

PROTECTION CRITERIA LEGEND BASED ON 2007 NFPA 13

OCCUPANCY CLASSIFICATION	DENSITY	HOSE ALLOWANCE (GPM)	MAXIMUM SPRINKLER SPACING (SQ FT)
SALES FLOOR	0.20/1500 SQ FT	250	130
TENANT SPACE/DELI/PHARMACY/OFFICES	0.20/1500 SQ FT	250	130
COOLERS/FREEZERS	0.20/ENTIRE AREA	250	130

SHEET INDEX

SHEET NUMBER	SHEET NAME
FP1	FIRE SPRINKLER SITE PLAN AND NOTES
FP2	FIRE SPRINKLER DEMOLITION PLAN
FP3	FIRE SPRINKLER PIPING PLAN
FP4	FIRE SPRINKLER DETAILS

GENERAL NOTES

- THE DESIGN SHOWN ON THESE CONTRACT DOCUMENTS IS TO PROVIDE GUIDANCE FOR BIDDING. SUBMIT COMPLETE FIRE SPRINKLER SHOP DRAWINGS AS REQUIRED BY CONTRACT DOCUMENTS TO THE OWNER'S DESIGNATED REVIEWER AND A.H.J. BASE DESIGN UPON THESE DRAWINGS AND AS REQUIRED BY THE SPECIFICATIONS. SHOP DRAWINGS SHALL INCLUDE ELEVATIONS, HANGER LOCATIONS, PIPE LENGTHS, DIMENSIONS, FABRICATIONS, METHODS, MATERIAL DATA, AND ADDITIONAL INFORMATION NECESSARY TO CLARIFY THE INTENT OF INSTALLATION. CONTRACTOR SHALL PROVIDE PIPE SIZE, SPRINKLER SPACING, AND SYSTEM CONFIGURATION AS SHOWN. ALTERNATES MUST BE APPROVED IN WRITING BY FIRE PROTECTION ENGINEER OF RECORD DOCUMENTS PRIOR TO BID.
- COORDINATE LOCATIONS OF FIRE PROTECTION COMPONENTS, INCLUDING PIPING, ALARMS, DRAINS, TEST POINTS, ETC. WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS. OBSTRUCTION TO SPRINKLER DISCHARGE MUST BE CONSIDERED DURING SHOP DRAWING PRODUCTION AND INSTALLATION; ADDITIONAL SPRINKLERS MAY BE REQUIRED AT NO ADDITIONAL COST TO OWNER. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR MUST VISIT THE BUILDING SITE TO DETERMINE THE FULL EXTENT OF THE EXISTING FIRE PROTECTION WORK AND EXISTING CONDITIONS, BECOME TOTALLY FAMILIAR WITH THE DISCONNECTIONS, REMOVALS, RELOCATIONS AND/OR RECONNECTIONS OF EXISTING FIRE PROTECTION EQUIPMENT REQUIRED, AND CONDITIONS IN THE PROPOSAL FOR THIS PROJECT. NO EXTRA COMPENSATION WILL BE PAID FOR LACK OF SUCH DETERMINATION, FAMILIARIZATION, AND/OR ALLOWANCE.
- SUBMIT A REQUEST FOR INFORMATION FOR QUESTIONS REGARDING THE FIRE PROTECTION DOCUMENTS.
- NEUTRALIZATION WALLS, IF PROVIDED, ARE SHOWN ON THE ARCHITECTURAL DRAWINGS. REFER TO MECHANICAL DRAWINGS FOR NEUTRALIZATION WALL PENETRATION DETAIL.
- PENETRATIONS OF "RATED ASSEMBLIES" SHALL BE FIRE STOPPED WITH AN APPROVED MATERIAL PER METHODS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

GENERAL NOTES CONT.

