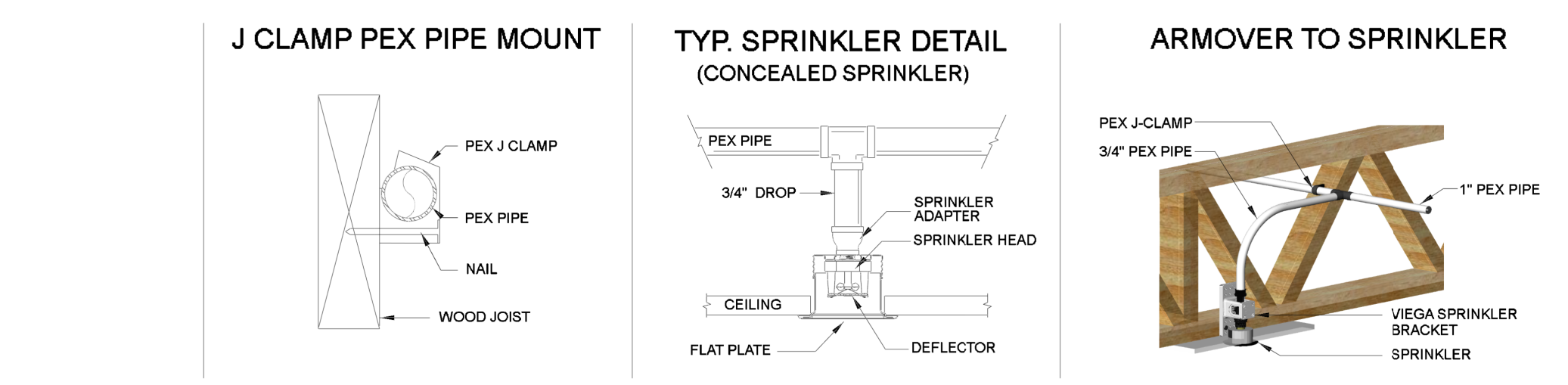


| MINIMUM DISTANCES FROM HEAT SOURCES | Minimum Distance from Edge of Source to Ceiling Temp Sprinkler | Minimum Distance from Edge of Source to Intermediate Temp Sprinkler |
|---|--|---|
| SIDE OF OPEN OR RECESSED FIREPLACE | 36" | 12" |
| FRONT OF RECESSED FIREPLACE | 60" | 36" |
| COAL-OR WOOD-BURNING STOVE | 42" | 12" |
| KITCHEN RANGE | 18" | 9" |
| WALL OVEN | 18" | 9" |
| HOT AIR FLUES | 18" | 9" |
| UNINSULATED HEAT DUCTS | 18" | 9" |
| UNINSULATED HOT WATER PIPES | 12" | 6" |
| SIDE OF CEILING OR WALL MOUNTED HOT AIR DIFFUSERS | 24" | 12" |
| FRONT OF WALL-MOUNTED HOT AIR DIFFUSERS | 36" | 18" |
| HOT WATER HEATER OR FURNACE | 6" | 3" |
| LIGHT FIXTURE | | |
| 0W - 250W | 6" | 3" |
| 250W - 499W | 12" | 6" |

SPRINKLER HEAD DISTANCES FROM HEAT SOURCE
TABLE 7.5.6.3, NFPA 13D (2016 EDITION)

| NOMINAL PIPE | MAXIMUM DISTANCE BETWEEN HANGERS (PEX) | | | | |
|------------------|--|-----|--------|--------|-----|
| | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" |
| PEX (HORIZONTAL) | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 |
| PEX (VERTICAL) | 4-0 | 4-0 | 4-0 | 4-0 | 4-0 |



