


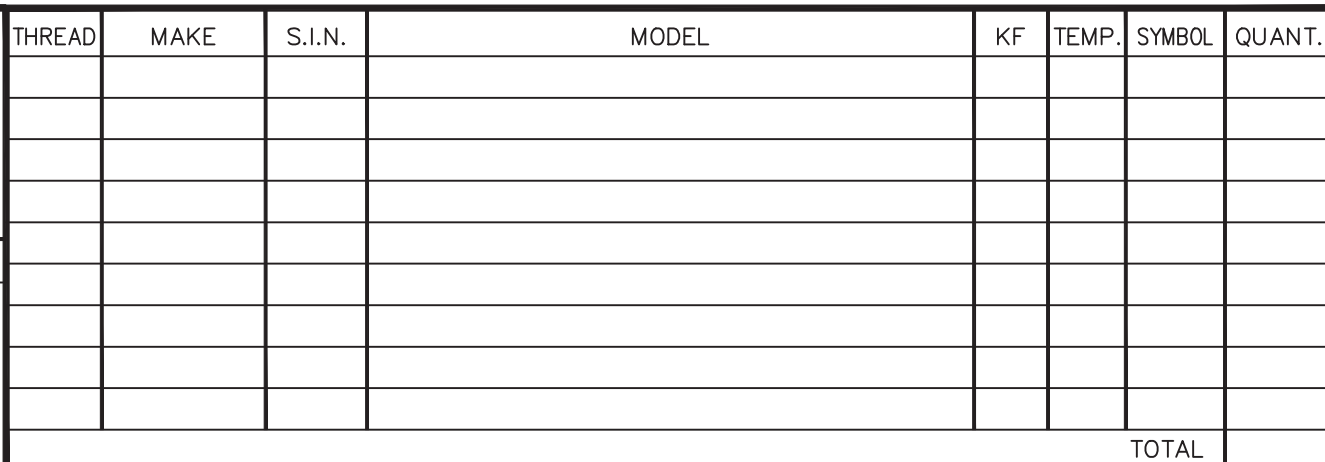


FLOW TEST #1  
FLOW TEST DATA:  
STATIC: 84 PSI  
RESIDUAL: 58 PSI  
W/ 2000 GPM  
DATE: 1-30-24  
SOURCE: LITS SUMMIT WATER DEPARTMENT  
LOCATION: SE JOE AVE  
ELEV: 10'-0" BELOW 1ST F.F.  
FLOW HYDRANT: 069-011 FH  
RESIDUAL HYDRANT: 069-012 FH

12" UNDG  
430'-0" ±

069-012 FH (TEST)

PIPE TYPE: BASEMENT - WET SYSTEM: ALL PIPING TO BE CPVC PLASTIC PIPE 1ST FLOOR/ATTIC - DRY SYSTEM: ALL 1" PIPE TO BE THREADED SCH 40 ALL PIPE 1 1/4" AND LARGER TO BE WELDED WELDED LINES/MAINS: SCH 10	
	BUILDING TYPE: NEW CONSTRUCTION: WOOD TRUSS



DESIGN CRITERIA:

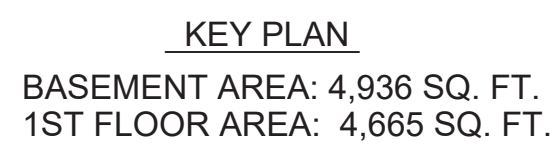
**ABBREVIATIONS & SYMBOLS**

A.F.C. - ABOVE FINISHED FLOOR  
A.C. - ABOVE TOP OF STEEL / ROOF PLATE  
A.C. - ABOVE BOTTOM OF Truss  
A.I. - ABOVE IRON  
C.I. - CAST IRON  
F.C. - FINISHED CONNECTION  
G & V.D. - GROOVED  
GALV. - GALVANIZED  
G.D. - GROOVED  
M.T. - MECHANICAL TEEL  
M.T. - MECHANICAL TEEL  
R.C. - REDUCER COUPLING  
T & H.D. - THREADED  
ROR - BASE OF RISER  
I.M. - FIELD MAIN  
J.M. - JUNE ROUNDOFF  
K.M. - BRANCH LINE  
M. - CROSS MAIN  
SP - SPRING  
SSU - STANDARD SPRAY UPRIGHT  
SSU - STANDARD SPRAY UPRIGHT  
HSW - HORIZONTAL SIDE WALL  
OR - QUICK RESPONSE  
P - PARALLEL CO  
B.J. - BAR JOIST  
W - WIDE RANGE (1 BEAM)  
ATR - ALL THREADED ROD  
(13) - HYDRAULIC REFERENCE NO

