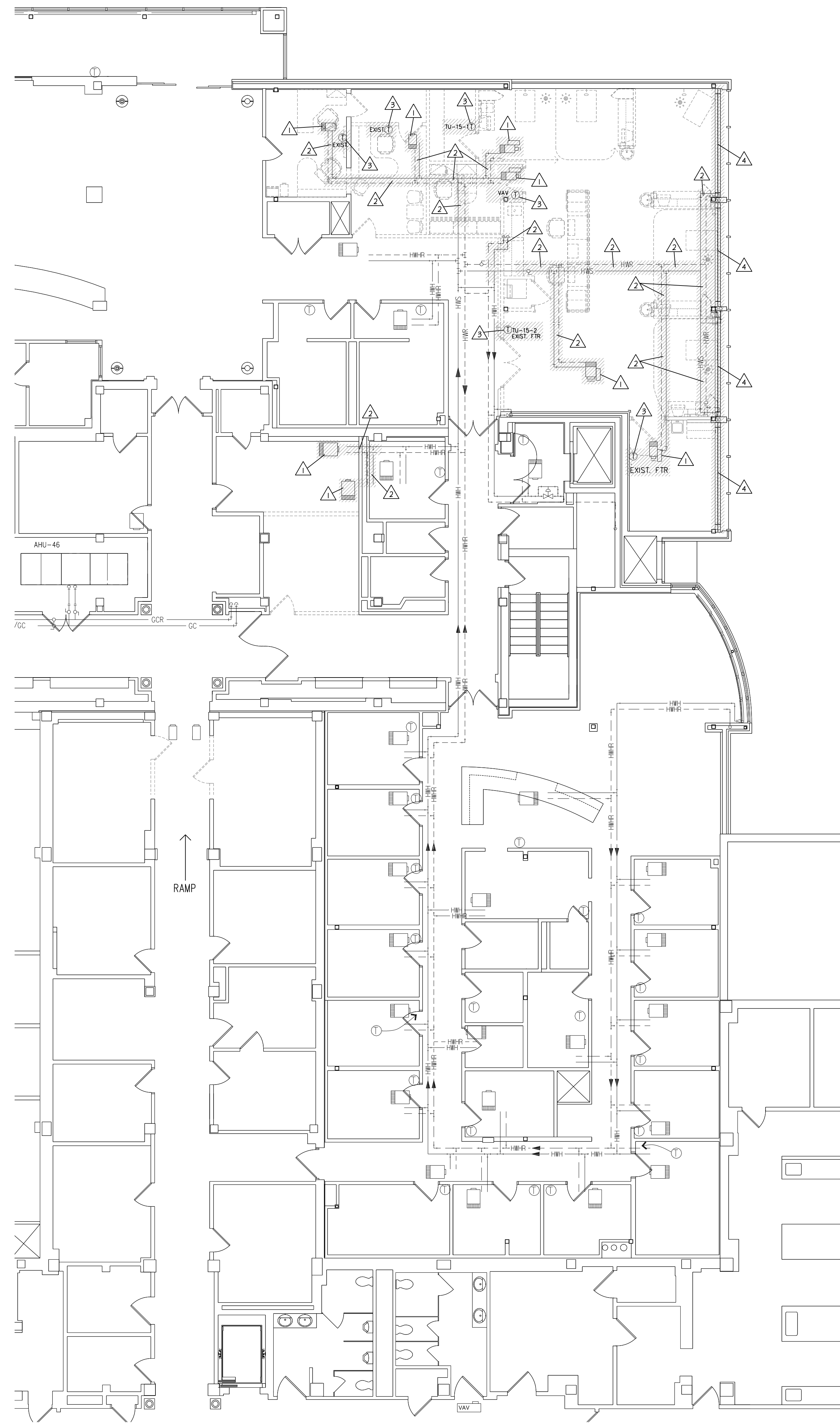




2 FIRST FLOOR HVAC PIPING PLAN  
H2 1/8"=1'-0"

ROOM SCHEDULE	
1C-55	PATIENT ADVOCATE
1C-56	POLICE OFFICE
1C-70	ONCOLOGY
1C-70A	CLEAN UTILITY
1C-70B	PROCEDURE
1C-70C	TOILET
1C-70D	PUMP STORAGE
1C-85	PHYSIOBREW
1C-85A	PREP AREA
1C-85B	PREP AREA
1C-85C	STORAGE
1C-88	KIOSKS
1C-89	MY HELIUMET
C101	HALL
C102	CORRIDOR
C103	CORRIDOR
C104	CORRIDOR
C105	CORRIDOR
C106	CORRIDOR
C106A	VEST

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  - MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
  - ALL SHUT-OFF VALVES, CONTROL VALVES, STRAINERS, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS. VALVES SHALL BE LOCATED NOT MORE THAN 2 FEET ABOVE ACoustICAL CEILINGS.
  - SHUT-OFF VALVES FOR ALL TERMINAL DEVICES SHALL BE AS ACCESSIBLE AS POSSIBLE TO THE CONTROLLED DEVICE.
  - PROVIDE 1/2" DRAIN VALVE AT ALL LOW POINTS OF EACH SYSTEM TO ENABLE COMPLETE DRAINAGE. PROVIDE 1/2" VENT VALVES AT ALL HIGH POINTS OF EACH SYSTEM TO ENABLE COMPLETE VENTING.



1 FIRST FLOOR HVAC PIPING DEMOLITION PLAN  
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- DISCONNECT AND REMOVE EXISTING VAV BOX INCLUDING ALL ASSOCIATED HVAC PIPING, VALVES, INSULATION, SUPPORTS, ETC.
- DISCONNECT AND REMOVE EXISTING HVAC PIPING INCLUDING ALL ASSOCIATED VALVES, INSULATION, SUPPORTS, ETC.
- DISCONNECT AND REMOVE EXISTING THERMOSTAT INCLUDING ALL ASSOCIATED TUBING / WIRING IN IT'S ENTIRETY. CUT AND PATCH WALL AS REQUIRED TO MATCH EXISTING.
- DISCONNECT AND REMOVE EXISTING FIN TUBE RADIATION INCLUDING ALL ASSOCIATED HVAC PIPING, VALVES, INSULATION, SUPPORTS, ETC.



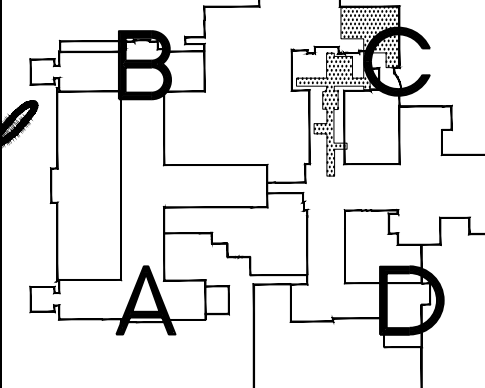
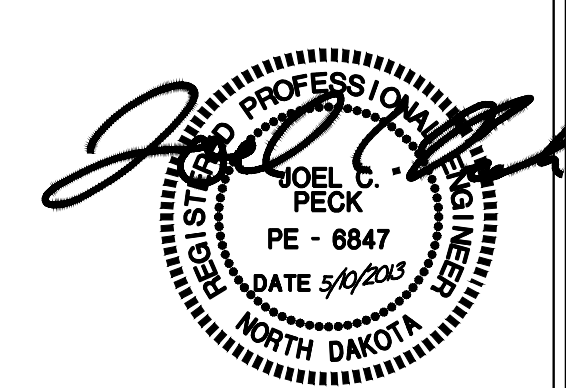
Dept. of Veterans Affairs  
Medical Center  
2101 Elm Street North  
Fargo, ND 58102



