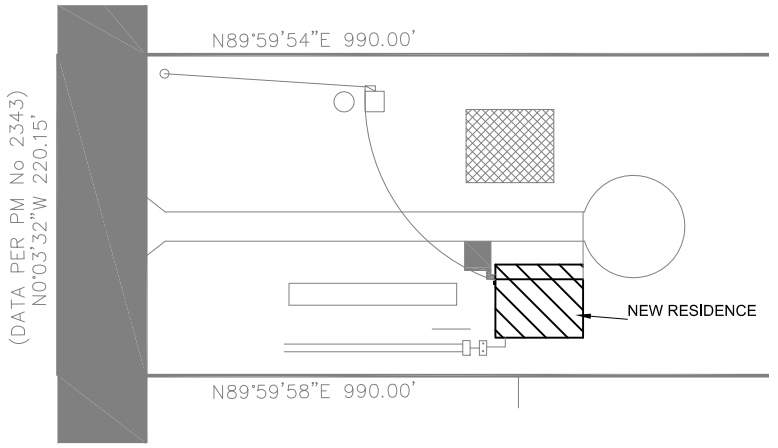
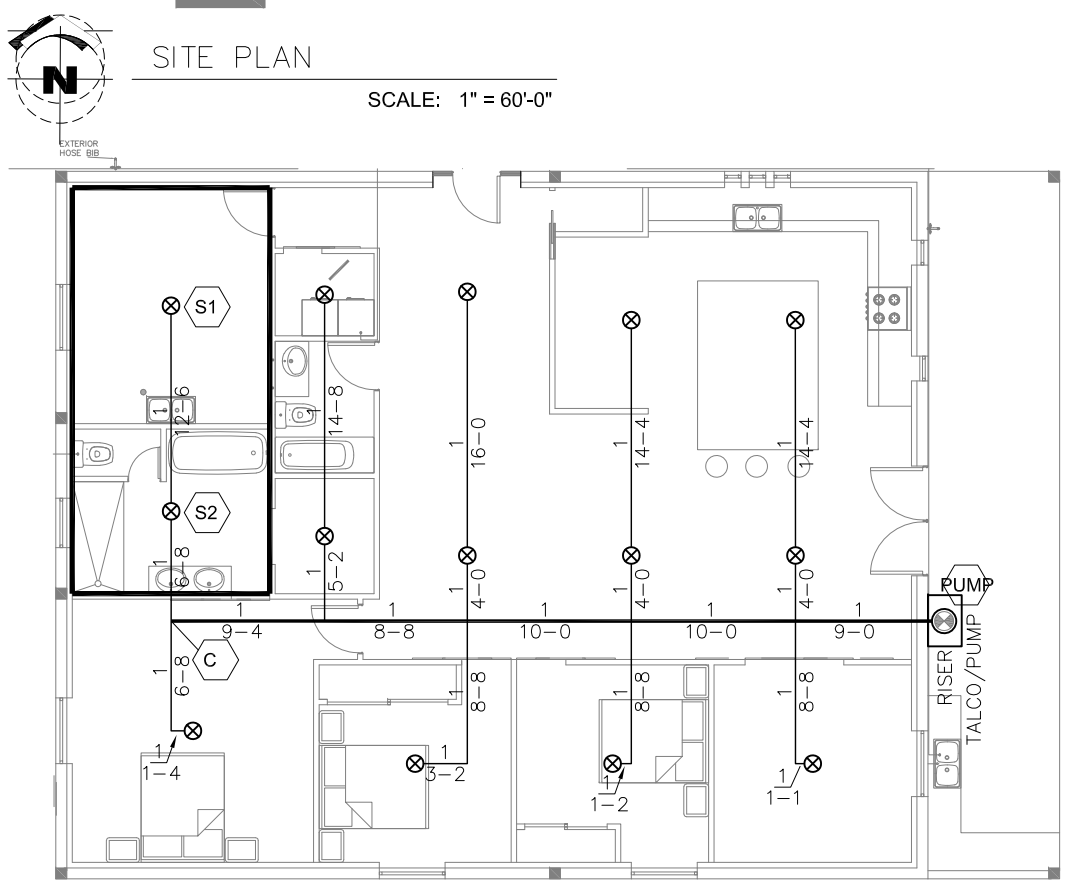