**FLOW TEST DATA:**  
 STATIC: - 84  
 RESIDUAL: - 58  
 FLOW: - 2000 gpm  
 LOCATION: - SE JOEL A  
 BY: - LEE'S SUMMIT WA  
 DEPARTMENT

REVISIONS	
DATE	DESCRIPTION

REVIEWING AUTHORITY
TOTAL HEADS THIS SHEET
TOTAL HEADS FOR JOB 220
SCALE 1/4" = 1'-0
DRAWN BY I.W.
DATE DRAWN 3/8/24
CONTRACT NUMBER NC-1429
DRAWING NUMBER FP1 of 5



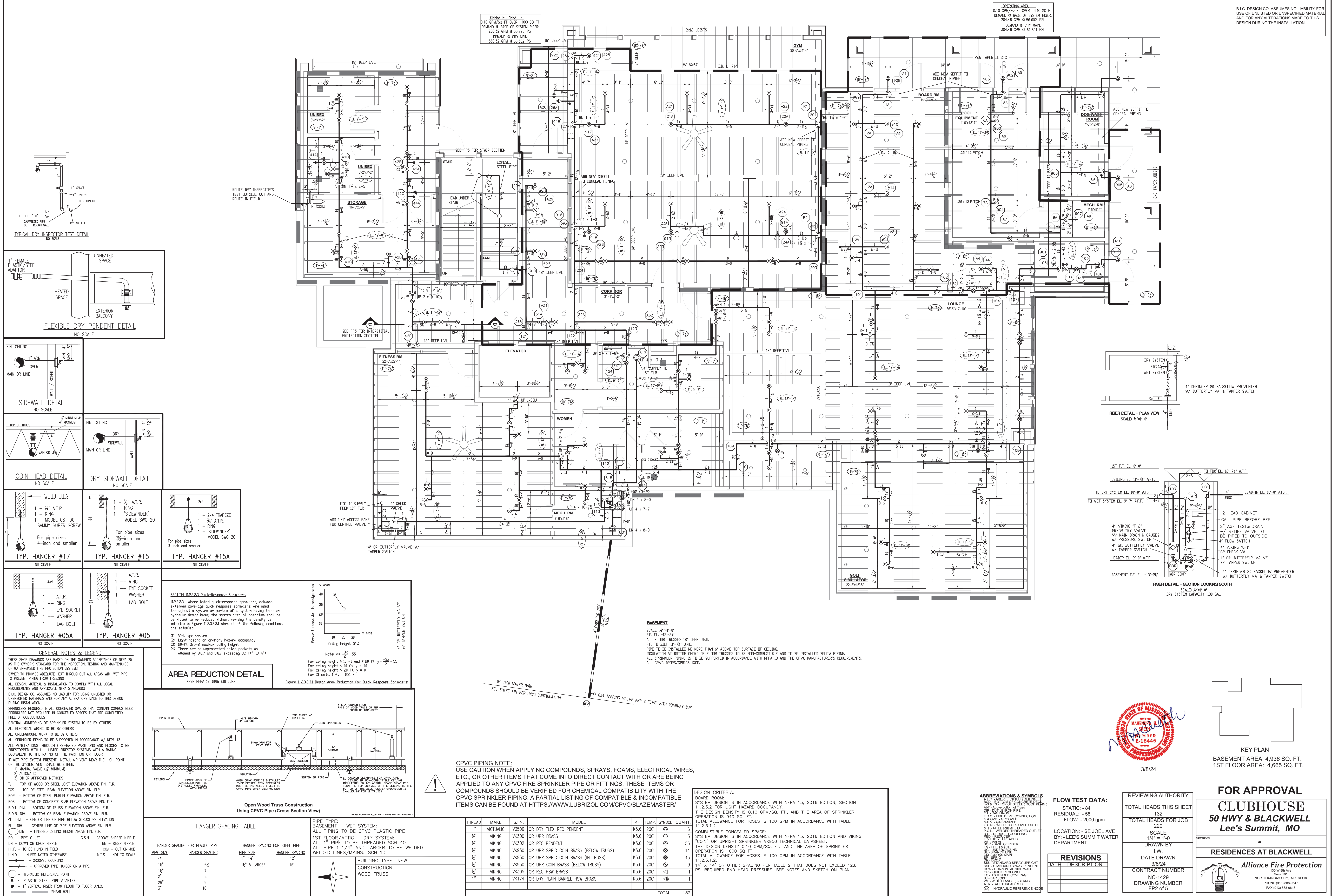
**FOR APPROVAL**  
**CLUBHOUSE**  
**50 HWY & BLACKWELL**  
**Lee's Summit, MO**

