

SECTION 15100 - FIRE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. RELATED DOCUMENTS - CONDITIONS OF THE CONTRACT, DIVISION 1 - GENERAL REQUIREMENTS AND DRAWINGS APPLY TO THE WORK OF THIS SECTION

1.02 DESCRIPTION OF WORK

A. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, TESTING AND SERVICES NECESSARY FOR A COMPLETE AND OPERATIONAL REMODELED FIRE PROTECTION SYSTEM FOR THE PROPOSED SPACE AS HEREINAFTER DESCRIBED AND AS SHOWN ON THE ENGINEERING DRAWINGS

B. WORK SHALL BEGIN AT THE EXISTING BUILDING RISER AND SHALL INCLUDE THE FOLLOWING:

1. REMODELED WET PIPE FIRE SPRINKLER SYSTEM FOR FAMILY DOLLAR
2. COORDINATION OF WORK AND SCHEDULES WITH OTHER TRADES

C. INTERIOR WORK - PROVIDE THE FOLLOWING:

1. FLOW SWITCHES
2. OVERHEAD PIPE, FITTINGS, HANGERS AND SPRINKLERS
3. TEST CONNECTIONS AND AUXILIARY DRAINS

D. IT IS INTENDED THAT THE ENGINEERING DRAWINGS AND SPECIFICATION SHALL DESCRIBE AND PROVIDE FOR A WORKING INSTALLATION COMPLETE IN EVERY DETAIL AND ALL ITEMS NECESSARY FOR SUCH COMPLETE INSTALLATION SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE ENGINEERING DRAWINGS

1.03 REFERENCES

A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REFERENCED DESIGN STANDARDS

1. INTERNATIONAL BUILDING CODE - 2012 EDITION
2. INTERNATIONAL FIRE CODE - 2012 EDITION
3. NFPA 13, SPRINKLER SYSTEMS - 2010 EDITION

1.04 SYSTEM DESCRIPTION

A. REMODELED FIRE SPRINKLER SYSTEM DESIGN CRITERIA SHALL BE STRICTLY PER THIS SPECIFICATION

B. REMODELED FIRE SPRINKLER SYSTEM TO PROVIDE FIRE PROTECTION FOR THE AREAS INDICATED ON THE ENGINEERING DRAWINGS

C. INTERFACE REMODELED FIRE SPRINKLER SYSTEM WITH BUILDING FIRE AND SMOKE ALARM SYSTEMS

D. OFFICE AREAS (LIGHT HAZARD WET PIPE FIRE SPRINKLER SYSTEM)

- DENSITY - 0.10 GPM/SQ FT
- OPERATING AREA - 1,500 SQ FT
- TEMPERATURE CLASSIFICATION / NOMINAL K FACTOR / RESPONSE TYPE - ORD / S / 8 / OR
- HOSE STREAM ALLOWANCE - 100 GPM
- DURATION - 0.50 HR

E. SALES AREA, STOCK ROOM AND RECEIVING (ORDINARY HAZARD GROUP 2 WET PIPE FIRE SPRINKLER SYSTEM)

- DENSITY - 0.20 GPM/SQ FT
- OPERATING AREA - 1,500 SQ FT
- TEMPERATURE CLASSIFICATION / NOMINAL K FACTOR / RESPONSE TYPE - ORD / S / 8 / OR
- HOSE STREAM ALLOWANCE - 200 GPM
- DURATION - 1.0 HR

F. WATER SUPPLY

FIRE PROTECTION WATER SUPPLY HAS BEEN OBTAINED FROM A HYDANT FLOW TEST PERFORMED ON 10/19/19 BY THE CITY OF PARRISONS UTILITIES DEPARTMENT. THE WATER SUPPLY SHALL BE CONSIDERED EFFECTIVE AT THE POINT OF CONNECTION TO THE PUBLIC WATER SUPPLY. THE APPROXIMATE WATER SUPPLY ELEVATION IS 2' 0" BELOW FINISH FLOOR. NO SUBSTITUTIONS OF WATER SUPPLY DATA OR ITS EFFECTIVE POINT WILL BE ALLOWED.