IMAGE GROUP INC.  
403 CENTER AVENUE, SUITE 300  
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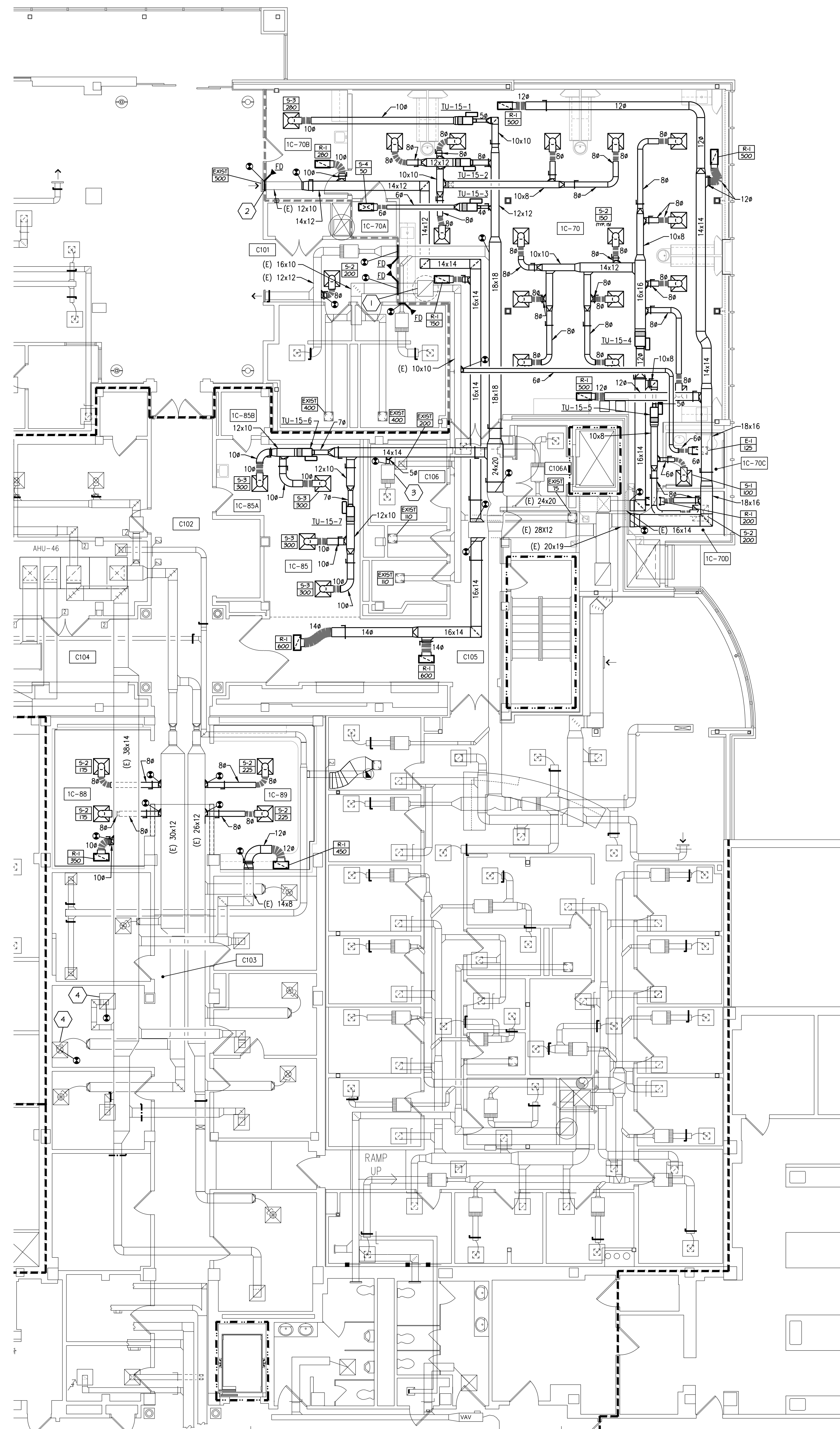
Drawing Title FIRST FLOOR HVAC PIPING PLANS	
VA Project No. 437-13-104	Contract No. VA263-P-1217 VA263-C-
Building No. 1, 46	AutoCAD File Name 2012226-H2.dwg

Project Title FARGO VA HEALTH CARE SYSTEM RENOVATE FIRST FLOOR, BUILDING 1		
Designed By JP	Checked By JP	Drawn By MW
Location FARGO VA HEALTH CARE SYSTEM FARGO, ND		

Date MAY 10, 2013	Scale AS SHOWN
Drawing No. H2	Dwg. 17 of 25







2 FIRST FLOOR VENTILATION PLAN  
H3 1/8"=1'-0"

#### ROOM SCHEDULE

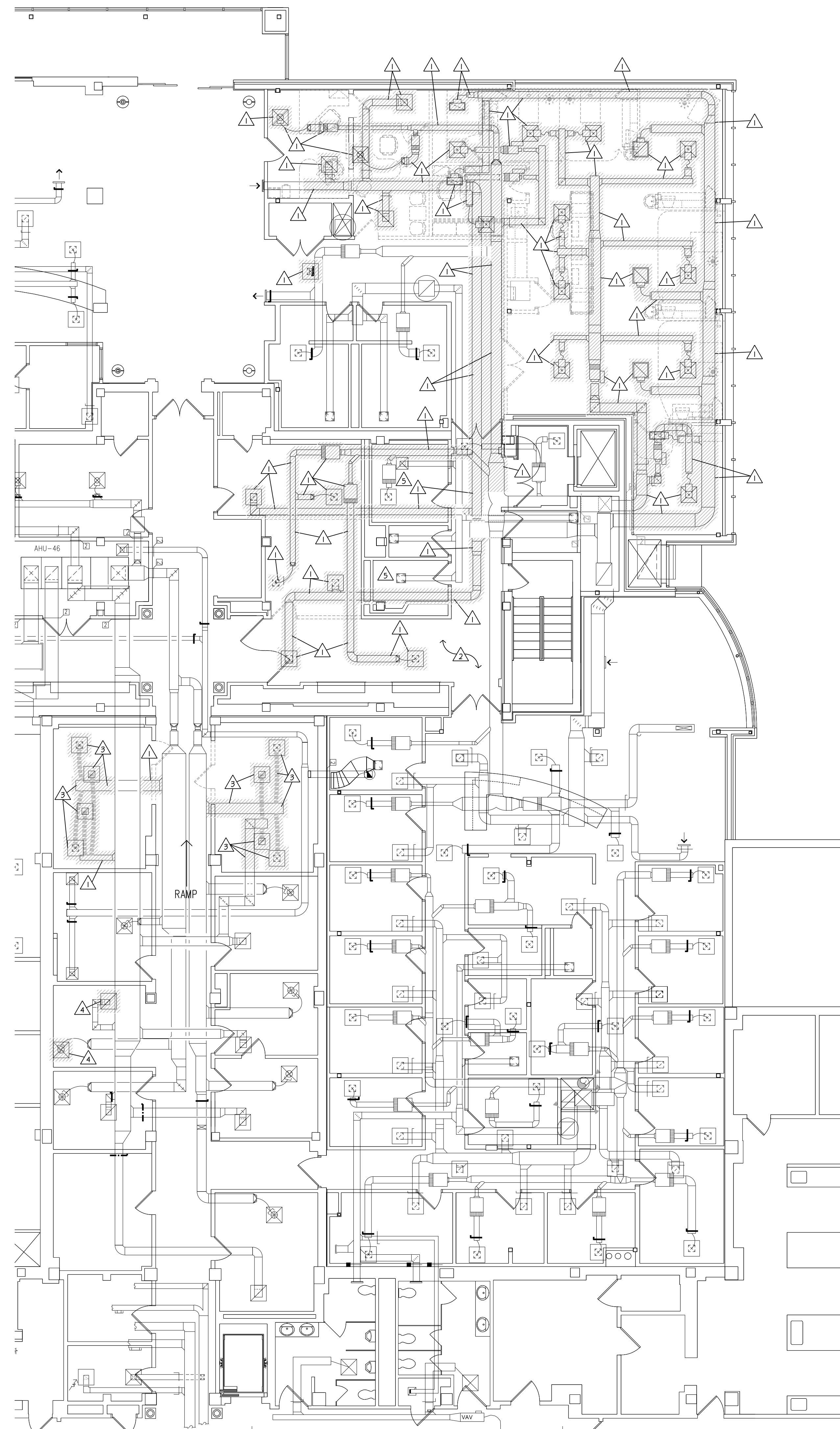
1C-55 PATIENT ADVOCATE  
1C-56 POLICE OFFICE  
1C-70 ONCOLOGY  
1C-70A CLEAN UTILITY  
1C-70B PROCEDURE  
1C-70C TOILET  
1C-70D PUMP STORAGE  
1C-85 PATIENT/BREW  
1C-85A PREP AREA  
1C-85B PREP AREA  
1C-85C STORAGE  
1C-88 KIOSKS  
1C-89 MY HELIPORT  
C101 HALL  
C102 CORRIDOR  
C103 CORRIDOR  
C104 CORRIDOR  
C105 CORRIDOR  
C106 CORRIDOR  
C106A VEST

#### VENTILATION NOTES:

- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS.
- COORDINATE ALL DUCTWORK INSTALLATION WITH GENERAL PLUMBING, FIRE PROTECTION, AND ELECTRICAL CONTRACTORS. INSTALL ALL DUCTWORK AS HIGH AS POSSIBLE. PROVIDE ALL NECESSARY OFFSETS (DROPS AND RISES) TO KEEP DUCTWORK TIGHT TO THE STRUCTURE ABOVE AND INSTALLATION BY ALL TRADES. OFFSET DUCTWORK TO AVOID BEAMS.
- REFER TO AND COORDINATE WITH THE ARCHITECTURAL PLANS FOR CEILING TYPES, HEIGHTS, SOFFIT AREAS, AND ELEVATIONS FOR INSTALLATION OF NEW VENTILATION DUCTWORK, EQUIPMENT, ETC.
- THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE INSTALLATION OF NEW VENTILATION DUCTWORK, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING TILE OR GRID DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW BY THIS CONTRACTOR.
- THIS CONTRACTOR SHALL OPEN ALL EXISTING WALLS AND/OR CEILINGS FOR INSTALLATION OF NEW VENTILATION DUCTWORK, EQUIPMENT, ETC. AS REQUIRED. PATCH WALLS AND/OR CEILINGS TO MATCH EXISTING.
- MAINTAIN 3'-0" CLEAR SPACE IN FRONT OF ALL ELECTRICAL, CONTROL, AND ACCESS PANELS FOR ACCESSIBILITY.
- ALL DAMPERS, ETC., SHALL BE INSTALLED IN ACCESSIBLE CEILINGS.
- ALL OPEN ENDS OF DUCTS SHALL BE CAPPED AT THE END OF CONSTRUCTION EACH DAY.
- ALL VAV BOXES, TERMINAL COILS, ETC. SHALL BE LOCATED AS ACCESSIBLE AS POSSIBLE TO THE CONTROLLED DEVICE.
- REBALANCE EXISTING EXHAUST FAN ON ROOF AND ALL ASSOCIATED EXISTING GRILLES. EXISTING EXHAUST FLOWS SHOWN ON PLAN FOR REFERENCE. PROVIDE NEW BELT AND SHEAVES AS REQUIRED TO BALANCE FAN.
- PROVIDE NEW OUT OF WALL FIRE DAMPER FOR INSTALLATION BY WALL GRILLE.
- RELOCATE EXISTING VAV BOX, DIFFUSER, DUCTWORK, AND PIPING AS REQUIRED TO CONNECT INLET TO NEW DUCT BRANCH.
- RE-INSTALL EXISTING DIFFUSER, REGISTER, OR GRILLE IN NEW CEILING. PROVIDE ALL DUCTWORK, INSULATION, SUPPORTS, ETC. REQUIRED FOR INSTALLATION.

