

# FIRE PROTECTION SPECIFICATIONS

## PART 1 - GENERAL

### 1.01 GENERAL REQUIREMENTS:

- PROVIDE AUTOMATIC SPRINKLER SYSTEMS THROUGHOUT THE ENTIRE PROJECT, AS SPECIFIED HEREIN AND SHOWN ON THE PLANS.
- SPRINKLER COVERAGE SHALL BE AS INDICATED IN THE SPRINKLER SYSTEM DESIGN CRITERIA.
- THE BUILDING SHALL BE PROTECTED BY A WET PIPE SYSTEM IN ACCORDANCE WITH NFPA.
- WHEN THE ABOVE WORK HAS BEEN COMPLETED ACTIVATE THE SYSTEM FOR FIRE PROTECTION DURING CONSTRUCTION.
- ACTIVATE HEAT TO INSURE THAT NO PIPING SHALL BE ROUTED IN ANY AREA OR LOCATION SUBJECT TO FREEZING.
- GENERAL CONDITIONS APPLY TO THIS SECTION WITH THE ADDITIONS AND MODIFICATIONS SPECIFIED HEREIN. THE FIRE PROTECTION SYSTEM INCLUDES THE DESIGNING, FURNISHING OF MATERIALS, AND INSTALLATION OF AN APPROVED FIRE PROTECTION SYSTEMS AS HERIN DESCRIBED FOR THE FOLLOWING AREAS.
- THE DESIGN, HYDRAULIC CALCULATIONS, EQUIPMENT, MATERIALS, INSTALLATION, AND WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH NFPA 13 CODES AND STANDARDS EXCEPT AS SPECIFIED OTHERWISE HEREIN. THE SYSTEM INSTALLATION SHALL INCLUDE ALL MATERIALS, ACCESSORIES AND EQUIPMENT NECESSARY FOR AN APPROVED FIRE PROTECTION SYSTEM COMPLETE AND READY FOR USE. THE SYSTEM DESIGN AND INSTALLATION, AS WELL AS ALL RELATED AND NECESSARY CONSTRUCTION EQUIPMENT SHALL BE PROVIDED BY THE SPRINKLER CONTRACTOR. THE SPRINKLER SYSTEM SHALL BE FREE OF OPERATING AND MAINTENANCE DIFFICULTIES. THE INSTALLATION SHALL BE AS PER DETAILED DRAWINGS TO BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE ARCHITECT AND/OR ENGINEER. DEVICES AND EQUIPMENT SHALL BE NEW AND FREE OF DEFECTS AND SHALL BE OF MAKE AND TYPE LISTED BY UNDERWRITERS LABORATORIES, INC., OR APPROVED BY FACTORY MUTUAL LABORATORIES.

### 1.02 CONTRACTOR'S QUALIFICATION:

- THE FIRE PROTECTION CONTRACTOR SHALL BE CERTIFIED, EXPERIENCED AND HAVE A MINIMUM OF FOUR (4) YEARS RESIDENCE IN THE FIELD OF FIRE PROTECTION SYSTEM DESIGN AND INSTALLATION.

### 1.03 DRAWINGS AND SPECIFICATIONS:

- THE COMMENCEMENT OF WORK UNDER THIS SECTION INDICATES THAT THE CONTRACTOR HAS EXAMINED AND HAS KNOWLEDGE OF THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING, AND SITE WORK DRAWINGS AND SPECIFICATIONS. THE FAILURE OF THE CONTRACTOR TO ACQUAINT HIMSELF WITH ALL AVAILABLE INFORMATION SHALL NOT RELIEVE HIM OF ANY RESPONSIBILITY FOR PERFORMING HIS WORK PROPERLY.

### 1.04 ORDINANCES, PERMITS AND CODES:

- IT SHALL BE THE CONTRACTOR'S DUTY TO PROVIDE ALL THE LABOR AND MATERIALS COVERED BY THESE SPECIFICATIONS IN CONFORMANCE WITH ALL ORDINANCES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CONNECTIONS, AND SPECIFICATION FEES AS REQUIRED FOR THE COMPLETE INSTALLATION OF THE FIRE PROTECTION SYSTEMS.
- ALL WORK HEREIN SHALL CONFORM TO ALL APPLICABLE LAWS, ORDINANCES AND REGULATIONS OF THE LOCAL UTILITY COMPANY.
- THE WORK SHALL BE IN ACCORDANCE WITH, BUT NOT LIMITED TO, THE REQUIREMENTS OF:
  - NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET 13, EDITION AS CURRENTLY ADOPTED BY THE LOCAL JURISDICTION.
  - LOCAL FIRE MARSHALL
  - OWNER'S INSURANCE UNDERWRITER.