- THE FIRE PROTECTION ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NOR SHALL THEY BE REQUIRED TO SUPERVISE THE CONDUCT OF THE WORK. THE CONSTRUCTION PROCEDURES FOLLOWED BY THE CONTRACTOR, SUBCONTRACTORS, THEIR RESPECTIVE EMPLOYEES OR ANY OTHER PERSON AT THE JOB SITE OTHER THAN THAT OF THE ENGINEERING FIRM'S EMPLOYEES.
- CONTRACTOR MUST REVIEW ALL CONSTRUCTION DOCUMENTS PRIOR TO BID. SHOULD MODIFICATIONS TO THESE PLANS BECOME NECESSARY TO PROPERLY COORDINATE THE SYSTEM WITH ALL OTHER TRADES, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL OF THE CHANGES FROM BOTH THE AUTHORITY HAVING JURISDICTION AND THE OWNER'S DESIGNATED REVIEW CONSULTANT IN ADDITION TO OBTAINING THE NECESSARY APPROVALS, THE CONTRACTOR MUST MAKE NOTE OF ANY FIELD OR COORDINATION CHANGES ON THE INSTALLATION DRAWINGS, AND THEN MUST PROVIDE A SET OF AS-BUILT DRAWINGS ONCE COMPLETE.
- CONTRACTOR MUST VERIFY ALL DROP DOWN LOCATIONS AT EXTERIOR WALLS WITH THE PROJECT MANAGER PRIOR TO INSTALLATION.
- ALL PIPING MUST BE COORDINATED AROUND FRAMING MEMBERS AND PROPERLY INSTALLED INSIDE THE BAR JOIST.
- CONTRACTOR SHALL ROUTE PIPING AROUND ALL OBSTRUCTIONS AND PROVIDE SPRINKLER PROTECTION UNDER OBSTRUCTIONS, AS DETAILED IN NFPA 13 STANDARDS AS PART OF THE FIELD COORDINATION AT NO ADDITIONAL COST TO OWNER.
- ALL SPRINKLER DEFLECTOR DISTANCE REQUIREMENTS SHALL BE IN ACCORDANCE TO THE STANDARDS OUTLINED IN NFPA 13.
- ALL PIPING PASSING THROUGH CMU WALLS SHALL BE INSTALLED WITH ONE INCH CLEARANCE ON ALL SIDES. (CORE DIAMETER EQUAL TO PIPE + 2"). ALL CORES SHALL BE COORDINATED WITH STRUCTURAL REINFORCING. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CORING WITH PROPER CLEARANCE AT ALL CMU WALLS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A TWO INCH CLEARANCE AROUND ALL PIPING PASSING THROUGH CONCRETE SLABS. THE SPRINKLER CONTRACTOR SHALL FILL ALL CLEARANCES WITH APPROVED MASTIC.
- PENETRATIONS OF ASSEMBLIES SHALL BE FIRE STOPPED WITH APPROVED MATERIALS PER METHODS DESCRIBED BY THE UL FIRE RESISTANCE DIRECTORY.
- PROVIDE FLUSHING CONNECTIONS IN ACCORDANCE WITH THE STANDARDS OUTLINED IN NFPA 13.
- PROVIDE ALL NECESSARY OFFSETS, RISES OR DROPS IN PIPING AND AUXILIARY DRAINS REQUIRED BY BUILDING CONDITIONS.
- EXAMINE THE JOB CONDITIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, ETC.
- ARCHITECTURAL AND ELECTRICAL BACKGROUND INFORMATION IS SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO THE CONTRACT DOCUMENTS FOR LOCATIONS, SIZES AND QUANTITIES OF OTHER TRADE WORK.
- SPRINKLER SPACING TO BE PER NFPA 13.
- INTERFACE SPRINKLER SYSTEM WITH FIRE PROTECTION SUPERVISORY SYSTEM.
- ALL MATERIALS SHALL BE UL LISTED AND FM APPROVED. SPRINKLER PIPE SHALL BE MANUFACTURED TO STANDARDS RECOGNIZED BY NFPA 13. THREADED PIPE SHALL HAVE A CORROSION RESISTANCE RATING OF 1.0 OR GREATER. CRIMP-TYPE COUPLINGS SHALL NOT BE USED. THREADED THINWALL PIPE WITH CORROSION RESISTANCE RATING OF LESS THAN 1.0 SHALL BE USED ONLY WITH ROLL GROOVE FITTINGS.
- ALL SPRINKLER SYSTEMS TO BE MODIFIED SHALL BE HYDROSTATICALLY TESTED PER NFPA 13 PRIOR TO SPRINKLER SYSTEM MODIFICATION AND SHALL BE RE-HYDROSTATICALLY TESTED AFTER COMPLETION OF WORK.
- DO NOT HANG OR SUPPORT ANY LOADS OR MAKE ANY ATTACHMENTS TO THE METAL ROOF DECK OR JOIST BRIDGING.
- PROVIDE RETAINING STRAPS ON HANGERS WHERE REQUIRED.

GENERAL UNDERGROUND NOTES

- ALL UNDERGROUND IS SHOWN FOR HYDRAULIC REFERENCE ONLY.
- NO NEW WORK UNLESS OTHERWISE NOTED.

