

FIRE PROTECTION SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
—DFF—	DRAIN
—FP—	FIRE PROTECTION
—P—	PIPE CAP
—D—	PIPE DOWN
—U—	PIPE UP OR UP/DOWN
—N—	NEW CONNECTION
—U—	UNION/FLANGE
—D—	DIRECTION OF FLOW IN PIPE
—D—	ROUTE TO DRAIN
—D—	SHUTOFF VALVE NORMALLY OPEN
—D—	BUTTERFLY VALVE WITH MONITOR SWITCH
—D—	CHECK VALVE
—D—	INSPECTOR TEST AND DRAIN VALVE
—D—	FLOW SWITCH
—D—	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
—D—	AREA BOUNDARY
—D—	LIGHT HAZARD
—D—	ORDINARY GROUP 1
—D—	ORDINARY GROUP 2

FIRE PROTECTION MATERIAL LIST

TAG NAME	DESCRIPTION	MANF. & MODEL
BF-1	2" TO 12" BUTTERFLY VALVE, LUGGED OR GROOVED TYPE, IRON BODY, ALUMINUM BRONZE OR EPDM COATED IRON DISC, STAINLESS STEEL STEM AND SCREWS, EPDM SEAT, INTEGRAL MONITOR SWITCH, RATED FOR DEAD END SERVICE, UL/FM.	2" TO 12" BUTTERFLY VALVE: GEM 8000FP, TYCO BFF, KENNEDY 01, NIBCO LD3510-B, GD-4795-BN, VICTAULIC 705-W
CK-16	1" TO 2-1/2" SLOW CLOSE BUTTERFLY VALVE, 175 PSI WP, FLANGED OR GROOVED, IRON BODY, STAINLESS STEEL ELASTOMER COATED DISK, SLOW CLOSE MANUAL OPERATOR WITH INTEGRAL TAMPER SWITCH, GROOVED OR THREADED ENDS, UL/FM.	1" TO 2 1/2" SLOW CLOSE BUTTERFLY VALVE: MILWAUKEE BB-SCS OR APPROVED EQUAL
FS-1	2-1/2" TO 12" SWING CHECK VALVE, 175 PSI WP, FLANGED OR GROOVED, IRON BODY, BRONZE MOUNTED, BRONZE SEAT RING AND RUBBER CLAPPER FACING, SWING TYPE, UL/FM.	2 1/2" TO 12" VIKING D-1IG-1, TYCO CV-2, RELIABLE D OR G, KENNEDY 126A OR 426
IT-1	1-1/2" TO 2" CHECK VALVE, 250 PSI WP, THREADED OR GROOVED, BRASS BODY, BRASS SEAT AND RUBBER CLAPPER FACING, SPRING LOADED IN-LINE TYPE, UL/FM.	1 1/2" TO 2" VIKING L-1/K-1
	FLOW SWITCH - VANE TYPE FOR USE ON WET PIPE SPRINKLER SYSTEM TO DETECT A MINIMUM FLOW OF 10 GPM, TWO SINGLE POLE DOUBLE THROW SWITCHES WITH PNEUMATIC RETARD-ADJUSTABLE FROM 0-90 SECONDS WITH AUTOMATIC RESET, TAMPER RESISTANT METAL HOUSING, UL/FM.	SYSTEM SENSOR WFD SERIES, POTTER ELECTRIC VSR-F
	1" INSPECTOR'S TEST AND DRAIN VALVE WITH INTEGRAL SIGHT GLASS, BALL VALVE WITH INTEGRAL LABELED PLATE SHOWING OFF-TEST DRAIN POSITIONS, FURNISHED WITH TEST ORIFICE GIVING FLOW EQUIVALENT TO ONE SPRINKLER OF A TYPE HAVING THE SMALLEST ORIFICE INSTALLED ON THE SYSTEM, UL.	RELIABLE B W/1" BALL VALVE TYCO F350 AGF MODEL 1000

- ### MECHANICAL RENOVATION NOTES:
- EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
 - NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
 - FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISERS AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
 - EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS WORK AND SHALL NOTIFY THE GENERAL CONTRACTOR PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS AREA OF WORK.
 - THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS. CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING.
 - THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILING, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
 - WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.
 - PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
 - OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
 - MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGES TO NEW SYSTEMS WITH MINIMUM OUTAGE.
 - DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

- ### FIRE PROTECTION GENERAL NOTES:
- THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
 - CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER IS THE BASIS OF DESIGN.
 - FIRE PROTECTION PIPE ROUTING IS SHOWN FOR GENERAL LAYOUT. DETERMINE EXACT NUMBER OF SPRINKLERS, PIPE SIZING, AND PIPE ROUTING.
 - CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTIONS IN ALL AREAS. IN AREAS WITH 2'X4' CEILING TILES CENTERING USING A 2'X2' CEILING PATTERN IS ACCEPTABLE.
 - NEW SPRINKLERS SHALL BE QUICK RESPONSE TYPE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL NOT MIX STANDARD RESPONSE SPRINKLERS WITH QUICK RESPONSE SPRINKLERS IN UNPARTITIONED SPACES.
 - PROVIDE COVERAGE ABOVE AND BELOW ALL DUCTWORK GREATER THAN 48" WIDE.
 - PROVIDE COVERAGE ABOVE AND BELOW FLOWING CEILINGS, REFER TO ARCHITECTURAL PLANS.

APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

BUILDING CODE:	IBC 2015 EDITION
FIRE CODE:	IFC 2015 EDITION
PLUMBING CODE:	UPC 2015
MECHANICAL CODE:	IMC 2015 EDITION
ELECTRICAL CODE:	NFPA 70 (NEC) 2017 EDITION
LIFE SAFETY CODE:	NFPA 101 2012 EDITION
ENERGY CONSERVATION CODE:	IECC 2009
HEALTH DEPARTMENT CODE:	CURRENT EDITION
LOCAL BUILDING CODE:	CURRENT EDITION

FIRE PROTECTION ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
NC	NEW CONNECTION
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
A.C.	ASBESTOS ABATEMENT CONTRACTOR
C.O.R.	CONTRACTING OFFICER'S REPRESENTATIVE
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
M.E.C.	MEDICAL EQUIPMENT CONTRACTOR
P.C.	PLUMBING CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
N.C.C.	NURSE CALL CONTRACTOR

CONTACT PERSONS:

DESCRIPTION:	PERSON:
PROJECT MANAGER	JAMES LESSARD, P.E.
MECHANICAL ENGINEER	ERIC HENDERSON, P.E.
ELECTRICAL ENGINEER	JAMES LESSARD, P.E.
TECHNOLOGY ENGINEER	DAVE LARSON, RCDD

FIRE SPRINKLER USAGE SCHEDULE

NOTES:

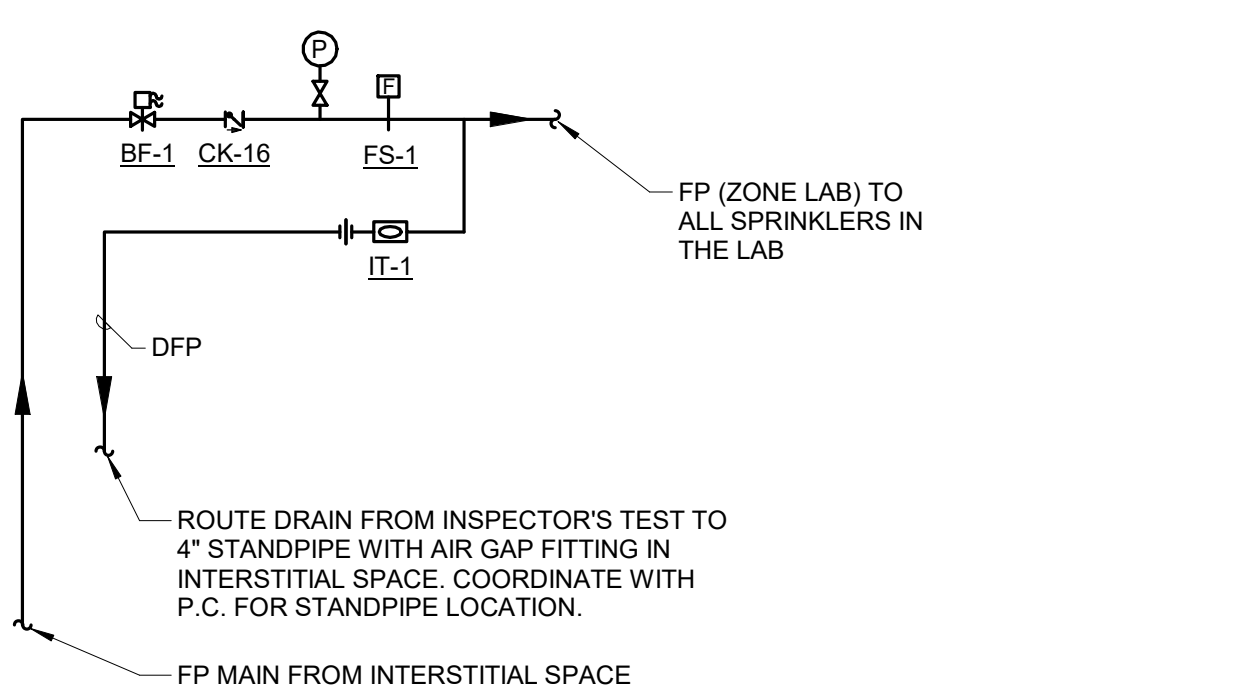
- SEE FLOOR PLANS FOR ZONING REQUIREMENTS.
- SPRINKLERS SHALL HAVE A 3mm QUICK RESPONSE BULB.
- ALL SPRINKLERS SHALL BE UL AND FM LISTED.
- CONTRACTOR TO VERIFY SPRINKLER REQUIREMENTS BASED ON ACTUAL INSTALLATION, USAGE, ARCHITECTURAL, CEILING PLAN AND NFPA 13 REQUIREMENTS.
- TAG NAME IS PRIMARILY FOR IDENTIFYING SPRINKLERS IN SUBMITTALS. IT MAY OR MAY NOT BE FOUND ELSEWHERE ON THE DRAWINGS. CONTRACTOR TO SUBMIT ALL SPRINKLER TYPES TO BE USED.
- AREAS ARE GENERAL IN NATURE. CONTRACTOR TO MATCH UNSCHEDULED AREAS TO SIMILAR SPACES.
- SPRINKLERS SPECIFIED WITHIN FIRE SPRINKLER USAGE SCHEDULE ARE STANDARD COVERAGE TYPE. EXTENDED COVERAGE SPRINKLERS ARE PERMITTED PROVIDED SPRINKLERS MEET THE REQUIREMENTS OF UL AND FM.
- SPRINKLER SHALL HAVE COLOR CODED BULB THERMAL ELEMENT.

AREA TYPE (NOTE 1 & 6)	AREA HAZARD	SPRINKLER			TEMPERATURE RATING	MANUFACTURER & MODEL	NOTES
		TAG NAME (NOTE 4 & 5)	SPRINKLER TYPE	RESPONSE CATEGORY			
SPACES WITHOUT CEILINGS	SEE PLANS	SPR-1	UPRIGHT	QUICK	ROUGH BRASS	VIKING VK, RELIABLE F1FR, TYCO TY-FRB, VICTAULIC V2704	NOTES 3, 7
SPACES WITH DROP CEILINGS	SEE PLANS	SPR-2	RECESSED PENDENT	QUICK	CHROME PLATED	VIKING VK, RELIABLE F1FR, TYCO TY-FRB, VICTAULIC V2706	NOTES 3, 7, 8
ELECTRICAL / IT ROOMS	SEE PLANS	SPR-3	SIDEWALL	QUICK	ROUGH BRASS	VIKING VK, RELIABLE F1FR, TYCO TY-FRB, VICTAULIC V2710	NOTES 3, 7
WALK-IN REFRIGERATOR	SEE PLANS	SPR-4	DRY UPRIGHT	QUICK	ROUGH BRASS	VIKING VK, TYCO DS-1, VICTAULIC V3602	NOTES 2, 3, 7

- ### MECHANICAL PHASING NOTES:
- THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.
- REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL DESCRIPTION OF PHASES. REFER TO ARCHITECT'S INSTRUCTIONS FOR MORE DETAILS. PHASING SCHEDULES AND FOR CONCURRENT WORK. MECHANICAL, ELECTRICAL AND TECHNOLOGY DRAWINGS DEPICT THE INTENT OF THE FINAL DESIGN. THE MECHANICAL, ELECTRICAL, AND TECHNOLOGY DRAWINGS DO NOT DEPICT THE MEANS AND METHODS TO MEET THE REQUIREMENTS OF THE PHASING CRITERIA.
 - REVIEW PROJECT PHASING PLANS TO COORDINATE DEMOLITION WORK, OUTAGES, ETC. WITH AFFECTED ADJACENT AREAS.
 - PROVIDE TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ZONE VALVES, ZONE ALARMS, ETC. AS NEEDED TO MAINTAIN SERVICE TO ALL AREAS DURING ALL PHASES OF PROJECT.
 - INSTALL TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ETC. AS NECESSARY TO KEEP ALL OCCUPIED SPACES OPERATIONAL THROUGHOUT ALL PHASES OF THE PROJECT.
 - PHASE DEMOLITION WORK TO MINIMIZE DOWNTIME.