ACTUAL STATIC 80 PSI
ACTUAL RESIDUAL 44 PSI
ACTUAL FLOW 1,501 GPM

THE ABOVE WATER SUPPLY COORDINATES DO NOT INCLUDE THE REQUIRED 10% OF THE STATIC PRESSURE SAFETY FACTOR THAT SHALL BE ENFORCED. THE FOLLOWING WATER SUPPLY COORDINATES HAVE BEEN ADJUSTED 4 PSI FOR THE REQUIRED SAFETY FACTOR

DESIGN STATIC 72 PSI
DESIGN RESIDUAL 49 PSI
DESIGN FLOW 1,501 GPM

G. SPRINKLER SPACING SHALL BE AS SHOWN ON THE ENGINEERING DRAWINGS

H. UNFINISHED AREAS - LOCATE SPRINKLERS AS SHOWN ON THE ENGINEERING DRAWINGS

I. EXISTING FIRE DEPARTMENT CONNECTION TO REMAIN

J. PROVIDE ALL NECESSARY OFFSETS, RAISES OR DROPS IN MAIN OR BRANCH LINE PIPING AND AUXILIARY DRAINS REQUIRED BY BUILDING CONDITIONS WHETHER OR NOT SHOWN ON THE ENGINEERING DRAWINGS

K. EXAMINE THE JOB CONDITIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, PIPE SIZES, ETC

L. IT IS UNDERSTOOD, UNLESS SPECIFICALLY INDICATED OTHERWISE, THAT THE PIPE SIZES AS SHOWN ON THE ENGINEERING DRAWINGS WILL BE USED

1.05 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS

1. INSTALLER'S RESPONSIBILITIES INCLUDE PREPARING SHOP DRAWING, SUBMITTAL, FABRICATING AND INSTALLING SPRINKLER SYSTEMS. BASIC CALCULATIONS ON WATER SUPPLY COORDINATES PROVIDED HEREIN

B. INSTALLER SHALL BE STATE AND LOCALLY LICENSED

C. EQUIPMENT AND COMPONENTS NOT SPECIFICALLY SPECIFIED SHALL BE LISTED BY UNDERWRITERS LABORATORIES INC. FOR FIRE PROTECTION SYSTEMS INSTALLATION

D. ALL FIRE SPRINKLER SYSTEM COMPONENTS SHALL BE INSTALLED FREE OF RUST, CORROSION OR VISIBLE DAMAGE. ALL ITEMS NOT COMPLYING WITH REQUIREMENT SHALL BE REPLACED WITHOUT COST TO THE OWNER

1.06 PROJECT CONDITIONS

A. INTERRUPTION OF EXISTING SPRINKLER SERVICE: DO NOT INTERRUPT SPRINKLER SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS. AS PERMITTED UNDER THE FOLLOWING CONDITIONS: THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SPRINKLER SERVICE TO MAINTAIN PROTECTED AREAS INDICATED

1. NOTIFY CONSTRUCTION MANAGER IN ADVANCE OF ANY INTERRUPTION OF SPRINKLER SERVICE

2. DO NOT PROCEED WITH INTERRUPTION OF SPRINKLER SERVICE WITHOUT CONSTRUCTION MANAGER'S WRITTEN PERMISSION

3. PROVIDE TEMPORARY PROTECTIVE VALVES AS REQUIRED TO MAINTAIN SPRINKLER SERVICE

1.07 REGULATORY REQUIREMENTS

A. ALL WORK SHALL MEET THE REQUIREMENTS OF SECTION 1.03

B. THE FIRE SPRINKLER CONTRACTOR SHALL NOT PURSUE ANY APPROVALS OR INTERPRETATIONS OF CODE'S CONSTRUCTION DOCUMENTS EXCEPT THROUGH CCI