WATER SUPPLY INFORMATION

STATIC: 64 PSI  
RESIDUAL: 56 PSI AT 2456 GPM

INFORMATION DERIVED FROM WATER REPORT SUPPLIED BY:  
CHARLOTTE FIRE DEPARTMENT  
EFFECTIVE POINT OF WATER SUPPLY INFORMATION: S/R HYDRANT

DATE OF TEST: 9/02/15 @ 9:10 AM  
FLOW TEST ELEVATION: LEVEL  
BUILDING PAD ELEVATION: LEVEL

WATER SUPPLY IS FURTHER REDUCED BY THE FOLLOWING:  
10% (6.4 PSI) PER HARRIS TEETER REQUIREMENTS

WATER SUPPLY TO BE USED FOR FIRE SPRINKLER DESIGN AT EFFECTIVE POINT:  
STATIC: 57.6 PSI  
RESIDUAL: 49.6 PSI AT 2456 GPM

APPLICABLE CODES

NFPA STANDARD: EDITION:  
NFPA 13: 2007  
NC FIRE CODE: 2012  
NC BUILDING CODE: 2012

SCOPE OF WORK

- ALL EXISTING OVERHEAD SYSTEMS TO REMAIN, UNLESS NOTED OTHERWISE.
- USE EACH EXISTING OUTLET FOR ONE NEW ARM OVER TO NEW SPRINKLER LOCATION UNLESS HYDRAULICALLY CALCULATED. CONTRACTOR TO INSTALL MECHANICAL TEE IF ADDITIONAL OUTLETS ARE REQUIRED. AFTER THE DEMOLITION IS COMPLETE, THE NEW SPRINKLER SYSTEM SHALL MEET ALL REQUIREMENTS OF NFPA 13.
- CONTRACTOR TO FIELD VERIFY EXTENT OF WORK.
- EXISTING SPRINKLER PROTECTION TO BE MAINTAINED. CONTRACTOR TO RESPACE AND/OR INSTALL NEW SPRINKLERS AS NECESSARY TO MAINTAIN PROPER SPRINKLER COVERAGE AS PER THE REQUIREMENTS OF NFPA 13.
- INTERIOR REMODEL AREA, CONTRACTOR TO PROVIDE NEW SPRINKLERS AS NECESSARY DUE TO PAINT, DAMAGE, ETC. CONTRACTOR TO COORDINATE.
- SPRINKLER HEAD LAYOUT IS CONCEPTUAL. SPRINKLER CONTRACTOR TO COORDINATE HEAD LOCATIONS WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND/OR PROVIDE. INSTALL ADDITIONAL SPRINKLERS AS REQUIRED TO MEET SPACING REQUIREMENTS OF NFPA 13.
- CONTRACTOR TO ADD ADDITIONAL BRANCH LINES AS REQUIRED.
- CONTRACTOR TO ADD HANGERS AS NECESSARY TO ANY PIPING AS REQUIRED BY NFPA 13.
- CONTRACTOR TO PROVIDE HYDRAULIC CALCULATIONS AND PROVIDE HYDRAULIC PLACARDS AT EXISTING FIRE SUPPRESSION RISER.
- CONTRACTOR TO ADD SPRINKLER PROTECTION UNDERNEATH ROOF TOP UNITS AT EXISTING STOCKROOM. SPRINKLERS SHALL MATCH EXISTING TYPE AND TEMPERATURE AS LOCATED IN STOCKROOM.
- CONTRACTOR TO ADD SPRINKLER HEAD BOX IN EXISTING RISER ROOM WITH WRENCH. PROVIDE SPRINKLER TYPES WITHIN HARRIS TEETER.
- CONTRACTOR TO FIELD VERIFY SPRINKLER SPACING ON SALES FLOOR AND PROVIDE ADDITIONAL COVERAGE IF NECESSARY TO AREAS THAT EXCEED 130 SQ.FT. PER NFPA 13.