SHEET INDEX - FIRE PROTECTION

SHEET NO.	SHEET TITLE	SP ISSUE		
		SD	DD	CD
FP000	FIRE PROTECTION COVER SHEET			
FP101	GROUND FLOOR PLAN - FIRE PROTECTION			
FP111	1ST FLOOR PLAN - FIRE PROTECTION			
FP121	2ND FLOOR PLAN - FIRE PROTECTION			



1 LAB ZONE CONTROL VALVE DETAIL
NO SCALE

Revisions:	Date:

CONSULTANT

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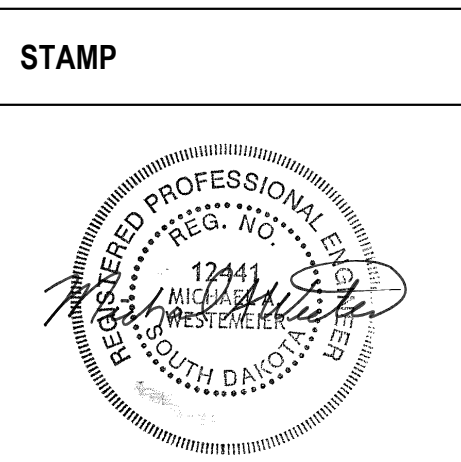
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Drawing Title
FIRE PROTECTION COVER SHEET

Approved:

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
01/11/2019

Checked
TBD

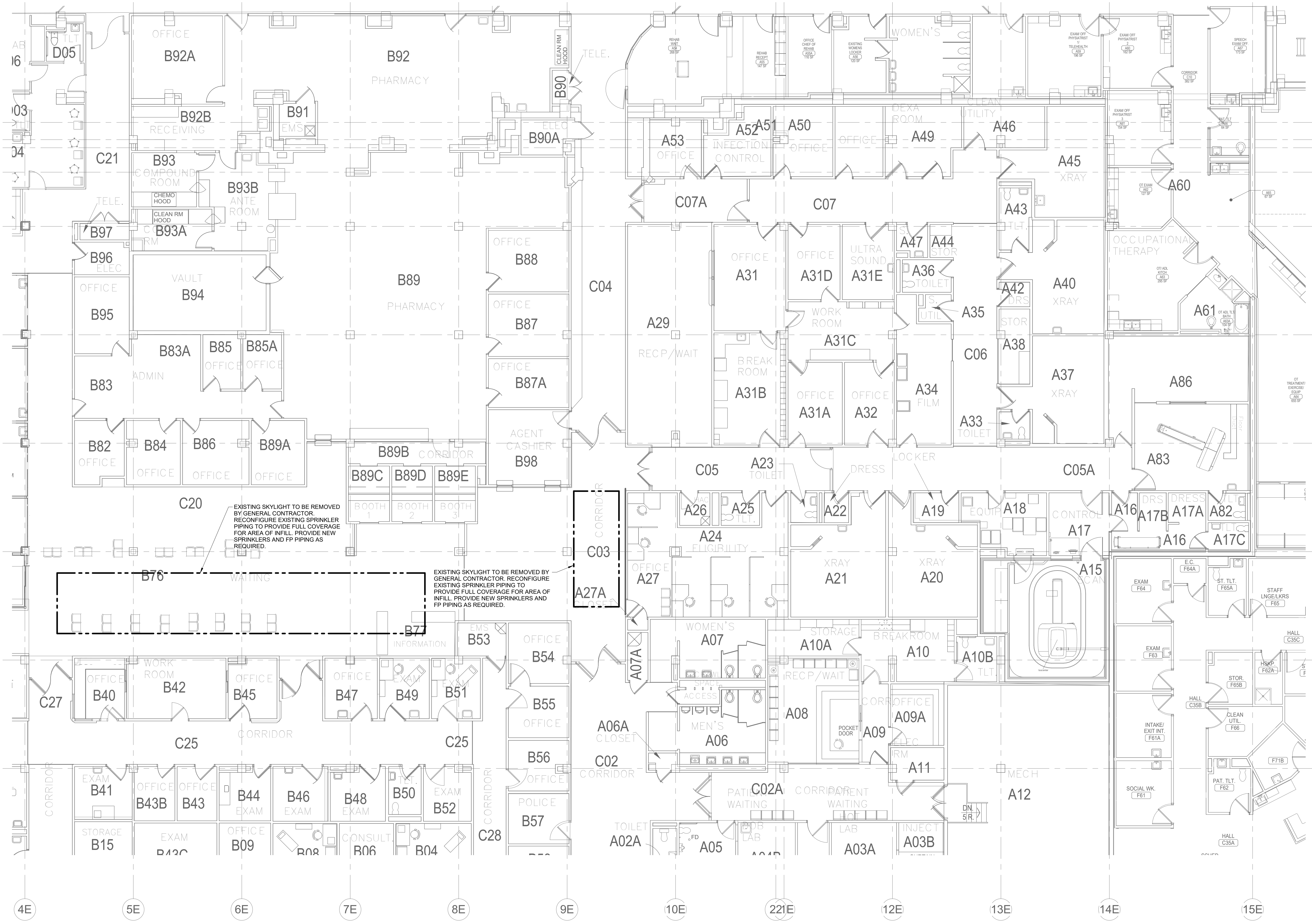
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EJH

Project Number
438-440

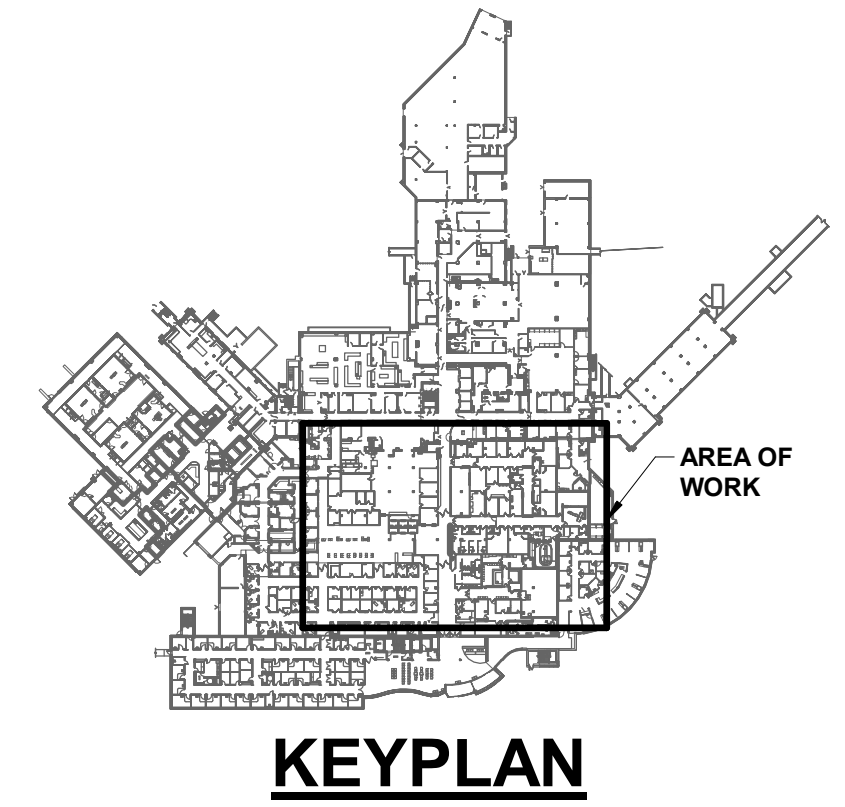
Building Number
5

Drawing Number
FP000

- GENERAL SHEET NOTES:**
1. PIPE SIZES AND ROUTING ARE SHOWN FOR CONTRACTOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE FINAL ROUTING AND PIPE SIZING BASED ON NFPA 13 AND HYDRAULIC CALCULATIONS.
 2. PROVIDE LIGHT HAZARD AND ORDINARY HAZARD SPRINKLER COVERAGE IN THE AREA OF WORK AS INDICATED. ALL WORK SHALL BE PER NFPA 13.
 3. COORDINATE ALL REQUIRED SYSTEM SHUTDOWNS WITH OWNER.
 4. REFER TO FIRE SPRINKLER USAGE SCHEDULE FOR TYPES OF SPRINKLERS TO BE USED.



1 GROUND FLOOR PLAN - FIRE PROTECTION
1/8" = 1'-0"



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Drawing Title
GROUND FLOOR PLAN - FIRE PROTECTION

Approved:

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
01/11/2019

Checked
TBD

Drawn
EJH

Project Number
438-440

Building Number
5

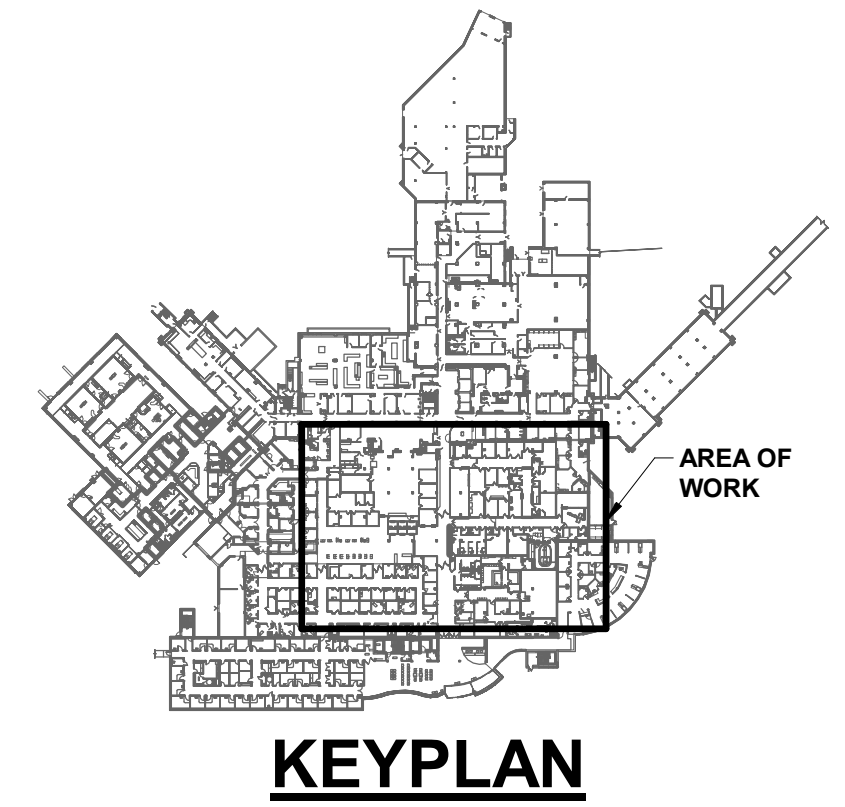
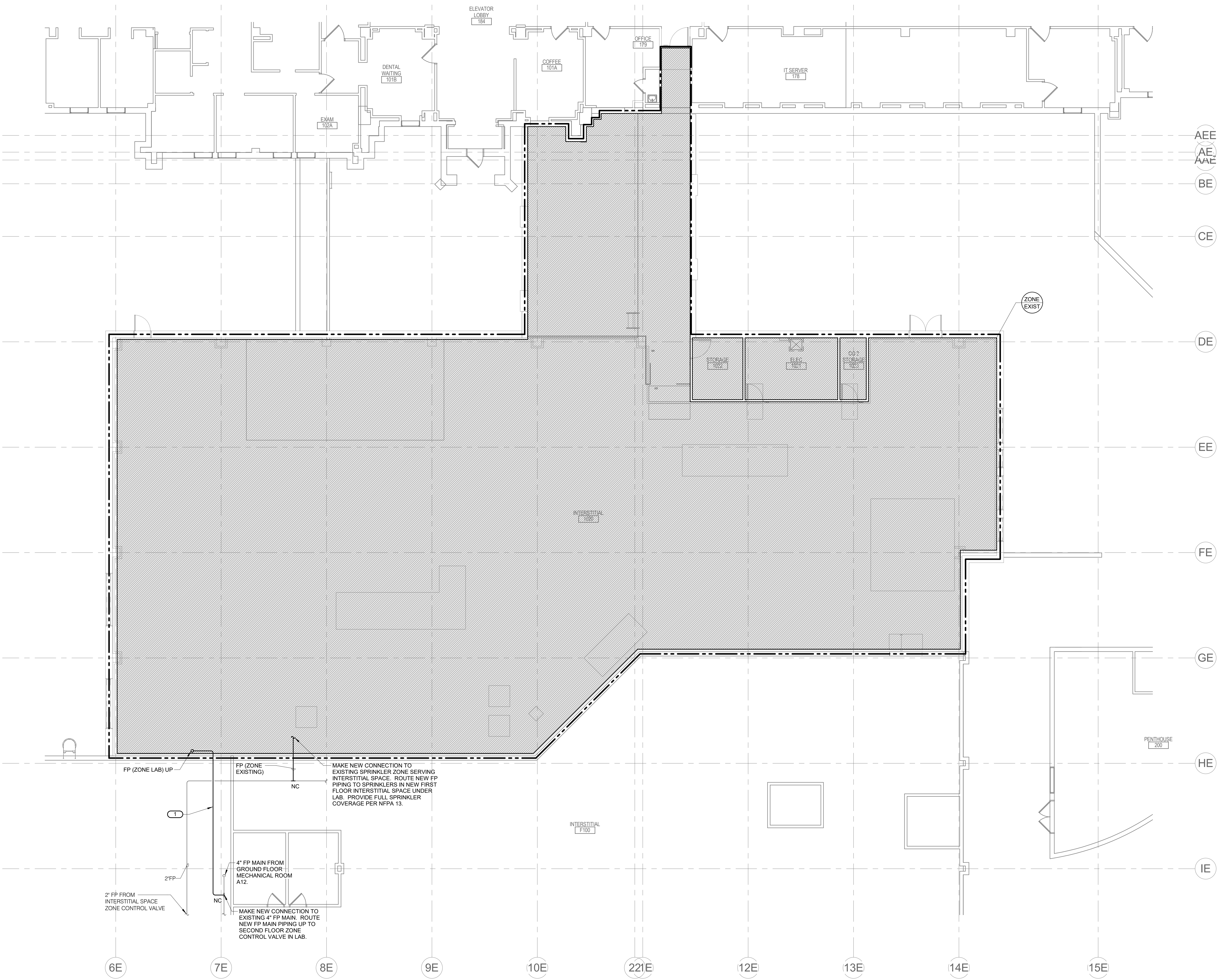
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FP101

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- PROVIDE LIGHT HAZARD AND ORDINARY HAZARD SPRINKLER COVERAGE IN THE AREA OF WORK AS INDICATED. ALL WORK SHALL BE PER NFPA 13.
- COORDINATE ALL REQUIRED SYSTEM SHUTDOWNS WITH OWNER.
- REFER TO FIRE SPRINKLER USAGE SCHEDULE FOR TYPES OF SPRINKLERS TO BE USED.

KEYNOTES: (#)

- PROVIDE AND INSTALL NEW SPRINKLER ZONE CONTROL VALVE FOR LAB IN INTERSTITIAL SPACE. REFER TO 11FP000 FOR ZONE CONTROL VALVE DETAIL. ROUTE DRAIN FROM INSPECTOR'S TEST TO 4" STANDPIPE COORDINATE WITH P.C. FOR STANDPIPE LOCATION.



1 1ST FLOOR PLAN - FIRE PROTECTION
 1/8" = 1'-0"

Revisions:	Date:

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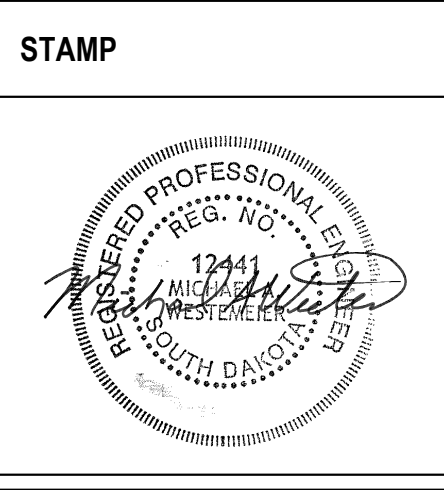
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Drawing Title
1ST FLOOR PLAN - FIRE PROTECTION

Approved: _____

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
 01/11/2019

Checked
 TBD

Drawn
 E.J.H.