**RESIDENCES AT BLACKWELL**

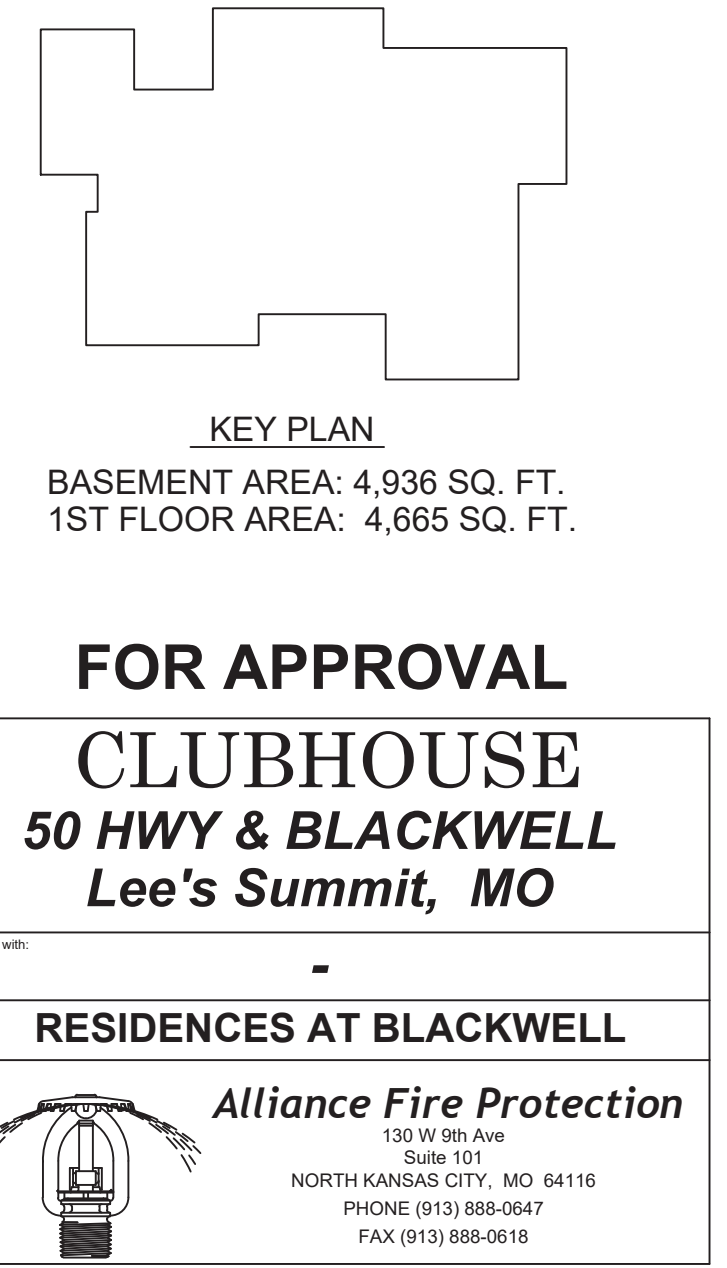