### 1.05 COORDINATION AND CONFLICTS:

- WHERE MINOR DEVIATIONS FROM PLANS ARE REQUIRED IN ORDER TO CONFORM TO SPACE LIMITATIONS, SUCH CHANGES SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.
- PRIOR TO ANY WORK ON THIS PROJECT, THE SPRINKLER CONTRACTOR SHALL BECOME FAMILIAR WITH THE TYPE OF

- CONSTRUCTION OF FLOORS, ROOF AND WALLS (POST TENSION, FLAT PLATE, PAN JOIST, ETC.). ALL STEEL ROADS, POST TENSION CABLES AND BEAMS SHALL BE LOCATED BEFORE DRILLING HOLES FOR PIPE OR USING POWER-DRIVEN STUDS, SELF-DRILLING ANCHORS, OR EXPANSION SHIELDS, ECT. FOR PIPE HANGERS. THE CONTRACTOR IS TOTALLY LIABLE FOR ANY AND ALL PROBLEMS OR DAMAGES CAUSED BY FAILURE TO COMPLY WITH THE ABOVE.
- SPECIAL CONDITIONS:
  - THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ANY DEBRIS RESULTING FROM HIS WORK. ANY AREAS IN WHICH THE CONTRACTOR HAS PERFORMED WORK SHALL BE LEFT BROOM CLEAN UNLESS A MORE THOROUGH CLEANING IS REQUIRED BY ANOTHER SECTION OF THESE SPECIFICATIONS.

- ### 1.06 SPECIAL CONDITIONS:
- ALL EQUIPMENT SHALL BE STARTED, TESTED, ADJUSTED, AND PLACED IN SATISFACTORY OPERATING CONDITION BY THE CONTRACTOR. ALL EQUIPMENT SHALL BE COVERED BY THE WARRANTY FOR THE DURATION OF THE MANUFACTURER'S GUARANTEE OR WARRANTY AND THE CONTRACTOR SHALL FURNISH THE OWNER WITH A COPY OF ALL MANUFACTURER'S GUARANTEES AND WARRANTIES.
  - ALL EQUIPMENT FURNISHED SHALL BE GUARANTEED IN WRITING FOR A PERIOD OF ONE (1) YEAR FROM DATE OF OWNER'S ACCEPTANCE.

- ### 1.07 WARRANTY:
- CONTRACTOR SHALL FURNISH, AT THE TIME OF REQUEST FOR FINAL PAYMENT, BROCHURES CONTAINING THE FOLLOWING INFORMATION AS CALLED FOR IN THESE SPECIFICATIONS:
    - LETTERS OF GUARANTEE.
    - OPERATING INSTRUCTIONS.
    - MANUFACTURER'S PART DATA AND SERVICE INSTRUCTIONS ON ALL ITEMS OF EQUIPMENT.
    - MANUFACTURER'S GUARANTEES AND WARRANTIES.

- ### 1.08 RECORD DOCUMENTS:
- CONTRACTOR SHALL FURNISH, AT THE TIME OF REQUEST FOR FINAL PAYMENT, BROCHURES CONTAINING THE FOLLOWING INFORMATION AS CALLED FOR IN THESE SPECIFICATIONS:
    - LETTERS OF GUARANTEE.
    - OPERATING INSTRUCTIONS.
    - MANUFACTURER'S PART DATA AND SERVICE INSTRUCTIONS ON ALL ITEMS OF EQUIPMENT.
    - MANUFACTURER'S GUARANTEES AND WARRANTIES.

- ### 1.09 ELECTRICAL WORK:
- (NOTE: THE REFERENCE TO A CONTROL PANEL IS ONLY APPLICABLE WHERE ONE EXISTS. IF THERE IS NOT A CONTROL PANEL THEN SUPERVISE THE VALUES WITH LOCKS AND PROVIDE AN ALARM MOTOR GONG).
    - FLOW SWITCHES TO BE WIRED TO A LOCAL CONTROL PANEL TAMPER SWITCHES TO BE WIRED TO A LOCAL CONTROL PANEL FOR LOCAL TROUBLE ALARM ONLY.
    - ALL CONTROLS SHALL BE FURNISHED AND INSTALLED UNDER THIS SECTION.
    - POWER WIRING TO THE JUNCTION BOX AT THE ALARM VALVE SHALL BE FURNISHED AND INSTALLED UNDER THE ELECTRICAL SECTION, UNLESS NOTED OTHERWISE IN THIS DOCUMENT OR ON THE FIRE PROTECTION DRAWINGS.

