

# SPRINKLER DESIGN DATA

|  |                                      |
|--|--------------------------------------|
| PROJECT NAME: KOTO HIBACHI & SUSHI               | SYSTEM #: 1                          |
| PROJECT STREET ADDRESS: 177 MITTIE HADDOCK DRIVE | SYS. SQ. FT.: -                      |
| SUITE: -   | FLOOR #: 1ST FLOOR                   |
| DESIGNED BY: CRAWFORD SPRINKLER                  | PHONE: 919-828-9346                  |
| OCCUPANCY: RESTAURANT                            | HAZARD: LIGHT HAZARD/ORDINARY HAZARD |
|  | CEILING HEIGHT: VARIES - SEE PLAN    |
|  | TOTAL BLDG. HEIGHT: -                |

## DESIGN SUMMARY

|                        | #1             | #2 | #3 | #4 | #5 |
|------------------------|----------------|----|----|----|----|
| DESIGN METHOD          | -              | -  | -  | -  | -  |
| DESIGN AREA #          | -              | -  | -  | -  | -  |
| LOCATION               | 1ST FLOOR      | -  | -  | -  | -  |
| TYPE OF SYSTEM         | WET            | -  | -  | -  | -  |
| HAZARD CLASS           | OH/LIGHT       | -  | -  | -  | -  |
| CRITERIA FROM          | NFPA 13 (2013) | -  | -  | -  | -  |
| DESIGN AREA            | -              | -  | -  | -  | -  |
| SPRINKLER SPACING      | 130/225 s.f.   | -  | -  | -  | -  |
| DENSITY                | .15/.10 gpm    | -  | -  | -  | -  |
| K-FACTOR               | 5.6            | -  | -  | -  | -  |
| HOSE ALLOWANCE         | -              | -  | -  | -  | -  |
| # DESIGN SPRINKLERS    | -              | -  | -  | -  | -  |
| SPECIAL APP. SPRINKLER | -              | -  | -  | -  | -  |
| REQUIREMENT @ BOR      | -              | -  | -  | -  | -  |
| G.P.M. REQ'D           | -              | -  | -  | -  | -  |
| P.S.I. REQ'D           | -              | -  | -  | -  | -  |
| REQUIREMENT @ TEST     | -              | -  | -  | -  | -  |
| GPM REQUIRED           | -              | -  | -  | -  | -  |
| PSI REQUIRED           | -              | -  | -  | -  | -  |
| SAFETY FACTOR @ TEST   | -              | -  | -  | -  | -  |
| DRY SYS. VOLUME (GAL.) | -              | -  | -  | -  | -  |

## WATER SUPPLY INFORMATION

|                   |    |                 |   |                  |   |
|-------------------|----|-----------------|---|------------------|---|
| TESTED BY         | -  | DATE / TIME     | - | PRESSURE HYDRANT | - |
| HYDRANT ELEVATION | 1' | FLOW HYDRANT #1 | - | FLOW HYDRANT #2  | - |
| STATIC (PSI)      | -  | RESIDUAL (PSI)  | - | FLOW (GPM)       | - |

