

Section 02520

FLUSHING HYDRANTS

PART 1 GENERAL

1.01 SUMMARY

This Section includes:

- A. Flushing hydrants.
- B. Adjustment of flushing hydrants and gate valves.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices.

- 1. Payment is on a unit price basis for each flushing hydrant assembly, including; TEE, 6-inch gate valve and box, hydrant installed regardless of barrel depth, branch, and appurtenances.
- 2. Refer to Section 01270 – “Measurement and Payment” for unit price procedures.

- B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for Work in this Section is included in total Stipulated Price.

1.03 REFERENCES

- A. AWWA C 502 - Dry-Barrel Fire Hydrants
- B. AWWA C 550 - Standard for Protective Epoxy Interior Coatings for Valves and Hydrants
- C. SSPC SP2 - Hand Tool Cleaning
- D. SSPC SP3 - Power Tool Cleaning
- E. SSPC SP10 - Near-White Blast Cleaning
- F. SSPC SP11 - Power Tool Cleaning to Bare Metal
- G. SSPC 36 – Two-Component Weatherable Aliphatic Polyurethane Topcoat, performance based
- H. SSPC 42 – Epoxy Polyamide/Polyamidoamine Primer, performance based

- I. SSPC-Paint 104 - White or Tinted Alkyd Paint
- J. Federal Standard A-A-2962A - Enamel, Alkyd, Solvent Based Low VOC

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 – “Submittal Procedures”.
- B. Submit name of hydrant manufacturer, type of bonnet paint, and engineering control drawing number for hydrant proposed for use.

1.05 RELATED REQUIREMENTS

- A. Section 01270 – “Measurement and Payment”
- B. Section 01330 – “Submittal Procedures”
- C. Section 01576 – “Waste Material Disposal”
- D. Section 02501 – “Ductile Iron Pipe and Fittings”
- E. Section 02502 – “Steel Pipe and Fittings”
- F. Section 02506 – “Polyvinyl Chloride Pipe”
- G. Section 02511 – “Water Lines”

1.06 – 1.13 NOT USED

PART 2 PRODUCTS

2.01 MANUFACTURER(S)

- A. Provide hydrants in conformance with AWWA C 502, Standard for Dry Barrel Fire Hydrants (Latest Edition). The following hydrants are currently approved. Alternate hydrants will not be considered.

<b>MANUFACTURER</b>	<b>MODEL / TRADE NAME</b>	<b>SIZE</b>
U.S. Pipe and Foundry Company	U.S. Pipe and Foundry Co. M-94 Metropolitan A495	5 ¼”
Mueller Company	Mueller Company Super Centurion 250 A423	5 ¼”

American AVK Company	American AVK Company AVK Series 2780 Nostalgic	5 ¼”
East Jordan Iron Works, Inc.	WaterMaster 5CD250	5 ¼”
American Flow Control	American-Darling B84B-5	5 ¼”

2.02 MATERIALS AND/OR EQUIPMENT

A. Hydrants

The Project Manager may, at any time prior to or during installation of hydrants, randomly select furnished hydrant for disassembly and laboratory inspection, at Owner’s expense, to verify compliance with Specifications. When hydrant is found to be non-compliant, replace, at Contractor's expense, hydrants, with hydrants that comply with Specifications.

Provide lower hydrant barrel fabricated from Ductile Iron Pipe as single piece, connected to upper hydrant barrel by means of joint coupling that shall provide three hundred sixty degree (360) rotation of upper barrel.

B. Leads

Branches (Leads): Conform to requirements of Section 02501 – “Ductile Iron Pipe and Fittings”, Section 02502 – “Steel Pipe and Fittings”, and Section 02506 – “Polyvinyl Chloride Pipe”.

C. Hydrant Painting

1. New hydrants and refurbished hydrants shall be shop coated as specified herein.
2. Exterior Above Traffic Flange (Including Bolts & Nuts). Bolts and nuts (both above and below ground) shall conform to AWWA C-502 Section 4.11 and shall be stainless steel, cadmium plated, or zinc coated.
  - a. Surface preparation to be in accordance with SSPC-SP 10 (NACE 2) near white blast cleaned surface.
  - b. Coat with a liquid or powder epoxy primer and two part polyurethane or TGIC polyester top coat system with total dry film thickness (DFT) of not to exceed 20 miles as follows:

