

Solicitation BLD2128387B1

Fire Hydrant Maintenance and Repair Services

Bid Designation: Public



Broward County Board of County Commissioners

Bid BLD2128387B1

Fire Hydrant Maintenance and Repair Services

Bid Number BLD2128387B1
Bid Title Fire Hydrant Maintenance and Repair Services

Bid Start Date May 31, 2024 2:01:39 PM EDT
Bid End Date Jun 12, 2024 2:00:00 PM EDT
Question & Answer End Date Jun 7, 2024 5:00:00 PM EDT

Bid Contact Mary Moss
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Contract Duration 1 year
Contract Renewal 4 annual renewals
Prices Good for 120 days

Bid Comments Scope of Work: Scope includes, but is not limited to, the furnishing of all labor, materials, equipment, services, and incidentals for the Fire Hydrant Maintenance and Repair Services.

Goal Participation: This solicitation is open to the general marketplace. Refer to Office of Economic and Small Business Development Procurement Preferences for Broward County Small Business Enterprises and County Business Enterprises section for additional information.

Basis of Award: It is the intent to award this contract to the low responsive, responsible bidder per group. A bidder must bid on all line items within a Group to be considered for award; otherwise, the bid will be construed as incomplete and may be rejected. A bidder may bid on any one Group; however, bidder must bid on the entire Group (all line items within the Group). Per Paragraph 7 of the General Terms and Conditions, the County reserves the right to award as deemed in its best interest.

The **Living Wage Ordinance** applies to this solicitation and the resultant contract. Refer to **Living Wage Ordinance Requirements** section for additional information.

Additional Offer Field: Line items include an offer field for "Percentage of Price Attributed to Labor Portion of Service". Vendor is instructed to provide the percentage of the price that is attributed to the labor portion of this service line.

Bid Allowance Amounts: This solicitation includes pass-thru allowances. It is not necessary to add your allowance amounts into your bid prices. Periscope S2G will automatically add the allowance amounts indicated to your bid total and will be reflected on the final bid tabulation.

County/State License Requirements: In order to be considered a responsive and responsible Vendor for the scope of work set forth in this solicitation, the Vendor must possess a specified license at the time of submittal (refer to Special Instructions for requirements).

Ownership Disclosure: Broward County is collecting entity ownership information for Vendors. This is for informational purposes only and the data will be used for Broward County's research on possible contracting opportunity disparities. The forms will be maintained separately from all other records of this solicitation and will be accessible only by authorized personnel. The information provided will not be used in determining whether the Vendor will receive a contract award. **In accordance with Section 287.05701, Florida Statutes, the County may not request documentation or consider a vendor's social, political, or ideological interests when determining if the vendor is a responsible vendor or give preference to a vendor based on the vendor's social, political, or ideological interests.**

Submit the form only through the link provided below. Do not submit the form as part of Vendor's response in Periscope S2G.

Link for form submittal: Ownership Disclosure Form

Questions and Answers: The County provides a specified time for Vendors to ask questions and seek clarification regarding the requirements of the solicitation. All questions or clarification inquiries must be submitted through Periscope S2G by the date and time referenced in the solicitation document (including any addenda). The County will respond to all questions via Periscope S2G.
Submittals: Vendor MUST submit its solicitation response electronically and MUST confirm its submittal in order for the County to receive a valid response through Periscope S2G, Supplier-to-Government. Refer to the Purchasing Division website or contact Periscope S2G, Supplier-to- Government for submittal instructions. It is the Vendor's sole responsibility to ensure its response is submitted and received through Periscope S2G, Supplier-to-Government by the date and time specified in the solicitation. The County will not consider solicitation responses received by other means. **Vendors are encouraged to submit their responses in advance of the due date and time specified in the solicitation document. In the event that the Vendor is having difficulty submitting the solicitation document through Periscope S2G, Supplier-to-Government, immediately notify the Purchasing Agent and then contact Periscope S2G, Supplier-to-Government for technical assistance.**

**Added on Jun 4, 2024:
Addendum No. 1**

1. Added document titled, General Conditions - Quotation Requests and Bids.

Addendum # 1



Item Response Form

Item	BLD2128387B1-01-01 - Group 1: Testing, Inspection and Preventative Maintenance: Fire Hydrant Preventative Maintenance Inspection (Paint Included)
Lot Description	Group 1: Testing, Inspection and Preventative Maintenance
Quantity	3000 each
Unit Price	
Percentage of Price Attributed to Labor Portion of Service	
Delivery Location	Broward County Board of County Commissioners
	<u>Refer to Specifications and Requirements</u>
	N/A
	N/A FL 33301
	Qty 3000

Description

Pricing shall be for each fire hydrant preventative maintenance inspection (paint included). Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-01-02 - Group 1: Testing, Inspection and Preventative Maintenance: Furnish and Install Oil plug
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Lot Description	Group 1: Testing, Inspection and Preventative Maintenance
Quantity	10 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners Refer to Specifications and Requirements N/A N/A FL 33301 Qty 10

Description

Pricing shall be for each furnishing and installation of a oil plug. Refer to the Specifications and Requirements for additional information. Paid separately from Preventative Maintenance Inspection.

Item	BLD2128387B1-01-03 - Group 1: Testing, Inspection and Preventative Maintenance: Furnish and Install Hydrant ID Tag
Lot Description	Group 1: Testing, Inspection and Preventative Maintenance
Quantity	500 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners Refer to Specifications and Requirements N/A N/A FL 33301 Qty 500

Description

Pricing shall be for each furnishing and installation of a hydrant ID tag. Refer to the Specifications and Requirements for additional information. Paid separately from Preventative Maintenance Inspection.

Item	BLD2128387B1-01-04 - Group 1: Testing, Inspection and Preventative Maintenance: Furnish and Install Retro-Reflective Pavement Markers
Lot Description	Group 1: Testing, Inspection and Preventative Maintenance
Quantity	1000 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners Refer to Specifications and Requirements N/A N/A FL 33301 Qty 1000

Description

Pricing shall be for each furnishing and installation of retro-reflective pavement markers. Refer to the Specifications and Requirements for additional information. Paid separately from Preventative Maintenance Inspection.

Item	BLD2128387B1-02-01 - Group 2: Repairs or Replacements: Furnish and Install New Upper Barrel
Lot Description	Group 2: Repairs or Replacements
Quantity	2 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A N/A FL 33301 Qty 2

Description

Pricing shall be for each furnishing and installation of a new upper barrel. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-02 - Group 2: Repairs or Replacements: Upper/Lower Barrel Repair
Lot Description	Group 2: Repairs or Replacements
Quantity	5 hour
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A N/A FL 33301 Qty 5

Description

Pricing shall be for each hour of upper/lower barrel repair. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-03 - Group 2: Repairs or Replacements: Furnish and Install Breakable Coupling
Lot Description	Group 2: Repairs or Replacements
Quantity	10 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A

N/A FL 33301

Qty 10**Description**

Pricing shall be for each furnishing and installation of a breakable coupling. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-04 - Group 2: Repairs or Replacements: Furnish and Install Extension/Riser 6 inch
Lot Description	Group 2: Repairs or Replacements
Quantity	10 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners Refer to Specifications and Requirements N/A N/A FL 33301 Qty 10

Description

Pricing shall be for each furnishing and installation of a extension/riser 6 inch. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-05 - Group 2: Repairs or Replacements: Furnish and Install Extension/Riser 12 inch
Lot Description	Group 2: Repairs or Replacements
Quantity	5 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners Refer to Specifications and Requirements N/A N/A FL 33301 Qty 5

Description

Pricing shall be for each furnishing and installation of a extension/riser 12 inch. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-06 - Group 2: Repairs or Replacements: Furnish and Install Extension/Riser 18 inch
Lot Description	Group 2: Repairs or Replacements
Quantity	2 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County

CommissionersRefer to Specifications and Requirements

N/A

N/A FL 33301

Qty 2**Description**

Pricing shall be for each furnishing and installation of a extension/riser 18 inch. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-07 - Group 2: Repairs or Replacements: Furnish and Install Extension/Riser 24 inch
Lot Description	Group 2: Repairs or Replacements
Quantity	1 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners
	<u>Refer to Specifications and Requirements</u>
	N/A
	N/A FL 33301
	Qty 1

Description

Pricing shall be for each furnishing and installation of a extension/riser 24 inch. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-08 - Group 2: Repairs or Replacements: Furnish and Install Valve box
Lot Description	Group 2: Repairs or Replacements
Quantity	25 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners
	<u>Refer to Specifications and Requirements</u>
	N/A
	N/A FL 33301
	Qty 25

Description

Pricing shall be for each furnishing and installation of a valve box. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-09 - Group 2: Repairs or Replacements: Raise/lower Valve Box
Lot Description	Group 2: Repairs or Replacements
Quantity	10 each
Unit Price	
Percentage of Price Attributed to Labor	

Portion of Service

Delivery Location

**Broward County Board of County
Commissioners**Refer to Specifications and Requirements

N/A

N/A FL 33301

Qty 10**Description**

Pricing shall be for each raise/lower valve box. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1--02-10 - Group 2: Repairs or Replacements: Furnish and Install Fire Hydrant and Isolation Valve (Shut Down Required)
Lot Description	Group 2: Repairs or Replacements
Quantity	20 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners
	<u>Refer to Specifications and Requirements</u>
	N/A
	N/A FL 33301
	Qty 20

Description

Pricing shall be for each furnishing and installation of a fire hydrant and isolation valve (Shut Down Required). Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1--02-11 - Group 2: Repairs or Replacements: Furnish and Install Fire Hydrant Only
Lot Description	Group 2: Repairs or Replacements
Quantity	15 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners
	<u>Refer to Specifications and Requirements</u>
	N/A
	N/A FL 33301
	Qty 15

Description

Pricing shall be for each furnishing and installation of a fire hydrant only. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1--02-12 - Group 2: Repairs or Replacements: Furnish and Install Fire Hydrant and Isolation Valve (Wet Tap)
Lot Description	Group 2: Repairs or Replacements

Quantity **5 each**

Unit Price

Percentage of Price
Attributed to Labor

Portion of Service

Delivery Location **Broward County Board of County
Commissioners**
Refer to Specifications and Requirements
N/A
N/A FL 33301
Qty 5

Description

Pricing shall be for each furnishing and installation of a fire hydrant and isolation valve (Wet Tap). Refer to the Specifications and Requirements for additional information.

