

**SCOPE OF WORK**

THE SCOPE OF WORK INCLUDES THE INSTALLATION OF A NEW WET-PIPE SPRINKLER SYSTEM TO PROVIDE AUTOMATIC SPRINKLER PROTECTION THROUGHOUT ALL SPACES IN ACCORDANCE WITH NFPA 13. ALL SPRINKLERS, PIPING AND COMPONENTS WILL BE INSTALLED IN ACCORDANCE WITH NFPA 13. THE SPRINKLER SYSTEM WILL BE MONITORED FOR ALARM AND SUPERVISORY CONDITIONS BY THE FIRE ALARM SYSTEM.

**FIRE PROTECTION GENERAL NOTES**

GENERAL REQUIREMENTS

- ALL PIPE SIZES AND COMPONENTS INDICATED ON DRAWINGS ARE APPROXIMATE AND ARE PROVIDED FOR SUGGESTIVE PURPOSES ONLY. FINAL PIPE SIZES AND LAYOUT SHALL BE DETERMINED VIA HYDRAULIC CALCULATIONS PERFORMED BY CONTRACTOR. IN ADDITION, ALL COMPONENTS NECESSARY FOR A COMPLETE SPRINKLER SYSTEM ARE NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL EQUIPMENT NECESSARY FOR AN NFPA 13 COMPLIANT SYSTEM.
- DESIGN AND INSTALL THE SPRINKLER SYSTEM TO MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES AND STANDARDS.
- IN CASE OF DISPUTE OR DOUBT AS TO INTENT OF DRAWING OR SPECIFICATIONS, OBTAIN ARCHITECTS/ENGINEERS WRITTEN APPROVAL BEFORE PROCEEDING WITH BID.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR THE SPRINKLER SYSTEM SHOWING ALL SPRINKLERS, SPACED AND LOCATED IN ACCORDANCE WITH NFPA 13, 2010 EDITION. THE SHOP DRAWINGS SHALL BE APPROVED IN WRITING PRIOR TO FABRICATION AND/OR INSTALLATION.
- CHANGES IN THE LOCATIONS OF SPRINKLERS FROM THOSE SHOWN ON THE APPROVED SHOP DRAWINGS SHALL BE IDENTIFIED AND APPROVED IN WRITING PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO RECTIFY UNAUTHORIZED NONCOMPLIANT CHANGES AT NO ADDITIONAL CHARGE TO THE CLIENT.
- IN ADDITION TO SHOP DRAWINGS, CONTRACTOR SHALL SUBMIT SYSTEM HYDRAULIC CALCULATIONS, CATALOG PRODUCT DATA SHEETS AND SAMPLES AS REQUIRED BY NFPA 13 OR OWNER AND ARCHITECT REQUIREMENTS.
- THE CONTRACTOR SHALL PREPARE "AS-BUILT" DRAWINGS IN ELECTRONIC (AUTOCAD) FORMAT, REFLECTING ACCURATE FIELD CONDITIONS.

HYDRAULIC DESIGN REQUIREMENTS

- TOTAL SPRINKLER SYSTEM WATER SUPPLY DEMAND SHALL BE BASED ON THE NFPA 13 CRITERIA REQUIREMENTS FOR THE HYDRAULICALLY MOST DEMANDING AREA. THE AREA/DENSITY METHOD SHALL BE USED FOR ALL AREAS OF THE BUILDING.
- FOR SPRINKLER SYSTEM DESIGN PURPOSES ALL SPACES SHALL BE CONSIDERED LIGHT OR ORDINARY HAZARD OCCUPANCIES. LIGHT HAZARD AREAS SHALL INCLUDE, BUT ARE NOT LIMITED TO, OFFICE SPACES, CORRIDORS, RESTROOMS AND OTHER COMMON OFFICE USE AREAS. ORDINARY HAZARD GROUP 1 AREAS SHALL INCLUDE, BUT ARE NOT LIMITED TO, AREAS CONTAINING MECHANICAL ROOMS. ORDINARY HAZARD GROUP 2 AREAS INCLUDE THE APPARATUS BAYS. REFER TO DRAWINGS FOR HAZARD CLASS LOCATIONS.
- DESIGN CRITERIA:  
LIGHT HAZARD: 0.10 GPM/SQ.FT OVER 1500 SQ.FT, 100 GPM HOSE STREAM  
ORDINARY HAZARD GROUP 1: 0.15 GPM/SQ.FT OVER 1500 SQ.FT, 250 GPM HOSE  
ORDINARY HAZARD GROUP 2: 0.20 GPM/SQ.FT OVER 1500 SQ.FT, 250 GPM HOSE  
A 30% AREA INCREASE SHALL BE APPLIED TO DRY PIPE SYSTEMS.  
A 30% AREA INCREASE SHALL BE APPLIED TO AREAS WITH SLOPED CEILINGS WITH A PITCH EXCEEDING 1 IN 6.

