

Order Plans

**CONTRACTOR TO REFER TO ARCHITECTURAL SHEET G1.1 FOR SEISMIC DESIGN CATEGORY. SEISMIC RESTRAINTS (ONLY REQUIRED FOR SEISMIC DESIGN CATEGORIES C,D,E,F)**

CONTRACTOR TO PROVIDE SEISMIC BRACING AS REQUIRED BY CODE. IF SEISMIC BRACING IS REQUIRED SEE BRACING DETAILS THIS SHEET.

- SEISMIC BRACING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE. PROJECT IS CONSTRUCTED WITH SEALED SPRINKLER BRACING DRAWING AND CALCULATIONS SUBMITTED. REFER TO SHEET T1 FOR MORE INFORMATION.
- ALL PIPING WHICH REQUIRES RESTRAINT SHALL BE PROVIDED WITH SEISMIC EXPANSION DEVICES.
- BRANCH OR MAIN PIPE BRACING SHALL BE ATTACHED TO WEB OF ROOF PURLIN WITHIN 1-1/2" OF TOP FLANGE.

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**TRAPEZE TRANSVERSE AND LONGITUDINAL PIPE BRACING**

N.T.S.

BRANCH OR MAIN PIPE BRACING SHALL BE ATTACHED TO WEB OF ROOF PURLIN WITHIN 1-1/2" OF TOP FLANGE.

**SINGLE PIPE BRACING**

N.T.S.

**FIRE PROTECTION SUPPORT DETAILS**

ATTACH L 3x3x1/16"x0'-3" TO PURLIN WEB W/ 3/8" A307 BOLT

**MAIN & FDC PIPING PARALLEL TO PURLIN**

N.T.S.

SPRINKLER LINE (BY OTHERS) TO BE CENTERED BETWEEN ROOF PURLINS

ATTACH UNISTRUT P5000 @ 5'-0" O.C.

ATTACH L 3x3x1/16"x0'-3" TO PURLIN WEB W/ 3/8" A307 BOLT

**MAIN & FDC PIPING PERPENDICULAR TO PURLIN**

N.T.S.

SPRINKLER LINE (BY OTHERS) TO BE CENTERED ON UNISTRUT

ATTACH UNISTRUT P5000 @ 5'-0" O.C.

SAMMY SWDR-1 (OR EQUIVALENT) IN LOWER HALF OF PURLIN

**BRANCH LINE SUPPORT**

N.T.S.

**STANDARD WET-PIPE SPRINKLER SYSTEM**

**PART 1 - GENERAL**

**1.01 WORK INCLUDES**

- The wet-pipe sprinkler systems for buildings & structures.
- Products to include sprinkler cabinets with spare sprinklers & sprinkler wrenches. Deliver to the Owner's maintenance personnel.

**1.02 SUBMITTALS**

- Product data for fire protection system components. Include the following:
  - Backflow preventers.
  - Valves.
  - Specialty valves, accessories & devices.
  - Alarm devices. Include electrical data.
  - Fire department connections. Include type of fire department connection; number, size, type, & arrangement of inlets; size & direction of outlet; finish.
  - Sprinklers, escutcheons & guards. Include sprinkler flow characteristics, mounting, finish & other data.
- Working plans & hydraulic calculations: Sprinkler system drawings prepared according to NFPA 13. Working plans and hydraulic calculations shall be sealed by a professional engineer registered in the respective state of the project. Submit to: Working plans and hydraulic calculations must be submitted to the MEP design engineer for review and approval prior to submittal to authorities having jurisdiction. Once MEP design engineer has approved working plans and hydraulic calculations, submit required number of sets to authority having jurisdiction for review, comment and approval.
- Test reports & certificates as described in NFPA 13. Include "Contractor's Material & Test Certificate for Underground Piping" & "Contractor's Material & Test Certificate for Underground Piping."
- Maintenance data for each type of fire protection specialty specified, for inclusion in Operating & Maintenance Manual.
- Two (2) copies of NFPA 25 "Standard for Inspection, Testing & Maintenance of Water Based Fire Protection Systems." Deliver to Owner's maintenance personnel.

**1.03 QUALITY ASSURANCE**

- Installer's Qualifications: Firms qualified to install & alter fire protection piping, equipment, specialties, accessories, & repair & service equipment. A qualified firm is one that is experienced (minimum of 5 previous projects similar in size & scope to this Project) in such work, familiar with precautions required & in compliance with the requirements of the authority having jurisdiction. Submit evidence of qualifications to the Engineer upon request.
- NFPA Standards: Equipment, specialties, accessories, installation & testing comply with the following:
  - NFPA 13 "Standard for the Installation of Sprinkler Systems."

**1.04 SYSTEM PERFORMANCE REQUIREMENTS**

- Design & obtain approval from authority having jurisdiction for fire protection systems specified.
- Conduct fire hydrant flow tests as required to obtain hydraulic data needed to prepare design for the hydraulically calculated system.
- Hydraulic design sprinkler systems according to NFPA 13. Contractor shall perform necessary calculations required for proper design & installation of the sprinkler system for the entire building. All design, calculations & layout of the sprinkler system network shall be based on the Specifications & accompanying drawings. Any requests for HVAC duct & equipment relocation's shall be submitted to the Engineer two week before the bid opening date. No sprinkler pipe penetration will be allowed through HVAC duct system.
- Design sprinkler system to be looped or gridded type where possible.
- The water flow & pressure available from local water company and/or local authorities.
- Design the entire building as a standard hazard group 2 occupancy, NFPA 13.
- Components & Installation: Capable of reducing piping systems with the following minimum working pressure ratings except where indicated otherwise.
  - Water Systems: 175 psig (1207 kPa).
  - Valves & pipe system shall be performed in the open position per the applicable paragraph on NFPA-13.