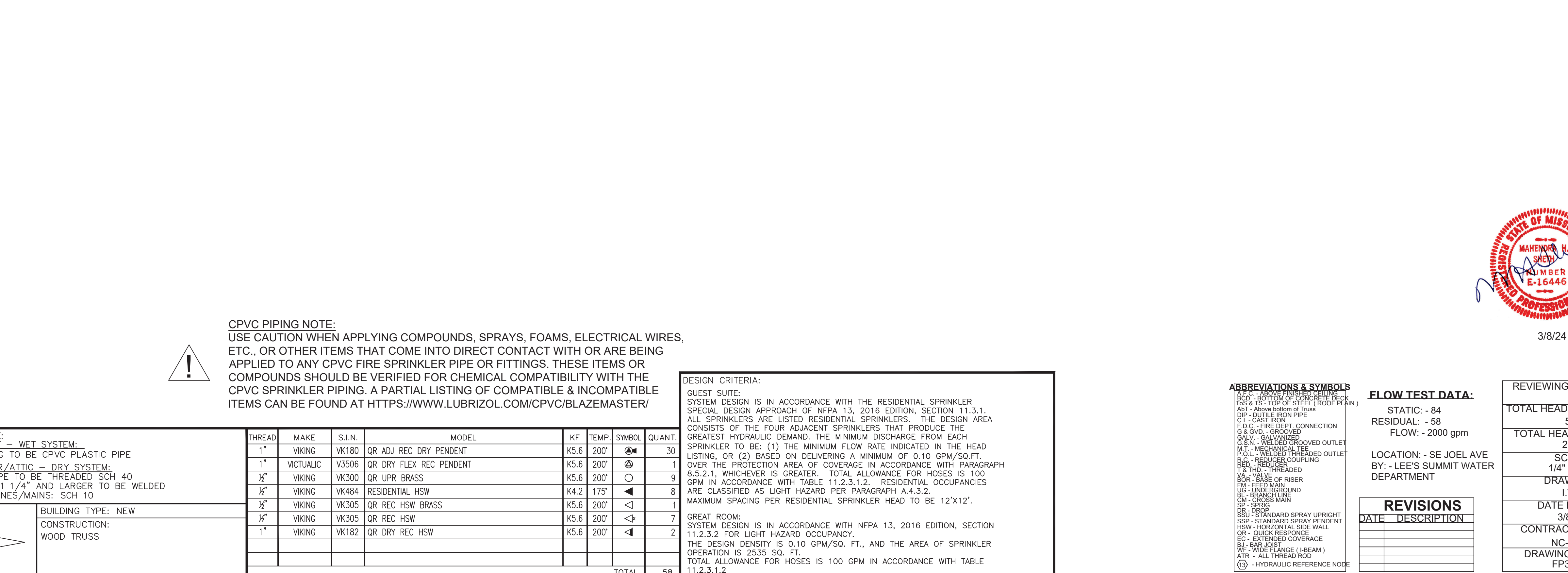
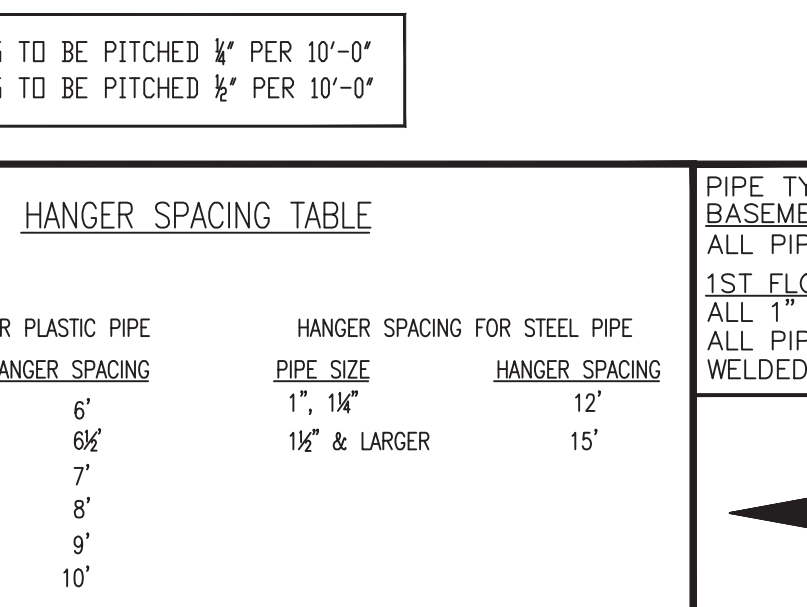
