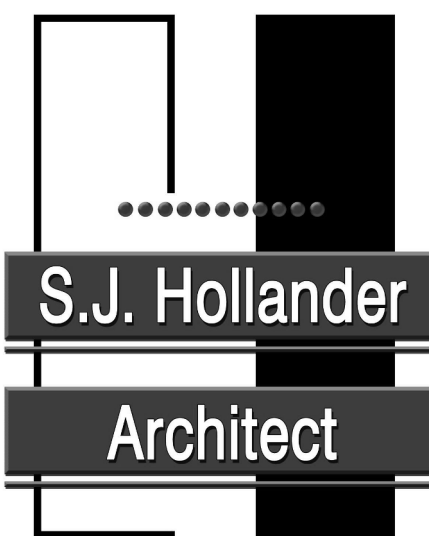


CAMP AVERY - REPLACE FIRE SPRINKLER SYSTEM, MULTIPLE ASSETS TROY, MO



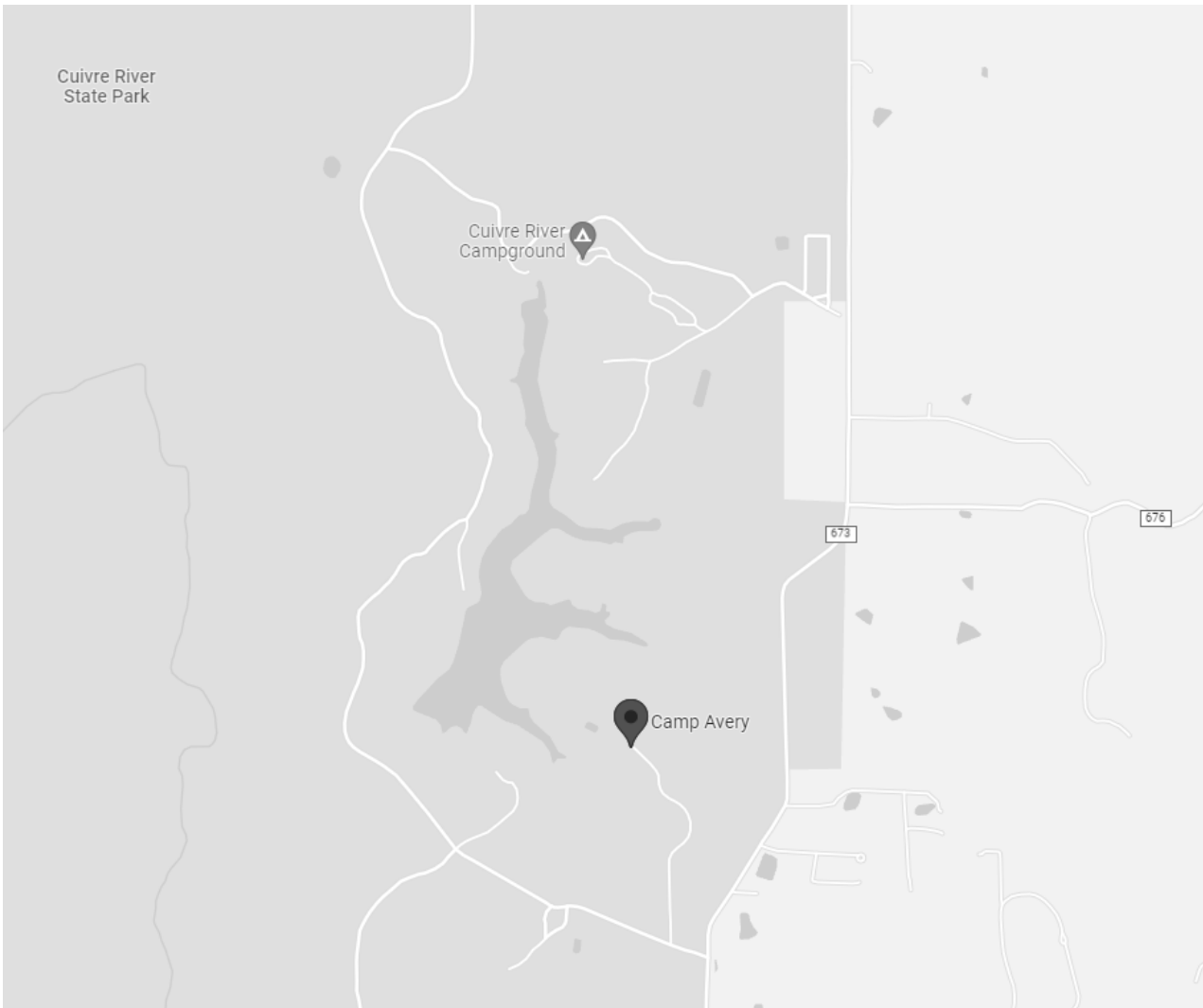
OWNER:

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

DIVISION OF YOUTH SERVICES

PROJECT
MANAGEMENT:

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

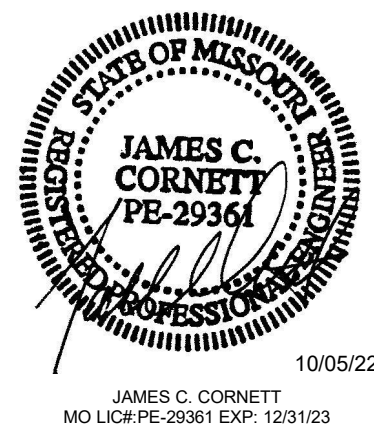


DESIGNER:

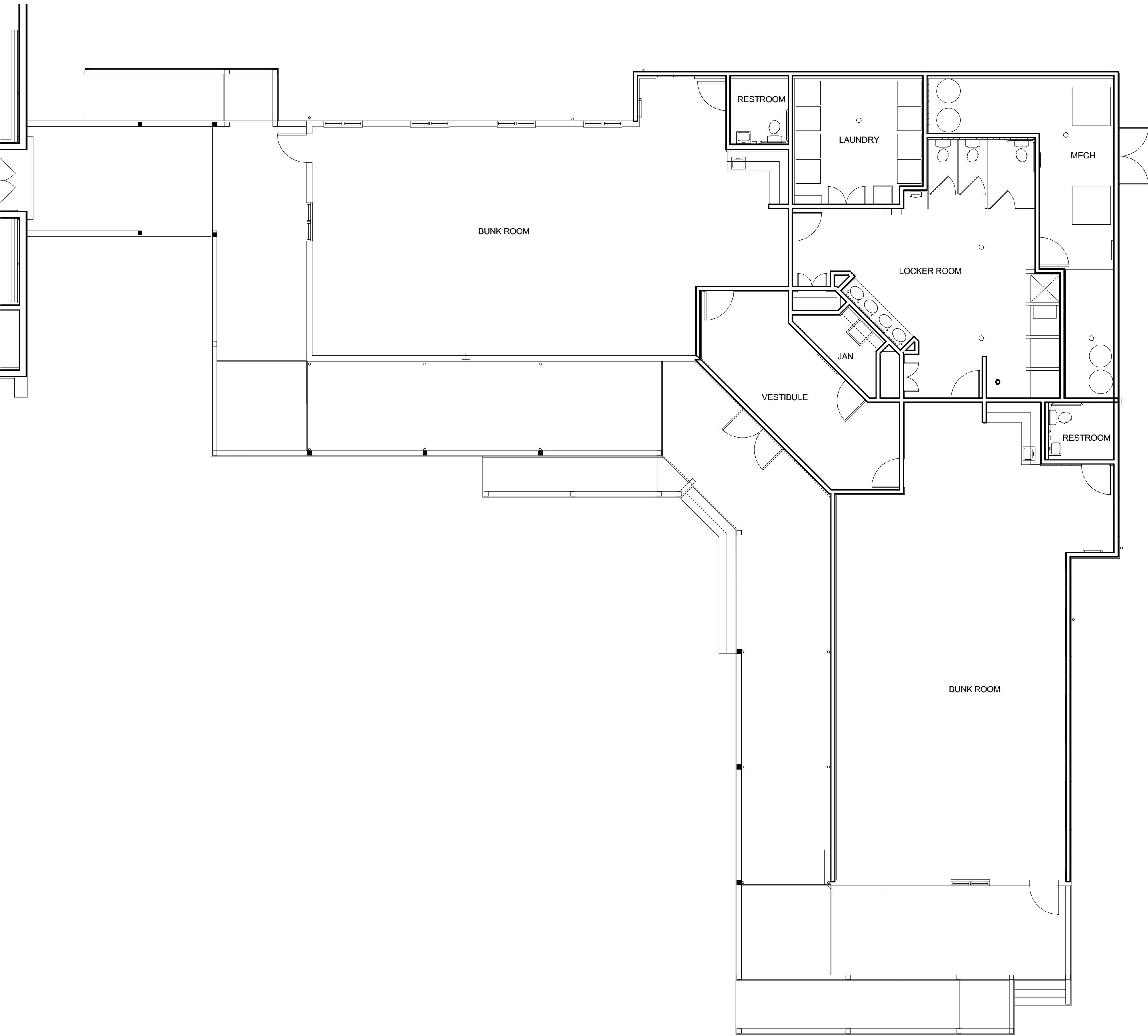
SSC ENGINEERING
S.J. HOLLANDER ARCHITECT

PROJECT NUMBER: H2001-01

SITE NUMBER: 7719
FACILITY NUMBER: 8877719001 - MULTI-PURPOSE BUILDING;
8877719002 - H-BUILDING;
8877719004 - DORMITORY



SHEET INDEX	
Sheet Number	Sheet Name
G1.0	COVER SHEET
A1.0	DORMITORY BUILDING CODE BLOCK
A2.0	MULTIPURPOSE BUILDING CODE BLOCK
A3.0	CEILING KEY PLANS
A4.0	FIRE SPRINKLER PUMP HOUSE FLOOR PLANS & EXTERIOR ELEVATIONS
A4.1	FIRE SPRINKLER PUMP HOUSE WALL SECTIONS
FP0.1	FIRE PROTECTION SYMBOLS, NOTES, LEGENDS AND SCHEDULES
FP0.2	FIRE PROTECTION DETAILS
FP1.0	FIRE PROTECTION SITE PLAN
FP1.1	FIRE PROTECTION PUMP HOUSE PLAN
FP2.0	FIRE PROTECTION DORMITORY 1ST FLOOR PLAN
FP3.1	FIRE PROTECTION MULTIPURPOSE BASEMENT FLOOR PLAN
FP3.2	FIRE PROTECTION MULTIPURPOSE 1ST FLOOR PLAN - NORTH
FP3.3	FIRE PROTECTION MULTIPURPOSE 1ST FLOOR PLAN - SOUTH
E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS & GENERAL NOTES
E0.2	ELECTRICAL ONE LINE DIAGRAM AND LIGHTING FIXTURE SCHEDULE
E1.0	ELECTRICAL SITE PLAN



DORMITORY BUILDING CODE BLOCK

BUILDING CODES IN USE: INTERNATIONAL BUILDING CODE - 2018
INTERNATIONAL MECHANICAL CODE - 2018
INTERNATIONAL PLUMBING CODE - 2018
NATIONAL ELECTRICAL CODE - 2017
INTERNATIONAL FIRE CODE - 2018
INTERNATIONAL EXISTING BUILDING CODE - 2018

CONSTRUCTION TYPE: "V-B"

BUILDING WILL BE EQUIPPED THROUGH OUT WITH AN NFPA 13R AUTOMATIC FIRE SPRINKLER SYSTEM

USE GROUP: "R-2" RESIDENTIAL DORMITORY

EXISTING BUILDING AREA: 3,920. SQ.FT.

ALLOWABLE BUILDING AREA PER FLOOR (TABLE 506.2): 7,000. SQ.FT

EXISTING BUILDING STORY AND HEIGHT: 1 STORY & 20 FEET

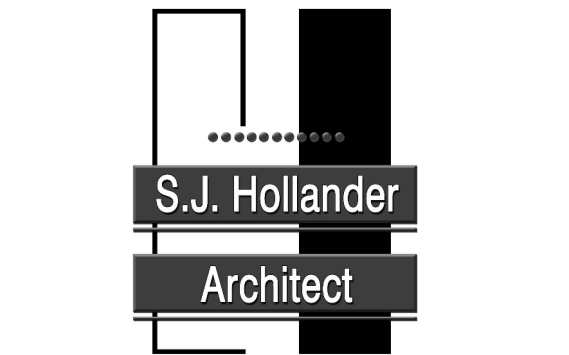
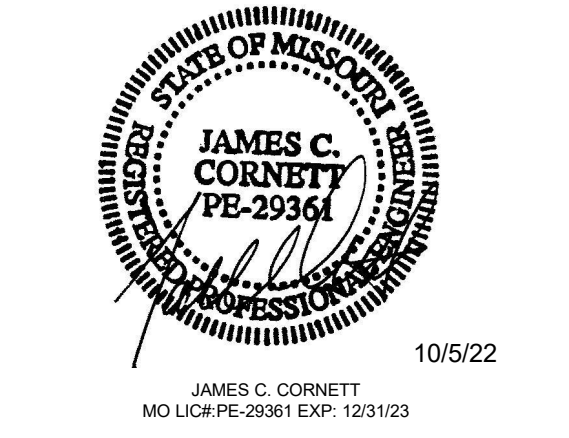
ALLOWABLE BUILDING STORY AND HEIGHT (TABLES 504.3 & 504.4): 3 STORY & 60 FEET

OCCUPANT LOAD PER TABLE 1004.12 (3,920 SQ.FT. / 50): 79 OCCUPANTS

EXISTING FIRE RESISTANCE RATINGS:

EXTERIOR WALLS	
LOADBEARING	0 HR
NONLOADBEARING	0 HR
FIRE WALLS	N/A
FIRE BARRIER ASSEMBLIES	
FIRE ENCLOSURES OF EXITS	N/A
SHAFT AND ELEVATOR HOISTWAYS	N/A
MIXED USE	N/A
AREA SEPARATIONS	N/A
FIRE PARTITIONS	
EXIT ACCESS CORRIDORS	N/A
TENANT SPACE SEPARATIONS	N/A
DWELLING UNIT SEPARATIONS	N/A
SMOKE BARRIERS	N/A
NONLOADBEARING PARTITIONS	0 HR
INTERIOR LOADBEARING CONDITIONS	0 HR
STRUCTURAL MEMBERS SUPPORTING WALLS	0 HR
FLOOR CONSTRUCTION	N/A
ROOF CONSTRUCTION	0 HR

STATE OF MISSOURI
MICHAEL L. PARSON
GOVERNOR



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DIVISION OF YOUTH
SERVICES

CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719004

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 10/5/22

CAD DWG FILE: - _____
DRAWN BY: LMM _____
CHECKED BY: JCC _____
DESIGNED BY: LMM _____

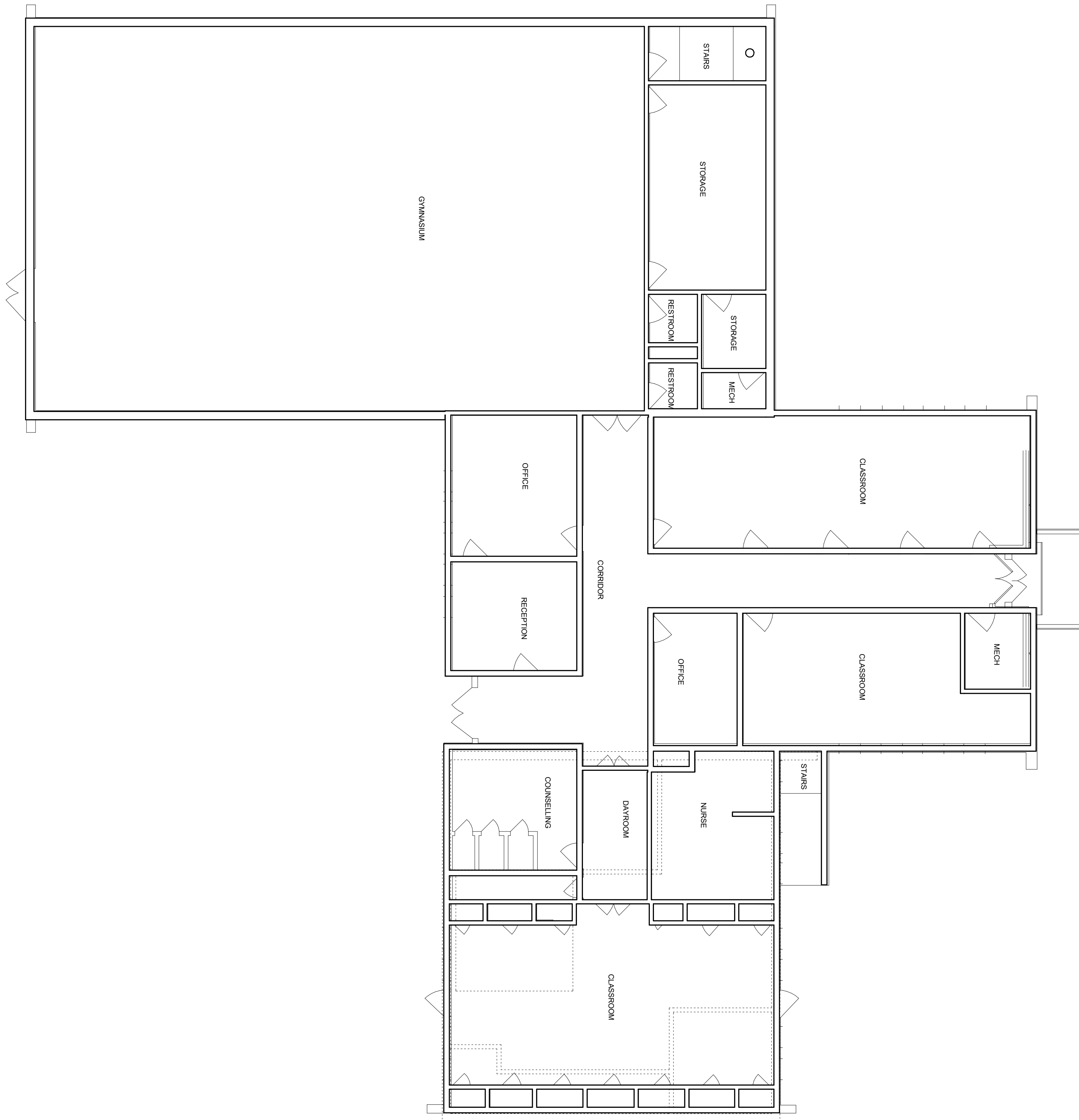
SHEET TITLE:
DORMITORY BUILDING
CODE BLOCK

SHEET NUMBER:

A1.0

SHEET 2 OUT OF 17
10/5/22

SSC JOB# 2021284_BID DOCUMENTS



MULTIPURPOSE BUILDING CODE BLOCK

BUILDING CODES IN USE: INTERNATIONAL BUILDING CODE - 2018
INTERNATIONAL MECHANICAL CODE - 2018
INTERNATIONAL PLUMBING CODE - 2018
NATIONAL ELECTRICAL CODE - 2017
INTERNATIONAL FIRE CODE - 2018
INTERNATIONAL EXISTING BUILDING CODE - 2018

CONSTRUCTION TYPE: "V-B"

BUILDING WILL BE EQUIPPED THROUGH OUT WITH AN NFPA 13R AUTOMATIC FIRE SPRINKLER SYSTEM

USE GROUP: "A-3" RECREATION
"B" BUSINESS OFFICE AREAS
"S-1" STORAGE

EXISTING BUILDING AREA:	BASEMENT	1,792. SQ.FT.
	FIRST FLOOR	8,952. SQ.FT.
	MEZZANINE	750. SQ.FT.

ALLOWABLE BUILDING AREA PER FLOOR (TABLE 506.2): 24,000. SQ.FT

EXISTING BUILDING STORY AND HEIGHT: 1 STORY & 30 FEET

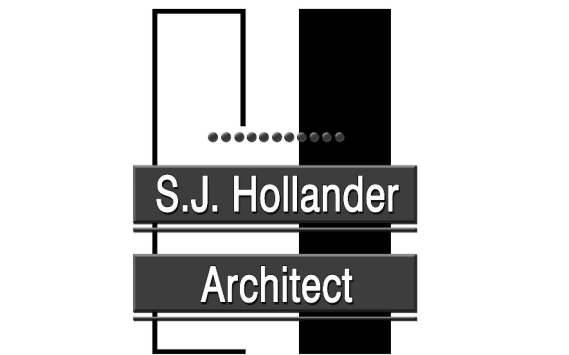
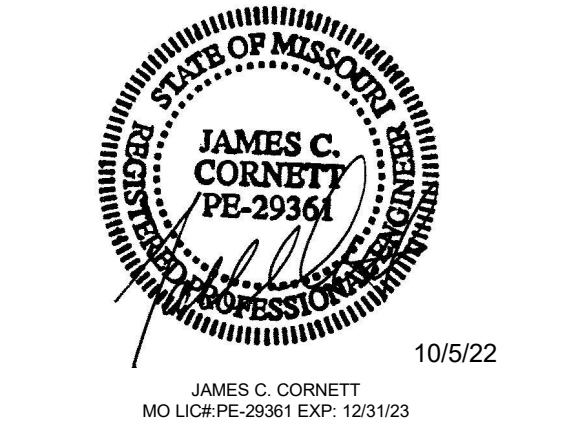
ALLOWABLE BUILDING STORY AND HEIGHT (TABLES 504.3 & 504.4): 2 STORY & 60 FEET

OCCUPANT LOAD PER TABLE 1004.12:
ASSEMBLY RECREATION / EXERCISE (4,771 SQ.FT. / 50)
BUSINESS (4,931 SQ.FT / 100)
STORAGE (1,792 SQ.FT. / 300)

TOTAL OCCUPANTS: 96 OCCUPANTS
50 OCCUPANTS
6 OCCUPANTS
152 OCCUPANTS

EXISTING FIRE RESISTANCE RATINGS:

EXTERIOR WALLS		
LOADBEARING		0 HR
NONLOADBEARING		0 HR
FIRE WALLS		
		N/A
FIRE BARRIER ASSEMBLIES		
FIRE ENCLOSURES OF EXITS		N/A
SHAFT AND ELEVATOR HOISTWAYS		N/A
MIXED USE		0 HR
AREA SEPARATIONS		N/A
FIRE PARTITIONS		
EXIT ACCESS CORRIDORS		N/A
TENANT SPACE SEPARATIONS		N/A
DWELLING UNIT SEPARATIONS		
		N/A
SMOKE BARRIERS		
		N/A
NONLOADBEARING PARTITIONS		
		0 HR
INTERIOR LOADBEARING CONDITIONS		
		0 HR
STRUCTURAL MEMBERS SUPPORTING WALLS		
		0 HR
FLOOR CONSTRUCTION		
		0 HR
ROOF CONSTRUCTION		
		0 HR



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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

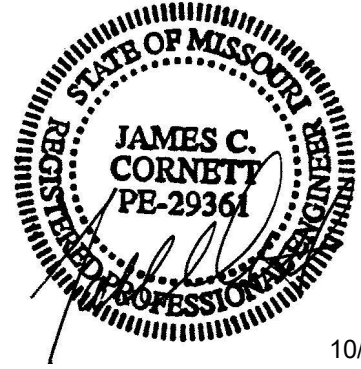
PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 10/5/22

CAD DWG FILE: - _____
DRAWN BY: LMM _____
CHECKED BY: JCC _____
DESIGNED BY: LMM _____

SHEET TITLE:
MULTIPURPOSE
BUILDING CODE BLOCK

SHEET NUMBER:
A2.0



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SERVICES

CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001
8877719004

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 10/5/22

CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

SHEET TITLE:
CEILING KEY PLANS

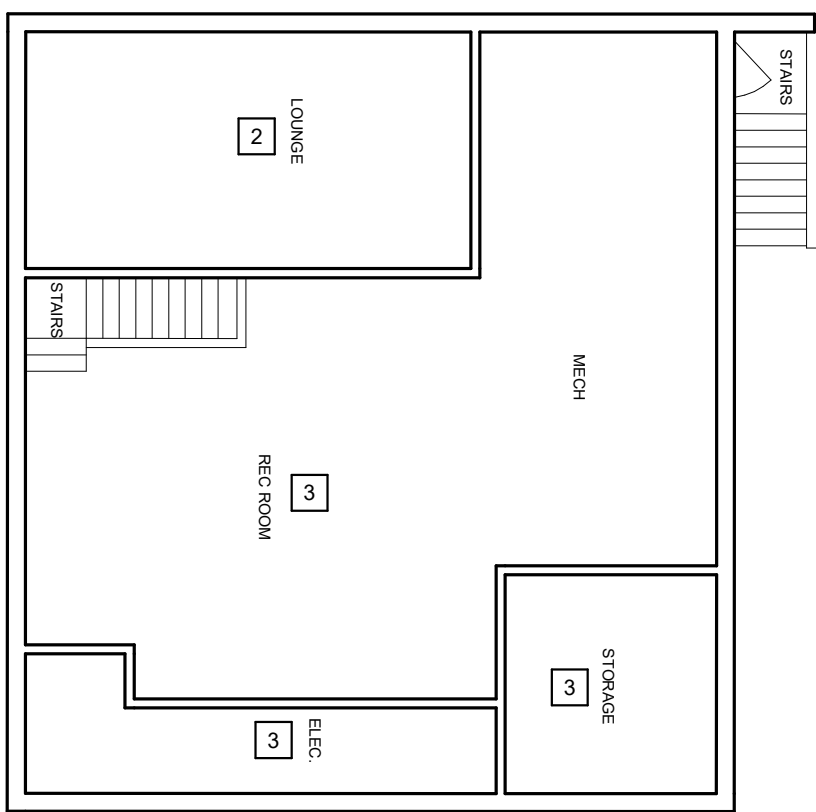
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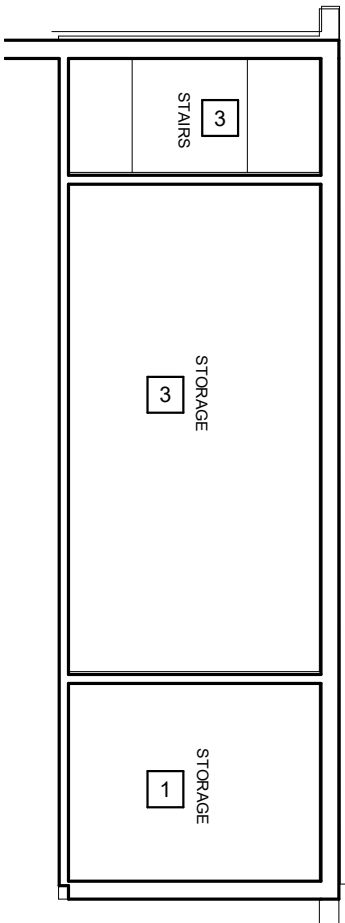
SHEET 4 OUT OF 15
10/5/22



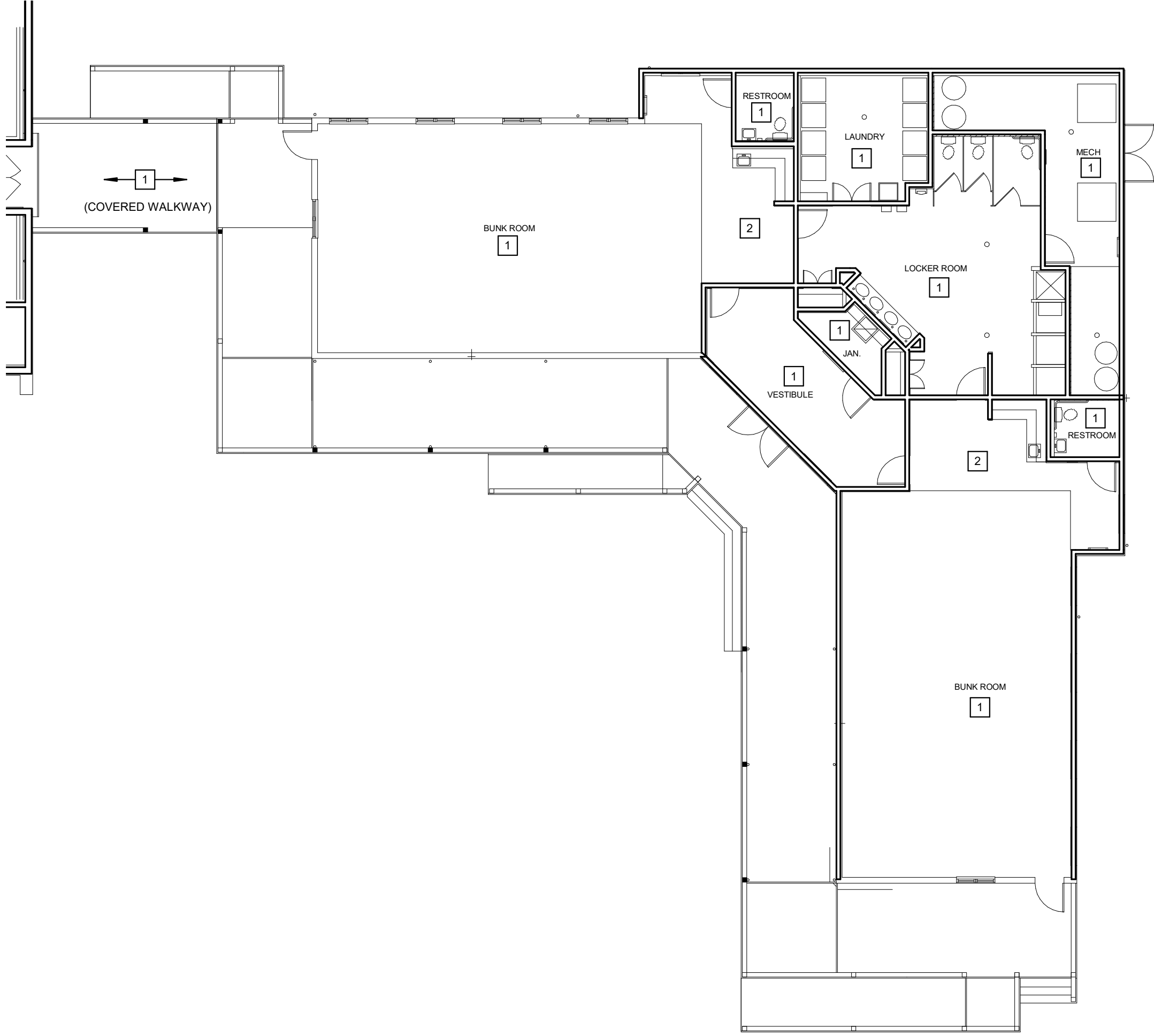
MULTIPURPOSE BUILDING CEILING KEY PLAN
SCALE: 3/32" = 1'-0"
NORTH



MULTIPURPOSE BASEMENT CEILING KEY PLAN
SCALE: 3/32" = 1'-0"
NORTH



MULTIPURPOSE PLATFORM CEILING KEY PLAN
SCALE: 3/32" = 1'-0"
NORTH



DORMITORY CEILING KEY PLAN
SCALE: 3/32" = 1'-0"
NORTH

GENERAL NOTES:

1. CEILING KEY PLANS ARE INTENDED AS REFERENCE ONLY TO ASSIST IN BIDDING. CEILING TYPES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO START OF WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IMMEDIATELY.
2. CEILING KEY PLANS ARE FOR INTENDED FOR COORDINATION WITH SPRINKLER LAYOUT AND DESIGN. ALL PIPING SHALL BE INSTALLED EITHER ABOVE CEILINGS OR WITHIN COLD ATTIC AREAS. NO PIPING SHALL BE INSTALLED EXPOSED EXCEPT FOR IN EQUIPMENT ROOMS OR AREAS WITHOUT CEILINGS.
3. ALL CEILINGS SHALL BE REMOVED AND REPLACED TO MATCH EXISTING AS REQUIRED FOR SPRINKLER SYSTEM INSTALLATION. ALL PAINTING TO BE FROM CORNER TO CORNER, ETC.