PIPE DIMENSION TABLES

REFER TO HYDRAULIC CALCULATIONS FOR PIPE TYPE

NOMINAL SIZE	SCHEDULE 40 INSIDE DIAMETER	SCHEDULE 10 INSIDE DIAMETER
1"	1.049"	1.049"
1 1/4"	1.380"	1.342"
1 1/2"	1.610"	1.682"
2"	2.067"	2.157"
2 1/2"	2.469"	2.635"
3"	3.068"	3.260"
4"	4.026"	4.260"
6"	6.068"	6.357"
8"	8.068"	8.249"

SYMBOL LEGEND

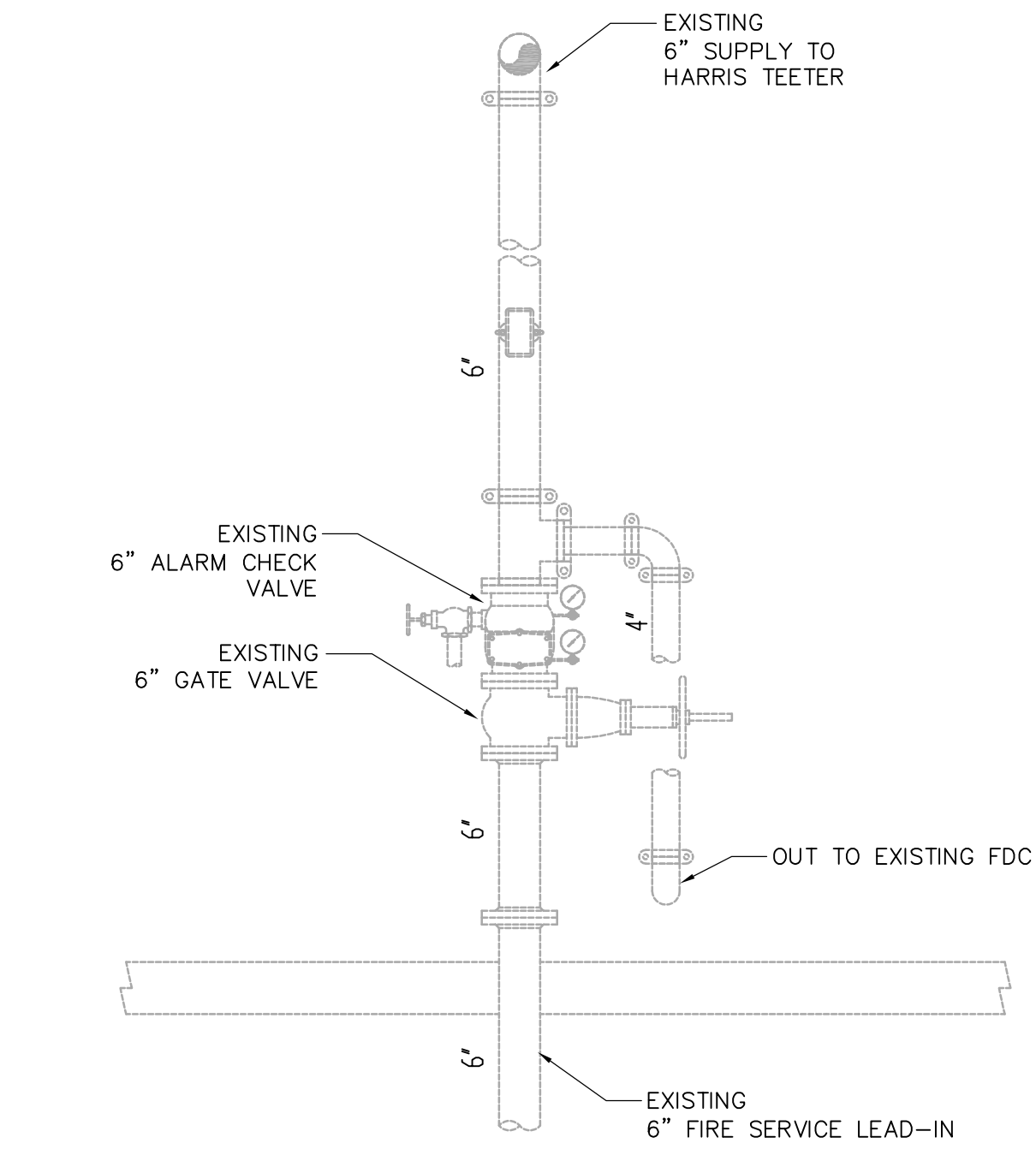
SYMBOL	DESCRIPTION
▲ ⊙	DEMO SPRINKLERS
▲ ⊙	EXISTING SPRINKLERS TO REMAIN

AUTOMATIC FIRE SPRINKLER LEGEND

NOTE: NO O-RING SPRINKLERS ARE TO BE USED ON THIS PROJECT

