



ADDENDUM No. 1

JULY 15, 2016

Solicitation Title: NE 6th Avenue Water Main Improvements

Solicitation No.: IFB No. 32-15-16 Opening Date: Monday, August 1, 2016 by 3:30PM

Attention all potential bidders:

- MUST Addendum:** Read carefully and follow all instructions. Information included in this Addendum will have a material impact on the submittal for this solicitation. All "MUST" addenda are considered a matter of responsiveness. "MUST" addenda must be returned with your Bid submittal or acknowledged on Form "A-5" attached to this addendum. Failure of a Submitter to acknowledge the addenda shall be cause for rejection of the bid.

To all prospective bidders, please note the following changes and clarifications:

1. Respondents must submit their proposed Bids using the revised Bid Submittal Form attached hereto.
2. The estimated cost of this project is as follows:
"Estimated ~~Annual~~ Contract Amount: \$1.5 million"
3. A list of approved products is added as "Attachment I – List of Approved Products". This attachment is included with this addendum and can also be found on DemandStar as well as on the City's website linked below:
http://www.northmiamifl.gov/departments/purchasing/current_bids_proposals.aspx
4. The first paragraph of Section 1.30 BID BONDS, PERFORMANCE BONDS, CERTIFICATE OF INSURANCE is revised as follows:
"**Bid** Bonds shall be submitted with the Bid in the amount specified in ~~Supplemental Conditions~~ **Section 2.14 of the Special Conditions** [not contained in this document]. After acceptance of the Bid, the City ~~may~~ **shall** notify the successful Bidder(s) to submit performance and payment bonds and certificate of insurance in the amount specified in ~~Supplemental Conditions~~ **Section 2.15 of the Special Conditions** [not included in this document]."
5. The first sentence of Section 1.63 CONE OF SILENCE is revised as follows:
"This Solicitation is issued pursuant to the City Section ~~7-193~~ **7-192** which prohibits certain types of communications."

6. The first sentence in Section 2.2 ADDITIONAL INFORMATION & CLARIFICATION is revised as follows:
 “You may submit questions in writing to be received no later than ~~3:00~~ **3:30** p.m. local time, on June ~~48-19~~, 2016 to the City of North Miami Purchasing Department at 776 NE 125TH Street, North Miami, FL 33161 or via e-mail to purchasing@northmiamifl.gov.”
7. The last sentence of Section 2.5 TERM OF CONTRACT: 180 DAYS as follows:
 “Failure to do so will subject Contractor to Liquidated Damages pursuant to Section ~~2.11~~ **2.10** below.”
8. The first sentence of Section 2.8 MINIMUM QUALIFICATION is revised as follows:
 “To be eligible to respond to this Solicitation, the Respondent must demonstrate that it, ~~or its Sub-Contractor(s)~~ **has the** sufficient capacity, resources and experience to provide the Services under this Solicitation.”
9. Section 2.10.2 COMMERCIAL AUTOMOBILE LIABILITY is renumbered as **Section 2.9.2**.
10. Section 2.10.3 WORKER’S COMPENSATION is renumbered as **Section 2.9.3**.
11. Section 2.25 GUARANTEE AGAINST DEFECTS SHALL BE ONE (1) YEAR is revised to the following language:
 “The Respondent shall, in addition to all other guarantees, be responsible for faulty labor and defective material and equipment within a period of one (1) year after date of acceptance of the labor, material and/or equipment by the City ~~with 45 calendar days to correct deficiencies. The respondent shall promptly correct these deficiencies, without cost to the City, within 180 calendar days after the City notifies the Respondent of such deficiencies in writing.~~ **The Respondent shall promptly correct these deficiencies, without cost to the City, in a timely fashion as requested by the City.** Payment in full for the Work does not constitute a waiver of guarantee.”

Request for Information Questions/Clarification:

- Q.1** “What are the approximate lengths, sizes and types of the pipes to be installed?”
A.1 This information can be found in the bid submittal form document.
- Q.2** “Are there any portions of the project that will need to be bored?”
A.2 The project was permitted as an open cut installation
- Q.3** “Are the crossings to be jack & bored or directionally bored?”
A.3 See A2.
- Q.4** “What are the approximate length ad diameter of the portions to be bored?”
A.4 See A2.

Q.5 “What are the limits of the pavement restoration?”

A.5 Pavement restoration limits are described in the contract drawings on sheets P-101 to P-108.

Q.6 Will excavatable flowable fill be required?

A.6 Excavatable flowable fill is included in Section 01025 pay items and should therefore be accounted for in the bid costs. The Florida Department of Transportation (FDOT) has not mandated that excavatable flowable fill be used for backfill within their Right-of-Way limits nor was it required for the approved FDOT Utility permit. In those instances where the excavatable flowable fill may be necessary to be used, it has been accounted for accordingly.

Q.7 Is there a contingency?

A.7 Bid item number 21 is an Owner’s Contingency (allowance) amount of \$150,000 for additional work to be identified by the City. See section 01025-11, Bid Item 21 for additional information.

Q.8 Will a police officer be required for maintenance of traffic?

A.8 Yes. Section 01025-10 Bid Item 19 should include cost for a police officer during maintenance of traffic.

Q.9 Is there a requirement for domestic materials or ARRA?

A.9 There are no ARRA requirements; however, Section 01025-3, Bid Items 1-5 include domestic ductile iron pipe and fittings costs.

For any other questions, clarification can be found in the specifications.

All other terms, conditions and specifications remain unchanged for this solicitation.

End of Addendum



PRICE PROPOSAL FORM

**NE 6TH AVE WATER MAIN IMPROVEMENTS
IFB No. 32-15-16**

**REVISED
BID SUBMITTAL FORM**

DELIVER TO:

City of North Miami
Office of the City Clerk
776 N.E. 125th Street
North Miami, FL 33161-5654

DUE DATE:

August 1, 2016
3:30 P.M.

Responses are subject to the Terms and Conditions of this Solicitation and the accompanying Bid Submittal, as well as other Contract provisions, specifications, drawings and other data attached or incorporated by reference. The Bid Submittals, will be received at the Office of the City Clerk at the address shown above until the above stated time and date.