SCOPE OF WORK

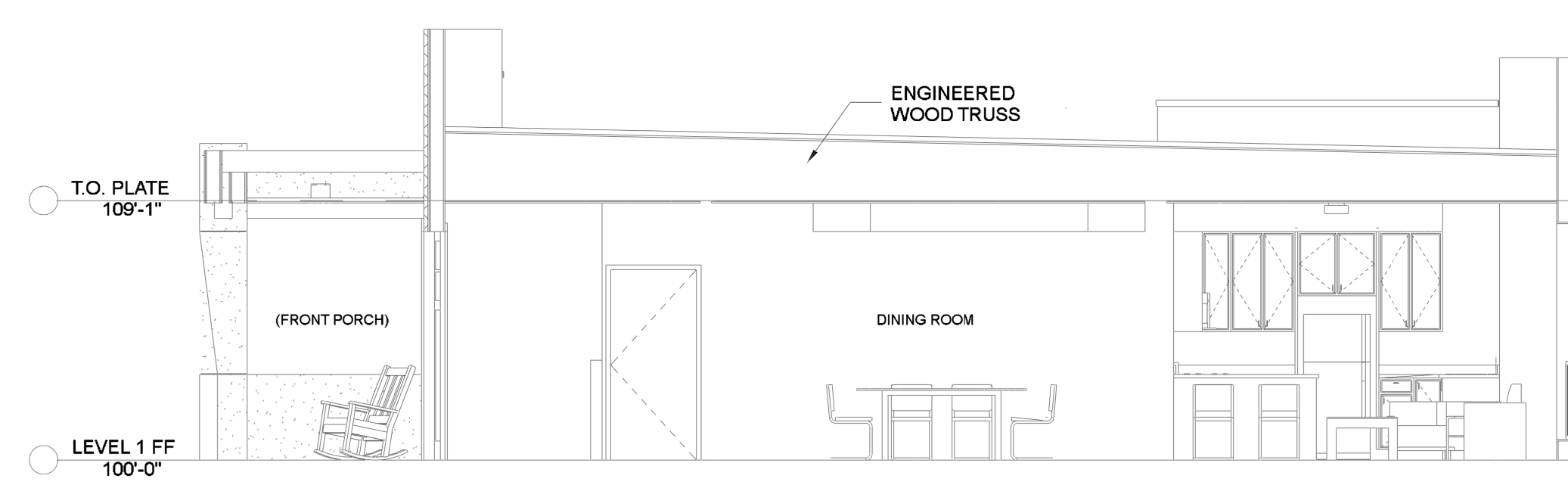
AUTOMATIC WET PEX SPRINKLER SYSTEM FOR 6 NEW CONSTRUCTION COTTAGES IN ACCORDANCE WITH NFPA 13D 2016 EDITION AND LOCAL AUTHORITY.

GENERAL NOTES

- ALL PIPING AND SPRINKLERS SHALL BE U.L. LISTED AND/or FM APPROVED AND SHALL BE NEW AND FREE OF DEFECTS.
- HANGER TYPES AND SPACING SHALL BE INSTALLED PER NFPA 13D AND MANUFACTURERS LISTING.
- SPRINKLER LOCATIONS AND SPACING PER NFPA 13D AND MANUFACTURERS LISTING.
- ANY AND ALL ALARM SYSTEM WIRING AND INSTALLATION IS BY OTHERS.
- ALL DRILING AND BORING OF HOLES SHALL BE DONE IN STRICT ACCORDANCE WITH THE STRUCTURAL ENGINEERS REQUIREMENTS. DO NOT UNDER ANY CIRCUMSTANCES CUT OR MOOPY PRE-MANUFACTURED TRUSSES.
- INSTALLER SHALL VERIFY FRESH CEILING ELEVATION, OBSTRUCTIONS, LIGHT FIXTURES, CABINETS, ETC PRIOR TO INSTALLATION OF SPRINKLER HEADS.
- ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRE STOPPED. FIRE STOPPING MATERIAL SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTION BY OTHERS.
- SPRINKLER PIPE SIZING HAS BEEN ESTABLISHED BY HYDRAULIC CALCULATIONS.
- THIS SYSTEM IS A WET SYSTEM. PRECAUTION MUST BE TAKEN TO PROTECT THE PIPING FROM FREEZING TEMPERATURES. IT IS THE RESPONSIBILITY OF THE OWNER AND INSULATION INSTALLER TO ENSURE SUFFICIENT INSULATION IS PROVIDED AND INSTALLED CORRECTLY TO MAINTAIN ALL PIPING AT A MINIMUM IN ALL AREAS. FIRE SPRINKLER SYSTEM DESIGNER AND ENGINEER OF RECORD WILL NOT BE RESPONSIBLE FOR ANY FREEZING PIPE OR DAMAGE CAUSED BY FREEZING PIPING.
- IT IS THE OWNERS RESPONSIBILITY TO PROVIDE A RELIABLE WATER SUPPLY THAT IS CAPABLE OF MEETING THE MOST DEMANDING AREA. IF THE OWNER CANNOT PROVIDE THIS WATER SUPPLY, A PUMP AND TANK WILL BE REQUIRED TO BE INCORPORATED AS AN ADDITIONAL ITEM NOT CURRENTLY INCLUDED IN THE SCOPE OF WORK.