KEYED NOTES:

- 1 GYPSUM CEILING.
- 2 DROP CEILING
- 3 NO CEILING

SSC JOB# 2021284_BID DOCUMENTS

GENERAL NOTES:

- DO NOT SCALE DRAWINGS FOLLOW WRITTEN DIMENSIONS ONLY. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL BUILDING PERMITS, WATER TAP FEES, SEWER TAP FEES AND ETC.
- ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH ALL GOVERNING CODES, ORDINANCES, AND AUTHORITIES HAVING JURISDICTION. THESE CONSTRUCTION DOCUMENTS HAVE BEEN PREPARED, AND I STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE - 2018 EDITION.
- THE CONTRACT DOCUMENTS CONTEMPLATE A FINISHED PIECE OF WORK OF SUCH CHARACTER AND QUALITY AS IS DESCRIBED IN AN IS REASONABLY INFERABLE FROM THEM. THE CONTRACTOR, RECOGNIZING THE IMPOSSIBILITY OF PRODUCING DRAWINGS AND SPECIFICATIONS WITH PERFECT ACCURACY, AGREES THAT HIS SUBMITTED BID FOR THE WORK HEREUNDER INCLUDES SUFFICIENT MONEY ALLOWANCE TO MAKE HIS WORK COMPLETE AND OPERABLE, AND IN COMPLIANCE WITH GOOD PRACTICE. ALL ITEMS WHICH, IN THE OPINION OF THE GENERAL CONTRACTOR APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING THE CONSTRUCTION BIDDING PHASE OF THE PROJECT. PLANS WILL BE CORRECTED OR A WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ARCHITECT. ALL SUCH ITEMS FOUND DURING CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE ARCHITECT SO THAT THE ARCHITECT MAY TAKE MEASURES TO MINIMIZE THE CONSEQUENCES. ALL WORK IN THE EFFECTED AREA MUST STOP UNTIL A WRITTEN INTERPRETATION OF THE REQUIRED CORRECTION IS ISSUED BY THE ARCHITECT. THE OWNER ACKNOWLEDGES THAT THE ARCHITECT HAS BEEN REQUESTED TO PROVIDE NO CONSTRUCTION PHASE SERVICES IN CONNECTION WITH THE USE OF THE CONSTRUCTION DOCUMENTS. THEREFORE, THE OWNER AGREES TO WAIVE ALL CLAIMS AGAINST THE ARCHITECT THAT MIGHT BE CONTRIBUTED TO OR CAUSED BY THE ARCHITECT'S EXCLUSION FROM THE CONSTRUCTION PHASE.
- THE DOCUMENTS PREPARED BY THE ARCHITECT FOR THIS PROJECT ARE INSTRUMENTS OF THE ARCHITECT'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT AND THE ARCHITECT SHALL BE DEEMED THE AUTHOR OF THESE DOCUMENTS AND RETAIN ALL COMMON LAW STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT. THE OWNER SHALL BE PERMITTED TO RETAIN COPIES, INCLUDING REPRODUCIBLE COPIES, OF THE ARCHITECT'S DOCUMENTS FOR INFORMATION AND REFERENCE IN CONNECTION WITH THE OWNER'S USE AND OCCUPANCY OF THE PROJECT. THE ARCHITECT'S DOCUMENTS SHALL NOT BE USED BY THE OWNER OR OTHERS ON OTHER PROJECTS OR FOR COMPLETION OF THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT. THE OWNER SHALL NOT REUSE OR MAKE MODIFICATIONS TO THE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN AUTHORIZATION OF THE ARCHITECT. THE OWNER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE ARCHITECT HARMLESS FROM ANY CLAIM, LIABILITY OR COST (INCLUDING REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS) ARISING OR ALLEGEDLY ARISING OUT OF ANY UNAUTHORIZED REUSE OR MODIFICATION OF THE CONSTRUCTION DOCUMENTS BY THE CLIENT OR ANY PERSON OR ENTITY THAT ACQUIRES OR OBTAINS THE PLANS AND SPECIFICATIONS FROM OR THROUGH THE CLIENT WITHOUT THE WRITTEN AUTHORIZATION OF THE ARCHITECT AND FROM CLAIM ARISING FROM THE EXCLUSION OF THE ARCHITECT FROM THE CONSTRUCTION PHASE.
- AIA DOCUMENT A201 - 1997 EDITION OF THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION SHALL GOVERN THE WORK.
- EACH CONTRACTOR SHALL BE RESPONSIBLE FOR RUBBISH SWEPT UP AND REMOVED EACH DAY. UPON COMPLETION OF WORK HE SHALL LEAVE WORK IN A FINISHED CONDITION.
- EACH CONTRACTOR WILL BE RESPONSIBLE FOR DAMAGE TO OWNER'S OR OTHER'S PROPERTY DONE BY HIM OR TRADESMAN IN HIS EMPLOY, OR THROUGH NEGLIGENCE

BUILDING INFORMATION

PROJECT DESCRIPTION: NEW WOOD FRAMED SINGLE STORY STRUCTURE.

BUILDING CODES IN USE: INTERNATIONAL BUILDING CODE - 2018
INTERNATIONAL MECHANICAL CODE - 2018
INTERNATIONAL PLUMBING CODE - 2018
NATIONAL ELECTRICAL CODE - 2017
INTERNATIONAL FIRE CODE - 2018

CONSTRUCTION TYPE: "V-B"

USE GROUP: "U" UTILITY

BUILDING IS NOT EQUIPPED THROUGH OUT WITH AN AUTOMATIC FIRE SPRINKLER SYSTEM.

PROPOSED BUILDING AREA: 134 SQ.FT.

ALLOWABLE BUILDING AREA PER FLOOR (TABLE 506.2): 5500 SQ.FT.

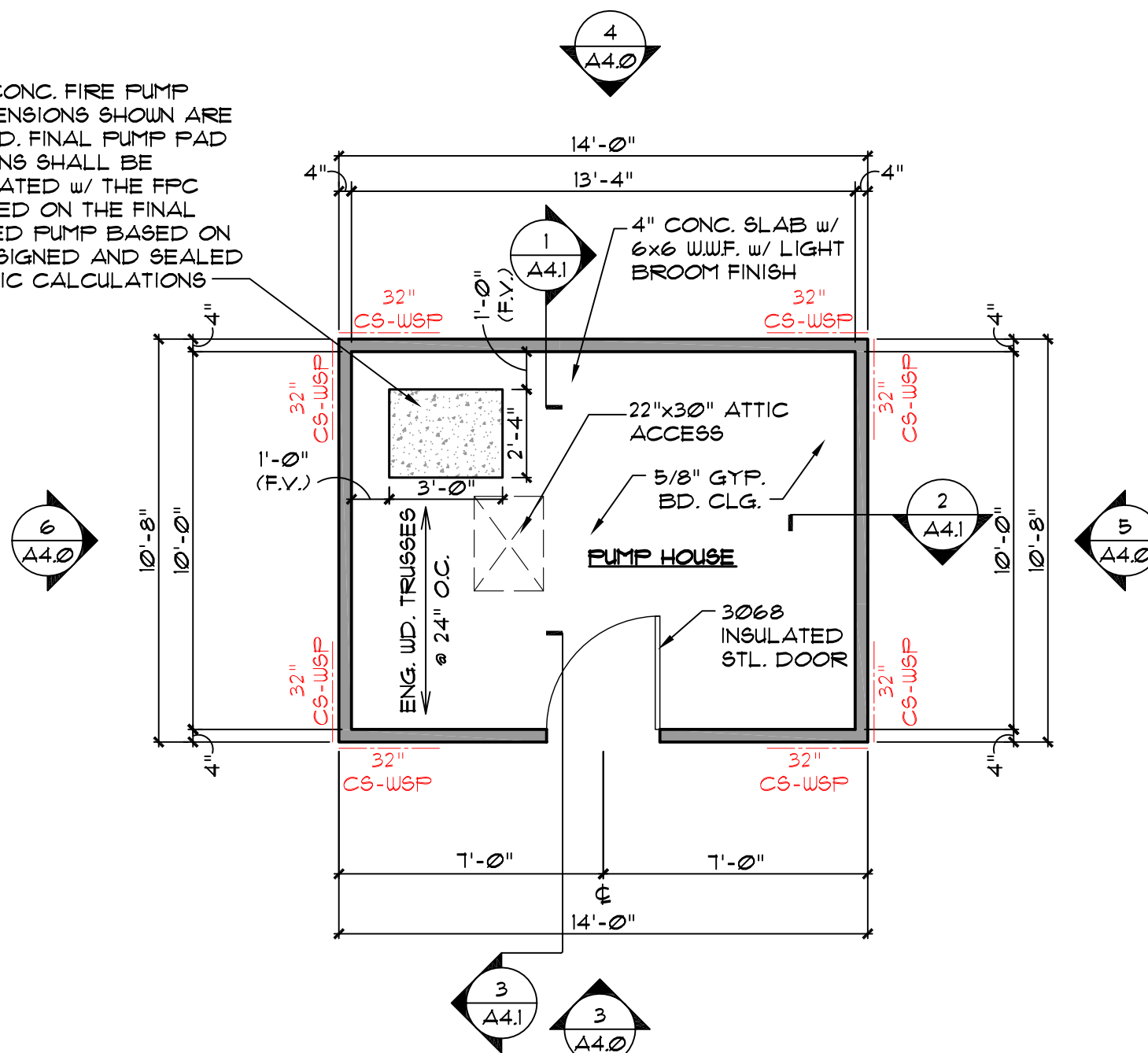
PROPOSED BUILDING STORY & HEIGHT: 1 STORY & 12' FEET

ALLOWABLE BUILDING STORY & HEIGHT (TABLES 504.3 & 504.4): 1 STORY & 40 FEET

FIRERESISTANCE RATINGS:

EXTERIOR WALLS	0 HR
LOADBEARING	0 HR
NONLOADBEARING	N/A
FIRE WALLS	N/A
FIRE BARRIER ASSEMBLIES	N/A
FIRE ENCLOSURES OF EXITS	N/A
SHAFT AND ELEVATOR HOISTWAYS	N/A
MIXED USE	N/A
AREA SEPARATIONS	N/A
FIRE PARTITIONS	N/A
EXIT ACCESS CORRIDORS	N/A
TENANT SPACE SEPARATIONS	N/A
DWELLING UNIT SEPARATIONS	N/A
SMOKE BARRIERS	N/A
NONLOADBEARING PARTITIONS	N/A
INTERIOR LOADBEARING CONDITIONS	N/A
STRUCTURAL MEMBERS SUPPORTING WALLS	N/A
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR

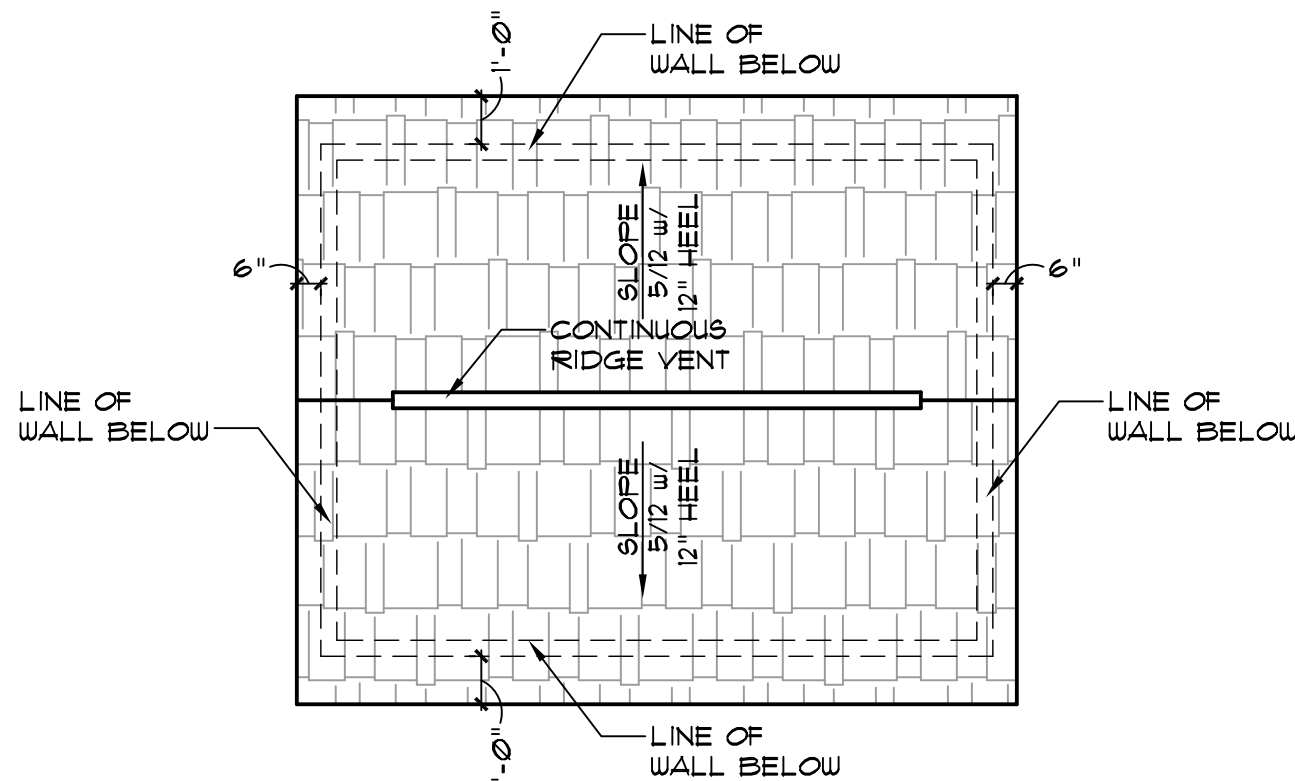
RAISED CONC. FIRE PUMP PAD DIMENSIONS SHOWN ARE ESTIMATED. FINAL PUMP PAD DIMENSIONS SHALL BE COORDINATED w/ THE FPC AND BASED ON THE FINAL APPROVED PUMP BASED ON THE FPC SIGNED AND SEALED HYDRAULIC CALCULATIONS



1 FLOOR PLAN
SCALE: 1/4"=1'-0"

GENERAL CONSTRUCTION NOTES:

- ALL EXTERIOR DIMENSIONS ARE TO FACE OF SHEATHING. (UNLESS NOTED OTHERWISE)
- FINAL TRUSS DESIGN AND LAYOUT SHALL BE BY TRUSS MANUFACTURER.
- ALL FINISHES AS SELECTED BY OWNER.
- 32" CS-WSP INDICATES LATERAL BRACING SEE BRACING NOTES AND DETAILS ON THIS SHEET.



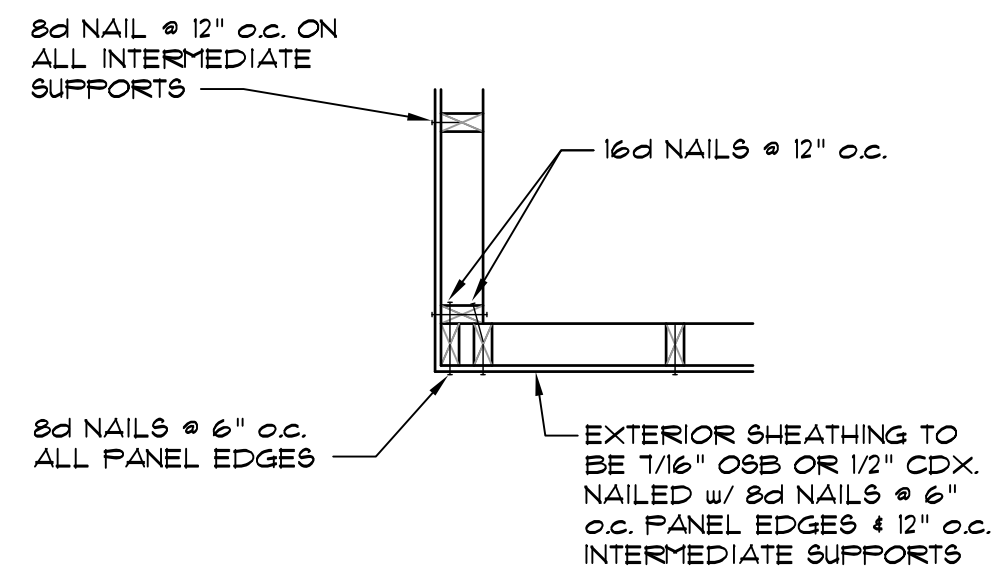
2 ROOF PLAN
SCALE: 1/4"=1'-0"

EXTERIOR WALL BRACING

CODE REQUIREMENT:	2018 IBC
ULTIMATE WIND SPEED:	115 MPH
DESIGN WIND SPEED:	90 MPH
EXPOSURE CATEGORY:	D
SEISMIC DESIGN CATEGORY:	C
STORIES:	1
WALL HEIGHT:	9'
LATERAL DESIGN:	
SIMPLIFIED WALL BRACING:	R2308.6

CS-WSP: CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANEL USE 7/16" OSB OR 1/2" CDX SHEATHING ON EXTERIOR FASTEN w/8d COMMON NAILS (2 1/2" x 113) @ 6" o.c. ALONG PANEL EDGES AND 12" o.c. INTERMEDIATE SUPPORTS. USE 1/2" GYPSUM BOARD ON THE INTERIOR FASTEN #6 x 1 1/4" DRYWALL SCREWS 6" o.c. ALONG PANEL EDGES (INCLUDING TOP AND BOTTOM PLATES) AND 12" o.c. INTERMEDIATE SUPPORTS. IN THE FIELD ALL HORIZONTAL JOINTS SHALL BE BLOCKED. SEE TABLE 602.3(1) FOR GENERAL NOTES FOR FASTENER SIZE, TYPE AND SPACING

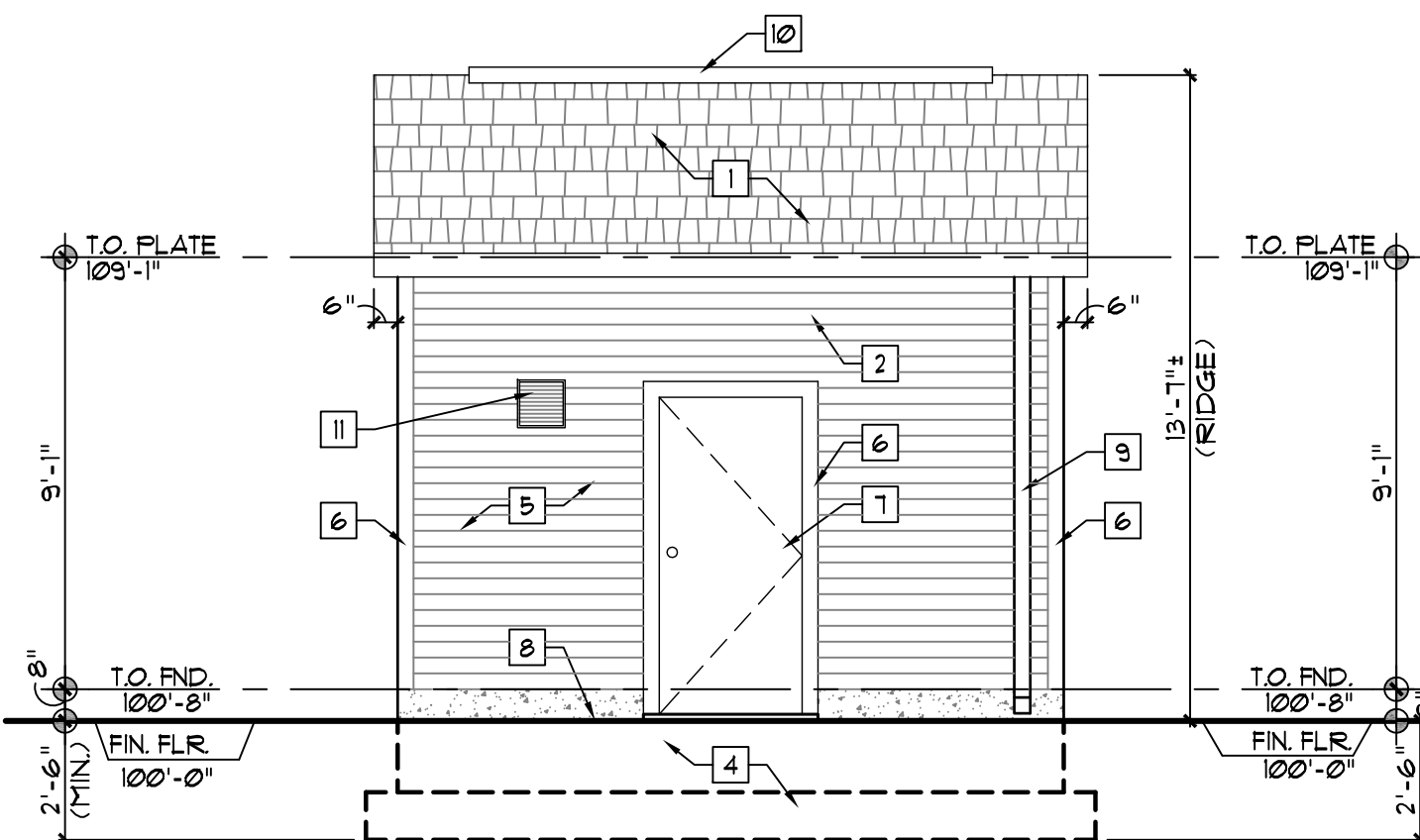
MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS	
HEADER SPAN (FEET)	16" MAXIMUM STUD SPACING FULL HEIGHT
3'	1
4'	2
8'	3
12'	5
16'	6



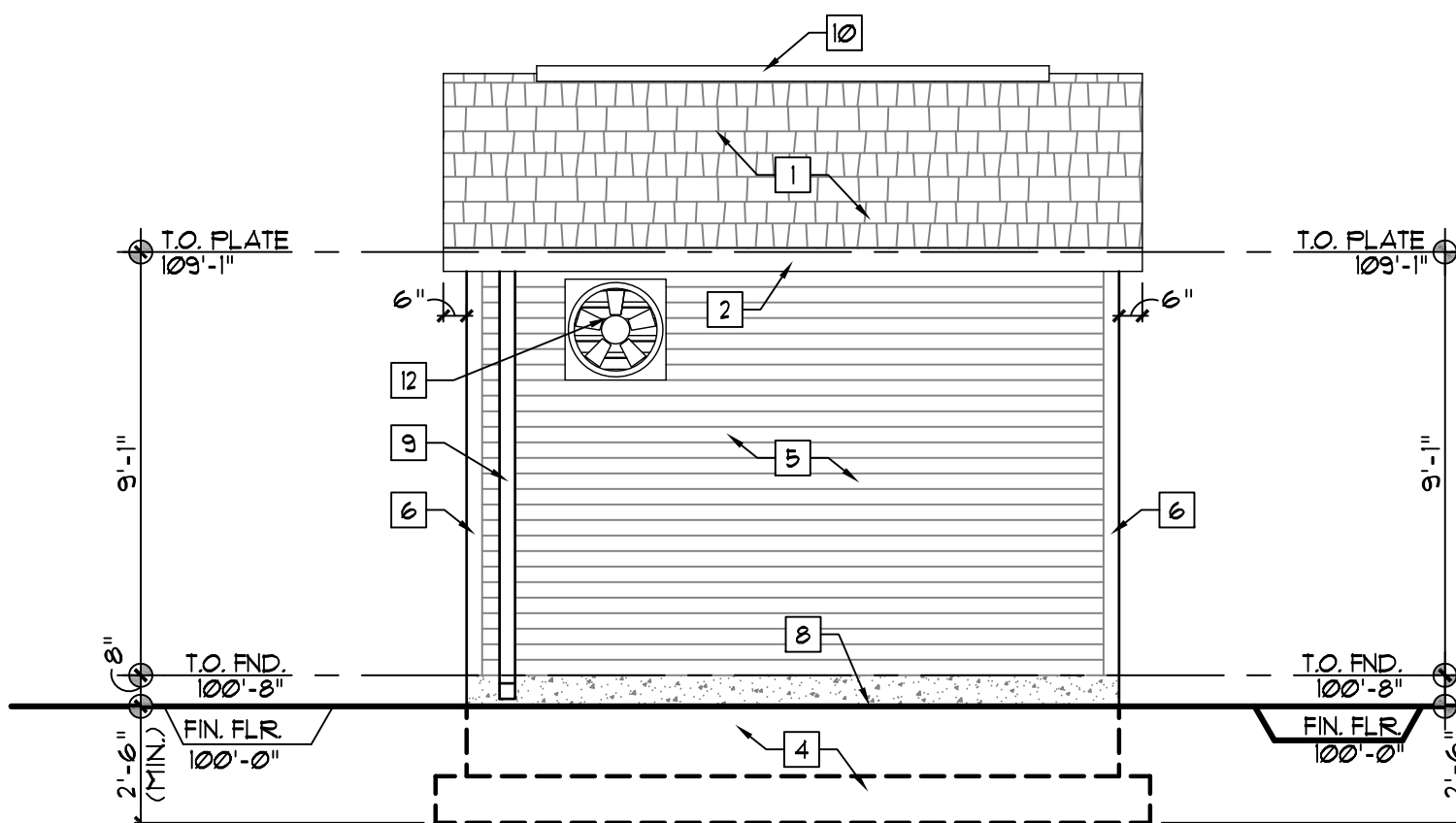
TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING BRACED WALL PANEL
SCALE 1" = 1'-0"