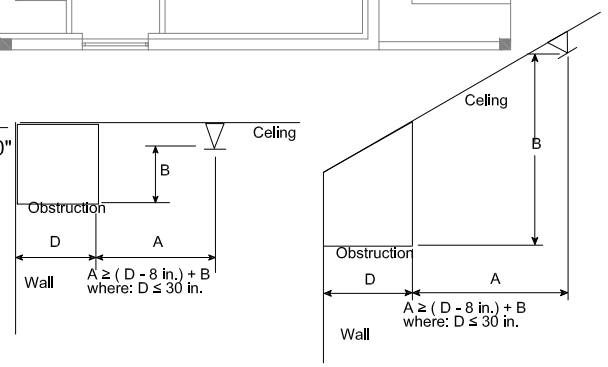
SITE PLAN

SCALE: 1" = 60'-0"

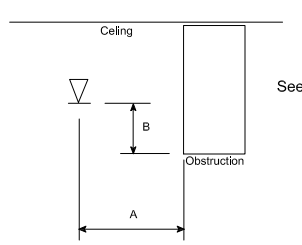


FLOOR PLAN

SCALE: 3/16" = 1'-0"



POSITIONING OF SPRINKLER TO AVOID OBSTRUCTION DISCHARGE
RESIDENTIAL UPRIGHT AND PENDENT SPRINKLERS



See Table 8.2.5.3.2 NFPA 13D - 2022

DESIGN CRITERIA

PROVIDE A WET SYSTEM WITH A MINIMUM DENSITY OF 0.05 GPM/SQ.FT. IN THE TWO MOST HYDRAULIC REMOTE SPRINKLERS USING STANDARD RESPONSE SPRINKLERS 155°F TEMP.1/2" NPT, K-4.9 FACTOR, RESIDENTIAL CONCEALED STYLE. 16' SPACING MAXIMUM, 256 FT² MAXIMUM PER HEAD, HEADS AREA TO BE LOCATED NO FURTHER THAN 8 FT FROM ANY WALL AND NO CLOSER THAN 8 FT BETWEEN SPRINKLERS. HYDRAULICALLY DESIGNED WITH TWO HEADS FLOWING.

1.- SPRINKLER SHALL NOT BE REQUIRED IN ATTICS, CONCEALED SPACES DEDICATED EXCLUSIVELY TO AND CONTAINING ONLY DWELLING UNIT VENTILATION EQUIPMENT, FLOOR/CEILING SPACES, CRAWL SPACES, AND OTHER CONCEALED SPACES THAT ARE NOT USED OR INTENDED FOR LIVING PURPOSES.
2.- SPRINKLER SHALL NOT BE REQUIRED IN BATHROOMS WHERE THE AREA IS LESS OR EQUAL OF 55 -SQ-FT.
3.- SPRINKLER SHALL NOT BE REQUIRED IN CLOTHES CLOSETS, LINEN CLOSETS AND PANTRIES THAT MEET ALL OF THE FOLLOWING CONDITIONS:
- THE AREA OF THE SPACE DOES NOT EXCEED 24 FT²
- THE WALLS AND CEILINGS ARE SURFACED WITH NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIALS ACCORDING WITH NFPA 220.
4.- MECHANICAL CLOSETS SMALLER THAN 400FT² , PENDENT, UPRIGHT AND SIDEWALL RESIDENTIAL SPRINKLER SHALL BE PERMITTED TO BE INSTALLED IN EITHER OF THE FOLLOWING SITUATIONS:
- WITHIN 18 IN OF THE CEILING TO AVOID OBSTRUCTIONS NEAR THE CEILING WHERE THE COMPARTMENT IS ENCLOSED BY WALL AND A DOOR.
- AT THE HIGHEST CEILING LEVEL WITHOUT REGARD TO OBSTRUCTIONS OR MINIMUM DISTANCES TO WALL.
5.- PENDENT SPRINKLERS NO CLOSER THAN 3 FEET OF THE CENTER OF A CEILING FAN.
6.- UNDERGROUND PIPE COVER MINIMUM OF 20 INCHES.

HYDRAULIC INFORMATION	APARTMENT SECOND FLOOR	
AREA PER SPRINKLER	148	SQ.FT. MAX
CALCULATED AREA	295	SQ.FT.
DENSITY	0.088	GPM/SQ.FT.
SPRINKLERS CALCULATED	2	
SPRINKLER FLOW	25.5	GPM
HOSE STREAM	0.0	GPM
WATER REQUIRED	25.5	GPM
RQ'D PRESSURE	17.9	PSI
CUSHION PRESSURE	26.4	PSI

SCOPE OF WORK

FIRE PROTECTION DESIGN AND INSTALL A COMPLETE FIRE PROTECTION SYSTEM BASED ON NFPA 13D ED. 2022 AND OCOTILLO CA.