#### PHASING NOTES:

- REFER TO ARCHITECTURAL PLANS FOR PHASING PLAN. KEEP EXISTING AREAS IN OPERATION AS LONG AS POSSIBLE UNTIL SWITCH OVER CAN OCCUR. THE VENTILATION SYSTEM IN THE ONCOLOGY AREA IS DESIGNED TO OPERATE SEPARATELY IN BOTH MAIN PHASES OF WORK.
- ALL SYSTEM SWITCHOVER SHALL BE CAREFULLY COORDINATED WITH THE OWNER AT LEAST 2 WEEKS IN ADVANCE. THIS WORK SHALL OCCUR DURING OVERTIME OR WEEKEND HOURS.



1 FIRST FLOOR VENTILATION DEMOLITION PLAN  
H3 1/8"=1'-0"

#### VENTILATION DEMOLITION NOTES:

- DEMOLITION DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE BASED ON FIELD OBSERVATION AND EXISTING RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE "AS-BUILT" CONDITIONS AND THESE DRAWINGS. PROVIDE ADDITIONAL DEMOLITION AS REQUIRED BASED ON FIELD CONDITIONS.
- THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE DEMOLITION OF EXISTING VENTILATION DUCTWORK, EQUIPMENT, ETC. VERIFY WITH ARCHITECTURAL PLANS FOR CEILING TILE OR GRID DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW BY THIS CONTRACTOR.
- THIS CONTRACTOR SHALL OPEN ALL WALLS AND/OR CEILINGS FOR DEMOLITION OF EXISTING VENTILATION DUCTWORK, EQUIPMENT, ETC. AS REQUIRED.
- THIS CONTRACTOR IS RESPONSIBLE FOR PATCHING ALL HOLES/WALLS AND OR CEILINGS FROM DEMOLISHED VENTILATION DUCTWORK, EQUIPMENT, ETC. IN FLOORS, WALLS, AND CEILINGS TO MATCH EXISTING.
- DISCONNECT AND REMOVE EXISTING DIFFUSER, REGISTER OR GRILLE INCLUDING ALL ASSOCIATED DUCTWORK, VAV BOXES, DAMPERS, INSULATION, SUPPORTS, ETC.
- REMOVE AND RE-INSTALL CEILINGS AS REQUIRED FOR WORK IN THESE SPACES. REPLACE ALL DAMAGED TILE DURING CONSTRUCTION. THIS WORK SHALL BE REQUIRED ONLY UNDER DEDUCT ALTERNATE NO. 1.
- DISCONNECT AND REMOVE EXISTING DUCT CONNECTIONS TO AUDIO BOOTHS AND ALL ASSOCIATED DUCTWORK, DAMPERS, INSULATION, SUPPORTS, ETC. BOOTHS TO BE REMOVED BY OWNER.
- DISCONNECT AND REMOVE EXISTING DIFFUSER, REGISTER OR GRILLE FOR CEILING REPLACEMENT UNDER BASE BID. REMOVE UNDER DEDUCT ALTERNATE NO. 1. RETAIN AND RE-INSTALL DIFFUSER IN NEW CEILING.
- DISCONNECT AND RE-INSTALL EXISTING CEILINGS AS REQUIRED FOR WORK IN THESE SPACES. REPLACE ALL DAMAGED TILE DURING CONSTRUCTION. ALL GYP BOARD CEILING SHALL BE REFINISHED TO MATCH EXISTING.



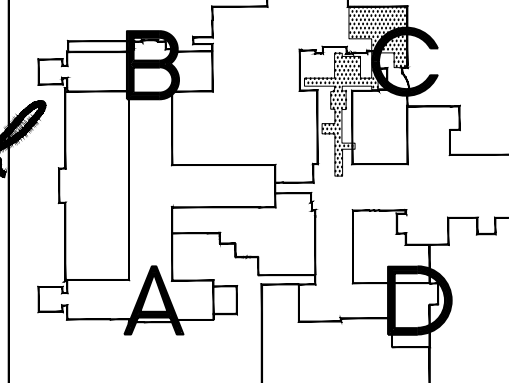
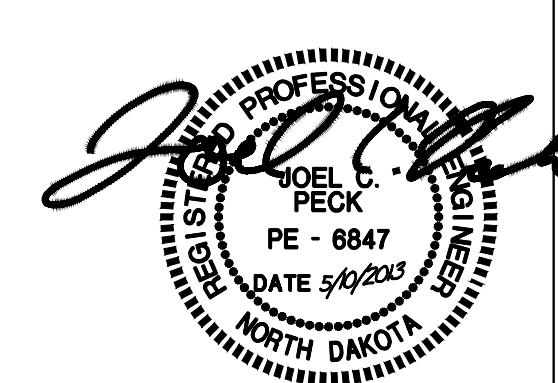
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Drawing Title  
FIRST FLOOR  
VENTILATION PLANS

VA Project No.  
437-13-104

Building No.  
1, 46

Contract No.  
VA263-P-1217  
VA263-C-

AutoCAD File Name  
2012226-H3.dwg

Project Title  
FARGO VA HEALTH CARE SYSTEM  
RENOVATE FIRST FLOOR,  
BUILDING 1

Designed By  
JP

Location  
FARGO VA HEALTH CARE SYSTEM  
FARGO, ND

Checked By  
JP

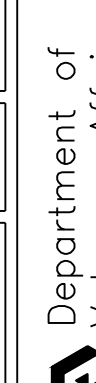
Drawn By  
MW

Date  
MAY 10, 2013

Scale  
AS SHOWN

Drawing No.  
H3

Dwg. 18 of 25



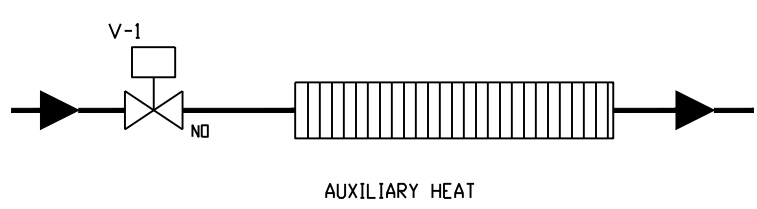
Department of  
Veterans Affairs



# SEQUENCE OF OPERATION.

**Occupied/Unoccupied Mode:** A time schedule shall control the fin radiation mode. The time schedule (adjustable) shall be set so that the space is in the occupied mode from 7:00 a.m. to 5:00 p.m. on non-holiday weekdays. Initially, all fin radiation shall use the same time schedule. The space thermostat override switch shall be monitored. The space shall return to the occupied mode for 2 hours (adjustable) if the override switch, if enabled, is pressed. If the space temperature (T-1) rises above 90 degrees (adj.) or falls below 50 degrees (adj.), an alarm shall be generated at the operator's workstation.

**Heating Valve Control:** For rooms with a heating unit, the heating valve (V-1) shall open/modulate in order to satisfy the room thermostat (T-1). Upon loss of power, the heating valve shall be open.



POINT SCHEDULE									
CONTROL DEVICE	POINT NAME	POINT DESCRIPTION	POINT TYPE				ALARM		
			AI	BI	AO	BO	H	LOW	BN
T-1	Space Temp/Set	SPACE TEMPERATURE SETPOINT	X						
T-1	Space Temp	SPACE TEMPERATURE					X	X	
V-1	Auxiliary Valve	AUXILIARY HEATING CONTROL VALVE			X				

## 14 FIN RADIATION UNIT CONTROL

NO SCALE

# SEQUENCE OF OPERATION.

**Occupied/Unoccupied Mode:** The time schedule shall control the terminal unit mode. The time schedule (adjustable) shall be set so that the space is in the occupied mode from 7:00 a.m. to 5:00 p.m. on non-holiday weekdays. Initially, all terminal units shall use the same time schedule. The space thermostat override switch shall be monitored. The space shall return to the occupied mode for 2 hours (adjustable) if the override switch, if enabled, is pressed.