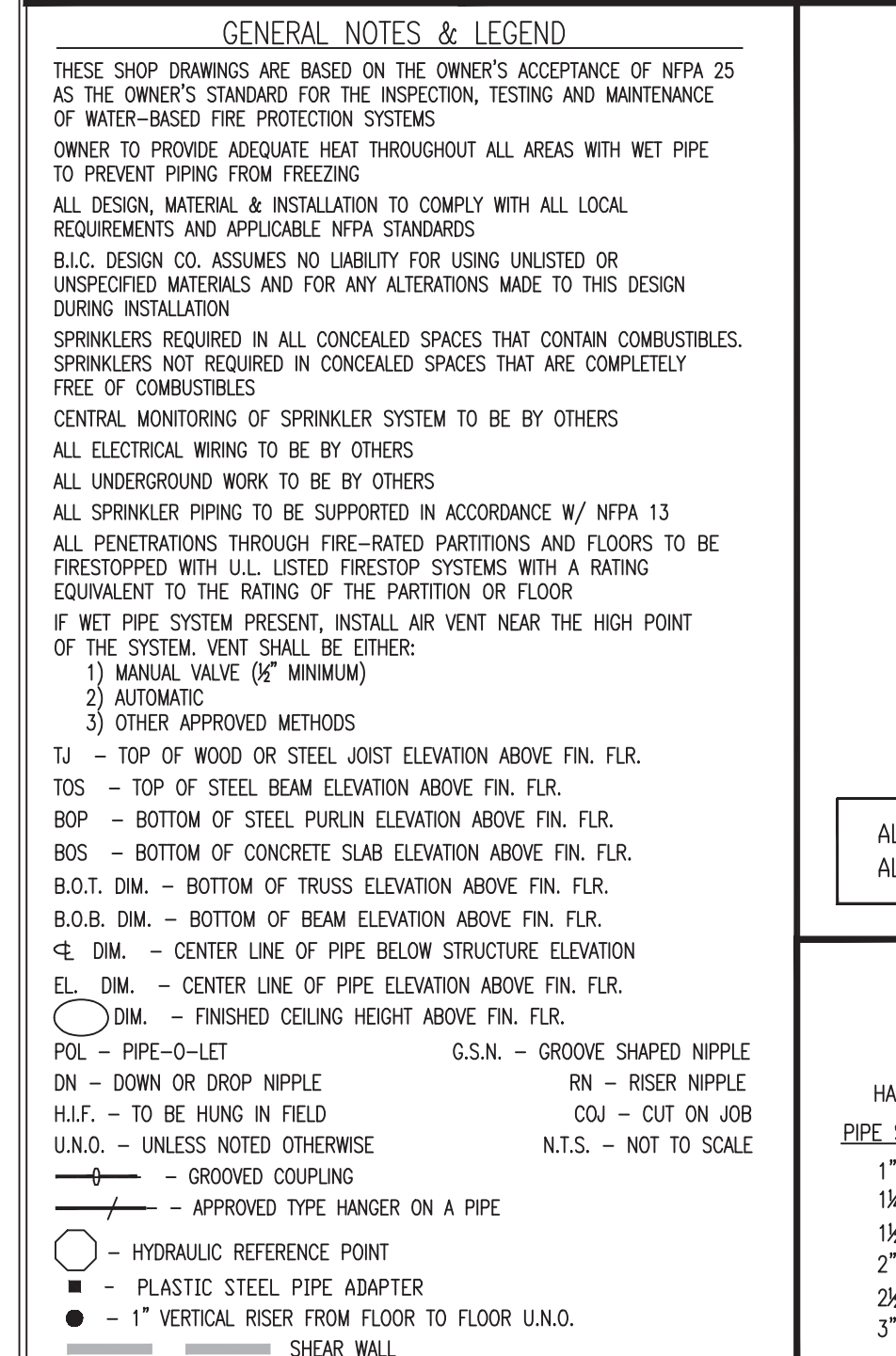
---