C. SPRINKLER PIPING SHALL NOT BE CONCEALED WHERE IT IS INACCESSIBLE UNLESS IT IS FIRST INSPECTED AND ACCEPTED BY A REPRESENTATIVE OF THE AUTHORITY HAVING JURISDICTION

D. ANY WORK PERFORMED PRIOR TO THE SATISFACTORY REVIEW BY CCI AND APPROVAL BY THE AUTHORITY HAVING JURISDICTION AND THE INSURANCE UNDERWRITER WILL BE SOLELY AT THE FIRE SPRINKLER CONTRACTOR'S RISK

E. THE SYSTEM WILL NOT BE ACCEPTABLE UNTIL FINAL TESTING AND RECEIPT OF THE

CONTRACTOR'S MATERIAL AND TEST CERTIFICATE HAS BEEN OBTAINED

1.08 SUBMITTALS

A. THE ENGINEERING DRAWINGS HAVE BEEN PREPARED USING AUTOCAD. THE ENGINEERING DRAWINGS ARE 100% CAD. THE HYDRAULIC CALCULATIONS HAVE BEEN PREPARED USING HASS. THESE DOCUMENTS WILL BE MADE AVAILABLE TO THE SUCCESSFUL FIRE SPRINKLER CONTRACTOR IN EITHER ELECTRONIC FORM OR HARD COPY. UTILIZATION OF THESE DOCUMENTS FOR THE DEVELOPMENT OF SHOP DRAWINGS AND SUBMITTALS DOES NOT RELIEVE THE FIRE SPRINKLER CONTRACTOR FROM ANY OF HIS RESPONSIBILITIES REQUIRED HEREIN

B. SUBMIT THE FOLLOWING

1. SHOP DRAWINGS - SUBMIT IN PDF FORMAT OR TWO (2) HARD COPIES OF EACH DRAWING. DRAWINGS WILL BE RETURNED IN THE SAME FORMAT RECEIVED. SUBMITTAL MUST BE COMPREHENSIVE OF ENTIRE PROJECT, COMPLETE IN ALL DETAIL AND THE SAME SCALE AS THE ENGINEERING DRAWINGS

2. HYDRAULIC CALCULATIONS - SUBMIT IN PDF FORMAT OR TWO (2) HARD COPIES OR EACH CALCULATION. CALCULATIONS WILL BE RETURNED IN THE SAME FORMAT RECEIVED. CALCULATIONS SHALL INCLUDE PEAKING INFORMATION

3. MANUFACTURER'S LITERATURE ON ALL SYSTEM EQUIPMENT - SUBMIT IN PDF FORMAT OR TWO (2) HARD COPIES OF THE LITERATURE. LITERATURE WILL BE RETURNED IN THE SAME FORMAT AS RECEIVED. LITERATURE SHALL CLEARLY IDENTIFY EXACTLY WHAT COMPONENTS ARE BEING PROVIDED WHICH SHALL INCLUDE FINISH, SIZE, TYPE, OPTIONS, ETC. LITERATURE WHICH IS NOT CLEARLY IDENTIFIED WILL BE REJECTED

C. CCI WILL REVIEW THIS SUBMITTAL FOR CONSISTENCY WITH CCI'S CONSTRUCTION DOCUMENTS

D. AFTER THE SATISFACTORY REVIEW BY CCI, PROVIDE SUBMITTALS TO THE AUTHORITY HAVING JURISDICTION AND THE INSURANCE UNDERWRITER FOR APPROVAL

E. THE FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR RESPONDING, IN WRITING, TO ANY COMMENTS FROM THE AUTHORITY HAVING JURISDICTION OR THE INSURANCE UNDERWRITER WITHIN TEN (10) WORKING DAYS AFTER THE RECEIPT OF THEIR COMMENTS. COPIES OF THE RESPONSE SHALL BE SENT TO THE GENERAL CONTRACTOR AND CCI

1.09 AS-BUILT DRAWINGS

A. PROVIDE AS-BUILT DRAWINGS IN ACCORDANCE WITH REQUIREMENTS OF THE GENERAL CONDITIONS OF THE CONTRACT AND NFPA 13

1.10 OPERATION AND MAINTENANCE DATA

A. PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS TO THE OWNER IN ACCORDANCE WITH REQUIREMENTS OF THE GENERAL CONDITIONS OF THE CONTRACT AND NFPA 13