Project Number
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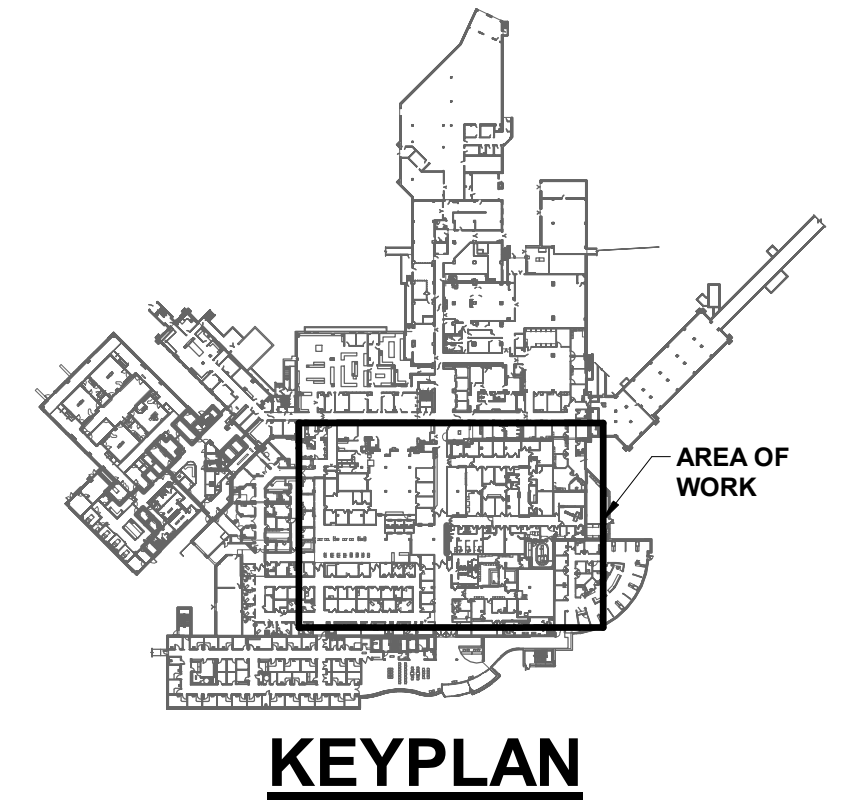
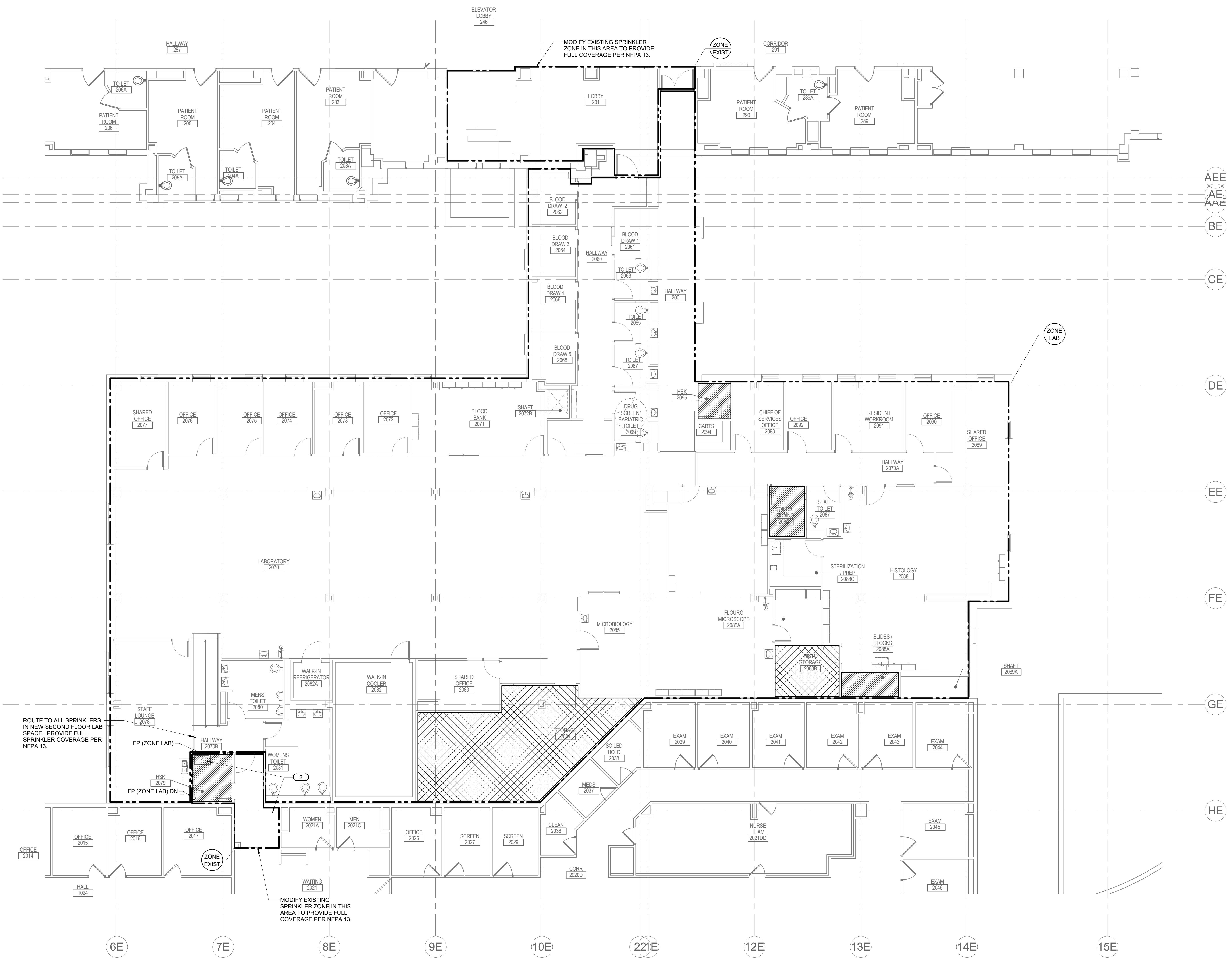
Building Number
5

Drawing Number
FP111

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- GENERAL SHEET NOTES:**
- PIPE SIZES AND ROUTING ARE SHOWN FOR CONTRACTOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE FINAL ROUTING AND PIPE SIZING BASED ON NFPA 13 AND HYDRAULIC CALCULATIONS.
 - PROVIDE LIGHT HAZARD AND ORDINARY HAZARD SPRINKLER COVERAGE IN THE AREA OF WORK AS INDICATED. ALL WORK SHALL BE PER NFPA 13.
 - COORDINATE ALL REQUIRED SYSTEM SHUTDOWNS WITH OWNER.
 - REFER TO FIRE SPRINKLER USAGE SCHEDULE FOR TYPES OF SPRINKLERS TO BE USED.

- KEYNOTES: #**
- PROVIDE AND INSTALL NEW SPRINKLER ZONE CONTROL VALVE FOR LAB IN INTERSTITIAL SPACE. REFER TO 1/16"000 FOR ZONE CONTROL VALVE DETAIL. ROUTE DRAIN FROM INSPECTOR'S TEST TO 4" STANDPIPE COORDINATE WITH P.C. FOR STANDPIPE LOCATION.
 - THERE IS AN EXISTING INSPECTOR TEST FOR THE SPEC MED SPRINKLER ZONE THAT DISCHARGES TO THE MOP BASIN THAT IS BEING REMOVED IN THIS AREA (REFER TO ARCHITECTURAL DEMO PLANS). RELOCATE THE INSPECTOR TEST DISCHARGE TO THE MOP BASIN IN NEW HOUSEKEEPING CLOSET 2079.



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

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Drawing Title
2ND FLOOR PLAN - FIRE PROTECTION

Approved: _____

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
01/11/2019

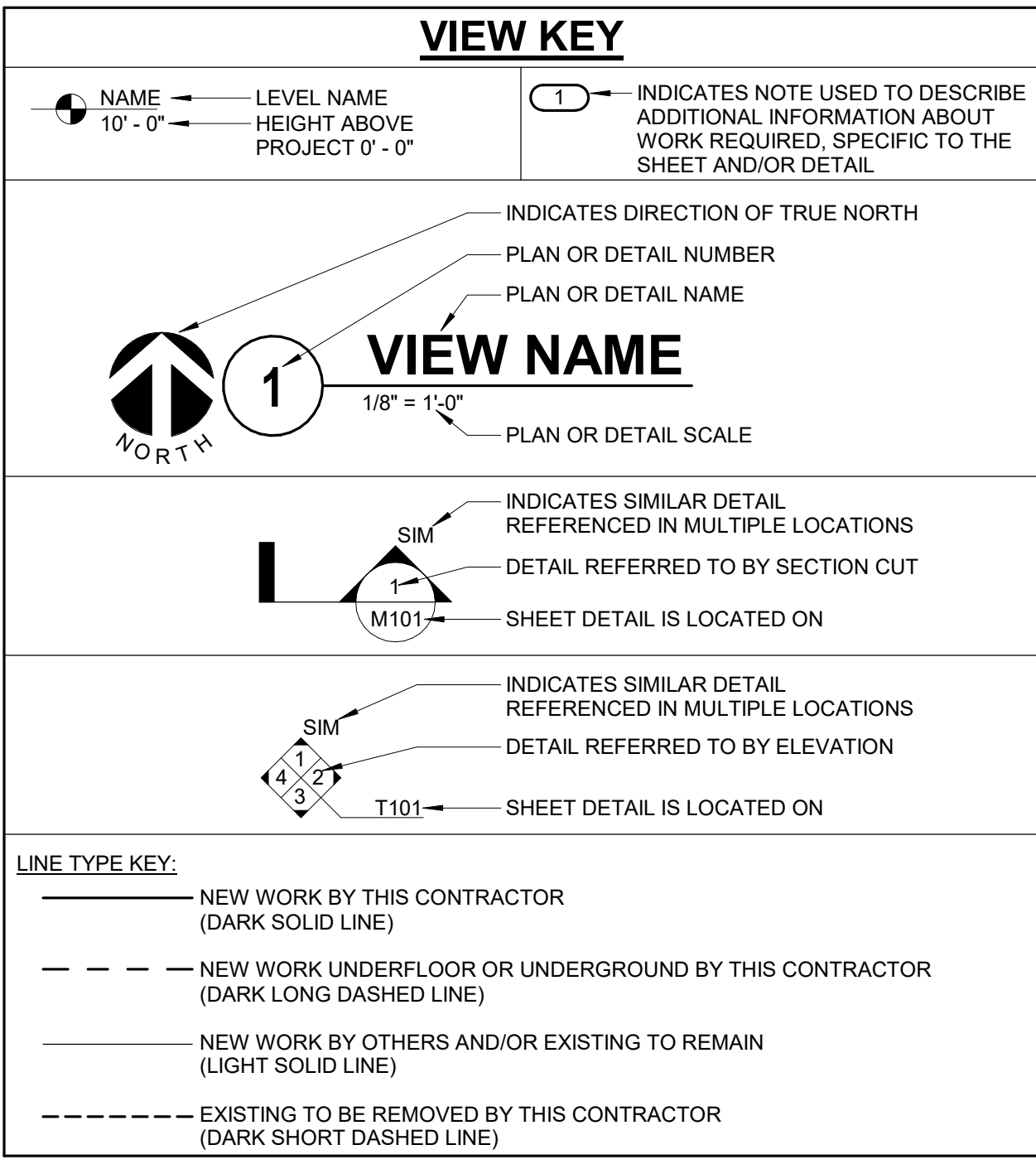
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Drawn
EJH

Project Number
438-440

Building Number
5

Drawing Number
FP121



APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND LOCAL AMENDMENTS.

BUILDING CODE:	IBC 2015 EDITION
FIRE CODE:	IFC 2015 EDITION
PLUMBING CODE:	UPC 2015
MECHANICAL CODE:	IMC 2015 EDITION
ELECTRICAL CODE:	NFPA 70 (NEC) 2017 EDITION
LIFE SAFETY CODE:	NFPA 101 2012 EDITION
ENERGY CONSERVATION CODE:	IECC 2009
HEALTH DEPARTMENT CODE:	CURRENT EDITION
LOCAL BUILDING CODE:	CURRENT EDITION

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
A.C.	ASBESTOS ABATEMENT CONTRACTOR
C.O.R.	CONTRACTING OFFICER'S REPRESENTATIVE
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
M.E.C.	MEDICAL EQUIPMENT CONTRACTOR
P.C.	PLUMBING CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
N.C.C.	NURSE CALL CONTRACTOR

CONTACT PERSONS:

DESCRIPTION:	PERSON:
PROJECT MANAGER	JAMES LESSARD, P.E.
MECHANICAL ENGINEER	ERIC HENDERSON, P.E.
ELECTRICAL ENGINEER	JAMES LESSARD, P.E.
TECHNOLOGY ENGINEER	DAVE LARSON, RCDD

PLUMBING SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
AV	ACID VENT
AW	ACID WASTE
CO2	CARBON DIOXIDE
CW	COLD WATER - POTABLE
D	DRAIN
HW	HOT WATER - POTABLE
HCW	HOT WATER CIRCULATING - POTABLE
PW	PURE WATER
RO	REVERSE OSMOSIS WATER
SAN	SANITARY DRAINAGE
ST(1,000)	STORM DRAINAGE (ROOF SQUARE FOOTAGE)
STS	STORM DRAINAGE (SECONDARY)
TW	TEMPERED WATER
V	VENT
→	PIPE CONTINUATION
→	PIPE CAP
→	PIPE DOWN
→	PIPE UP OR UP/DOWN
→	PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN)
→	PITCH PIPE IN DIRECTION
→	DIRECTION OF FLOW IN PIPE
→	ROUTE TO DRAIN
RD-1 6"(1000)	ROOF DRAIN PROPERTIES SYMBOL SIZE (ROOF SQ. FT.)
+	NEW CONNECTION
+	UNION/FLANGE
+	SHUTOFF VALVE NORMALLY OPEN
+	SHUTOFF VALVE NORMALLY CLOSED
+	BALANCING VALVE (NUMBER INDICATES GPM)
+	CHECK VALVE
+	SOLENOID VALVE
+	SOLENOID VALVE WALL SWITCH
+	SAFETY/RELIEF VALVE
+	VACUUM BREAKER
+	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
+	THERMOMETER WITH WELL (DIAL TYPE)
+	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
+	PRESSURE REDUCING VALVE (LIQUID/GAS)
+	PUMP

PLUMBING ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
AGF	AIR GAP FITTING
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
E	EXISTING
ESE	EMERGENCY SHOWER/EYEWASH
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FM	FLOW METER
FS	FLOOR SINK
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)
LAV	LAVATORY
MB	MOP BASIN
MV	MIXING VALVE
NC	NEW CONNECTION
NIC	NOT IN CONTRACT
NT	NEUTRALIZATION TANK
RD	ROOF DRAIN
SK	SINK
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
UB	UTILITY BOX
UNO	UNLESS NOTED OTHERWISE

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
- DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
- ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
- EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIOVISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
- EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHO CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
- IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
- SEAL ALL FLOOR, WALL AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
- CALK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
- WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
- EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
- DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
- MAINTAIN MINIMUM 2'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES, AND DISCONNECTS.
- PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
- DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
- NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
- FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
- EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS WORK AND SHALL NOTIFY THE GENERAL CONTRACTOR PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS AREA OF WORK.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS. CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
- WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REMOVE EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.
- PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
- OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
- MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.
- DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

MECHANICAL PHASING NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL DESCRIPTION OF PHASES. REFER TO ARCHITECT'S INSTRUCTIONS FOR MORE DETAILS, PHASING SCHEDULES AND FOR CONCURRENT WORK. MECHANICAL, ELECTRICAL AND TECHNOLOGY DRAWINGS DEPICT THE INTENT OF THE FINAL DESIGN. THE MECHANICAL, ELECTRICAL, AND TECHNOLOGY DRAWINGS DO NOT DEPICT THE MEANS AND METHODS TO MEET THE REQUIREMENTS OF THE PHASING CRITERIA.
- REVIEW PROJECT PHASING PLANS TO COORDINATE DEMOLITION WORK, OUTAGES, ETC. WITH AFFECTED ADJACENT AREAS.
- PROVIDE TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ZONE VALVES, ZONE ALARMS, ETC. AS NEEDED TO MAINTAIN SERVICE TO ALL AREAS DURING ALL PHASES OF PROJECT.
- INSTALL TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ETC. AS NECESSARY TO KEEP ALL OCCUPIED SPACES OPERATIONAL THROUGHOUT ALL PHASES OF THE PROJECT.
- PHASE DEMOLITION WORK TO MINIMIZE DOWNTIME.