 **Alliance Fire Protection**  
130 W 9th Ave  
Suite 101  
NORTH KANSAS CITY, MO 64116  
PHONE (913) 888-0647  
FAX (913) 888-0618

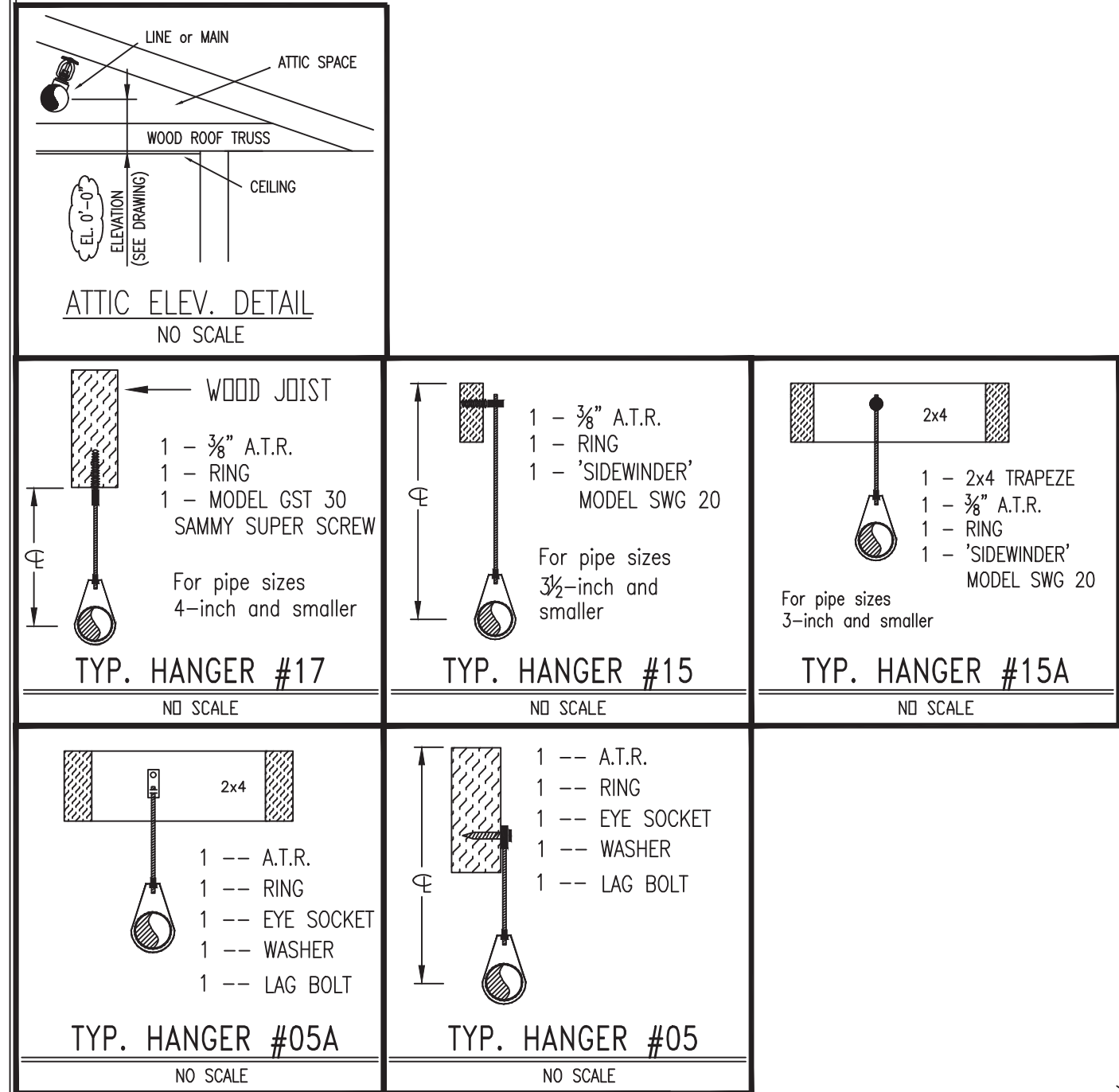












HANGER SPACING TABLE

HANGER SPACING FOR PLASTIC PIPE		HANGER SPACING FOR STEEL PIPE	
PIPE SIZE	HANGER SPACING	PIPE SIZE	HANGER SPACING
1"	6'	1", 1 1/4"	12'
1 1/4"	6 1/2'	1 1/2" & LARGER	15'
1 1/2"	7'		
2"	8'		
2 1/2"	9'		
3"	10'		

[illegible]

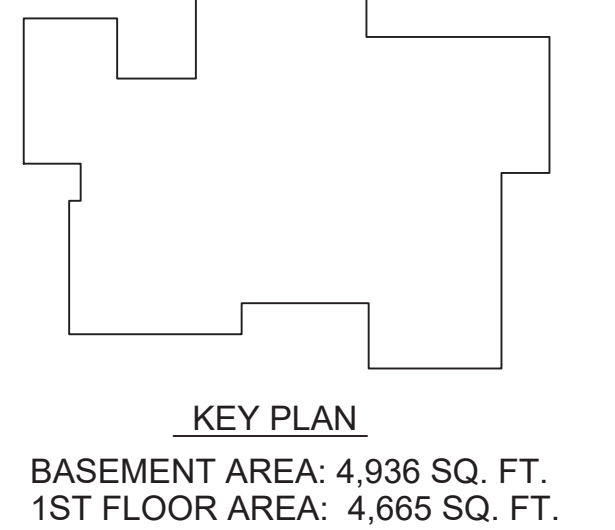
DESIGN CRITERIA: PER NFPA 13, 2016 (DRY PIPE SYSTEM)  
ATTIC UPRIGHT - 0.10 GPM/SQ. FT. FOR ALL 10 UPRIGHT HEADS  
OPERATING MAX 120 SQ. FT./HEAD SPACING & 100 GPM FOR HOSE ALLOWANCE.  
ATTIC SPRINKLERS - 9 SINGLE DIRECTIONAL HEADS  
& 100 GPM FOR HOSE ALLOWANCE.