ELEVATION KEYNOTES

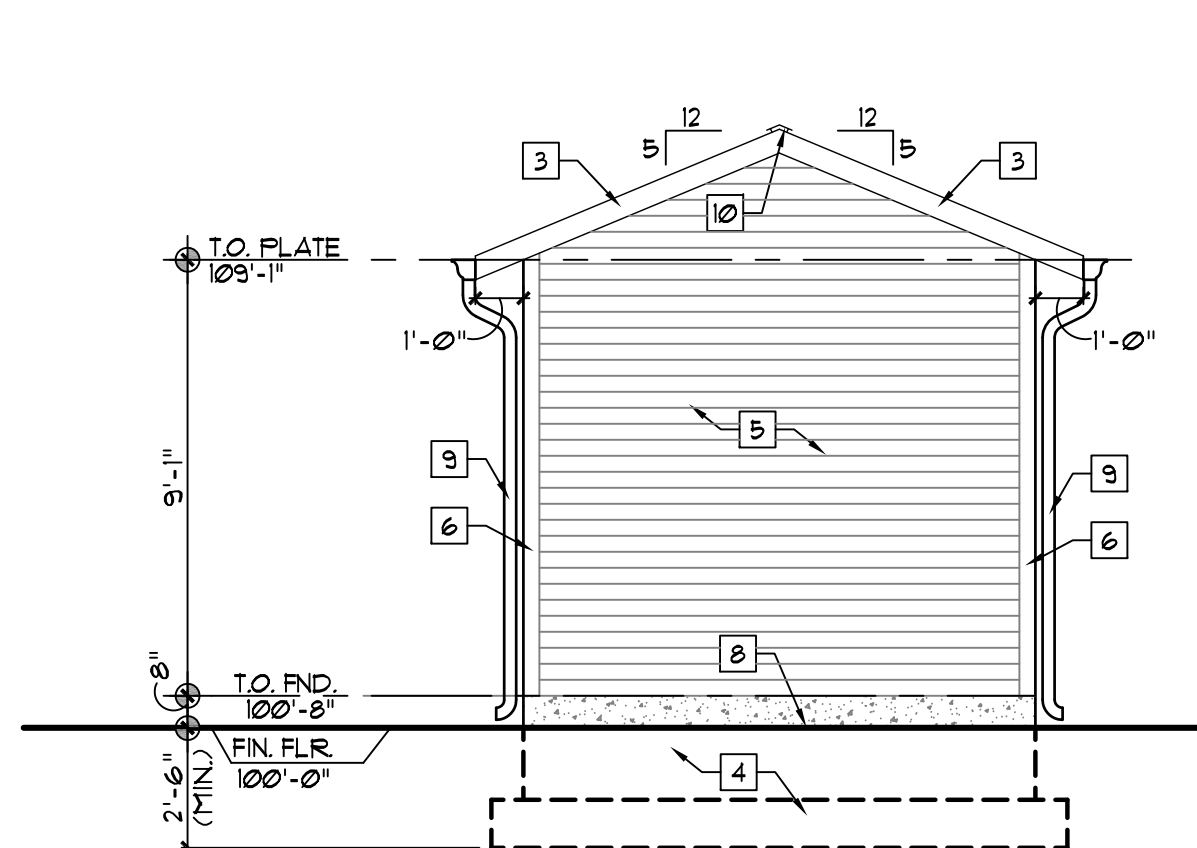
- | | |
|---|--|
| 1 ASPHALT SHINGLES OVER (1) ONE LAYER CONTINUOUS 15" FELT. | 1 3068 INSULATED STL. DOOR. |
| 2 2x8 FASCIA w/ PRE-FINISHED ALUMINUM FACE; ANODIZED ALUMINUM GUTTERS AND VENTED ALUMINUM SOFFIT. | 8 APPROXIMATE FINISHED GRADE, FINAL GRADE SHALL BE DETERMINED BY GENERAL CONTRACTOR AND BE A MINIMUM OF 8" BELOW TOP OF FOUNDATION WALL. |
| 3 2x8 RAKE w/ PRE-FINISHED ALUMINUM FACE AND VENTED ALUMINUM SOFFIT. | 9 ANODIZED ALUM. DOWNSPOUT. |
| 4 STEM WALL AND FOOTING. | 10 CONTINUOUS RIDGE VENT. |
| 5 LP SMARTSIDE AS SELECTED BY OTHERS. | 11 LOUVER. |
| 6 4" CORNER OR DOOR TRIM. | 12 EXHAUST FAN. |



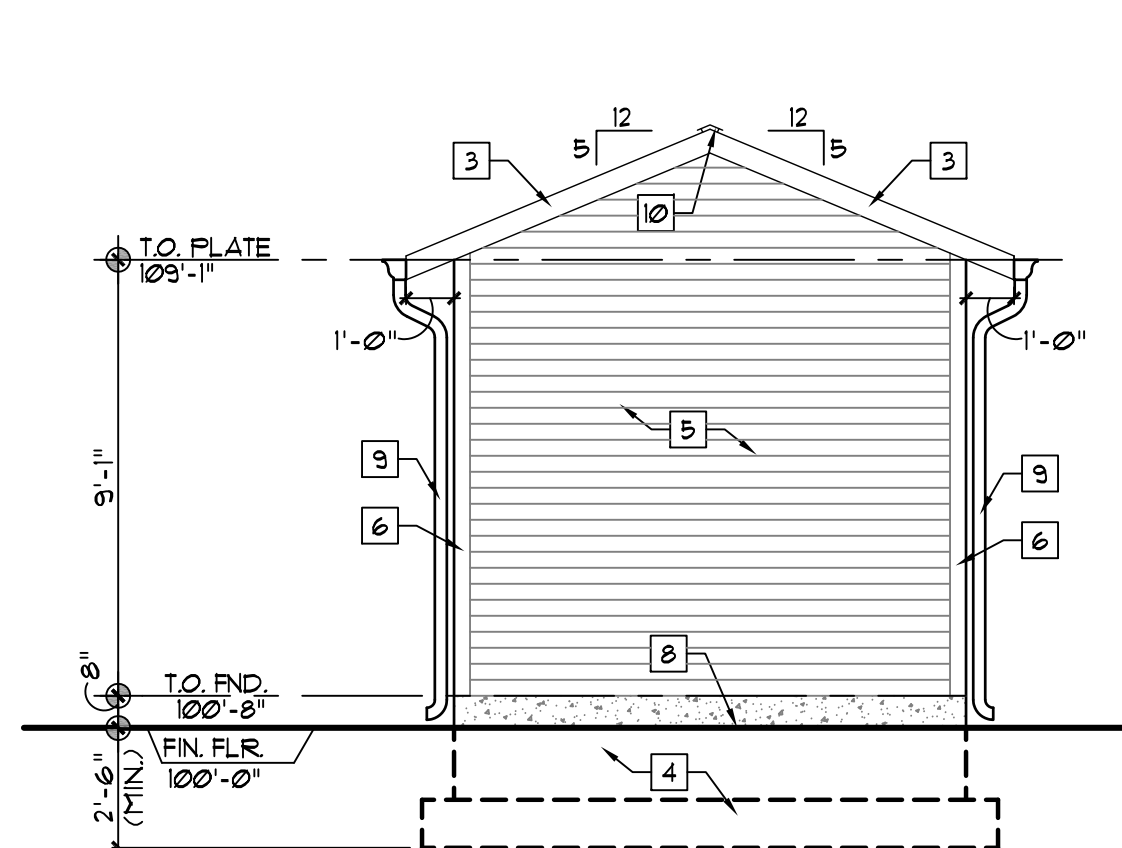
3 FRONT ELEVATION
SCALE: 1/4"=1'-0"



4 REAR ELEVATION
SCALE: 1/4"=1'-0"

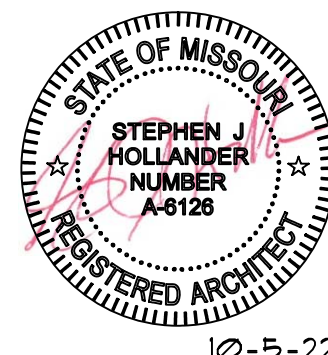


5 RIGHT SIDE ELEVATION
SCALE: 1/4"=1'-0"



6 LEFT SIDE ELEVATION
SCALE: 1/4"=1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON
GOVERNOR



10-5-22

STEPHEN J. HOLLANDER
MO Architect No. A-6126

SSC
Engineering, Inc.

18207 Edison Avenue
Chesterfield, Missouri 63005
Phone 636.530.7770 Fax 636.530.7877
Missouri Certificate of Authority #NC 001244



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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719004

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:

ISSUE DATE: 10/5/22

CAD DWG FILE:
DRAWN BY:
CHECKED BY:
DESIGNED BY:

SHEET TITLE:

FIRE SPRINKLER PUMP
HOUSE FLOOR PLANS &
EXTERIOR ELEVATIONS

SHEET NUMBER:

A4.0

SHEET 5 OUT OF 17
10/5/22

SSC JOB# 2021284_ BID DOCUMENTS



10-5-22
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OFFICE OF
ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND
CONSTRUCTION
DIVISION OF YOUTH
SERVICES

CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719004

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 10/5/22

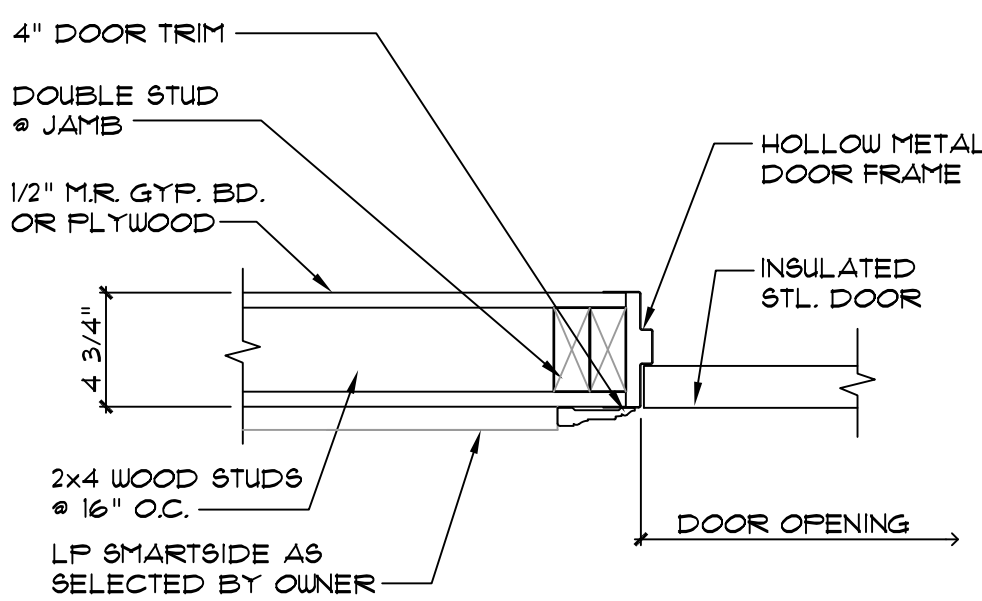
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CHECKED BY: _____
DESIGNED BY: _____

SHEET TITLE:
FIRE SPRINKLER PUMP
HOUSE WALL SECTIONS

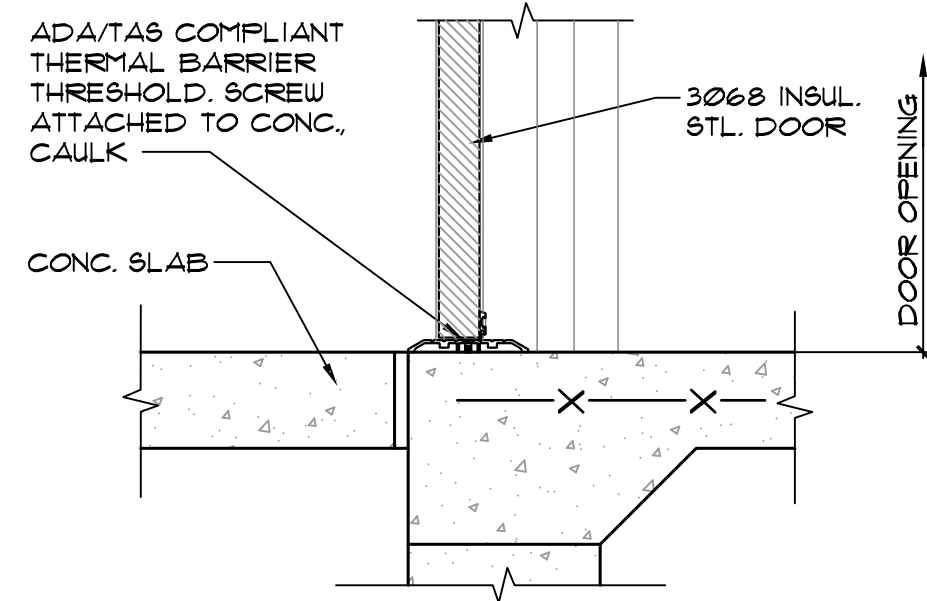
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SHEET 6 OUT OF 17
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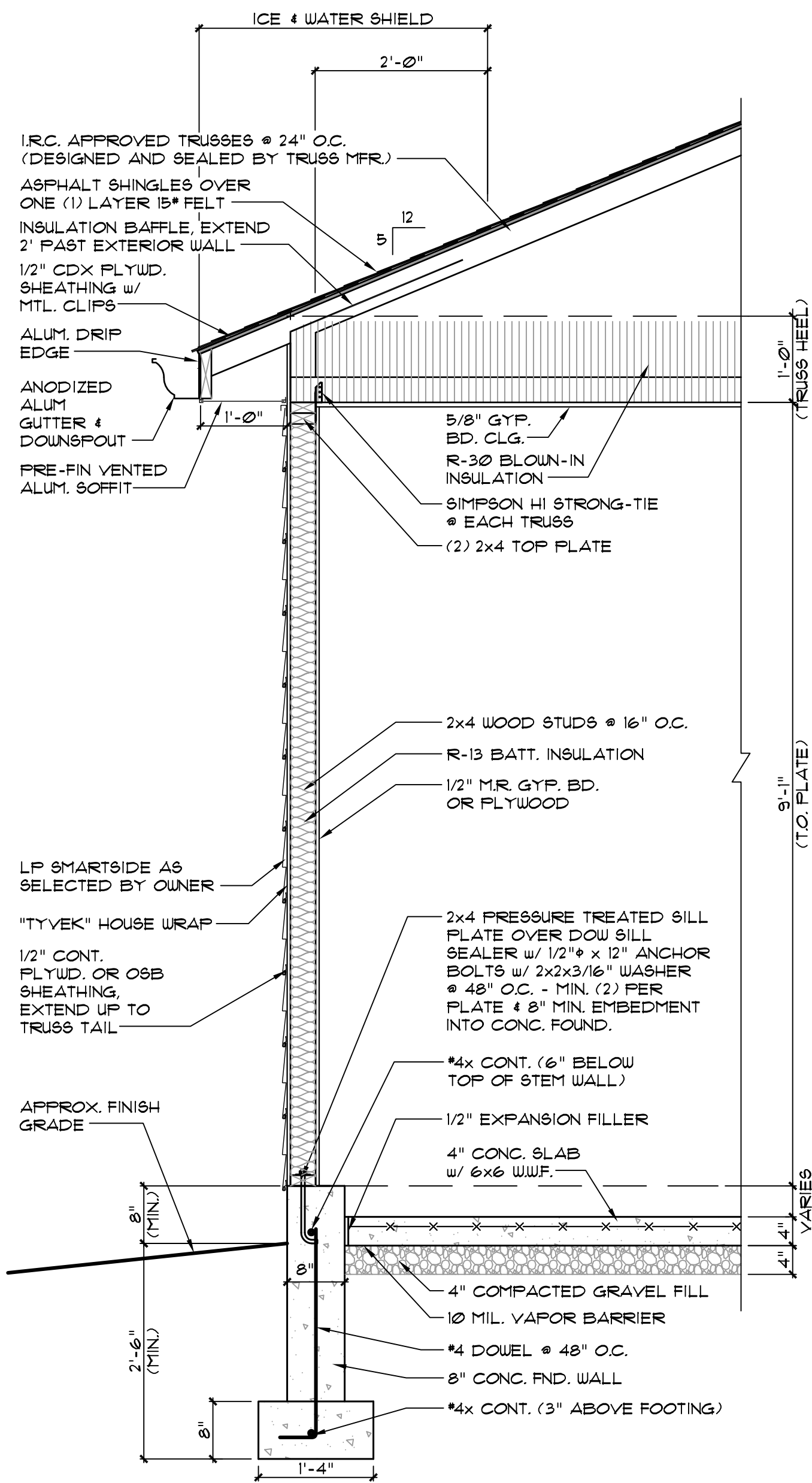


4 DOOR JAMB DETAIL
SCALE: 1 1/2"=1'-0"

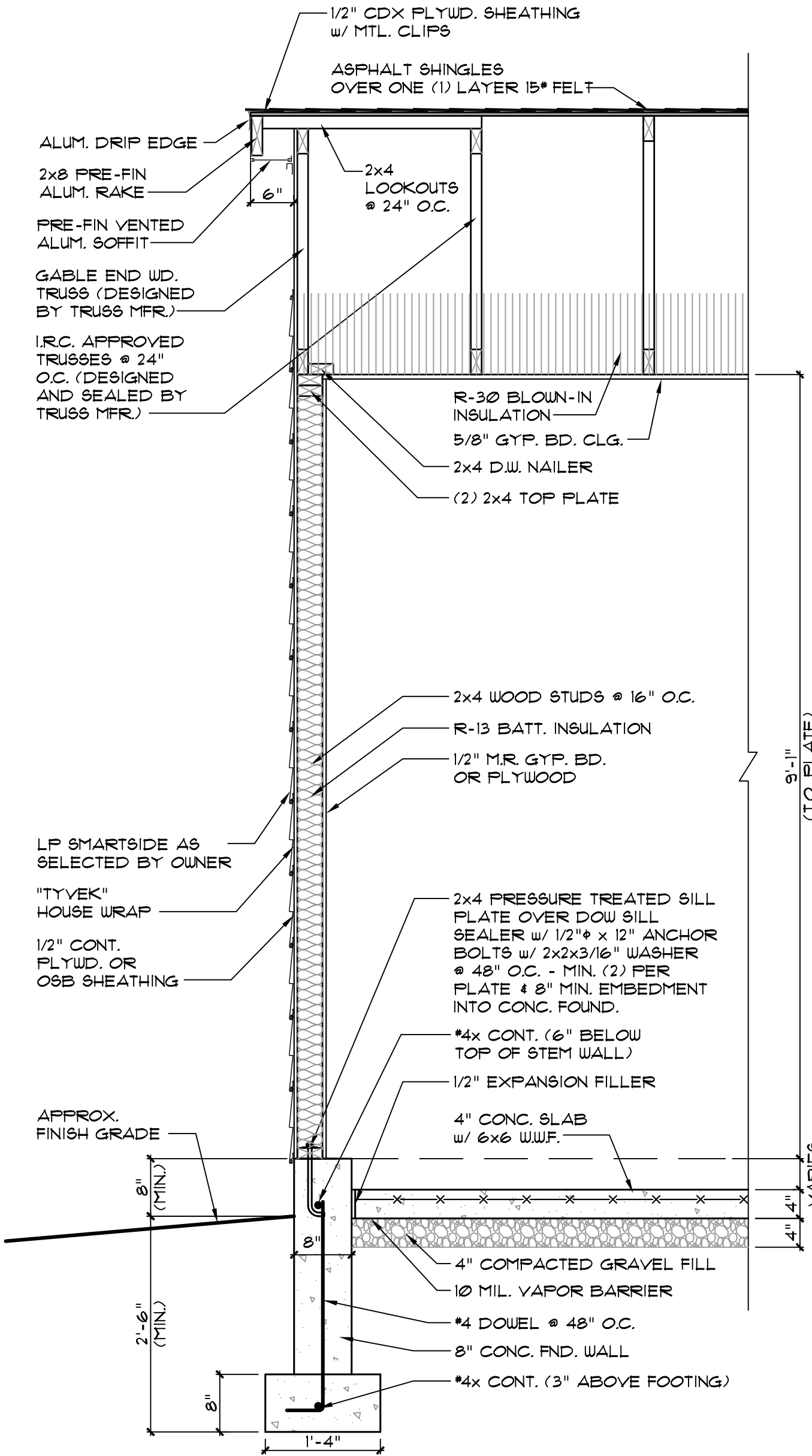


5 THRESHOLD DETAIL
SCALE: 1 1/2"=1'-0"

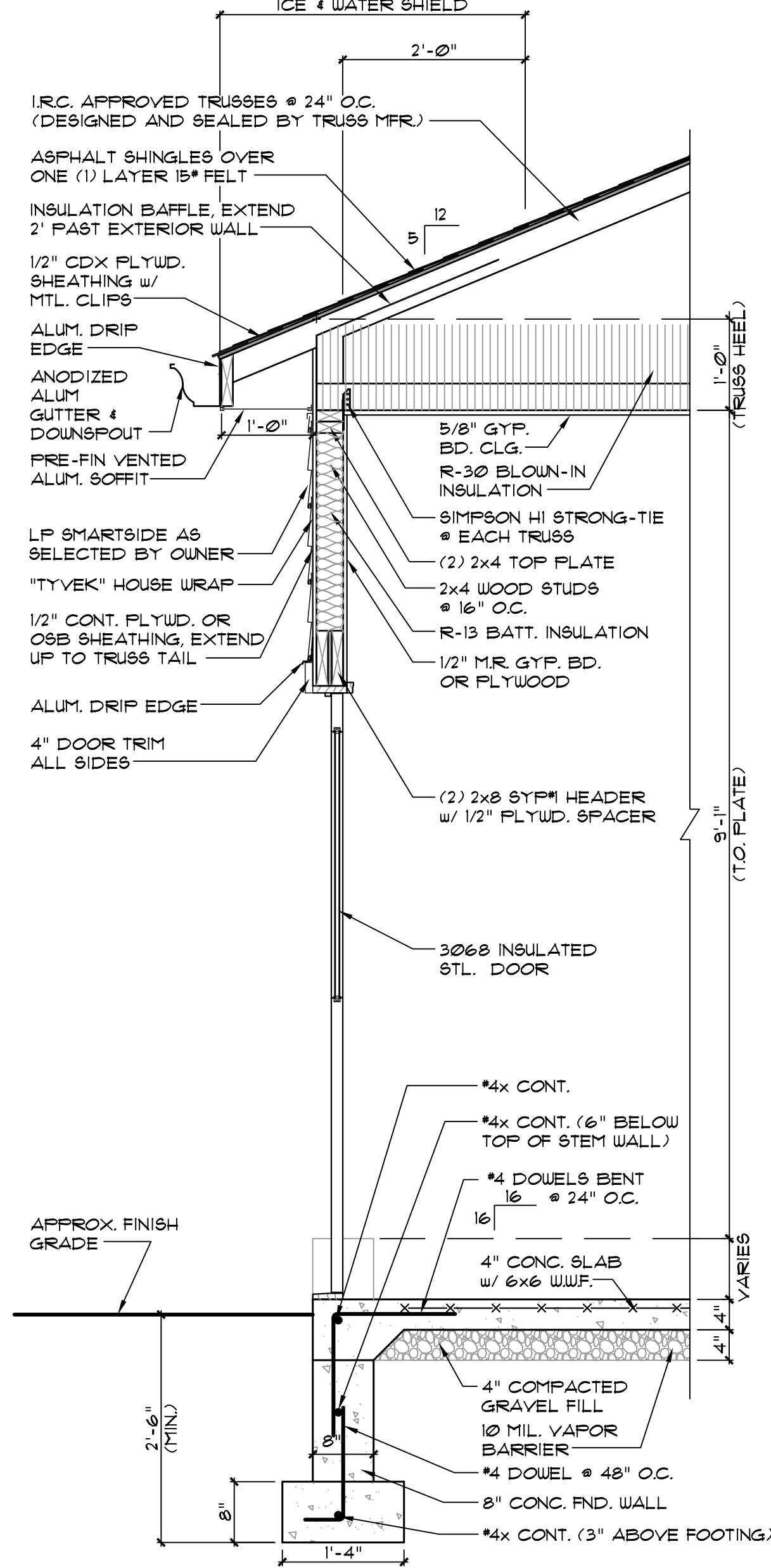
1/2" ZIP SHEATHING IS AN APPROVED ALTERNATE TO 1/2" PLYWOOD OR OSB SHEATHING AND "TYVEK" HOUSE WRAP



1 WALL SECTION
SCALE: 3/4"=1'-0"



2 WALL SECTION
SCALE: 3/4"=1'-0"



3 WALL SECTION
SCALE: 3/4"=1'-0"

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FIRE PROTECTION DESIGN CRITERIA (NFPA 13 - 2016 EDITION)					
HAZARD	AREA	DESIGN CRITERIA	HOSE (GPM)	MAX SPACING (SQFT)	DESIGN BASIS
LIGHT HAZARD	OFFICE AREAS / PUBLIC AREAS / CORRIDORS / RESTROOMS / LOBBY / CONFERENCE ROOMS / BREAK ROOM / CLASSROOMS	0.10 / 1500 SQFT	100	225	NFPA 13 SECTIONS 5.2, 11.2.3.2, & TABLE 11.2.3.1.2
ORDINARY HAZARD GROUP 1	ELECTRICAL / MECHANICAL / STORAGE / GYMNASIUM	0.15 / 1500 SQFT	250	130	NFPA 13 SECTIONS 5.2, 11.2.3.2, & TABLE 11.2.3.1.2
ORDINARY HAZARD GROUP 2	MISCELLANEOUS STORAGE / MERCANTILE	0.20 / 1500 SQFT	250	130	NFPA 13 SECTIONS 5.2, 11.2.3.2, & TABLE 11.2.3.1.2
MINIMUM REQUIRED SAFETY FACTOR: 5 PSI					
NOTES: 1. THE HYDRAULIC AREA OF OPERATION MAY NOT BE REDUCED AS ALLOWED BY NFPA 13 FOR AREAS UTILIZING QUICK RESPONSE SPRINKLERS FOR NEW SYSTEM INSTALLATIONS OR UNFINISHED SHELL SPACES. 2. HYDRAULIC AREA OF OPERATION SHALL BE INCREASED (CUMULATIVELY) WITHOUT REVISING THE DENSITY FOR THE FOLLOWING APPLICATIONS: A. INCREASED BY 30% FOR AREAS WITH SLOPED CEILINGS WITH A PITCH EXCEEDING 1 IN 6 (16.7%) SLOPE IN ACCORDANCE WITH NFPA 13 11.2.3.2.4. B. INCREASED BY 30% FOR DRY-PIPE AND DOUBLE INTERLOCK PRE-ACTION SYSTEMS, IN ACCORDANCE WITH NFPA 13 11.2.3.2.5. C. INCREASED TO 3,000 SQFT IF THE BUILDING HAS ADJACENT, NON-SPRINKLERED COMBUSTIBLE SPACES. 3. THE ABOVE CRITERIA NOTED DOES NOT PRECLUDE THE USE OF EXTENDED COVERAGE OR LISTED SPECIAL APPLICATION SPRINKLERS THAT ARE DESIGNED AND INSTALLED IN ACCORDANCE WITH THEIR LISTING AND MANUFACTURER REQUIREMENTS. 4. THE HOSE STREAM ALLOWANCE SHALL BE PROVIDED AT THE BASE OF RISER.					

ANCHORAGE & SWAY BRACING - FIRE PROTECTION SYSTEM COMPONENTS								
Occupancy Category (II)					Seismic Design Category (D)			
LISTING OF EQUIPMENT AND SYSTEM COMPONENTS	ANCHORAGE TO FLOORS, ROOFS, ETC.		SWAY BRACING		LOCATION OF PROFESSIONALLY SEALED ANCHORAGE AND SWAY BRACING DETAILS			COMMENTS
	Not Provided	Provided	Not Provided	Provided	Drawing No. or Spec. Section	Shop Drawings	Separate Permit & Plans	
PIPING AND EQUIPMENT	-	X	-	X	-	BY FPC	-	BRACE PIPING AND/OR EQUIPMENT WHERE REQUIRED BY IBC 2018 PER METHODS IN NFPA 13

VIBRATION ISOLATION AND SEISMIC RESTRAINT SCHEDULE						
EQUIPMENT TAG	ISOLATION SPEC.	SEISMIC RESTRAINT	ISOLATOR DEFLECTION	COMPONENT		
				IMPORTANCE FACTOR	RESPONSE MODIFICATION FACTOR	AMPLIFICATION FACTOR
SPR-PIPING	SC	YES	-	1.5	2.5	1.0
SPR-EQUIP	SB	YES	-	1.5	2.5	1.0

FLOW TEST
FLOW TEST: STATIC: 92 PSI RESIDUAL: 6 PSI FLOW: 291 GPM DATE: 08/31/2021 PERFORMED BY: SSC ENGINEERING MODIFIED SINGLE HYDRANT FLOW TEST PERFORMED ON SINGLE FLUSHING HYDRANT ON SITE.

DELEGATED-DESIGN NOTE
THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING AND PROVIDING A COMPLETE, FUNCTIONAL, AND CODE COMPLIANT AUTOMATIC SPRINKLER SYSTEM. REFER TO GENERAL NOTES FOR ADDITIONAL DETAIL CONCERNING DESIGN, FLOW TEST, HYDRAULIC CALCULATIONS, COORDINATION, AND SHOP DRAWING REQUIREMENTS.

FIRE/JOCKEY PUMP SCHEDULE								
MARK	MANUFACTURER	MODEL NO.	RPM	GPM	RATED PSI	HP	PH / HZ	REMARKS
FP-1	AURORA	11FGM	1770	500	100	50	3 / 60	1,2,3,4,5,6,7,8
JP-1	AURORA	-	-	5	110	0.5	3 / 60	1,2
1. SEE THIS SHEET FOR SITE FLOW TEST INFORMATION. TO BE USED PRIOR TO BIDDING FOR FIRE PUMP SIZE VERIFICATION. FIRE PUMP SHALL BE SIZED AS A MAXIMUM OF 120% OF PUMP CAPACITY. 2. PACKAGED FIRE PUMP SYSTEM WITH CONTROL PANEL. 3. VERTICAL TURBINE PUMP. 4. PROVIDE WITH AN AUTOMATIC TRANSFER SWITCH CAPABLE OF ACCEPTING TWO DIFFERENT SOURCES OF POWER. 5. PROVIDE WITH WYE-DELTA, CLOSED TRANSITION STARTER. SEE SPECIFICATIONS FOR FIRE PUMP CONTROLLER REQUIREMENTS. 6. PROVIDE ON MINIMUM 4" THICK CONCRETE HOUSEKEEPING PAD. 7. THE FIRE PUMP SHOWN IN THIS SCHEDULE IS BASED ON AN ESTIMATED SYSTEM DEMAND, AND THE APPROXIMATE SIZE HAS BEEN SCHEDULED AS AN AID TO BIDDERS. THE FINAL SIZE OF THE FIRE PUMP SHALL BE DETERMINED BY HYDRAULIC CALCULATIONS PERFORMED BY THE FIRE PROTECTION CONTRACTOR. BIDDING CONTRACTORS SHALL REVIEW ALL DESIGN REQUIREMENTS BASED ON OCCUPANCY WHEN SELECTING A PRICE TO BE ALLOCATED TO THE FIRE PUMP. NO CHANGES TO THE CONTRACT PRICE WILL BE ALLOWED IN THE EVENT A FIRE PUMP OTHER THAN THE ONE SCHEDULED IS PROVIDED. 8. THE FIRE PROTECTION CONTRACTOR SHALL VERIFY THE FIRE PUMP AND EMERGENCY GENERATOR SIZE PRIOR TO BIDDING. THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL AND GENERAL CONTRACTORS. IN THE EVENT FIRE PROTECTION CONTRACTOR DETERMINES THAT A LARGER FIRE PUMP IS REQUIRED, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE COST TO INCREASE THE SIZE OF THE EMERGENCY GENERATOR IS INCLUDED IN THE ELECTRICAL CONTRACTOR'S BASE BID PRICE.								