**Night Cycle:** In the unoccupied mode, if the space temperature (T-1) falls below the unoccupied heating temperature setpoint, the terminal unit shall activate the night cycle to signal the air handling unit to start. The night cycle shall remain active until the space temperature is satisfied or the time schedule changes the unit to the occupied mode.

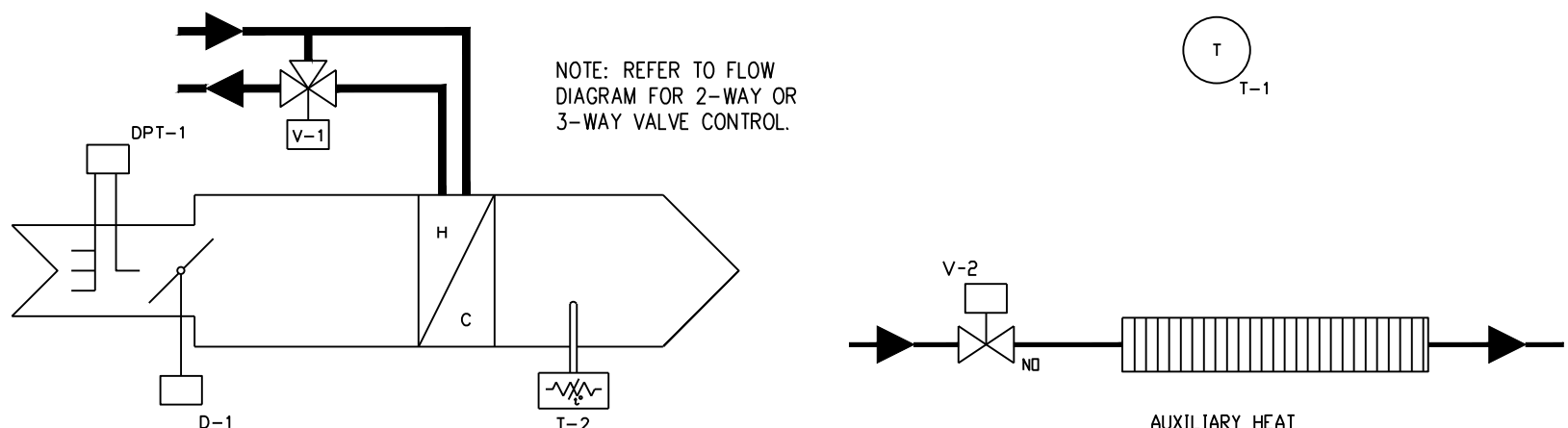
**Heating/Cooling Mode:** The terminal unit shall start in the dead band mode. If the space temperature (T-1) is above the cooling setpoint, the unit shall be in the cooling mode. If the space temperature is below the heating setpoint, the unit shall be in the heating mode. If the space temperature (T-1) rises above 90 degrees (adj.) or falls below 50 degrees (adj.), an alarm shall be generated at the operator's workstation.

**Damper Control:** In the cooling mode, the inlet damper (D-1) shall modulate the supply airflow between the minimum airflow setpoint and the maximum airflow setpoint to maintain the space temperature (T-1) at the cooling setpoint. In the heating mode, the supply airflow shall be held at the heating airflow setpoint.

**Heating Coil Valve Control:** The control valve (V-1) on the hot water supply line to the terminal unit heating coil shall modulate to maintain space temperature at the heating setpoint.

**Airflow and Temperature Monitoring:** Monitor supply airflow (DPT-1) and supply air temperature (T-2).

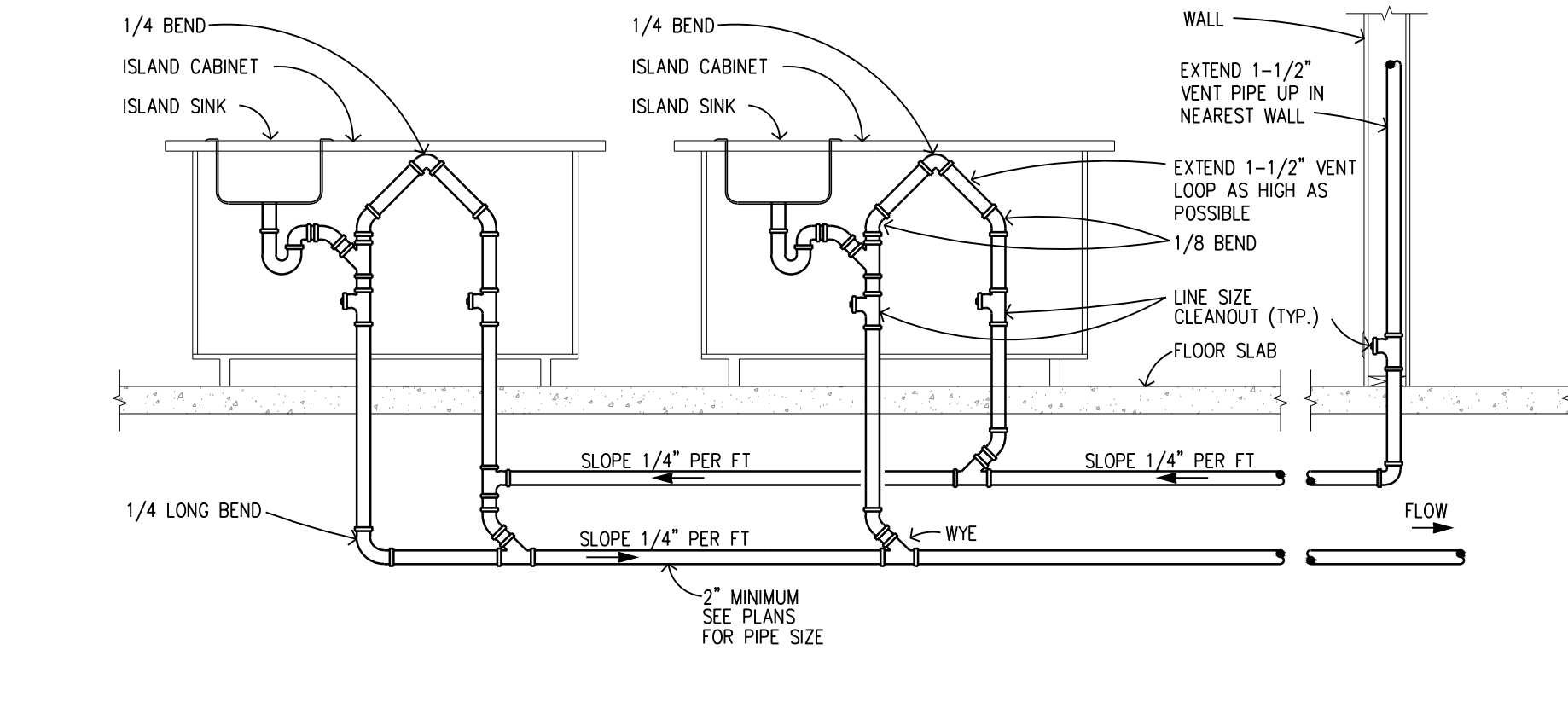
**Aux. Heating Valve Control:** For rooms with an auxiliary heating unit, the auxiliary heating valve (V-2) shall be positioned in series with the VAV coil heating valve. The auxiliary heating valve (V-2) shall open/modulate first in order to satisfy the room thermostat. If the valve (V-2) is open 100% and the thermostat is not satisfied, the VAV coil heating valve (V-1) shall modulate open as required to meet the space setpoint. Upon loss of power, the heating valve shall be open.



POINT SCHEDULE									
CONTROL DEVICE	POINT NAME	POINT DESCRIPTION	POINT TYPE				ALARM		
			AI	BI	AO	BO	H	LOW	BN
T-1	Space Temp/Set	SPACE TEMPERATURE SETPOINT	X						
T-1	Space Temp	SPACE TEMPERATURE					X	X	
DPT-1	Airflow	AIRFLOW	X						
T-2	Disch Temp	DISCHARGE AIR TEMPERATURE							
D-1	Damper	DAMPER CONTROL			X				
V-1	Heating Valve	HEATING CONTROL VALVE			X				
V-2	Auxiliary Valve	AUXILIARY HEATING CONTROL VALVE			X				