INSTALLATION REQUIREMENTS

- ALL MATERIALS AND EQUIPMENT SHALL BE NEW.
- EACH COMPONENT OF THE SPRINKLER SYSTEM SHALL BE LISTED AS A PRODUCT BY THE MANUFACTURER UNDER THE APPROPRIATE CATEGORY FOR THE INTENDED USE BY UNDERWRITERS LABORATORIES, INC. (UL) AND SHALL BEAR THE "UL" LABEL.
- THE COMPONENTS OF HANGER ASSEMBLIES THAT DIRECTLY ATTACH TO THE PIPE OR TO THE BUILDING SHALL BE LISTED.
- EACH COMPONENT OF THE SPRINKLER SYSTEM SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE, WHICH EXCEEDS THE MAXIMUM SYSTEM PRESSURE AT ITS INTENDED LOCATION. ALL PIPING SHALL BE RATED FOR A MAXIMUM SYSTEM WORKING PRESSURE OF AT LEAST 175 PSI.
- CONTRACTOR SHALL MAKE PROVISIONS TO ENSURE ADEQUATE DRAINAGE OF ALL PIPING. AUXILIARY DRAINS SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13.

**FIRE PROTECTION GENERAL NOTES (CONTINUED)**

- ORDINARY TEMPERATURE SPRINKLERS SHALL BE INSTALLED THROUGHOUT FINISHED SPACES EXCEPT WHERE OTHERWISE REQUIRED BASED ON ENVIRONMENTAL CONDITIONS (MAXIMUM CEILING TEMPERATURE) AS IDENTIFIED IN NFPA 13.
- ADEQUATE CLEARANCE, AS DEFINED BY NFPA 13, SHALL BE PROVIDED BETWEEN SPRINKLERS AND HEAT GENERATING DEVICES.
- DO NOT ROUTE SPRINKLER SYSTEM PIPING OVER ELECTRICAL PANELS.
- IN ALL AREAS WITH DROP CEILINGS, SPRINKLERS SHALL BE LOCATED IN THE CENTER OF THE NARROW DIMENSION OF THE CEILING TILE.
- CORE DRILL PENETRATIONS IN CONCRETE FLOORS OR WALLS 1-2 INCHES LARGER THAN THE PIPE DIAMETER OF THE PENETRATING PIPE. ALL CORE DRILLING SHALL BE COORDINATED WITH A STRUCTURAL ENGINEER.
- ALL PENETRATIONS THROUGH FIRE RATED BARRIERS SHALL BE PROVIDED WITH A UL LISTED THROUGH PENETRATION FIRESTOP ASSEMBLY. THE RATINGS OF ALL FIRESTOP ASSEMBLIES SHALL BE GREATER THAN OR EQUAL TO THE RATING OF THE PENETRATED BARRIER.
- THE CONTRACTOR IS SPECIFICALLY RESPONSIBLE FOR ALL MEANS AND METHODS OF JOB SAFETY. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.

COMMISSIONING AND WARRANTY

- ENTIRE SYSTEM SHALL BE FLUSHED AND HYDROSTATICALLY TESTED @ 200 PSI OR 50 PSI ABOVE MAXIMUM WORKING PRESSURE (WHICHEVER IS GREATER) FOR 2 HOURS AS PER NFPA 13.
- SPRINKLER CONTRACTOR SHALL COORDINATE WITH FIRE ALARM CONTRACTOR FOR CONNECTION TO FIRE ALARM SYSTEM AND FINAL ACCEPTANCE TESTING.
- ALL MATERIAL AND LABOR SHALL BE UNDER WARRANTY FOR ONE YEAR FROM THE FINAL ACCEPTANCE BY THE LOCAL AHJ AND THE OWNER. ANY NEW DEVICES OR EQUIPMENT FOUND FAULTY SHALL BE REPLACED AS PART OF THE WARRANTY.