- ### 1.10 ELECTRICAL ROOMS:
- SPRINKLER PIPE MAY EXTEND INTO, BUT NOT PASS THROUGH, ELECTRICAL ROOMS.
- ### 1.11 STANDARDS FOR MATERIAL AND WORKSHIP:
- ALL MATERIALS USED IN THIS WORK SHALL BE NEW, LISTED AND LABELED BY THE UNDERWRITER'S LABORATORIES, INC. AND/OR HAVE AN FM APPROVAL AS CONFORMING TO ITS STANDARDS, WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER, AND SHALL PRESENT A NEAT AND MECHANICAL APPEARANCE WHEN COMPLETED. THE ARCHITECT AND/OR ENGINEER WILL JUDGE THE QUALITY OF WORKMANSHIP.
- ### 1.12 SUBMITTALS:
- ALL MATERIALS AND EQUIPMENT THE CONTRACTOR PROPOSES TO FURNISH SHALL BE SUBMITTED FOR REVIEW WITHIN 30 DAYS AFTER THE CONTRACT HAS BEEN AWARDED. DATA SHALL BE COMPLETE IN ALL RESPECTS AND SHALL REFERENCE WHERE APPLICABLE, THE UNIT SYMBOL UTILIZED ON THE DRAWINGS AND SPECIFICATIONS.
  - SUBMITTAL REVIEW IS CONSIDERED AS A GENERAL ACCEPTANCE OF THE BASIC APPLICABILITY OF THE EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE EQUIPMENT AND/OR ALTERNATE ARRANGEMENT OF THE EQUIPMENT WITHIN A GIVEN SPACE. WHEN THE CONTRACTOR DESIRES TO USE SUBSTITUTED EQUIPMENT, HE SHALL BE RESPONSIBLE FOR PRODUCING HIS OWN COORDINATED WORK DRAWINGS WHICH DEPICT THE SUBSTITUTED EQUIPMENT ACCOMMODATED IN THE SPACE. WHERE THE SUBSTITUTED EQUIPMENT CREATES THE NEED FOR ALTERATIONS IN ANY PORTION OF THE WORK DEPICTED IN THE CONTRACT DOCUMENT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASSUME ANY ADDITIONAL COST TO THE CONTRACT CREATED BY SUBSTITUTED EQUIPMENT.
  - SUBSTITUTED EQUIPMENT IS CONSIDERED TO BE ANY

- ### EQUIPMENT OTHER THAN NAMED ITEMS IN THE SPECIFICATIONS OR ON THE DRAWINGS.
- CONTRACTOR FURTHER AGREES THAT IF DEVIATIONS, DISCREPANCIES OR CONFLICTS BETWEEN THE SHOP DRAWINGS AND SPECIFICATIONS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWING AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED. REVIEW OF SUBMITTALS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS DUTY TO PERFORM ALL WORK AND PROVIDE ALL EQUIPMENT IN STRICT COMPLIANCE WITH THE REQUIREMENTS SET FORTH ON THE DRAWINGS HEREIN.
  - SUBMIT FOR REVIEW COMPLETE DATA AND DRAWINGS ON THE FOLLOWING ITEMS (ALL MATERIALS MUST BE SUBMITTED SIMULTANEOUSLY OR THE ENTIRE PACKAGE MAY BE REJECTED WITHOUT REVIEW):
    - COMPLETE SET OF SHOP (WORKING) DRAWINGS BEARING EVIDENCE OF REGISTRATION AND CERTIFICATION, THE UNDERWRITER'S LETTER OF APPROVAL AND/OR COMMENTS.
    - HYDRAULIC CALCULATIONS.
    - EQUIPMENT (SPRINKLERS, SIMMSE CONNECTIONS, WATER MOTOR ALARM, ETC.).
    - VALVES
    - HANGERS
    - FITTINGS
    - PIPING