**NE 6TH AVE WATER MAIN IMPROVEMENTS
IFB No. 32-15-16**

ESTIMATED ANNUAL CONTRACT AMOUNT: \$1.5 MILLION

The prices listed below shall include the total cost to complete the Services including but not limited to cost of materials, labor, equipment, bonds, insurances, etc., as necessary to ensure proper delivery of Services and/or products requested by the City of North Miami.

Water Main Improvement NE 6 th Avenue from 137 th Street to 148 th Street					
Item No.	Description	Quantity	Unit	Unit Price	Total
1	Furnish & Install 12" DIP water main	4,010	Linear Feet	\$	\$
2	Furnish & Install 8" DIP water main	231	Linear Feet	\$	\$
3	Furnish & Install 6" DIP water main	55	Linear Feet	\$	\$
4	Furnish & Install 4" DIP water main	33	Linear Feet	\$	\$

5	Furnish & Install 2" DIP water main	176	Linear Feet	\$	\$
6	Furnish & Install 12" Gate Valve	9	Each	\$	\$
7	Furnish & Install 8" Gate Valve	23	Each	\$	\$
8	Furnish & Install 6" Gate Valve	2	Each	\$	\$
9	Furnish & Install 6" Tapping Sleeve and Valve	2	Each	\$	\$
10	Furnish and Install Fire Hydrant Assemblies (Remove and Replace)	5	Each	\$	\$
11	Water Service Removal and Replacement (within Right-of-Way)	16	Each	\$	\$
12	Reconnection of Existing Water Services	6	Each	\$	\$
13	Meter Box Removal and Replacement	10	Each	\$	\$
14	Cutting, capping, grouting and abandonment of existing water mains	1	Lump Sum	\$	\$
15	Milling & Disposal of 1" of existing asphalt	9,298	Square Yards	\$	\$
16	Resurfacing of a minimum of 1" of asphalt pavement within FDOT roadways	9,298	Square Yards	\$	\$
17	Furnish and install Temporary Pavement Markings	1	Lump Sum	\$	\$
18	Replacement of Permanent Pavement Markings	1	Lump Sum	\$	\$
19	Maintenance of Traffic (MOT). Design, permit and install per applicable authority having jurisdiction regarding MOT, streets and lane closures.	1	Lump Sum	\$	\$
20	Mobilization 60%/Demobilization 40%, Bonds and Insurance	1	Lump Sum	\$	\$
21	Owner's Contingency (allowance)	1	Lump Sum	\$150,000	\$150,000

22	Consideration for indemnification	1	Lump Sum	\$100	\$100
23	Permits, licenses and fee (allowance)	1	Lump Sum	\$20,000	\$20,000
Bid Total					\$

NOTE: Please note that the City has added a Permit Allowance to cover the cost of permits issued for each project performed under this Contract; therefore, Respondents should not include the cost of permitting as part of their proposed price.

- The Respondent, individual, partnership, corporation or association responding to this Solicitation certifies that all statements made in this document are true and correct to the best of their knowledge. The Respondent also agrees to hold this offer open for a period of ninety (90) days from the deadline for receipt of Response.
- **By submittal of this Bid, the Respondent understands and agrees that this Project must attain final completion by no later than 180 days from issuance of Notice to Proceed.**
- The Respondent understands and agrees to be bound by the conditions contained in this Solicitation and shall comply with all the requirements contained herein.

I hereby certify that I am authorized to act on behalf of the Respondent, individual, partnership, corporation or association making this Bid and that all statements made in this document are true and correct to the best of my knowledge.

Company Name

Officer Signature

Date:

Print Name

Title:

User Department:

Public Works

PLEASE SUBMIT PRICES F.O.B. DESTINATION, LESS TAXES, DELIVERED IN
CITY OF NORTH MIAMI, FLORIDA

NOTE: City of North Miami is exempt from all taxes (Federal, State, Local). Bid price should be less all taxes. Tax Exemption Certificate furnished upon request.

**CITY OF NORTH MIAMI
WATER MAIN IMPROVEMENTS NO. 16
NE 6th AVENUE FROM NE 137th STREET TO NE 148th STREET**

TABLE OF CONTENTS

Note: The Florida Department of Transportation (FDOT) *Standard Specifications for Road and Bridge Construction*, latest addition, shall be followed for all roadway, paving, sidewalk and curb construction within the FDOT right-of-way limits.

Section

Title

DIVISION 1 - GENERAL REQUIREMENTS

01010	Summary of Work
01025	Basis of Payment
01050	Field Engineering
01065	Permits
01070	Applicable Standards
01100	Special Project Procedures
01200	Project Meetings
01310	Construction Progress Schedules
01340	Shop Drawings
01370	Schedule of Value
01390	Color DVD Pre-Construction Record
01400	Testing and Inspection
01500	Construction Considerations
01510	Temporary Utilities
01520	Maintenance of Facilities and Sequence of Construction
01530	Protection of Existing Facilities
01570	Traffic Regulations and Maintenance of Traffic Material
01600	and Equipment
01700	Project Closeout
01710	Cleaning
01720	Project Record Documents

DIVISION 2 – SITE WORK

02080	Abandonment, Removal and Disposal of Existing Pipe Removed from Service
02100	Clearing and Grubbing
02140	Dewatering
02160	Temporary Excavation Support Systems
02222	Excavation and Backfill for Utilities and Structures
02225	Contaminated Soils and Groundwater
02260	Finish Grading
02500	Landscaping
02515	Water Service Connections and Transfers
02930	Sodding

ADDENDUM NO. 1

**CITY OF NORTH MIAMI
WATER MAIN IMPROVEMENTS NO. 16
NE 6th AVENUE FROM NE 137th STREET TO NE 148th STREET**

TABLE OF CONTENTS (Cont'd.)

