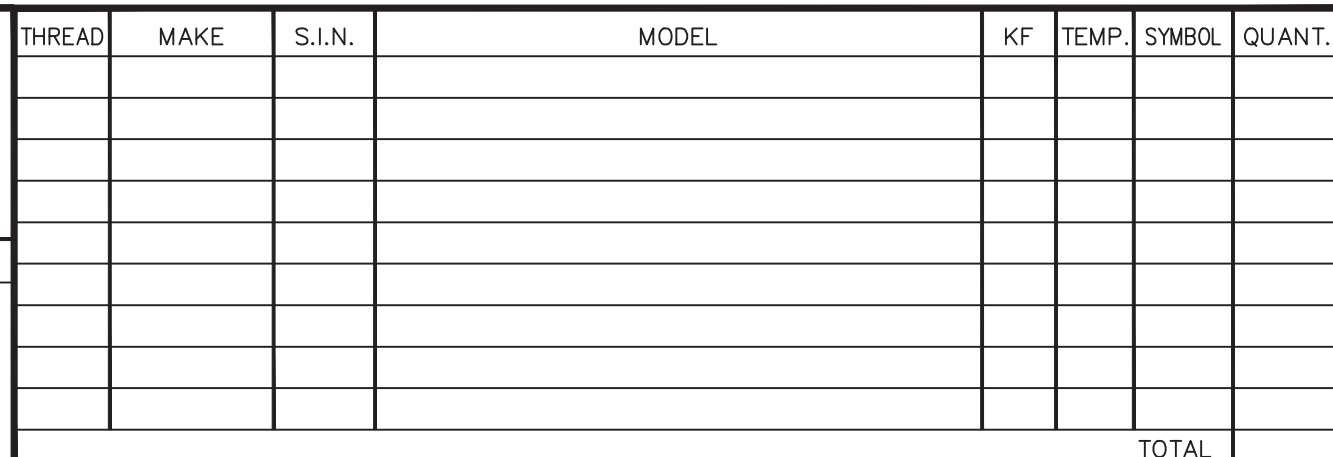


PIPE TYPE: BASEMENT - WET SYSTEM: ALL PIPING TO BE CPVC PLASTIC PIPE 1ST FLOOR/ATTIC - DRY SYSTEM: ALL 1" PIPE TO BE THREADED SCH 40 ALL PIPE 1 1/4" AND LARGER TO BE WELDED WELDED LINES/MAINS: SCH 10	BUILDING TYPE: NEW CONSTRUCTION: WOOD TRUSS
---	---



DESIGN CRITERIA:

ABBREVIATIONS & SYMBOLS

ABC - ABOVE FINISHED FLOOR
AC - ABOVE CURB
POS & TS - TOP OF STEEL (ROOF FCM)
ADT - ABOVE TOP OF TRUSS
AFC - ABOVE FINISHED CEILING
C.I. - CAST IRON
C.I.P. - CAST IRON PIPE
G & VD - GROoved
GALV. - GALVANIZED
G.I. - GALVANIZED IRON
MT - MECHANICAL
M.T. - MECHANICAL TEE
O.D. - OUTSIDE DIAMETER
R.C. - REDUCER COUPLING
R.D. - REDUCER
T.H.D. - THREADED
ROR - ROOF RISE OF RISER
I.M. - IRON MAIN
I.F. - IRON FOUND
K.M. - CROSS MAIN
SP - SPRIG
SSU - STANDARD SPRAY UPRIGHT
SSU - STANDARD SPRAY PENDENT
HSW - HORIZONTAL SIDE WALL
OR - QUICK RESPONSE
EXT - EXTENDED COVERAGE
BJ - BAR JOIST
W.F. - WELD FLANGE (I-BEAM)
ATR - THREADED ROD
(13) - HYDRAULIC REFERENCE NODE