FIRE PROTECTION SPRINKLER SCHEDULE					
SYMBOL TYPE		RE.	K-F	FINISH	NOTE
NEW					
●	DRY CONCEALED PENDENT	QR	5.6	WHITE COVERPLATE	1
○	UPRIGHT	QR	5.6	BRASS	2
▼	DRY SIDEWALL	QR	5.6	WHITE	2
▽	CONCEALED DRY SIDEWALL	QR	5.6	WHITE	-
DEMO					
⊗	DEMO PENDENT/UPRIGHT	-	-	-	-
⊗	DEMO SIDEWALL	-	-	-	-
GENERAL NOTES:					
1. SPRINKLER SHALL BE THE APPROPRIATE TEMPERATURE RATING FOR LOCATION AND OCCUPANCY IN ACCORDANCE WITH NFPA 13.					
2. SPRINKLER SHALL ALIGN WITH LIGHT FIXTURES AND OTHER CEILING MOUNTED DEVICES. COORDINATE SPRINKLER LOCATIONS WITH EXISTING CONDITIONS AND PROVIDE ADDITIONAL SPRINKLERS WHERE REQUIRED.					
NOTES:					
1. PROVIDE HIGH TEMPERATURE RATED SPRINKLERS IN VESTIBULES					
2. PROVIDE WITH LISTED SPRINKLER GUARD.					

FIRE PROTECTION SYMBOL LEGEND	
	CONNECTION OF NEW TO EXISTING
	SCOPE OF WORK BOUNDARY
	SPRINKLER PIPING
	STANDPIPE PIPING
	DRAIN PIPING
	DRY SYSTEM SPRINKLER PIPING
	FIRE DEPARTMENT CONNECTION PIPING
	COLD WATER PIPING
	PIPING TO BE REMOVED (DEMOLISHED)
	ELBOW UP
	ELBOW DOWN
	TEE UP
	TEE DOWN
	PIPE CONTINUATION
	PIPE CAP
	FIRE SPRINKLER RISER ASSEMBLY
	PIPING IN SECTIONAL DETAIL
	SPRINKLER IN SECTIONAL DETAIL
	AUXILIARY DRAIN BALL VALVE
	CHECK VALVE
	CHECK VALVE WITH BALL DRIP
	BUTTERFLY INDICATING VALVE
	GATE VALVE
	OS&Y VALVE
	DOUBLE CHECK BACKFLOW PREVENTER
	[FS] SUPERVISED WATERFLOW SWITCH
	[PS] SUPERVISED PRESSURE SWITCH
	[TS] SUPERVISED TAMPER SWITCH
	WALL MOUNTED FIRE DEPARTMENT CONNECTION
	FREE STANDING FIRE DEPARTMENT CONNECTION
	[G] PRESSURE GAUGE
	[HS] HORN/STROBE ALARM

FIRE PROTECTION ABBREVIATION LEGEND	
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
BOP	BOTTOM OF PIPE
BRZ	BRONZE
DN	DOWN
EC	EXTENDED COVERAGE
EX	EXISTING
FHV	FIRE HOSE VALVE
FP	FIRE PROTECTION
FPC	FIRE PROTECTION CONTRACTOR
FT	FEET
GC	GENERAL CONTRACTOR
GRVD	GROOVED
HSW	HORIZONTAL SIDEWALL
IN	INCH
PC	PLUMBING CONTRACTOR
PND	PENDENT
QR	QUICK RESPONSE
SPR	SPRINKLER SYSTEM
SS	STANDPIPE SYSTEM
STND	STANDARD
THR	THREADED
UPR	UPRIGHT

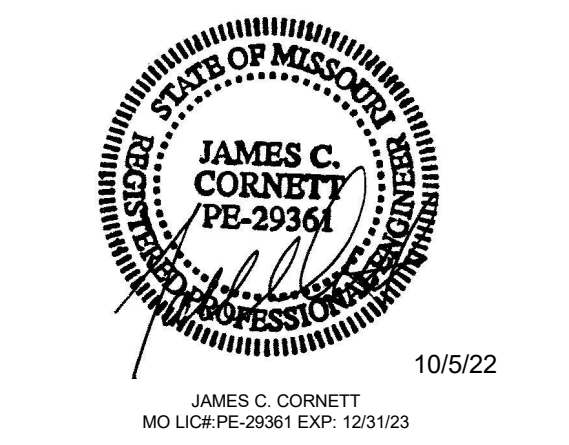
ALTERNATES
REFER TO SPECIFICATION 012300 - ALTERNATES FOR INFORMATION ON ALTERNATES INCLUDED IN THE SCOPE OF WORK.

- FIRE PROTECTION GENERAL DEMOLITION NOTES:**
- NOTATION: DEMOLISH PIPING AND EQUIPMENT SHOWN CROSS HATCHED.
 - EXISTING CONDITIONS: THESE DRAWINGS MAY NOT FULLY DEPICT ALL AS-BUILT CONDITIONS; CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BID(S). NOTIFY ENGINEER AT ONCE SHOULD A DISCREPANCY OR OMISSION BE FOUND.
 - DEMOLITION WORK: VERIFY EXISTING SERVICES TO REMAIN. ALL NECESSARY CARE SHALL BE TAKEN DURING DEMOLITION TO PREVENT DAMAGE TO FIRE PROTECTION, PLUMBING, ELECTRICAL, AND MECHANICAL SYSTEMS TO REMAIN. NOTIFY GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR IF WIRING IS FOUND ATTACHED TO PIPING. FIRE PROTECTION SYSTEMS SERVING OTHER AREAS SHALL PROVIDE FOR UNINTERRUPTED SERVICE TO THOSE AREAS UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE OWNER. COORDINATE ALL SUCH WORK WITH THE GENERAL CONTRACTOR AND OWNER'S ON SITE REPRESENTATIVE.
 - REMOVAL: WHEREVER EXISTING FIRE PROTECTION EQUIPMENT, PIPING AND EQUIPMENT, ETC., ARE TO BE REMOVED, SUCH REMOVAL SHALL INCLUDE ALL ANCHORS, HANGERS, FOUNDATIONS, ETC. ASSOCIATED WITH THE FIRE PROTECTION EQUIPMENT, UNLESS NOTED OTHERWISE. AFTER REMOVAL, FLOORS, WALLS AND CEILINGS SHALL BE PATCHED AND FINISHED TO MATCH ADJOINING SURFACES.
 - WHERE ITEMS ARE REMOVED, UTILITIES AND THE AREA FROM WHICH THE ITEMS HAVE BEEN REMOVED SHALL BE LEFT IN SUCH A MANNER THAT IS SAFE FOR BOTH PEOPLE AND PROPERTY ON A DAILY BASIS.
- FIRE PROTECTION GENERAL NOTES:**
- SCOPE: PROVIDE A COMPLETE, FUNCTIONING FIRE SPRINKLER SYSTEM DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13, 2016 EDITION. SYSTEM SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE BUILDING CODE, FIRE CODE, AUTHORITY HAVING JURISDICTION, AND INSURANCE CARRIER. VERIFY REQUIREMENTS PRIOR TO BID SUBMITTAL. NO CHANGE TO THE CONTRACT PRICE WILL BE ACCEPTED FOR PROVIDING AND INSTALLING EQUIPMENT REQUIRED BY THE AFOREMENTIONED CODES, STANDARDS, OR THE LOCAL AUTHORITY HAVING JURISDICTION.
 - DELEGATED DESIGN: THE LOCATIONS OF SPRINKLERS, MAJOR FIRE PROTECTION EQUIPMENT, AND PIPE ROUTING ARE SHOWN FOR REFERENCE ONLY TO ASSIST IN BIDDING AND SPACE COORDINATION. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND PROVIDING A COMPLETE, FUNCTIONAL, AND CODE COMPLIANT AUTOMATIC SPRINKLER SYSTEM. FIRE PROTECTION CONTRACTOR SHALL HALL LOCATE AND PROVIDE ALL EQUIPMENT, VALVES, PIPE ARRANGEMENTS AND COORDINATE WITH OTHER TRADES TO MEET THE APPLICABLE CODES AND STANDARDS FOR A COMPLETE AND FUNCTIONAL SYSTEM.
 - APPROVAL: PRIOR TO COMMENCING WORK, APPROVAL SHALL BE RECEIVED FROM THE OWNERS INSURANCE COMPANY, ENGINEER, FIRE MARSHAL AND OWNER. WORK COMMENCED PRIOR TO SHOP DRAWING REVIEW SHALL BE AT CONTRACTOR'S RISK.
 - PIPING AND COORDINATION:
 - FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH OTHER DISCIPLINES FOR THE LOCATION OF ALL PIPING AND EQUIPMENT TO PREVENT INTERFERENCE. PROVIDE ALL NECESSARY OFFSETS IN PIPING TO AVOID CONFLICT. NO CHANGE TO THE CONTRACT PRICE WILL BE ACCEPTED WHERE ALTERNATE PIPING ROUTES ARE REQUIRED.
 - PIPE SHALL BE INSTALLED AS HIGH AS POSSIBLE IN OPEN STRUCTURE AREAS.
 - CENTERLINE OF PIPING SHALL BE ROUTED A MINIMUM OF 12" ABOVE CEILING.
 - RENDER ANY PASSAGE OF PIPING THOUGH OUTSIDE WALLS PERMANENTLY WATERTIGHT.
 - PROVIDE SEISMIC BRACING AS REQUIRED FOR NEW PIPING. REFER TO BRACING DETAILS.
 - WHERE PIPING ELEVATION CONFLICTS WITH DUCTWORK, OFFSETS TO FIRE PROTECTION PIPING SHALL BE UP AND OVER DUCTWORK. WHERE CONFLICTS OCCUR, PIPING SHALL NOT BE ROUTED DOWN BELOW DUCTWORK WHERE THIS PIPING WOULD BE WITHIN 12" OF CEILING ELEVATION.
 - PROVIDE AUXILIARY DRAINS AS REQUIRED FOR DRAINING TRAPPED SECTIONS OF PIPING. FOR TRAPPED SECTIONS OF PIPING EXCEEDING 5 GALLONS IN CAPACITY, PROVIDE A HARD-PIPED DRAIN CONNECTION AND ROUTE BACK TO DRAIN IN SPRINKLER RISER ROOM OR ALTERNATE LOCATION APPROVED BY ENGINEER.
 - COORDINATE ALL POWER AND FIRE ALARM CONNECTIONS WITH THE ELECTRICAL CONTRACTOR.
 - SPRINKLER TYPE AND DESIGN DENSITIES: REFER TO FIRE PROTECTION SPRINKLER SCHEDULE AND PROTECTION CRITERIA.
 - SUBMITTAL: FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING THE FOLLOWING DOCUMENTATION SIGNED AND SEALED BY A FIRE PROTECTION ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED:
 - SHOP DRAWINGS CREATED IN ACCORDANCE WITH NFPA 13 SECTION 23.1.3 (2013 EDITION) AND CONTRACT DOCUMENTS
 - HYDRAULIC CALCULATIONS
 - FLOW TEST INFORMATION (REFER TO THIS SHEET FOR DETAIL)
 - PRODUCT DATA FOR ALL EQUIPMENT AND COMPONENTS USED ON THIS PROJECT
 - ANY OTHER DOCUMENTATION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

- SCOPE VERIFICATION: GENERAL CONTRACTOR SHALL VERIFY:
 - ELECTRICAL CONTRACTOR HAS INCLUDED IN HIS CONTRACT ALL POWER AND EMERGENCY POWER REQUIREMENTS REQUIRED FOR FIRE PROTECTION EQUIPMENT, AND ALL SUPERVISORY FIRE ALARM CONNECTIONS.
- FIRE WATCH AND SERVICE:
 - CONTRACTOR SHALL PROVIDE A FIRE WATCH DURING CONSTRUCTION HOURS. COORDINATE WITH LOCAL FIRE DEPARTMENT FIRE WATCH REQUIREMENTS AND OBTAIN A FIRE WATCH INSPECTION FORM AND LOG INSPECTION TIME WHERE REQUIRED.
- SPECIFICATIONS: REFER TO SPECIFICATIONS FOR FURTHER DETAIL.
- COORDINATE WITH STATE FOR "OCCUPANT" RELOCATION DURING CONSTRUCTION. CONSTRUCTION PHASING SHALL BE COORDINATED WITH THE STATE PRIOR TO THE START OF CONSTRUCTION. TEMPORARY FACILITY USE WILL NEED TO BE COORDINATED AND PHASED TO KEEP SITE OPERATIONAL DURING CONSTRUCTION. OCCUPANTS SHALL NOT BE EXPOSED TO CONSTRUCTION ACTIVITIES.
- COORDINATE WITH STATE FOR VANDALISM PROTECTION FOR ALL CONSTRUCTION STORAGE, EQUIPMENT, CONSTRUCTION LOCATIONS, TRASH DISPOSAL, ETC.

FIRE PROTECTION SHEET LIST	
Sheet Number	Sheet Name
FP0.1	FIRE PROTECTION SYMBOLS, NOTES, LEGENDS AND SCHEDULES
FP0.2	FIRE PROTECTION DETAILS
FP1.0	FIRE PROTECTION SITE PLAN
FP1.1	FIRE PROTECTION PUMP HOUSE PLAN
FP2.0	FIRE PROTECTION DORMITORY 1ST FLOOR PLAN
FP3.1	FIRE PROTECTION MULTIPURPOSE BASEMENT FLOOR PLAN
FP3.2	FIRE PROTECTION MULTIPURPOSE 1ST FLOOR PLAN - NORTH
FP3.3	FIRE PROTECTION MULTIPURPOSE 1ST FLOOR PLAN - SOUTH

STATE OF MISSOURI
MICHAEL L. PARSON
GOVERNOR



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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001;
8877719002;887719004

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CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

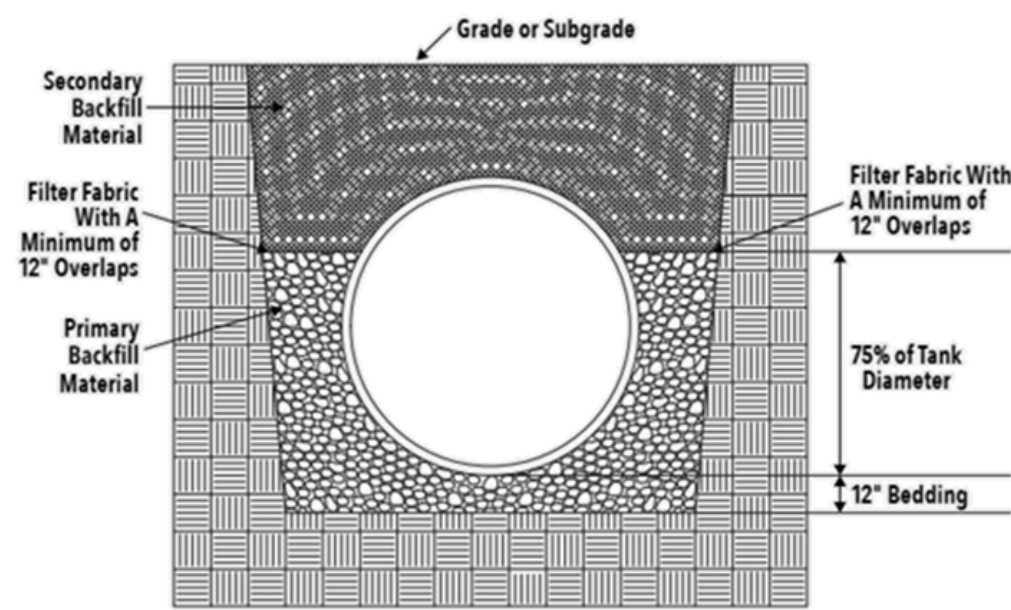
SHEET TITLE:
FIRE PROTECTION
SYMBOLS, NOTES,
LEGENDS AND
SCHEDULES

SHEET NUMBER:

FP0.1

SHEET 7 OUT OF 17
10/5/22

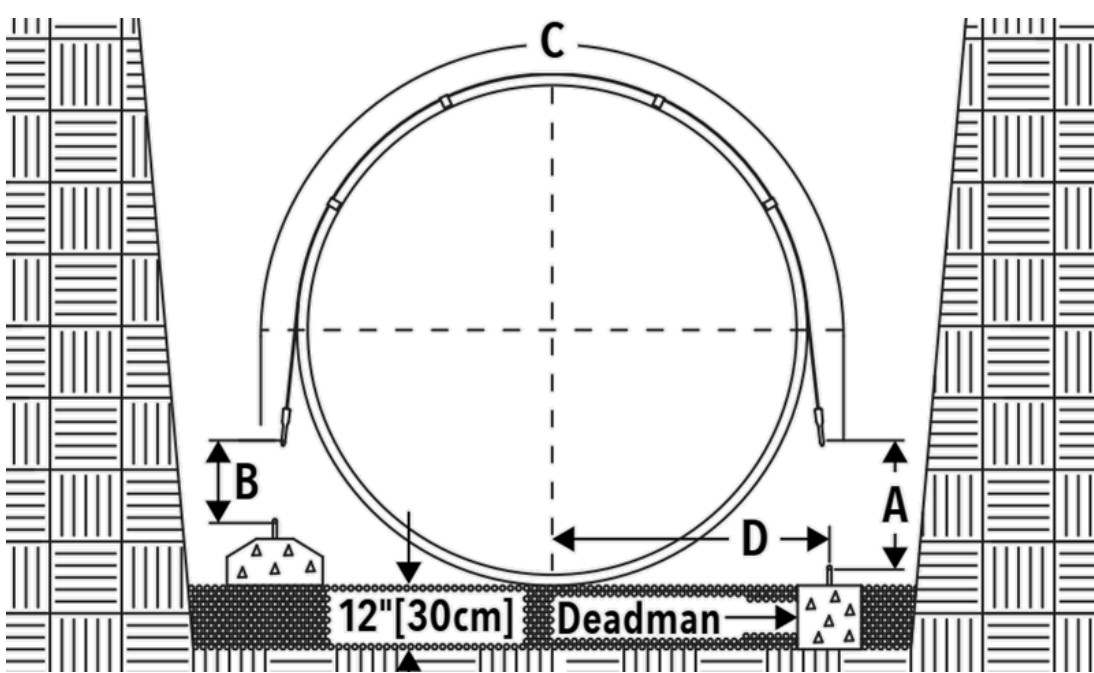
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NOTES:

TANK SHALL BE INSTALLED USING PRIMARY BACKFILL (ROUNDED STONES OR CRUSHED STONES) VERTICALLY UP TO A MINIMUM OF 75% OF THE TANK DIAMETER. SECONDARY BACKFILL ABOVE THE PRIMARY BACKFILL IS ALLOWED ABOVE THE MINIMUM PRIMARY BACKFILL LEVEL. SECONDARY BACKFILL MAY BE CLEAN NATIVE BACKFILL, COARSE SAND, OR GRAVEL. VERIFY ALL BACKFILL REQUIREMENTS WITH THE TANK MANUFACTURER'S INSTALLATION INSTRUCTIONS. MINIMUM PRIMARY BACKFILL LEVEL AND BACKFILL MATERIALS SHALL BE THE MORE STRINGENT REQUIREMENT BETWEEN THE LISTED REQUIREMENTS OF THIS DETAIL AND THE MANUFACTURER'S INSTALLATION REQUIREMENTS.

20 FIRE WATER TANK BACKFILL
NOT TO SCALE

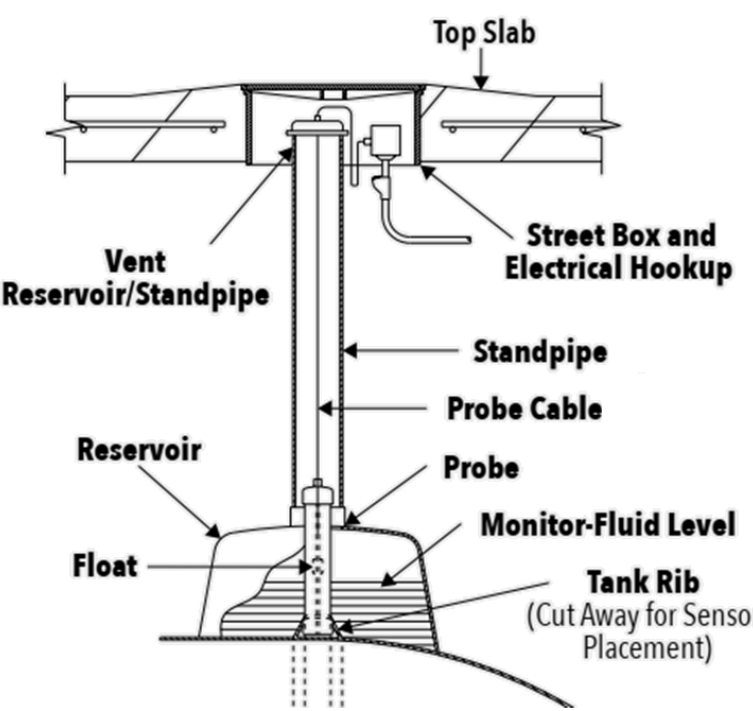


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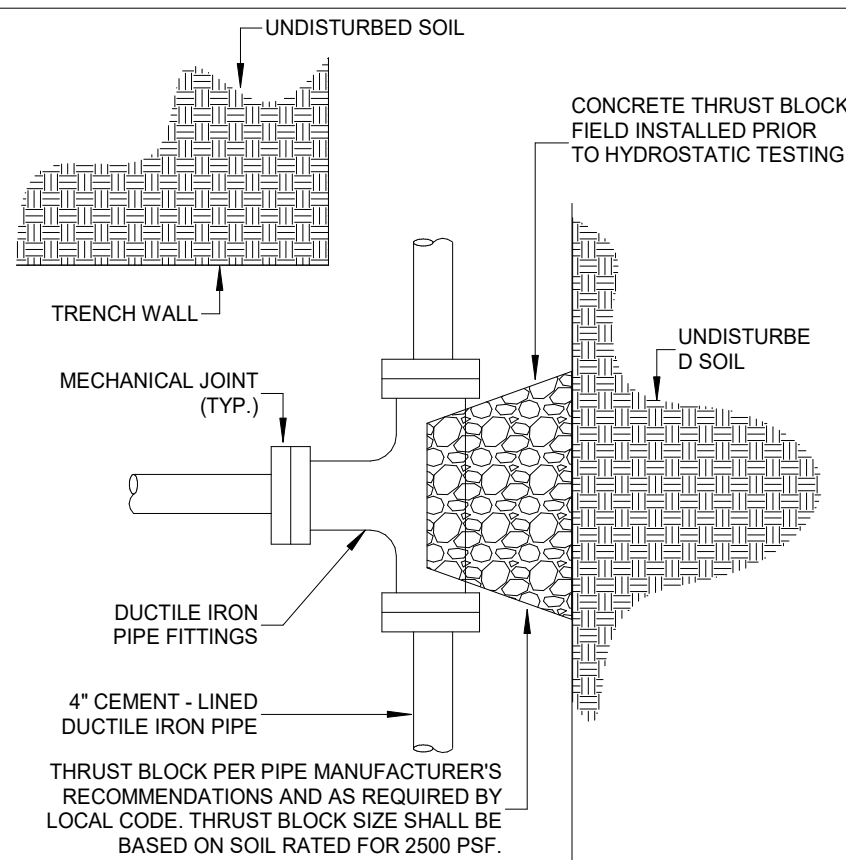
1. DIMENSIONS CALLED OUT ABOVE SHALL BE PER TANK MANUFACTURER'S INSTALLATION MANUAL FOR D-RING AND D-RING STRAPS SHOWN ABOVE.

2. INSTALLATION SHALL BE PER TANK MANUFACTURER'S WRITTEN DIRECTIONS.

19 FIRE WATER TANK ANCHORAGE
NOT TO SCALE



18 FIRE TANK WATER LEVEL MONITOR
NOT TO SCALE

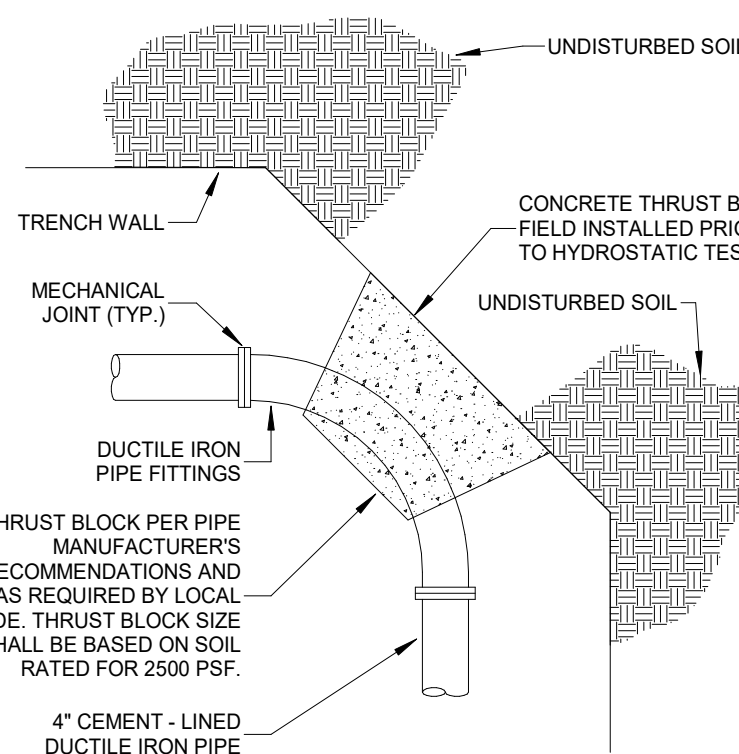


NOTES:

1. ALL PIPE, FITTINGS, JOINTS, ETC. SHALL BE ENCASED IN 8 MIL POLYETHYLENE WRAP.

2. THRUST BLOCKING FOR 90° SHOWN 45° AND TEES SIMILAR.

17 THRUST BLOCK DETAIL
NOT TO SCALE

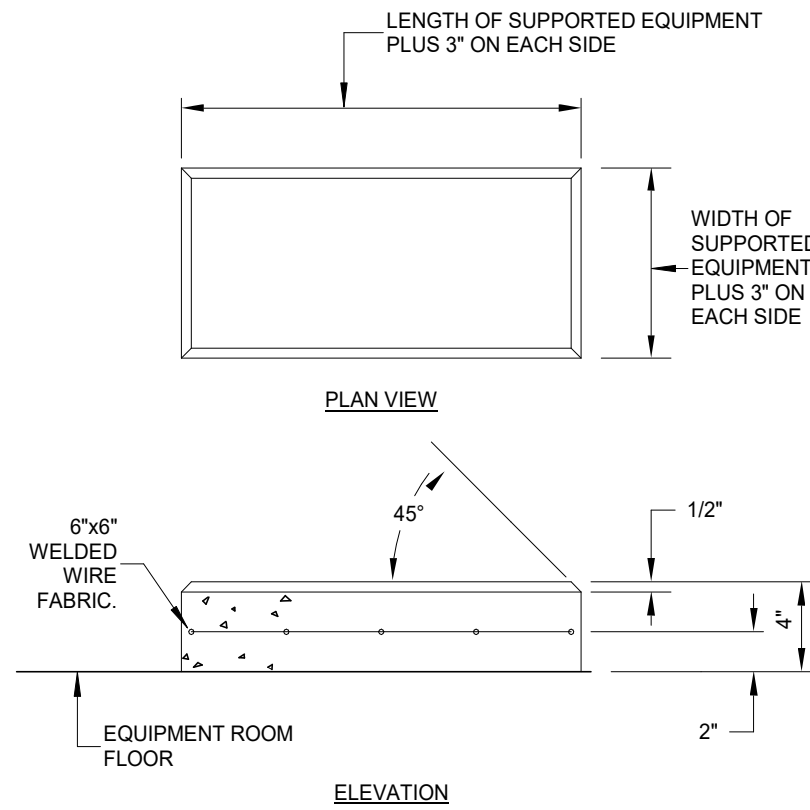


NOTES:

1. ALL PIPE, FITTINGS, JOINTS, ETC. SHALL BE ENCASED IN 8 MIL POLYETHYLENE WRAP.

2. THRUST BLOCKING FOR 90° SHOWN 45° AND TEES SIMILAR.

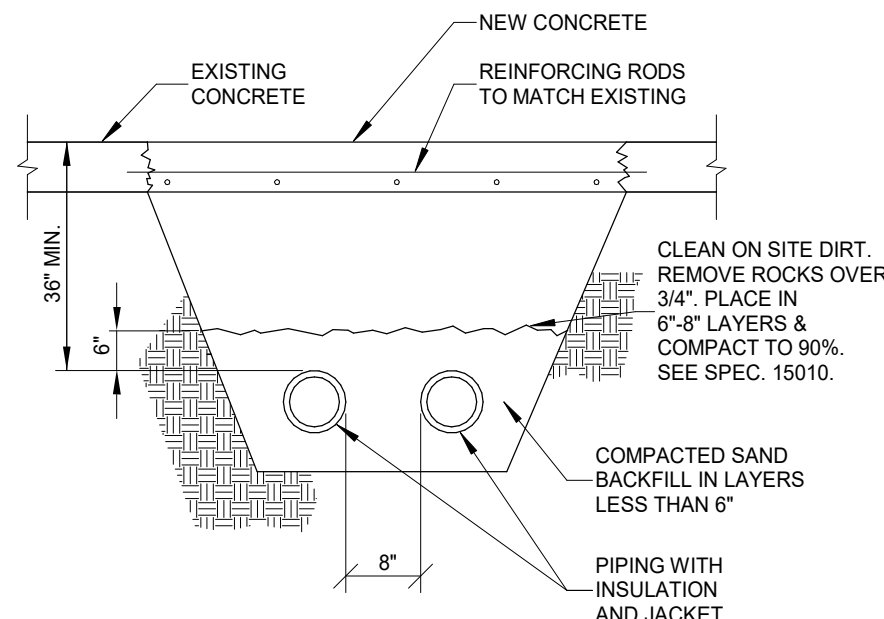
16 THRUST BLOCK DETAIL
NOT TO SCALE



NOTES:

1. WHEN USED FOR BASE-MOUNTED PUMPS, PAD LENGTH SHALL BE SUFFICIENT TO INCLUDE THE SUPPORT LEG OF THE SUCTION PUMP.

15 CONCRETE PAD DETAIL - TYPE A
NOT TO SCALE

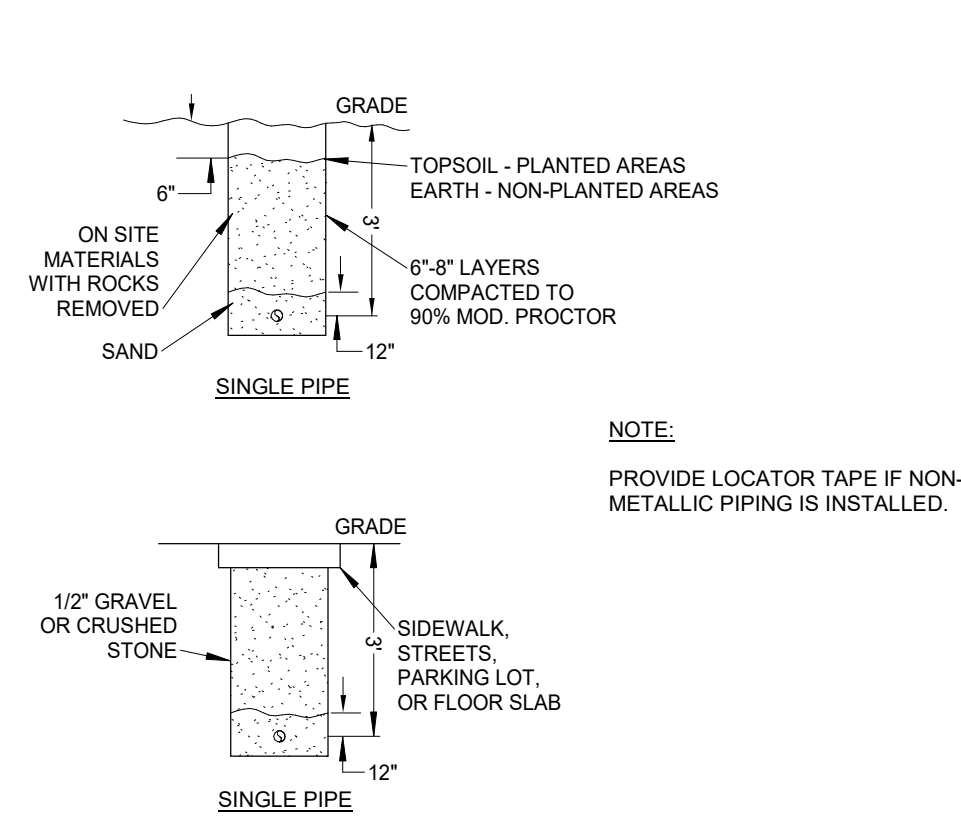


NOTES:

1. MATCH EXISTING WITH NEW. SAW CUT, BREAK OUT, REMOVE AND REPLACE AS REQUIRED IN EXISTING AREAS.

2. SEE SPECIFICATIONS FOR MATERIALS AND INSTALLATION.

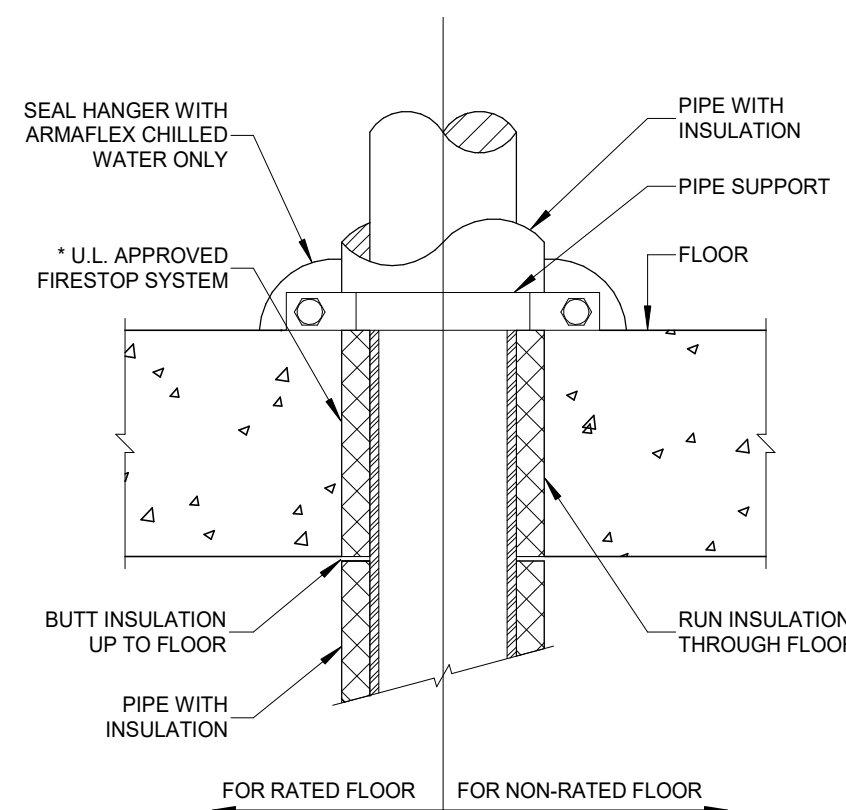
14 PIPING BELOW SLAB ON GRADE DETAIL
NOT TO SCALE



NOTE:

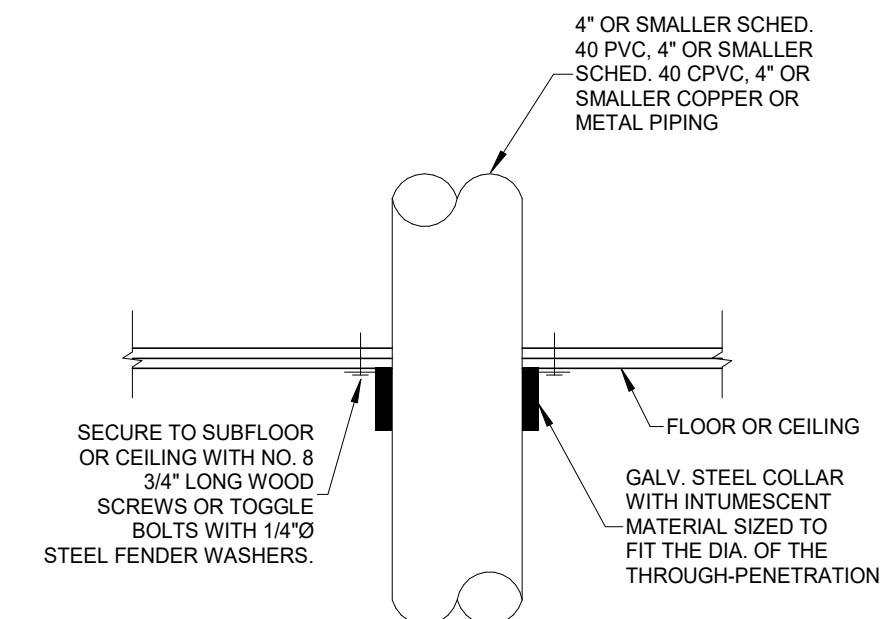
PROVIDE LOCATOR TAPE IF NON-METALLIC PIPING IS INSTALLED.

12 TRENCH DETAILS
NOT TO SCALE



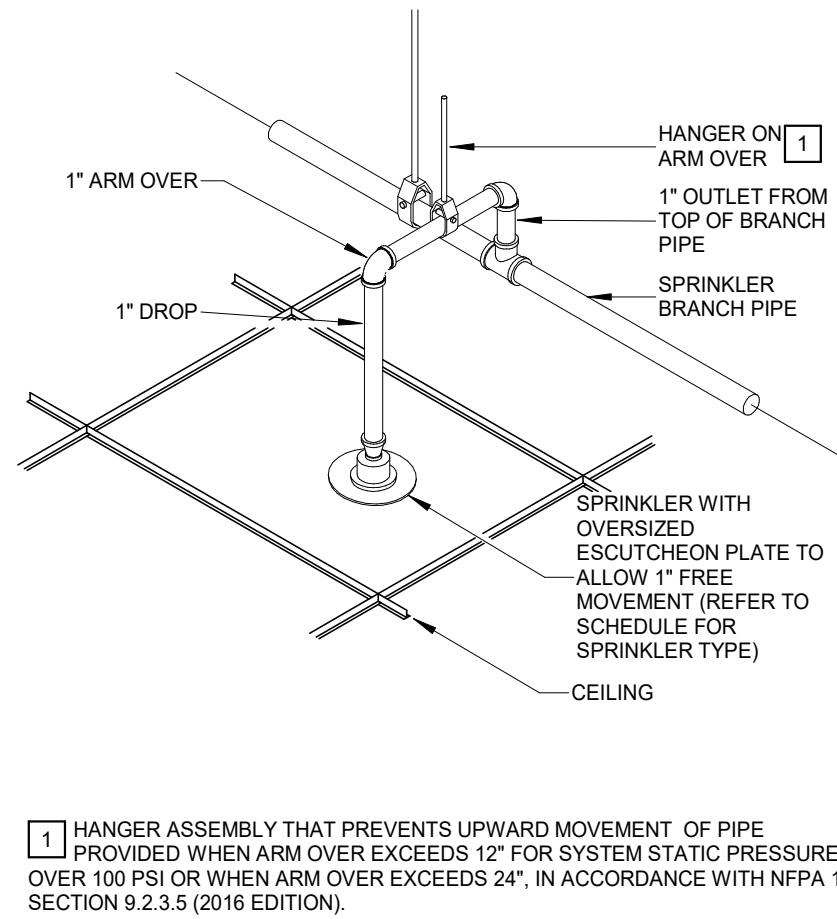
*SEE U.L. APPROVED FIRESTOP SYSTEM SHOP DRAWING FOR DETAILS

11 PIPE PENETRATION THRU CONCRETE FLOOR
NOT TO SCALE



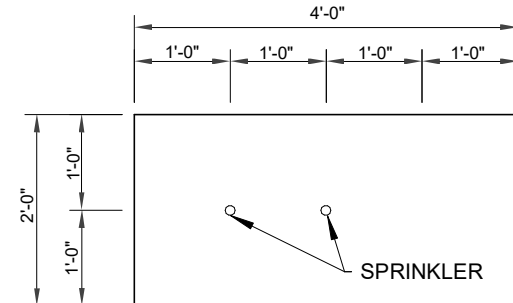
1 HR UL RATING F-C-2023

10 PIPING THROUGH FLOOR OR CEILING
NOT TO SCALE



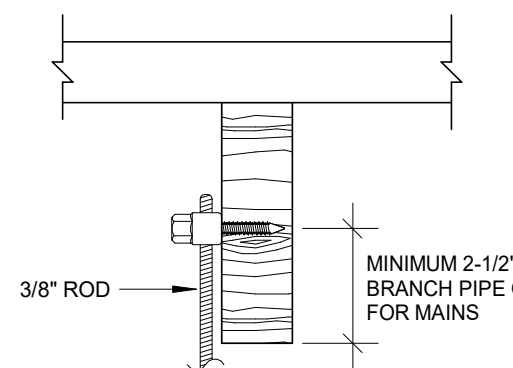
1 HANGER ASSEMBLY THAT PREVENTS UPWARD MOVEMENT OF PIPE PROVIDED WHEN ARM OVER EXCEEDS 12\"/>

8 TYPICAL RETURN BEND & OVERSIZED ESCUTCHEON
NOT TO SCALE

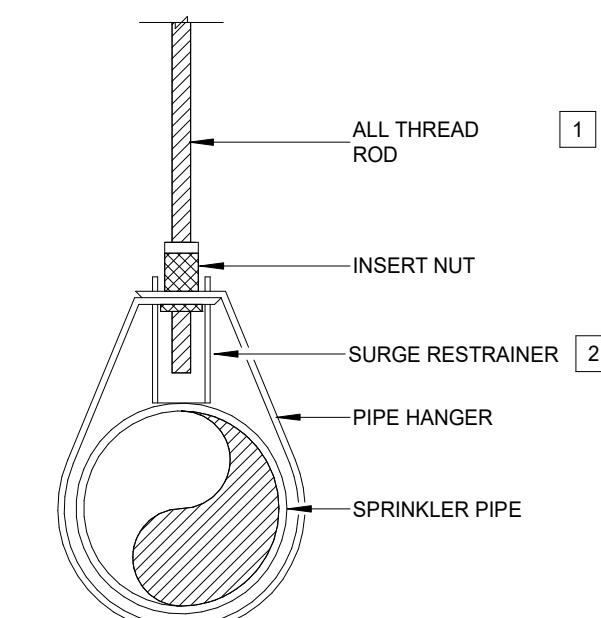


NOTE: PENETRATIONS OF SPRINKLER IN CEILING PANELS SHALL BE CENTERED OR AT QUARTER POINT IN LENGTH DIMENSION.

7 2X4 TILE SPRINKLER SPACING
NOT TO SCALE



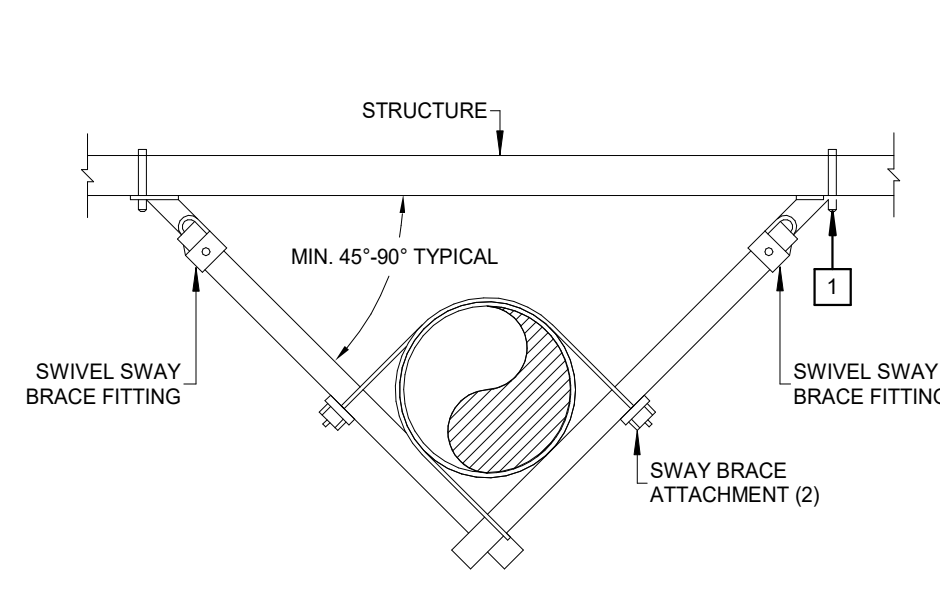
6 HANGERS - WOOD SAMMY SWG 20
NOT TO SCALE



1 ROD DIAMETER SHALL BE MINIMUM 3/8\"/>

2 PROVIDE A SURGE RESTRAINER, CLEVIS-TYPE HANGER, U-HOOK, OR PROVIDE HANGER ROD TIGHT TO PIPE. (1) AT END PENDENT SPRINKLER TO PREVENT UPWARD MOVEMENT OF PIPE WHERE PRESSURE EXCEEDS 100 PSI. IN ACCORDANCE WITH NFPA 13 9.2.3.4.4 (2016 EDITION), OR (2) WHERE USED FOR SEISMIC RESTRAINT OF PIPING.

5 PIPE HANGER FOR CONCRETE
NOT TO SCALE

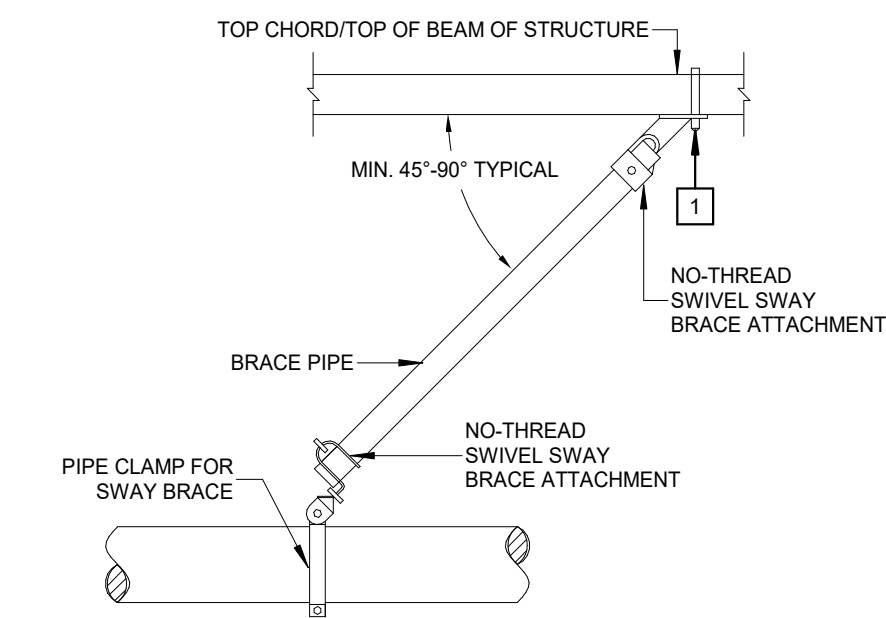


1 ATTACH TO WALL VIA APPROVED ATTACHMENT METHOD.

NOTE:

1. PROVIDED WHERE TOP OF RISER EXCEEDS 3 FEET IN WIDTH, PER NFPA 13 SECTION 9.3.5.8 (2016 EDITION).

4 SEISMIC BRACING: RISER BRACE
NOT TO SCALE

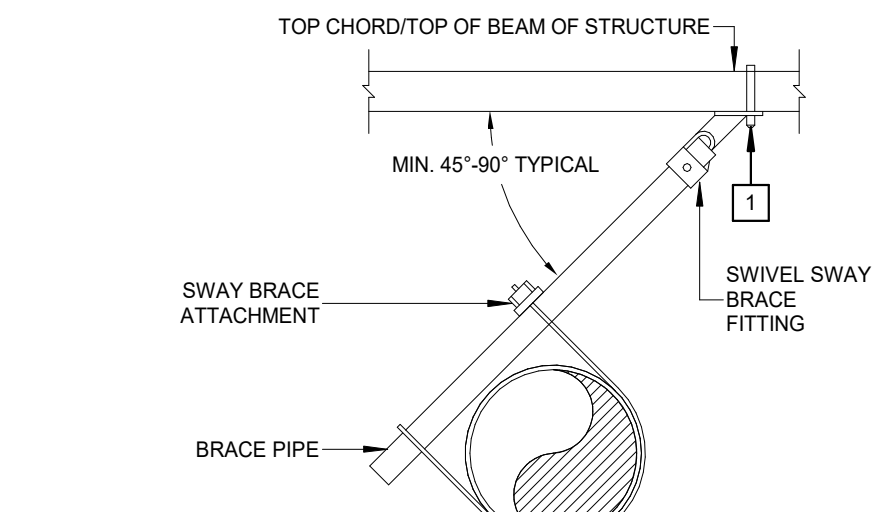


1 ATTACH TO STRUCTURAL MEMBERS VIA APPROVED ATTACHMENT METHOD; ATTACHMENT TO ROOF DECK IS PROHIBITED.

NOTE:

1. PROVIDED ON ALL FEED AND CROSS MAINS AT NO MORE THAN 80 FEET ON CENTER AND WITHIN 40 FEET OF THE END OF PIPE, IN ACCORDANCE WITH NFPA 13 SECTION 9.3.5.6 (2016 EDITION).

3 SEISMIC BRACING: LONGITUDINAL BRACE
NOT TO SCALE



1 ATTACH TO STRUCTURAL MEMBERS VIA APPROVED ATTACHMENT METHOD; ATTACHMENT TO ROOF DECK IS PROHIBITED.

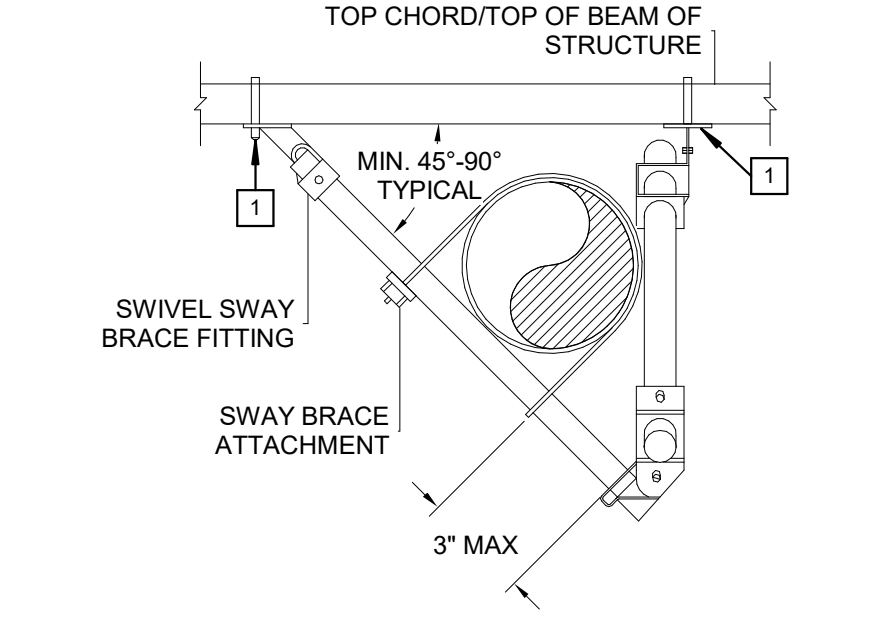
NOTES:

1. PROVIDED ON ALL FEED MAINS, CROSS MAINS, AND PIPING 2-1/2\"/>

2. PROVIDED AT (1) NO MORE THAN 40 FOOT INTERVALS, (2) WITHIN 6 FEET OF END OF PIPE, AND (3) WITHIN 24 INCHES OF EVERY OTHER NON-ESSENTIAL FLEXIBLE COUPLING.

3. LATERAL BRACES MAY BE OMITTED WHERE SPECIFICALLY ALLOWED BY NFPA 13.

2 SEISMIC BRACING: LATERAL BRACE
NOT TO SCALE



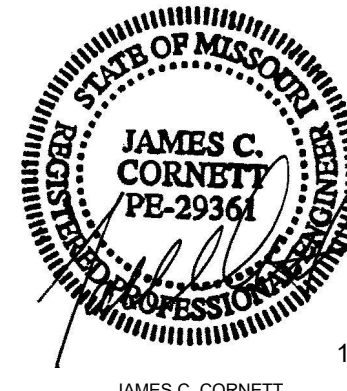
1 ATTACH TO STRUCTURAL MEMBERS VIA APPROVED ATTACHMENT METHOD; ATTACHMENT TO ROOF DECK IS PROHIBITED.

NOTE:

1. PROVIDED UPSTREAM AND DOWNSTREAM WITHIN 8 FEET OF SEISMIC SEPARATION ASSEMBLY IN ACCORDANCE WITH NFPA 13 SECTION 9.3.3.3 (2016 EDITION).

1 SEISMIC BRACING: FOUR-WAY BRACE
NOT TO SCALE

STATE OF MISSOURI
MICHAEL L. PARSON
GOVERNOR



JAMES C. CORNETT
MO LIC# PE-29361 EXP. 12/31/23



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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001;
8877719002;8877719004

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 10/5/22

CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

SHEET TITLE:

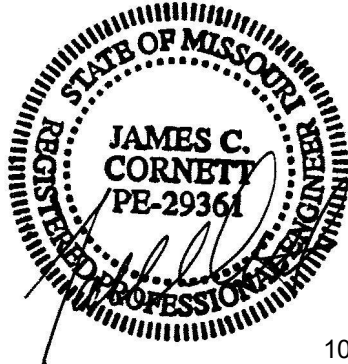
FIRE PROTECTION
DETAILS

SHEET NUMBER:

FP0.2

SHEET 8 OUT OF 17
10/5/22

SSC JOB# 2021284_BID DOCUMENTS



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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

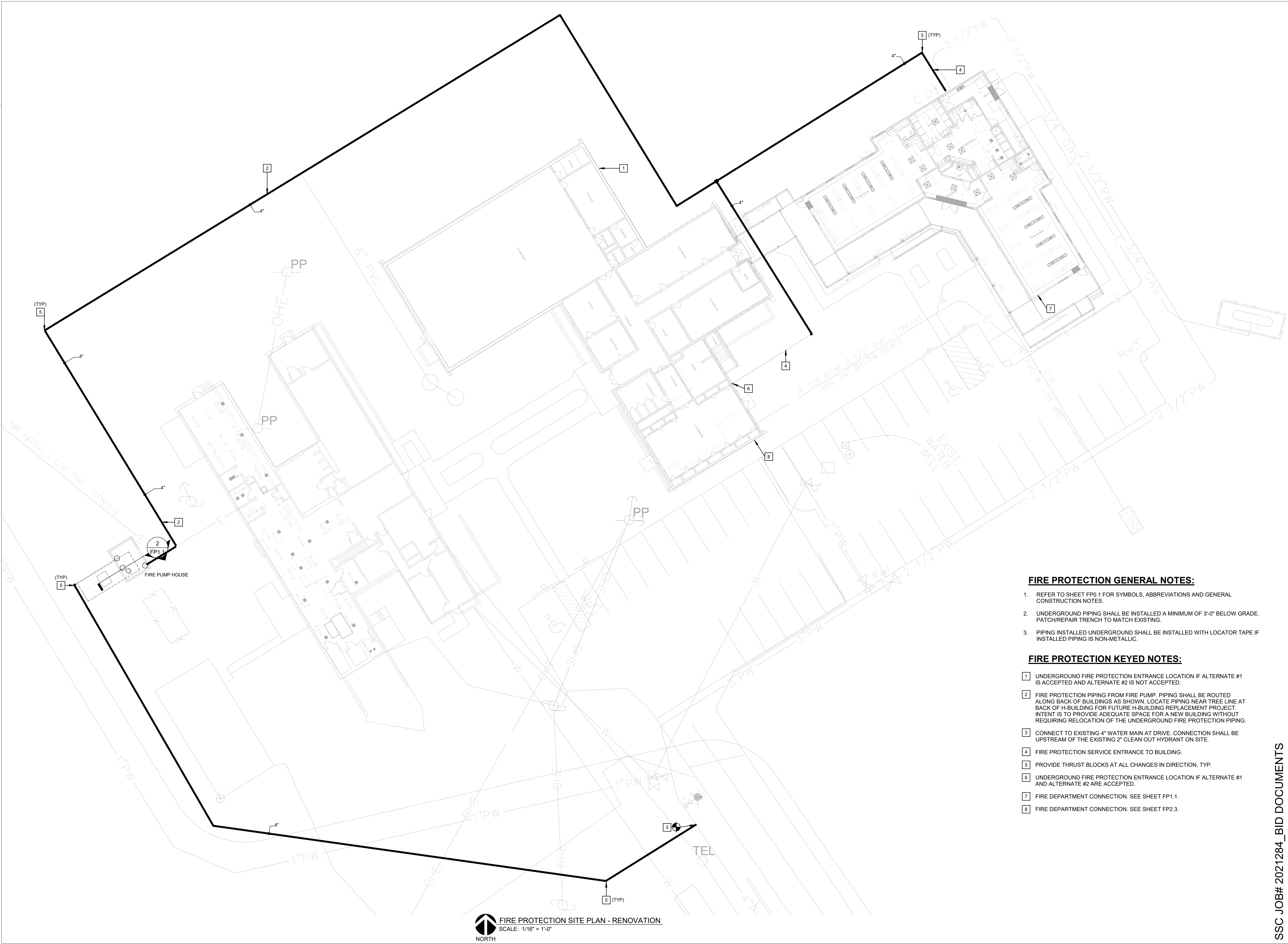
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SITE # 7719
FACILITY # 8877719001;
8877719002;887719004