Section

Title

DIVISION 3 - CONCRETE

03300	Cast-In-Place Concrete, Reinforcing and Formwork
03375	Flowable Fill
03400	Precast Prestressed Concrete
03600	Grouting

DIVISIONS 4 – 14 (NOT USED)

DIVISION 15 - MECHANICAL

15001	Water Services and Miscellaneous Fittings
15050	Utility Piping, Fittings, Valves and Accessories
15065	Miscellaneous Materials
15995	Pipeline Testing and Disinfection
15997	Polyethylene Encasement for Cast/Ductile Iron Pipe, Fittings, Valves and Risers
15998	Cathodic Protection

DIVISION 16 (NOT USED)

APPENDIX A – Geotechnical Report

APPENDIX B – Permits Obtained by Owner

APPENDIX C – Approved Manufacturer's List

ADDENDUM NO. 1

SECTION 15001

WATER SERVICES AND MISCELLANEOUS FITTINGS

PART 1 - GENERAL

1.01 SCOPE

- A. This Section consists of furnishing water, sewer, storm water piping complete with fittings, couplings, adapters, valves, and other appurtenances required during construction due to piping relocation or replacement. The Appendix contains the approved manufacturer's listing which shall supersede all references herein. It shall however remain the City's prerogative to modify or require additional standards be followed to meet their specifications.
- B. In accordance with the "Reduction of Lead in Drinking Water Act" (Act) enacted by the USEPA on January 4, 2011, effective January 4, 2014 all piping, fittings, fixtures, valves, and other appurtenances used in potable water supply and distribution systems shall be "lead free" as defined in Section 1417(d) of the Safe Drinking Water Act (SDWA). All requirements of the Act as it relates to products under this section shall be strictly adhered to.

1.02 GENERAL INFORMATION AND DESCRIPTION

- A. The pipe and fittings shall be furnished by fully qualified manufacturers experienced in the fabrication, casting and manufacture of the pipe materials specified herein. The pipe and fittings shall be designed, fabricated and installed in accordance with the best practice of the trade and the standards specified herein.
- B. Pipe materials shall be the same as the existing pipe being replaced or relocated. Unless otherwise shown on drawings.
- C. No material furnished under this specification shall be shipped to the job site until all submittals have been reviewed.
- D. All new domestic services shall be Polyethylene tubing per City of North Miami Standards.
- E. Contractor shall coordinate all work with City of North Miami Public Works staff.

1.03 RELATED WORK

- A. Section 02222 – Excavation and Backfill for Utilities and Structures

B. Section 02515 – Water Services Connections and Transfers

1.04 SUBMITALLS

- A. The Contractor shall submit Shop Drawings in accordance with the procedures and requirements set forth in Section 01340.
- B. The Contractor shall submit to the Engineer certified shop tests and certified letters of compliance in accordance with the Section 01340.

PART 2 - PRODUCTS

2.01 FITTINGS

- A. All fittings shall be marked with the manufacturer's name or trade mark, size, class or pressure rating, and the date of manufacture in accordance with the standards specified herein. All ductile iron fittings must be manufactured in the U.S.A. (no substitution).

2.02 POLY VINYL CHLORIDE (PVC) FOR USE IN POTABLE WATER SERVICES 2-INCH NOMINAL DIAMETER AND LESS (SCHEDULES 40 AND 80)

- A. Poly vinyl chloride (PVC) pipe and fittings specified herein are small diameter PVC with threaded, flanged and solvent cemented joints. All poly (vinyl chloride) (PVC) pipe and fittings shall be made from high impact, rigid poly (vinyl chloride) compounds. Pipe and fittings shall be marked indicating size, type and schedule, ASTM Designation, manufacturer or trade mark, and shall bear the NSF (National Sanitation Foundation) seal of approval. Wherever the abbreviation PVC is used in these Specifications in relation to pipe and fittings, it shall mean poly (vinyl chloride) plastic pipe and fittings as specified herein.
- B. PVC pipe shall be Schedule 80 as called for on the Plans or by the Engineer, Type I, Grade I, or Class 12454B with socket ends, and shall comply with ASTM Standard D1785, "Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120."
- C. Schedule 80 socket-type fittings shall comply with ASTM Standard D2467, "Socket-Type Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80" and D2464 "Specification for Threaded Poly Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80, for threaded fittings.
- D. Joining cement for PVC pipe and fittings shall comply with ASTM Standard D2564, "Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings". Cemented joints shall be made in accordance with ASTM Standard

D2855, "Recommended Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings."

- E. Flanges: One piece molded hub type flat face flanges, 125 pound standard as specified under fittings hereinbefore.
- F. Gaskets: Full faced, 1/8-inch thick, neoprene (for sewer) or SBR (for water).
- G. AISI Type 316 stainless steel, ASTM A193, Grade B8M hex bolts and ASTM A194 Grade E8 hex head nuts. Bolts shall be fabricated in accordance with ANSI B 1812 and provided with washers of the same materials as the bolts. Bolts to be installed west of U.S. 1 shall be carbon steel.

2.03 HIGH DENSITY POLYETHYLENE (HDPE) FOR USE IN POTABLE WATER SERVICES 2-INCH NOMINAL DIAMETER AND LESS

- A. 2-inch high density polyethylene (HDPE) pipe used for services shall be IPS-O.D. Controlled with Standard Outside Dimension Ratio (DR) of 9, pressure rating of 200 psi, nominal outside diameter of 2.375-inches, minimum wall thickness of 0.264-inches, PE 3408, all in conformance with ASTM D3035-95 "Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter". Pipe shall be in conformance with ANSI/AWWA C901-96 "Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm), for Water Service" as modified herein. Pipe shall have a (natural) inner core with a blue colored outer shell. Pipe shall have footage marks at a maximum interval of every two feet.
- B. Polyethylene material shall have a minimum cell classification in accordance with ASTM D3350-00 "Polyethylene Plastics Pipe and Fitting Materials" of 345444D for the core, which shall be 100% virgin material, and 345444E for the outer shell. Note that both of these materials are UV stabilized as signified by the "D" for natural colored and "E" for the colored shell. Pipe shall be in conformance with NSF 61 or 14. Manufacturer shall supply certification of compliance with all of the above requirements. Certification shall ship with the pipe on material sold to the City and shall always be submitted with shop drawings and catalog cuts. When required by the Director of the Department of Public Utilities and/or the Engineer of Record, certification shall be signed and sealed by a professional engineer licensed to practice in the state in which the manufacturer is located or in the State of Florida.
- C. All mechanical fittings utilized with HDPE pipe and tubing services shall:
 - 1. Conform with ANSI/AWWA C800-01 "Underground Service Line Valves and Fittings" as modified herein