1. COMPLETE SET OF SHOP (WORKING) DRAWINGS BEARING EVIDENCE OF REGISTRATION AND CERTIFICATION, THE UNDERWRITER'S LETTER OF APPROVAL AND/OR COMMENTS.
  - HYDRAULIC CALCULATIONS.
  - EQUIPMENT (SPRINKLERS, SIMMSE CONNECTIONS, WATER MOTOR ALARM, ETC.).
  - VALVES
  - HANGERS
  - FITTINGS
  - PIPING
- F. ELECTRONIC SUBMITTALS MUST BE PACKAGED INTO FILES AS FOLLOWS:
- ONE COMBINED FILE WITH THE BUILDING SPRINKLER PLANS (SHOP DRAWINGS) BEARING EVIDENCE OF REGISTRATION AND CERTIFICATION, THE UNDERWRITER'S LETTER OF APPROVAL AND/OR COMMENTS.
  - ONE COMBINED FILE CONTAINING THE HYDRAULIC CALCULATIONS.
  - ONE COMBINED FILE WITH PRODUCT DATA FOR ALL EQUIPMENT, VALVES, HANGERS, FITTINGS, PIPING, ETC.
  - WHERE THE PROJECT CONSISTS OF MULTIPLE BUILDINGS, ONE OF EACH TYPE OF FILE LISTED ABOVE MAY BE PROVIDED ON A PER BUILDING BASIS.
  - FAILURE TO PROVIDE ELECTRONIC SHOP DRAWINGS IN THE FORMAT INDICATED ABOVE MAY RESULT IN THE REJECTION OF THE SUBMITTAL WITHOUT REVIEW.
  - THE DRAWINGS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS FOR "WORKING PLANS" AS SPECIFIED IN NFPA 13, CHAPTER 14 "PLANS AND CALCULATIONS" SHALL INCLUDE ALL APPLICABLE DATA SPECIFIED HEREIN. NO WORK SHALL BEGIN UNTIL THE DESIGN OF THE SYSTEMS AND THE VARIOUS COMPONENTS HAVE BEEN APPROVED.

- ### PART 2 - PRODUCTS
- #### 2.01 CLASSIFICATION OF PIPING:
- MINIMUM THICKNESS OF PIPE SHALL BE SCHEDULE 10 BLACK STEEL CONFORMING TO ASTM A135.
  - SCHEDULE 40 WELDED OR SEAMLESS STEEL PIPE, ASTM A53 AND A135.
  - CLASS 125 AND 250 CAST IRON THREADED FITTINGS, ASME B16.4.
  - CLASS 150 AND 300 MALLEABLE IRON THREADED FITTINGS, ASME B16.3.
  - CLASS 125 AND 250 CAST IRON FLANGED FITTINGS, ASME B16.1.
  - SCHEDULE 40 FORGED STEEL BUTTWELD FITTINGS, ASME B16.9.
  - GROOVED MECHANICAL COUPLINGS AND FITTINGS WITH EPDM GASKET, MALLEABLE IRON OR DUCTILE IRON, 800 PSI MINIMUM RATING, ASTM A47 AND A536, UL LISTED, FM APPROVED.
  - LIGHTWALL WELDED OR SEAMLESS STEEL PIPE, ASTM A53 AND A135.
  - GROOVED MECHANICAL COUPLINGS AND FITTINGS WITH EPDM GASKET, MALLEABLE IRON OR DUCTILE IRON, 800 PSI MINIMUM RATING, ASTM A47 AND A536, UL LISTED, FM APPROVED.
  - CPVC FIRE PROTECTION PIPING MAY BE USED WHERE APPROVED BY THE UL LISTING AUTHORITY AND NFPA 13.

- #### 2.02 FIRE PROTECTION SYSTEM:
- THE SPRINKLER SYSTEMS SHALL CONFORM TO NFPA NO. 13 STANDARDS AND CODES. HOSE THREADS SHALL CONFORM TO LOCAL FIRE DEPARTMENT EQUIPMENT PIPING AND FITTINGS. PIPING SHALL BE AS NOTED IN 2.01, A. ABOVE. SYSTEM PIPE AND FITTINGS SHALL BE DESIGNED FOR A MINIMUM 175 PSI WORKING PRESSURE.
- #### 2.03 SPRINKLER EQUIPMENT MATERIAL:
- ALL VALVE HANDWHEELS SHALL BE ORIENTED TO PROVIDE MAXIMUM ACCESSIBILITY FOR OPERATION. VALVES SHALL HAVE