FLOW TEST DATA
 STATIC: - 84
 RESIDUAL: - 58
 FLOW: - 2000 gpm

LOCATION: - SE JOEL AVE
BY: - LEE'S SUMMIT WATER
DEPARTMENT

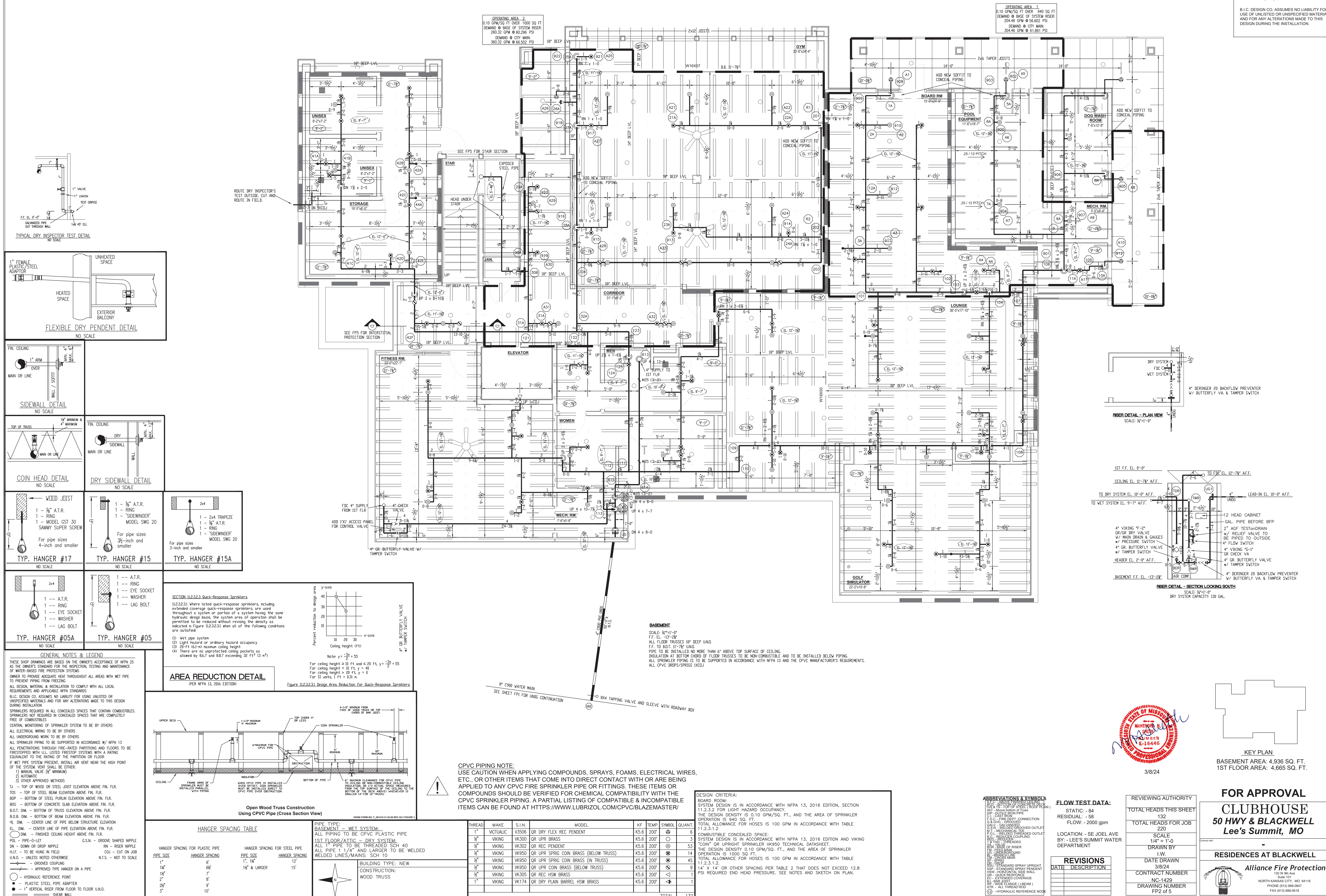
REVISIONS	
DATE	DESCRIPTION

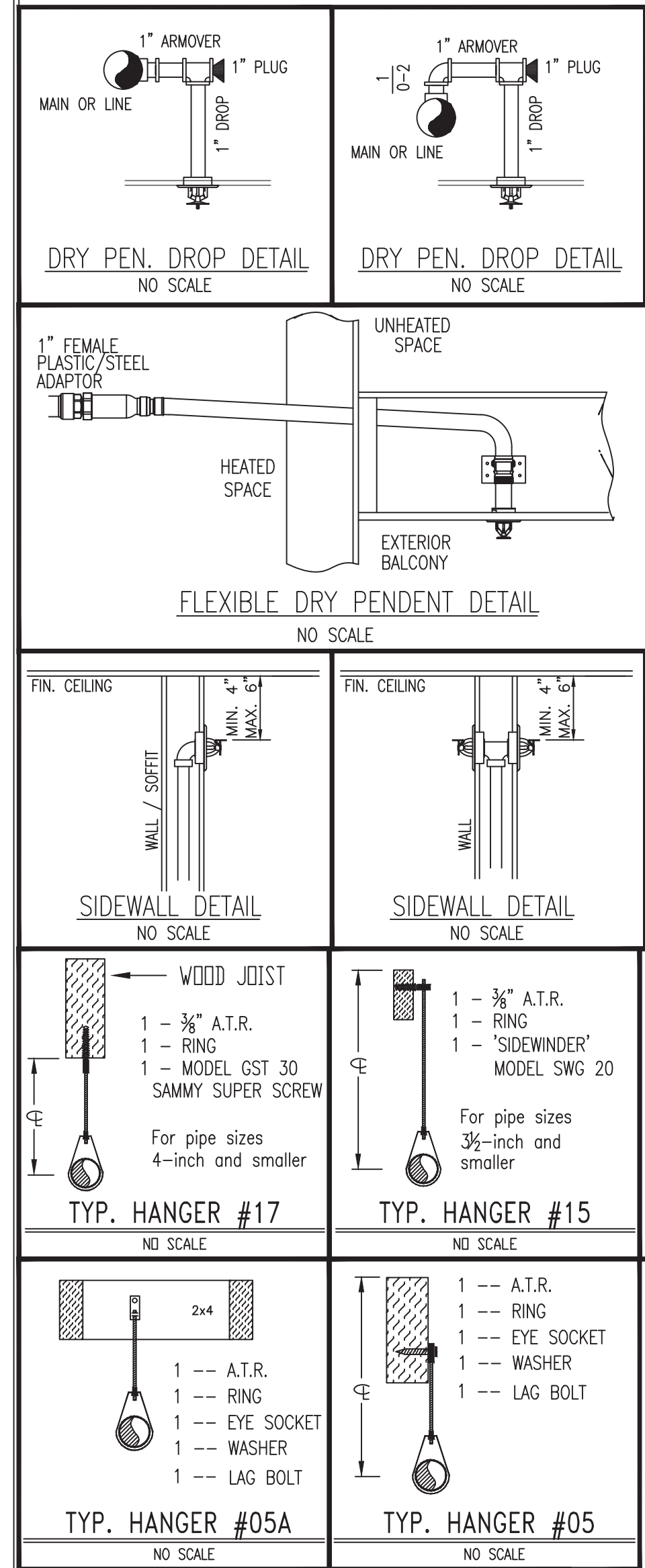
REVIEWING AUTHORITY
TOTAL HEADS THIS SHEET
TOTAL HEADS FOR JOB 220
SCALE 1/4" = 1'-0
DRAWN BY I.W.
DATE DRAWN 3/8/24
CONTRACT NUMBER NC-1429
DRAWING NUMBER FP1 of 5

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) 888-0547
FAX (913) 888-0618





AS THE OWNER'S SCHEDULE FOR THE PROJECT, TESTING AND MAINTENANCE OF THE SPRINKLER PROTECTION SYSTEM SHALL BE:

- OWNER TO PROVIDE Adequate HEAD THROUGHOUT ALL AREAS WITH NET PIPE TO PREVENT PIPING FROM FREEZING
- ALL DESIGN, MATERIAL & INSTALLATION TO COMPLY WITH ALL LOCAL REQUIREMENTS AND APPLICABLE NFPA STANDARDS