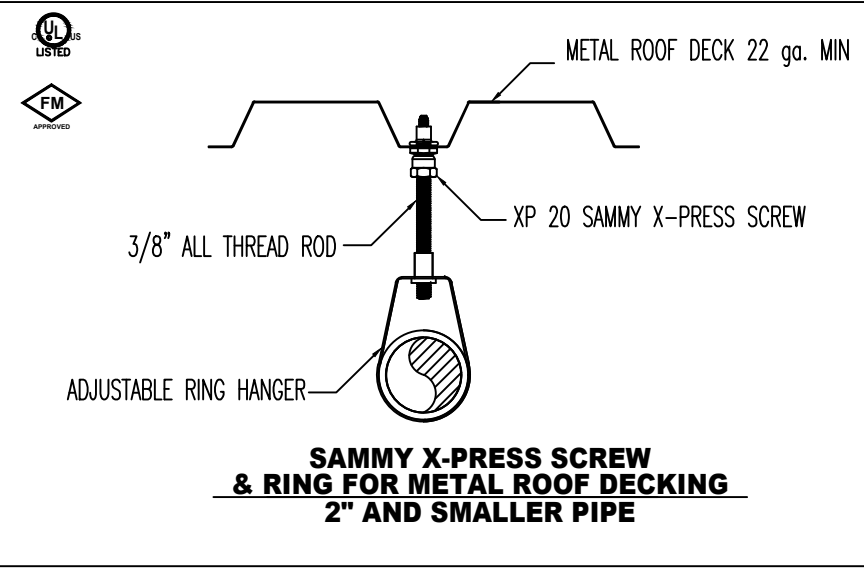
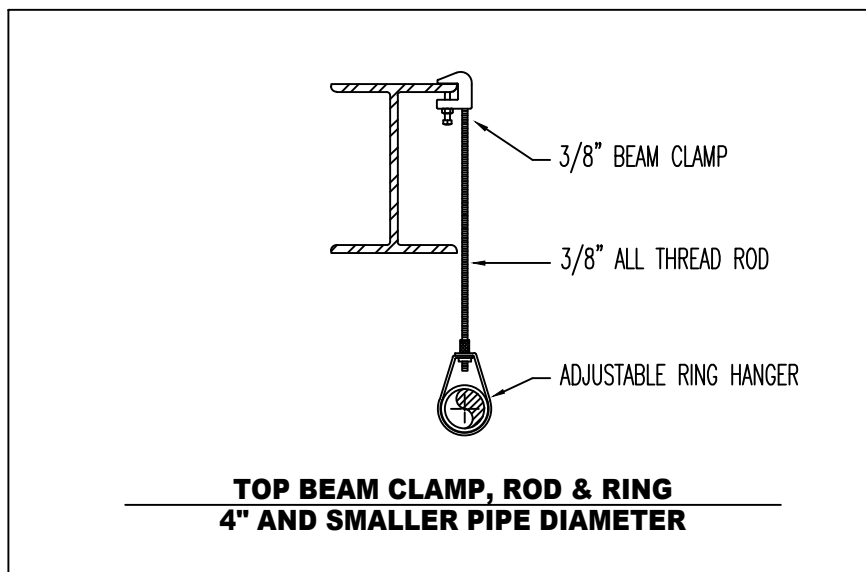
COPY OF WATER TEST DATA INCLUDED WITH CALCULATION IS REQUIRED

### HANGER INSTALLATION REQUIREMENTS

| NOMINAL PIPE SIZE  | MAXIMUM DISTANCE BETWEEN HANGERS |        |        |        |        |        |        |        |        |        |
|--------------------|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                    | 4"                               | 1"     | 1 1/4" | 1 1/2" | 2"     | 2 1/2" | 3"     | 4"     | 5"     | 6"     |
| BLAZEMASTER CPC    | 5'-0"                            | 6'-0"  | 6'-0"  | 7'-0"  | 8'-0"  | 9'-0"  | 10'-0" | N/A    | N/A    | N/A    |
| THREADED UGHTWALL  | N/A                              | 12'-0" | 12'-0" | 12'-0" | 12'-0" | 12'-0" | 12'-0" | N/A    | N/A    | N/A    |
| STEEL PIPE (10/40) | N/A                              | 12'-0" | 12'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" | 15'-0" |

100 PSI STATIC PRESSURE ON SYSTEM REQUIRES UP-LEFT RESTRAINT WITHIN 12 INCHES HORIZONTALLY OF HEAD FOR ARM-OVER-AND-END OF BRANCH LINE. THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT EXCEED 36" FOR 1" PIPE, 48" FOR 1 1/4" PIPE AND 60" FOR 1 1/2" PIPE OR LARGER.

THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOR TO A SPRINKLER, SPRINKLER DROP, OR SPRING-UP SHALL NOT EXCEED 24'