WATER SUPPLY
RESIDENTIAL FIRE PUMP & TANK
HOME HYDRANT MODEL HH3-150SP 30GPM @ 43PSI

PUMP PERFORMANCE:
STATIC PRESSURE: 0 GPM @ 47 PSI
RESIDUAL: 45 GPM @ 39PSI

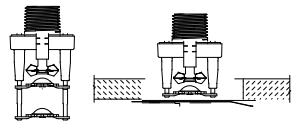
DESIGN NOTES

1. SPRINKLER DEFLECTOR AND LOCATIONS SHALL BE DESIGNED IN ACCORDANCE TO NFPA 13D-2022, MANUFACTURERS LISTING AND OCOTILLO CA.
2. ALL SEISMIC BRACING AND HANGER ASSEMBLIES TO BE INSTALLED IN ACCORDANCE WITH NFPA 13D-2022 AND MANUFACTURERS LISTING.
3. CPVC PIPE AND FITTINGS FOR ALL AREAS, SHALL BE INSTALLED PER THE MANUFACTURERS LISTING. THIS INCLUDES HANGING, METHONDS OF RESTRAINT, BRACING, VERTICAL RESTRAINT, THERMAL EXPANSION, CONCEALMENT.
4. EACH SYSTEM SHALL BE INSTALL WITH A WATERFLOW AND AUTIBLE LOCAL ALARM.
5. EACH SPRINKLER SYSTEM SHALL HAVE A MINIMUM 1/2" DRAIN ON THE SYSTEM SIDE OF THE CONTROL VALVE.
6. TEST CONNECTIONS SHALL BE INSTALLED AT LOCATIONS THAT ALLOW FLOW TESTING OF WATER, SHALL CONTAIN A K-FACTOR EQUAL TO OR SMALLER THAN THE SMALLEST SPRINKLER K-FACTOR INSTALLED IN THE SYSTEM.
7. OBSTRUCTIONS TO RESIDENTIAL SPRINKLERS SHALL BE ACCORDANCE WITH NFPA 13D-2013 SECTION 8.2.5.
8. UNDERGROUND PIPE, ANY TYPE OF PIPE OR TUBE ACCEPTABLE UNDER THE APPLICABLE PLUMBING CODE FOR UNDERGROUND SUPPLY PIPE SHALL BE ACCEPTABLE AS AN UNDERGROUND SUPPLYR FOR A FIRE SPRINKLER SYSTEM.
9. ALL MATERIALS TO BE INSTALLED SHALL BE UL LISTED.
10. IT IS THE OWNER'S RESPONSIBILITY TO ENSURE THAT THE STRUCTURE SHOWN ON THE CONTRACT DRAWINGS CAN ADEQUATELY SUPPORT ALL FIRE SPRINKLER PIPE AND SEISMIC LOADS.
11. IS THE OWNER'S RESPONSIBILITY FOR MAINTAINING TEMPERATURES ABOVE 40 DEGREES TO PROTECT THE WET FIRE SPRINKLER SYSTEM FROM FREEZING.
12. ALL WIRING OF FIRE PROTECTION SYSTEM COMPONENTES TO BE DONDE BY OTHERS.
13. ALL PIPE AND COMPONENETS TO BE TESTED, INSPECTED AND MAINTENED IN ACCORDANCE WITH NFPA 13D, 13 OR 25.

SYMBOLOGY

SPRINKLER PIPE CPVC
TALCO PUMP/TANK
RESIDENTIAL SPRINKLER CONCEALED K-4.9 155°F
S C.F HYDRAULICS NODES
X DIAMETER [INCHES]
X-X DISTANCE [FEET]-[INCHES]

VIKING RESIDENTIAL CONCEALED PENDENT SPRINKLER K-4.9



CPVC RISER SUPPORT NOTES

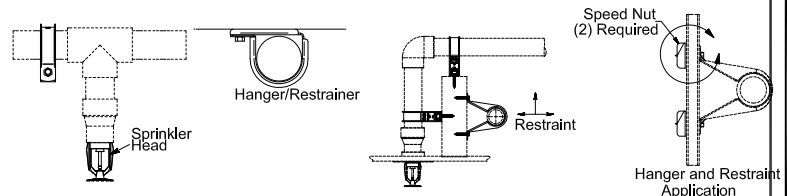
RISERS SHALL BE SUPPORTED BY PIPE CLAMPS OR BY HANGERS LOCATED ON THE HORIZONTAL CONNECTION CLOSE TO THE RISER. ONLY LISTED HANGERS AND CLAMPS SHALL BE USED.
VERTICAL LINES MUST BE SUPPORTED AT INTERVALS TO AVOID PLACING EXCESSIVE LOAD ON ANY FITTING AT THE LOWER END OF THE RISER.
VERTICAL PIPING SHALL BE SUPPORTED AT EACH FLOOR OR AT 10 FT INTERVALS, WHICHEVER IS LESS, SUPPORT CAN BE ACHIEVED BY USING RISER CLAMPS OR DOUBLE BOLT PIPE CLAMPS LISTED FOR THIS SERVICE. DO NOT USE RISER CLAMPS WHICH SQUEEZE THE PIPE OR DEPEND ON COMPRESSION FOR SUPPORT.