PROJECT DETAILS

NFPA CODE: 13D 2016
 SYSTEM TYPE: WET SYSTEM
 PIPE TYPE: VIEGA PEX
 MAX SPRINKLER SPACING REQUIREMENTS:
 MULTI SPRINKLER COMPARTMENTS: 16' X 16' @ 13 GPM
 SINGLE SPRINKLER COMPARTMENTS: 20' X 20' @ 20 GPM
 MINIMUM SPRINKLER SPACING: 6" BETWEEN SPRINKLER
 MINIMUM DESIGN DENSITY: 0.25 GPM/SQ FT
 UNDERGROUND PIPE DETAILS: 1/2" COPPER
 WATER METER DETAILS: NA
 BACKFLOW PREVENTER DETAILS: LOCATED OUTSIDE ON FIRE LINE
 WATER SUPPLY DATA:
 STATIC: 135 PSI
 RESIDUAL: 110 PSI
 FLOW: 1500 GPM
 DATE: 12/06/2017
 PRV REQUIRED (PEX): SET AT 80 PSI



BUILDING SECTION A

1/4" = 1 FOOT

Hydraulic Data - Master Bedroom

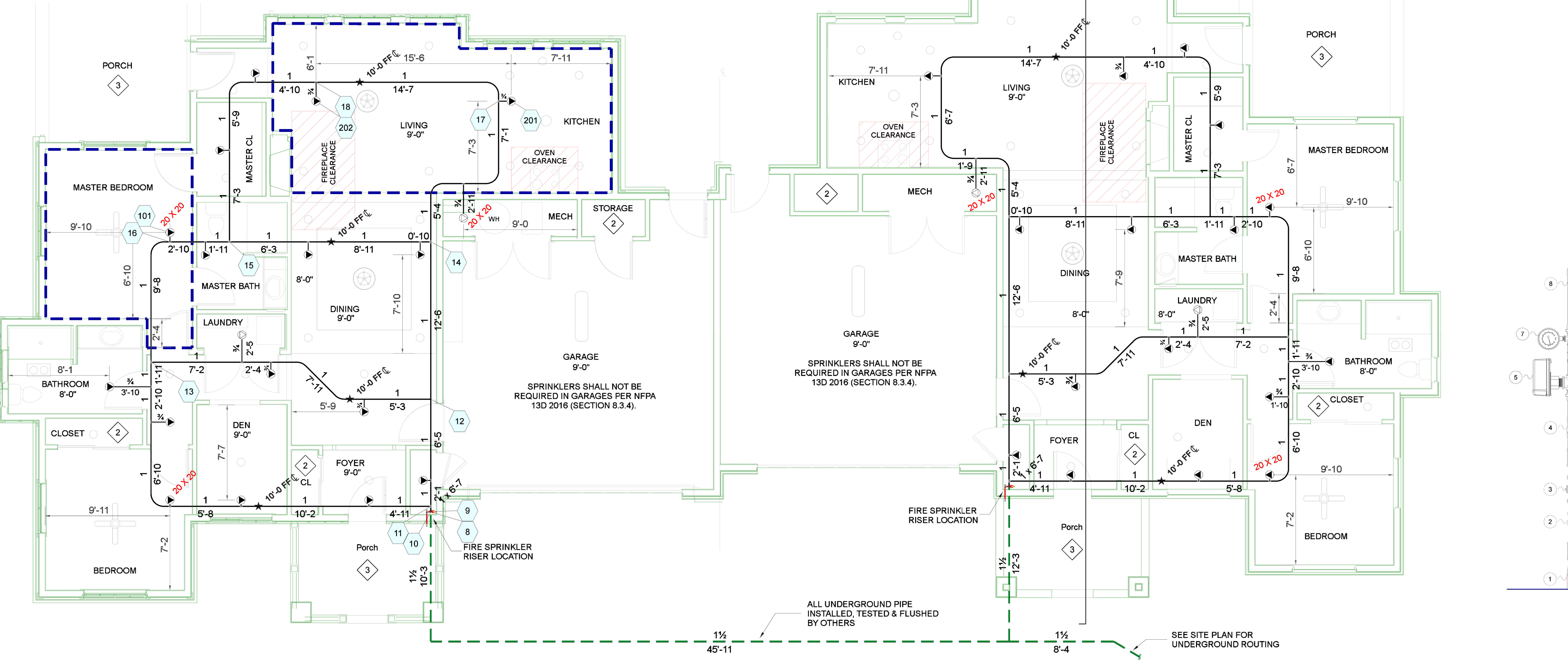
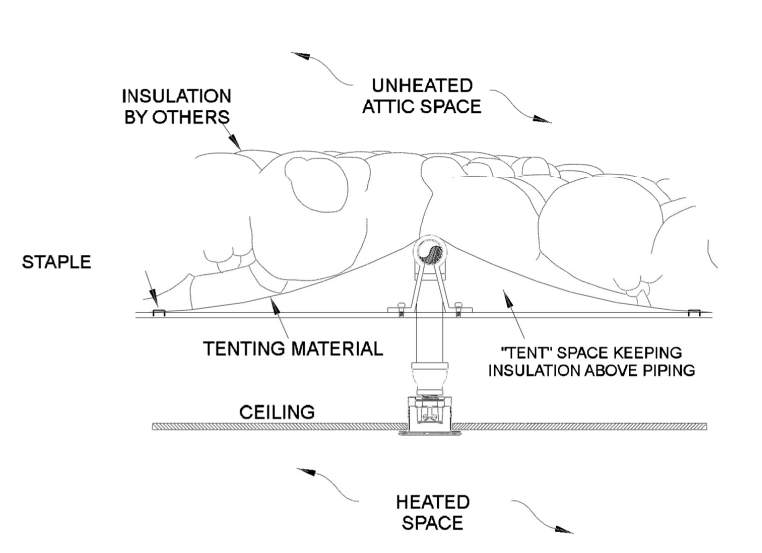
| | |
|------------------------------|--|
| OCCUPANCY CLASSIFICATION | 13D Residential - Master Bedroom |
| DENSITY (kg/m ³) | 0.05 for 184.24ft ² (Actual 184.24ft ²) |
| TOTAL HEADS FLOWING | 1 |
| K-FACTOR | 4.9 |
| TOTAL WATER REQUIRED | 20.00 |
| TOTAL PRESSURE REQUIRED | 111.990 |
| BASE OF RISER (gpm) | 20.00 |
| BASE OF RISER (psi) | 44.232 |
| SAFETY MARGIN (psi) | +23.044 (17.1%) |