Item **BLD2128387B1-02-13 - Group 2: Repairs or Replacements: Furnish and Install New "Cut-In" Fire Hydrant and Isolation Valve**

Lot Description **Group 2: Repairs or Replacements**

Quantity **5 each**

Unit Price

Percentage of Price
Attributed to Labor

Portion of Service

Delivery Location **Broward County Board of County
Commissioners**
Refer to Specifications and Requirements
N/A
N/A FL 33301
Qty 5

Description

Pricing shall be for each furnishing and installation of a new "cut-in" fire hydrant and isolation valve. Refer to the Specifications and Requirements for additional information.

Item **BLD2128387B1-02-14 - Group 2: Repairs or Replacements: Furnish and Install 6 inch Gate Valve (Dry)**

Lot Description **Group 2: Repairs or Replacements**

Quantity **2 each**

Unit Price

Percentage of Price
Attributed to Labor

Portion of Service

Delivery Location **Broward County Board of County
Commissioners**
Refer to Specifications and Requirements
N/A
N/A FL 33301
Qty 2

Description

Pricing shall be for each furnishing and installation of a 6 inch gate valve (dry). Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-15 - Group 2: Repairs or Replacements: Furnish and Install 6 Inch Gate Valve (Wet)- Double line stop method
Lot Description	Group 2: Repairs or Replacements
Quantity	1 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A N/A FL 33301 Qty 1

Description

Pricing shall be for each furnishing and installation of a 6 inch gate valve (wet) - double line stop method. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-16 - Group 2: Repairs or Replacements: Furnish and Install 6 inch Check Valve
Lot Description	Group 2: Repairs or Replacements
Quantity	2 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A N/A FL 33301 Qty 2

Description

Pricing shall be for each furnishing and installation of a 6 inch check valve. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-17 - Group 2: Repairs or Replacements: Off-Duty Law Enforcement Officer
Lot Description	Group 2: Repairs or Replacements
Quantity	2 hour
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A

N/A FL 33301

Qty 2**Description**

Pricing shall be for each hour of off-duty law enforcement officer. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-18 - Group 2: Repairs or Replacements: Flag Person
Lot Description	Group 2: Repairs or Replacements
Quantity	5 hour
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners Refer to Specifications and Requirements N/A N/A FL 33301 Qty 5

Description

Pricing shall be for each hour of flag person service. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-19 - Group 2: Repairs or Replacements: Work Zone Signs
Lot Description	Group 2: Repairs or Replacements
Quantity	100 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners Refer to Specifications and Requirements N/A N/A FL 33301 Qty 100

Description

Pricing shall be for each work zone signs. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-20 - Group 2: Repairs or Replacements: Plastic Water-Filled Barrier Wall (Temporary) 42 inch High, 12 feet long
Lot Description	Group 2: Repairs or Replacements
Quantity	2 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners

Refer to Specifications and Requirements

N/A

N/A FL 33301

Qty 2**Description**

Pricing shall be for each plastic water-filled barrier wall (Temporary) 42 inch high, 12 feet long. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-21 - Group 2: Repairs or Replacements: Barricades Type I, II, III, Drums
Lot Description	Group 2: Repairs or Replacements
Quantity	300 day
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners
	<u>Refer to Specifications and Requirements</u>
	N/A
	N/A FL 33301
	Qty 300

Description

Pricing shall be for each day of barricades type I, II, III, drums. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-22 - Group 2: Repairs or Replacements: Advance Warning Arrow
Lot Description	Group 2: Repairs or Replacements
Quantity	10 day
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners
	<u>Refer to Specifications and Requirements</u>
	N/A
	N/A FL 33301
	Qty 10

Description

Pricing shall be for each day of advance warning arrow. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-23 - Group 2: Repairs or Replacements: Emergency Call-Out Mobilization
Lot Description	Group 2: Repairs or Replacements
Quantity	3 each
Unit Price	
Percentage of Price Attributed to Labor	
Portion of Service	
Delivery Location	

**Broward County Board of County
Commissioners**Refer to Specifications and Requirements

N/A

N/A FL 33301

Qty 3**Description**

Pricing shall be for each emergency call-out mobilization. Refer to the Specifications and Requirements for additional information.

Item BLD2128387B1-02-24 - Group 2: Repairs or Replacements: Furnish and Install Bollard**Lot Description Group 2: Repairs or Replacements****Quantity 50 each**

Unit Price

Percentage of Price

Attributed to Labor

Portion of Service

**Delivery Location Broward County Board of County
Commissioners**Refer to Specifications and Requirements

N/A

N/A FL 33301

Qty 50**Description**

Pricing shall be for each furnishing and installation of a bollard. Refer to the Specifications and Requirements for additional information.

Item BLD2128387B1-02-25 - Group 2: Repairs or Replacements: Furnish and Install Concrete Pad/Valve Collar**Lot Description Group 2: Repairs or Replacements****Quantity 40 each**

Unit Price

Percentage of Price

Attributed to Labor

Portion of Service

**Delivery Location Broward County Board of County
Commissioners**Refer to Specifications and Requirements

N/A

N/A FL 33301

Qty 40**Description**

Pricing shall be for each furnishing and installation of a concrete pad/valve collar. Refer to the Specifications and Requirements for additional information.

Item BLD2128387B1-02-26 - Group 2: Repairs or Replacements: 2 Inch Depth Asphalt Restoration With Cold Patch**Lot Description Group 2: Repairs or Replacements****Quantity 50 square yard**

Unit Price

Percentage of Price

Attributed to Labor
Portion of Service

Delivery Location **Broward County Board of County
Commissioners**
Refer to Specifications and Requirements
N/A
N/A FL 33301
Qty 50

Description

Pricing shall be for each square yard of 2 inch depth asphalt restoration with cold patch. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-27 - Group 2: Repairs or Replacements: Furnish and Install Sod
Lot Description	Group 2: Repairs or Replacements
Quantity	500 square foot
Unit Price	
Percentage of Price	
Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A N/A FL 33301 Qty 500

Description

Pricing shall be for each square foot of furnishing and installation of Sod. Refer to the Specifications and Requirements for additional information.

Item	BLD2128387B1-02-28 - Group 2: Repairs or Replacements: Furnish and Install 6 inch Thick Concrete Sidewalk
Lot Description	Group 2: Repairs or Replacements
Quantity	20 square yard
Unit Price	
Percentage of Price	
Attributed to Labor	
Portion of Service	
Delivery Location	Broward County Board of County Commissioners <u>Refer to Specifications and Requirements</u> N/A N/A FL 33301 Qty 20

Description

Pricing shall be for each square yard of furnishing and installation of a 6 inch thick concrete sidewalk (typical). Refer to the Specifications and Requirements for additional information.

SPECIFICATIONS AND REQUIREMENTS

Fire Hydrant Maintenance and Repair Services

1. SCOPE

- 1.1 The work to be performed under the Contract shall consist of furnishing and installing all tools, equipment, materials, supplies, and manufactured articles and furnishing all labor, transportation and services, including fuel, power, water, and essential communications, and performing all work, or other operations required for the performance of Fire Hydrant Inspection Maintenance, Installation, Repair and Replacement Services, as necessary to complete the various items of the work, all in accordance with requirements of the Contract Documents.
- 1.2 Contractor shall follow the requirements of Broward County Water and Wastewater Services (WWS) "Minimum Design and Construction Standards" including all appurtenances thereto and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA).
- 1.3 Broward County (County) has approximately 7,000 fire hydrants in its system and there are currently several different makes/models of hydrants covered under the contract, including manufacturers American, AVK, Clow Valve Co., Kennedy Valve, M&H Valve Company, Mueller Co., and US Pipe. CONTRACTOR is expected to perform inspection and maintenance on approximately 3,000 fire hydrants annually.
- 1.4 The County will determine maintenance schedule and locations to be inspected or repaired/replaced by CONTRACTOR. CONTRACTOR shall notify Broward County Water and Wastewater Services Operations Division prior to taking any fire hydrant out of service.

2. DEFINITIONS

- 2.1. ATV (Anti-Terrorism Valve): Internal check valve installed in the upper barrel to protect from intentional or inadvertent contamination of water lines through the fire hydrant. ATV acts as a barrier that prevents foreign objects: i.e., biological, radiological, or chemical agents, from being introduced into a water distribution system.
- 2.2. Auxiliary Valve: A gate valve or other type of valve that is installed in the pipe to the water main (that is, the hydrant lead). The auxiliary valve can be closed to isolate the hydrant. It is also called the hydrant gate or hydrant control valve.
- 2.3. Base: A part that provides a lateral connection to the hydrant lead and directs the flow vertically upward into the lower barrel. Also called shoe, bottom, boot, or elbow.
- 2.4. Bonnet: A part that attaches to the top of the nozzle section and encloses the support portions of the operating mechanism. It may be integral with the nozzle section. Also called hydrant cap or cover.
- 2.5. Breakable barrel coupling: A coupling used to fasten the upper barrel to the lower barrel. It is designed to break if stressed severely, such as vehicle striking the hydrant. Also called frangible standpipe coupling.
- 2.6. Breakable bolt: Bolts used to fasten the upper barrel to the lower barrel. Breakable bolts are designed to break if stressed severely, such as a vehicle striking the hydrant. Also called frangible bolt.