- B.I.C. DESIGN CO. ASSUMES NO LIABILITY FOR USING UNLISTED OR UNDESIGNED MATERIALS AND FOR ANY ALTERATIONS MADE TO THIS DESIGN
- CONDUCT INSULATION
- SPRINKLERS REQUIRED IN ALL CONCEALED SPACES THAT CONTAIN COMBUSTIBLES
- SPRINKLERS NOT REQUIRED IN CONCEALED SPACES THAT ARE COMPLETELY FREE OF COMBUSTIBLES
- CENTRAL MONITORING OF SPRINKLER SYSTEM TO BE BY OTHERS
- ALL ELECTRICAL WIRING TO BE BY OTHERS
- ALL SPRINKLER WORK TO BE BY OTHERS
- ALL UNDERPINNING PILING TO BE SUPPORTED IN ACCORDANCE WITH NFPA 13
- ALL PENETRATIONS THROUGH FIRE-RATED PARTITIONS AND FLOORS TO BE FIREPROTECTED WITH U.L. LISTED STRUT SYSTEMS WITH A RATING EQUIVALENT TO THE PARTITION OR FLOOR
- IF NET PIPE SYSTEM PRESENT, INSTALL AIR VALVE NEAR THE HIGH POINT OF THE SYSTEM, PER STATE
- THE OWNER SHALL BE AVOID