- 1) Prime Coat - Liquid or powder epoxy primer with a total dry film thickness (DFT) of 4-6 mils, OR cathodic epoxy electro-coat (e-coat) with a (DFR) 0.5-1.0 mils.
  - 2) Intermediate Coat – Intermediate coat not required.
  - 3) Finish Coat – Two part polyurethane enamel to be in general conformance with SSPC Paint Specification No. 36 or TGIC polyester system, with a total dry film thickness (DFT) 1.5-3.0 mils.
- c. Colors – Prime and Intermediate Coat: Manufacturers standard color. Finish coat of hydrant body: Gloss Black. Connection caps: Gloss Black.
3. Field Maintenance Painting (Exterior Above Traffic Flange)
- a. Surface preparation to be in accordance with SSPC-SP 10 (NACE 2) near white blast cleaned surface.
  - b. When surface is cleaned to bare metal (SSPC-SP I 1), coat hydrant with three coat Alkyd/Silicone Alkyd system in accordance with Paragraph 2.02.C.2.b as for new hydrants. When surface is cleaned to SSPC-SP2 or SSPC-SP3, coat hydrant with Silicone Alkyd Resin Enamel in general conformance with SSPC Paint Specification No. 21. Total dry film thickness of 3-6 mils.
  - c. Colors – Prime and Intermediate Coat: Manufacturers standard color. Finish coat of hydrant body: Gloss Black. Connection caps: Gloss Black.
4. Exterior Below Traffic Flange (including lower barrel extensions)
- a. Surface preparation in accordance with SSPC-SP10 (NACE 2) Near White Blast Cleaned Surface.
  - b. Primer and intermediate coat: coal tar epoxy in general conformance with SSPC Paint Specification No. 16. Apply two (2) coats with dry film thickness (DFT) of 8-10 mils each for total DFT of 16-20 mils.
  - c. Finish coat: Water based vinyl acrylic mastic. Apply one coat with dry film thickness of 6-8 mils. Color of finish coat to be same as finish coat for exterior above traffic flange, i.e., Gloss Black.

5. Interior Surfaces Above and Below Water Line Valve (including lower barrel extensions)
  - a. Material used for internal coating of hydrant interior ferrous surfaces must be NSF certified as suitable for contact with potable water as required by Chapter 290, Rules and Regulations for Public Water Systems, Texas Commission on Environmental Quality
  - b. Coating shall be liquid or powder epoxy system in accordance with AWWA Standard C - 550 (latest revision). Coating may be applied in two or three coats, according to manufacturer's recommendations, for total dry film thickness of 12-18 mils.

2.03 – 2.04 NOT USED

### PART 3 EXECUTION

3.01 – 3.02 NOT USED

#### 3.03 ERECTION/INSTALLATION APPLICATION AND/OR CONSTRUCTION

- A. Set flushing hydrant plumb and brace at locations and grades as shown on Plans. When barrel of hydrant passes through concrete slab, place 1-inch-thick piece of standard sidewalk expansion joint material around section of barrel passing through concrete.
- B. Locate nozzle center line minimum 18 inches above finish grade.
- C. Place 12-inch by 12-inch yellow indicators (plastic, sheet metal, plywood, or other material approved by Project Manager) on pumper nozzles of new or relocated flushing hydrants installed on new water lines not in service. Remove indicators after new water line is tested and approved by Project Manager. After testing, install a 12-inch yellow indicator on pumper nozzle and label "For Flushing Only."
- D. Do not cover drain ports when placing concrete thrust block.
- E. Obtain Project Manager's approval in writing prior to installation of hydrants which require changes in bury depth due to obstructions not shown on Plans. Unit price adjustments will not be allowed for changes in water line flow line or flushing hydrant barrel length caused by obstructions.
- F. Plug branch lines to valves and flushing hydrants shown on Plans to be removed. Deliver flushing hydrants designated for salvage to Owner.
- G. Install branches (leads) in accordance with Section 02511 – "Water Lines".
- H. Coating Requirements:

1. Apply coatings in strict accordance with manufacturer's recommendations. No requirements of this specification shall cancel or supersede written directions and recommendations of specific manufacturer so as to jeopardize integrity of applied system.
  2. Furnish affidavit of compliance that coatings furnished complies with requirements of this specification and referenced standards, as applicable.
- I. Remove and dispose of unsuitable materials and debris in accordance with requirements of Section 01576 – “Waste Material Disposal”.

3.04 – 3.10 NOT USED

END OF SECTION