Hydraulic Data - Living Room

| | |
|------------------------------|--|
| OCCUPANCY CLASSIFICATION | 13D Residential - Living Room |
| DENSITY (kg/m ³) | 0.05 for 328.90ft ² (Actual 328.90ft ²) |
| TOTAL HEADS FLOWING | 2 |
| K-FACTOR | 4.9 |
| TOTAL WATER REQUIRED | 28.16 |
| TOTAL PRESSURE REQUIRED | 104.084 |
| BASE OF RISER (gpm) | 28.16 |
| BASE OF RISER (psi) | 33.838 |
| SAFETY MARGIN (psi) | +30.907 (22.9%) |

NOTE: HYDRAULIC CALCULATION INCLUDES SINGLE SPRINKLER COMPARTMENT WITH MAXIMUM SPACING OF 20FT X 20FT. MINIMUM FLOW PER SPECIFICATION SHEET IS 20 GPM.

NOTE: HYDRAULIC CALCULATION INCLUDES MOST DEMANDING 2 SPRINKLERS WITHIN A SINGLE COMPARTMENT. MAXIMUM SPACING IN MULTI SPRINKLER COMPARTMENTS SHALL NOT EXCEED 16FT X 16FT. MINIMUM FLOW PER SPECIFICATION SHEET IS 13 GPM.