2. Utilize AWWA Standard (Mueller) threads on tapped pipe and tapping saddles
3. Be designed and manufactured to withstand a sustained working pressure of 150 psi and to restrain the pipe against pull-out under loading beyond the tensile yield of the HDPE pipe or tubing to which it is connected.
4. Be supplied by the manufacturer with a certification of these capabilities and fittings shall not be accepted or installed without said certification. If fittings are being supplied to the City, the certification shall ship with the fittings and payment will not be made without this certification. At the discretion of the Engineer, this certification may be required to be signed and sealed by a professional engineer licensed to practice in the state where the supplying firm is located, or in the State of Florida. His decision in this regard shall be final. In all cases, fittings shall be installed in strict accordance with the manufacturer's instructions.

2.04 BACKFLOW PREVENTION DEVICES

- A. Backflow prevention devices shall be installed on all metered water services to non-residential properties, and on all residential services where the meter is larger than 5/8-inch in diameter. They shall be installed on private property between the meter and the building connection. The actual location of the assembly shall be coordinated with the Department of Public Utilities and the property owner.
- B. Backflow prevention devices for metered services between 1-inch and 3-inch diameter shall be Model 975XL2U Reduced Pressure Principle Assembly with Union Ball Valves as manufactured by Zurn/Wilkins, or City approved equal. For other diameters, Contractor to submit shop drawings for approval.

2.05 BALL METER VALVES

3/4", 1", 1-1/2" and 2" (B43-342W, B43-444W, BF43-666W & BF43-777W) ball meter valves shall be manufactured by Ford Meter Company or City approved equal.

2.06 Control gate valves two inches and smaller in diameter shall be NIBCO T-113-LF. No substitutions.

2.07 PACK JOINT COUPLINGS:

3/4", 1", 1-1/2" and 2" Pack joint couplings for cooper or plastic tubing (C44-33, C44-44, C44-66 & C44-77) and for male iron pipe threads (C84-33, C84-44, C84-66 & C84-77) shall be manufactured by Ford Meter Company or City approved equal. No substitutions.

2.08 INSERT STIFFENERS AND ACCESSORIES:

1", 1-1/2" and 2" (INSERT-52, INSERT-74-DR11 & INSERT-75-DR11) insert stiffeners and accessories be manufactured by Ford Meter Company or City approved equal. No substitutions.

2.09 BALL VALVE CURB STOPS:

3/4" (B11-333 & BL11-344-4.5) Curb stops shall meet AWWA C800, latest revision, and shall be ball valve curb stops with iron pipe threads shall be manufactured by Ford Meter Company or City approved equal. No substitutions.

2.10 METER FLANGES:

1-1/2" and 2" (CF31-66 & CF31-77) Outlet meter flanges shall be manufactured by Ford Meter Company or City approved equal. No substitutions.

2.11 STRAIGHT METER COUPLINGS:

3/4" and 1" (C38-23-2.5 & C38-44-2.625) straight meter couplings shall be manufactured by Ford Meter Company or City approved equal. No substitutions.

2.12 "U" BRANCH PIECES:

1" and 1-1/2" (U48-43-spacing & U48-64-9-spacing) "U" branch pieces shall be manufactured by Ford Meter Company or City approved equal. No substitutions or City approved equal.

2.13 ANGLE "U" BRANCH PIECES:

1" (UA48-43-65) Angle "U" branch pieces shall be manufactured by Ford Meter Company. No substitutions.

2.14 LINESETTERS:

3/4" and 1" (LSVB18-133W & LSVB21-444W) optional linesetters shall be manufactured by Ford Meter Company or City approved equal. No substitutions.

2.15 CALIBRATED PRESSURE RELIEF VALVES:

Use 1/2" and 3/4" WATTS 530C calibrated pressure relief valves or City approved equal or City approved equal or City approved equal.

2.16 CHECK VALVES:

Refer to Section 15115, "Check Valves", as applicable

2.17 DOUBLE CHECK VALVE ASSEMBLIES:

Refer to Section 2.04 above.

2.18 CORPORATION STOPS:

A. Corporation stops for one (1) inch services shall have AWWA thread inlet and a compressive connection outlet suitable for service pipe. Corporation stops for two (2) inch services shall be ball valves and have outside iron thread inlet and a compression connection outlet suitable for service pipe. Corporation stops shall meet AWWA C800, latest revision.

B. Corporation Stop Manufacturers or Equal:

1. Mueller
2. Ford
3. Hays Manufacturing Company

2.19 FLEXIBLE COUPLINGS:

Flexible couplings shall be straight cast couplings and shall be Rockwell International No. 431, or equal.

2.20 UNION

A. Copper to copper union.

B. Union Manufacturers or equal:

1. Mueller H 15400
2. Hays Manufacturing Company 5615

2.21 ANGLE VALVES:

Angle globe valves one (1) inch and two (2) inch diameter shall be Nibco or approved equal.

2.22 CASING PIPE:

Casing pipe shall be 3-inch minimum diameter (I.D.) Schedule 80 PVC or black iron, as determined by Engineer.

2.23 METER BOXES AND VAULTS FOR WATER SERVICE

A. The Contractor shall furnish and install all meter boxes and vaults required for new and/or relocated water services. All concrete meter vaults shall be manufactured in accordance with the applicable provisions of ASTM C858, "Underground Precast Concrete Utility Structures", in accordance with the City's

Standard Details and as specified herein. All materials used in the production of the concrete meter boxes and vaults shall be new and of recent manufacture. Aggregates shall not originate in salt or brackish water areas and no calcium chloride containing admixtures shall be used.