PLUMBING GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
- CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
- ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S. 3874
- INVERT ELEVATIONS ARE FROM EXISTING DRAWINGS AND MAY NOT BE ACCURATE. VERIFY ALL ELEVATIONS BEFORE BEGINNING WORK.
- VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK.
- REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURES.
- FOR CLARITY, NOT ALL VALVES HAVE BEEN SHOWN. PROVIDE SHUTOFF VALVES IN DOMESTIC WATER PIPING SERVING EACH ROOM WITH FIXTURES. ANGLE STOPS SHALL NOT BE CONSIDERED SHUTOFF VALVES.
- EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL SCOPE OF ITEMS TO BE REMOVED. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.
- G.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW OR DEMOLITION WORK UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL INFORMATION.
- COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 220511.1.4 CONSTRUCTION WORK SHALL NOT START ON ANY SYSTEM UNTIL THE LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE COR.

SHEET INDEX - PLUMBING

SHEET NO.	SHEET TITLE	SD ISSUE	DD ISSUE	CD ISSUE
P000	PLUMBING COVER SHEET			
P101	GROUND FLOOR PLAN - PLUMBING			
P111	1ST FLOOR PLAN - PLUMBING			
P121	2ND FLOOR PLAN - PLUMBING			
P150	ROOF PLAN - PLUMBING			
P300	PLUMBING DETAILS			
P400	ENLARGED PLANS - PLUMBING			
P401	PLUMBING ISOMETRIC VIEWS			
P500	PLUMBING SCHEDULES			

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Revisions:	Date:

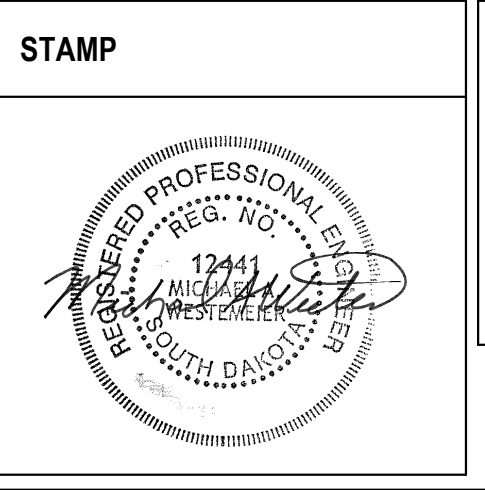
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Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title
PLUMBING COVER SHEET

Approved:

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
01/11/2019

Checked
PETERN

Drawn
DELLE

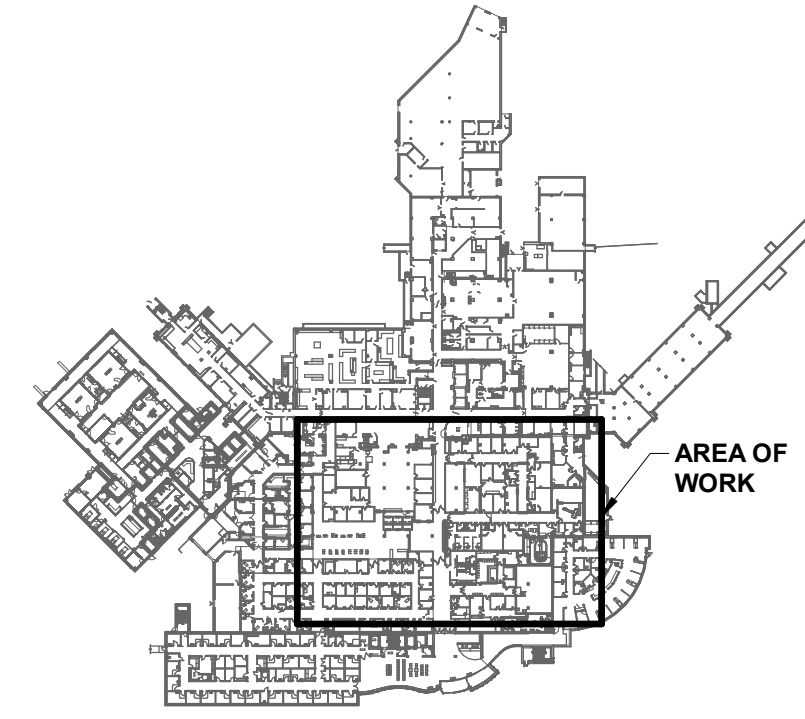
Project Number
438-440

Building Number
5

Drawing Number
P000

- GENERAL NOTES:**
- REFER TO P000 - PLUMBING COVERSHEET - FOR PLUMBING SYMBOLS LIST, ABBREVIATION KEY, AND GENERAL NOTES
 - EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
 - G.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW WORK. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL INFORMATION.
 - COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 22 05 11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE COR.
 - CONTRACTOR SHALL MINIMIZE DOWNTIME OF EXISTING SYSTEMS BY INSTALLING NEW SYSTEMS PRIOR TO TYING INTO EXISTING. NOTIFY COR A MINIMUM OF 24 HOURS PRIOR TO SYSTEM SHUTDOWN.

- KEYNOTES:**
- MAKE NEW CONNECTIONS TO EXISTING CW, HW, AND HWC MAINS. ROUTE NEW RISERS UP TO FIRST FLOOR INTERSTITIAL SPACE TO SERVE NEW LAB ADDITION.
 - SAW CUT EXISTING FLOOR IN OFFICE A50 AS REQUIRED AND CONNECT NEW 4" SANITARY TO EXISTING 6" SANITARY PIPE UNDER OFFICE A50.
 - SAW CUT EXISTING FLOOR IN OFFICE B40 AND C27 AS REQUIRED AND CONNECT NEW 10" STORM PIPE TO EXISTING 10" STORM LINE UNDER CORRIDOR C27.
 - SAW CUT EXISTING FLOOR IN A19 LOCKER AS REQUIRED AND CONNECT 4" SANITARY TO EXISTING 4" SANITARY PIPE UNDER FLOOR. ROUTE 10" STS IN IN EXISTING CHASE.
 - TERMINATE STS THROUGH RDO-1 AT EXTERIOR WALL OF CHASE. COORDINATE STS RISER AND ROOF WITH EXISTING PLUMBING PIPING SERVING RESTROOM GROUP. RECONFIGURE EXISTING SANITARY AND VENT SYSTEMS AS NECESSARY. GC SHALL DEMO CHASE WALL AS REQUIRED AND PATCH WALL TO MATCH EXISTING FOLLOWING COMPLETION OF WORK.
 - REMOVE EXISTING ROOF DRAIN. DEMOLISH STORM PIPING BACK TO MAIN OR VERTICAL DROP AND CAP ABOVE CEILING. DO NOT DEMOLISH ANY BELOW GRADE STORM PIPING. DEMOLISH EXISTING CHASE WALL AS NECESSARY FOR CONNECTING NEW SANITARY PIPE INTO EXISTING SANITARY MAIN. GC SHALL PERFORM ANY REQUIRED DEMOLITION AND PATCH WALL TO MATCH EXISTING FOLLOWING COMPLETION OF THIS WORK.



GROUND FLOOR PLAN - PLUMBING
1/8" = 1'-0"

Revisions:

No.	Description	Date

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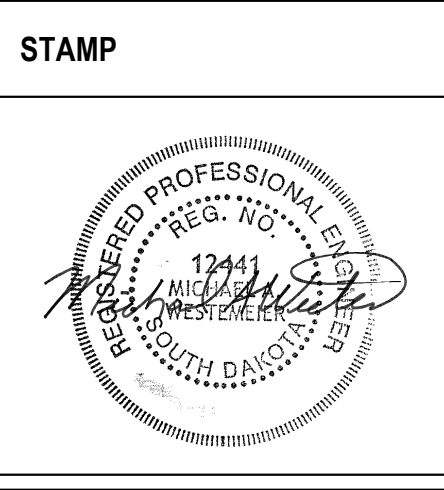
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Office of
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and Facilities
Management

VA U.S. Department of Veterans Affairs

Drawing Title
GROUND FLOOR PLAN - PLUMBING

Approved:

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIoux FALLS, SOUTH DAKOTA

Issue Date
01/11/2019

Checked
PETERN

Drawn
DELLE

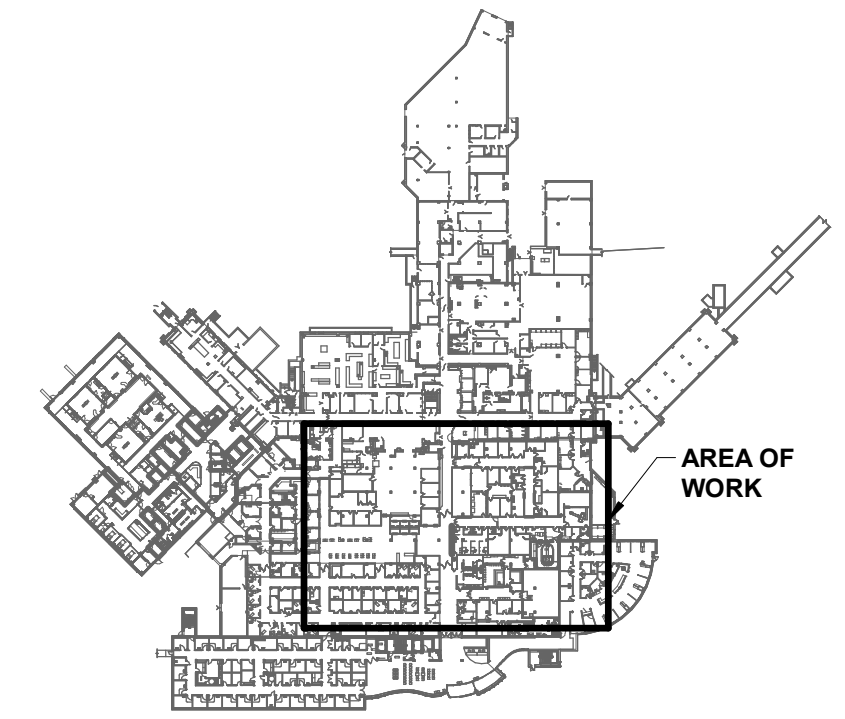
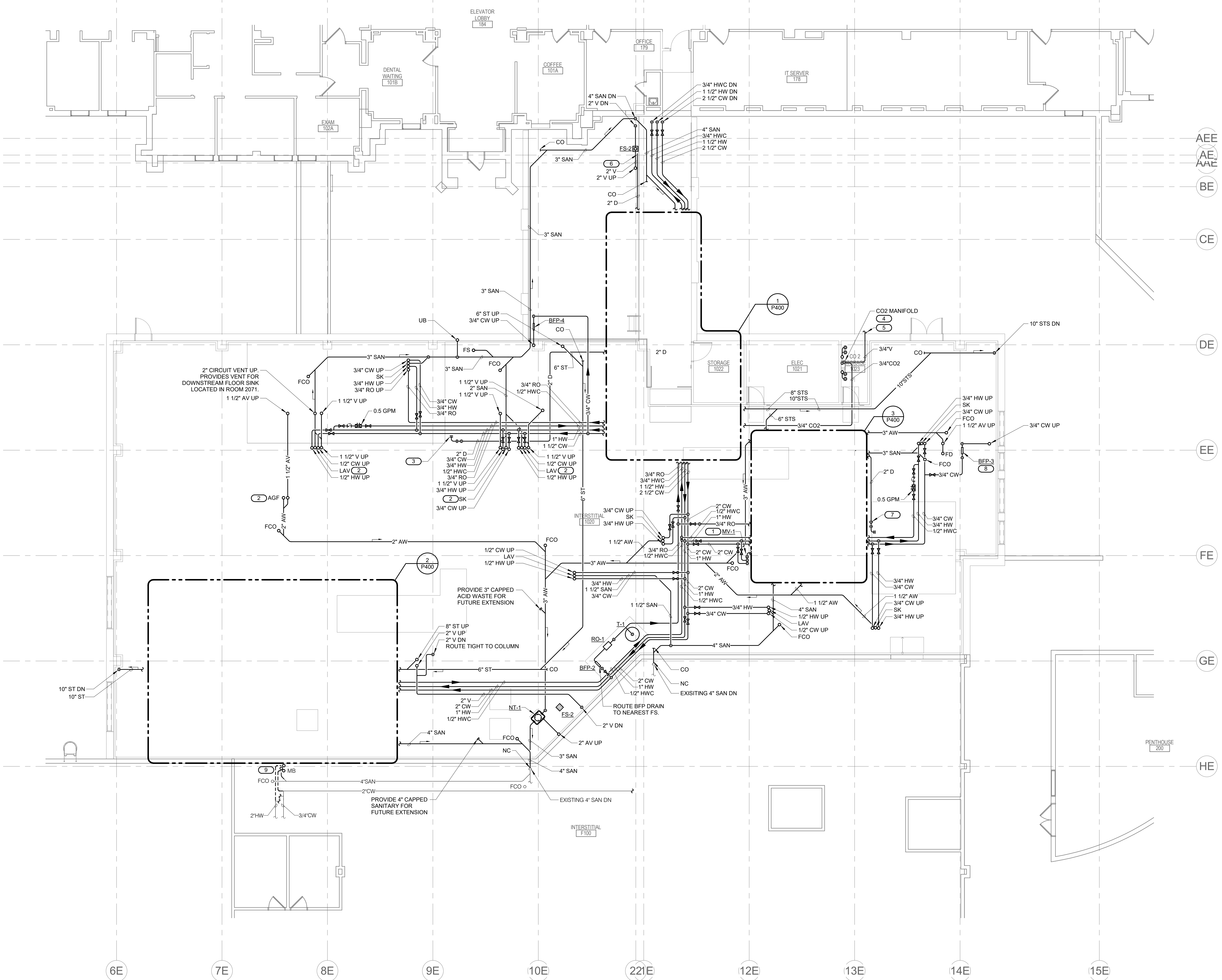
Project Number
438-440

Building Number
5

Drawing Number
P101

- GENERAL NOTES:**
- REFER TO P000 - PLUMBING COVERSHEET - FOR PLUMBING SYMBOLS LIST, ABBREVIATION KEY, AND GENERAL NOTES
 - EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
 - COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 22 05 11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE COR.
 - REFERENCE P401 FOR PLUMBING ISOMETRIC DRAWINGS.
 - REFERENCE 8/P300 FOR WATER HAMMER ARRESTER LOCATION DETAIL.
 - REFERENCE P500 FOR PLUMBING MATERIAL LIST.