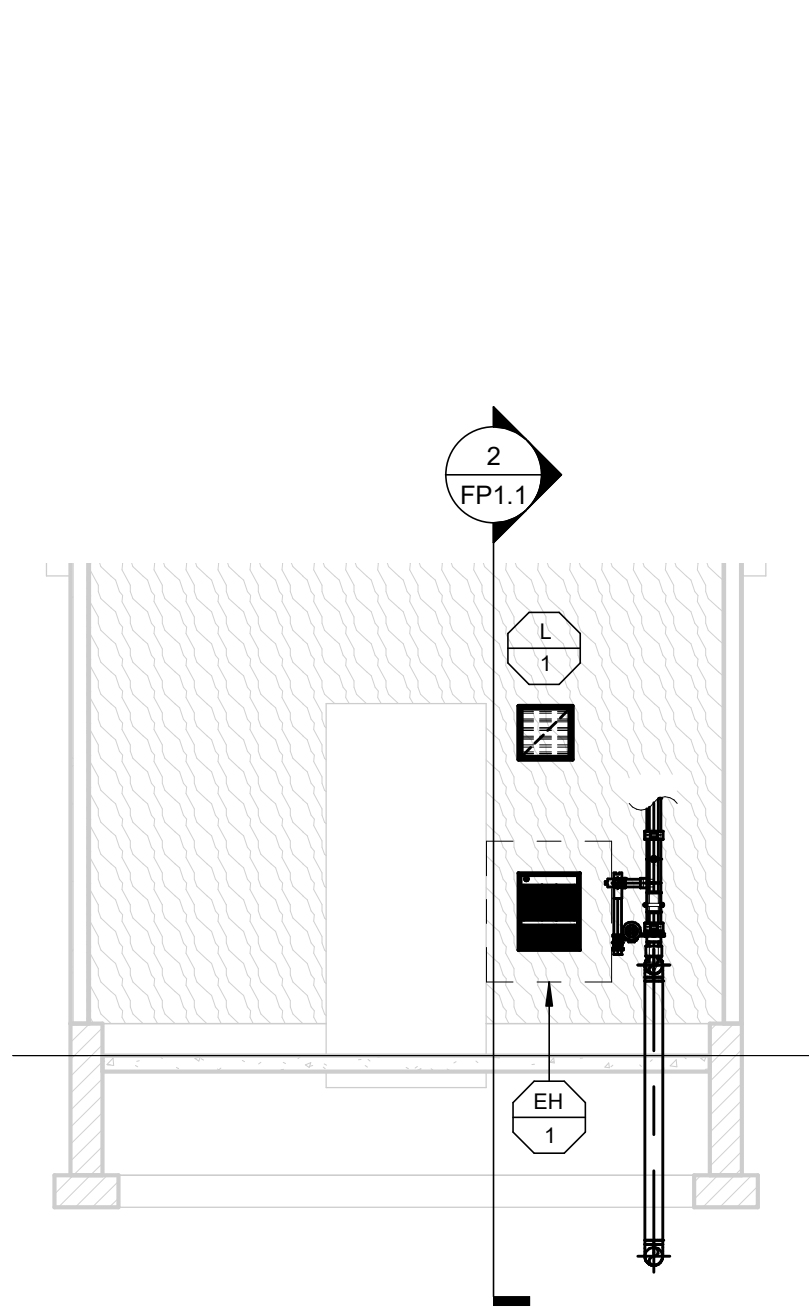
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REVISION: _____
DATE: _____
ISSUE DATE: 10/5/22

CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

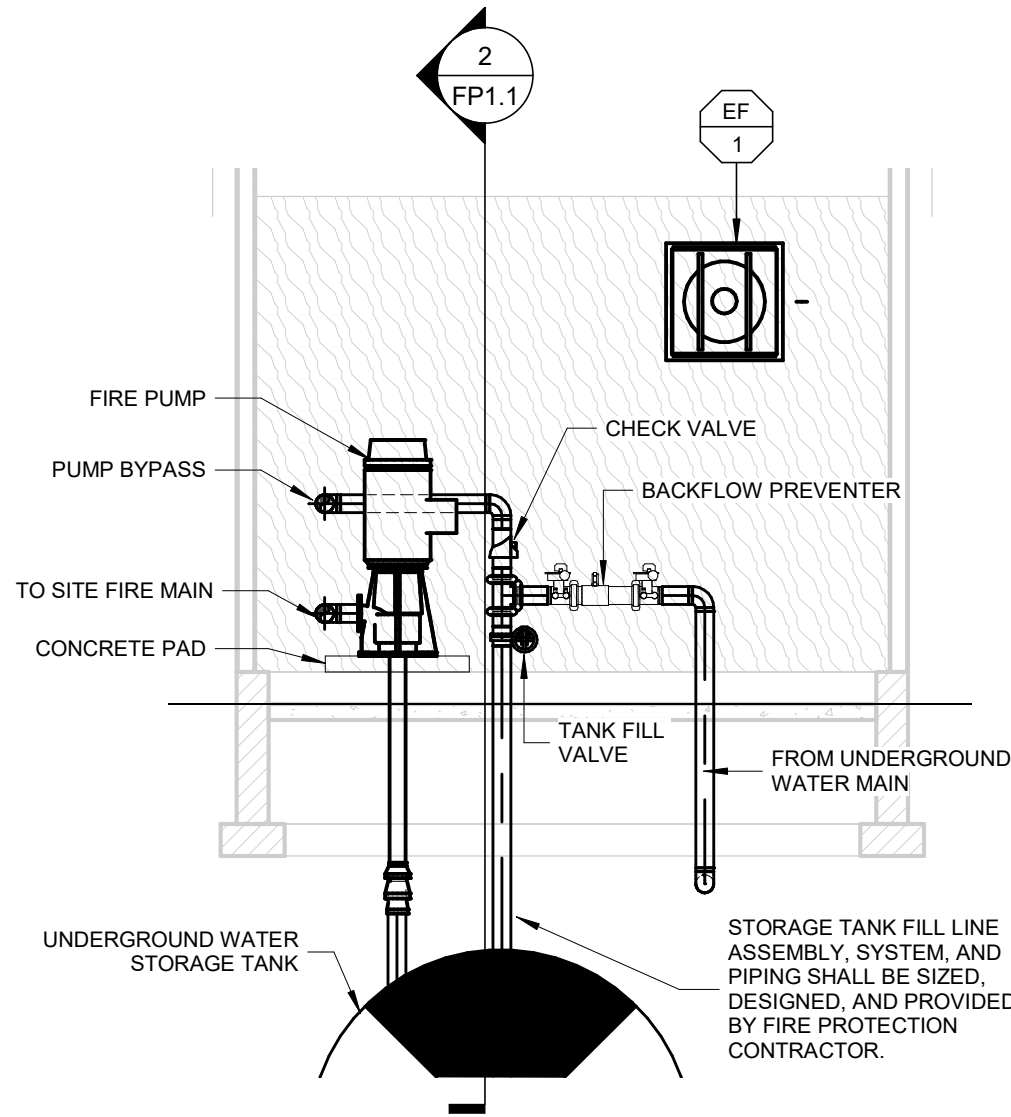
SHEET TITLE:
FIRE PROTECTION SITE
PLAN

SHEET NUMBER:
FP1.0
SHEET 9 OUT OF 17
10/5/22

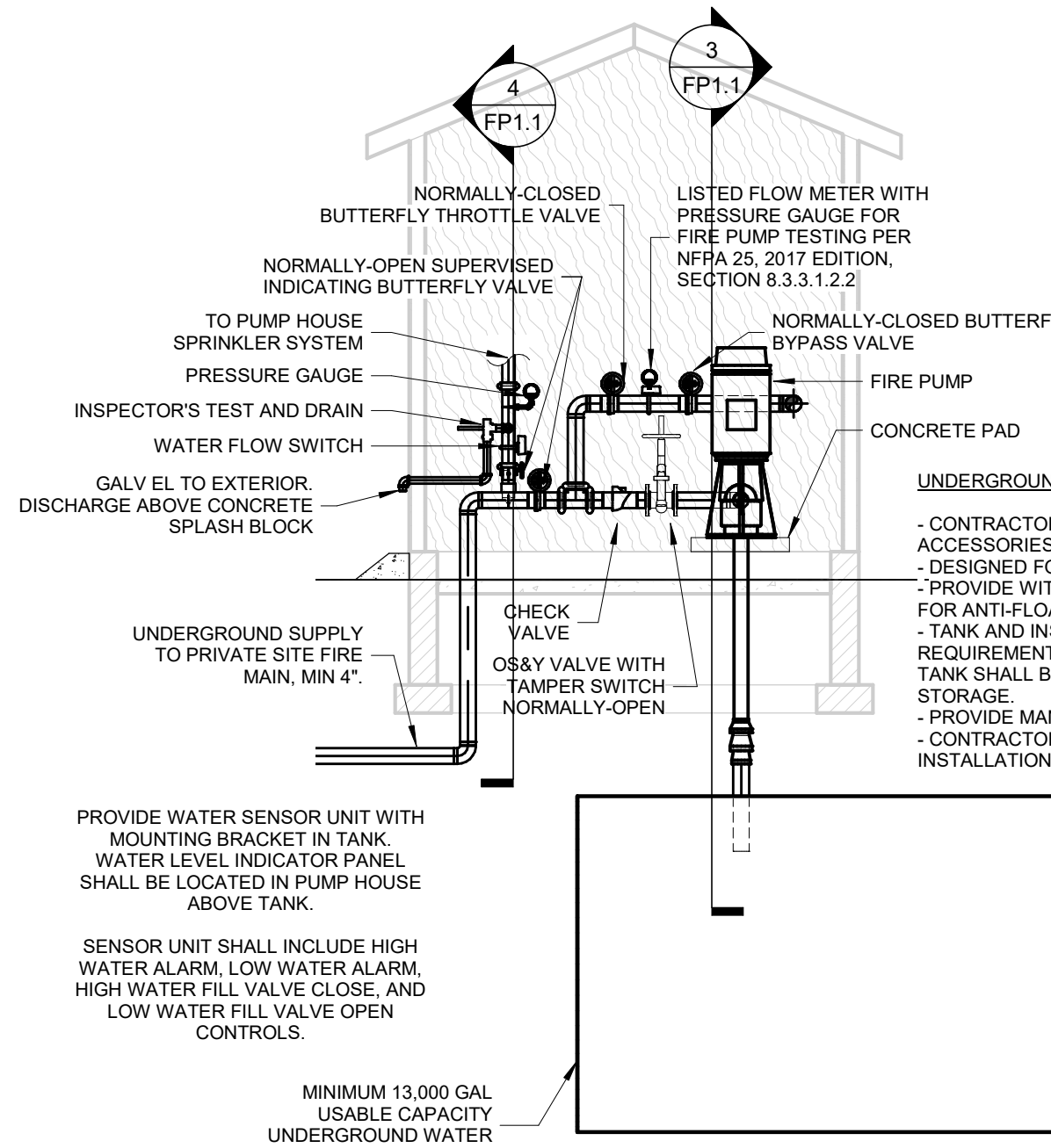




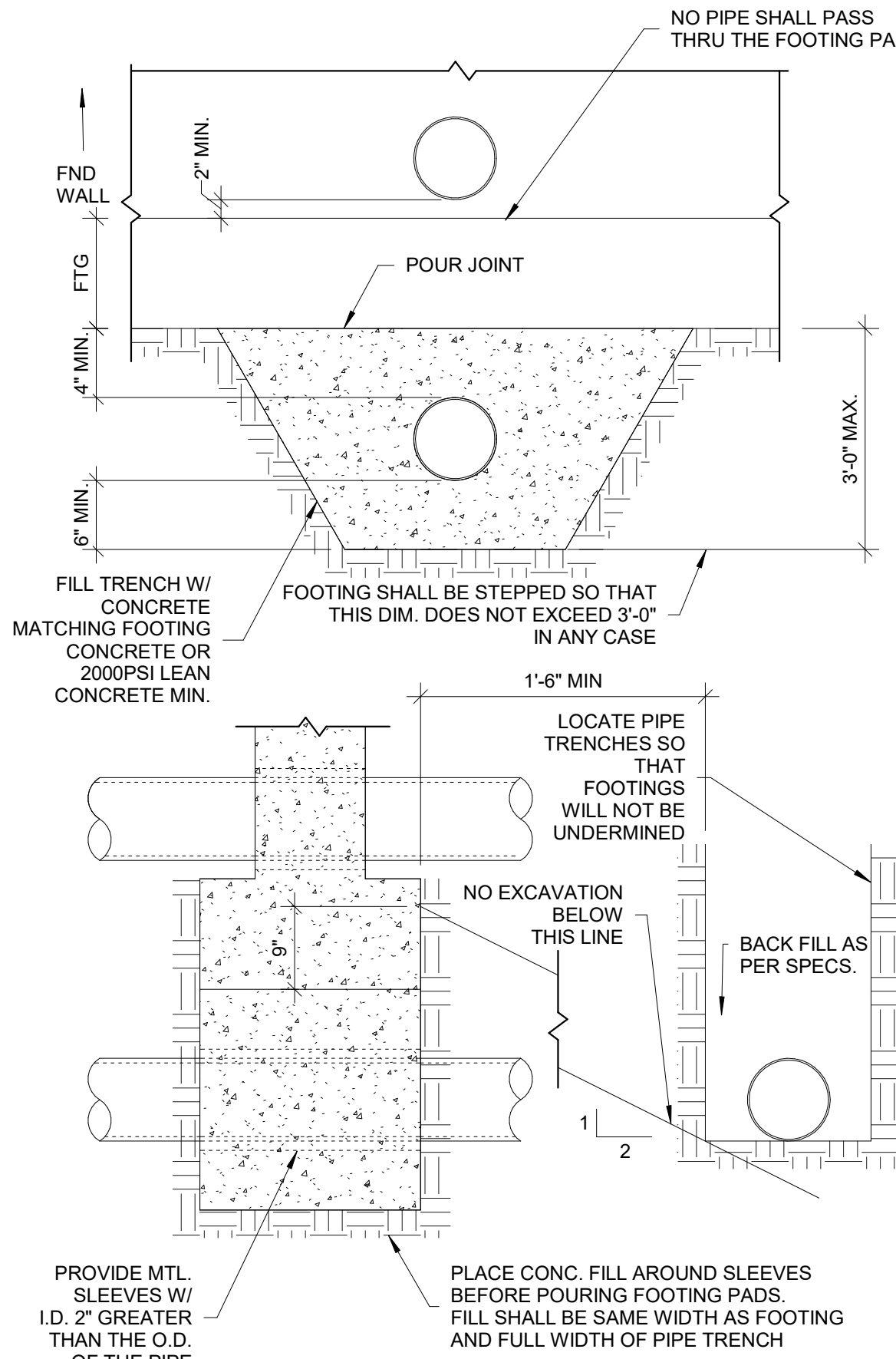
4 FIRE PUMP HOUSE SECTION 2
SCALE: 1/4" = 1'-0"



3 FIRE PUMP HOUSE SECTION 1
SCALE: 1/4" = 1'-0"



2 FIRE PROTECTION PUMP HOUSE SECTION
SCALE: 1/4" = 1'-0"



1 TYPICAL PIPE TRENCH FOOTING DETAIL
NOT TO SCALE

ALL EXCAVATION SPOILS TO REMAIN ON SITE TO A DESIGNATED LOCATION DIRECTED BY OWNER.

COORDINATE WITH ELECTRICAL CONTRACTOR FOR FINAL LOCATION OF ALL UNDERGROUND UTILITIES AND EQUIPMENT AROUND PUMP HOUSE.

EXHAUST FAN SCHEDULE											
TYPE	MARK	MANUFACTURER	MODEL	CFM	LOCATION	ESP	V/PH	HP	RPM	DRIVE	REMARKS
EF	1	GREENHECK	AER-20	200	FIRE PUMP HOUSE	0.15	120/1	1/4	500	DIRECT	ALL

1 WITH WIRE GAIRD ON MOTOR SIDE.
2 WITH WALL COLLAR
3 WITH BACKDRAFT DAMPER.
4 INTERLOCK FAN WITH MOTORIZED DAMPER AT OUTDOOR AIR LOUVER.
5 WITH 45° WEATHER HOOD. COLOR TO MATCH EXTERIOR OF BLDG.
6 WITH PERMEATECTOR COATING OR EQUIVALENT.

7 WITH DISCONNECT.
8 WITH ALUMINUM BLADES.
9 CONTROLLED WITH THERMOSTAT TO TURN ON WHEN SPACE EXCEEDS 90°F.
10 MOUNTED APPROX. 6'-6" AFF FROM BOTTOM OF EQUIPMENT.

LOUVER SCHEDULE										
TYPE	MARK	MANUFACTURER	MODEL	CFM	LISTED SIZE (WxH)	FREE AREA SQ. FT.	FINISH	AIR P.D. IN H ₂ O	FACE VELOCITY F.P.M.	REMARKS
L	1	RUSKIN	ELF637SDX	200	12"x12"	0.30	KYNAR	0.07	669	ALL

1 SILL EXTENSION
2 BIRDSCREEN

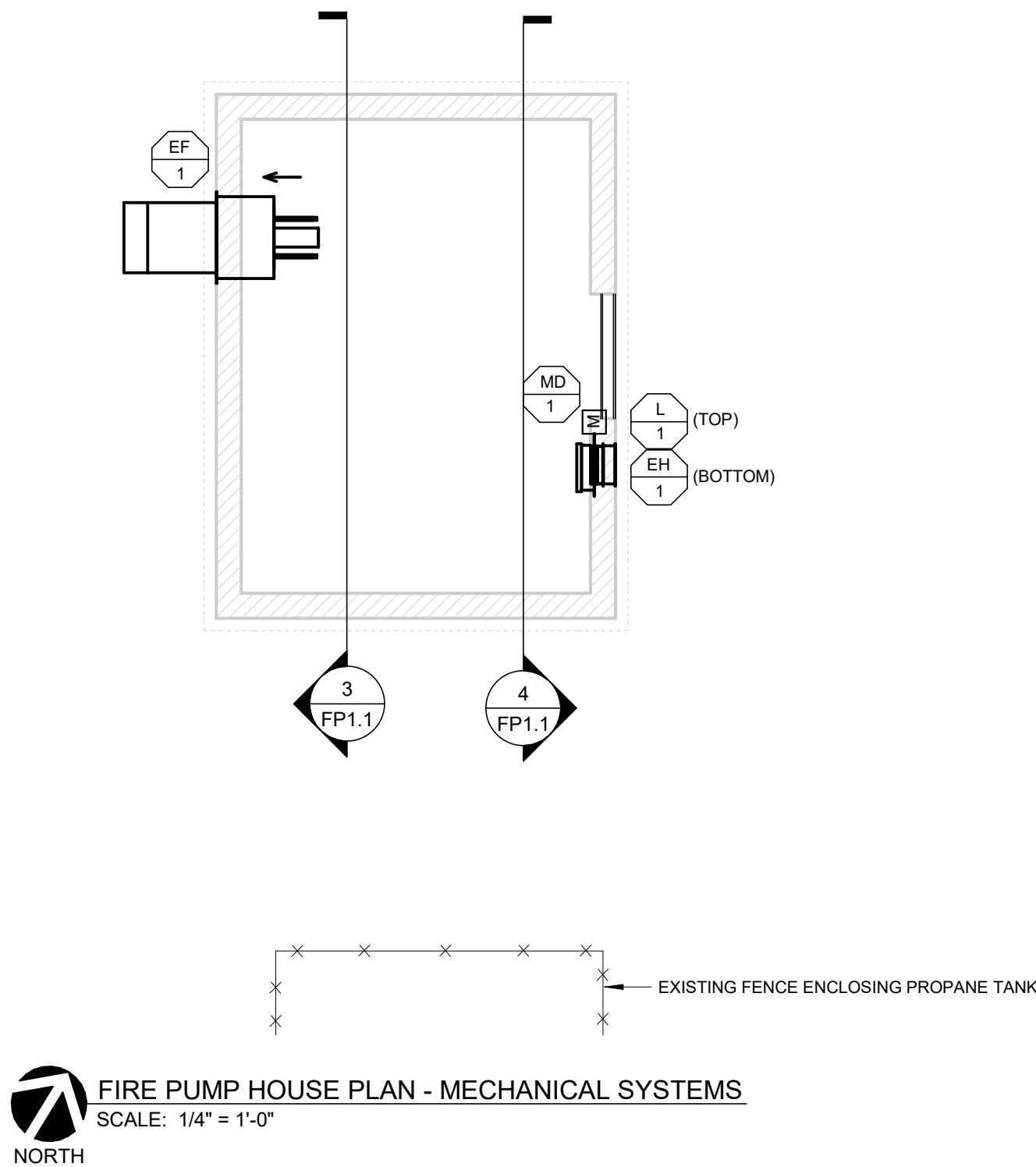
3 MOUNTED APPROX. 6'-2" AFF FROM BOTTOM OF LOUVER.
4 COLOR TO MATCH EXTERIOR OF BUILDING.

MOTORIZED DAMPER SCHEDULE											
TYPE	MARK	TYPE	SIZE	# OF SECTIONS	SERVICE	LOCATION	# OF ACTUATORS	FAILURE (NO/NC)	VOLTS	CONTROL TYPE	REMARKS
MD	1	PARALLEL	12"x12"	1	OA INTAKE	FIRE PUMP HOUSE	1	NC	120	ELECTRIC	ALL

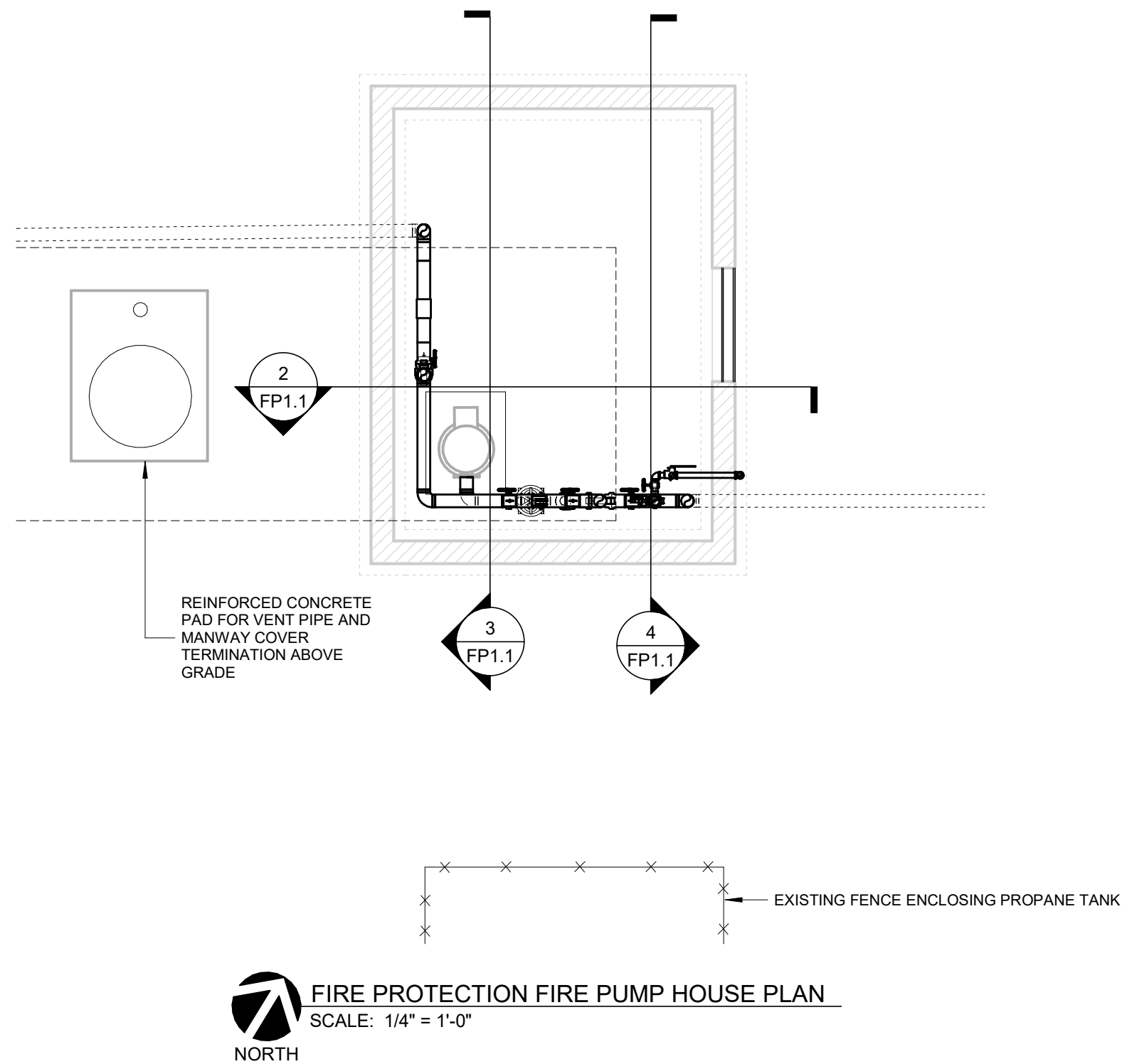
1 WITH END SWITCH.
2 TWO POSITION.

ELECTRIC HEATER SCHEDULE								
	MARK	MANUFACTURER	MODEL	LOCATION	WATTS	AMPS	V/PH	REMARKS
EH	1	QMARK	MUH0581	FIRE PUMP HOUSE	5000	14	208/3	ALL

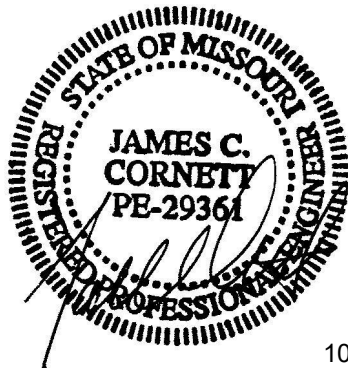
1 WALL MOUNTED UNIT.
2 THERMOSTAT SHALL BE SET LIMITED TO 50°F



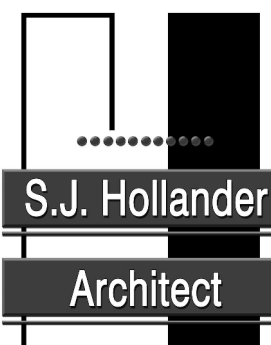
FIRE PUMP HOUSE PLAN - MECHANICAL SYSTEMS
SCALE: 1/4" = 1'-0"



FIRE PROTECTION FIRE PUMP HOUSE PLAN
SCALE: 1/4" = 1'-0"



10/5/22



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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY #

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 10/5/22

CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

SHEET TITLE:

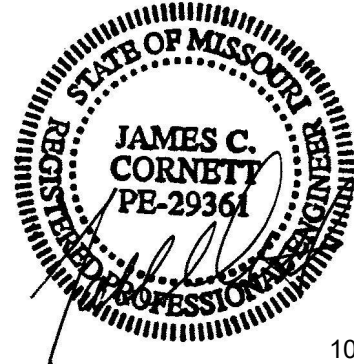
FIRE PROTECTION PUMP
HOUSE PLAN

SHEET NUMBER:

FP1.1

SHEET 10 OUT OF 17
10/5/22

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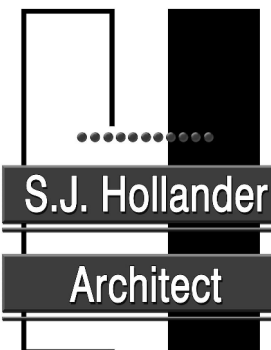


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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719004

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REVISION: _____
DATE: _____
ISSUE DATE: 10/5/22

CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

SHEET TITLE:

FIRE PROTECTION
DORMITORY 1ST FLOOR
PLAN

SHEET NUMBER:

FP2.0

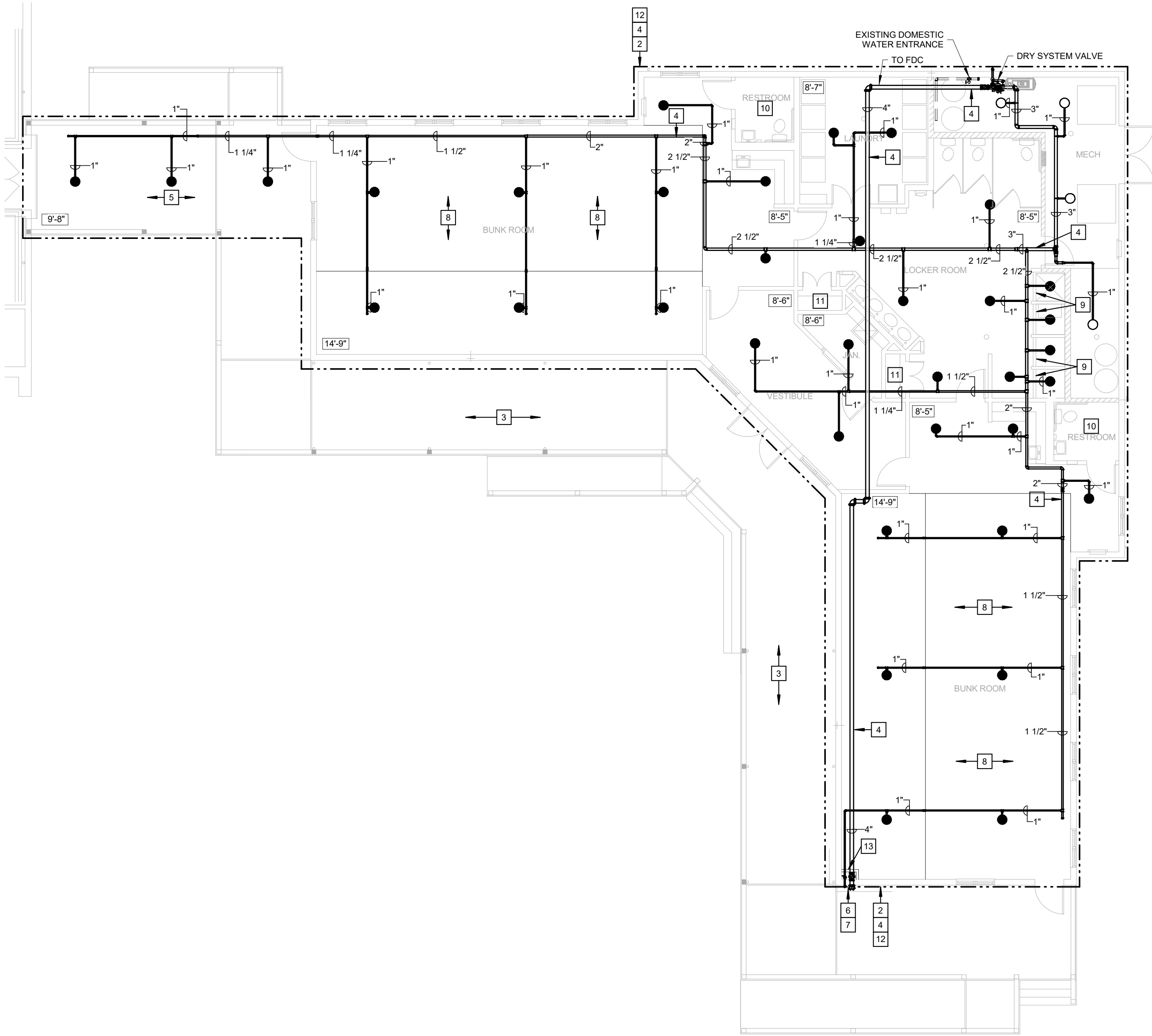
SHEET 11 OUT OF 17
10/5/22

GENERAL NOTES:

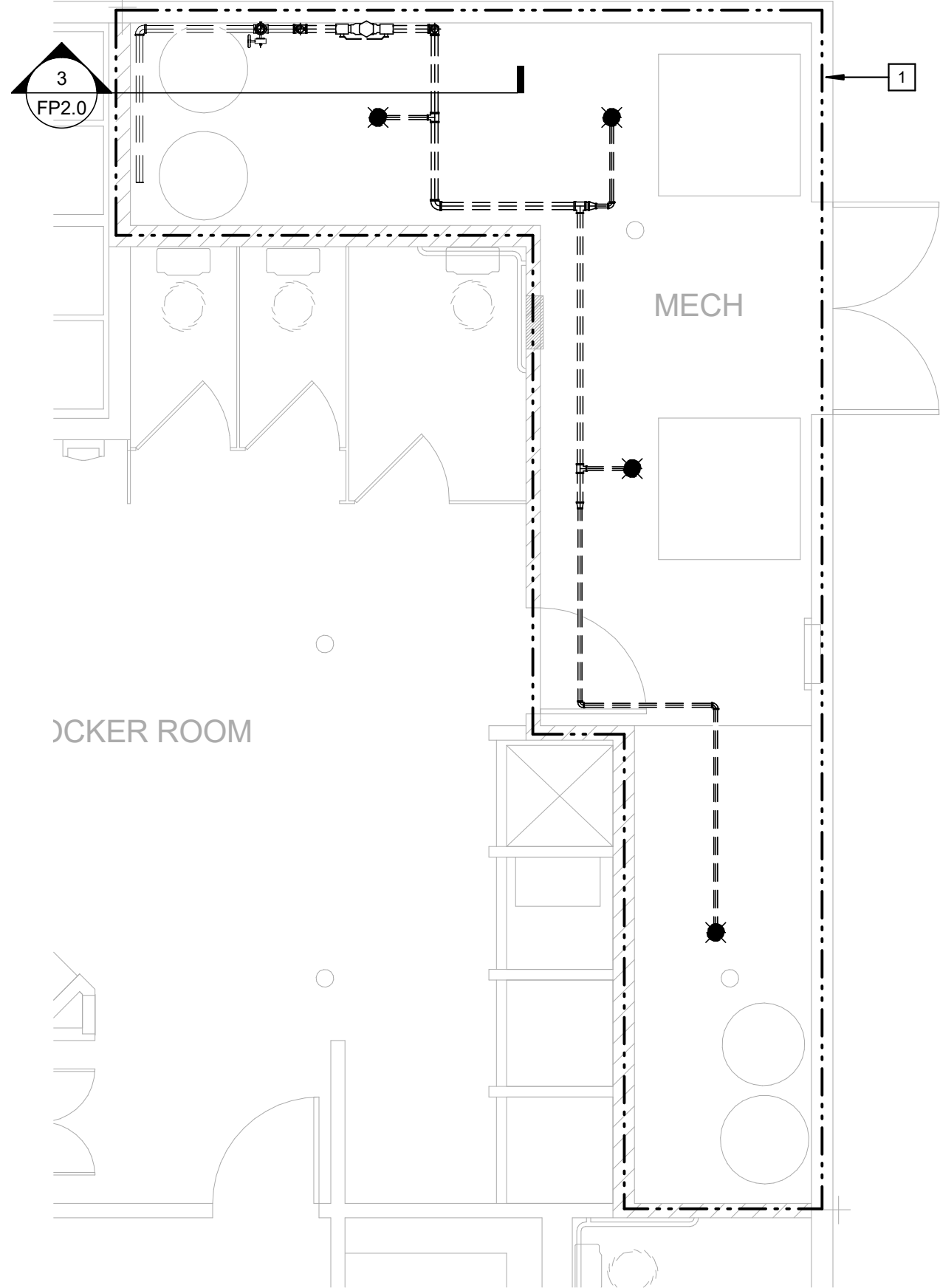
- REFER TO SHEET FP0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
- PIPE SIZES SHOWN ON PLANS ARE TO ASSIST IN BIDDING PURPOSES ONLY. PIPE SIZES SHOWN ARE DETERMINED BY PIPE SCHEDULE METHOD AS NOTED IN NFPA 13.

KEYED NOTES:

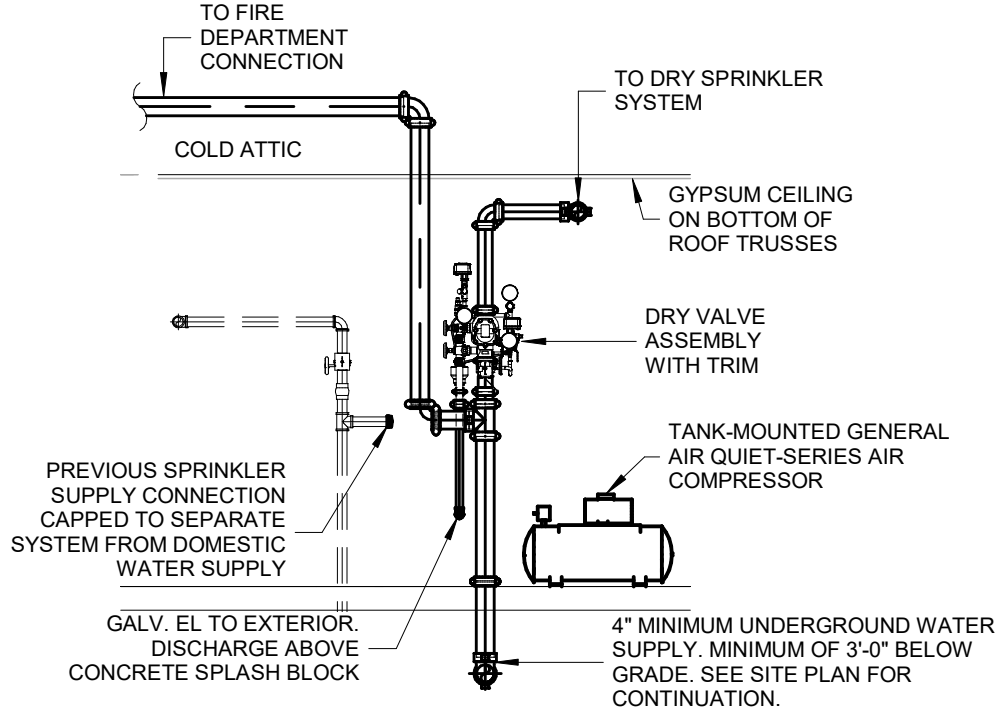
- DEMOLISH EXISTING SPRINKLERS AND ASSOCIATED PIPING LOCATED IN THE MECHANICAL ROOM. EXISTING SYSTEM IS CONNECTED TO THE DOMESTIC WATER SYSTEM. DISCONNECT DOMESTIC SYSTEM FROM SPRINKLER PIPING TO BE DEMOLISHED AND CAP.
- PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL AUTOMATIC DRY-PIPE FIRE PROTECTION SYSTEM IN THE AREA INDICATED. FIRE PROTECTION SYSTEM(S) SHALL BE DESIGNER PER NFPA 13R AND IBC REQUIREMENTS FOR A FULLY SPRINKLERED BUILDING. PROVIDE ALL SPRINKLERS, PIPING, HANGERS, ETC. AND COORDINATE LOCATIONS, PIPE ROUTING, SCHEDULING, AND ALL OTHER INSTALLATION REQUIREMENTS WITH OTHER TRADES AND EXISTING CONDITIONS.
- SPRINKLERS ARE NOT REQUIRED BENEATH THE EAVES ABOVE THE PORCH PER NFPA 13R SECTION 6.6.5 2016 EDITION.
- PIPING SHALL BE LOCATED IN THE COLD ATTIC SPACE. NO PIPING SHALL BE INSTALLED BELOW THE ATTIC EXCEPT WHERE CONCEALED BY DROP CEILINGS OR WHERE LOCATED WITHIN THE MECHANICAL ROOM.
- SPRINKLERS REQUIRED IN COVERED WALKWAY BETWEEN BUILDINGS. CONNECTING BUILDING SPRINKLER SYSTEM TO BE DESIGNED PER NFPA 13 AND NOT NFPA 13R.
- PROVIDE A SIAMESE 4"x2-1/2"x2-1/2" FIRE DEPARTMENT CONNECTION. COORDINATE FINAL LOCATION WITH AHJ.
- PROVIDE AN AUDIO/VISUAL HORN AND STROBE ALARM ON EXTERIOR WALL ABOVE FIRE DEPARTMENT CONNECTION.
- SLOPED GYPSUM CEILING. CEILING SLOPES FROM 11'-0" TO 14'-9".
- 18-3/4" OBSTRUCTION AT CEILING SEPARATING RESTROOM CEILING FROM SHOWER CEILING. SPRINKLER REQUIRED WITHIN SHOWER, PROVIDE APPROPRIATE TEMPERATURE RATING WITHIN SHOWER STALL.
- SPRINKLERS SHALL NOT BE REQUIRED IN RESTROOMS WHERE THE RESTROOM AREA DOES NOT EXCEED 55 SQFT PER NFPA 13R, 2016 EDITION, SECTION 6.6.2.
- SPRINKLERS ARE NOT REQUIRED IN CLOSETS THAT DO NOT EXCEED 24 SQFT AND HAVE WALLS AND CEILINGS WITH A NONCOMBUSTIBLE OR LIMITED-COMBUSTIBLE MATERIAL PER NFPA 13R, 2016 EDITION, SECTION 6.6.3.
- SPRINKLERS SHALL NOT BE REQUIRED IN ATTIC SPACES PER NFPA 13R, 2016 EDITION, SECTION 6.6.6.
- REMOTE INSPECTOR'S TEST AND DRAIN SHALL BE INSTALLED WITHIN NEW ENCLOSURE. PROVIDE NEW TAMPER PROOF ACCESS PANEL, APPROXIMATELY 6"x16" FOR ACCESS TO BALL VALVE AND SIGHT GLASS. ACCESS PANEL SHALL HAVE ENGRAVED COVER NOTING LOCATION OF INSPECTOR'S TEST AND DRAIN.



FIRE PROTECTION DORMITORY 1ST FLOOR PLAN - RENOVATION
SCALE: 1/8" = 1'-0"
NORTH

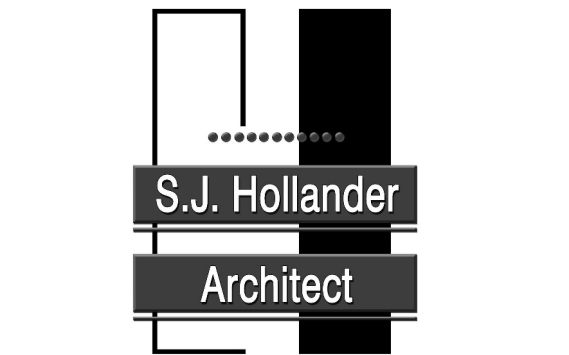
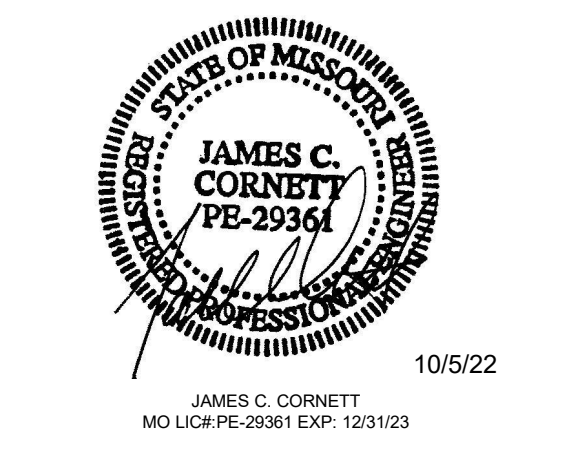


FIRE PROTECTION DORMITORY LEVEL 1 PLAN - DEMOLITION
SCALE: 1/4" = 1'-0"
NORTH



DORMITORY RISER
SCALE: 1/4" = 1'-0"

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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 10/5/22

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DRAWN BY: LMM _____
CHECKED BY: JCC _____
DESIGNED BY: LMM _____

SHEET TITLE:
FIRE PROTECTION
MUTLIPURPOSE
BASEMENT FLOOR PLAN

SHEET NUMBER:

FP3.1

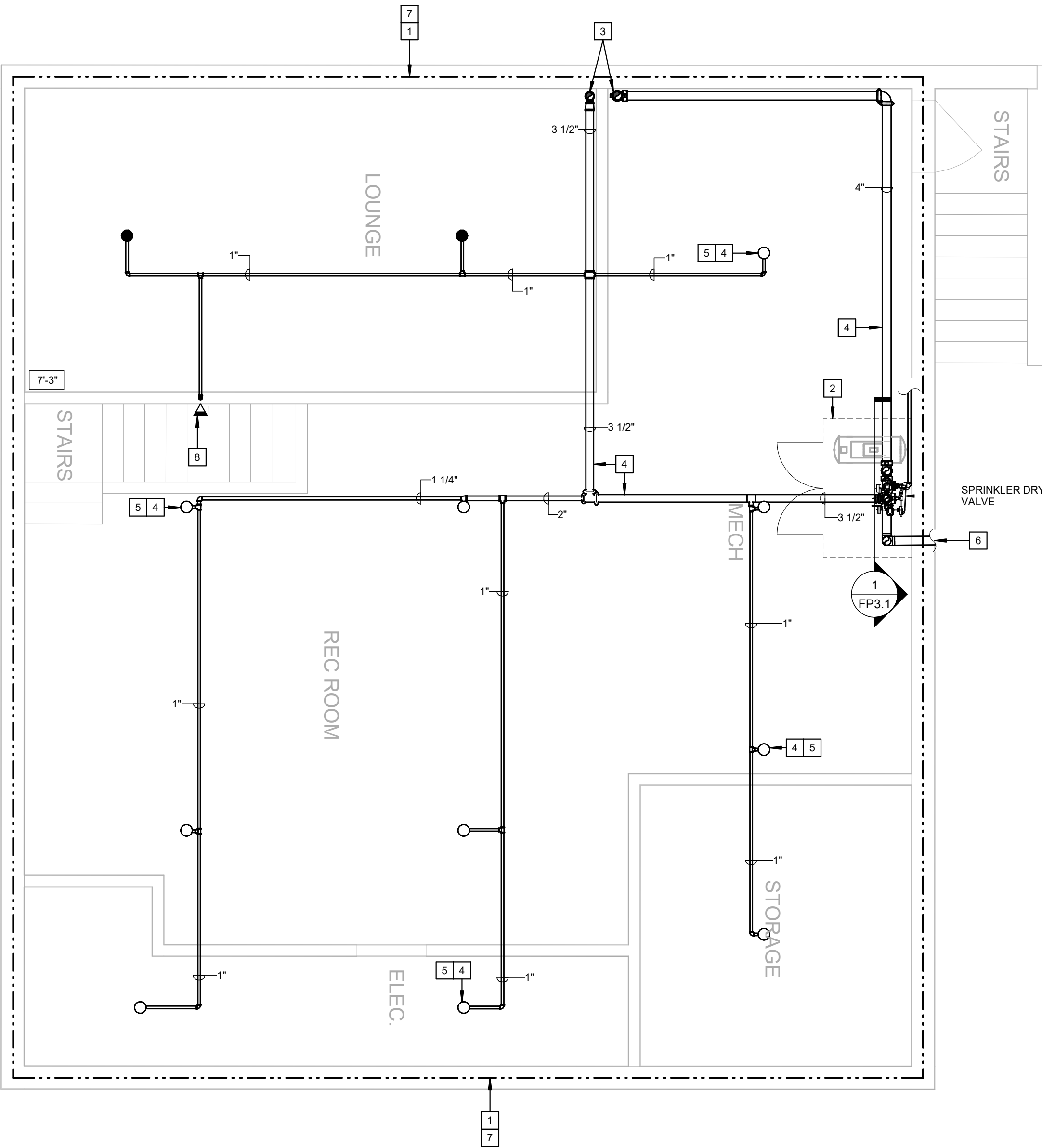
SHEET 12 OUT OF 17
10/5/22


GENERAL NOTES:

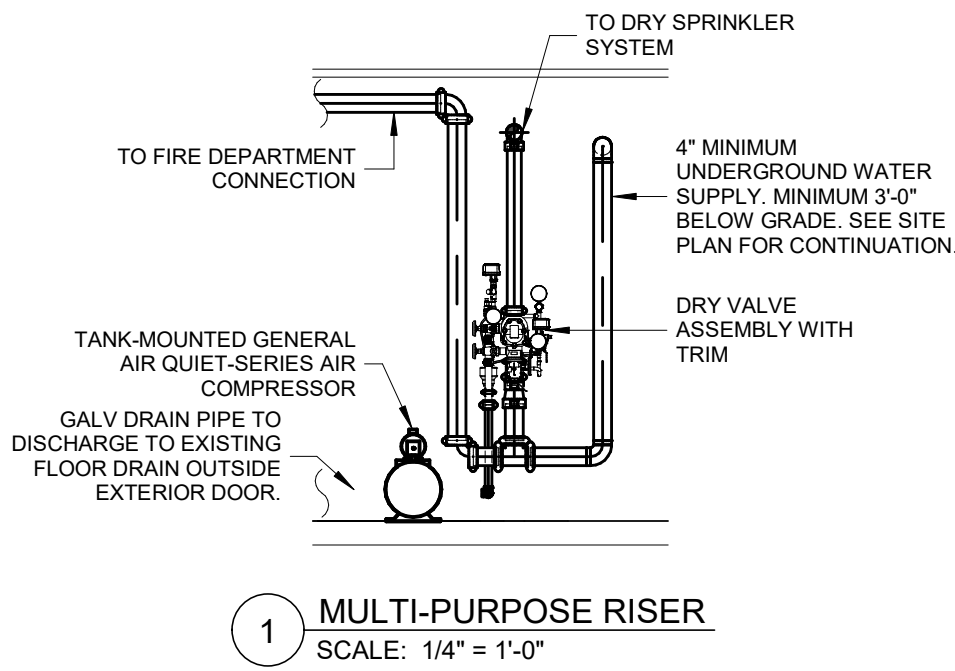
- REFER TO SHEET FP0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
- PIPE SIZES SHOWN ON PLANS ARE TO ASSIST IN BIDDING PURPOSES ONLY. PIPE SIZES SHOWN ARE DETERMINED BY PIPE SCHEDULE METHOD AS NOTED IN NFPA 13.

KEYED NOTES:

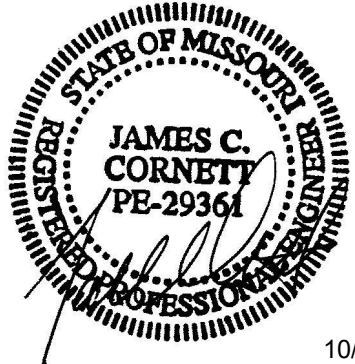
- PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL AUTOMATIC DRY FIRE PROTECTION SYSTEM IN THE AREA INDICATED. FIRE PROTECTION SYSTEM(S) SHALL BE DESIGNER PER NFPA 13 AND IBC REQUIREMENTS FOR A FULLY SPRINKLERED BUILDING. PROVIDE ALL SPRINKLERS, PIPING, HANGERS, ETC. AND COORDINATE LOCATIONS, PIPE ROUTING, SCHEDULING, AND ALL OTHER INSTALLATION REQUIREMENTS WITH OTHER TRADES AND EXISTING CONDITIONS.
- PROVIDE A SECURE CHAIN LINK FENCE AROUND SPRINKLER RISER AND EQUIPMENT. PROVIDE (2) SINGLE-SWING 2FT GATES FOR A TOTAL 4'-0" CLEARANCE AREA FOR ACCESS AND MAINTENANCE OF EQUIPMENT. GATE SHALL SWING OUT OF ENCLOSURE TO PREVENT DAMAGE TO THE SPRINKLER RISER FROM THE GATE. COORDINATE WITH OWNER FOR LOCK REQUIREMENTS.
- PIPING UP TO FLOOR ABOVE. SEE SHEET FP2.3 FOR CONTINUATION.
- SPRINKLERS AND PIPING SHALL BE INSTALLED AS TIGHT TO STRUCTURE AS POSSIBLE. TYP ALL.
- ALL UPRIGHT SPRINKLERS SHALL BE PROVIDED WITH LISTED SPRINKLER GUARDS.
- LOCATION OF WATER ENTRANCE AND RISER IF ALTERNATE #1 AND ALTERNATE #2 ARE ACCEPTED. SEE SHEET FP2.2 FOR LOCATION IF ONLY ALTERNATE #1 IS ACCEPTED.
- IF ALTERNATE #2 IS NOT ACCEPTED, NO WORK IN THIS AREA.
- CONCEALED DRY SIDEWALL SPRINKLER LOCATED BENEATH STAIRS.



 FIRE PROTECTION MULTI-PURPOSE BASEMENT - RENOVATION
SCALE: 1/4" = 1'-0"
NORTH



SSC JOB# 2021284_BID DOCUMENTS



10/5/22

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SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001

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ISSUE DATE: 10/5/22

CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

SHEET TITLE:
FIRE PROTECTION
MULTIPURPOSE 1ST
FLOOR PLAN - NORTH

SHEET NUMBER:

FP3.2

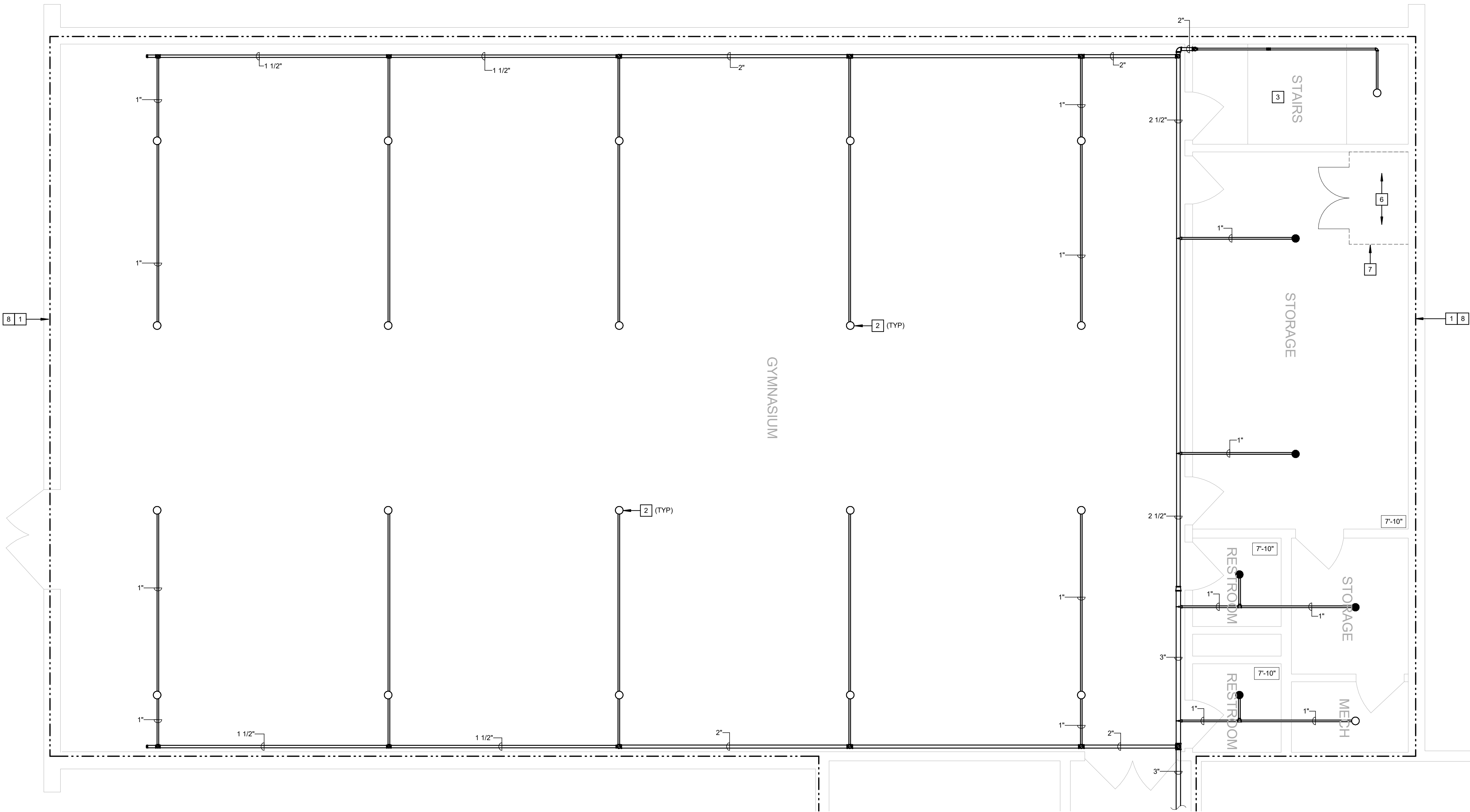
SHEET 13 OUT OF 17
10/5/22

GENERAL NOTES:

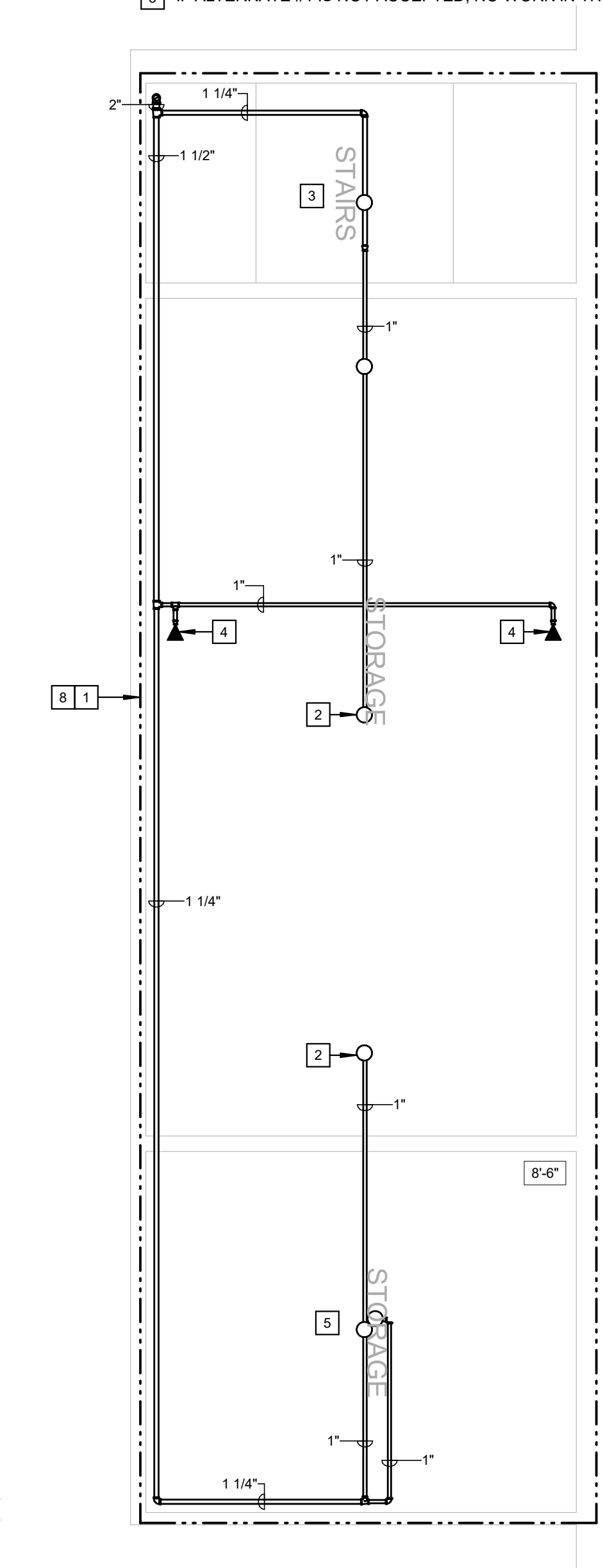
1. REFER TO SHEET FP0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
2. PIPE SIZES SHOWN ON PLANS ARE TO ASSIST IN BIDDING PURPOSES ONLY. PIPE SIZES SHOWN ARE DETERMINED BY PIPE SCHEDULE METHOD AS NOTED IN NFPA 13.