- B. Fine aggregate for concrete mixes shall consist of sand or stone screening, composed of hard durable grains, free of foreign matter such as loam, clay, dirt, organic matter or other impurities. Fine aggregate shall conform to the following gradation requirements:

Size Sieve	Percent Passing
3/8"	100
No. 4	90 to 100
No. 8	70 to 95
No. 16	50 to 85
No. 30	30 to 70
No. 50	10 to 45
No. 100	0 to 10

- C. Coarse aggregate for concrete mixes shall consist of gravel, broken stone or local limerock. Coarse aggregate shall be hard, durable and free of foreign matter such as loam, clay, dirt, organic matter or other impurities. It shall be free of adherent coatings. Coarse aggregate shall conform to the following gradation requirements:

Meter Boxes

Size Sieve	Percent Passing
3/4"	100
1/2"	90 to 100
3/8"	40 to 70
No. 4	0 to 85
No. 8	0 to 5

Meter Vaults

Size Sieve	Percent Passing
1-1/2"	100
1"	95 to 100
1/2"	25 to 60
No. 4	0 to 10
No. 8	0 to 6

- D. Cement shall be a standard brand of Portland cement meeting the requirements of ASTM C150-86, "Portland Cement", Type I. Different brands of cement, even if tested and approved, shall not be used.
- E. The forms shall be made from of a non-porous material with smooth surfaces and shall be accurate and strong enough to maintain the structure's dimensions within one half of the allowable tolerances given in Section 3.4 of ASTM C858. Forms shall be cleaned before each use, and shall be free of paint or other protective coatings that might cling to the surface of the concrete. Releasing agents applied to the form to aid in breaking the bond shall not be injurious to the concrete. Steel reinforcing shall be securely positioned in the form to maintain the concrete cover shown on the Standard Details.
- F. All reinforcing steel shall be free of rust, grease, dirt or mortar and shall be thoroughly cleaned of any such foreign matter or loose mill scale before being placed in position.
1. Wire reinforcement shall conform to ASTM A82, "Steel Wire, Plain, for Concrete Reinforcement."
 2. Wire mesh reinforcement shall conform to ASTM A185, "Steel Welded Wire, Fabric, Plain for Concrete Reinforcement."
 3. Bar reinforcement shall conform to ASTM A615-7a, "Deformed and Plain Billet-Steel Bars for Concrete Reinforcement", Grade 60, deformed, except that steel manufactured by the Bessemer process will not be accepted.
- G. Concrete mix for meter vaults:
1. The aggregates shall be sized, graded, proportioned and thoroughly mixed in a batch mixer with proportions of cement and water that will produce a homogeneous concrete having a compressive strength of 3500 psi at 28 days of age for the boxes and plates and 3000 psi for the vaults after the same curing period.
 2. Batched concrete shall be made in standard concrete mixers only, and not in mortar boxes, wheelbarrows or similar equipment.
 3. Mixers shall be standard mechanical (power-driven) rotary type for concrete. Mixers normally used for mortar or plaster mixing will not be permitted.
 4. Concrete shall be placed either by gravity into the form at a rate such that the concrete is plastic at all times and flows readily into all parts of the form and around all reinforcement steel without segregation of materials, or by high speed pneumatic rammer resulting in dense, evenly compacted

concrete without disturbing the reinforcement. The surfaces from top to bottom shall show uniform compaction.

5. The top surface of the molded items shall be flat and finished smooth while in the mold. Capping will not be permitted. Where required by the City, corners shall be rounded.
 6. Curing shall be by any method or combination of methods that will develop the required compressive strength within 28 days or less.
- H. Water used in mixing concrete that is not in the form of surface moisture on the aggregate shall be from the City's water supply or other approved source.
- I. The precast units may not be repaired without specific approval by the City.
- J. The quality of materials, manufacturing process, and the finished units shall be subject to inspection at any time by the City, and the supplier shall afford access for this purpose, if so required.
- K. Prior to installation of any of the above mentioned units, the Contractor shall furnish the Engineer, upon his request, a statement giving the following information:
1. Name of manufacturer.
 2. The source and type of cement.
 3. The source and specific gravities of the aggregates.
 4. The concrete mix proportions, and strength at 28 days.
 5. Name of admixtures, if any.
 6. Mill certificates for the reinforcement steel.
 7. Source of water.
- L. The precast units shall be subject to reject, either at the manufacturing plant or at delivery, upon failure to conform to any of the specified requirements herein. The following imperfections shall also be cause for rejection:
1. Defects that indicate any imperfect concrete mixing and molding.
 2. Surface defects such as honey-combed or open textured and damaged area which would affect the structural adequacy.
 3. Repaired areas or capping.
 4. Improper radius at corners or improper tolerances.
- M. Water meter boxes shall be concrete, as manufactured by Oldcastle or City-approved equal, and be either FL12 or FL36 models as applicable for size of meter(s) to be housed.

2.24 METER BOX COVERS:

- A. Water meter covers shall be manufactured of recycled composite plastic, RHC Rubber and a UV stabilizer material. Covers shall be ROHS compliant (Restrictions pertaining to the use of certain Hazardous Substances) not to exceed the maximum allowed levels of the following substances: lead, Mercury, Cadmium, Hexavalent Chromium, PBB and PBDE.
- B. The Water Meter Covers shall be H-20 load rated, ADA compliant, non-metallic suited for radio read, and constructed with a non-skid black surface pattern. The Covers shall be sized to fit all meter boxes of the appropriate type (refer to Section 2.26 above) and be of the drop-in lid type.
- C. The covers for the meter boxes shall have the words "WATER METER", plus the manufacturer's name and country of origin permanently marked on the top surface of the lid or cover for ease of identification. The letter size may range from 3/8" to 3/4" with the larger size lids or covers having the larger size letters. The letters on the lids or covers shall be slightly raised.
- D. Covers shall have mating surfaces so that mating parts will not rattle or rock under traffic. The lifting eye in lids shall be 1/2" wide by 2 1/2" long x 1" deep with the longest dimension parallel to the longest axis. Lifting pin shall be stainless steel 1/4" in diameter.
- E. The Water Meter Covers shall have a recessed cavity and a through hole for the installation of the electronic radio transmitters (ERT).The recessed cavity on top of cover shall have an outside diameter of 4 1/16" While the through hole shall measure 1 3/4" inches in diameter. ERT unit shall sit flush on top of lid after installation to prevent tripping.
- F. The Covers shall come with a ten (10) year warranty and shall be replaced at no cost by the manufacturer if lid fails during the warranty period. All standard Water Meter Box Covers shall be similar to "Pentek Access Boxes" or approved equal. The above standards shall be certified by the manufacturer prior to installation. The City reserves the right to limit the weights of the items to be furnished for ease in handling. The thickness of covers shall be consistent throughout, so that when the covers are in place the top surfaces are level with the frame of the box.
- G. Contractor should be aware the City periodically checks materials supplied for conformance to these specifications, which shall include materials testing, dimensions and tolerances, component weights, markings, finish, fit and such other matters as are necessary to assure supply of products meeting City requirements. Sample tests performed during shop drawing submittals will be at the Contractor's expense. If passed, it will be at the City's expense. Any re-testing due to materials not passing the tests shall be at the Contractor's expense.