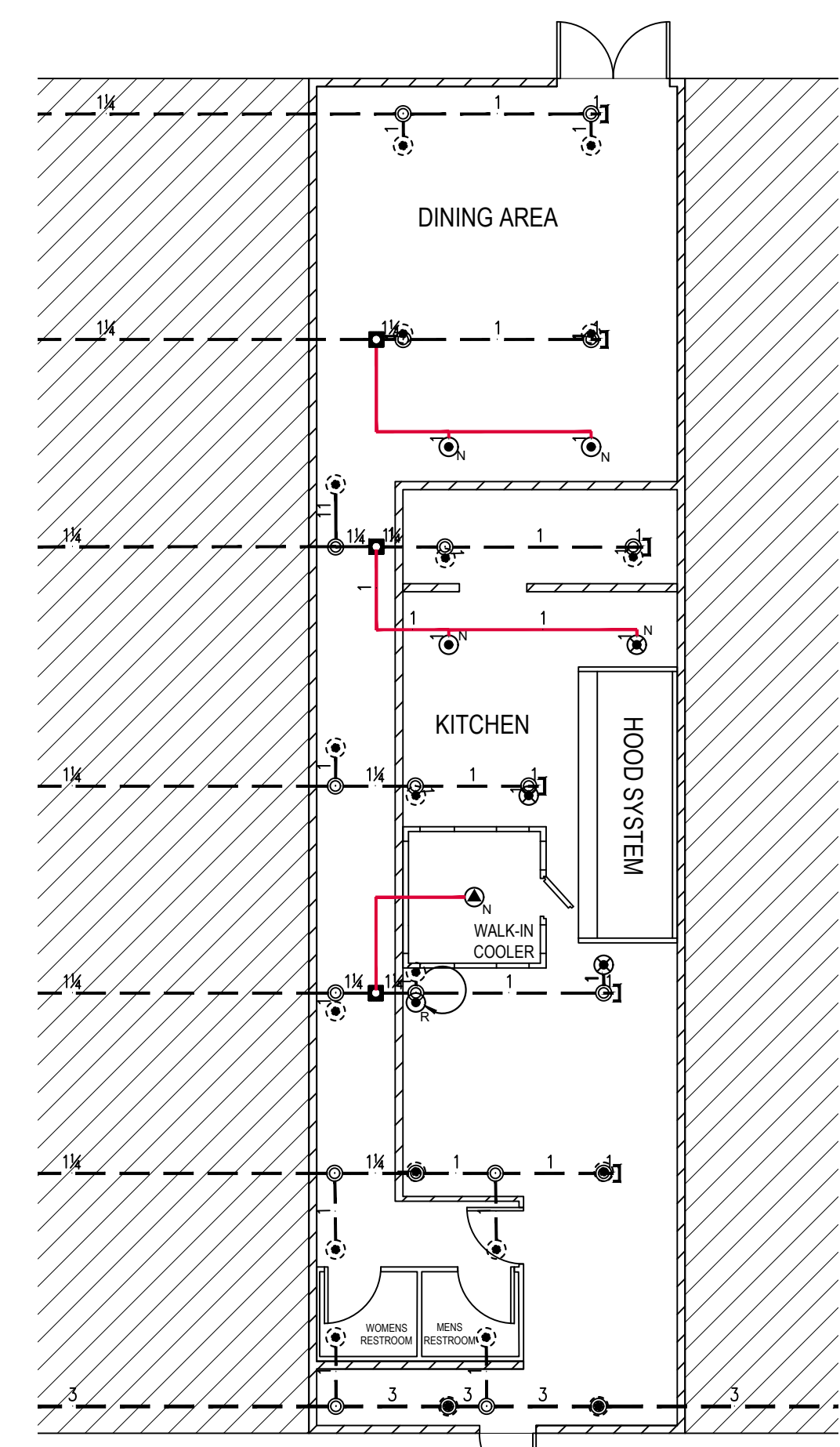


### SYMBOLS:

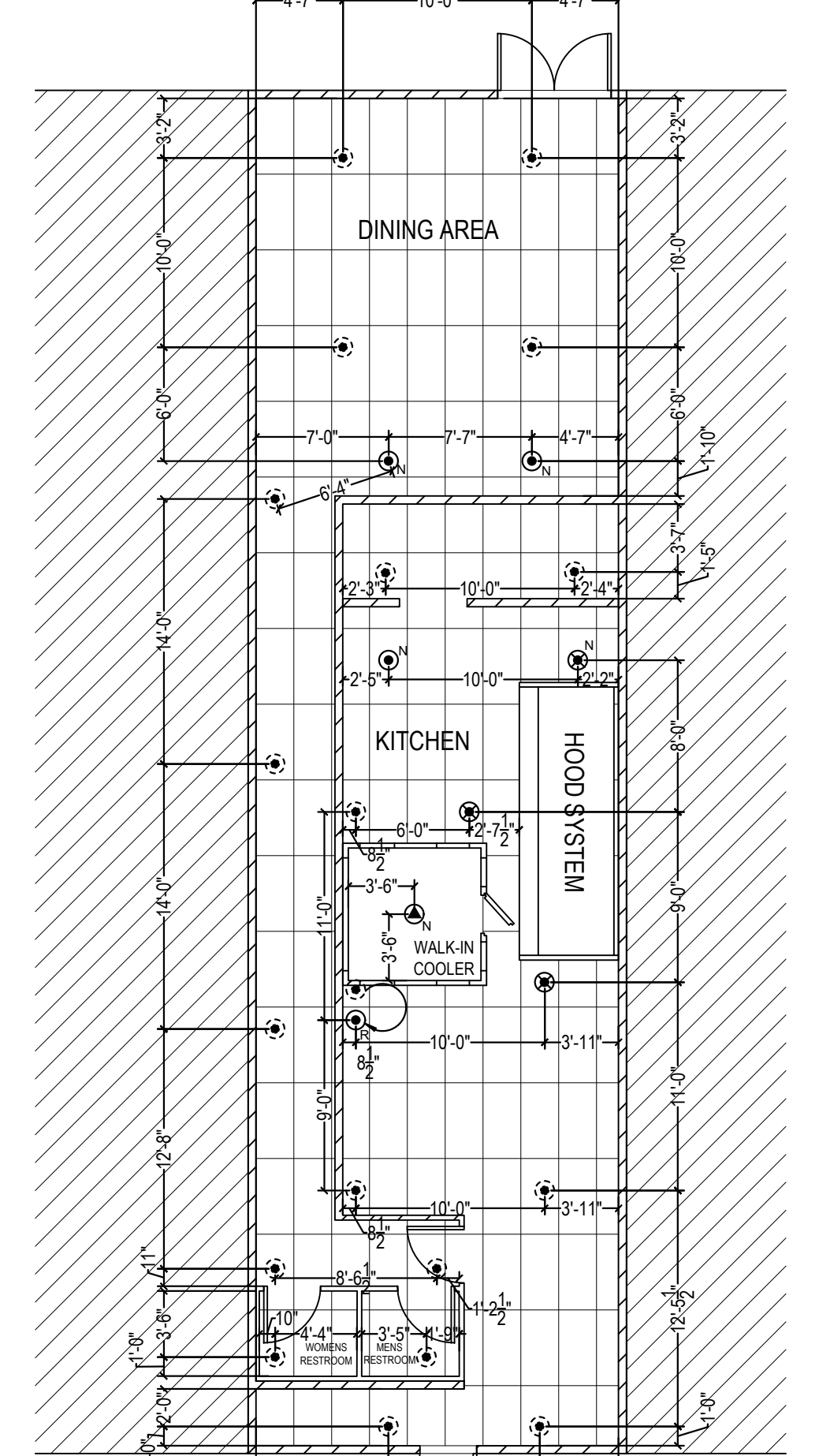
- DENOTES EXISTING SPRINKLER PIPE
- DENOTES NEW SPRINKLER PIPE
- N DENOTES A NEW SPRINKLER

### GENERAL NOTES:

- ALL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 13 (2013) AND THE NORTH CAROLINA STATE FIRE CODE, THE GENERAL CONDITIONS OF THE CONTRACT APPLY.
- MATERIALS AND INSTALLATION SHALL COMPLY WITH APPLICABLE NFPA CODES, STATE BUILDING CODE, AND LOCAL AUTHORITY HAVING JURISDICTION.
- ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ALL NEW AND EXISTING SPRINKLER PIPE 1 1/2" AND SMALLER IS SCHEDULE-40 BLACK STEEL WITH THREADED ENDS AND FITTINGS. ALL NEW AND EXISTING SPRINKLER PIPE 2" AND LARGER IS SCHEDULE-10 BLACK STEEL WITH GROOVED ENDS AND FITTINGS - UNO.
- SPRINKLER HEAD SPACING IS BASED ON THE NFPA STANDARDS FOR LIGHT HAZARD OCCUPANCIES (DINING AREA) ALLOWING A MAXIMUM HEAD SPACING OF 225 S.F. PER HEAD.
- SPRINKLER HEAD SPACING IS BASED ON THE NFPA STANDARDS FOR ORDINARY HAZARD OCCUPANCIES (KITCHEN AREA) ALLOWING A MAXIMUM HEAD SPACING OF 130 S.F. PER HEAD.
- LOCATIONS OF PIPING AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.
- THE SPRINKLER CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ANY PRE-EXISTING CODE VIOLATIONS PERTAINING TO THE EXISTING SPRINKLER SYSTEM.
- THIS INSTALLATION DOES NOT CREATE A MORE HYDRAULICALLY DEMANDING CONDITION. NO HYDRAULIC CALCULATIONS WERE PERFORMED.