HANGER SPACING TABLE

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
---	---

GREATEST HYDRAULIC DEMAND, THE MINIMUM DISCHARGE FROM EACH SPRINKLER TO BE: (1) THE MINIMUM FLOW RATE INDICATED IN THE HEAD DATA FOR (A) OR (B) BASED ON A DESIGN DENSITY OF 0.2 GPM/SQ.FT. OVER THE PROTECTION AREA OF COVERAGE IN ACCORDANCE WITH PARAGRAPH B.5.2.1, WHICHEVER IS GREATER; TOTAL ALLOWANCE FOR HOSES IS 100 GPM IN ACCORDANCE WITH TABLE 6.11.2.3.2; AND (C) HOSES ARE CLASSIFIED AS LIGHT HAZARD PER PARAGRAPH A.4.3.2.

MINIMUM SPACING PER RESIDENTIAL SPRINKLER HEAD TO BE 12'X12'.

CREAT ROOM:

SYSTEM DESIGN IS IN ACCORDANCE WITH NFPA 13, 2016 EDITION, SECTION 11-2.3.2 FOR LIGHT HAZARD OCCUPANCY.

DESIGN DENSITY IS 0.10 GPM/SQ. FT., AND THE AREA OF SPRINKLER OPERATION IS 2535 SQ. FT.

TOTAL ALLOWANCE FOR HOSES IS 100 GPM IN ACCORDANCE WITH TABLE

QUEST SYSTEM:

SYSTEM DESIGN IS IN ACCORDANCE WITH THE RESIDENTIAL SPRINKLER
DESIGN APPROACH OF NFPA 13, 2016 EDITION, SECTION 13.1.1.
ALL SPRINKLERS ARE LISTED RESIDENTIAL SPRINKLERS. THE DESIGN AREA
CONSISTS OF THE FOUR ADJACENT SPRINKLERS THAT PRODUCE THE
GREATEST HYDRAULIC DEMAND. THE MINIMUM DISCHARGE FROM EACH
SPRINKLER TO BE: (1) THE MINIMUM FLOW RATE INDICATED IN THE HEAD
LISTING, OR (2) BASED ON DETERMINING A MINIMUM OF 0.10 GPM/SQ.FT.
FOR EACH SQUARED FOOT OF PROTECTION AREA IN ACCORDANCE WITH PARAGRAPH
8.5.2.1, WHICHEVER IS GREATER. TOTAL ALLOWANCE FOR HOSES IS 100
GPM IN ACCORDANCE WITH TABLE 12.3.2.1.2. RESIDENTIAL OCCUPANCIES
ARE CLASSIFIED AS LIGHT HAZARD PER PARAGRAPH 8.5.2.1.2.

MAXIMUM SPACING PER RESIDENTIAL SPRINKLER HEAD TO BE 12'X12'

GREAT ROOM:


SYSTEM DESIGN IS IN ACCORDANCE WITH NFPA 13, 2016 EDITION, SECTION
12.3.2 FOR LIGHT HAZARD OCCUPANCY.

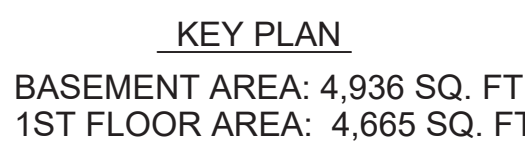
THE DESIGN DENSITY IS 0.10 GPM/SQ.FT., AND THE AREA OF SPRINKLER
OPERATION IS 2535 SQ. FT.