**APPLICABLE CODES AND STANDARDS**

VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC), 2012 EDITION EFFECTIVE JULY 14, 2014  
 VIRGINIA STATEWIDE FIRE PREVENTION CODE (SFPC), 2012 EDITION EFFECTIVE JULY 14, 2014  
 NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2010 EDITION  
 NFPA 24, STANDARD FOR INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES, 2010 EDITION

**WATER SUPPLY DATA**

FLOW TEST DATE: 09/20/2016  
 STATIC PRESSURE: 89 PSI  
 RESIDUAL PRESSURE: 86 PSI  
 FLOW: 1,082 GPM

**FIRE PROTECTION LEGEND**

- NEW SPRINKLER MAIN PIPE
- NEW SPRINKLER BRANCHLINE PIPE
- NEW UNDERGROUND PIPE
- ELBOW DOWN
- TEE DOWN
- PIPE RISE
- PIPE CAP / FLUSHING CON.
- BACKFLOW PREVENTOR TEST ASSEMBLY
- FIRE DEPARTMENT CONNECTION (FDC)
- CONTROL VALVE
- CHECK VALVE
- BACKFLOW PREVENTOR
- DRY PIPE VALVE
- DRAIN RISER
- ⊗ HAZARD CLASSIFICATION
- ⊗ HYDRAULIC CALCULATION NODE

**OCCUPANCY HAZARD LEGEND**

ALL AREAS ARE LIGHT HAZARD UNLESS NOTED OTHERWISE. A MINIMUM DENSITY OF 0.10 GPM/SQ.FT. WITH A DESIGN AREA OF 1,500 SQ.FT. AND A HOSE ALLOWANCE OF 100 GPM SHALL BE USED.

- ⓪1 ORDINARY HAZARD GROUP 1 OCCUPANCY. A MINIMUM DENSITY OF 0.15 GPM/SQ.FT. WITH A DESIGN AREA OF 1,500 SQ.FT. AND A HOSE ALLOWANCE OF 250 GPM SHALL BE USED.
- ⓪2 ORDINARY HAZARD GROUP 2 OCCUPANCY. A MINIMUM DENSITY OF 0.20 GPM/SQ.FT. WITH A DESIGN AREA OF 1,500 SQ.FT. AND A HOSE ALLOWANCE OF 250 GPM SHALL BE USED.

**SPRINKLER LEGEND:**

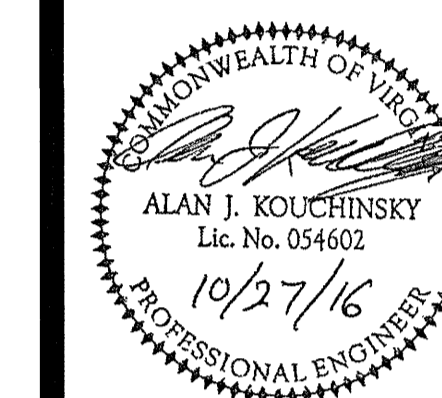
SYMB	SPRINKLER TYPE	FINISH	TEMP	K	NPT
⊙	DROP PENDENT	WHITE	155°F	5.6	1/2"
○	INT. UPRIGHT SPRINKLER	BRASS	200°F	8.0	1/2"
⊗	ORD. UPRIGHT SPRINKLER	BRASS	155°F	5.6	1/2"
⊗	INT. UPRIGHT SPRINKLER	BRASS	200°F	5.6	1/2"
◁	SIDEWALL SPRINKLER	BRASS	155°F	5.6	1/2"



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COUNTY OF ALBEMARLE

PANTOPS  
 PUBLIC SAFETY  
 FACILITY

IFB # 2017-11223-20

CHARLOTTESVILLE,  
 VIRGINIA

REVISIONS

NO.	DATE	DESCRIPTION

COMMISSION NUMBER	2160310
SCALE:	AS NOTED
DESIGNED:	JEK
DRAWN:	JEK
CHECKED:	AAK
DATE:	10.27.2016

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SHEET TITLE  
**FIRE PROTECTION  
 NOTES AND  
 LEGEND**

SHEET NUMBER

**F-001**

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