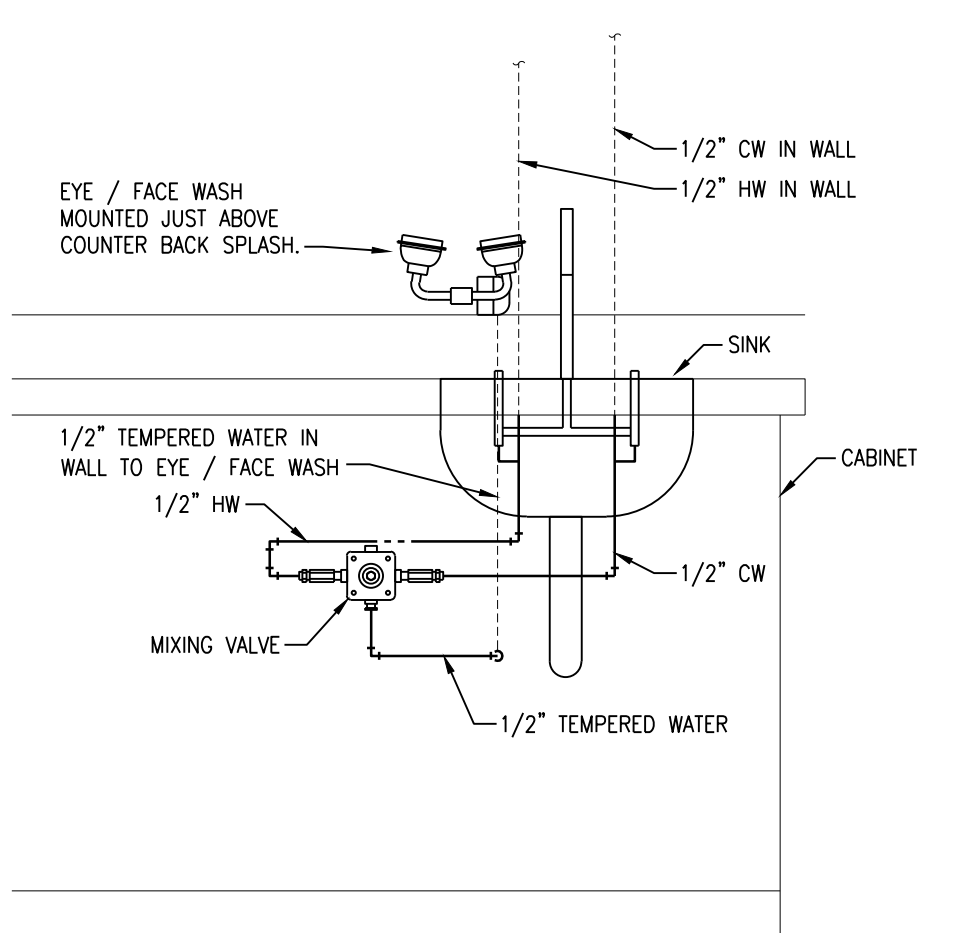
## 13 VAV TERMINAL UNIT CONTROL

NO SCALE



## 12 MULTIPLE ISLAND VENT PIPING DETAIL

SCALE: NTS



## 11 EYE / FACE WASH DETAIL

SCALE: NTS

DIFFUSER, REGISTER AND GRILLE SCHEDULE									
UNIT NO.	MATERIAL	TYPE	NECK SIZE	FRAME SIZE	MOUNTING	AIR	OBD	REMARKS	
S-1	STEEL	SPD	6" DIA	24"x24"	L.I.T.	SA	N		
S-2	STEEL	SPD	8" DIA	24"x24"	L.I.T.	SA	N		
S-3	STEEL	SPD	10" DIA	24"x24"	L.I.T.	SA	N		
S-4	STEEL	SPD	6" DIA	24"x12"	L.I.T.	SA	N		
R-1	ALUMINUM	EGG	22"x10"	24"x12"	L.I.T.	RA	N		
E-1	ALUMINUM	EGG	22"x10"	24"x12"	L.I.T.	EA	N		

SPD = SQUARE PLAUQUE DIFFUSER  
EGG = EGG GRATE GRILLE  
SA = SUPPLY AIR  
RA = RETURN AIR  
EA = EXHAUST AIR  
L.I.T. = LAY IN TILE

HOT WATER FINNED TUBE RADIATION SCHEDULE									
UNIT NO.	LENGTH, FT.		CAPACITY BTUH	WATER TEMP. °F		GPM	MAX WPD FT.	NOTES	
	FIN TUBE	ENCLOSURE		ENTERING	LEAVING				
F-1	8.5	10.0	7395	180	150	0.6	5	1	
F-2	2	3.0	1740	180	150	0.2	5	1	
F-3	2	3.0	1740	180	150	0.2	5	1	
F-4	8.5	10.0	7395	180	150	0.6	5	1	
F-5	2	3.5	1740	180	150	0.2	5	1	
F-6	4	W-W	3480	180	150	0.3	5	1	
NOTES:									
1. FIELD VERIFY ENCLOSURE LENGTHS.									
W	WATER								
ST	SLOPE TOP								
W-C	WALL TO CABINET								
W-W	WALL TO WALL								

15740-10

NOTES:  
1. FIELD VERIFY ENCLOSURE LENGTHS.

AIR TERMINAL UNIT, SINGLE DUCT															
UNIT NO.	CFM		INLET SIZE	MAX SP AT		SOUND		EAT	EWT	GPM	MAX WPD	PIPE RUNOUT SIZE TO COIL	CFM AT MIN. BTUH	MIN. BTUH	CONTROL TYPE
	MAX	MIN		MAX CFM	MAX SP	NC	NC								
TU-15-1	280	210	5"	0.35	1.5	35	55.0	180	0.5	5.0	3/4"	210	7349	DDC	
TU-15-2	750	450	8"	0.35	1.5	35	55.0	180	2.0	5.0	3/4"	450	29395	DDC	
TU-15-3	50	30	4"	0.35	1.5	35	55.0	180	0.1	5.0	3/4"	30	1470	DDC	
TU-15-4	1500	1110	12"	0.35	1.5	35	55.0	180	4.3	5.0	3/4"	1110	63199	DDC	
TU-15-5	300	150	5"	0.35	1.5	35	55.0	180	0.8	5.0	3/4"	150	11758	DDC	
TU-15-6	600	250	7"	0.35	1.5	35	55.0	180	0.4	5.0	3/4"	250	5879	DDC	
TU-15-7	600	250	7"	0.35	1.5	35	55.0	180	0.4	5.0	3/4"	250	5879	DDC	

NOTES:

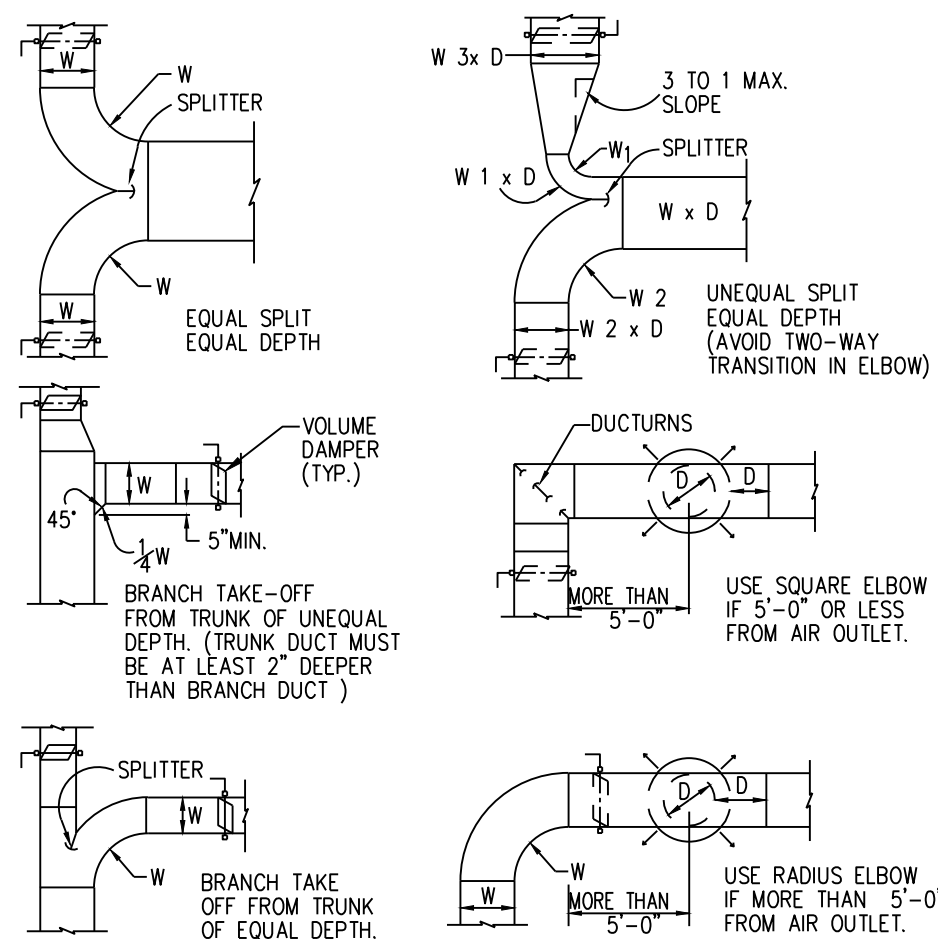
1 PROVIDE DUCT TRANSITION AT UNIT WHERE UNIT INLET SIZE AND DUCT RUNOUT SIZE ARE DIFFERENT.

2 THE UNIT MAXIMUM SP IS THE PRESSURE DIFFERENCE BETWEEN THE UNIT INLET AND DISCHARGE INCLUDING REHEAT COIL AND SOUND ATTENUATOR. IT IS ALSO THE MINIMUM PRESSURE REQUIRED AT THE UNIT INLET TO OBTAIN THE RATED CFM.