TOTAL ALLOWANCE FOR HOSES IS 100 GPM IN ACCORDANCE WITH TABLE

FLOW TEST DATA:
 STATIC: - 84
 RESIDUAL: - 58
 FLOW: - 2000 gpm

REVISIONS	
DATE	DESCRIPTION

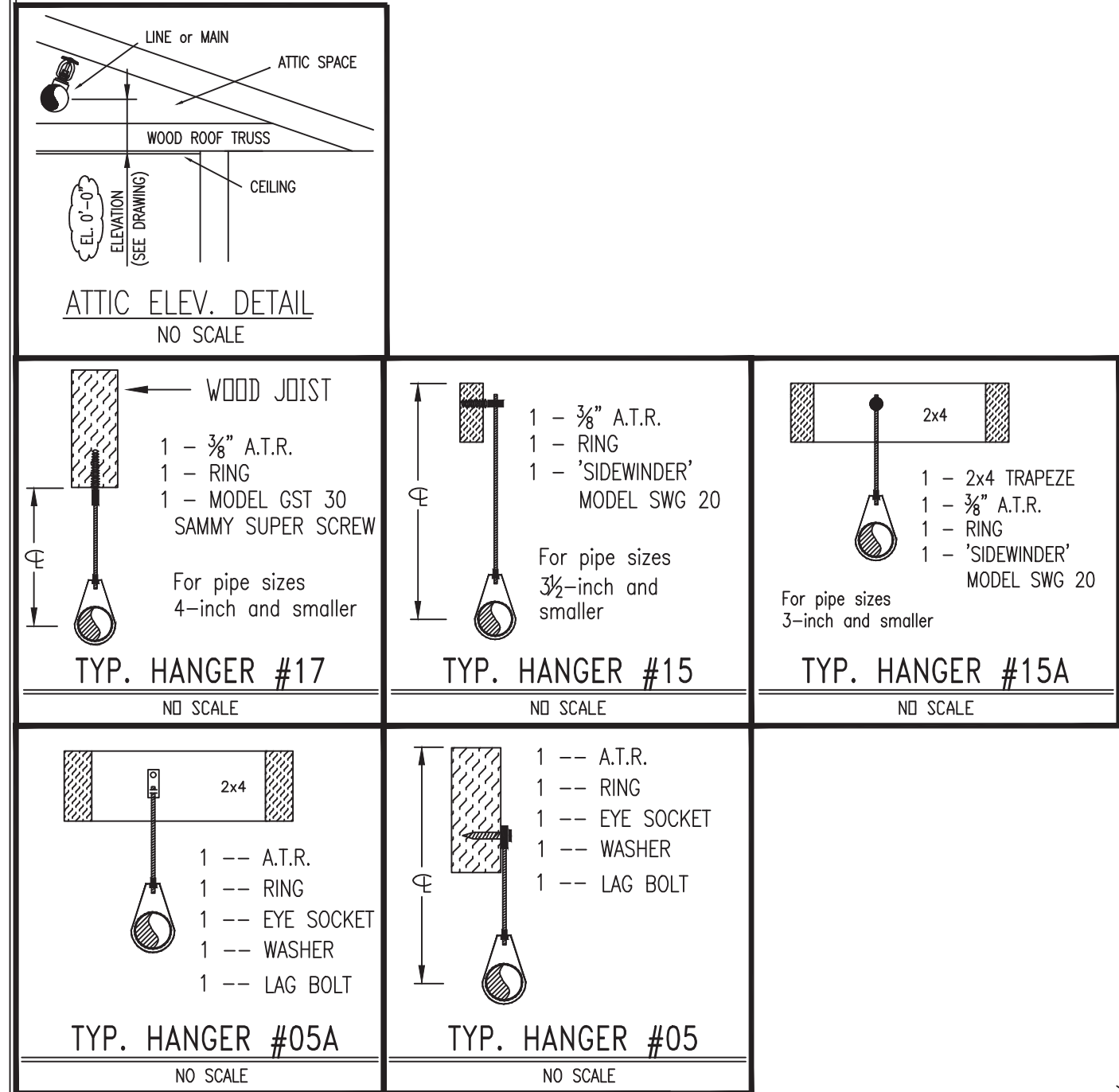
FOR APPROVAL	
CLUBHOUSE 50 HWY & BLACKWELL <i>Lee's Summit, MO</i>	
Contract with:	
RESIDENCES AT BLACKWELL	
	Alliance Fire Protection 1350 W 9th Ave Suite 101 NORTH KANSAS CITY, MO 66116 PHONE (913) 888-0647 FAX (913) 888-0618



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



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.

[illegible]

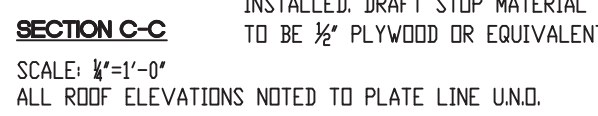
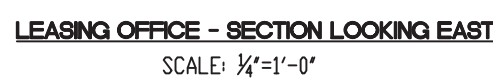
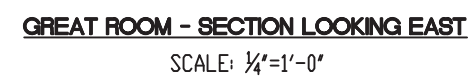
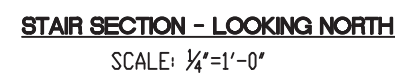
REVISIONS	
DATE	DESCRIPTION

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

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



FOR APPROVAL
CLUBHOUSE
0 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 WATER-BASED FIRE-PROTECTION SYSTEMS.