HANGER & SWAY BRACING NOTES

HANGERS AND STRAPS SHALL NOT COMPRESS, DISTORT, CUT OR ABRADE THE PIPING AND SHALL ALLOW FOR FREE MOVEMENT OF THE PIPE TO COMPENSATE THERMAL EXPANSION AND CONTRACTION OF CPVC PIPE AND FITTINGS.

INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER LISTING THAT INCLUDES DISTANCE BETWEEN HANGERS AND LOADS.

HANGER TYPICAL INSTALLATION DETAILS



STANDARD SUPPORT SPACING

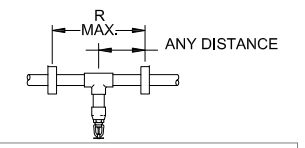
	MAXIMUM DISTANCE BETWEEN HANGER (FT-IN) NOMINAL PIPE SIZE (IN)						
	3/4	1/2	1	1 1/4	1 1/2	2	3
CPVC	5 - 6	6 - 0	6 - 6	7 - 0	8 - 0	9 - 0	10 - 0

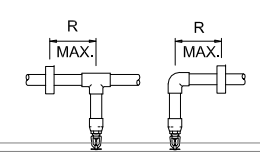
TABLE A - MAXIMUM SUPPORT SPACING
DISTANCE IN LINE SPRINKLER HEAD DROP TEE OR TWO POINTS OF RESTRAINT (R)

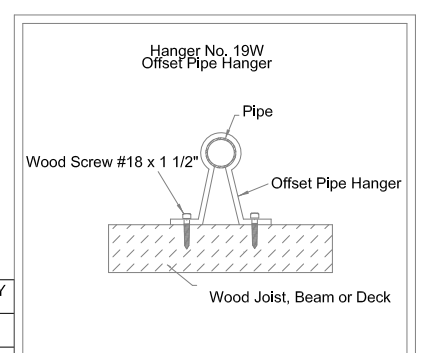
CPVC - NOMINAL SIZE PIPE (IN)	LESS THAN 100 PSI	MORE THAN 100 PSI
3/4	4'	3'
1	5'	4'
1 1/4	6'	5'
1 1/2 - 3	7'	7'

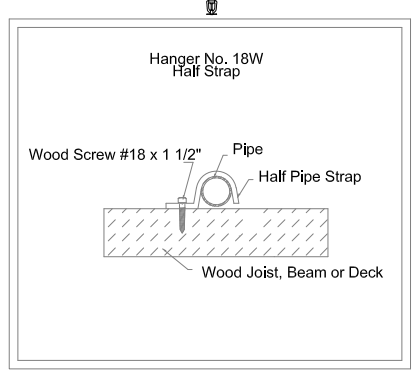
TABLE B - MAXIMUM SUPPORT SPACING
DISTANCE END SPRINKLER HEAD DROP ELBOW OR ONE POINT OF RESTRAINT (R)

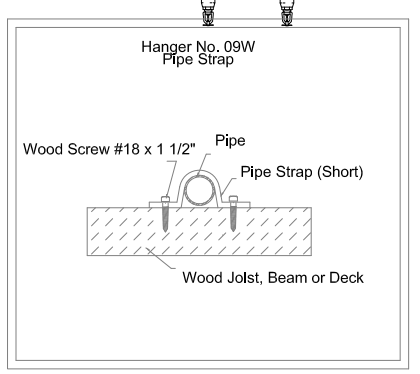
CPVC - NOMINAL SIZE PIPE (IN)	LESS THAN 100 PSI	MORE THAN 100 PSI
3/4	9"'	6"
1	12"	9"
1 1/4	16"	12"
1 1/2 - 3	24"	12"











FIRE SPRINKLER LEGEND

SYMBOL	MANUFACTURER	MODEL	SIN	TYPE	NPT	ORIFICE	K-FACTOR	TEMP	FINISH	ESCUTCHEON	QUANTITY
⊗	TYCO	LFII	TY2234	RECESSED PENDENT	1/2"	-	K-4.9	155°F	WHITE	WHITE	014

TOTAL SPRINKLERS IN THIS PLAN 014

PROJECT:
ADDRESS:
CITY:

CONTRACTOR INFORMATION

No	Date	Remarks

REVISIONS

DESIGNER LOGO

Drawing Title

Permit No. | Drawn
Scale INDICATED | Date

Sheet No.
FPS01