3 REFER TO AIR TERMINAL UNIT SOUND REQUIREMENT SCHEDULE FOR MAXIMUM SOUND POWER LEVEL VALUES PERMITTED WITH SP ACROSS UNIT AND ROOM NC SHOWN.

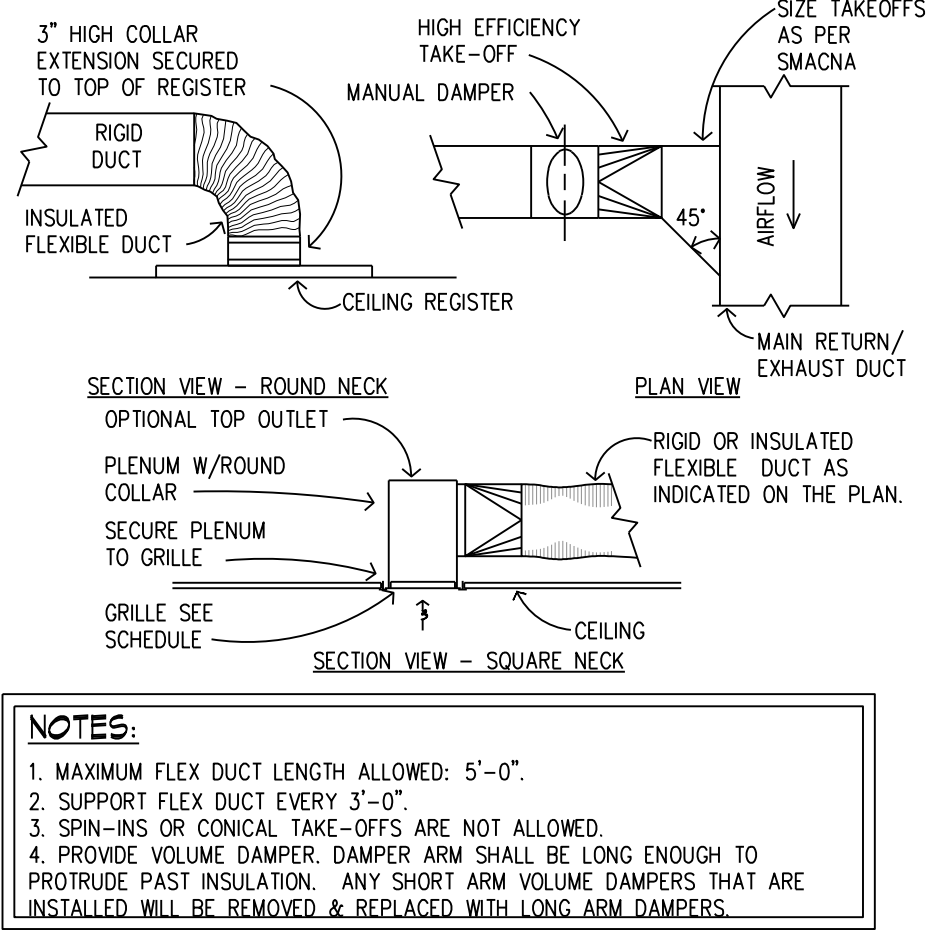
15704

NOTES:  
1. PROVIDE DUCT TRANSITION AT UNIT WHERE UNIT INLET SIZE AND DUCT RUNOUT SIZE ARE DIFFERENT.  
2. THE UNIT MAXIMUM SP IS THE PRESSURE DIFFERENCE BETWEEN THE UNIT INLET AND DISCHARGE INCLUDING REHEAT COIL AND SOUND ATTENUATOR. IT IS ALSO THE MINIMUM PRESSURE REQUIRED AT THE UNIT INLET TO OBTAIN THE RATED CFM.  
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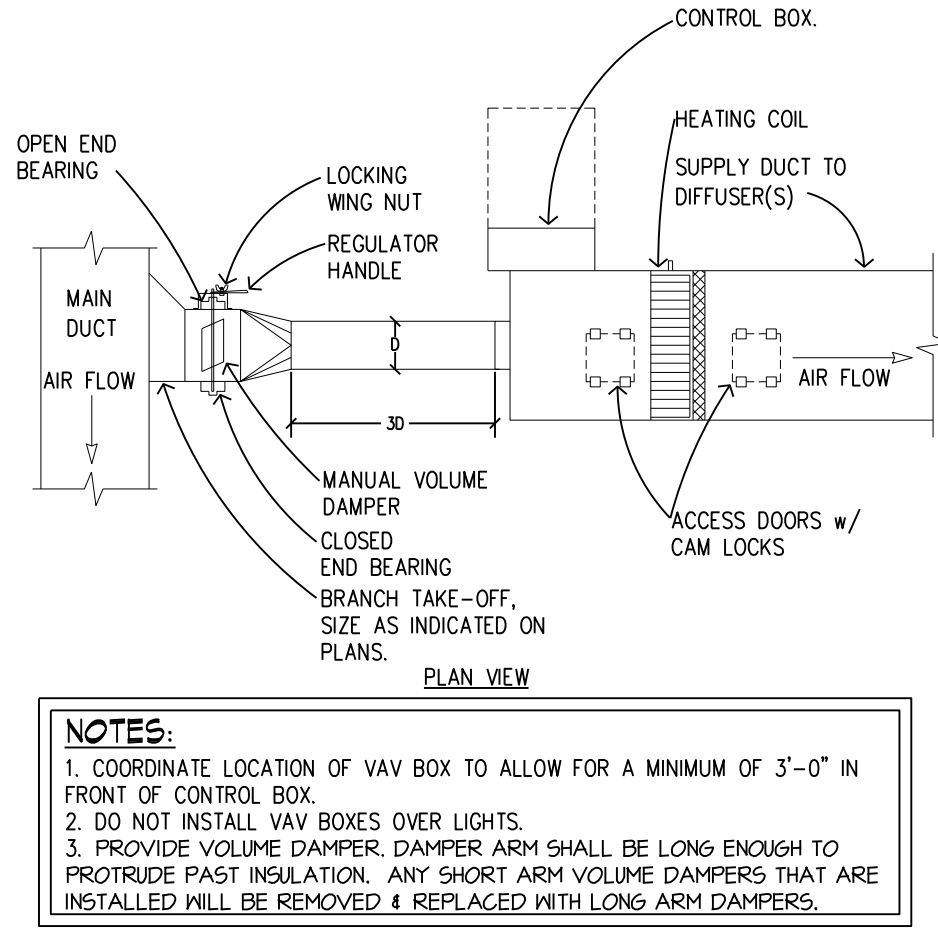
## 8 DUCT CONNECTION DETAILS