- ### UL LISTINGS AND FM APPROVAL.
- GATE VALVES 2 1/2" IN SIZE AND LARGER SHALL BE OS&Y TYPE WITH CAST IRON BODY, SOLID WEDGE, AND FLANGED ENDS FOR 175 POUND W.P.P. VALVES SHALL BE UNDERWRITERS LABORATORIES LISTED WITH IDENTIFICATION MARK FOR SUCH STAMPED OR CAST ON VALVE BODY. VALVES SHALL BE:
    - STOCKHAM B-634
    - MUELLER NO. A-2073-6
    - KENNEDY FIG. 68
  - GATE VALVES FOR MECHANICAL JOINT PIPING SHALL BE OS&Y TYPE AND HAVE CAST IRON BODY CONFORMING TO ASTM A-120 AND BE CLASS B. RATED FOR 175 POUND W.P.P. VALVE SHALL HAVE A BRONZE OR COPPER-SILICON ALLOY STEM CONFORMING TO ASTM B-138 ALLOY 675 AND B-584 ALLOY 875, RESPECTIVELY.
    - STOCKHAM FIG. G-635-0
    - MUELLER NO. A-2050-20
    - KENNEDY FIG. 71X
  - CHECK VALVE 2 1/2" IN SIZE AND LARGER SHALL BE HORIZONTAL SWING TYPE WITH CAST IRON BODY, RUBBER DISC AND FLANGED ENDS FOR 175 POUND W.O.G. VALVES SHALL BE:
    - STOCKHAM B-305-B
    - MUELLER MOD CV
    - KENNEDY FIG. 440
  - GLOBE VALVES SHALL HAVE BRONZE BODY, RISING STEM, COMPOSITION DISC, AND THREADED ENDS FOR 175 POUND W.O.G. VALVES SHALL BE:
    - STOCKHAM B-13-T
    - MUELLER/SCOTT T-211-W
    - KENNEDY FIG. 97
  - ANGLE VALVES SHALL HAVE BRONZE BODY, RISING STEM, COMPOSITION DISC, AND THREADED ENDS FOR 175 POUND W.O.G. VALVES SHALL BE:
    - STOCKHAM B-222
    - MUELLER/SCOTT T-311-W
    - KENNEDY FIG. 98
  - SIGHT GLASS; FIREMATIC SIGHT DRAINS.
  - WATER CHECK VALVE; CAST IRON BODY CONFORMING TO ASTM A-28 WITH EITHER CAST BRONZE OR BUNA-N SEATING RING AND STAINLESS STEEL HINGE, MUELLER MODEL NO. A-2102, CENTRAL MODEL "G", MISSION "DUO-CHECK", FIREMATIC SUPER CHECK.
  - BUTTERFLY VALVE; FOR 1" TO 2 1/2" PER SIZE VALVE SHALL HAVE BRONZE BODY, STAINLESS STEEL DISC WITH VITON SEAL, AND WORKING PRESSURE SHALL BE 175 PSI. THE VALVE SHALL HAVE A BUILT-IN SUPERVISORY SWITCH. MILWAUKEE VALVE COMPANY, INC. "BUTTERFLY" MODEL BB-3501. NBCCO, FIREMATIC BUTTERFLY VALVE WITH TAMPER SWITCH OR APPROVED EQUAL.
  - JET ALARM VALVE; PROVIDE ALARM CHECK VALVE FOR VERTICAL INSTALLATION COMPLETE WITH RETARD CHAMBER, ALARM SWITCH, TESTING BY-PASS, SYSTEM DRAIN, AND ALL NECESSARY PIPE, FITTINGS, GAUGES, AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.
    - CENTRAL MODEL ("P") OR ("S")
    - GRINEL MODEL (F200) OR ("A")
    - FIREMATIC MODEL ("C")
- #### 2.04 ACCESSORIES:
- VALVE TAGS:
    - EACH VALVE SHALL HAVE A VALVE TAG AFFIXED TO THE VALVE BODY. VALVE TAGS SHALL BE A MINIMUM OF 1/2" ROUND WITH 3/8" BLACK FILLED NUMBERS, 18 GAUGE BRASS, A MINIMUM OF 1/4" IN SIZE, AND SHALL HAVE IDENTIFICATION NUMBERS STAMPED INTO THE TAGS. VALVE TAGS SHAPES AND NUMBERING SHALL BE AS FOLLOWS:
      - SETON NAME PLATE COMPANY - NEW HAVEN, CT.
      - EACH VALVE TAG SHALL BE ATTACHED TO THE HANDWHEEL WITH #16 BRASS JACK CHAIN AND "S" HOOKS.
      - A VALVE CHART, FRAMED UNDER GLASS AND WALL MOUNTED, SHALL BE LOCATED IN SPRINKLER RISER VALVE ROOM, AND SHALL LIST EACH VALVE BY IDENTIFICATION NUMBER, ITS LOCATION IN THE PIPING SYSTEM (I.E. ZONE CONTROL VALVE, ETC.) AND ITS FUNCTION.