1.11 WARRANTY

A. REPAIR ALL DEFECTIVE WORKMANSHIP OR REPLACE ALL DEFECTIVE MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. WORKMANSHIP OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THAT PERIOD SHALL BE REPLACED WITHOUT COST TO THE OWNER

PART 2 - PRODUCTS

2.01 PIPING

A. UNDERGROUND PIPING - NONE

B. OVERHEAD PIPE - PER LOCAL REQUIREMENTS AND NFPA 13. ALL PIPE SHALL HAVE A CORROSION RESISTANCE RATIO (CRR) EQUAL TO OR GREATER THAN 1.00. REFER TO THE CURRENT UL FIRE PROTECTION EQUIPMENT DIRECTORY - STEEL SPRINKLER PIPE FOR ACCEPTABLE MANUFACTURERS, SIZES, AND JOINING METHODS

2.02 JOINING OF PIPE AND FITTINGS

A. ALL PIPE SHALL BE JOINED IN ACCORDANCE WITH NFPA 13 AND MANUFACTURER'S RECOMMENDATIONS

B. FITTINGS SHALL BE 175 PSI SREWED OR FLANGED BLACK CAST IRON OR APPROVED EQUAL, SUCH AS MECHANICAL GROOVED, FLAN END OR WELDED CONNECTIONS. WHERE GROOVED FITTINGS AND COUPLINGS ARE USED TOGETHER, THEY SHALL BE OF THE SAME MANUFACTURER

C. BUSHINGS SHALL NOT BE USED

2.03 HANGERS AND SLEEVES

A. SLEEVES SHALL BE SET FOR ALL PIPES PASSING THROUGH CONCRETE FLOORS, FOUNDATIONS AND MASONRY WALLS

B. PROVIDE PRIMED ESCUTCHEON PLATES AT ALL WALL PENETRATIONS WHERE THE HOLE WOULD OTHERWISE BE EXPOSED TO VIEW

C. ALL HANGERS TO BE OF APPROVED MATERIALS AND SPACED IN ACCORDANCE WITH NFPA 13 AND THE PIPING MANUFACTURER'S SPECIFICATIONS

D. THE SECTION MODULUS REQUIRED BY NFPA 13 SHALL BE PROVIDED FOR ALL TRAPEZE MEMBERS SUPPORTING PIPING

2.04 VALVES

A. INTERIOR VALVES

1. GLOBE VALVE - BRONZE TRAPEZE, RENEWABLE COMPOSITION DISC, 175 PSI RATED WORKING PRESSURE
2. ACCEPTABLE MANUFACTURERS: CRANE, MILWAUKEE, NIBCO, STOCKHAM OR APPROVED EQUAL

2.05 WATERFLOW SWITCHES

A. VANE TYPE - SHALL BE MOUNTED IN ACCORDANCE WITH ITS LISTING AND THE MANUFACTURER'S INSTRUCTIONS. DESIGNED TO SIGNAL ANY FLOW OF WATER THAT EQUALS OR EXCEEDS 10 GPM. DETECTOR SWITCH MECHANISM SHALL INCORPORATE AN INSTANTLY RECYCLING PNEUMATIC RETARD ELEMENT WITH AN ADJUSTABLE RANGE OF 0 TO 30 SECONDS. TWO SINGLE POLE, DOUBLE THROW SWITCHES SHALL BE PROVIDED SUITABLE FOR OPERATION ON 24 VOLT D.C. OR 115-VOLT A.C. DUST TIGHT CONSTRUCTION, TAMPER RESISTANT SCREWS ON ENCLOSURE, CORROSION RESISTANT COMPONENTS WITH WATERBARY