- 2.7. Breakable flange: A part that bolts to a mating flange at a joint between the hydrant upper and lower barrels, which is located immediately above the ground line. It is designed to break if stressed severely, such as a vehicle striking the hydrant. Also called breakaway flange or traffic flange.
- 2.8. Bury: The nominal vertical distance between the ground line and the bottom of the pipe connected to the hydrant inlet, measured to the nearest 6-inches (15.2-centimeter) increment.
- 2.9. Cover: The nominal vertical distance between the ground line and the top of the pipe connected to the hydrant inlet, measured to the nearest 6-inches (15.2-centimeter) increment. (Use of this measurement is discouraged in favor of bury.)
- 2.10. Direction to Open: The direction in which the operating nut is rotated to open the hydrant: open left is counterclockwise when viewed from above, while open right is clockwise.
- 2.11. Drain Valve: A valve located at or adjacent to the valve seat ring. The drain valve opens automatically when the main valve is closed; this allows water to drain from the barrel into the ground. In like fashion, the drain valve closes automatically when the main valve is opened. The mechanism is usually designed so that, when the main valve is opened, the drain valve closes completely after only one to five turns of the operating nut.
- 2.12. Drain outlet: The opening in the base (or adjacent part of the base) through which water escapes to the ground when the drain valve is open. Also called drain bushing, drip tubing, drain-hole liner, drain cup.
- 2.13. FDOT: Florida Department of Transportation.
- 2.14. Frangible stem coupling: A stem coupling designed to break if it is stressed severely, such as a vehicle striking the hydrant. Also called breakable coupling, frangible valve-rod coupling.
- 2.15. Gland bushing: A part that is used to line a gland.
- 2.16. Ground line: The nominal elevation to which the hydrant barrel is buried during installation.
- 2.17. Gate: A part that supports the main valve. It is moved, first horizontally and then vertically, to open or close the main valve opening in a slide-gate hydrant. Also called main gate.
- 2.18. Hose Connection: An outlet to which a 3-inch (7.6-centimeter) or smaller hose can be connected.
- 2.19. Hose outlet nozzle: An outlet nozzle that has an opening that is 3-inches (7.6-centimeter) or smaller in diameter and is suitable for attachment of a 3-inches. (7.6-centimeter) or smaller fire hose.
- 2.20. Hydrant gate: See auxiliary valve.
- 2.21. Hydrant lead: The pipe connecting the hydrant to the water main. The hydrant lead is also called the branch or lateral.
- 2.22. Hydrant meters: Portable flowmeters that can be attached to a hose nozzle to measure the flow rate or the total flow over a period of time.
- 2.23. Lower barrel: A part that extends from the base to the ground line, enclosing the stem. The lower barrel conducts water from the base to the upper portion of the hydrant. Also called standpipe.

- 2.24. Lower valve plate: A part that is positioned below the main valve and clamps the main valve against the upper valve plate. Also called lower valve washer, valve-ball bottom, lower cap nut, bottom plate.
- 2.25. Main valve: A part made of rubber, leather, balata gum, or a similar resilient material; the main valve is forced against a seat to form a watertight seal when the hydrant is closed. Also called valve, valve rubber, valve-ball rubber, valve seat, value gasket, valve disc.
- 2.26. Main valve opening: The inside diameter of the valve seat ring. Also referred to as the valve opening. NFPA: National Fire Protection Association.
- 2.27. No-drain hydrant: A dry barrel hydrant that is not equipped with a drain valve, or one in which the drain outlets have been plugged. Such hydrants are generally used where the groundwater level may be above the level of the drain outlets to protect against water freezing. No-drain hydrants must be pumped out or otherwise emptied of water after each use.
- 2.28. Nozzle section: A part that extends upward from the barrel and contains the outlet nozzles. It may be integral with the upper barrel.
- 2.29. Outlet nozzle: The outlet nozzle is secured in the nozzle section and has an opening through which water can be discharged. The outlet nozzle is threaded or otherwise formed to permit attachment of a fire- hose connection. Also called nozzle, spud.
- 2.30. Outlet-nozzle cap: A cap that is attached to an outlet nozzle and covers the nozzle opening. The cap is furnished with a nut or other means to permit the application of force adequate to firmly attach it to or remove it from the outlet nozzle.
- 2.31. Operating nut: An external hydrant part that is turned by a hydrant wrench to rotate the stem nut or stem; it may be integral with the stem nut or stem.
- 2.32. Packing gland: A part that compresses packing rings in a stuffing box. Also called packing pusher.
- 2.33. Packing plate: A part that partitions the interior of the hydrant and contains or supports a stuffing box or other means of sealing one compartment from another. Also called seal plate, support ring.
- 2.34. PHR: Potable Hydrant Retail.
- 2.35. Pipe connection: The inlet of the hydrant at which connection is made to the hydrant lead.
- 2.36. Pumper connection: An outlet to which a hose 3 ½ inches (8.9 centimeter) or larger can be connected.
- 2.37. Pumper outlet nozzle: An outlet nozzle with an opening at least 3 ½ inches (8.9 centimeter) in diameter, suitable for attachment of 3 ½ inches (8.9-centimeter) or larger fire hose. Also called steamer nozzle, steamer connection, pumper nozzle, or pumper connection.
- 2.38. Seat-ring insert: A part with internal threads that is secured and sealed to the hydrant base. The internal threads engage with the external threads on the valve seat-ring. The seat-ring insert may also serve as a part of the drain system. Also called drain ring, retainer ring, subseat, insert ring.

- 2.39. Stem: A part of the operating mechanism that extends down to the main-valve assembly and moves the main valve to close or open the hydrant. The stem is often in two parts, particularly in a traffic model: the upper stem and the lower stem. Also called upper rod or lower rod.
- 2.40. Stem coupling: A part that joins the portions of a two-part stem. Also called rod coupling.
- 2.41. Stem nut: A part that is internally threaded and engages with threads on the stem so that when the part is rotated, or when the stem is rotated and the stem nut is stationary, the stem is raised or lowered to move the valve. Also called operating nut, operating stem nut, or revolving nut.
- 2.42. Stop nut: A part that is permanently threaded or otherwise attached to the stem and limits the vertical travel of the stem. Also called stem stop or travel-stop nut.
- 2.43. Stuffing box: A cylindrical cavity that surrounds the stem and contains a number of packing rings used to prevent leakage along the stem. The stuffing box may be an individual component or a portion of another component, also called packing box.
- 2.44. Traffic model: A hydrant designed and constructed so that, if it is struck by a vehicle, certain easily replaceable components will break and allow the upper portion (above the ground line) to become detached from the lower portion (below the ground line). The below ground section will remain intact and undamaged. They are designed so that the main valve remains closed after impact to prevent interruption of the water supply and minimize injury to persons and property.
- 2.45. Upper barrel repair: A part that extends from the lower barrel at the ground line to the nozzle section, enclosing the stem. It may be integral with the nozzle section. Also called upper standpipe. (When the upper barrel is an integral part of the nozzle section, then, the term nozzle section would incorporate the term upper barrel.)
- 2.46. Upper valve plate: A support for the main valve, positioned above the valve. The upper valve plate may also serve as the portion of the drain valve that is moved when the stem rotates. It may also serve as the means to prevent rotation of the valve, stem, and associated parts. Also called top plate, upper valve washer, value-ball top, valve top plate, value plate, and hydrant-valve top.
- 2.47. Valve seat ring: A part threaded into and sealed to the hydrant base (or associated part adjacent to the base). The main valve is forced against the valve seat ring to close the hydrant. Also called seat ring or valve seat.
- 2.48. Weather shield: A part that forms a skirt above and surrounding the opening in the hydrant top through which the stem, stem nut, or operating nut protrudes. It may be integral with the operating nut. Also called weather cap.

3. WWS CONTRACT SPECIFIC REQUIREMENTS

The contractor shall be fully qualified and experienced to perform the work included in this contract. The contractor shall hold all other necessary qualifications, certifications, training, etc. that may be required to complete this work, use of equipment as recommended by equipment manufacturers and suppliers.

Bidders shall have a minimum of three (3) years' experience installing, replacing, or repairing water and sewer distribution and collection systems and all other appurtenances related to these systems such as fire hydrants and valves. The contractor shall be fully qualified and experienced to perform the work included in this contract.

4. MEASURE OF PERFORMANCE

- 4.1. CONTRACTOR'S performance will be evaluated based on factors that include, but are not limited to:
- 4.1.1. Adhering to the work order issued by the Project Coordinator or designee.
 - 4.1.2. Accurately recording and reporting the work performed.
 - 4.1.3. Accurately reporting all problems discovered while performing the work.
 - 4.1.4. Maintaining strict control of the work procedure and maintaining a level of professionalism.
 - 4.1.5. Submitting to Project Coordinator or designee all Daily Service Reports within 24 hours.
 - 4.1.6. Maintaining a clean and tidy appearance.
 - 4.1.7. Being courteous and respectful to all customers.
 - 4.1.8. CONTRACTOR'S vehicle must be clearly marked with the Company's name on the outside of both doors.
- 4.2 The County reserves the right to scrutinize, and reject as unsuitable, any employee of CONTRACTOR for just cause. Just cause will be determined at the moment of the occurrence.

5. CONTRACTOR RESPONSIBILITIES

- 5.1. CONTRACTOR must complete a Fire Hydrant Maintenance Inspection Report (Attachment A-1), and it must be compiled in electronic format using Excel and must be provided by email to Project Coordinator or designee.
- 5.2. CONTRACTOR shall have the capability to take Global Position System (GPS) Coordinates. The term "coordinate" or "coordinates" mean northing and easting values in the Florida East Zone/ NAD 83-90 HARN Feet State Plane Coordinate System.
- 5.3. CONTRACTOR shall not start work on any project until specifically authorized by the Project Coordinator or written designee.
- 5.4. CONTRACTOR must follow the Broward County Water and Wastewater Services Minimum Design and Construction Standards included but not limited to standard details and product specifications at:
<https://www.broward.org/WaterServices/Engineering/Pages/MinimumDesignandConstructionStandards.aspx>
- 5.5. CONTRACTOR will investigate the job and determine the requirements to complete the job. CONTRACTOR will advise Project Coordinator of requirements to complete the job within 24 hours.
- 5.6. CONTRACTOR shall keep the Project Coordinator informed at all time periods of work on a project ordered under these items.
- 5.7. CONTRACTOR is to resolve any complaint as a result of its work within two calendar days after request.
- 5.8. All lubrication must be accomplished by using US Food and Drug Administration (FDA) food grade grease/oil. Lubricant material will be provided by CONTRACTOR at no additional cost to the County.