**1.05 STANDARD SYSTEM PERFORMANCE REQUIREMENTS**

- Type: Storage: single, double & multiple - row & portable rack storage & solid-piled or palletized storage.
- Maximum Storage Height = 12'-0".
- Maximum Height of Building = 14'-6" to underside of roof deck.
- Roof/Ceiling Slope = 1/4" in 12".
- Roof Construction = Metal building frames & Z-purlins, no automatic roof vents.
- Sprinkler System:
  - Pendant sprinkler heads below ceiling shall be ORDINARY temp. rating and upright heads installed at roof deck shall be INTERMEDIATE temp. rating.
  - Location: Centerline of thermal sensing element maximum of 13 in. & minimum of 4 in. below the ceiling, or from the deflector to the ceiling of a maximum of 14 in. & minimum of 5 in..
  - Hydraulic Design: Most remote sprinklers flowing per design discharge pressure as specified by occupancy data sheets.
  - System type: Wet (no Dry or Preaction).
  - Water Supply = Minimum two hour duration.
  - Clearance Below Sprinkler = Minimum 2'-0".
  - Clearance of Sprinklers to Obstructions: Comply with paragraphs of NFPA 13.

**PART 2 - PRODUCTS**

**2.01 PIPES AND TUBES**

- Refer to Part 3 Article "Sprinkler & Standpipe System Piping Applications" & for identification of systems where pipe & fitting materials specified below are used.
- Ductile-iron Pipe: AWWA C115, ductile-iron barrel with iron-alloy threaded flanges, 250-psi (1725 kPa) minimum working pressure rating & AWWA C104 cement-mortar lining.
  - Option: Pipe may be AWWA pattern, cut-grooved for grooved-coupling joints.
- Steel Pipe: ASTM A 53, Schedule 40, Grades A and B Black and Galvanized Pipe is manufactured for ordinary use in steam, water gas, and air lines. UL listed and FM Approved, sizes 1 inch through 2-1/2 inch nominal, for use in Fire Sprinkler Pipe Applications (150 mm), black & galvanized, plain & threaded ends, for welded, threaded, cut-groove & rolled-groove joints.
- Steel Pipe: ASTM A 135, Schedule 10 3" and larger sizes, with plain ends, black & galvanized, for rolled-groove & welded joints.
- Steel Pipe: ASTM A 135, threadable lightweight, black & galvanized, for threaded joints.
- Steel Pipe: ASTM A 795, black & galvanized, for joints listed & for use with fittings for plain-end steel pipe.
  - Type: Lightweight pipe, Schedule 10, for rolled-groove & welding joints.

**2.02 BACKFLOW PREVENTERS**

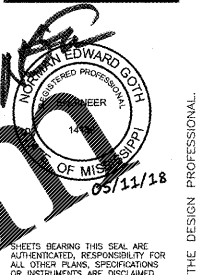
- General: ASSE standard backflow preventers, of size indicated for maximum flow rate indicated & maximum pressure loss indicated.
  - Working Pressure: 150 psig (1035 kPa) minimum except where indicated otherwise.
  - Bronze, cast-iron, steel, or stainless-steel body with flanged ends.
  - Interior Lining: FDA-approved epoxy coating, for backflow preventers having cast-iron or steel body.
  - Interior Components: Corrosion-resistant materials.
- Backflow Prevention Assemblies: ASSE 1015, consisting of shutoff valves on inlet & outlet & strainer on inlet. Include test cocks with 2 positive-seating check valves for continuous pressure application.
  - Pressure Loss: 10 psig maximum, through middle third of flow range.

**2.03 COMMISSIONING SPRINKLER SYSTEMS**

- Starting Procedures: Follow manufacturer's written procedures. If no procedures are prescribed by manufacturer, proceed as follows:
  - Verify that specialty valves, trim, fittings, controls & accessories have been installed correctly & operate correctly.
  - Verify that specified tests of piping are complete.
  - Check that damaged sprinklers & sprinklers with paint or coating not specified have been replaced with new, correct type of sprinklers.
  - Check that sprinklers are correct type, have correct finish & temperature ratings & have guards here required for applications.
  - Check that potable water supplies have correct type of backflow preventer.
  - Check that hose valves & fire department connections have threads compatible with local fire department equipment & have correct pressure rating.
  - Fill wet-pipe sprinkler systems with water.
  - Adjust operating controls & pressure settings.
- Coordinate with fire alarm system tests. Operate systems as required.

**2.04 DEMONSTRATION OF SPRINKLER SYSTEMS**

- Demonstrate equipment, specialties & accessories to the owner's representative. Review operating & maintenance information.



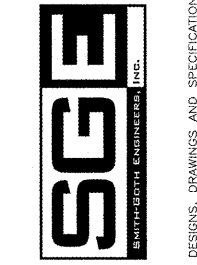
**O'Reilly AUTO PARTS**

CORPORATE OFFICES  
233 SOUTH PATTERSON  
SPRINGFIELD, MISSOURI 65802  
(417) 862-2674 TELEPHONE

**PROJECT:**  
NEW O'REILLY AUTO PARTS STORE  
2730 HIGHWAY 80 EAST  
PEARL, MISSISSIPPI

**FIRE PROTECTION NOTES AND DETAILS**

8655 S. JEFFERSON AVE  
SPRINGFIELD, MO 65807  
P: 417-862-2300  
F: 417-862-1100  
WWW.OREILLY.COM



DRAWN BY: RM  
CHECKED BY: NEG  
DATE: 05/11/18  
REVISION:

PROJECT NUMBER:  
PEA-0994

SHEET NUMBER  
**FP2**

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