2 PIPING PLAN  
FP 1 1/8" = 1'-0"



3 REFLECTED CEILING PLAN  
FP 1 1/8" = 1'-0"

### HEAD LEGEND

| SYM   | CNT | NAME             | FINISH | TEMP | K   | NPT  | MFG    | MODEL#  | MIN. SPACING | MAX. SPACING | ESCUIT        | RESPONSE |
|-------|-----|------------------|--------|------|-----|------|--------|---------|--------------|--------------|---------------|----------|
| ⊙     | 3   | NEW PENDENT      | CHROME | 155  | 5.6 | 1/2" | WIKING | WK-3021 | 6'-0"        | 15'-0"       | RECESSED      | QUICK    |
| ⊙     | 1   | RELOCATE PENDENT | CHROME | 155  | 5.6 | 1/2" | WIKING | WK-3021 | 6'-0"        | 15'-0"       | RECESSED      | QUICK    |
| ⊙     | 1   | NEW PENDENT      | CHROME | 200  | 5.6 | 1/2" | WIKING | WK-3021 | 6'-0"        | 15'-0"       | RECESSED      | QUICK    |
| ⊙     | -   | EXISTING PENDENT | CHROME | 200  | 5.6 | 1/2" | -      | -       | 6'-0"        | 15'-0"       | RECESSED      | QUICK    |
| ⊙     | -   | EXISTING PENDENT | CHROME | 155  | 5.6 | 1/2" | -      | -       | 6'-0"        | 15'-0"       | RECESSED      | QUICK    |
| ⊙     | 1   | NEW DRY PENDENT  | CHROME | 200  | 5.6 | 1"   | WIKING | WK-176  | 6'-0"        | 15'-0"       | STANDARD ADJ. | QUICK    |
| TOTAL | 6   |                  |        |      |     |      |        |         |              |              |               |          |

1 KEY PLAN  
FP 1 1/32" = 1'-0"

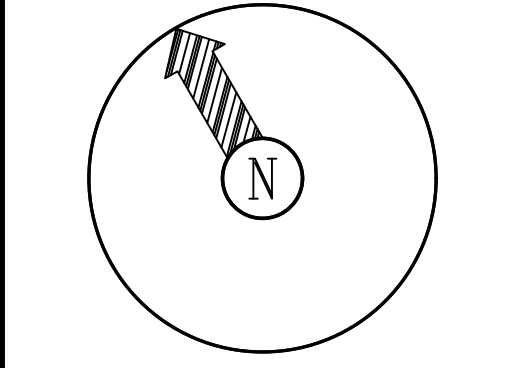
**System No. W-L-1054**

|   |   |
|---|---|
| ANSI/UL 1479 (ASTM E814)                    | CANULUC S115                                |
| F Ratings - 1 and 2 Hr (See Items 1 and 3)  | F Ratings - 1 and 2 Hr (See Items 1 and 3)  |
| T Rating - 0 Hr                             | FT Rating - 0 Hr                            |
| L Rating at Ambient - Less Than 1 CFM/sq ft | FH Ratings - 1 and 2 Hr (See Items 1 and 3) |
| L Rating at 400 F - Less Than 1 CFM/sq ft   | FTH Rating - 0 Hr                           |
|   | L Rating at Ambient - Less Than 1 CFM/sq ft |
|   | L Rating at 400 F - Less Than 1 CFM/sq ft   |

1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:  
A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nominal 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) O.C. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) O.C. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.  
B. Gypsum Board - 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or lapped edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls. The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.  
2. Through-Penetrants - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:  
A. Steel Pipe - Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.  
B. Iron Pipe - Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.  
C. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) diam steel conduit.  
D. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.  
E. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.  
3. Fill Void or Cavity Material - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-One Sealant or FS-ONE MAX Intumescent Sealant

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

**HILTI Firestop Systems**  
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IMPORTANT: IN LOCATIONS SUBJECT TO FREEZING CONDITIONS IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE ADEQUATE HEAT THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS AND ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.

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**KOTO HIBACHI & SUSHI**  
FIRE SPRINKLER PLAN  
177 MITTIE HADDOCK DRIVE  
CAMERON, NORTH CAROLINA

UNDERWRITERS:  
INDEX NO.  
REVISIONS:

| DESIGN CRITERIA | VALUE    |
|-----------------|----------|
| SYSTEM TYPE     | WET      |
| SYSTEM DESIGN   | -        |
| DESIGN DENSITY  | -        |
| MAX HEAD CVRG   | 225 S.F. |
| HOSE ALLOWANCE  | -        |

DRAWN BY: ECM DATE: 7/17/2023  
CHECK BY: DATE:

SCALE: AS NOTED

CONTRACT NO. S233017  
FILE NO.

DWG. NO. **FP 1 OF 1**

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