- 5.9. The Daily Service Report (Attachment A-2) must be signed and submitted to Project Coordinator via email when work is completed. Failure to have the report signed may result in CONTRACTOR not being paid for the service.

6. FIRE HYDRANT PREVENTATIVE MAINTENANCE INSPECTION

- 6.1. Preventative Inspection Maintenance shall be performed on each fire hydrant as per the latest manufacturer's recommendations.
- 6.2. Isolation Valves will be exercised manually a minimum of two full cycles (Exercise is defined as a full cycle, from open to shut to open again). All valves will be exercised with the minimum torque required to minimize the possibility of damaging the valve.
- 6.3. If the oil plug is missing, CONTRACTOR is responsible for replacing the oil plug, including but not limited to, hydrant oil, bolts, screws, re-thread plug hole.
- 6.4. CONTRACTOR will immediately notify the County of any valves found closed or broken, or if any unsafe conditions are observed.

7. GPS READINGS

- 7.1. Provide sub-foot GPS accuracy to the precision of the nearest tenth of a foot using the horizontal datum NAD83 HARN State Plane Florida East Zone 0901, US feet.
- 7.2. All coordinates shall be in state plane format (x/y), not in lat/long.
- 7.3. Provide vertical accuracy to the 0.10-foot using the vertical datum NAVD88 (US Feet).
- 7.4. CONTRACTOR shall stand behind the hydrant facing the direction of the hydrant valve when collecting coordinates on the hydrant itself.

8. FIRE HYDRANTS REPAIRS

- 8.1. Most Broward County hydrants have anti-terrorist valves (ATV) installed. CONTRACTOR must work around the ATV and ensure the ATV is reinstalled correctly.
- 8.2. All existing bollards must be reset and the work to be included in the bid price for fire hydrant repair or replacement.
- 8.3. Broward County will provide escort services for fire hydrants located inside a high security facility.

9. FIRE HYDRANT REPLACEMENT/INSTALLATION

- 9.1. CONTRACTOR must submit a Request for Service (Attachment A-3) to Broward County Water and Wastewater Services to shut down water mains. The County will tag all houses affected by the shutdown two business days prior to the shutdown.
- 9.2. When installing a new hydrant to an existing water system, CONTRACTOR may use various means of installation such as a wet tap or cutting in a tee as permitted by the Broward County's Water and Wastewater Services Minimum Design and Construction Standards.
- 9.3. All existing bollards must be reset straight, and the related work for this task is to be included in the bid price for fire hydrant replacement/installation.

- 9.4. Care is to be taken to prevent any contaminants from entering the main line. Fire hydrant must be flushed and cleaned of any contaminations before connection to main line. All exposed or possible contaminated water lines are to be disinfected, flushed, and pass the chlorine residual test. A sample will be drawn by Broward County for bacteriological testing after completion of work as per procedure in American Water Works Association (AWWA) Standards C651-86, Section 9, or latest revision. BROWARD COUNTY SHALL BE RESPONSIBLE FOR FLUSHING AND RESAMPLING UNTIL NEGATIVE RESULTS ARE OBTAINED.
- 9.5. Broward County will provide escort services if a fire hydrant is located inside a high security facility.

10. REFLECTIVE PAVEMENT MARKERS AND HYDRANT ID TAGS

Approval from the Project Coordinator is required prior to the usage of those line items.

11. QUALIFICATIONS

- 11.1. Prospective bidders must be able to prove that they are qualified and capable to fulfill and abide by the requirements listed.
- 11.2. Broward County reserves and shall be free to exercise the right to evaluate this bid in relation to the performance record of the bidder with the County itself, another municipal corporation of like size, or private corporations during the past three years. Such precautions are deemed to be in the public interest inasmuch as CONTRACTOR failure or inability to furnish items/services within the prescribed time can create emergency situations and impose unnecessary hardship on both the County as a municipal corporation and the public at large.
- 11.3. Broward County will determine whether the evidence of ability to perform is satisfactory and will make awards only when such evidence is deemed satisfactory and reserves the right to reject bids where evidence submitted, or investigation and evaluation indicates inability of the bidder to perform.
- 11.4. CONTRACTOR shall provide technicians that are trained in maintaining, installing, and repairing hydrants.
- 11.5. Technicians must have the ability to perform preventive maintenance inspection and repairs on fire hydrants from different manufacturers. This includes maintenance and repairs of upper barrel, lower barrel, replacing internal parts in the bonnet area. Performing fire flow and pressure tests, take accurate GPS readings and exercise isolation valves.
- 11.6. CONTRACTOR shall at his or her own expense, wherever necessary or required, furnish safety devices, and take such other precautions as may be necessary to protect life and property.
- 11.7. Technicians working on hydrants with anti-terrorist valves (ATVs) must receive anti-terrorist valves training from Davidson Technologies. For more information on ATVs contact Davidson Technologies at (256) 922-0720. Proof of training completion shall be provided to the Contract Administrator prior to commencement of any work on hydrants with anti-terrorist valves (AT NO ADDITIONAL COST TO THE COUNTY).
- 11.8. Prior to the award, County personnel from Water and Wastewater Services may require CONTRACTOR'S personnel to do a practical demonstration of verbal communication and mechanical skills. CONTRACTOR'S bid may be rejected if its personnel cannot successfully demonstrate its abilities.

- 11.9. CONTRACTOR must supply service personnel with personal protection equipment as per OSHA requirements.
- 11.10. CONTRACTOR will keep a record of all training of each employee. The record shall show, at a minimum, the employee's name, date of employment, date, and type of training for each class attended. A transcript of the training records will be made available to the County within 10 days of request.

12. APPLICABLE LAWS AND STANDARDS

- 12.1. CONTRACTOR shall provide the specified service requirements in accordance with all federal, state, and local applicable laws, standards, codes, and regulations necessary to perform the services, including, but not limited to:
 - 12.1.1. Broward County Water and Wastewater Services Minimum Design and Construction Standards
 - 12.1.2. American National Standards Institute (ANSI)/AWWA Standard 502 (latest edition)
 - 12.1.3. American Water Works Association M17 Manual, "Installation, Field Testing, and Maintenance of Fire Hydrants" (latest edition: Fifth Edition)
 - 12.1.4. National Fire Protection Association (NFPA)
- 12.2. CONTRACTOR is responsible for adhering to the Florida Statutes, Chapter 556, "UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT" or most current version.
- 12.3. CONTRACTOR will be responsible for achieving clearances or locations of underground utilities.

13. WORK IN PUBLIC RIGHT OF WAY (ROW)

CONTRACTOR is solely responsible for processing, obtaining, and closing out permits from Florida Department of Transportation (FDOT) and Broward County Public Works and Transportation Department when temporary use of the right of way is required. A "General use permit" from Florida Department of Transportation (FDOT) or Broward County Highway Construction and Engineering Division shall be required when work is being performed within Broward County right-of-way regardless of whether a permit is required.

14. TRAFFIC CONTROL

- 14.1. A Maintenance of Traffic (MOT) Plan Approved by Broward County Traffic Engineering Division (BCTED) or FDOT shall be required when work is being performed within Broward County or FDOT Right of Way regardless of whether a permit is or is not required. The approved MOT Plan shall be on site prior to and during the entire operation.
- 14.2. Ensure a FDOT Certified Worksite Traffic Supervisor is present to direct the initial setup of the traffic control plan, is available on a 24-hour basis, participates in all changes to traffic control and reviews the project daily. MOT plan shall conform to, unless otherwise noted in the Broward County Minimum Design and Construction Standards, the latest editions of the FDOT Design Standards 600 Series and the Manual on Uniform Traffic Control Devices (MUTCD). An approved MOT plan and a copy of the permit, if issued, must always be on site. The MOT is valid for the duration of the permit or completion of the project, whichever comes first. Once the MOT is approved by the BCTED or FDOT, the permittee shall be solely responsible for the installation and maintenance of the approved work zone traffic control devices throughout the length of the project.

15. MAINTENANCE OF TRAFFIC AND PROTECTION OF WORK SITE

- 15.1. CONTRACTOR shall furnish and install all items necessary in order to re-direct, protect, warn and/or maintain existing vehicular and/or pedestrian traffic during construction, including, as necessary, flag person and off-duty Police Officers/Sheriff's Deputies. Items to be provided shall include, but not be limited to, barricades, signs, arrow boards, warning/flashing lights, pavement markings and traffic signal modifications.
- 15.2. CONTRACTOR, at all times, shall conduct the work in such a manner as to ensure the least obstruction to traffic as is practical. Convenience of the general public and of the residents adjacent to the work shall be provided in a safe and satisfactory manner.
- 15.3. For more information and latest documents regarding maintenance of traffic and protection of worksite visit <https://www.broward.org/Traffic/Pages/Publications.aspx>

16. EXCAVATION

- 16.1. Bracing and Shoring: Sheeting, bracing, etc., shall be used as required to support the sides of the excavation and to prevent any movements which can in any way alter the grade of or injure the facility being installed, diminish the width of excavation, or otherwise injure or delay the work or endanger personnel, adjacent pavements, or other structures.
- 16.2. Safety procedures shall be followed, and adequate protection shall be furnished to all personnel as required by OSHA and State Statute. All sheeting or bracing which is not left in place shall be removed in a manner that shall not endanger the work, personnel, or adjacent structures. To prevent trench undermining, proper trenching methods and equipment shall be used, and all personnel and equipment shall be kept at a safe distance. Excavations are not to be left open; all necessary precautions are to be taken to avoid public safety hazards.
- 16.3. No separate payment will be made for all earthwork, excavation, trenching, furnishing, and importing fill and compaction, therefore, the cost shall be included in the prices bid for the various appurtenances needed to complete the items of work.