- KEYNOTES: #**
- MV-1 PROVIDED FOR EMERGENCY SHOWER/EYEWASH ON FLOOR ABOVE. MOUNT MIXING VALVE CABINET SECURELY TO STRUCTURAL COLUMN OR FABRICATED ANGLE IRON RACK. REFERENCE 1/P300 FOR EMERGENCY SHOWER & EYEWASH DETAIL. REFER TO 4/P300 FOR ISLAND VENT DETAIL.
 - PC SHALL PROVIDE CONDENSATE TRAPS FOR CONNECTION TO AHU-1 COOLING COIL DRAIN PAN AND HUMIDIFIER DRAIN PAN. TRAPS CAN DISCHARGE INTO COMMON 2" DRAIN PIPE AND BE ROUTED TO FLOOR SINK AS SHOWN. REFERENCE 5/P300 FOR CONDENSATE TRAP DETAIL.
 - REFERENCE 9/P300 FOR MEDICAL GAS MANIFOLD SOURCE PIPING SYSTEM DETAIL.
 - SEAL CO2 MANIFOLD VENT WALL TERMINATION WEATHER TIGHT. TERMINATE VENT THROUGH 80" LONG RADIUS ELBOW FACING DOWN WITH BIRD SCREEN.
 - DISCHARGE 2" DRAIN INTO FLOOR SINK THROUGH 45° ELBOW FITTING.
 - PC SHALL PROVIDE CONDENSATE TRAP FOR CONNECTION TO AHU-2 COIL DRAIN PAN. ROUTE 1" DRAIN TO FLOOR SINK AS SHOWN. ROUTE TIGHT TO AHU TO REDUCE TRIPPING HAZARD. REFERENCE 5/P300 FOR CONDENSATE TRAP DETAIL.
 - MOUNT BACKFLOW PREVENTER ON STRUCTURAL COLUMN AT ACCESSIBLE HEIGHT.
 - DEMOLISH HW, CW, AND SANITARY PIPING RELATED TO MOP BASIN ON FLOOR ABOVE. CAP PIPING AT MAINS TO PREVENT DEAD LEGS. REFERENCE P121 FOR ADDITIONAL DEMOLITION SCOPE RELATED TO MOP BASIN.



1 1ST FLOOR PLAN - PLUMBING
1/8" = 1'-0"

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Revisions:	Date:

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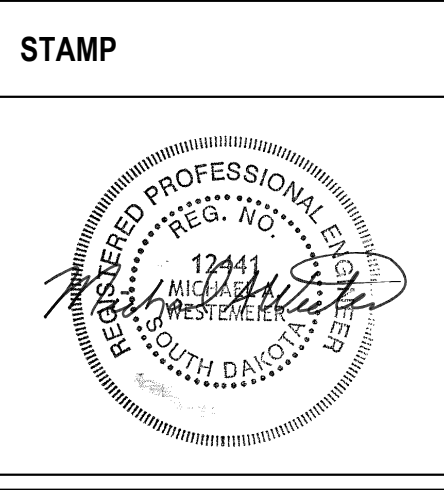
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	1ST FLOOR PLAN - PLUMBING
Approved:	

Phase	CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED	

Project Title	CONSTRUCT LABORATORY ADDITION
Location	SIOUX FALLS, SOUTH DAKOTA
Issue Date	01/11/2019
Checked	PETERN
Drawn	DELLE

Project Number	438-440
Building Number	5
Drawing Number	P111

- GENERAL NOTES :**
1. REFER TO P000 - PLUMBING COVERSHEET - FOR PLUMBING SYMBOLS LIST, ABBREVIATION KEY, AND GENERAL NOTES
 2. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
 3. COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 22 05 11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE COR.
 4. REFER TO P401 FOR PLUMBING ISOMETRIC DRAWINGS.
 5. REFER TO P500 FOR PLUMBING MATERIAL LIST.

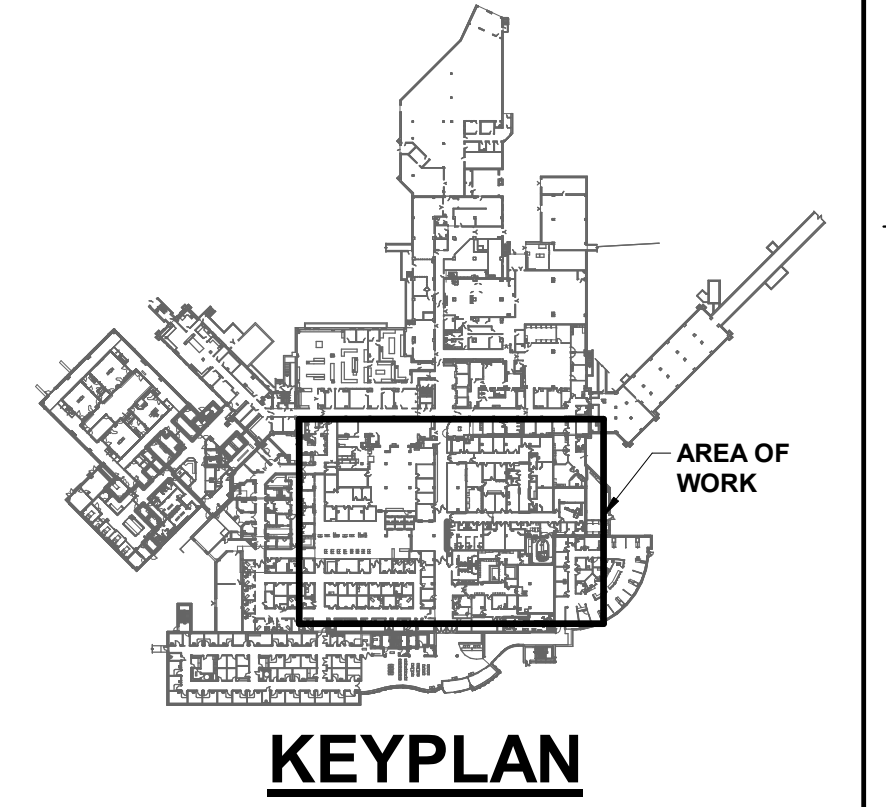
- KEYNOTES: (#)**
1. REFERENCE 1P300 FOR EMERGENCY SHOWER & EYEWASH DETAIL.
 2. REFERENCE 3P300 FOR LAVATORY MIXING VALVE DETAIL.
 3. REFERENCE 4P300 FOR ISLAND VENT DETAIL.
 4. PROVIDE UTILITY BOX AND FILTER FOR CONNECTION TO OWNER PROVIDED ICE MACHINE. PROVIDE 3/4" DRAIN FROM ICE MACHINE CONNECTION TO FLOOR/SINK THROUGH CABINETRY. PC SHALL MAKE FINAL CONNECTIONS TO ICE MACHINE. REFERENCE 6P300 FOR ICE MACHINE DETAIL.
 5. WALK-IN COOLERS AND REFRIGERATOR EVAPORATOR UNITS PROVIDED BY OTHERS. PROVIDE AND INSTALL CONDENSATE DRAINAGE PIPING FROM EVAPORATORS TO FLOOR SINK ON 1ST FLOOR.
 6. REFERENCE 10P300 FOR VALVE BOX/ALARM PANEL SCHEMATIC DETAIL. REFERENCE 11P300 FOR MEDICAL GAS SCHEMATIC WIRING DIAGRAM.
 7. PC SHALL COORDINATE LOCATION FOR SOLENOID VALVE SWITCH WITH OWNER, ARCHITECT, AND ELECTRICAL CONTRACTOR. ACTIVATION OF SWITCH SHALL CLOSE SOLENOID VALVES FOR HOT AND COLD WATER SERVING PLUMBING FIXTURES IN ROOM 2069.
 8. PROVIDE WCO-1 IN WATER CLOSET SANITARY VENT RISER. EXTEND CLEANOUT ACCESS TO WALL ABOVE WATER CLOSET.
 9. REMOVE EXISTING MOP BASIN AND TRIM IN EXISTING HOUSEKEEPING ROOM. DEMOLISH HW, CW, SAN, AND VENT IN CHASE BACK TO MAINS AND CAP. REFERENCE P111 FOR PLUMBING DEMOLITION RELATED TO THIS MOP BASIN ON 1ST FLOOR.
 10. CONNECT CO2 PIPING TO WALL OUTLET BOX AND SET UPSTREAM PRESSURE REGULATOR TO 20 PSI. PROVIDE CONNECTION HOSE ADAPTOR FROM OUTLET TO EQUIPMENT INLET.
 11. UTILITY BOX PROVIDED FOR WATER CONNECTION TO HST-11. MEC SHALL MAKE FINAL CONNECTION TO EQUIPMENT.
 12. UTILITY BOX PROVIDED FOR DRAINS FROM TWO B2-2 UNITS. MEC SHALL PROVIDE FLEXIBLE DRAIN TUBES ROUTED TO UTILITY BOX DRAIN.



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2ND FLOOR PLAN - PLUMBING
1/8" = 1'-0"



Revisions:	Date:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
2ND FLOOR PLAN - PLUMBING

Approved:

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
01/11/2019

Checked
PETERN

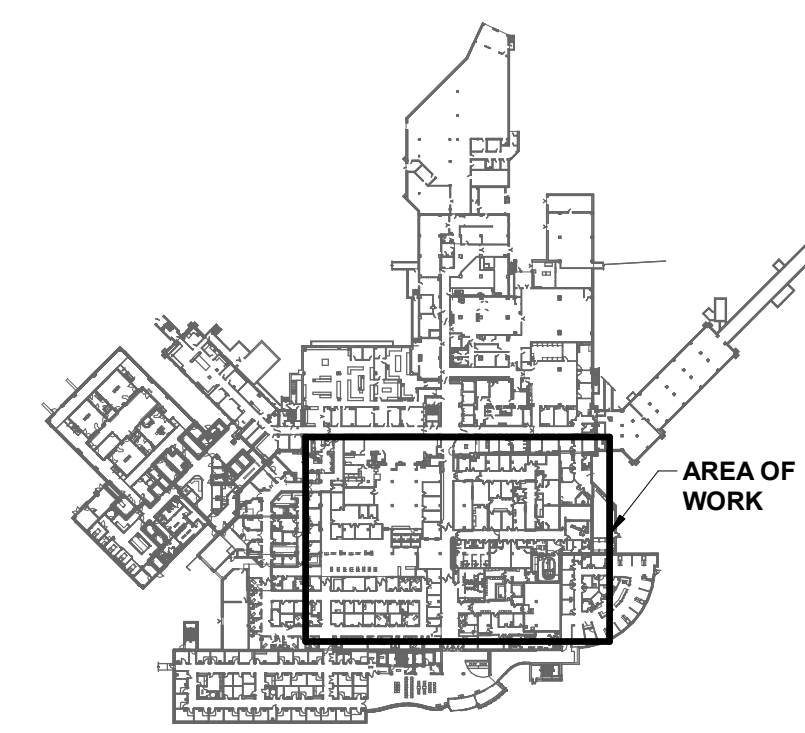
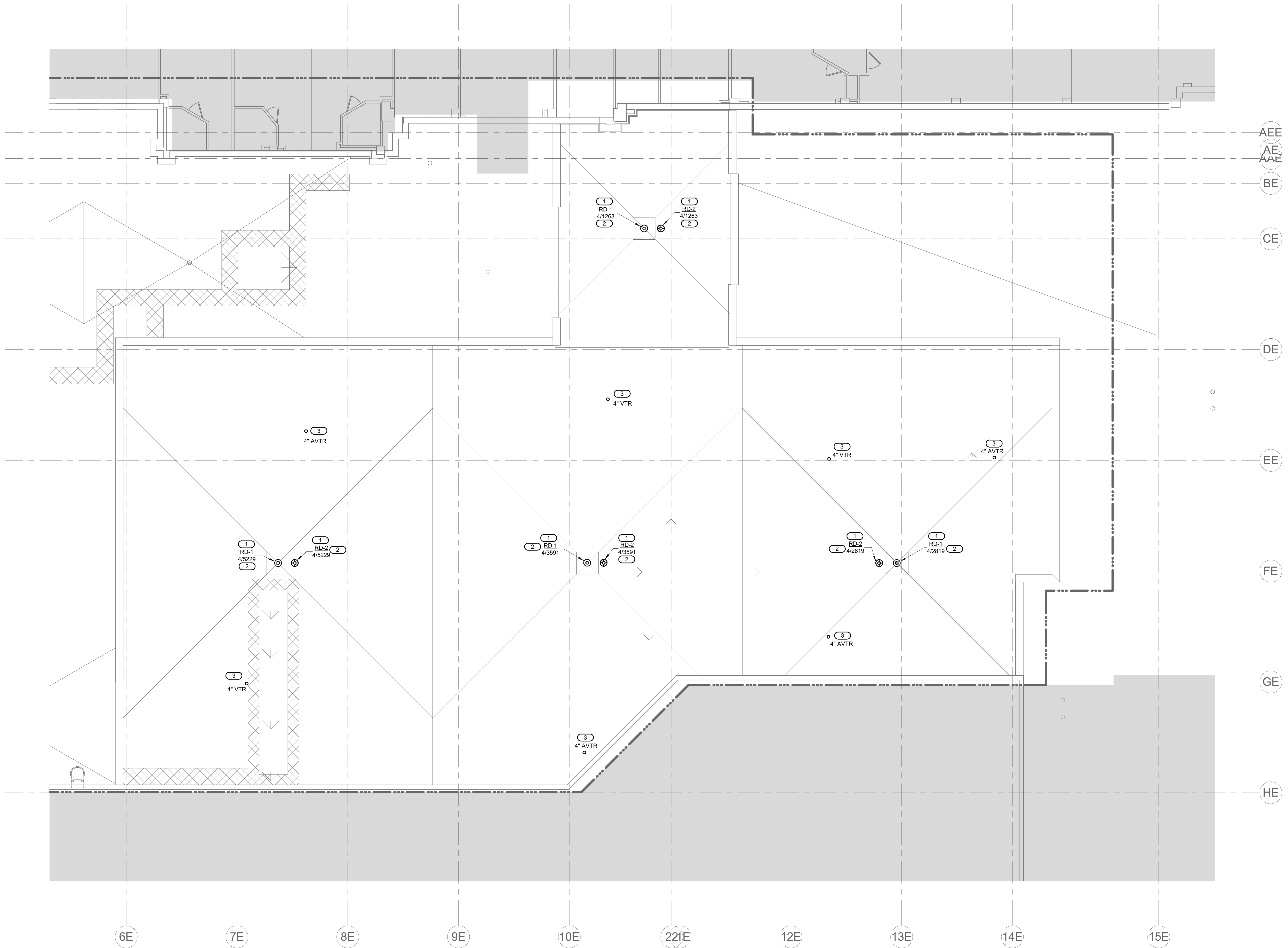
Drawn
DELLE