H. Contractor shall provide test-based certifications from the manufacturer that Water Meter Covers are not buoyant or near neutral buoyancy and that their specific gravity is 1.10 or greater. Documentation certifying the water meter box covers meets the specific buoyancy and gravity requirements must be submitted along with the six copies of shop drawings. The City shall conduct buoyancy testing procedures verifying that covers will meet the no floating and specific gravity requirements set forth in these Specifications. During the testing procedure Water Meter Covers shall sink immediately and remain submerged at the bottom of any testing reservoir filled with salt water. Samples of all water meter box covers stipulated in this bid shall be submitted upon written notification by the Department of Public Utilities. Samples will be sent for examination and testing by Department of Public Utilities and/or testing laboratory retained by the Department of Public Utilities.

2.25 TAPPING SADDLES:

Double strap tapping saddles shall be constructed of 316 stainless steel, with neoprene gaskets cemented to the saddle body, and iron pipe threads designed to withstand a working pressure of five hundred (500) psi and accurately fit the pipe for which it is intended. The straps shall be forged steel with curvature accurately designed to fit pipe. All nuts and straps including threads shall be 316 stainless steel. Tapping saddles shall be Mueller K-10509, Clow F-1280, Smith Blair, or approved equal. Restraining Rods for mechanical joint fittings shall be A-316 stainless steel.

2.26 DRESSER COUPLINGS:

Dresser couplings shall be regular black couplings with plain gaskets. They shall be Dresser Style 90 with no substitutions allowed. Polyethylene liner shall be used to fully encase the dresser couplings.

2.27 LINE STOP FITTING:

Valve cut-in on the existing water main shall be performed under pressure using line stop fittings. The body of the fittings shall be carbon steel conforming to ASTM A-36. The flange shall be steel flanges Class D, conforming to AWWA C207 with stainless steel bolts and nuts. Restraining Rods for mechanical joint fittings shall be A-316 stainless steel. The line stop fitting shall be manufactured by International Piping Services Company (1-407-843-2800), or approved equal.

2.28 FIRE HYDRANTS:

A. All fire hydrants shall be of the dry-barrel type and shall conform in design, material and workmanship to AWWA C502. Hydrants shall have five and one quarter inch main valve opening and a three way nozzle arrangement. The connection pipe shall be ductile iron pipe conforming to AWWA C151, Class 52.

- B. The depth of bury, measured from the bottom of the connecting pipe to the ground line of the hydrant shall be three feet six inches minimum. Exact depth at each location shall be determined by depth of line to which the hydrant is connected.
- C. Inlet connection shall be six-inch mechanical joint. Typical installation detail is shown in the Contract drawing.
- C. Two - 2-1/2 inch hose nozzles and one - 4-1/2 inch pump nozzle connection threads shall conform to NFPA No. 194 (ANSI B26) Standard for Screw Threads and Gaskets for Fire Hose Couplings.
- D. Hydrants shall be furnished with accessories to include mechanical joint follower rings with set screws and at least one adjustable hydrant wrench with spanner included with every ten hydrants supplied. Barrel extension sections shall not be allowed on new fire hydrants, except by special permission from the ENGINEER.
- F. There shall be no shrubbery planted within 6 feet of any fire hydrant.
- H. All fire hydrants shall be Mueller Super Centurion Model A-423 ~~or American Darling Model B84B~~, with no substitutions allowed.

2.29 BACTERIOLOGICAL SAMPLE POINTS:

- A. Bacteriological sample points shall be provided in accordance to the Miami-Dade County Department of Health Standard Details, Specifications Policies and Procedures for Water Distribution.
- B. Sampling point shall not be removed until approval is obtained from Miami-Dade County Department of Health.

2.30 FITTINGS

- A. Refer to Section 15050 – Utility Piping, Fittings, Valves and Accessories.

PART 3 - EXECUTION

3.01 GENERAL

- A. Proper and suitable tools and appliances for the safe convenient handling and laying of pipe shall be used and, in general, conform to manufacturer's recommendations. At the time of laying, the pipe shall be examined carefully for defects, and should any pipe be discovered to be defective after being laid, it shall be removed and replaced with sound pipe by the Contractor at his expense.

- B. Pipe and fittings shall, at all times, be handled with great care to avoid damage. In loading and unloading, they shall be lifted with cranes or hoists or slid or rolled on skidways in such manner as to avoid shock. Under no circumstances shall this material be dropped or allowed to roll or slide against obstructions. Pipe and other material shall be distributed along the right-of-way in advance of installation only to the extent approved by the Engineer. Such materials shall be so placed as to keep obstruction to traffic minimum.
- C. Upon satisfactory completion of the pipe bedding, a continuous trough for the pipe barrel and recesses for the pipe bells, or couplings, shall be excavated by hand digging. When the pipe is laid in the prepared trench, true to line and grade, the pipe barrel shall receive continuous, uniform support with no pressure being exerted on the pipe joints from the trench bottom.
- D. Pipe shall be installed in accordance with the manufacturer's recommendation. Before being lowered into the trench, the pipes and accessories shall be carefully examined and the interior of the pipes shall be thoroughly cleaned of all foreign matter by methods acceptable to the Engineer. During suspension of work, for any reason, at any time, a suitable stopper shall be placed in the end of the pipe last laid to prevent mud or other foreign material from entering the pipe. Any pipe which is disturbed or found defective shall be immediately removed and replaced with sound pipe.
- E. Lines shall be laid straight.
- F. Any work within the pipe and fittings shall be performed with care to prevent damage to the interior wall of the pipe. Damaged interior walls shall be repaired or the pipe section or fitting replaced as required by the Engineer. No cables, lifting arms, hooks or other devices shall be inserted into the pipe or fitting. All lifting, pulling or pushing mechanisms shall be applied to the exterior of the pipe or fitting.
- G. After pipe has been laid, reviewed and found satisfactory, sufficient backfill shall be placed along the pipe barrel to hold the pipe securely in place during the conduction of the required tests.