SPRINKLER SYSTEM DESIGN CRITERIA						
AREA DESCRIPTION	HAZARD CLASS	SYSTEM TYPE	DENSITY (GPM/SF)	COVERAGE AREA	HOSE STREAM	KEY NOTES
OFFICE AREAS AND RESTAURANT SEATING AREAS.	LIGHT	WET NFPA 13	0.10	1500 SF	100 GPM	ORDINARY 155F (1)(2)
MECHANICAL ROOMS AND RESTAURANT COOKING AREAS.	ORDINARY HAZARD GROUP 1	WET NFPA 13	0.15	1500 SF	250 GPM	INTERMEDIATE 200F (3)
MERCANTILE AREAS	ORDINARY HAZARD GROUP 2	WET NFPA 13	0.20	1500 SF	250 GPM	INTERMEDIATE 200F -

### GENERAL SPRINKLER SYSTEM NOTES:

- PRIOR TO BEGINNING THE SPRINKLER SYSTEM DESIGN, THE SPRINKLER CONTRACTOR SHALL MEET WITH THE OWNER OR OWNER'S REPRESENTATIVE AND DISCUSS THE TYPE, COLOR, AND GENERAL LOCATIONS OF ALL SPRINKLER HEADS IN THE PROJECT. THE SPRINKLER CONTRACTOR'S DESIGN MUST REFLECT THE AGREED UPON SPRINKLER TYPES FOR ALL AREAS. A RECORD OF THIS MEETING SHALL BE AVAILABLE TO THE ENGINEER UPON REQUEST.
- PRIOR TO THE MEETING BETWEEN THE OWNER AND THE SPRINKLER CONTRACTOR, SPRINKLER HEADS SHALL BE ASSUMED TO BE AS FOLLOWS UNLESS NOTED OTHERWISE ELSEWHERE:
  - SPRINKLER HEADS SHALL BE CONCEALED TYPE (RECESSED WITH COVER PLATE). FAST RESPONSE SPRINKLERS IN ALL AREAS WITH A CEILING OF ANY TYPE, INCLUDING LAY-IN. COLOR, AND GENERAL LOCATIONS OF ALL SPRINKLER HEADS IN THE PROJECT.
  - SIDE WALL SPRINKLER HEADS MAY NOT BE USED WHERE A CEILING CAVITY EXISTS THAT WILL ALLOW FOR THE INSTALLATION OF SPRINKLERS IN THE CEILING.
  - SIDE WALL HEADS MAY ONLY BE USED IF THE PIPING FOR A SPRINKLER HEAD LOCATED ON THE CEILING WOULD BE EXPOSED TO A FREEZING CONDITION.
  - IF SPRINKLER CONTRACTOR AND OWNER AGREE TO USING DIFFERENT HEAD TYPES FOR CERTAIN AREAS CONTRACTOR MUST INCLUDE LETTER FROM OWNER STATING THE CHANGE IS ACCEPTED PER THE PROVISIONS IN ITEM "A" ABOVE.
- IF, AT THE TIME OF CONSTRUCTION, ONE OR MORE AREAS ARE NOT CLEARLY DEFINED, THE SPRINKLER DESIGN SHALL BE BASED ON THE HYDRAULICALLY MOST DEMANDING CRITERIA OF THE POSSIBLE CHOICES.
- LISTED, EXTENDED HEADS, MAY BE USED WHERE APPROPRIATE ON THIS PROJECT.
- SEE CIVIL SITE PLAN AND SPECIFICATIONS FOR BACKFLOW PREVENTOR REQUIREMENTS FOR THE FIRE PROTECTION WATER SERVICE UNLESS BACKFLOW PREVENTOR IS NOTED ON PLUMBING PLANS AS LOCATED INSIDE THE BUILDING.
- SEE CIVIL OR OTHER AVAILABLE SITE DRAWINGS FOR LOCATION OF WATER MAIN TAP AND INFORMATION ON PUBLIC WATER MAIN CHARACTERISTICS.
- ALL SPRINKLER COMPONENTS SHALL COMPLY WITH THE LISTING AND/OR PERFORMANCE REQUIREMENTS OF NFPA 13.
- CPVC SPRINKLER PIPING MAY BE USED WHERE ALLOWED BY NFPA, THE LOCAL FIRE MARSHAL, AND THE LISTING DOCUMENTATION OF THE CPVC PIPING. USE OF CPVC PIPING MUST BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.
- THE CONTRACTOR MUST COMPLY WITH ALL LOCAL CODES, ORDINANCES, AND OTHER REQUIREMENTS FOR THE SPRINKLER SYSTEM DESIGN. THIS MAY INCLUDE PROVIDING SPRINKLERS FOR AREAS THAT ARE NOT INDICATED ABOVE.
- ANY DEVIATIONS FROM THE REQUIREMENTS LISTED IN THIS SCHEDULE SHOULD BE CLEARLY MARKED ON THE SPRINKLER DRAWINGS WITH THE RELEVANT CODE SECTION ALLOWING THE DEVIATION NOTED.
- NO WET SPRINKLER PIPING SHALL BE RUN IN A LOCATION SUBJECT TO FREEZING TEMPERATURES. THIS INCLUDES RUNNING PIPE ABOVE ISOLATED UNHEATED AREAS OF THE BUILDING, EVEN IF INSIDE THE INSULATED ENVELOPE OF THE BUILDING.
- ALL SPRINKLER PIPING SHALL BE RUN TIGHT TO STRUCTURE ABOVE (OR INSIDE JOIST SPACE IF APPLICABLE) IN ORDER TO MAXIMIZE THE POTENTIAL FOR THE CEILING TO BE RAISED TO A HIGHER ELEVATION IN THE FUTURE WITH MINIMAL IMPACT TO THE SPRINKLER PIPING SYSTEM. ONLY PIPING FOR INDIVIDUAL SPRINKLER HEADS MAY BE DROPPED TO THE CEILING ELEVATION IN AREAS WITH LARGE ABOVE CEILING CAVITIES UNLESS DIRECTED OTHERWISE IN WRITING BY THE OWNER, ARCHITECT, OR PLUMBING ENGINEER.