1. ACCEPTABLE MANUFACTURERS: GUARDIAN, POTTER ELECTRIC, STAFF SYSTEM SENSOR OR APPROVED EQUAL

B. THE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE FIRE SPRINKLER CONTRACTOR AND WIRED COMPLETE BY THE FIRE ALARM CONTRACTOR

2.06 SPRINKLERS

A. TYPES

1. CHROME PENDENT - GLASS BELL, 8.5 MINUTE RESPONSE PENDENT SPRINKLER WITH POLISHED CHROME 2-PIECE ESCUTCHEON
2. BRASS UPRIGHT - GLASS BELL, STANDARD RESPONSE UPRIGHT SPRINKLER

B. ACCEPTABLE MANUFACTURERS: GLOBE, KAMATZ, TYCO, VICTALUC AND VIKING

C. ONLY SPRINKLERS MANUFACTURED AFTER JANUARY 1, 2019 WILL BE ACCEPTED FOR USE

D. DAILY SPRINKLERS MANUFACTURED UTILIZING BELLEVILLE SPRING SEALS WILL BE ACCEPTABLE

F. IF FLEX-HEAD OR A SIMILAR PRODUCT IS USED, HYDRAULIC CALCULATIONS SHALL BE REVISED TO INCLUDE THE ADDITIONAL FRICTION LOSS, AND PIPE SIZES ADJUSTED IF REQUIRED AT NO ADDITIONAL COST

2.07 SIGNS

A. APPROVED ENAMELED METAL SIGNS SHALL BE SECURELY ATTACHED AT ALL MAIN DRAINS, AUXILIARY DRAINS, ALARM TEST CONNECTIONS AND CONTROL VALVES

B. PROVIDE A PERMANENTLY ATTACHED PLACARD INDICATING HYDRAULIC DESIGN INFORMATION IN ACCORDANCE WITH NFPA 13 AND PLACED ON THE RISER. A MOCK-UP OF PLACARD SHALL BE INCLUDED WITH EQUIPMENT LITERATURE

C. PROVIDE A PERMANENTLY ATTACHED PLACARD INDICATING GENERAL INFORMATION IN ACCORDANCE WITH NFPA 13 AND PLACED AT THE RISER. A MOCK-UP OF PLACARD SHALL BE INCLUDED WITH EQUIPMENT LITERATURE

D. PROVIDE AT THE RISER A PLAN INDICATING THE AREAS SERVED BY EACH CONTROL VALVE. THE PLAN SHALL ALSO INCLUDE THE LOCATION OF EACH LOW POINT OR AUXILIARY DRAIN VALVE AND MANUAL AIR VENT. THE PLAN SHALL CLEARLY IDENTIFY THE SYSTEM ASSOCIATED WITH EACH LOW POINT AND AUXILIARY DRAIN VALVE. THIS PLAN SHALL BE FRAMED WITH A PLEXIGLASS COVER AND SHALL BE PERMANENTLY ATTACHED TO A WALL. PLAN SHALL BE LARGE ENOUGH TO CLEARLY DEFINE THE AREAS PROTECTED BY EACH SYSTEM

2.08 TEST AND DRAIN CONNECTIONS

A. PROVIDE COMBINATION ALARM TEST/DRAIN VALVE WITH PRESSURE RELIEF EQUAL TO THE ACF MANUFACTURING CO. MODEL 301A 1 IN. SIZE WITH 1/2 IN. TEST ORIFICE WHERE INDICATED ON DRAWINGS

B. AUXILIARY DRAINS CONSISTING OF PLUGS OR GLOBE VALVES AND PLUGS WHERE CAPACITY OF TRAPPED FIRE SECTION EXCEEDS 5 GALLONS SHALL BE PROVIDED TO DRAIN ALL POINTS IN THE SYSTEM THAT CANNOT BE DRAINED BACK TO MAIN RISER

PART 3 - EXECUTION

3.01 COORDINATION WITH OTHER TRADES

A. COORDINATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCE

3.02 PAINTING AND FINISHING

A. PAINTING OF SPRINKLER PIPING IS NOT INCLUDED IN THIS CONTRACT. ALL EXPOSED SPRINKLER PIPING SHALL BE THOROUGHLY CLEANED, REMOVING ALL DIRT, OIL, ETC. AND MADE READY TO RECEIVE PAINT IN ACCORDANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT

B. HOLES IN WALLS OR FLOORS CUT DURING THE PERFORMANCE OF THIS WORK SHALL BE PATCHED IF THE HOLES CANNOT BE COVERED BY STANDARD ESCUTCHEON PLATES SO AS TO COMPLETELY CONCEAL THE CUTS WHERE THEY WOULD OTHERWISE BE EXPOSED TO VIEW

C. FIRE STOP ALL PENETRATIONS OF FIRE RATED ASSEMBLIES

3.03 SYSTEM TESTS

A. HYDROSTATICALLY TEST ENTIRE SYSTEM IN ACCORDANCE WITH NFPA 13

B. TEST SHALL BE WITNESSED BY THE AUTHORITY HAVING JURISDICTION AND OWNER'S AUTHORIZED AGENT

C. PRELIMINARY TESTING PROCEDURES SHALL BE CONDUCTED AS MENTIONED ABOVE TO ASSURE PROPER OPERATION WHEN THE FINAL TESTING IS PERFORMED

D. THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATES AS SHOWN IN NFPA 13 MUST BE COMPLETED AND SUBMITTED TO THE ENGINEER BEFORE FINAL ACCEPTANCE MAY BE GIVEN

E. WHEN THE SYSTEMS ARE INITIALLY COMMISSIONED (FILLED WITH WATER), USE THE MANUAL AIR VENT AND HOSE END ADAPTER AT THE END OF EACH SYSTEM. ATTACH A HOSE TO THE EXTENSOR AND OPEN THE VALVE UNTIL WATER IS DISCHARGED THROUGH THE HOSE. RESET THE PROCEDURE FOR EACH SYSTEM AND ANY TIME THE SYSTEM IS DRAINED AND REFILLED

END OF SECTION

HANGER NOTES

1. ONLY ONE PIPE SHALL BE SUPPORTED FROM A SINGLE TRAPEZE HANGER UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD
2. HANGERS WITH MORE THAN 150 POUNDS OF LOAD SHOULD BE ATTACHED TO THE JOIST AT A PANEL POINT
3. COORDINATE ALL HANGER TYPES AND LOCATIONS WITH THE STRUCTURAL ENGINEER OF RECORD
4. ALL HANGERS TO BE OF APPROVED MATERIALS AND SPACED IN ACCORDANCE WITH NFPA 13 AND THE PIPING MANUFACTURER'S SPECIFICATIONS