3.02 HYDRANT INSTALLATION

- A. All fire hydrants shall be installed in strict accordance with the manufacturer's published recommendations, AWWA Standards, and all applicable codes, and the applicable provisions of this Section. All installations shall be to the satisfaction of the local fire and building department.

- B. New fire hydrants and branch runs shall be installed by the Contractor where shown on the Plans and in accordance with the Standard Details herein. Installation of a new fire hydrant shall include excavation, installation of the branch run, installation of the hydrant on the branch run, the concrete anchor at the hydrant elbow, protective concrete slab in non-sidewalk areas, replacing concrete sidewalk when in sidewalk area; steel posts filled with concrete, where required; plastic warning posts where required in FDOT right of way; backfilling and compaction. Fire hydrants shall be touched up or repainted with paint, as specified, where necessary, and the same type of paint shall be used to paint the guard posts after treating the galvanized surface with a neutralizer.
- C. All hydrants isolating valves with slip joints, friction type, or caulked joint connections shall be harnessed to the main pipe by means of welded steel harness sets, or clamps and steel rods, designed for this purpose. Dry barrel fire hydrants shall be set on a bed of pea gravel not less than 18 inches deep and 3 feet square, for drainage, or as required by local regulations and conditions.
- D. All 6-inch valve additions can be performed with partial-localized system isolation with the approval of the Engineer and proper notifications/coordination with the City (i.e. 48 hours minimum prior notice).
- E. Existing concrete thrust blocks shall be removed.
- F. Restrained joints shall be placed at all joints of fire hydrant and pipe connections.

3.03 INSTALLATION OF WATER SERVICES

High Density Polyethylene (HDPE) Pipe with Standard Outside Dimension Ratio (DR) of 9 shall be used for water services ≤ 3 .”

- A. Up to 2-inch diameter (galvanized steel is no longer used). Water services (single and dual) are going to be provided to connect proposed water meters and also to reconnect the existing water meters that remain in place. All HDPE services require the use of a 10 gauge stranded copper blue tracer wire.
- B. 2-Inch Services: Services from the new WMs shall consist of corporation stops, 2-inch HDPE tubing, curb stops and terminal fittings as shown in the City of North Miami Standards. The services shall be installed where designated in the field by the Engineer, and will be determined as soon as possible in order that the Contractor may tap the mains as they are installed. All meter boxes shall be installed in non-traffic and non-parking areas.
- C. Where meter boxes are located in existing sidewalks, the whole flag of sidewalk shall be removed and replaced with new concrete. The concrete walk shall be 4 inches thick and finished with the proper tools and techniques to resemble the

existing walk. The concrete support for meter boxes shall be eliminated when the box is installed in an existing sidewalk. Where meter boxes are located out of sidewalk areas, a concrete support is required. Concrete supports shall be to the established line and grade. Construct a 3'x3'x6"-thick concrete slab for non-sidewalk conditions. Meter boxes shall be set flush with the finished grade if inside walks, or with the top of the ground if out of sidewalk areas. All bends in copper tubing shall be made with an approved type tube bender to the satisfaction of the Engineer. Flattened, out of round or kinked tubing will not be permitted. Each 1-inch service connection to be installed on this Project will be one of the following:

- D. Short Single - Consisting of a short run of 1-inch HDPE tubing from the main on the same side of the street as the proposed meter, to the meter installation approximately 2 1/2 feet from property line. Single meter box installation included.
- E. Long Single - Consisting of 2-inch diameter HDPE tubing connected to a main on the opposite side of the street from the proposed/existing meter, requiring additional HDPE tubing to cross the street to the meter installation, and requiring a 3-inch (min. I.D.) Schedule 80 PVC or black iron casing pipe, to be installed under the street pavement 1 & 18" past EOPON both sides. Single meter box installation included.
- F. Short Dual - Consists of a run of 2-inch HDPE tubing from the main on the same side of the street as the proposed meter, to the meter about 2 1/2 feet from property line. Includes installation of two (2) single meter boxes or double meter box with brass yoke, and all fittings needed to split the service line.
- G. Long Dual - Same as above but from a main on the opposite side of the street from the meter, requiring additional HDPE tubing to cross the street to the meter installation, and requiring a 3-inch (min. I.D.) Schedule 80 PVC or black iron casing pipe, to be installed under the street pavement & 18" past the edge of pavement on each side. Includes installation of two (2) single meter boxes or double meter box with brass yoke.

3.04 INSTALLATION OF METER BOXES AND METERS

- A. Meters and meter boxes or vaults shall be installed by the Contractor at the direction of the City or Engineer. Finish grade of completed meter enclosure shall be flush with existing ground or as shown otherwise. Meter boxes or vaults shall be set or constructed plumb with the top set to conform to the slope of the finish grade. Lightly compacted earth backfill shall be placed inside of the meter boxes to depth indicated. Grade adjustment of the meter boxes or vaults shall be by using standard extension sections for the box or vault specified. Install meter in a

horizontal position with the meter dial or dials at a depth below the cover as shown on the plans. Backfill around meter vaults as specified for adjoining pipe.

- B. Water meters shall be reinstalled by the Contractor. Corporation stops shall be in the open position and angle stops shall be closed, prior to reinstallation of the meter.
- C. Withhold reinstalling meters until the new water system is ready for operation. The remainder of the service connection, excluding the meter, may be installed at any time during or after construction of the main.
- D. Where existing meters are designated for relocation, Contractor shall read, record, and submit existing meter readings on the form supplied by the City prior to removal of meters, and after completion of relocation work. Contractor shall furnish Engineer and City with copies of all meter readings on a monthly basis or as requested by the Engineer.