# ABBREVIATIONS & SYMBOLS

ABOVE FINISHED GRADE  
B.O. BOTTOM OF CONCRETE PECK  
C.C. CAST-IN-PLACE  
C.I. CAST IRON  
C.I. CAST IRON PIPE  
C.I. CAST IRON  
C.D.C. FIRE DETECT CONNECTION  
C.D. CROCODOWN  
GALV. GALVANIZED  
G.D. GROUPODOWN  
M.T. MECHANICAL TEST  
M.T. MECHANICAL TEST  
R.C. REINFORCED CONCRETE  
R.C. REDUCER COUPLING  
RED. REDUCER  
T.H.T. THREADED  
FOR BASE OF RISER  
I.M. FIBER MASON  
I.M. FIBER REINFORCEMENT  
K.T. CROSS MEMBER  
K.T. CROSS MEMBER  
SP. SPRING  
SSU. STANDARD SPRAY UPRIGHT  
SSU. STANDARD SPRAY PENDENT  
HSW. HORIZONTAL SIDE WALL  
OR. QUICK RESPONSE  
E.W. EXTENDED COVERAGE  
B.-BAR JOIST  
W.F. WELDED FLANGE (1 BEAM)  
ATR. ALL THREADED ROD  
(13) - HYDRAULIC REFERENCE NO

REVISIONS	
DATE	DESCRIPTION

REVIEWING AUTHORITY
TOTAL HEADS THIS SHEET 30
TOTAL HEADS FOR JOB 220
SCALE 1/4" = 1'-0
DRAWN BY I.W.
DATE DRAWN 3/8/24
CONTRACT NUMBER NC-1429
DRAWING NUMBER FP4 of 5

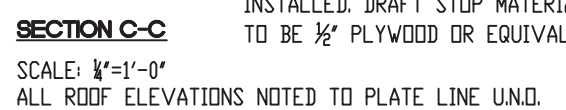
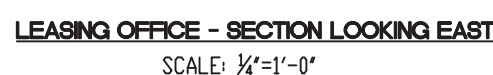
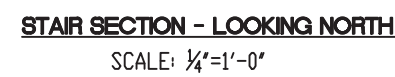


**FOR APPROVAL**  
**CLUBHOUSE**  
**50 HWY & BLACKWELL**  
**Lee's Summit, MO**



**Alliance Fire Protection**  
 130 W 9th Ave  
 Suite 101  
 NORTH KANSAS CITY, MO 64116  
 PHONE (913) 888-0647  
 FAX (913) 888-0618





**FOR APPROVAL**  
**CLUBHOUSE**  
**50 HWY & BLACKWELL**  
**Lee's Summit, MO**



## GENERAL NOTES & LEGEND

THESE SHOP DRAWINGS ARE BASED ON THE OWNER'S ACCEPTANCE OF NFPA 25 AS THE OWNER'S STANDARD FOR THE INSPECTION, TESTING AND MAINTENANCE OF WATERWORKS. THE PROTECTOR SHALL BE RESPONSIBLE FOR PROVIDING THE OWNER TO PROVIDE ADEQUATE HEAD THROUGHOUT ALL AREAS WITH NET PIPE TO PREVENT PIPING FROM FREEZING.

ALL DESIGN MATERIALS & METHODS SHALL COMPLY WITH ALL LOCAL REQUIREMENTS AND APPLICABLE NFPA STANDARDS.

B.L.G. DESIGN CO. ASSUMES NO LIABILITY FOR USING UNLISTED OR UNTESTED MATERIALS OR FOR ANY ALTERATIONS MADE TO THIS DESIGN DURING INSTALLATION.

SPRINKLERS REQUIRED IN ALL CONCEALED SPACES THAT CONTAIN COMBUSTIBLES. SPRINKLERS REQUIRED IN CONCEALED SPACES THAT ARE COMPLETELY FREE OF COMBUSTIBLES.

CENTRAL MOUNTING OF SPRINKLER SYSTEM TO BE BY OTHERS.

ALL ELECTRICAL WIRING TO BE BY OTHERS.

ALL UNDERGROUND WORK TO BE BY OTHERS.

SPRINKLER PIPING TO BE SUPPORTED IN ACCORDANCE WITH NFPA 13.

ALL PENETRATIONS THROUGH PIERE-PARTED PARTITIONS AND FLOORS TO BE FRESHENED WITH U.L. LISTED FRESHENING PARTITIONS OR A RATING OF NOT LESS THAN 1 HOUR.