17. BACKFILL

- 17.1. Backfill material shall be non-cohesive and non-plastic, free of all debris, lumps, clods, wood, broken paving or any organic or unstable material. Backfill material placed within 1 foot of the lines shall not contain any stones or rocks larger than 2-inches in diameter and no stones or rocks larger than 6-inches in diameter will be permitted in any backfill.
- 17.2. Selected backfill material containing no stone or rocks larger than 2-inches shall be placed in 6-inch layers and thoroughly tamped to a depth of 12-inches over the top of the pipe. Particular attention and care shall be exercised in obtaining thorough support for the branch of all service connection fittings. Care shall be taken to preserve the alignment and gradient of the installed pipe.
- 17.3. After selected backfill has been placed to a depth of 12-inches over the pipe, backfilling shall proceed to a depth of 30-inches over the pipe by placing the backfill material in 6-inch layers and thoroughly compacting with mechanical vibrations. Backfill in this portion of the work shall be compacted to one hundred percent (100%) of maximum density of the material as hereinafter defined.
- 17.4. After the backfill has been placed to a level 30-inches over the pipe, the remainder of the backfill shall be placed in layers, not to exceed 9-inches and compacted with mechanical vibrators, or other suitable equipment, i.e., flooding to obtain a density of the backfilled material of not less than 100 percent of its maximum density as hereinafter defined.

18. JOB/LANDSCAPE RESTORATION

- 18.1. CONTRACTOR is responsible for completing all job restoration. CONTRACTOR is to use care in preserving the well-being of all landscaping when performing a new installation, repair, or replacement of a fire hydrant.
- 18.2. CONTRACTOR shall furnish and install sod, tools, equipment, and material required to properly restore surface as directed by the Project Coordinator. Restoration of sod surface, topsoil, and pea rock surfaces shall meet or exceed the original existing conditions, as determined by the Project Coordinator. Excavations are not to be left open; all necessary precautions are to be taken to avoid public safety hazards.
- 18.3. Any landscape destroyed beyond parameters approved by the Project Coordinator will be restored by CONTRACTOR at no additional cost to the COUNTY.
- 18.4. Temporary patching shall be installed at locations designated by the Project Coordinator to maintain safe traffic conditions. Temporary cold patch asphalt shall be charged per bid line.

19. COMPLETION TIME

- 19.1. The work to be performed under this contract shall commence within three (3) calendar days after receipt of Purchase Order. Completion time should be mutually agreed upon between CONTRACTOR and Project Coordinator.
- 19.2. CONTRACTOR will be held responsible for restoration of any damaged property caused by CONTRACTOR during this contract. Landscaping and temporary asphalt restoration must be completed within one business day of completing the job.

20. EMERGENCY CALL OUT

Emergency call out is the procedure of responding in short notice, which is defined as three hours response time, to perform any of the services previously stated. This may be required outside of the normal working hours such as after 5:00 p.m. and before 8:00 a.m. on weekdays or on weekends. Broward County personnel will turn off water to mains that supply water to any fire hydrant that is scheduled for new installation, repair, or replacement, as it is required.

21. UNIT COST

The offered bid price will be the unit cost paid by the COUNTY for each individual line item. The cost incurred for labor, material, tests, tools, equipment, coordination with County personnel, connections to existing pipelines, excavation, trenching, backfill and compaction, storing and transporting materials, saw-cutting, removal and disposal of unsuitable and excess material, de-watering, cleaning, flushing, disinfection of new pipe and fittings, cleanup, and restoration of all improvements incidental to construction are to be billed as part of the line items. The COUNTY will not pay for travel time.

22. HOURS OF WORK

Unless otherwise authorized by the Project Coordinator in writing, work will only be done Monday through Friday between the hours of 7:30 a.m. and 5:00 p.m. local time. If CONTRACTOR plans to do any work on weekends and/or holidays, the Project Coordinator must be notified 24 hours in advance of the work start and no work may start without the Project Coordinator approval.

23. REPORTS

Reports resulting from performance of this contract must be compiled in electronic format using Excel and provided to Broward County via e-mail to Project Coordinator. Broward County will provide the electronic template to be filled out by CONTRACTOR when performing the preventative maintenance inspections or repairs.

24. WARRANTY

- 24.1. CONTRACTOR shall provide a one-year warranty for all material, equipment, complete component, and labor beginning on the date of final acceptance. There will be no additional cost to the County for material, equipment, labor and/or traffic control for warranty work. Warranty work shall be completed in accordance with these contract specifications within 30 calendar days.
- 24.2. All warranty information shall be provided to the County, listing Broward County as the original purchaser, upon completion of work and prior to final acceptance. All warranties shall begin on date of final acceptance by County and shall be administered through awarded prime CONTRACTOR.
- 24.3. Fire hydrants no longer under manufacturer's warranty: CONTRACTOR may use "or equal" parts only if Original Equipment Manufacturer (OEM) parts are not available and warrant the repair for a period of one year from date of installation.
- 24.4. CONTRACTOR will not be responsible for extraordinary hydrant repairs necessitated by vandalism, traffic damage, construction damage, acts of war or civil disobedience, or acts of God.

25. CLEAN UP

Upon completion of the work specified herein and before acceptance and final payment, CONTRACTOR shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish and temporary materials and temporary structures provided by CONTRACTOR. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily. Asphalt and concrete sites will be swept or hosed clean.

26. DAMAGE TO PUBLIC OR PRIVATE PROPERTY

Extreme care shall be taken to safeguard all existing facilities, site amenities and vehicles on or around the job sites. Damage to public and/or private property shall be the responsibility of CONTRACTOR and shall be repaired and/or replaced immediately at no additional cost to the County.

27. MINIMUM STANDARDS

For materials specifications, standard details and all other construction information CONTRACTOR shall comply with the requirements of the Broward County Water and Wastewater Services Minimum Design and Construction Standards. For more information visit: <http://www.broward.org/WaterServices/Engineering/Pages/MinimumDesignandConstructionStandards.aspx>

28. METHODOLOGY

28.1. FIRE HYDRANT PREVENTIVE MAINTENANCE INSPECTION (PAINT INCLUDED)

- 28.1.1. Locate and exercise the fire hydrant auxiliary valve or isolation valve using magnetic locator. Probing rods and other tools. Leave it in the open position. If the valve or fire hydrant cannot be located after searching for fifteen minutes, the valve will be labeled "cannot locate".
- 28.1.2. CONTRACTOR will remove (vacuum out) debris or pump out water from the valve box in order to access the valve-operating nut.
- 28.1.3. Check the hydrant's appearance. Remove obstructions around it.
- 28.1.4. If paint is needed, paint the hydrant. All old rough spots, or rust shall be scraped off and the hydrant wire brushed. Fire hydrant shall be painted yellow with a reflective type of paint that is in accordance with NFPA #291 or per the latest requirements of the Broward County fire marshal or local fire department having jurisdiction. (Paint included in bid line).
- 28.1.5. Spray a small amount of hydrant oil on the stem after the hydrants are flushed.
- 28.1.6. Check and report height of nozzle clearance, nozzle direction and operating clearances for conformity with NFPA requirements.
- 28.1.7. Clean and paint any existing bollards and put them in an upright position. Paint yellow with a reflective type of paint that is in accordance with NFPA #291.
- 28.1.8. On traffic-model hydrants, check the breakaway flange for any damage.
- 28.1.9. Attach a section of fire hose, diffuser, or other deflector to protect the street, traffic, and private property from water expelled at high velocity.
- 28.1.10. Check condition of operating top nut.
- 28.1.11. Open the hydrant and flush to remove foreign material from the interior and lead.
- 28.1.12. Close the hydrant. Remove diffuser and replace the outlet-nozzle cap. Leave it loose enough to allow air to escape.
- 28.1.13. Open the hydrant a few turns. Allow air to vent from the outlet-nozzle cap.
- 28.1.14. Tighten the outlet-nozzle cap.
- 28.1.15. Open the hydrant fully. Check for ease of operation, and report if difficult operation is noticed.
- 28.1.16. With hydrant fully open, check for leakage at flanges, around outlet nozzles, at packing or seals, and around the operating stem.
- 28.1.17. Close the hydrant completely. Back off the operating nut enough to take the pressure off the packing.

- 28.1.18. Remove all outlet-nozzle caps, clean the threads, check the condition of the gaskets, and lubricate the threads. Check the ease of operation of each cap. Lubricate per the latest manufacturer's recommendations.
- 28.1.19. Check outlet-nozzle chains for free action on each cap. If the chains bind, open the loop around the cap until they move freely.
- 28.1.20. Conduct a Fire-flow test to determine pressure (Static & Residual) and flow available (gpm) under normal distribution-system flow conditions. Testing must be in accordance with the latest AWWA-M17, Manual for Installation, field testing, and Maintenance of Fire Hydrants.
- 28.1.21. Replace the caps. Tighten them, and then back off slightly so they will not be excessively tight. Leave them tight enough to prevent their removal by hand.
- 28.1.22. Check the lubrication of operating-nut threads. Lubricate per the latest manufacturer's recommendations.
- 28.1.23. Replace (if defective) hydrant ID Tag or install (if not present) hydrant ID tag.
- 28.1.24. Replace (if defective) blue reflective road marker or install (if not present) blue reflective road marker. Reflective pavement markers in blue shall be used to identify the fire hydrant locations. Each marker is to be placed on the center line of the roadway lane closest to the hydrant. Please refer to Section 27 for Minimum Design and Construction Standards.
- 28.1.25. If the hydrant is inoperable, tag it with a clearly visible mark (Out of Service ring) and notify Broward County Water and Wastewater Services Project Coordinator immediately.
- 28.1.26. Note and report any operational deficiencies or repair needed in the inspection report. Using agency will follow up with work orders for the repairs.
- 28.1.27. Record GPS coordinates of fire hydrant and isolation valve (a set of two separate readings) as required by Contract Documents.
- 28.1.28. Report and record all information on the Fire Hydrant Maintenance Inspection Report form.