KEYED NOTES:

- 1 PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL AUTOMATIC DRY FIRE PROTECTION SYSTEM IN THE AREA INDICATED. FIRE PROTECTION SYSTEM(S) SHALL BE DESIGNER PER NFPA 13 AND IBC REQUIREMENTS FOR A FULLY SPRINKLERED BUILDING. PROVIDE ALL SPRINKLERS, PIPING, HANGERS, ETC. AND COORDINATE LOCATIONS, PIPE ROUTING, SCHEDULING, AND ALL OTHER INSTALLATION REQUIREMENTS WITH OTHER TRADES AND EXISTING CONDITIONS.
- 2 UPRIGHT SPRINKLERS SHALL HAVE A LISTED AND APPROVED WIRE GUARD FOR PROTECTION. TYP ALL.
- 3 PROVIDE SPRINKLER PROTECTION AT THE TOP AND BENEATH THE FIRST ACCESSIBLE LANDING PER NFPA 13, SECTION 8.15.3.2.1, 2016 EDITION.
- 4 PROVIDE SPRINKLER PROTECTION BENEATH DUCTWORK EXCEEDING 4FT IN WIDTH PER NFPA 13, 8.6.5.3.3, 2016 EDITION.
- 5 STORAGE ROOM HAS A PLYWOOD LID. NO STORAGE LOCATED ON TOP OF LID. SPRINKLER ABOVE AND BELOW AS SHOWN.
- 6 LOCATION OF WATER ENTRANCE AND RISER IF ONLY ALTERNATE #1 IS ACCEPTED. SEE SHEET FP2.1 FOR LOCATION IF ALTERNATE #1 AND ALTERNATE #2 IS ACCEPTED.
- 7 IF ONLY ALTERNATE #1 IS ACCEPTED, PROVIDE A SECURE CHAIN LINK FENCE AROUND SPRINKLER RISER AND EQUIPMENT. PROVIDE (2) SINGLE-SWING 2FT GATES FOR A TOTAL 4'-0" CLEARANCE AREA FOR ACCESS AND MAINTENANCE OF EQUIPMENT. GATE SHALL SWING OUT OF ENCLOSURE TO PREVENT DAMAGE TO THE SPRINKLER RISER FROM THE GATE. COORDINATE WITH OWNER FOR LOCK REQUIREMENTS.
- 8 IF ALTERNATE #1 IS NOT ACCEPTED, NO WORK IN THIS AREA.

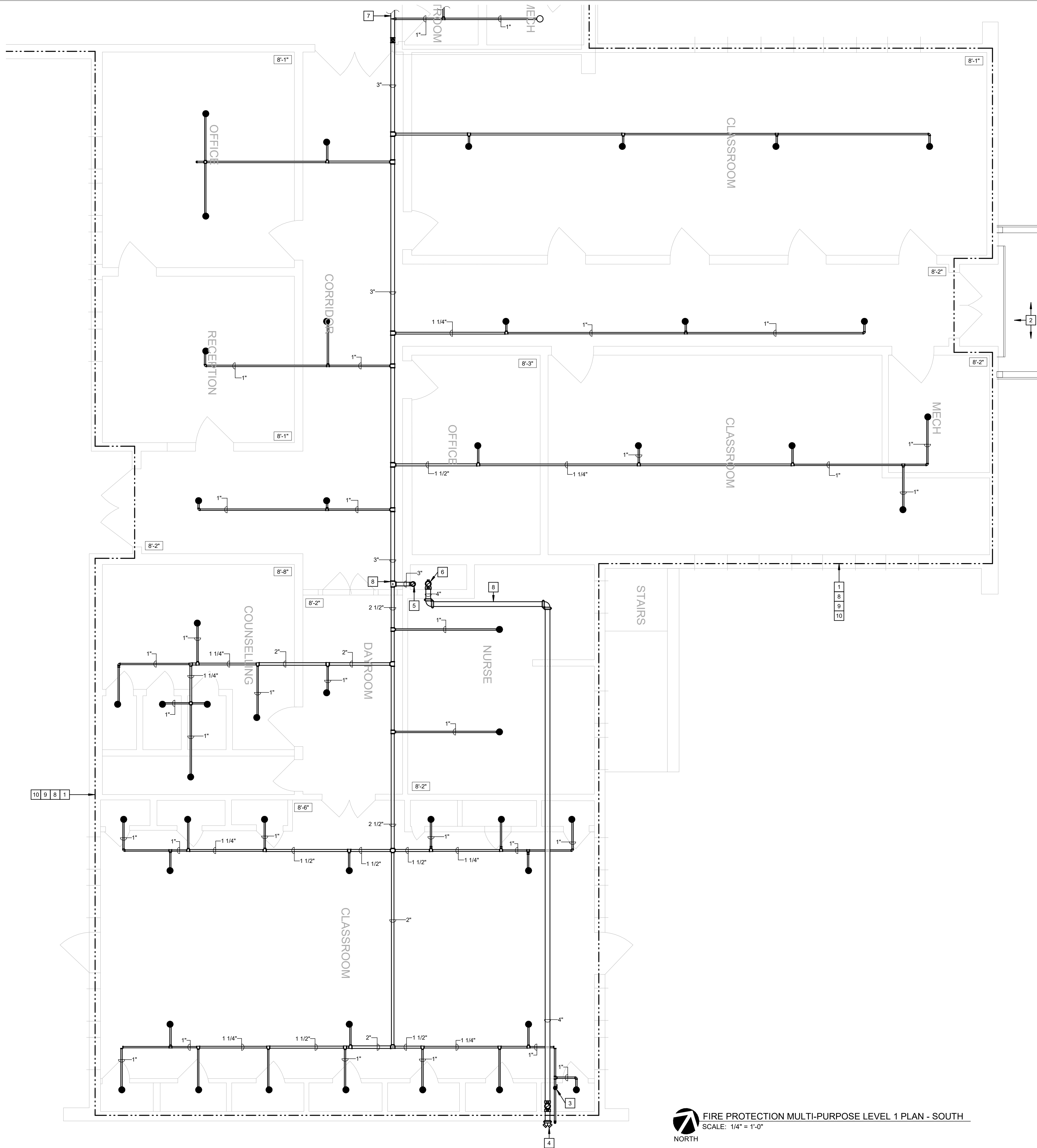


FIRE PROTECTION MULTI-PURPOSE LEVEL 1 PLAN - NORTH
SCALE: 1/4" = 1'-0"
NORTH



FIRE PROTECTION MULTI-PURPOSE LEVEL PLATFORM PLAN
SCALE: 1/4" = 1'-0"
NORTH

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FIRE PROTECTION MULTI-PURPOSE LEVEL 1 PLAN - SOUTH
SCALE: 1/4" = 1'-0"
NORTH

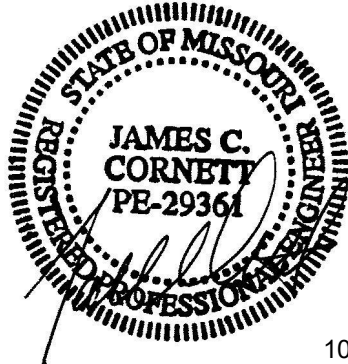
GENERAL NOTES:

- REFER TO SHEET FP0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
- PIPE SIZES SHOWN ON PLANS ARE TO ASSIST IN BIDDING PURPOSES ONLY. PIPE SIZES SHOWN ARE DETERMINED BY PIPE SCHEDULE METHOD AS NOTED IN NFPA 13.

KEYED NOTES:

- PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL AUTOMATIC DRY FIRE PROTECTION SYSTEM IN THE AREA INDICATED. FIRE PROTECTION SYSTEM(S) SHALL BE DESIGNER PER NFPA 13 AND IBC REQUIREMENTS FOR A FULLY SPRINKLERED BUILDING. PROVIDE ALL SPRINKLERS, PIPING, HANGERS, ETC. AND COORDINATE LOCATIONS, PIPE ROUTING, SCHEDULING, AND ALL OTHER INSTALLATION REQUIREMENTS WITH OTHER TRADES AND EXISTING CONDITIONS.
- SEE SHEET FP1.1 FOR DORMITORY SPRINKLER SYSTEM INFORMATION.
- REMOTE INSPECTOR'S TEST AND DRAIN SHALL BE INSTALLED WITHIN EXISTING CLOSET. VALVE SHALL BE LOCKABLE TO PREVENT TAMPERING AND PROVIDE PROTECTIVE CAGE AROUND SITE GLASS.
- PROVIDE A SIAMESE 4"x2-1/2"x2-1/2" FIRE DEPARTMENT CONNECTION. COORDINATE FINAL LOCATION WITH AHJ.
- PIPING MAIN DOWN TO FLOOR BELOW. SEE SHEET FP2.1 FOR CONTINUATION.
- FIRE DEPARTMENT CONNECTION PIPING FROM FLOOR BELOW. SEE SHEET FP2.1 FOR CONTINUATION.
- SEE SHEET FP2.2 FOR CONTINUATION.
- ALL PIPING SHALL BE LOCATED IN THE COLD ATTIC SPACE. NO PIPING SHALL BE INSTALLED BELOW THE ATTIC EXCEPT WHERE CONCEALED BY DROP CEILINGS OR WHERE LOCATED WITHIN A MECHANICAL ROOM.
- SPRINKLERS ARE REQUIRED WITHIN THE COLD ATTIC. EXTEND DRY SYSTEM PIPING WITHIN ATTIC TO PROTECT ATTIC SPACE AS NECESSARY.
- IF ALTERNATE #2 IS NOT ACCEPTED, NO WORK IN THIS AREA.

STATE OF MISSOURI
MICHAEL L. PARSON
GOVERNOR



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OFFICE OF
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DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND
CONSTRUCTION
DIVISION OF YOUTH
SERVICES

CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
TROY, MO 63379

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 10/5/22

CAD DWG FILE: -
DRAWN BY: LMM
CHECKED BY: JCC
DESIGNED BY: LMM

SHEET TITLE:
FIRE PROTECTION
MULTIPURPOSE 1ST
FLOOR PLAN - SOUTH

SHEET NUMBER:

FP3.3

SHEET 14 OUT OF 17
10/5/22

SSC JOB# 2021284_BID DOCUMENTS

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DIVISION OF YOUTH
SERVICES**

PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001;
8877719002;887719004

CAD DWG FILE: -
 DRAWN BY: SSC
 CHECKED BY: BDS
 DESIGNED BY: SSC

SHEET NUMBER:

SHEET 16 OUT OF 17
10/5/22

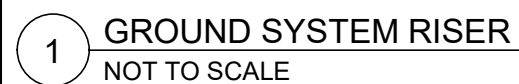
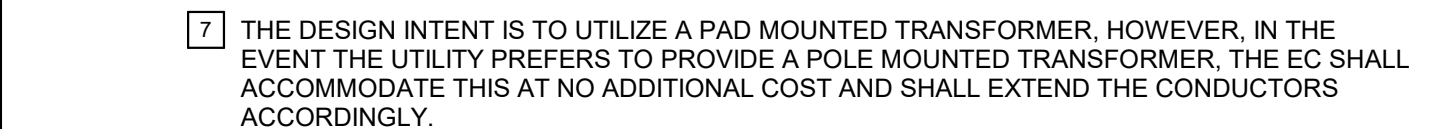
FEEDER SCHEDULE			
PLAN MARK	OVERCURRENT PROTECTION	AMPERAGE (MAX 3 CURRENT CARRYING CONDUCTORS)	FEEDER SIZE (COPPER, U.N.O.)
#			
20	20A.	20A.	3 #12 & 1 #12G, 3/4"C.
20N	20A.	20A.	4 #12 & 1 #12G, 3/4"C.
30	25A, 30A.	30A.	3 #10 & 1 #10G, 3/4"C.
30N	25A, 30A.	30A.	4 #10 & 1 #10G, 3/4"C.
40	35A, 40A.	40A.	3 #8 & 1 #10G, 3/4"C.
40N	35A, 40A.	40A.	4 #8 & 1 #10G, 3/4"C.
50	45A, 50A.	55A.	3 #6 & 1 #10G, 3/4"C.
50N	45A, 50A.	55A.	4 #6 & 1 #10G, 1"C.
70	60A, 70A.	70A.	3 #4 & 1 #6G, 1-1/4"C.
70N	60A, 70A.	70A.	4 #4 & 1 #6G, 1-1/4"C.
100	80A, 90A, 100A.	100A.	3 #3 & 1 #6G, 1-1/4"C.
100N	80A, 90A, 100A.	100A.	4 #3 & 1 #6G, 1-1/4"C.
110	110A.	115A.	3 #2, 1 #6G, 1-1/4"C.
110N	110A.	115A.	4 #2, 1 #6G, 1-1/4"C.
125	125A.	130A.	3 #1 & 1 #6G, 1-1/2"C.
125N	125A.	130A.	4 #1 & 1 #6G, 1-1/2"C.
150	150A.	150A.	3 #10 & 1 #6G, 1-1/2"C.
150N	150A.	150A.	4 #10 & 1 #6G, 2"C.
175	175A.	175A.	3 #20 & 1 #6G, 2"C.
175N	175A.	175A.	4 #20 & 1 #6G, 2"C.
200	200A.	200A.	3 #30 & 1 #6G, 2"C.
200N	200A.	200A.	4 #30 & 1 #6G, 3"C.
225	225A.	230A.	3 #40 & 1 #4G, 2"C.
225N	225A.	230A.	4 #40 & 1 #4G, 2-1/2"C.
250	250A.	255A.	3-250 kcmil & 1 #4G, 2-1/2"C.
250N	250A.	255A.	4-250 kcmil & 1 #4G, 3"C.
300	300A.	310A.	3-350 kcmil & 1 #4G, 3"C.
300N	300A.	310A.	4-350 kcmil & 1 #4G, 3"C.
350	350A.	380A.	3-500 kcmil & 1 #3G, 3-1/2"C.
350N	350A.	380A.	4-500 kcmil & 1 #3G, 3-1/2"C.
400	400A.	400A.	TWO SETS OF [3 #30 & 1 #3G, 2"C]
400N	400A.	400A.	TWO SETS OF [4 #30 & 1 #3G, 2"C]
420	400A.	420A.	3-600 kcmil & 1 #3G, 4"C.
420N	400A.	420A.	4-600 kcmil & 1 #3G, 4"C.
450	450A.	460A.	TWO SETS OF [3 #40 & 1 #2G, 2"C]
450N	450A.	460A.	TWO SETS OF [4 #40 & 1 #2G, 2"C]
500	500A.	510A.	TWO SETS OF [3-250 kcmil & 1 #2G, 2-1/2"C]
500N	500A.	510A.	TWO SETS OF [4-250 kcmil & 1 #2G, 3"C]
600	600A.	620A.	TWO SETS OF [3-350 kcmil & 1 #1G, 3-1/2"C]
600N	600A.	620A.	TWO SETS OF [4-350 kcmil & 1 #1G, 3-1/2"C]
700	700A.	760A.	TWO SETS OF [3-500 kcmil & 1 #10G, 3-1/2"C]
700N	700A.	760A.	TWO SETS OF [4-500 kcmil & 1 #10G, 3-1/2"C]
800	800A.	840A.	TWO SETS OF [3-600 kcmil & 1 #10G, 4"C]
800N	800A.	840A.	TWO SETS OF [4-600 kcmil & 1 #10G, 4"C]

5. INSTALL PULL ROPE IN SECONDARY CONDUIT(S)

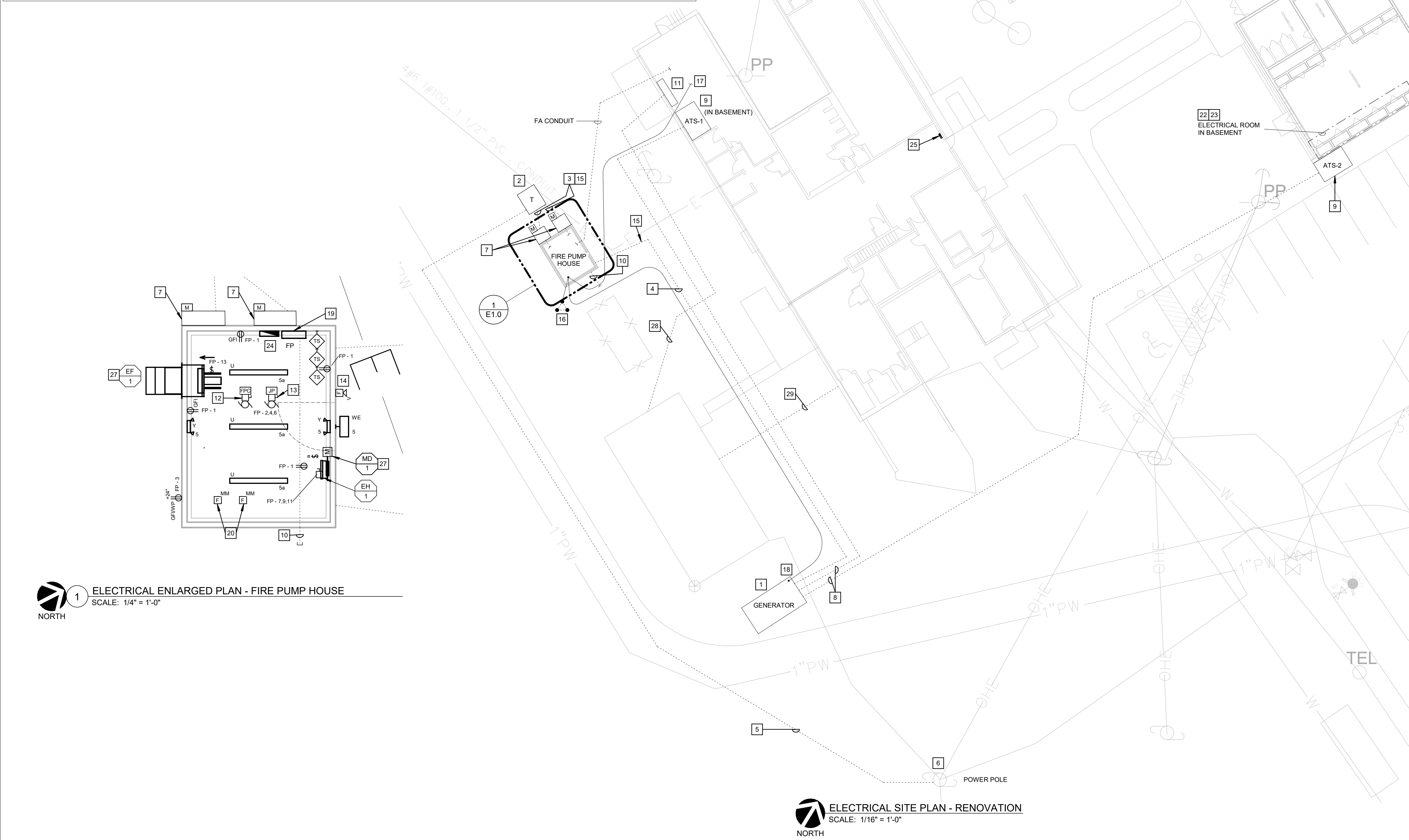
ELECTRICAL ONE LINE
NOT TO SCALE

Type Mark	Manufacturer	Catalog No.	Voltage	Mounting	Lamp	Fixture Finish	Description
U	METALUX	4SNLED-LD5-44SL-LW-UNV-L835	120/277V	SURF/SUSP	38W, LED, 3500K	WHITE	4' LINEAR SURFACE OR SUSPENDED LENSED LED STRIP FIXTURE; 4500 NOMINAL LUMENS. PROVIDE AIRCRAFT CABLE WHERE SUSPEDED FROM STRUCTURE.
WE	COOPER	TRE15-LD4-40W-40-CL-BK-UNV-EDC1-EL12W/CSTG-VRLSD	120/277V	WALL	40W, LED, 4000K	BLACK	EXTERIOR WALL MOUNTED FIXTURE WITH POLYCARBONATE EYELID ATTACHED TO LENS WITH TAMPER RESISTANT SCREWS; 2,045 DELIVERED LUMENS.
Y	LITHONIA	ELM6L-UVOLT-LPT-SD	120/277V	WALL	LED	WHITE	EMERGENCY DOUBLE HEADED LIGHT WITH SELF-DIAGNOSTICS.

LIGHTING FIXTURE SCHEDULE



Branch Panel: FP															
Location:						Volts: 120/208 Wye						A.I.C. Rating: 65,000 SERIES			
Supply From:						Phases: 3						Mains Type: MCB			
Mounting: Surface						Wires: 4						Mains Rating: 200 A			
Enclosure: Type 1												MCB Rating: 200 A			
CKT NOTE S	CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT	CKT NOTE S
	1	GENERAL RECEPTACLES	20 A	1	720 VA			276 VA			3	15 A	JOCKEY PUMP	2	
	3	EXTERIOR GFI/WP RECEPTACLE	20 A	1		180 VA			276 VA		--	--	--	4	--
	5	LIGHTING	20 A	1			188 VA			276 VA	--	--	--	6	--
	7	ELECTRIC HEATER	20 A	3	1667 VA			0 VA			1	20 A	SPARE	8	
--	9	--	--	--		1667 VA		0 VA			1	20 A	SPARE	10	
--	11	--	--	--			1667 VA		0 VA	0 VA	1	20 A	SPARE	12	
	13	EXHAUST FAN	15 A	1	720 VA			0 VA			1	20 A	SPARE	14	
	15								0 VA		1	20 A	SPARE	16	
	17									0 VA	1	20 A	SPARE	18	
	19							0 VA			1	20 A	SPARE	20	
	21								0 VA		1	20 A	SPARE	22	
	23									0 VA	1	20 A	SPARE	24	
	25													26	
	27													28	
	29													30	
	31													32	
	33													34	
	35													36	
	37	SPD	30 A	3	0 VA									38	
--	39	--	--	--		0 VA								40	
--	41	--	--	--			0 VA							42	
Total Load:			3383 VA			2123 VA			2123 VA						
Total Amps:			28 A			18 A			18 A						
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals							
Lighting		118 VA		100.00%		118 VA		Total Conn. Load: 7628 VA							
Motor		829 VA		125.00%		1036 VA		Total Est. Demand: 7852 VA							
HVAC		720 VA		100.00%		720 VA		Total Conn. Current: 21 A							
Electric Heat		5000 VA		100.00%		5000 VA		Total Est. Demand Current: 22 A							
Receptacle		900 VA		100.00%		900 VA									
Lighting - Exterior		70 VA		125.00%		88 VA									



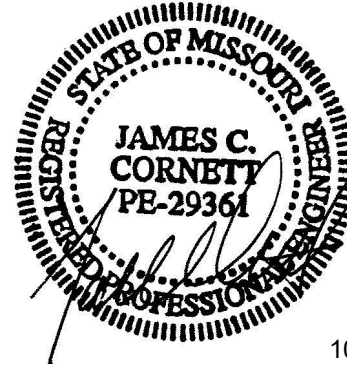
ELECTRICAL GENERAL NOTES

- REFER TO SHEET E0.1 FOR SYMBOLS, ABBREVIATIONS AND GENERAL CONSTRUCTION NOTES.
- EC SHALL FIELD VERIFY EXISTING POLES, MANHOLES, SPARE CONDUIT, RIGHTS-OF-WAY, UTILITIES, AND BUILDING LOCATIONS PRIOR TO STARTING WORK. NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES EXIST.
- PROVIDE 1800# MULETAPE IN ALL NEW CONDUITS, INTERDUCTS AND IN ALL CONDUITS FOR NEW CABLE RUNS.
- EC SHALL COORDINATE EXACT LOCATIONS, REQUIREMENTS, METERING AND TERMINATIONS WITH UTILITY PROVIDERS PRIOR TO BID.
- COORDINATE ALL UNDERGROUND ELECTRICAL WORK AND UTILITY TIE-INS WITH UTILITY PROVIDERS AND WORK OF OTHER TRADES.
- UNDERGROUND FACILITY STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDED INFORMATION. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. VERIFICATION OF LOCATION OF ALL UNDERGROUND STRUCTURES AND FACILITIES EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL IN-GROUND CONDUITS SHALL BE 1" MINIMUM, SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE.
- ELECTRICAL CONTRACTOR SHALL PROTECT AND EXTEND EXISTING SERVICES TO EXISTING BUILDINGS TO MAINTAIN CONTINUITY OF SERVICE. REROUTE EXISTING SERVICES AS REQUIRED TO AVOID CONSTRUCTION AND WORK OF OTHER TRADES.
- ALL UNDERGROUND AND EXTERIOR CONDUCTORS SHALL BE TYPE "XHHW-2".
- EC AND FPC SHALL COORDINATE THE LOCATIONS OF ALL EQUIPMENT BEFORE INSTALLATION.

ELECTRICAL KEYED NOTES

- EXISTING GENERATOR; PROVIDE NEW BREAKER PER ONE-LINE DIAGRAM.
- PROVIDE CONCRETE PAD FOR UTILITY TRANSFORMER. COORDINATE WITH AMEREN.
- PROVIDE SECONDARY FEEDER FROM TRANSFORMER TO CT CABINET. REFER TO ONE-LINE DIAGRAM.
- PROVIDE FEEDERS BELOW GRADE FROM EXISTING GENERATOR TO NEW FIRE PUMP HOUSE. PATCH CONCRETE/ASPHALT CUT DURING WORK.
- PROVIDE 4" PRIMARY CONDUIT FROM AMEREN POWER POLE TO PAD MOUNT UTILITY TRANSFORMER.
- COORDINATE EXACT TIE IN LOCATION WITH AMEREN. ENSURE TIE IN LOCATION OF FIRE PUMP SERVICE FEEDER IS UPSTREAM OF ANY UTILITY DISCONNECTS THAT WOULD BE DISCONNECTED DURING A FIRE EVENT. THIS ENSURES THE FIRE PUMP POWER IS NOT DISCONNECTED. REVIEW WITH AMEREN PRIOR TO WORK.
- PROVIDE CT ENCLOSURE AND METER BASE. COORDINATE WITH AMEREN APPROVED EQUIPMENT. REFER TO E0.2 FOR GROUNDING DETAILS.
- EXISTING GENERATOR FEEDERS TO BE PROTECTED AND REMAIN. FIELD LOCATE AND MARK PRIOR TO NEW WORK.
- EXISTING ATS TO BE PROTECTED AND REMAIN.
- PROVIDE 2" BELOW GRADE CONDUIT FROM PANEL FP TO OUTSIDE OF PUMP HOUSE FOR FUTURE CONNECTION TO MAINTENANCE BUILDING.
- EXISTING TO REMAIN PANEL TO BE PROTECTED.
- PROVIDE POWER FROM NEW ELECTRICAL SERVICE TO FIRE PUMP CONTROLLER. REFER TO ONE-LINE DIAGRAM. ADDITIONALLY, TERMINATE GENERATOR FEEDERS AT FIRE PUMP CONTROLLER.
- PROVIDE CONNECTION TO JOCKEY PUMP.
- PROVIDE 120V CIRCUIT TO EXTERIOR FIRE FLOW BELL. COORDINATE WITH FPC.
- PROVIDE PHYSICAL SEPARATION. DO NOT SHARE A TRENCH.
- GROUND RING PER E0.2.
- BOND NEW FIRE PUMP BUILDING GROUNDING SYSTEM WITH EXISTING H BUILDING GROUNDING SYSTEM.
- BOND NEW FIRE PUMP BUILDING GROUNDING SYSTEM WITH EXISTING GENERATOR/MAINTENANCE BUILDING GROUNDING SYSTEM.
- PROVIDE NEW 30-POLE, 120/208V, 3PHASE, 4WIRE, 100A PANELBOARD WITH 60A MCB. PROVIDE FEEDER PER ONE LINE DIAGRAM. LOCATE PANEL IN FIRE PUMP BUILDING. FEED BELOW GRADE TO H BUILDING. POWER FROM NEW TWIN SWITCH.
- PROVIDE FIRE ALARM MONITOR MODULES TO MONITOR FIRE PUMP TROUBLE AND RUN SIGNALS. PROVIDE DEDICATED CONDUIT TO H BUILDING. EXISTING FACP IN H BUILDING IS A SIMPLEX.
- PROVIDE POWER CONNECTION TO AIR COMPRESSOR FOR DRY SYSTEM. SEE SHEET FP1.1 FOR LOCATION. COORDINATE WITH FPC. COMPRESSOR IS ASSUMED TO BE 208V/1-PHASE. PROVIDE A DEDICATED 20A CIRCUIT. PROVIDE NEW 20A, 2 POLE BREAKER IN SPACE 13, 15 OF PANEL D1 LOCATED IN MECHANICAL ROOM AT NORTH CORNER OF BUILDING.
- PROVIDE PRESSURE SWITCH AND TAMPER SWITCH NEAR AIR COMPRESSOR FOR DRY SYSTEM. COORDINATE WITH FPC TO VERIFY EXACT REQUIREMENTS. TIE INTO EXISTING FACP (SIMPLEX 4007ES).
- PROVIDE POWER CONNECTION TO AIR COMPRESSOR FOR DRY SYSTEM. SEE SHEET FP2.1 FOR LOCATION. COORDINATE WITH FPC. COMPRESSOR IS ASSUMED TO BE 208V/1-PHASE. PROVIDE A DEDICATED 20A CIRCUIT. PROVIDE NEW 20A, 2 POLE BREAKER IN SPACE 15, 17 OF PANEL B LOCATED IN BASEMENT ELECTRICAL ROOM INDICATED. MOVE EXISTING BREAKER IN 15 TO 18.
- WATER LEVEL ALARM PANEL. COORDINATE WITH FPC FOR REQUIREMENTS.
- SIMPLEX 4007ES FACP LOCATED IN THIS GENERAL AREA IN THE H BUILDING.
- SIMPLEX 4007ES FACP LOCATED IN THIS GENERAL AREA IN THE MULTIPURPOSE BUILDING. ALSO SERVES THE DORMITORY BUILDING.
- INTERLOCK MOTORIZED DAMPER WITH EXHAUST FAN. PROVIDE 120V POWER IF REQUIRED TO LINE VOLTAGE T-STAT. COORDINATE WITH MC.
- EXISTING TO REMAIN CONDUIT. PROTECT THROUGHOUT RENOVATION.
- EXISTING TO REMAIN GAS LINE. PROTECT THROUGHOUT RENOVATION.

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CAMP AVERY - FIRE
SPRINKLER SYSTEM

198 AVERY LN
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PROJECT # H2001-01
SITE # 7719
FACILITY # 8877719001;
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CAD DWG FILE: -
DRAWN BY: SSC
CHECKED BY: BDS
DESIGNED BY: SSC

SHEET TITLE:

ELECTRICAL SITE PLAN

SHEET NUMBER:

E1.0

SHEET 17 OUT OF 17
10/5/22

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