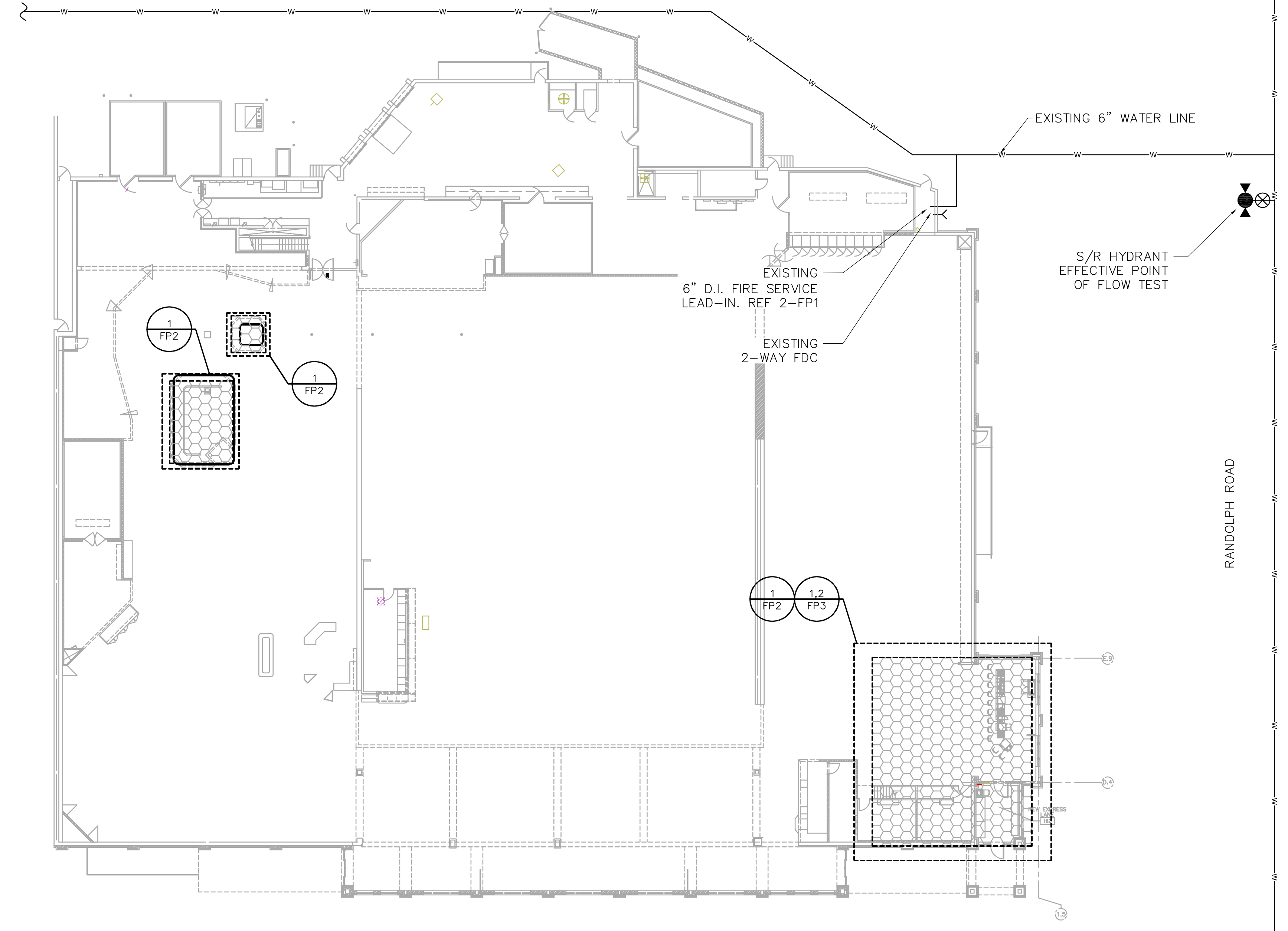
SYMBOL	MFR	MODEL	S.I.N.	STYLE	FINISH	ESC	TEMP	K-FACTOR	TOTAL
●	TYCO	TY-FRB	TY3231	QRP	WHITE	REC	155'	5.6	16
●	TYCO	TY-FRB	TY3231	SSP	WHITE	401	155'	5.6	3
○	*	*	*	SSU	*	*	*	*	8
◁	TYCO	TY-B	TY3351	SDWL	BRASS	NONE	200'	5.6	1

\* MATCH EXISTING



2 EXISTING SPRINKLER RISER  
NTS

EXISTING EQUIPMENT SHOWN FOR REFERENCE ONLY. NO NEW WORK.



1 FIRE SERVICE SITE PLAN  
SCALE: 1" = 20'

UNDERGROUND PIPING SHOWN FOR REFERENCE ONLY. NO NEW WORK.

REVISIONS	DATE
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date