28.2. FURNISH AND INSTALL OIL PLUG

- 28.2.1. Replace missing or cross-threaded oil reservoir bolt/screw.
- 28.2.2. Check oil level. If necessary, add oil recommended by the latest manufacturer's recommendations. Fill oil to the level of the plug, if necessary. Do not overpressure lubricant or overfill hydrant with lubricant.
- 28.2.3. After repair is done, flush fire hydrant to fully open position for at least one minute.

28.3. FURNISH AND INSTALL HYDRANT ID TAG

- 28.3.1. The Fire Hydrant ID number must be stamped identified as Property of Broward County and number/letter/barcode stamped and affixed to the hydrant with epoxy.

- 28.3.2. Aluminum tag with Black print on top half of plate with silver letters to read "PROPERTY OF BROWARD COUNTY".
- 28.3.3. PHR letters and rest of numbers to be stamped.
- 28.3.4. Size: 3.25-inches x 1.5-inches.
- 28.3.5. Material: .016 inches thick aluminum.
- 28.3.6. The hydrant ID number is to be clearly stamped/etched permanently into metal using ¼ inch characters.

28.4. FURNISH RETRO-REFLECTIVE PAVEMENT MARKERS

- 28.4.1. On Broward County roads, a blue raised reflective pavement marker shall be used to identify the fire hydrant location. Please refer to Section 27 for Minimum Design and Construction Standards.
- 28.4.2. The placement of the reflector to be at the center line of the outside roadway lane, unless otherwise directed by the Fire Marshal or the local fire department having jurisdiction.
- 28.4.3. On state roads, blue raised markers to identify fire hydrants must be placed according to rules of FDOT.
- 28.4.4. If Maintenance of Traffic (MOT) is required, CONTRACTOR can use MOT line items with the approval of the Project Coordinator.

28.5. FURNISH AND INSTALL NEW UPPER BARREL

- 28.5.1. Before proceeding, close the fire hydrant isolation valve to cut off flow and pressure.
- 28.5.2. Replace upper barrel when lower connection is in place, but upper barrel is missing.
- 28.5.3. Replace broken traffic/breakable flanges, couplings and any missing flange nuts and bolts when necessary.
- 28.5.4. Rotate position of nozzle as per NFPA standards.
- 28.5.5. Reassemble the hydrant in accordance with the latest manufacturer's recommendations, open isolation valve, and pressurize hydrant. Test the new flange connections for leaks.
- 28.5.6. After repairs are done, flush fire hydrant to fully open position for at least one minute.
- 28.5.7. Replacement of hydrant upper barrel includes entire component.

28.6. UPPER BARREL REPAIR

- 28.6.1. Close the fire hydrant isolation valve to cut off flow and pressure, before proceeding.

- 28.6.2. Replace any necessary upper barrel parts/components and bonnet assembly when needed.
- 28.6.3. Disassemble and lubricate complete bonnet area when needed. Replace missing or damaged gaskets when needed.
- 28.6.4. Replace damaged nozzles when needed.
- 28.6.5. Re-caulk and/or secure nozzles, as needed.
- 28.6.6. Replace any missing or deteriorated flange nuts and bolts when needed. Rotate position of hydrant as required by NFPA, or per Project Coordinator request.
- 28.6.7. Reassemble the hydrant in accordance with the manufacturer's recommendations, including ATV if existing, open isolation valve, and pressurize hydrant. Test flange connections for leaks.
- 28.6.8. After repairs are done, flush fire hydrant to fully open position for at least one minute.

28.7. LOWER BARREL REPAIR

- 28.7.1. Close the fire hydrant isolation valve to cut off flow and pressure, before proceeding.
- 28.7.2. Replace any/all necessary internal components including main valve and seat when needed.
- 28.7.3. Straighten hydrant as needed.
- 28.7.4. Reassemble the hydrant in accordance with the latest manufacturer's recommendations, open isolation valve, and pressurize hydrant. Test flange connections for leaks.
- 28.7.5. After repairs are done, flush fire hydrant to fully open position for at least one minute.

28.8. FURNISH AND INSTALL BREAKABLE COUPLING

- 28.8.1. Before proceeding, close the fire hydrant isolation valve to cut off flow and pressure.
- 28.8.2. Disassemble the hydrant in accordance with the latest manufacturer's recommendations.
- 28.8.3. Replace damaged parts including safety flange, stainless steel pins, safety stem coupling, O-rings, bolts, and nuts.
- 28.8.4. Reassemble the hydrant in accordance with the latest manufacturer's recommendations, open isolation valve, and pressurize hydrant. Test the new flange connections for leaks.
- 28.8.5. Check oil reservoir level. If necessary, add oil recommended by the manufacturer.
- 28.8.6. After repairs are done, flush fire hydrant to fully open position for at least one minute.

28.9. FURNISH AND INSTALL EXTENSIONS: 6, 12, 18 AND 24 INCHES

- 28.9.1. Before proceeding, close the fire hydrant isolation valve to cut off flow and pressure.
- 28.9.2. Raise hydrant to meet Broward County Water and Wastewater Service Minimum Design and Construction Standards (minimum 18" to nozzle, maximum 24") where necessary.
- 28.9.3. Reassemble the hydrant in accordance with the latest manufacturer's recommendations, open isolation valve, and pressurize hydrant. Test the flange connections for leaks.
- 28.9.4. After repairs are done, flush fire hydrant to fully open position for at least one minute.

28.10. FURNISH AND INSTALL VALVE BOX

- 28.10.1. Investigate all information needed to perform new installation (i.e., line locates, valve depth).
- 28.10.2. Remove existing valve box and components.
- 28.10.3. Install new valve box and collar (if needed) in accordance with Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.10.4. Paint water valve box lid with blue paint.

28.11. RAISE/LOWER VALVE BOX

- 28.11.1. Investigate all information needed to perform new installation (i.e., line locates, valve depth).
- 28.11.2. CONTRACTOR must raise existing valve boxes to the existing grade of a road or ground.
- 28.11.3. If needed, install valve collar per Broward County Water and Wastewater Services Minimum Design and Construction Standards (use separate bid line).

28.12. FURNISH AND INSTALL BOLLARD

Installation of new fire hydrant guard or protective pole shall conform to Broward County Water and Wastewater Services Minimum Design and Construction Standards.

28.13. FURNISH AND INSTALL CONCRETE PAD/VALVE COLLAR

Installation of valve collar or concrete pad shall conform to Broward County Water and Wastewater Services Minimum Design and Construction Standards.

28.14. FURNISH AND INSTALL FIRE HYDRANT AND ISOLATION VALVE (SHUT DOWN)

- 28.14.1. Investigate all information needed to perform new installation (i.e., line locates, main depth and material).

- 28.14.2. CONTRACTOR must submit a Request for Service (Attachment A-3) to Broward County Water and Wastewater Services to shut down water mains.
- 28.14.3. Remove existing fire hydrant and isolation valve.
- 28.14.4. Installation of new fire hydrant, isolation valve and check valve shall conform to Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.14.5. Install concrete pad as per Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.14.6. Use restrained joints for the entire new assembly.
- 28.14.7. New parts must be disinfected before installation. The chlorine solution must be flushed from the hydrant immediately after installation.
- 28.14.8. Install new or reset existing bollards.
- 28.14.9. New bollards must be requested by Project Coordinator.
- 28.14.10. Backfill with layered compaction as required.
- 28.14.11. Paint valve box lid with blue paint.
- 28.14.12. Paint hydrant and bollards yellow with a reflective type of paint that is in accordance with NFPA #291 or per the latest requirements of the Broward County Fire Marshal or local fire department having jurisdiction (paint included in this bid line).
- 28.14.13. Take a GPS reading and record it, along with the corresponding Broward County Underground Facility Asset#, and update into an EXCEL Database.
- 28.14.14. After installation is done, flush fire hydrant to fully open position for at least one minute.
- 28.14.15. Landscape restoration as required.
- 28.14.16. All fire hydrants removed must be returned and transported to Broward County Water and Wastewater Services.
- 28.14.17. Complete a maintenance inspection report and submit it to Project Coordinator.

28.15. FURNISH AND INSTALL FIRE HYDRANT ONLY

- 28.15.1. Before proceeding, close the fire hydrant isolation valve to cut off flow and pressure.
- 28.15.2. Investigate all information needed to perform the new installation (i.e., line locates, main depth, size, material).
- 28.15.3. Existing isolation valves must always be restrained to the fire hydrant tee.
- 28.15.4. Remove old fire hydrant.
- 28.15.5. Remove check valve (if existing).

- 28.15.6. Restrain existing valve as required to connect new fire hydrant.
- 28.15.7. Installation of new fire hydrant and check valve shall conform to Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.15.8. Install concrete pad as per Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.15.9. Use restrained joints for the entire new assembly.
- 28.15.10. New parts must be disinfected before installation. The chlorine solution must be flushed from the hydrant immediately after installation.
- 28.15.11. Install new or reset existing bollards.
- 28.15.12. New bollards must be requested by Project Coordinator.
- 28.15.13. Backfill with layered compaction as required.
- 28.15.14. Take a GPS reading and record it, along with the corresponding Broward County Underground Facility Asset #, and update into an EXCEL Database.
- 28.15.15. After repairs are done, flush fire hydrant to fully open position for at least one minute.
- 28.15.16. Landscape restoration as required.
- 28.15.17. All fire hydrants removed must be returned and transported to Broward County Water and Wastewater Services.
- 28.15.18. Complete a maintenance inspection report and submit it to Project Coordinator.