Project Number
438-440

Building Number
5

Drawing Number
P121

- GENERAL NOTES:**
- REFER TO P000 - PLUMBING COVERSHEET - FOR PLUMBING SYMBOLS LIST, ABBREVIATION KEY, AND GENERAL NOTES.
 - COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY SPECIFICATION SECTION 22 05 11. CONSTRUCTION WORK SHALL NOT BEGIN UNTIL SYSTEM LAYOUT DRAWINGS HAVE BEEN APPROVED BY THE COR.
 - REFER TO P401 FOR PLUMBING ISOMETRIC - PRESSURE SYSTEMS.
 - REFER TO P401 FOR PLUMBING ISOMETRIC - GRAVITY SYSTEMS.
 - REFER TO P500 FOR PLUMBING MATERIAL LIST.
- KEYNOTES: (#)**
- REFERENCE 2/P300 FOR ROOF DRAIN DETAIL.
 - PROVIDE HEAT TRACE AT ROOF DRAINS, ROOF DRAIN BASINS, AND THE FIRST 15' OF BOTH PRIMARY AND SECONDARY STORM PIPING INSIDE BUILDING. COORDINATE EXACT LOCATION WITH ELECTRICAL CONTRACTOR.
 - REFERENCE 7/P300 FOR VENT PIPE FLASHING DETAIL.



KEYPLAN

1 ROOF PLAN - PLUMBING
1/8" = 1'-0"

Revisions:	Date:

CONSULTANT

IMEG

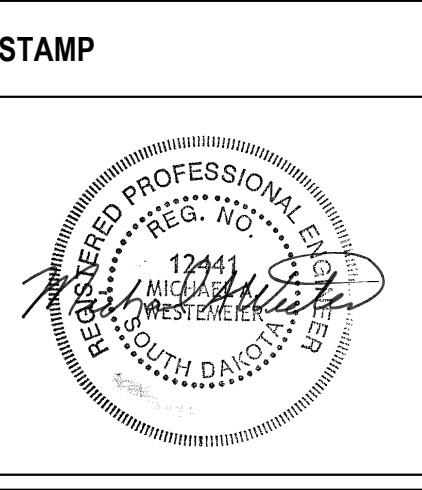
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Affairs