THESE DRAWINGS REQUIRE THE INSTALLER TO PROVIDE ADEQUATE HEAD THROUGH ALL AREAS WITH WET PIPE TO PREVENT PIPING FROM FREEZING.

ALL DESIGN, MATERIALS & INSTALLATION TO COMPLY WITH ALL LOCAL REQUIREMENTS AND APPLICABLE NFPA STANDARDS.

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

SPRINKLERS LOCATED IN ALL CONCEALED SPACES THAT CONTAIN COMBUSTIBLES.

SPRINKLERS LOCATED IN CONCEALED SPACES THAT ARE COMPLETELY FREE OF COMBUSTIBLES.

CENTRAL MONITORING OF SPRINKLER SYSTEM TO BE BY OTHERS

ALL ELECTRICAL WIRING TO BE BY OTHERS

ALL UNDERSTANDING MUST BE BY OTHERS

ALL SPRINKLER PIPING TO BE SUPPORTED IN ACCORDANCE W/ NFPA 13

ALL PENETRATIONS THROUGH FIRE-RATED PARTITIONS AND FLOORS TO BE INSTALLED WITH U.L. LISTED FIRESTOP SYSTEMS WITH A RATING CAPABLE TO WITHSTANDING THE PARTITION OR FLOOR.

IF WET PIPE SYSTEM PRESENT, INSTALL AIR VENT NEAR THE HIGHEST POINT OF THE SYSTEM. SEAL MUST BE EITHER:

- 1) MANUAL VALVE (IF MINIMUM)
- 2) AUTOMATIC
- 3) APPROVED RELEASE METHOD

TS — TOP OF WOOD OR STEEL JOIST ELEVATION ABOVE FIN. FLR.
 TJ — 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.M. — BOTTOM OF BEAM ELEVATION ABOVE FIN. FLR.
 C.M. — CENTER LINE OF PIPE BELOW STRUCTURE ELEVATION
 EL. DIM. — CENTER LINE OF PIPE ELEVATION ABOVE FIN. FLR.
 ○ DIM. — FINISHED CEILING HEIGHT ABOVE FIN. FLR.

POL. — PIPE-TO-LET
 NIPPLE — NIPPLE
 C.O. — CUT-TO-LENGTH IN FIELD
 C.O. — CUT ON JOINT

U.L. — UNLESS NOTED OTHERWISE
 N.T.S. — NOT TO SCALE

—○— GROoved COUPLING

— APPROVED TYPE HANGER ON A PIPE

— HYDRAULIC REFERENCE POINT

— PLASTIC STEEL PIPE ADAPTER

● 1" VERTICAL RISER FROM FLOOR TO FLOOR U.N.D. SHEAR WALL

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

ABOVE FINISHED CEILING
B.C. BOTTOM OF CONCRETE
C.C. CAST IN PLACE CONCRETE
A.B.T. ABOVE BOTTOM OF TRUSS
C.C. CAST IN PLACE CONCRETE
C.I. CAST IRON
F.D. FIRE DEEP CONNECTION
G.V. GROUND VENT
G.V. GROUND VENT
M.T. MECHANICAL TRUSS
R.C. REDUCER COUPLING
T.H. THREADED
ROR. BASE OF RISER
M.F. FIELD MAIN
M. J. JOINT
M. CROSS MAIN
S.P. SPRING
SSU - STANDARD SPRAY UPRIGHT
SSU - STANDARD SPRAY UPRIGHT
HSW - HORIZONTAL SIDE WALL
OR. - QUICK RESPONSE
C.D. CIRCULAR DRAINAGE
B.J. BAR JOINT
L.B. LINE BURN (L.B.E.M.)
ATR - ALL THREAD ROD
(13) - HYDRAULIC REFERENCE NOOE

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

REVISIONS	
DATE	DESCRIPTION

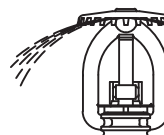
REVIEWING AUTHORITY
TOTAL HEADS THIS SHEET
TOTAL HEADS FOR JOB 220
SCALE 1/4" = 1'-0
DRAWN BY I.W.
DATE DRAWN 3/8/24
CONTRACT NUMBER NC-1429
DRAWING NUMBER FP5 of 5

FOR APPROVAL

CLUBHOUSE
50 HWY & BLACKWELL
Lee's Summit, MO

Contract with:

RESIDENCES AT BLACKWELL

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