28.16. FURNISH AND INSTALL FIRE HYDRANT AND ISOLATION VALVE (WET TAP)

- 28.16.1. Investigate all information needed to perform new installation (i.e., line locates, main depth, size, and material).
- 28.16.2. Install tapping sleeve and valve (up to 8 inch).
- 28.16.3. Install concrete pad as per Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.16.4. Installation of new fire hydrant and check valve shall conform to Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.16.5. Use restrained joints for the entire new assembly.
- 28.16.6. New parts shall be disinfected before installation. The chlorine solution should be flushed from the hydrant immediately after installation.
- 28.16.7. Install new or reset existing bollards.
- 28.16.8. New bollards must be requested by Project Coordinator.
- 28.16.9. Backfill with layered compaction as required.

- 28.16.10. Take a GPS reading and record it, along with the corresponding Broward County Underground Facility Asset#, and update into an EXCEL Database.
- 28.16.11. After installation is done, flush fire hydrant to fully open position for at least one minute.
- 28.16.12. Landscape restoration as required.
- 28.16.13. All fire hydrants removed must be returned and transported to Broward County Water and Wastewater Services.
- 28.16.14. Complete a maintenance inspection report and submit it to Project Coordinator.

28.17. FURNISH AND INSTALL "CUT-IN" FIRE HYDRANT AND ISOLATION VALVE

- 28.17.1. Investigate all information needed to perform new installation (i.e., line locates, main depth, size, and material).
- 28.17.2. CONTRACTOR must submit a Request for Service (Attachment A-3) to Broward County Water and Wastewater Services to shut down water mains.
- 28.17.3. Cut-in a tee (up to 8 inch) as permitted by Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.17.4. Install concrete pad as per Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.17.5. Installation of new fire hydrant, isolation valve and check valve shall conform to Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.17.6. Use restrained joints for the entire new assembly.
- 28.17.7. New parts must be disinfected before installation. The chlorine solution must be flushed from the hydrant immediately after installation.
- 28.17.8. Install new or reset existing bollards.
- 28.17.9. New bollards must be requested by Project Coordinator.
- 28.17.10. Backfill with layered compaction as required.
- 28.17.11. Take a GPS reading and record it, along with the corresponding Broward County Underground Facility Asset#, and update into an EXCEL Database.
- 28.17.12. After installation is done, flush fire hydrant to fully open position for at least one minute.
- 28.17.13. Landscape restoration as required.
- 28.17.14. All fire hydrants removed must be returned and transported to Broward County Water and Wastewater Services.
- 26.17.15. Complete a maintenance inspection report and submit it to Project Coordinator.

28.18. FURNISH AND INSTALL 6 INCH GATE VALVE (DRY)

- 28.18.1. CONTRACTOR must submit a Request for Service (Attachment A-3) to Broward County Water and Wastewater Services to shut down water mains.
- 28.18.2. CONTRACTOR must provide and install valve. Cut the pipe and install the valve with all accompanying components, including but not limited to couplings and couplings/sleeves.
- 28.18.3. Use restrained joints for the entire new assembly.
- 28.18.4. Install valve and valve box in accordance with Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.18.5. Backfill with layered compaction as required.
- 28.18.6. New parts must be disinfected before installation. The chlorine solution must be flushed from the hydrant immediately after installation.
- 28.18.7. Landscape restoration as required.
- 28.18.8. Paint valve box lid with blue reflective type paint that is in accordance with NFPA #291.

28.19. FURNISH AND INSTALL 6 INCH GATE VALVE (WET)-DOUBLE LINE STOP

- 28.19.1. CONTRACTOR must provide and install valve. Cut the pipe and install the valve with all accompanying components, including but not limited to couplings and couplings/sleeves.
- 28.19.2. Line stops shall be disc type as to not apply excessive pressure to inside of pipe. CONTRACTOR shall employ a restraint system that allows a double line stop and a valve installation to take place.
- 28.19.3. Install valve and valve box in accordance with Broward County Water and Wastewater Services Minimum Design and Construction Standards.
- 28.19.4. Backfill with layered compaction as required.
- 28.19.5. New parts must be disinfected before installation. The chlorine solution must be flushed from the hydrant immediately after installation.
- 28.19.6. Landscape restoration as required.
- 28.19.7. Paint valve box lid with blue reflective type paint that is in accordance with NFPA #291.

28.20. FURNISH AND INSTALL 6 INCH CHECK VALVE

- 28.20.1. If needed, CONTRACTOR must submit a Request for Service to Broward County Water and Wastewater Services to shut down water mains.
- 28.20.2. Excavation and/or Trenching as required.

- 28.20.3. CONTRACTOR must provide and install valve. Cut the pipe and install the valve with all accompanying components, including but not limited to couplings, megalugs and couplings/sleeves.
- 28.20.4. After installation is done, flush fire hydrant to fully open position for at least one minute.
- 28.20.5. Landscape restoration as required. Must match existing landscape or better as required by the County.

29. MEASUREMENT AND PAYMENT

29.1. FIRE HYDRANT PREVENTIVE MAINTENANCE INSPECTION (PAINT INCLUDED)

- 29.1.1. Measurement for payment to perform a preventive maintenance inspection will be based upon actual quantity; each, of such inspections. The price shall be full compensation for furnishing all materials, labor, equipment, GPS devices, tests, tools, and incidentals necessary to complete the item, all in accordance with the requirements of the Contract Documents.
- 29.1.2. Payment for performing a preventive maintenance inspection will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete fire hydrant inspection including, but not limited to, paint, hydrant oil, lubricants, maintenance/GPS reports and fire-flow test.

29.2. FURNISH AND INSTALL OIL PLUG

- 29.2.1. Measurement for payment to furnish and install oil plugs will be based upon actual quantity; each, of such oil plugs. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.
- 29.2.2. Payment for furnish and install oil plugs will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of the oil plug, including but not limited to, hydrant oil, bolts, screws, re-thread plug hole. Oil plugs are paid separately.

29.3. FURNISH AND INSTALL HYDRANT ID TAG

- 29.3.1. Measurement for payment to furnish and install ID tags will be based upon actual quantity; each, of such hydrant ID tags. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.
- 29.3.2. Payment for furnishing and install ID tags will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of the ID tags, including but not limited to, tags, epoxy, and punching tools. Hydrant ID tags are paid separately.

29.4. FURNISH AND INSTALL RETRO-REFLECTIVE PAVEMENT MARKERS

- 29.4.1. Measurement for payment to furnish and install raised retro-reflective pavement markers will be based upon actual quantity; each, of such markers. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to complete the item, all in accordance with the requirements of the Contract Documents.
- 29.4.2. Payment for furnish and install reflective pavement markers will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of the markers, including but not limited to, approved FDOT markers and bituminous adhesive. Retro-reflective pavement markers are paid separately.

29.5. FURNISH AND INSTALL NEW UPPER BARREL

- 29.5.1. Measurement for payment to furnish and install an upper barrel will be based upon actual quantity; each, of such upper barrels. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents. This item shall be requested in cases where upper barrel is missing or stolen.
- 29.5.2. Payment to furnish and install a new upper barrel will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of a new and approved upper barrel, including but not limited to, excavation, trenching, backfill, compaction, connection to existing pipe, reset existing bollards, body, coupling, gaskets, caps, grease, washers, screws, seals, O-rings, bolts, and nuts.

29.6. UPPER/LOWER BARREL REPAIR

- 29.6.1. Measurement for payment to repair a fire hydrant upper/lower barrel will be based upon actual quantity, hour, of such upper/lower barrel repairs. The price shall be full compensation for furnishing all labor, equipment, tests, tools, and incidentals necessary to complete the item, all in accordance with the requirements of the Contract Documents.
- 29.6.2. Payment for repair upper/lower barrels will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation to complete barrel's internal repairs, including but not limited to, operating nut, bonnet, upper rod, coupling, gaskets, caps, washers, screws, grease, seals, O-rings, breakable flange, stem, valve plate, seat ring, main valve, bolts, and nuts.

29.7. FURNISH AND INSTALL BREAKABLE COUPLING

- 29.7.1. Measurement for payment to furnish and install a breakable coupling will be based upon actual quantity; each, of such couplings. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.

- 29.7.2. Payment for furnish and install a breakable coupling will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of a new breakable coupling, including but not limited to, excavation, trenching, backfill, compaction, coupling, gaskets, grease, washers, screws, seals, O-rings, breakable flange, bolts, and nuts.

29.8. FURNISH AND INSTALL EXTENSION/RISER (6, 12, 18 AND 24 INCH)

- 29.8.1. Measurement for payment to furnish and install an extension/riser will be based upon actual quantity; each, of such extension/riser. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to complete the item, all in accordance with the requirements of the Contract Documents. This item shall be used to meet minimum elevation for pumper nozzles from the ground line.
- 29.8.2. Payment for furnish and install a fire hydrant extension/riser will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of a new extension/riser, including but not limited to, excavation, trenching, backfill, compaction, threaded stem, barrel, brass coupling, set screw, flange, gaskets, lubricant, and bolts with nuts.

29.9. FURNISH AND INSTALL NEW VALVE BOX

- 29.9.1. Measurement for payment to furnish and install a valve box will be based upon actual quantity; each, of such valve boxes. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents. This item shall be used when valve box is missing or as requested by the County.
- 29.9.2. Payment for furnish and install a valve box will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of a new valve box, including but not limited to, excavation, trenching, backfill, compaction, components, locking type lid and paint.

29.10. RAISE/LOWER VALVE BOX

- 29.10.1. Measurement for payment to raise/lower an existing valve box will be based upon actual quantity; each, of such valve boxes. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to complete the item, all in accordance with the requirements of the Contract Documents.
- 29.10.2. Payment for raise/lower an existing valve box will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation, including but not limited to, excavation, trenching, backfill, compaction, reset valve box with lid and paint as required by minimum standards.