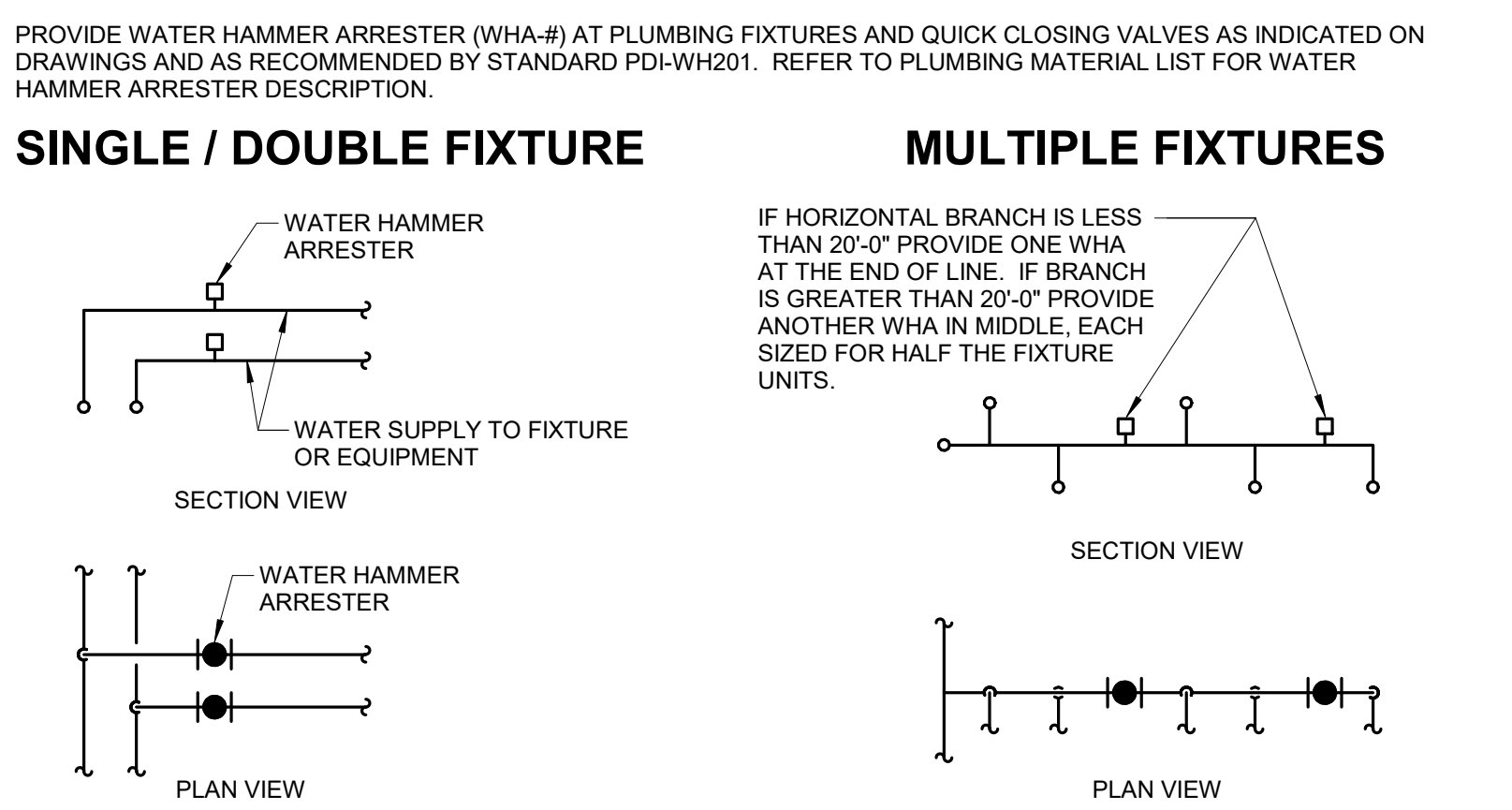
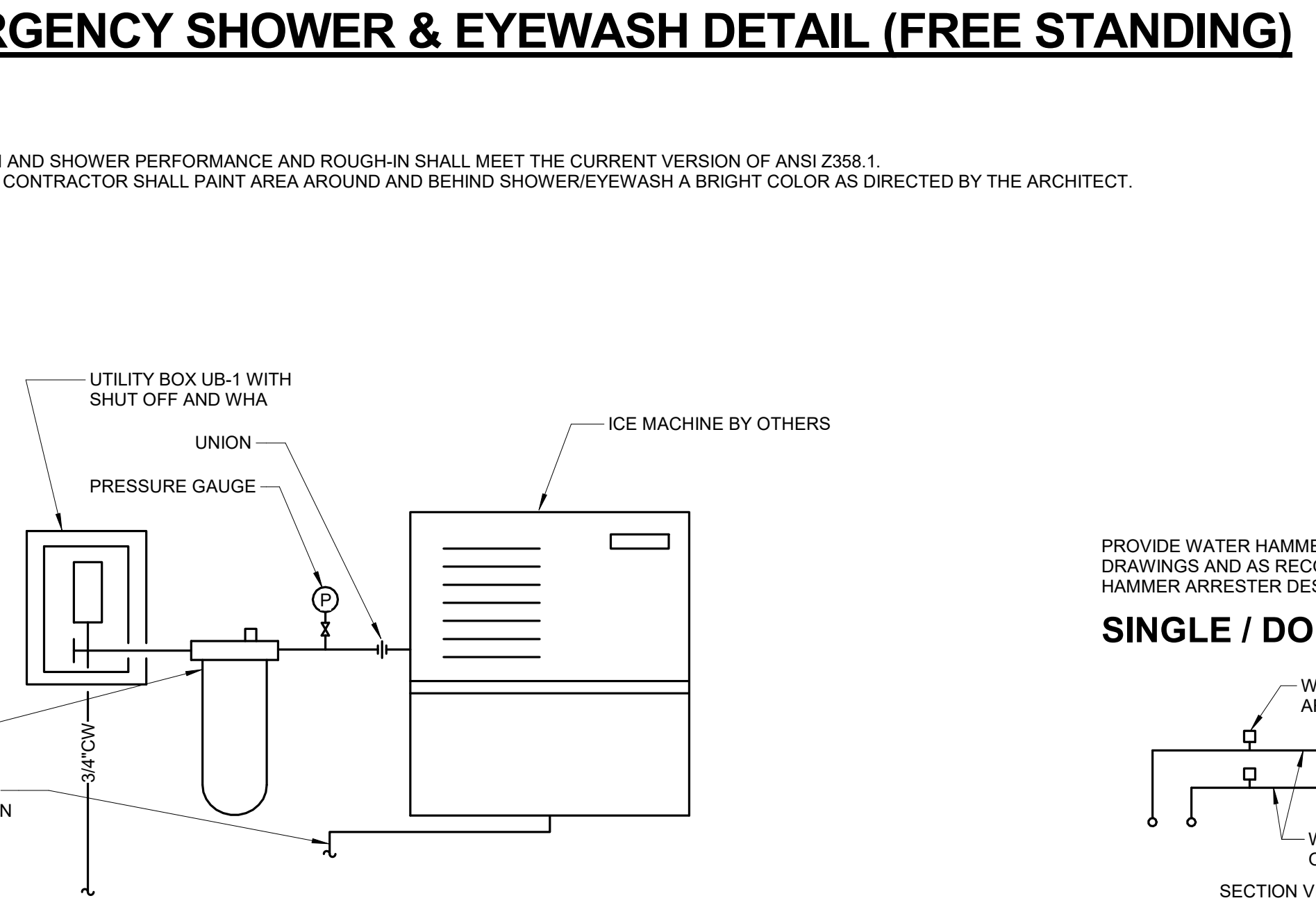
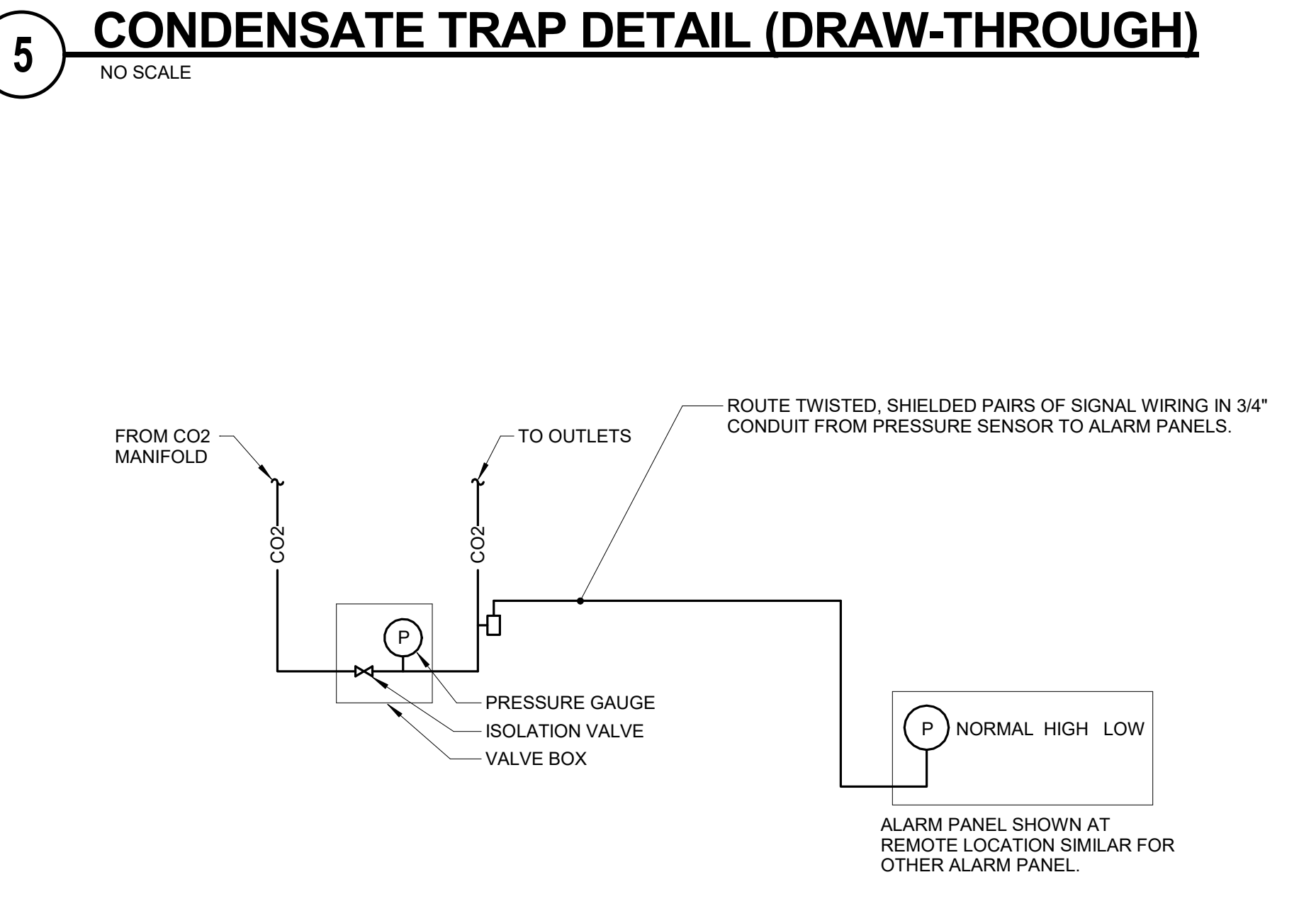
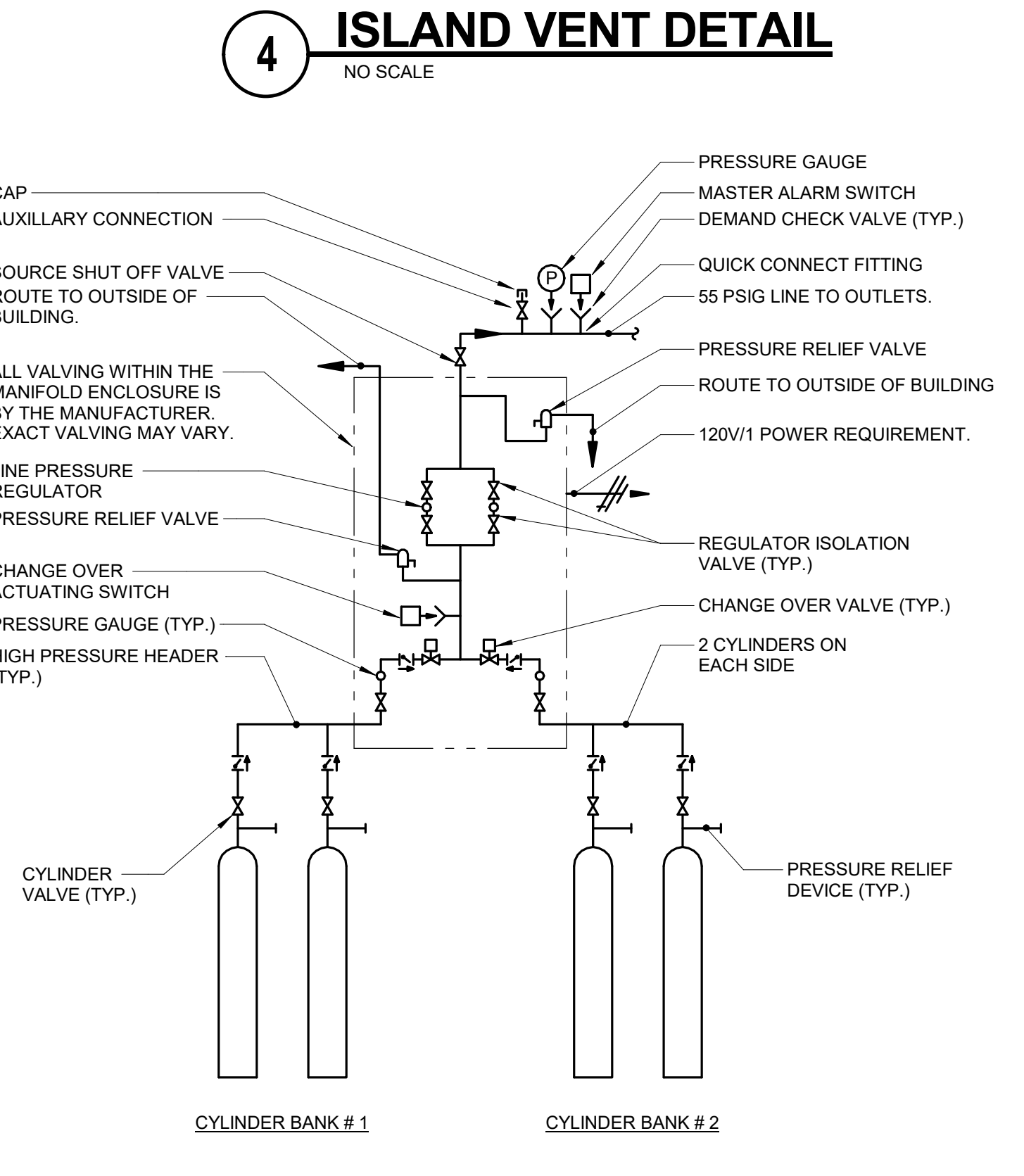
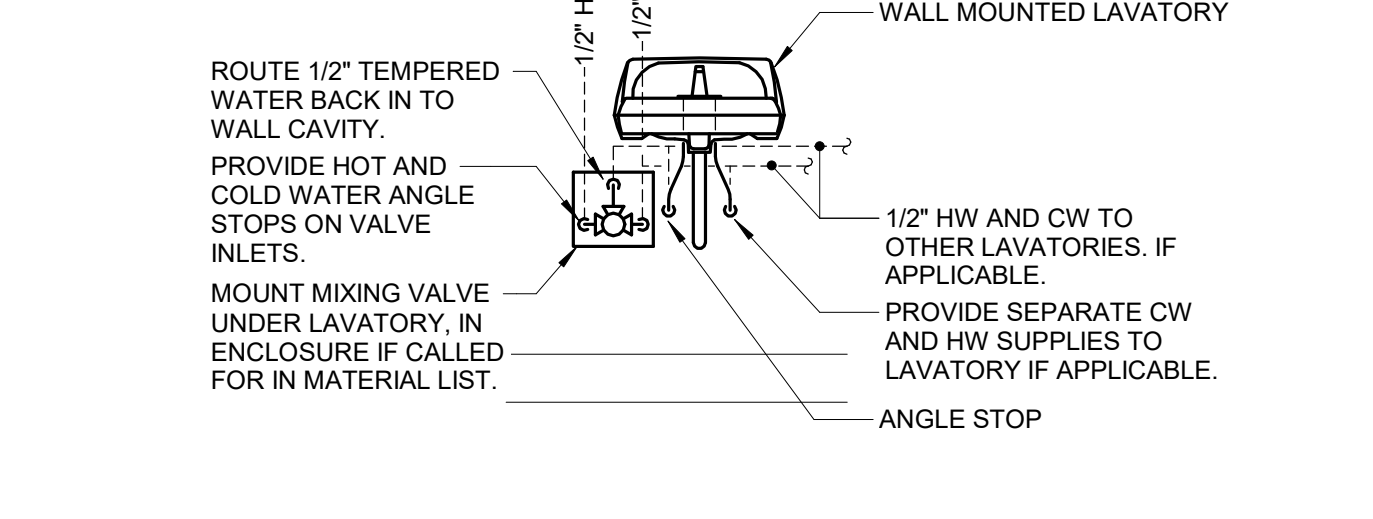
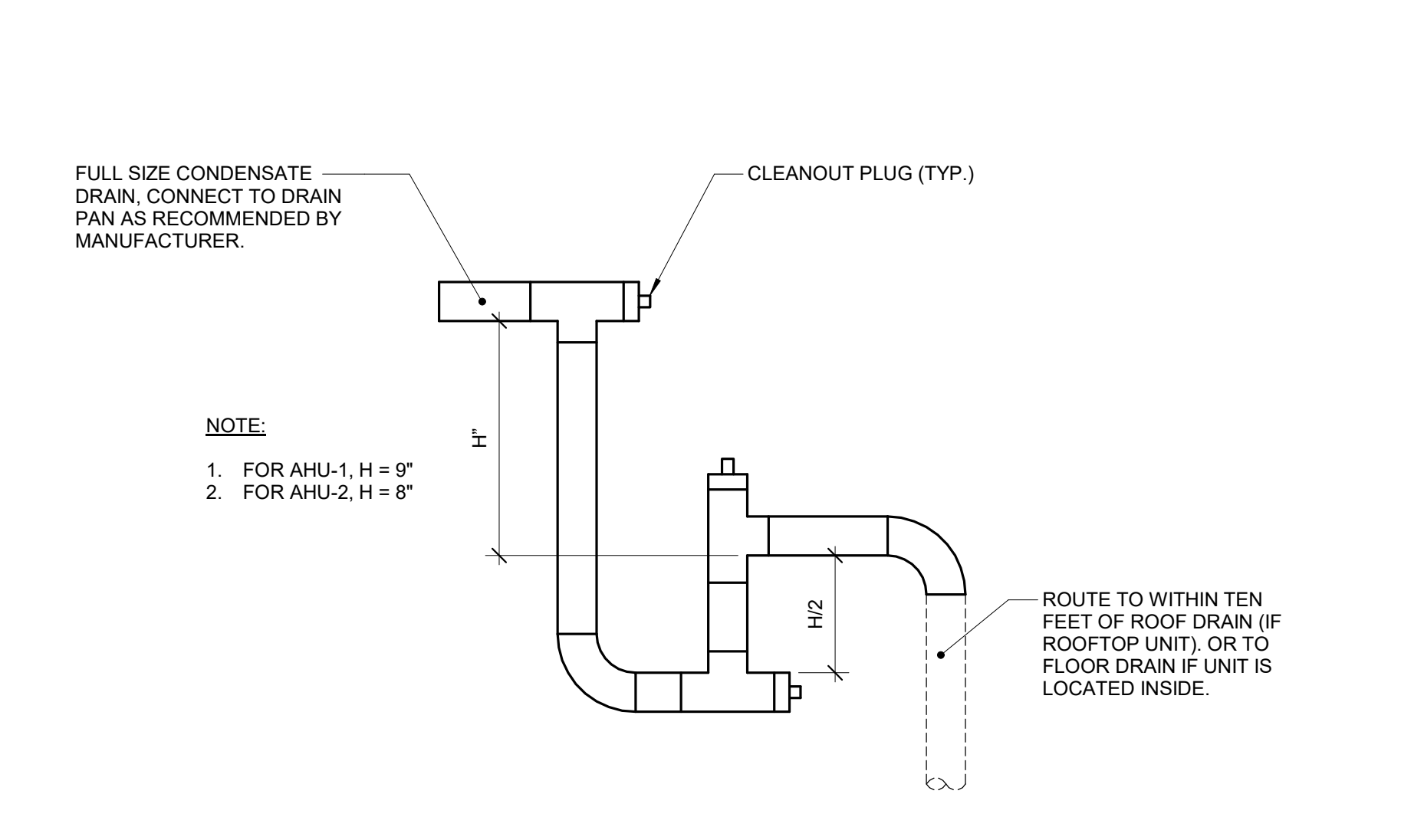
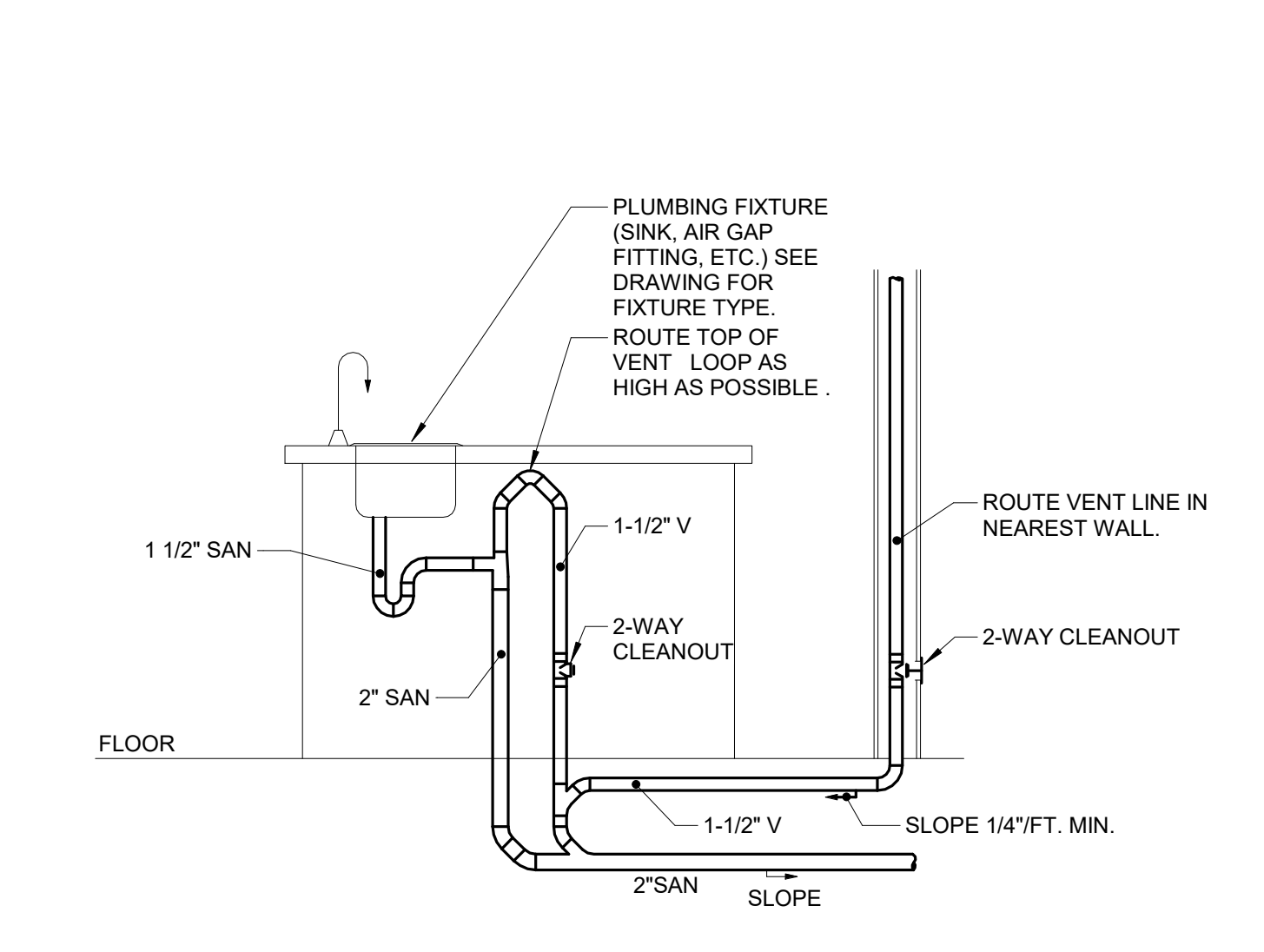
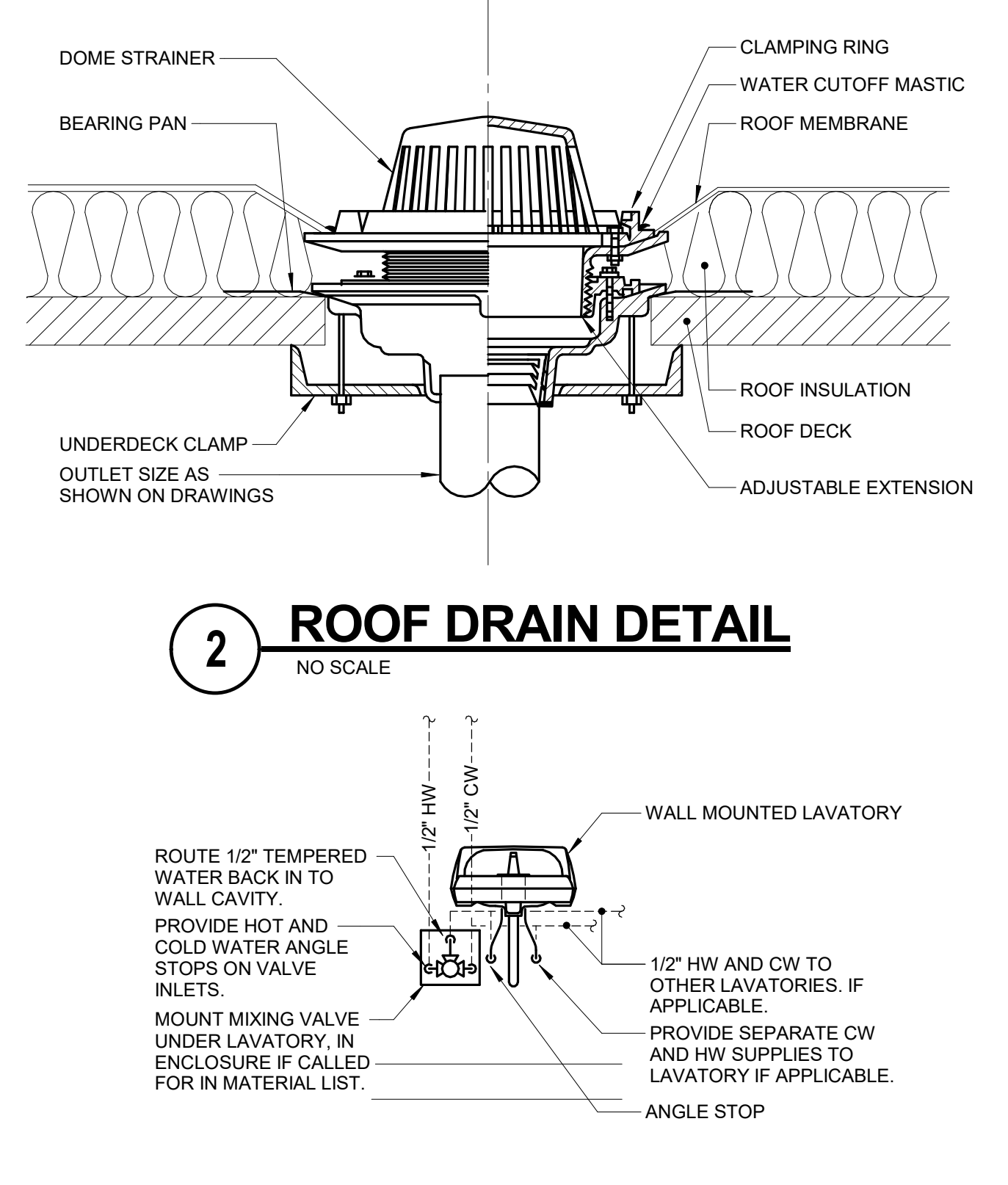
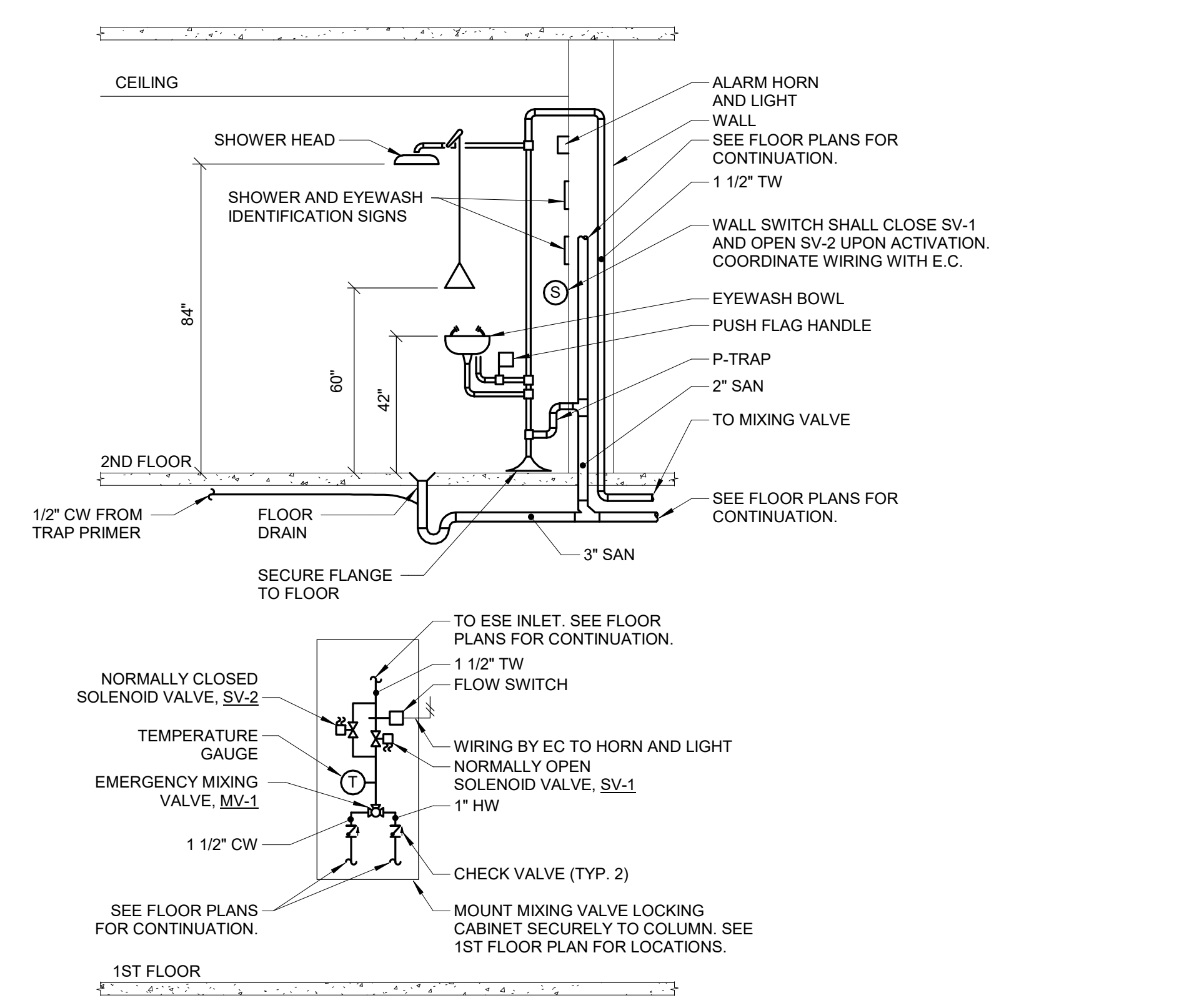
Drawing Title ROOF PLAN - PLUMBING
Approved:

Phase CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED

Project Title CONSTRUCT LABORATORY ADDITION		
Location SIOUX FALLS, SOUTH DAKOTA		
Issue Date 01/11/2019	Checked PETERN	Drawn DELLE

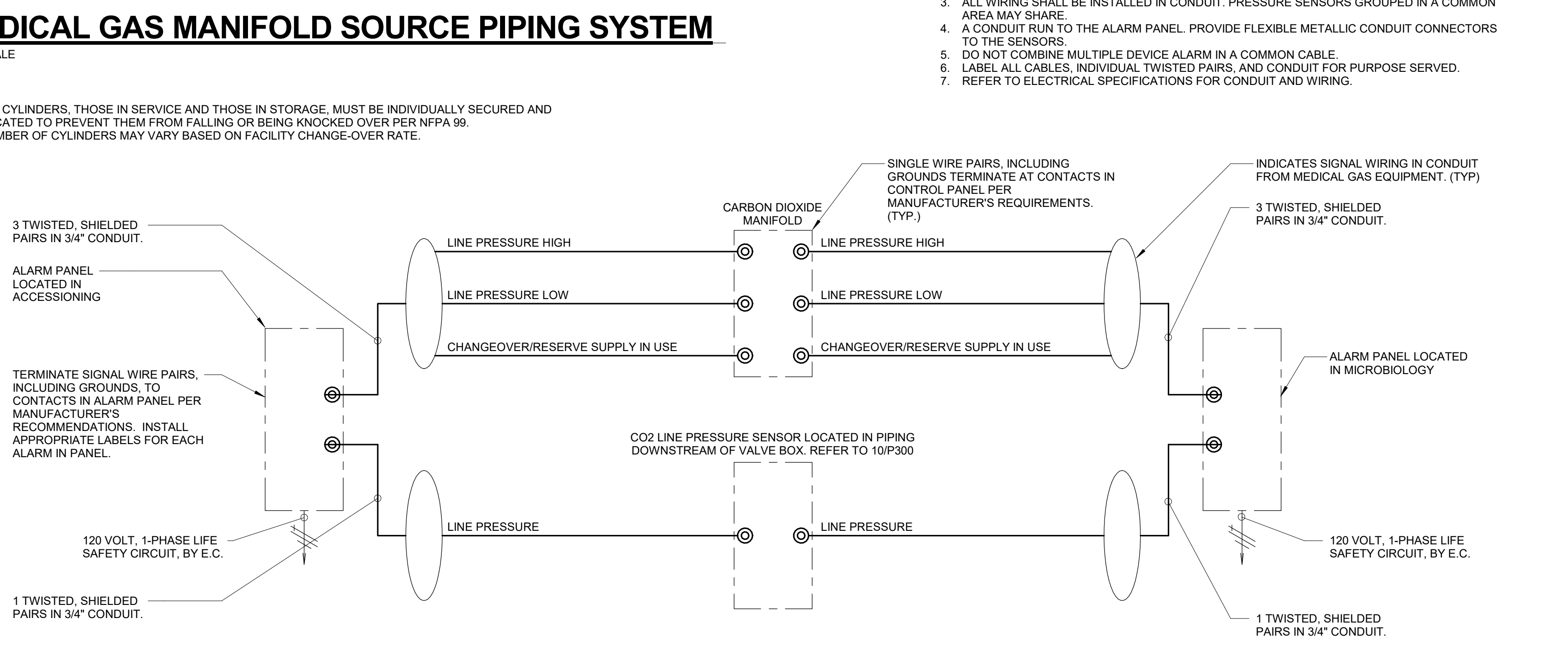
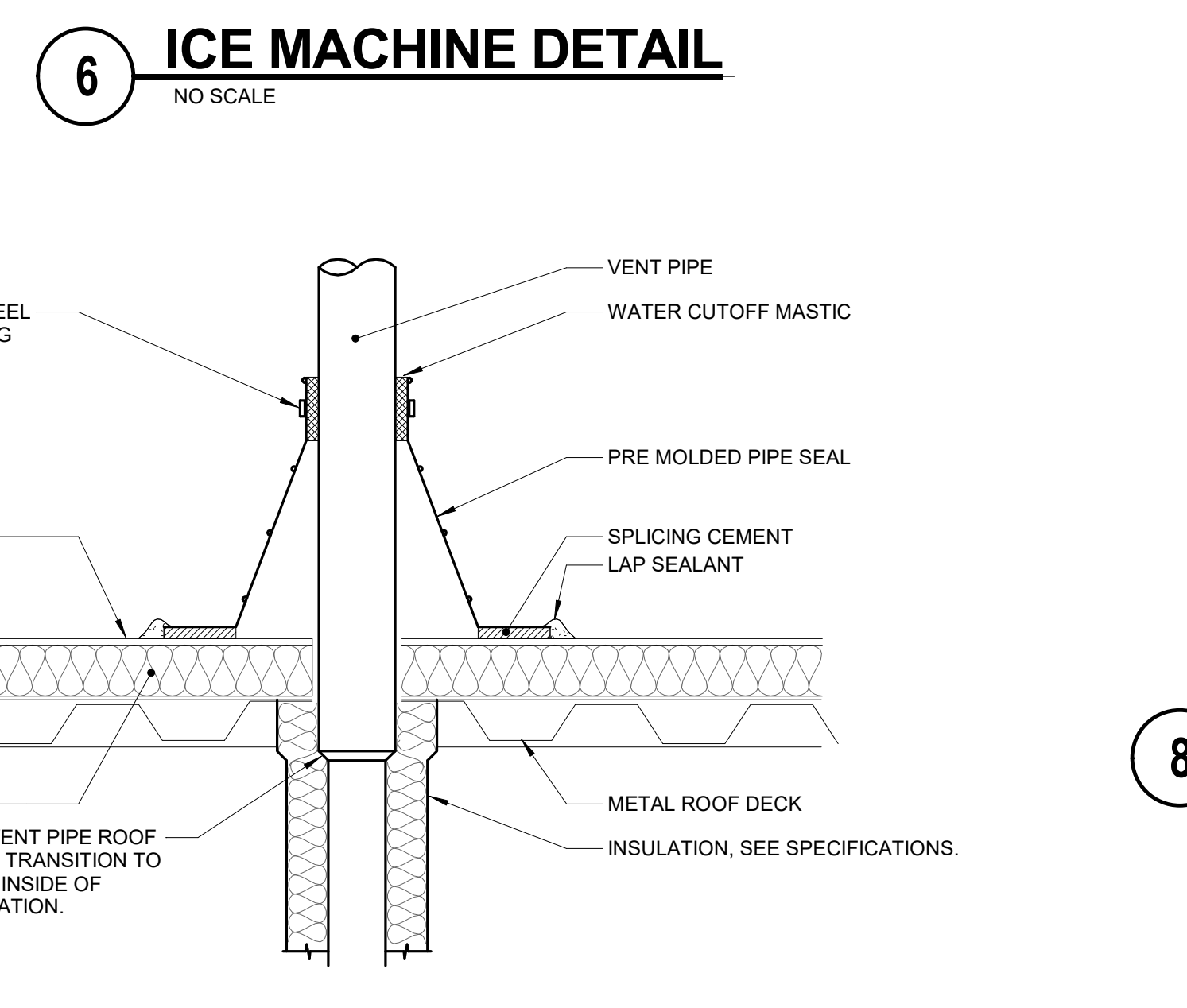
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Building Number 5
Drawing Number P150

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PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

FIXTURE	FIXTURE UNIT CALCULATION	
	COLD	HOT
WATER CLOSET	10	--
URINAL	5	--
LAVATORY	1.5	1.5
MOP BASIN	3	3
BREAKROOM SINK	2	2
ICE MAKER	1	--



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Professional Engineer Seal for Keith M. Pasigun, State of Missouri, No. 17441, Exp. 12/31/2021.

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
PLUMBING DETAILS

Approved: _____

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
CONSTRUCT LABORATORY ADDITION

Location
SIOUX FALLS, SOUTH DAKOTA

Issue Date
01/11/2019

Checked
PETERN

Drawn
DELLE

Project Number
438-440

Building Number
5

Drawing Number
P300