SPRINKLER BELOW DUCT NOTE

PROVIDE SPRINKLER PROTECTION BELOW DUCTS IN EXPOSED STRUCTURE AREAS PER NFPA 13

SPRINKLER NOTES

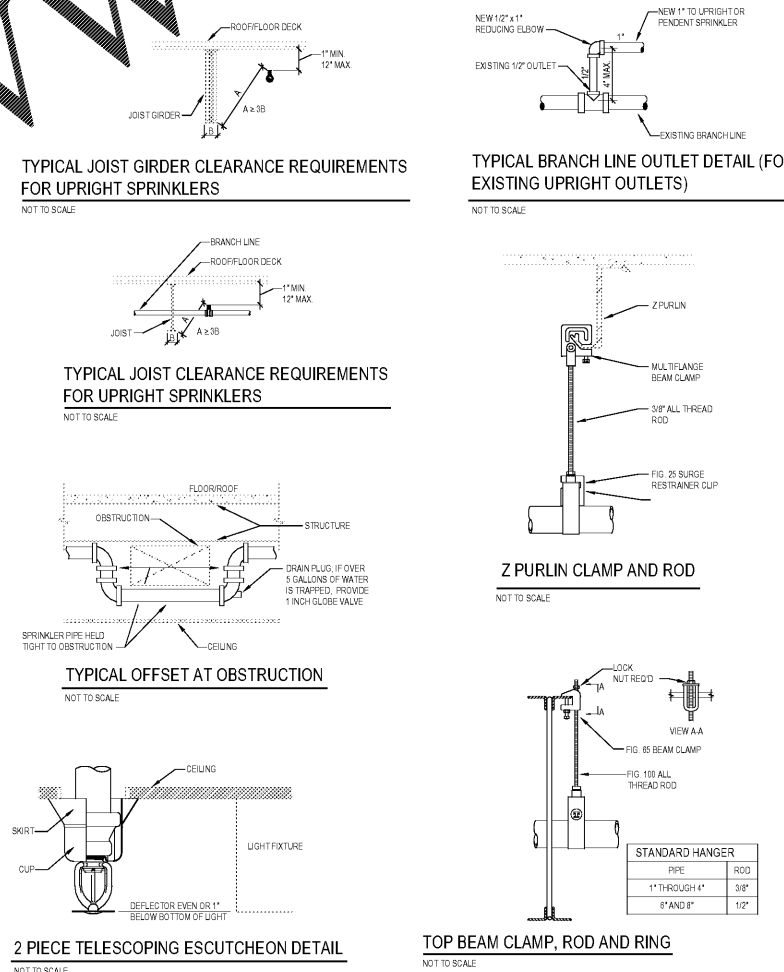
1. ALL SPRINKLERS ARE S 8.5 K FACTOR
2. SPRINKLER SPACING IN LIGHT HAZARD AREAS - MAXIMUM 225 SQ FT PER SPRINKLER AND MAXIMUM 15 FT BETWEEN SPRINKLERS
3. SPRINKLER SPACING IN ORDINARY HAZARD AREAS - MAXIMUM 100 SQ FT PER SPRINKLER AND MAXIMUM 15 FT BETWEEN SPRINKLERS

GENERAL NOTES

1. PROVIDE ALL NECESSARY OFFSETS, RAISES OR DROPS IN PIPING AND AUXILIARY DRAINS REQUIRED BY BUILDING CONDITIONS WHETHER OR NOT SHOWN ON THE DRAWINGS
2. EXAMINE THE JOB CONDITIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, PIPE SIZES, ETC
3. ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL BACKGROUND INFORMATION IS SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO THE PROPER DRAWINGS FOR EXACT LOCATIONS, SIZES, AND QUANTITIES OF OTHER TRADES WORK
4. THE ENGINEERING DRAWINGS HAVE BEEN PREPARED USING AUTOCAD. THE DRAWINGS ARE 100% CAD. THE HYDRAULIC CALCULATIONS HAVE BEEN PREPARED USING HASS. THESE DOCUMENTS WILL BE MADE AVAILABLE TO THE SUCCESSFUL FIRE SPRINKLER CONTRACTOR IN EITHER ELECTRONIC FORM OR HARD COPY
5. SUPPLY ONLY ONE (1) SPRINKLER FROM A SINGLE BRANCHLINE OUTLET. PROVIDE NEW BRANCH LINES AS REQUIRED
6. SPRINKLERS NEAR A HEAT SOURCE (UNHEATERS, DIFFUSERS, STEAM MAINS, SHT LIGHTS, ETC.) SHALL HAVE TEMPERATURE RATINGS IN ACCORDANCE WITH NFPA 13
7. IT IS UNDERSTOOD, UNLESS SPECIFICALLY INDICATED OTHERWISE, THAT THE PIPE SIZES AS SHOWN ON THE BID DOCUMENTS WILL BE USED
8. ALL UNUSED OUTLETS ON EXISTING BRANCH LINES SHALL BE SEELED

MAXIMUM HANGER SPACING

1" - 1 1/4" BLACK STEEL PIPE - MAXIMUM HANGER SPACING
1 1/2" - 3" BLACK STEEL PIPE - MAXIMUM HANGER SPACING



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designed	ASR	by
drawn		date
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FIRE SPRINKLER SPECIFICATION, NOTES AND DETAILS

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drawing	FP2

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