**29.11. FURNISH AND INSTALL NEW FIRE HYDRANT AND ISOLATION VALVE
(SERVICE SHUT DOWN BY THE COUNTY)**

- 29.11.1. Measurement for payment to furnish and install a new fire hydrant with isolation gate valve will be based upon actual quantity; each, of such assemblies furnished and installed. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.
- 29.11.2. Payment for furnish and install new fire hydrant with isolation gate valve will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation of a new fire hydrant assembly, including but not limited to, excavation, trenching, backfill, compaction, saw-cutting, new fire hydrant, new pipe, restraints, fittings, connection to existing pipe or fitting, 2-foot X 2-foot concrete pad, check valve, isolation gate valve, valve box, cover, lid, valve collar and paint. Bollards shall not be included in this pay item.

29.12. FURNISH AND INSTALL NEW FIRE HYDRANT ONLY (NO ISOLATION VALVE)

- 29.12.1. Measurement for payment to furnish and install a new fire hydrant with check valve assembly will be based upon actual quantity; each, of such assemblies furnished and installed. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.
- 29.12.2. Payment for furnish and install new fire hydrant with check valve assemblies will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation of a new fire hydrant with check valve assembly, including but not limited to, excavation, trenching, backfill, compaction, saw-cutting, new fire hydrant with check valve, valve restraint, restraints, fittings, connection to existing pipe, 2-foot X 2-foot concrete pad, removal of existing check valve (if any) and paint. Bollards shall not be included in this pay item.

29.13. FURNISH AND INSTALL NEW FIRE HYDRANT AND ISOLATION VALVE (WET TAP)

- 29.13.1. Measurement for payment to furnish and install a new fire hydrant assembly will be based upon actual quantity; each, of such assemblies furnished and installed. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.
- 29.13.2. Payment for furnish and install new fire hydrant assemblies will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation of a new fire hydrant assembly, including but not limited to, excavation, trenching, backfill, compaction, saw-cutting, new fire hydrant, new pipe, restraints, fittings, connection to existing pipe, tapping the existing main, tapping sleeve, valve, 2-foot X 2-foot concrete pad, check valve, valve extension and box, cover, lid, valve collar and paint. Bollards shall not be included in this pay item.

29.14. FURNISH AND INSTALL NEW "CUT-IN" FIRE HYDRANT AND ISOLATION VALVE

- 29.14.1. Measurement for payment to furnish and install a new cut in fire hydrant assembly will be based upon actual quantity; each, of such assemblies furnished and installed. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.
- 29.14.2. Payment for furnish and install new fire hydrant assemblies will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation of a new fire hydrant assembly, including but not limited to, excavation, trenching, backfill, compaction, saw-cutting, new fire hydrant, new pipe, tee, restraints, fittings, connection to existing pipe, 2-foot X 2-foot concrete pad, check valve, isolation gate valve, valve extension and box, cover, lid, valve collar and paint. Bollards shall not be included in this pay item.

29.15. FURNISH AND INSTALL 6 INCH GATE VALVE ONLY(DRY)

- 29.15.1. Measurement for payment to furnish and install valve (gate) will be based upon actual quantity; each, of such valves furnished and installed. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents. This item shall be used only when requested by the County.
- 29.15.2. Payment for furnish and install valves will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation of the valve, including but not limited to, excavation, trenching, backfill, compaction, saw-cutting, gate valve, new pipe, valve restraint, restraints, connection to existing pipe, valve extension and box, lid, and valve collar.

29.16. FURNISH AND INSTALL 6 INCH GATE VALVE (WET)-DOUBLE LINE STOP

- 29.16.1. Measurement for payment to furnish and install valve (gate) using double line stop will be based upon actual quantity; each, of such valves furnished and installed. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.
- 29.16.2. Payment for furnish and install valve will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation of the valve, including but not limited to, excavation, trenching, backfill, compaction, saw-cutting, gate valve, temporary valves, taps and pipe, restraints, connection to existing pipe, plugs, vents, valve extension and box, lid, and valve collar.

29.17. FURNISH AND INSTALL 6 INCH CHECK VALVE

- 29.17.1. Measurement for payment to furnish and install check valves will be based upon actual quantity; each, of such valves furnished and installed. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents. This item shall be used only when requested by the County.
- 30.17.2. Payment for furnish and install check valves will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete operation of the valve, including but not limited to, excavation, trenching, backfill, compaction, saw-cutting, check valve, pipe, valve restraint, restraints, and connection to existing pipe.

29.18. OFF DUTY LAW ENFORCEMENT

- 29.18.1. Measurement for payment of off duty law enforcement services will be based upon actual quantity, hour, of such services. The price shall be full compensation for providing security and enforcement services, all in accordance with the requirements of the Contract Documents.
- 29.18.2. Payment for off duty law enforcement services will be made at the unit price per hour named in the solicitation, which shall constitute full compensation for the complete security and enforcement services, including but not limited to, service of a uniformed Police Officer and marked police vehicle within the limits of the work.

29.19. FLAG PERSON

Payment for flag person services will be based upon actual quantity, hour, of such services. The price shall be full compensation for work performed by an FDOT certified flag person, all in accordance with the requirements of the Contract Documents. Proof of certification must be provided to County Project Coordinator. Flag person must always have proof of certification during the MOT operation.

29.20. WORK ZONE SIGNS

Payment for Work Zone signs will be based upon actual quantity; each, of such signs. The price shall be full compensation for all associated labor, equipment, supplies, materials, supervision and performing all operations necessary for Work Zone signs.

29.21. PLASTIC WATER-FILLED BARRIER WALL (TEMPORARY) 42 INCHES HIGH 12 FEET LONG

Payment for barrier walls will be based upon actual quantity; each, of such barrier walls. The price shall be full compensation for all associated labor, equipment, supplies, materials, supervision and performing all operations necessary for plastic water-filled barrier walls.

29.22. BARRICADES TYPE I, II, III & DRUMS

Payment for barricades will be based upon actual quantity; day, of such barricades/drums. The price shall be full compensation for all associated labor, equipment, supplies, materials, supervision and performing all operations necessary for barricades type I, II, III and drums.

29.23. ADVANCE WARNING ARROW

Payment for advance warning arrows will be based upon actual quantity, day, of such devices. The price shall be full compensation for all associated labor, equipment, supplies, materials, supervision and performing all operations necessary for advance warning arrows.

29.24. EMERGENCY CALL-OUT MOBILIZATION

Payment for emergency call-out mobilization will be based upon actual quantity; each, of such callouts. The price shall be full compensation for all associated labor, equipment, supplies, materials, supervision and performing all operations necessary for emergency call- out mobilization within four hours of request.

29.25. FURNISH AND INSTALL BOLLARD

29.25.1. Measurement for payment to furnish and install a new bollard will be based upon actual quantity; each, of such bollards. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.

29.25.2. Payment for furnish and install a new bollard will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of a new bollard, including but not limited to, excavation, trenching, backfill, compaction, steel pipe, concrete, and paint.

29.25.3. This item is only to be used upon Project Coordinator request.

29.26. FURNISH AND INSTALL CONCRETE PAD/VALVE COLLAR

29.25.1. Measurement for payment to furnish and install a concrete pad/valve collar will be based upon actual quantity; each, of such pads/collars. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to furnish and install the item, all in accordance with the requirements of the Contract Documents.

29.25.2. Payment for furnish and install concrete pads/valve collars will be made at the unit price per each named in the Bid Schedule, which shall constitute full compensation for the complete installation of a new pad/collar, including but not limited to, excavation, trenching, backfill, compaction, wood form and concrete as required.

29.25.3. This item is only to be used upon Project Coordinator request.

29.27. INCH DEPTH ASPHALT RESTORATION WITH COLD PATCH

- 29.27.1. Measurement for payment for road restoration with 2-inch depth asphalt (cold patch) will be based upon actual quantity, square yard, of such restorations. The price shall be full compensation for furnishing all materials, labor, equipment, tests, tools, and incidentals necessary to complete the item, all in accordance with the requirements of the Contract Documents.
- 29.27.2. Payment for road restoration with 2-inch depth asphalt (cold patch) will be made at the unit price per square yard named in the Bid Schedule, which shall constitute full compensation for the complete operation necessary to patch the road to maintain safe traffic conditions, including but not limited to, backfill, saw-cutting, compaction and asphalt.

29.28. FURNISH AND INSTALL SOD

- 29.28.1. Measurement for payment for furnishing and installing sod will be based upon the number of square feet of sod installed, all in accordance with the requirements of the Contract Documents.
- 29.28.2. Payment for furnishing and installing sod will be made at the unit price per square foot of sod named in the Bid Schedule which shall constitute full compensation for the complete operation including, but not limited to protection, transportation, and placement.

29.29. FURNISH AND INSTALL 6-INCH-THICK CONCRETE SIDEWALK

- 29.29.1. Payment for furnishing and install 6-inch sidewalk will be based upon actual quantity, square yards, of such concrete sidewalks. The price shall be full compensation for all associated labor, transportation, equipment, supplies, materials, supervision and performing all operations necessary to complete the restoration of concrete sidewalks equal or better to the existing conditions.
- 29.25.4. This item needs coordination and approval from Project Coordinator.

30. ALLOWANCES

30.1. ALLOWANCE FOR NON-BROWARD COUNTY PERMIT FEES

Measurement for payment for non-Broward County permit fees will be based upon the actual permit fees paid by CONTRACTOR to the various agencies having jurisdiction for services to the locations, all in accordance with the Contract Documents. CONTRACTOR shall produce documentation upon request verifying actual cost. Only permit fees substantiated and approved by the County will be paid as part of this bid item.

30.2. ALLOWANCE FOR PARTS AND MATERIALS

Payments for undefined and unanticipated parts and materials specific to fire hydrant repairs/replacements. Cost for items which are required, but not specified on the bid sheets or due unforeseen condition will be a "pass thru". The CONTRACTOR shall charge the County the same invoice prices charged by suppliers. A copy of the CONTRACTOR's invoice(s) from supplier for such parts and materials shall be submitted with the Contractor's invoice for payment. Use of this allowance requires approval from the Project Manager.

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