3.05 TESTING AND DISINFETION OF WATER MAIN LINES

Refer to Section 15995 - Pipeline Testing and Disinfection.

3.06 TESTING AND DISINFETION OF WATER SERVICE LINES

Refer to Section 02515 - Water Service Connections and Transfers.

END OF SECTION

APPENDIX C

APPROVED

MANUFACTURER'S

LIST

**NE 6th AVENUE
LIST OF APPROVED PRODUCTS - WATER**

		Water	
Description	Manufacturer	Model #	Comments
Air Release	ARI	D-040 (nylon body)	Combination
	Htec	986	Combination
ARV Vault	US Foundry	7665 Water Lid	
Auto Blow Off	Hydro Guard	HGI Standard	
Backflows	Watts	Model as required for application	
	Febco	Model as required for application	
	Ames	Model as required for application	
	Wilkins	Model as required for application	
Casing End Seals	Advance Products	AC and AW	
	Cascade Water Works	CCES	
	CCI Pipeline	ESW/ESC	
	Power Seal	4810 ES	
Casing Spacer	Advance Products	S/12	
	Cascade Water Works	CCS	
	CCI Pipeline	CCS 12	
Check Valve	American	N/A	
	Clow		
	Clow		
Corporation Ball Stops	Ford	FB1000	
	Mueller	P25008	
Curb Stops	Ford 1"	B41-444W PJ x FIP	1" Single Service
DIP Bell Joint Restraints	EBAA Iron Inc.	Series 1500 TD	
4"-12"	Uni-Flange	Series 1390	
	Sigma	Series PWP	
	Smith Blair	Series 165	
	Star	Series 1100	
DIP MJ Restraint	EBBA Iron Inc.	Series 1100	
	Uni-Flange	1400	
	Sigma	One Lok Series D	
	Star	Series 3000	
	Tyler Union	TufGrip Series TLD	
DIP Bell Restraints 16" up	EBAA Iron Inc.	Series 1700	
	Sigma	Series PWP/DI	
DIP Bell Restraint locking Gaskets	American	Fast Grip Gasket	
	U. S. Pipe	Field lok 350 Gasket	
DIP Pipe	American	Cement lined	Blue
	U. S. Pipe	Cement lined	Blue
Fittings M/J	American	Class 350	Cement lined
	Sigma	Class 350	Cement lined
	Star	Class 350	Cement lined
	Tyler Union & Clow	Class 350	Cement lined
Flow Meter	(By City)		
Gate Valves	Mueller	Series-2360/2361	
4" up	American	Series-2500	
	Clow	2640	
	Kennedy	KS-RW	
Generators	Cummings		
HDPE Drill	JM Eagle	HDPE	Blue-DR11
	Performance Pipe	Drisco Plex 4000	Blue-DR11
	Poly Pipe, Inc.	EHMW Poly	Blue-DR11
	CertainTeed	Certa-Lok C900/RJ	Blue
Hydrants	Mueller 5-1/4"	Super Centurion A-423	Yellow w/blue caps
ID Marking	3" Metallic Tape	3" x 1000' Det. Tape	Water buried below
Line Stops	JCM		Stainless Saddles
	Romac		Stainless Saddles

**NE 6th AVENUE
LIST OF APPROVED PRODUCTS - WATER**

		Water	
Description	Manufacturer	Model #	Comments
Meterbox	Oldcastle	FL12 / FL36	
PE Tubing	Endot	IPS SDR9	Blue
	Drisco	IPS SDR9	Blue
	Charter Plastics	PE3408/3608 IPS SDR9	Blue
Poly Service Clamp	Ford	FSC w/full wrap gskt	3" wide for CTS
	Smith Blair	244 full circle redi clp	3" wide for CTS
PRV's	Clay		
	Bermad	720I	
PVC Pipe MJ Restraints	EBBA Iron Inc.	Series 2000 PU	
	Uni-Flange	Series 1500	
	Sigma	Series SICE	
	Star	Series 4000	
	Tyler Union	Series TLP	
PVC Bell Joint Restraints	EBBA Iron Inc.	1500	
	Uni-Flange	Series 1390	
	Sigma	Series PWP	
	Smith Blair	Series 165	
	Star	Series 1100 C	
PVC Bell Joint Restraints 16" up	Tyler Union	Tuff Grip 300 C	
	Sigma	PV Lok PWP	
	Smith Blair	Series 165	
	Star	Series 1100 C	
	PVC 900 DR18 Bell & Spigot	JM Eagle	C-900
Natl Pipe & Plastic Inc		C-900	Blue
N American Pipe Corp		C-900	Blue
Service Saddles (Brass)	Ford	F202	
	JCM	402CC	
	Romac	202 NU	
	Smith Blair	313CC	
	Mueller	DR2A	
Service Saddles HDPE (Brass)	Ford	FCP 202	SDR9-SDR 17
	Romac	Series 202 N-H	SDR9-SDR 17
	Smith Blair	Series 317-1 for HDPE	SDR9-SDR 17
Single Services	1 1/2"	BF43-666W PJ x FLG	1-1/2" Single Service
	2"	BF43-777W PJ x FLG	2" Single Service
	Mueller 1"	P25170	1" Single Service
	1 1/2"	P25170	1-1/2" Single Service
	2"	P25170	2" Single Service
Tapping Sleeves Clamps	JCM	432 S. S	
	Romac	SST	
Tapping Valves	American	American	
	Mueller	Mueller	
	Kennedy	Kennedy	
Tracing Wire	Main lines & Services	14 GA	Blue
	Directional Drills	Copperhead	Blue
Tracing Wire Splice	Wire Connection	14 GA wire nut	N/A
	Waterproofing Conn.	SA-102	Up to 3 - 10 GA wires
Valve Box	Tyler Union	6850 Water	"WATER" lid
	Mueller	10364 Water	"WATER" lid
	Star	VB 001	"WATER" lid
	Sigma	VB 261	"WATER" lid
Wet Well Safety Grates	Halliday Product		
Y Branch	Ford	Y 44-264-NL	
	Mueller	P-15343	