IF NET PIPE SYSTEM PRESENT, INSTALL AIR VENT NEAR THE HIGHT OF THE SYSTEM. SHALL BE EITHER:

1. MANUAL VALVE (IF MINIMUM)
2. AUTOMATIC
3. OTHER APPROVED METHOD

TJ = TOP OF WOOD OR STEEL JOIST ELEVATION ABOVE FIN. FLR.  
 TS = TOP OF STEEL BEAM ELEVATION ABOVE FIN. FLR.  
 BR = BOTTOM OF STEEL PURLIN ELEVATION ABOVE FIN. FLR.  
 BOS = BOTTOM OF CONCRETE SLAB ELEVATION ABOVE FIN. FLR.  
 B.O.B. = BOTTOM OF BEAM ELEVATION ABOVE FIN. FLR.  
 B.O.B. DM. = BOTTOM OF BEAM ELEVATION ABOVE FIN. FLR.  
 C. DM. = CENTER LINE OF PIPE BELOW STRUCTURE ELEVATION  
 EL. DM. = CENTER LINE OF PIPE ELEVATION ABOVE FIN. FLR.  
 C. DM. = FINISHED CEILING HEIGHT ABOVE FIN. FLR.

POL = PIPE-IF ELEV.  
 NIPPLE = NIPPLE  
 H. = BEING IN LINE  
 UNL. = UNLESS NOTED OTHERWISE  
 — = GROOVED COUPLING  
 — = APPROVED TYPE HANGER ON A PIPE

○ = HYDRAULIC REFERENCE POINT  
 — = PLASTIC STEEL PIPE ADAPTER  
 1" VERTICAL, RISE FROM FLOOR TO SHEAR WALL.

I.R.S.R. = IRISER  
 COU = COU-T JOINT  
 N.T.S. = NOT TO SCALE

<p>PIPE TYPE:  <u>BASEMENT - WET SYSTEM:</u>          ALL PIPING TO BE CPVC PLASTIC PIPE  <u>1ST FLOOR/ATTIC - DRY SYSTEM:</u>          ALL 1" PIPE TO BE THREADED SCH 40          ALL PIPE 1 1/4" AND LARGER TO BE WELDED          WELDED LINES/MAINS: SCH 10</p>	<p>BUILDING TYPE: NEW          CONSTRUCTION:          WOOD TRUSS</p>
--	--

DESIGN CRITERIA:

**ABBREVIATIONS & SYMBOLS**

ABOVE FINISHED FLOOR  
A-D - BOTTOM OF CONCRETE DECK  
A-F - ABOVE FINISHED FLOOR  
A-BT - ABOVE BOTTOM OF TRUSS  
A-FR - ABOVE FINISHED ROOF FLOOR  
C.I. - CAST IRON  
F.D.C. - FIRE DEPT. CONNECTION  
G - GROOVE  
GALV. - GALVANIZED  
H - HANGING  
H-RO - HANGING REMOVED OUTLET  
M.T. - MECHANICAL TEE  
M-RO - MECHANICAL REMOVED OUTLET  
R.C. - REDUCER COUPLING  
RED - REDUCED  
R-TH - RIGID THERMALED  
ROR - ROOF RISE OF RISER  
I.M. - FIELD MAIN  
K - KNEE  
K.M. - KNEE MAIN  
K.M. - CROSS MAIN  
SP - SPRIG  
SS - STANDARD SPRAY UPRIGHT  
SSW - STANDARD SPRAY PENDENT  
HSW - HORIZONTAL SPRAY WALL  
OR - QUICK RESPONSE  
W - WELDED COUPLER  
B-JAR JOIST  
L - LIFTED (1 BEAM)  
A-TR - THROUGH ROD  
A-TR - THROUGH ROD

(13) - HYDRAULIC REFERENCE NODE

FLOW TEST DATA:  
 STATIC: - 84  
 RESIDUAL: - 58  
 FLOW: - 2000 gpm  
 LOCATION: - SE JOEL A  
 BY: - LEE'S SUMMIT WA  
 DEPARTMENT

REVISIONS	
DATE	DESCRIPTION

REVIEWING AUTHORITY
TOTAL HEADS THIS SHEET
TOTAL HEADS FOR JOB 220
SCALE 1/4" = 1'-0
DRAWN BY I.W.
DATE DRAWN 3/8/24
CONTRACT NUMBER NC-1429
DRAWING NUMBER FP5 of 5

Contract with