### SPRINKLER SYSTEM KEY NOTES:

- PROVIDE DRY PENDANT OR SIDEWALL, FAST RESPONSE SPRINKLERS AT ALL BALCONIES, PORCHES, OUTDOOR CORRIDORS, UNHEATED STORAGE ROOMS, UNHEATED ELECTRICAL ROOMS, AND BELOW ALL EXTERIOR OVERHANGS, ROOFS, OR CANOPIES EXCEEDING 4 FEET IN WIDTH.
- RESIDENTIAL AREAS SHALL COMPLY WITH NFPA 13 NOT NFPA 13R.
- SPRINKLERS LOCATED IN ROOMS WITH INDOOR SWIMMING POOLS, HOT TUBS, POOL EQUIPMENT, OR HAVING POOL CHEMICAL STORAGE, SHALL BE PROTECTED AGAINST CORROSION.

FLOW TEST DATA	
PROVIDER OF TEST	PROVIDER
DATE OF TEST	-----
TIME OF DAY OF TEST	-----
LOCATION OF FLOW HYDRANT	-----
ELEVATION OF HYDRANT	----- FT.
STATIC PRESSURE	----- PSI
RESIDUAL PRESSURE	----- PSI
FLOW	----- GPM
CURRENT FLOW TEST DATA WAS NOT AVAILABLE AT TIME OF DESIGN.	