NFPA & AHJ REQUIREMENTS

- THE DESIGN DISCHARGE SHALL BE ALL OF THE SPRINKLERS WITHIN A SINGLE COMPARTMENT, UP TO A MAXIMUM OF TWO SPRINKLERS, THAT REQUIRE THE GREATEST HYDRAULIC DEMAND.
- SPRINKLERS SHALL NOT BE REQUIRED IN BATHROOMS OF 55 SQ. FT. AND LESS.
- SPRINKLERS SHALL NOT BE REQUIRED IN CLOSETS, LINEN CLOSETS, AND PANTRIES THAT DO NOT EXCEED 24 SQ. FT. AND HAVE WALLS AND CEILING SURFACED WITH NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIALS.
- SPRINKLERS SHALL NOT BE REQUIRED IN GARAGES, OPEN ATTACHED PORCHES, CARPORTS, AND SIMILAR STRUCTURES.
- SPRINKLERS SHALL NOT BE REQUIRED IN ATTICS OR CRAWLSPACES.
- SPRINKLER HEADS SHALL BE AT LEAST 3 FT AWAY FROM CEILING FANS AND SURFACE MOUNTED LIGHT FIXTURES.
- ALL SPRINKLERS SHALL MAINTAIN THE MINIMUM REQUIRED DISTANCES FROM HEAT SOURCES IN ACCORDANCE WITH NFPA 13D.
- SPRINKLER HEADS UNDER SLOPE CEILING TO BE MEASURED ALONG THE SLOPE.

PLAN KEY NOTES

- SPRINKLERS SHALL NOT BE REQUIRED IN BATHROOMS UNDER 55 SQUARE FEET PER NFPA 13D 2016 (SECTION 6.6.2).
- SPRINKLERS SHALL NOT BE REQUIRED IN CLOSETS UNDER 24 SQUARE FEET PER NFPA 13D 2016 (SECTION 6.6.3).
- SPRINKLERS SHALL NOT BE REQUIRED OPEN ATTACHED PORCHES OR EXTERIOR PROJECTIONS PER NFPA 13D 2016

- 1 1/2" UNDERGROUND SUPPLY
- 1" BALL VALVE
- 1 1/2" WATTS LFX65B PRV SET @ 80 PSI
- 1" CHECK VALVE
- WATER FLOW SWITCH
- 1" INSPECTORS TEST & DRAIN
- PRESSURE GAUGE
- 1" TO SPRINKLER SYSTEM

FIRE SPRINKLER RISER DETAIL

NOT TO SCALE

FIRE PROTECTION PLAN

1/4" = 1'-0"

COVERAGE AREA = xxx SQ. FT.

OWNERSHIP OF DOCUMENTS
 ALL DRAWINGS, SPECIFICATIONS, AND OTHER WORK PRODUCTS OF THE DESIGNER FOR THIS PROJECT ARE INSTRUMENTS OF SERVICE FOR THE PROJECT ONLY AND SHALL REMAIN THE PROPERTY OF THE DESIGNER. THE PROJECTOR SHALL NOT BE RESPONSIBLE FOR ANY OF THE PROJECT'S EXTENSION OF THE PROJECT WITHOUT WRITTEN PERMISSION OF THE DESIGNER. THE DESIGNER SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY FREEZING PIPING.

LOCATIONS SUBJECT TO FREEZING CONDITIONS IF THE OWNER RESPONSIBILITY TO PROVIDE AND MAINTAIN THE PROPER INSULATION AREAS AND IN ENCLOSURES FOR OTHER TYPES OF INSULATION CONTROL SYSTEMS PER NFPA 13D SPRINKLER SYSTEMS.

I have reviewed these plans and certify that they comply with the adopted NFPA standards.

Drawn Name: Ben Stewart
 NCET Level III: 120589
 Date of Review: 03/09/18

AS-BUILT SUBMITTAL OTHER

| REVISIONS | |
|-----------|--------------|
| NO. | DESCRIPTION |
| 03/09/18 | FOR APPROVAL |

Drawn BY: Ben Stewart
 ben.stewart@wspfp.us

PROJECT NUMBER: 1

| Symbol | Manufacturer | Model | Quantity | K-Factor | Type | Sprinkler Temp | Rising | | Chuck | |
|--------|--------------|--------|----------|----------|-------------|----------------|--------|------|-------|------|
| | | | | | | | 1/2" | 3/4" | 1/2" | 3/4" |
| | Rexel | RRC240 | 1 | 4.9 | Residential | 165F | | | | |
| | Rexel | RRC248 | 1 | 4.9 | Residential | 175F | | | | |
| | | | Total: 2 | | | | | | | |