SCALE: NTS



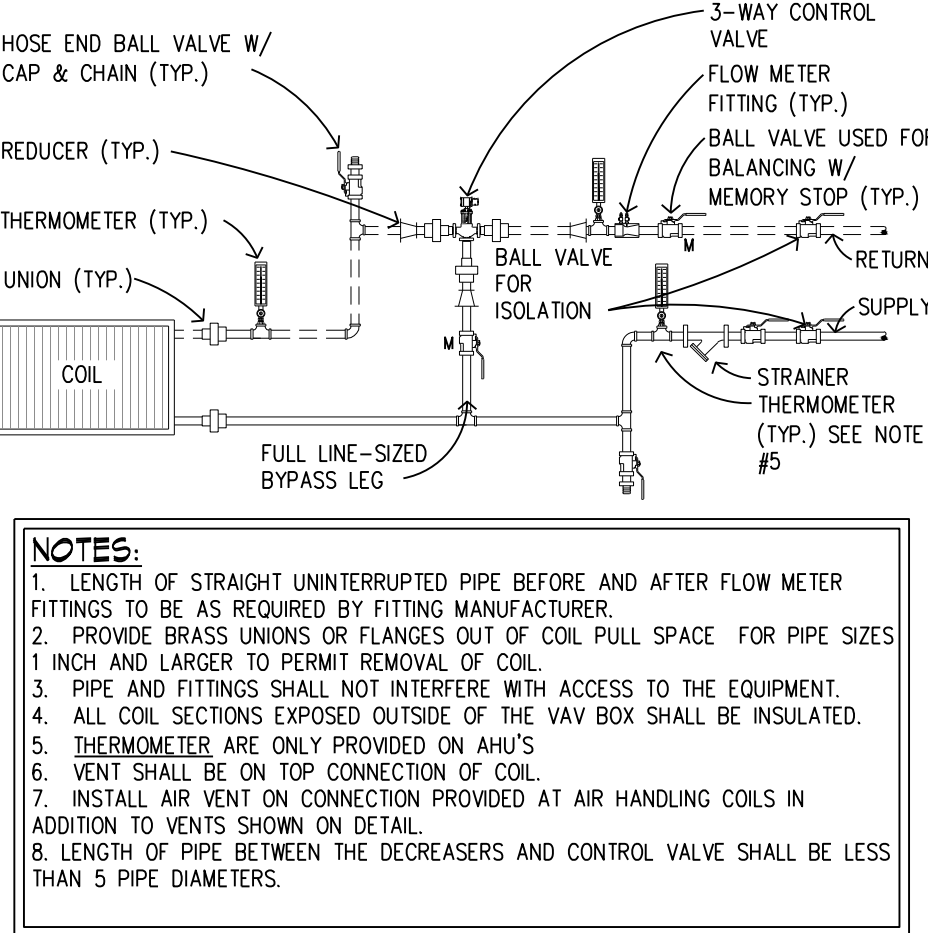
## 4 DUCT TO GRILLE DETAIL

SCALE: NTS



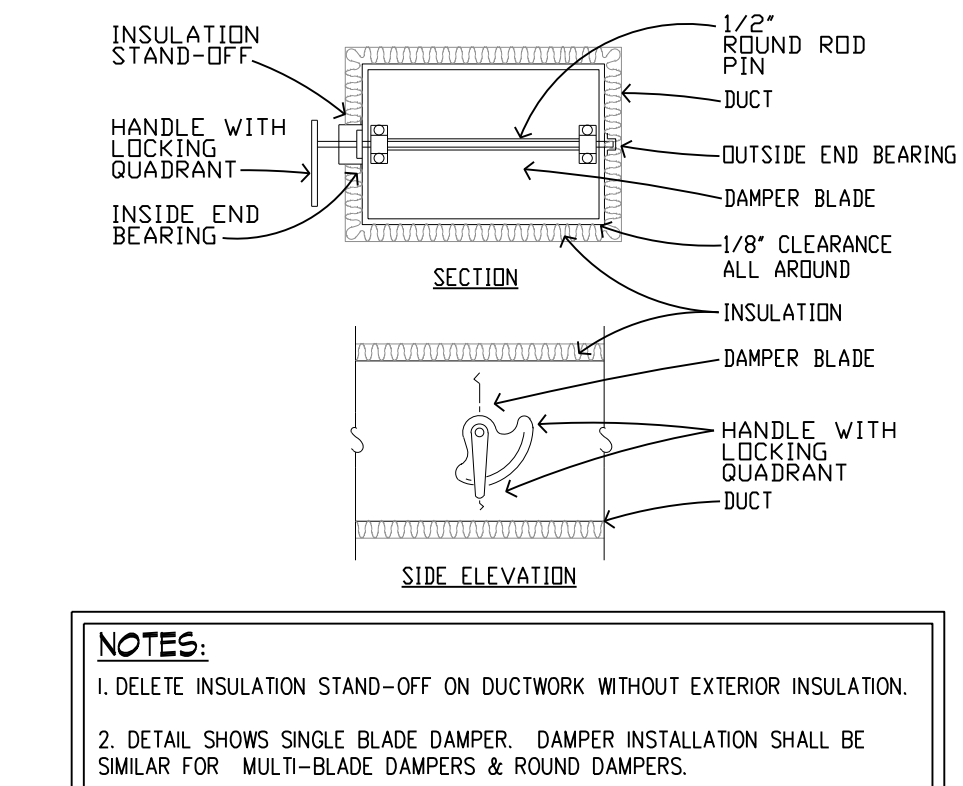
## 7 TYPICAL VARIABLE AIR VOLUME BOX W/ HEATING COIL DETAIL

SCALE: NTS



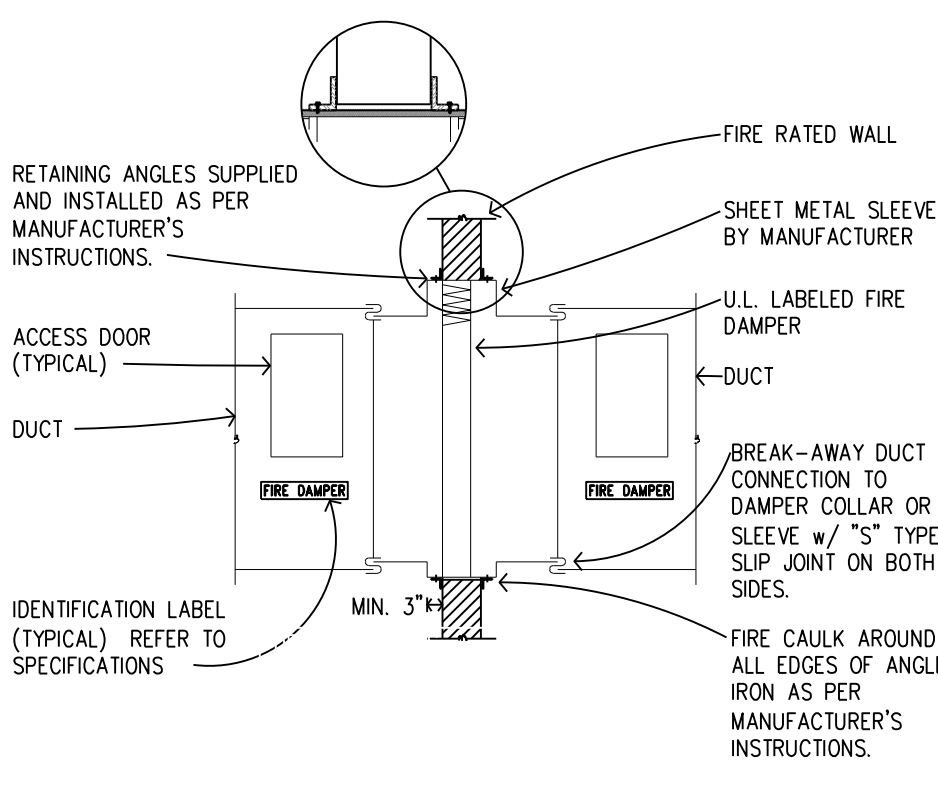
## 3 WATER COIL 3-WAY VALVE FLOWMETER PIPING DETAIL

SCALE: NTS



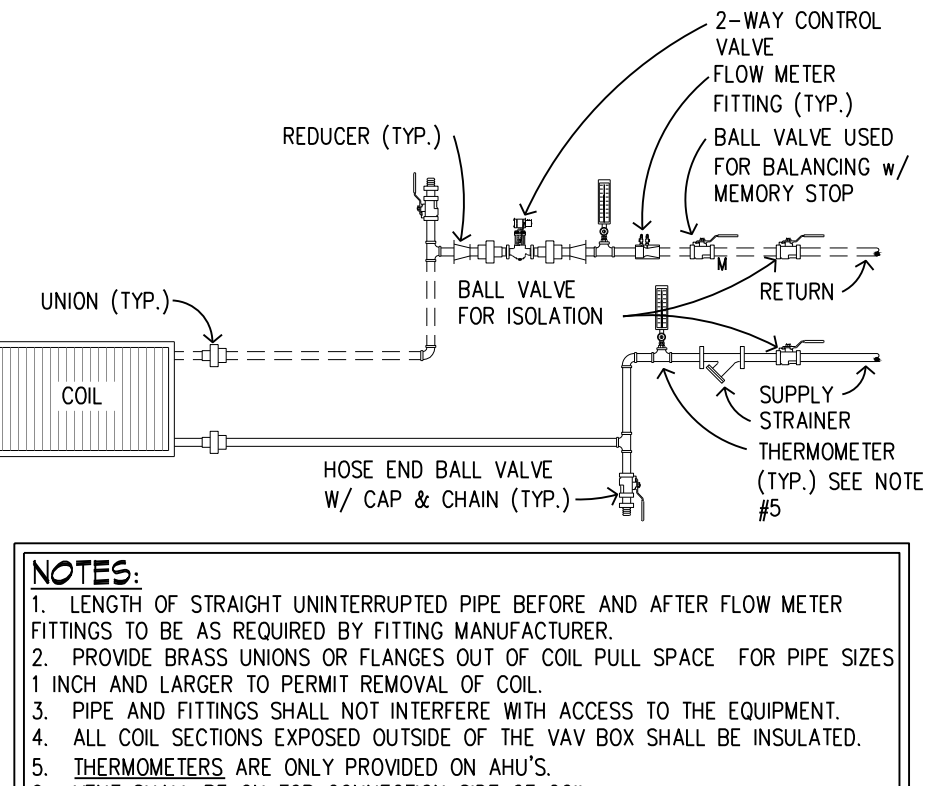
## 10 VOLUME DAMPER DETAIL

SCALE: NTS



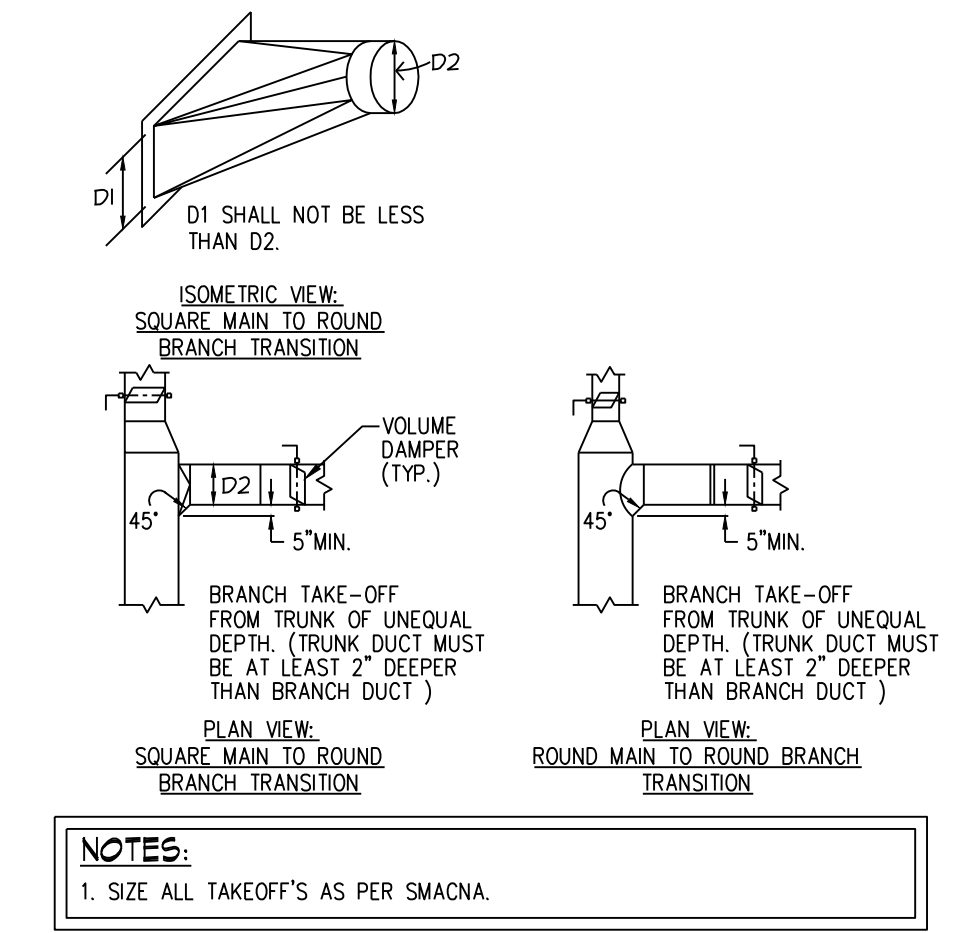
## 6 FIRE DAMPER DETAIL

SCALE: NTS



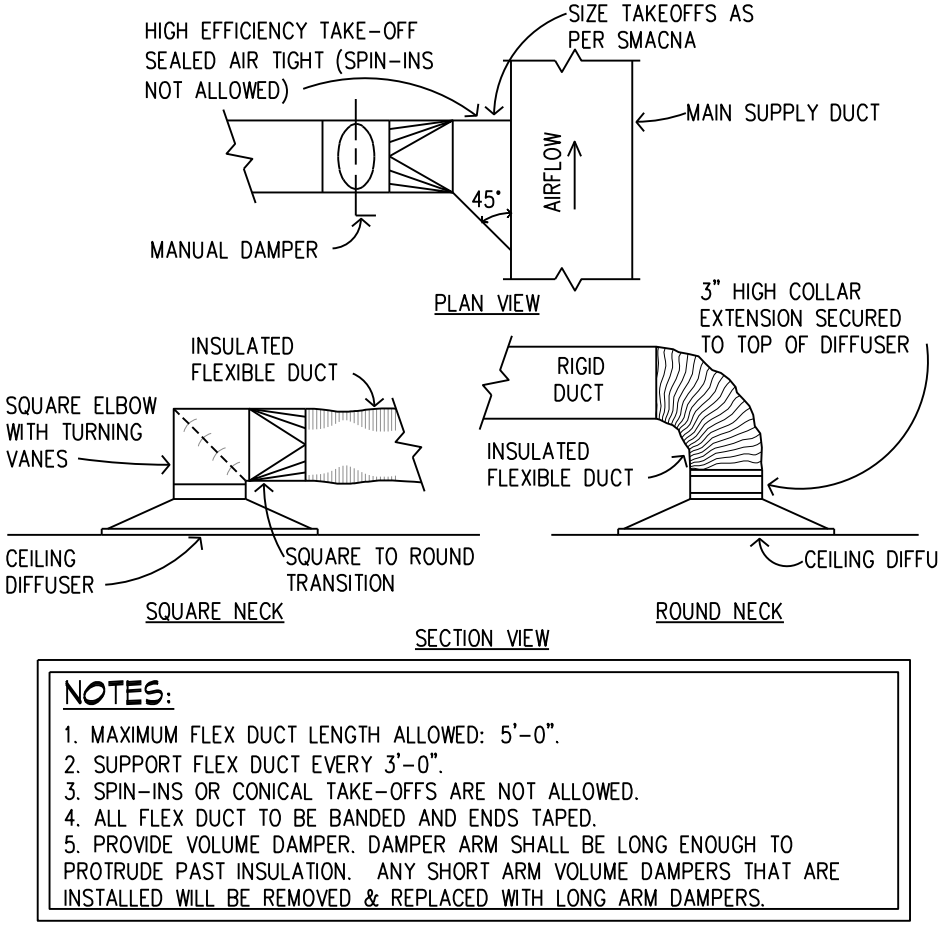
## 2 WATER COIL 2-WAY VALVE FLOWMETER PIPING DETAIL

SCALE: NTS



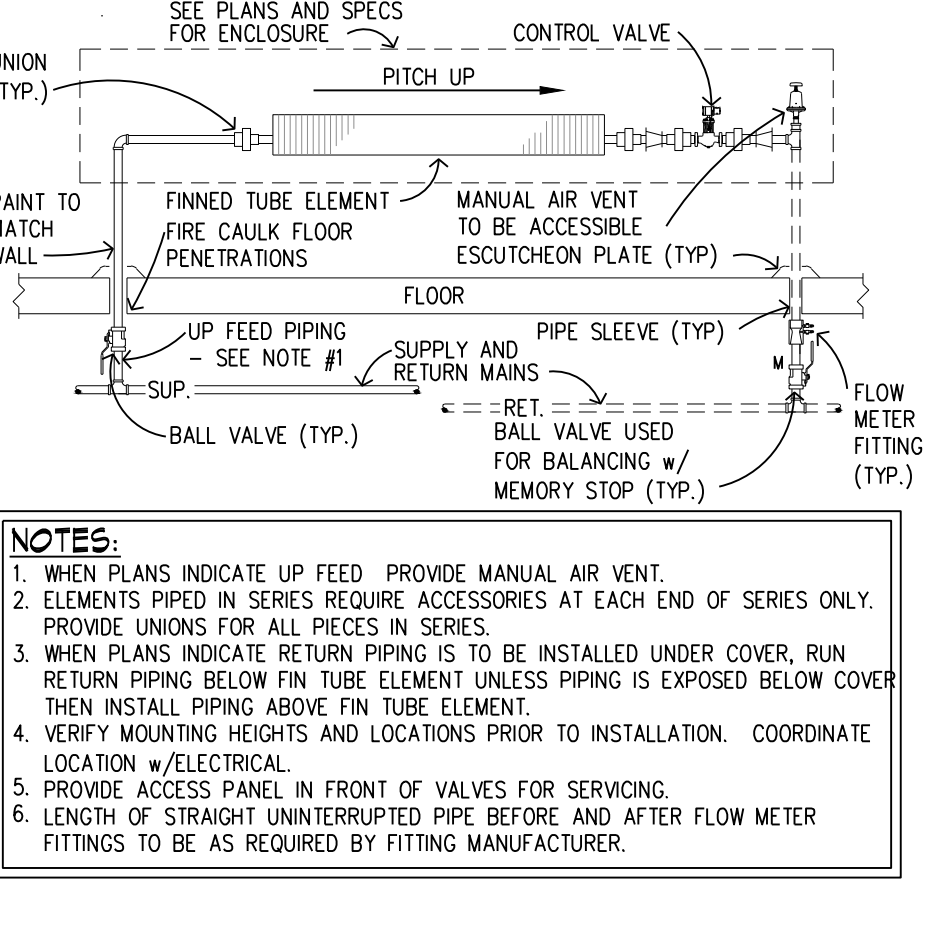
## 9 ROUND DUCT CONNECTIONS DETAILS

SCALE: NTS



## 5 SUPPLY DUCT TO DIFFUSER DETAIL

SCALE: NTS



## 1 FIN TUBE RADIATION 2-WAY VALVE FLOWMETER DETAIL

SCALE: NTS

Revisions	Date

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**Professional Engineer**  
JOEL C. PECK  
PE - 6847  
DATE 5/9/2013  
NORTH DAKOTA

<b>Drawing Title</b> MECHANICAL DETAILS AND SCHEDULES		<b>Project Title</b> FARGO VA HEALTH CARE SYSTEM RENOVATE FIRST FLOOR, BUILDING 1		<b>Date</b> MAY 10, 2013
<b>VA Project No.</b> 437-13-104	<b>Contract No.</b> VA263-P-1217 VA263-C-	<b>Designed By</b> JP	<b>Checked By</b> JP	<b>Scale</b> AS SHOWN
<b>Building No.</b> 1, 46	<b>AutoCAD File Name</b> 2012226-H4.dwg	<b>Location</b> FARGO VA HEALTH CARE SYSTEM FARGO, ND	<b>Drawn By</b> MW	<b>Drawing No.</b> H4

KEY PLAN

<b>Dwg. 19 of 25</b>	<b>Department of Veterans Affairs</b>
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