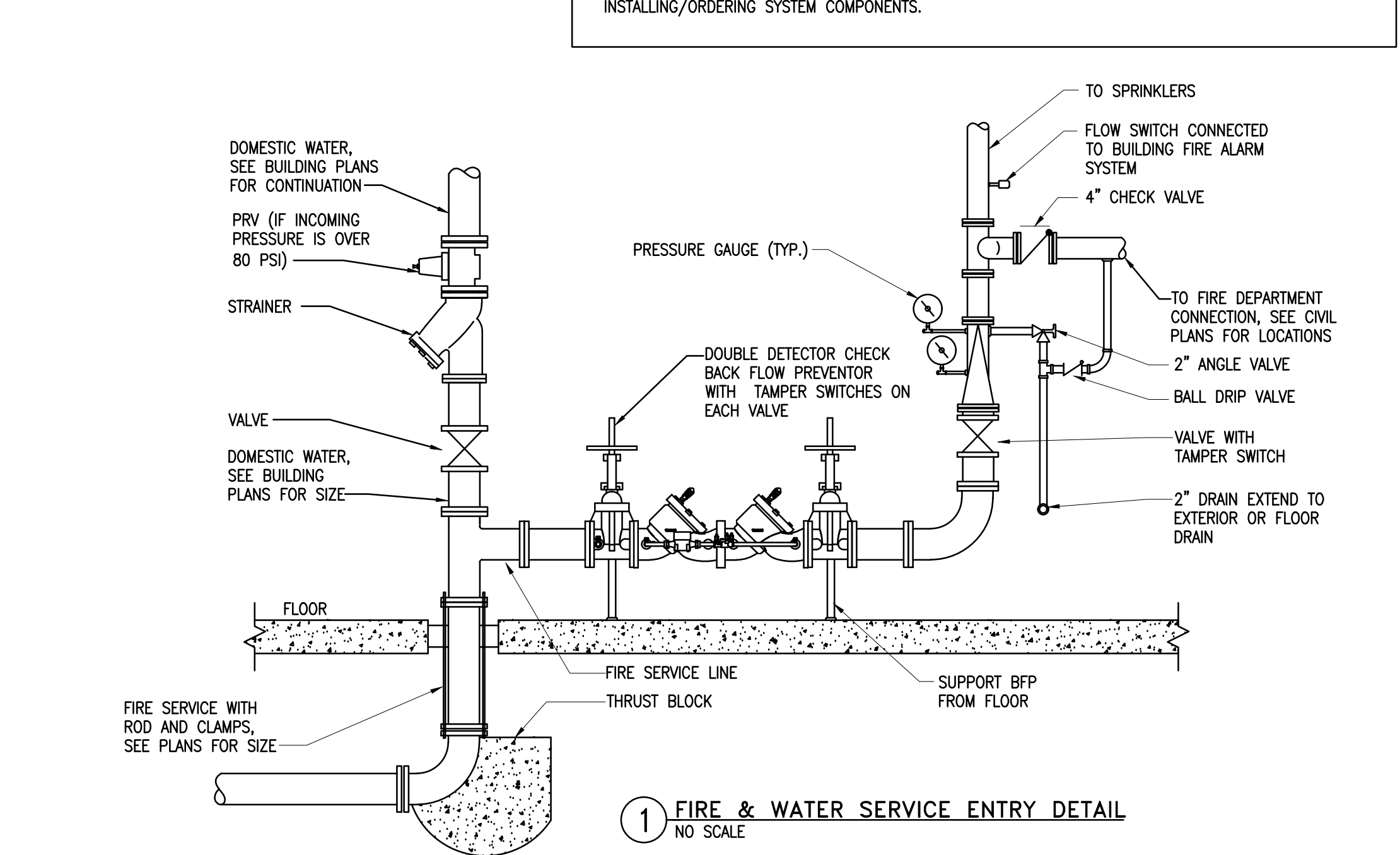
### FIRE PROTECTION SCOPE

THE CONTRACTOR SHALL PROVIDE A RISER AND FULL DISTRIBUTION PIPING, SPRINKLER HEADS, AND ALL OTHER COMPONENTS TO PROVIDE A COMPLETE SYSTEM. PROVIDE SPRINKLER HEADS AND PIPING TO MEET THE CEILING TYPE AND HAZARD CLASSIFICATION (DESIGN CRITERIA). THE SYSTEM SHALL BE HYDRAULICALLY DESIGNED AND INCLUDE A FULL DOMESTIC LOAD OF 100 GPM. SUBMIT SHOP DRAWINGS INCLUDING HYDRAULIC CALCULATIONS DETAILING THE SYSTEM DESIGN AND PERFORMANCE.

SPRINKLER CONTRACTOR SHALL DESIGN THE SPRINKLER SYSTEM TO WORK WITHIN THE PRESSURE AND FLOW INDICATED IN THE WATER PRESSURE FLOW TEST DATA SCHEDULE ON THIS SHEET.

FOLLOW THE SHEET SPECS FOR SYSTEM REQUIREMENTS.

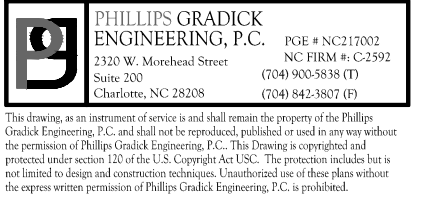
NOTE:  
1. THE FIRE CONTRACTOR SHALL PROVIDE AND INSTALL A BACKFLOW PREVENTOR (LISTED) INSIDE THE BUILDING IN A LOCATION INDICATED ON THE CIVIL DRAWINGS. BFP SHALL BE SIZED TO MINIMIZE PRESSURE DROP AND THE HYDRAULIC CALCULATIONS SHALL TAKE INTO ACCOUNT THE BFP AND EXTERIOR PIPING FROM THE FLOW TEST HYDRANT. CONTRACTOR SHALL CONFIRM THAT WATER FLOW/PRESSURE IS ADEQUATE FOR THE DESIGN AND IF NOT NOTIFY THE ARCHITECT/ENGINEER PRIOR TO INSTALLING/ORDERING SYSTEM COMPONENTS.



**FIRE & WATER SERVICE ENTRY DETAIL**  
NO SCALE

**INTEC**

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PROJECT

**CRESCENT COMMUNITIES**  
36TH STREET, CHARLOTTE, NC  
NoDa RETAIL BUILDING

STAMP

DRAWING LOG

- ISSUE: DESIGN DEVELOPMENT
- DATE: 4/26/17 (2)
- ISSUE: (DATE 2)
- ISSUE: (3)
- DATE: (DATE 3)
- ISSUE: (4)
- DATE: (DATE 4)
- ISSUE: (5)
- DATE: (DATE 5)
- ISSUE: (6)
- DATE: (DATE 6)

SHEET INFORMATION  
DATE OF DRAWING: 4/26/17  
DRAWN BY: BGE  
JOB NUMBER: 119201

FIRE PROTECTION

**FP001**

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