STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

December 10, 2021

Addendum No. 2
RE: Contract # C204633
WBS # 34839.3.GV5
FEDERAL-AID NO. NHPIM-0040(68)
Forsyth County (U-2579AB)
FUTURE I-74 (WINSTON-SALEM NORTHERN BELTWAY) FROM I-40 TO I-40 BUS/US 421

December 21, 2021 Letting

To Whom It May Concern:

Reference is made to the proposal form furnished to you on this project.

The following revisions have been made to the proposal:

Page No.	Revisions
Proposal Cover	Note added that reads "Includes Addendum No. 2 Dated 12-10-2021"
UC-1 thru UC-24	The Unit Project Special Provision entitled Utility Construction has been revised. A General Note was added at the beginning of Page UC-1. No other changes were made to the Unit Project Special Provision, however the entire Unit Project Special Provision has been replaced as the insertion of the General Note shifted the subsequent text on all remaining Pages of the special provision.

Please void the above listed Pages in your proposal and staple the revised Pages thereto.

On the item sheets the following pay item revisions have been made:

Item	Description	Old Quantity	New Quantity
0487-8133000000-E-414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	5,970 TON	6,207 TON

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

0490-8590000000-E-876	RIP RAP, CLASS A	15 TON	85 TON
0491-8594000000-E-876	RIP RAP, CLASS B	15 TON	85 TON
0492-8622000000-E-876	GEOTEXTILE FOR DRAINAGE	1,970 SY	2,990 SY

The Contractor's bid must include these pay item revisions.

The electronic bidding file has been updated to reflect these revisions. Please download the Addendum File and follow the instructions for applying the addendum. Bid Express will not accept your bid unless the addendum has been applied.

The contract will be prepared accordingly.

Sincerely,

DocuSigned by:
Ronald E. Davenport, Jr.
F81B6038A47A442...

Ronald E. Davenport, Jr., PE
State Contract Officer

RED/jjr
Attachments

cc:
Mr. Lamar Sylvester, PE
Mr. Pat Ivey, PE
Mr. Boyd Tharrington, PE
Mr. Jon Weathersbee, PE
Mr. Ken Kennedy, PE
Project File (2)
Mr. Forrest Dungan, PE
Ms. Jaci Kincaid
Ms. Lori Strickland
Ms. Penny Higgins
Mr. Mike Gwyn
Mr. Kyle Kempf

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No.2 DATED 12-10-2021

DATE AND TIME OF BID OPENING: **DECEMBER 21, 2021 AT 2:00 PM**

CONTRACT ID	C204633
WBS	34839.3.GV5

FEDERAL-AID NO.	NHPIM-0040(68)
COUNTY	FORSYTH
T.I.P. NO.	U-2579AB
MILES	2.727
ROUTE NO.	I 74
LOCATION	FUTURE I-74 (WINSTON-SALEM NORTHERN BELTWAY) FROM I-40 TO I-40 BUS/US 421.
TYPE OF WORK	GRADING, DRAINAGE, PAVING, AND STRUCTURE.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

PROJECT SPECIAL PROVISIONS
Utility Construction

DAVIS • MARTIN • POWELL
ENGINEERS & SURVEYORS
T: 336-886-4821 I F: 336-886-4458 I License: F-0245
6415 Old Plank Road, High Point, NC 27265 I www.dmp-inc.com

NORTH CAROLINA PROFESSIONAL SEAL 26457 ENGINEER ANDREW P. LARRICK
DocuSigned by: Andrew P. Larrick D76E6[illegible]2CAE5840...
12/8/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

General Note:

In these Project Special Provisions, where manufacturers are listed for certain products, the cited examples are used only to denote the quality standard of the products desired, and they do not restrict bidders to a specific brand, make, manufacturer or specific name; they are used only to set forth and convey to bidders the general style, type, character and quality of products desired; and equivalent products will be acceptable, subject to review and approval by the utility system owner.

Revise the 2018 Standard Specifications as follows:

Page 2-1, Subarticle 200-3, Construction Methods (D)
Delete the following:
Cut off and plug at the right-of-way or construction limits any private water or sewer line intercepted during the construction of the project.

Replace with the following:
Locate and do not damage any private water or sewer line intercepted during the construction of the project. Immediately repair any water or sewer line damaged during construction of the project.

Page 2-8, Article 220-3, Construction Methods
Add the following:
All blasting operations will be conducted in strict conformance with the existing ordinances of the City of Winston-Salem (or any other governing authority) and accepted safe practices relative to the storage and use of explosives.

Page 3-2, Article 300-4 Preparation of Pipe Foundation
Delete the last 2 sentences of the second paragraph.

Page 3-3, Article 300-7 Backfilling
Add the following to line 39:
Flowable fill, if approved, must not come in contact with the pipe.

Page 8-37, Article 858-3 Construction Methods
Add the following paragraph after the first paragraph:

The use of cast iron or steel fittings in the adjustment of manholes will not be permitted on this project except where it is considered by the Engineer to be in the best interest of the Department to allow rings to be used. When rings are permitted for the adjustment of manholes, the rings shall have satisfactory bearing on the existing manhole frames and 50 percent of the circumference shall be tack welded at four equally spaced locations as directed by the Engineer. If the existing covers do not fit the rings, furnish and install new covers at no additional expense to the Department.

Page 10-61, Article 1034-2, Plastic Pipe
Delete in its entirety. City does not allow PVC pipe in its gravity sewer system and there is no force main replacement included in this project.

Page 10-61, Article 1034-3, Concrete Pipe
Delete in its entirety. City does not allow new concrete pipe in its sewer system.

Page 10-61, Subarticle 1034-4 (A), Gravity Flow Sewer Pipe
Add the following sentences after the third paragraph:

Rubber gasket joints shall conform to ANSI A21.11 (AWWA C111). Pipe design laying condition will be Type 2, flat-bottom trench with backfill lightly consolidated to centerline of pipe. Pipe for sanitary sewer shall be minimum thickness Class 50.

The interior of ductile iron pipe for sanitary sewer will be lined with 40 mils of ceramic epoxy. All bells and spigots for ductile iron sanitary sewer pipe must be lined with a minimum of 8 mils of joint compound. The exterior of all ductile iron pipe shall be coated with a bituminous coating.

For fittings, all glands shall be ductile iron, not gray iron. Fittings shall have a minimum pressure rating of 250 psi. Rubber gasket joints shall conform to ANSI A21.11 (AWWA C111). "DI" or "Ductile" shall be cast on each fitting.

The interior of ductile iron fittings for sanitary sewer will be lined with 40 mils of ceramic epoxy. All bells and spigots for sanitary sewer ductile iron fittings must be lined with a minimum of 8 mils of joint compound. The exterior of all ductile iron fittings shall be coated with a bituminous coating. Ductile iron fittings coated on the interior and exterior with 8 mils of fusion-bonded epoxy in accordance with ANSI/AWWA C116 and ANSI/AWWA C550 are acceptable.

Restrained joint ductile iron pipe and fittings with a gripping gasket as the only means of restraint will not be allowed.

Page 10-61, Subarticle 1034-4 (B), Force Main Sewer Pipe
Delete in its entirety. There is no force main replacement in this project.

Page 10-62, Section 1034 Sanitary Sewer Pipe and Fittings
Add the following Article:

1034-5 Cast Iron Soil Pipe
All cast iron soil pipe and fittings will conform to ASTM A74 and be classified as SV (service weight). Single or double hub is acceptable. No-hub pipe shall not be used. All pipe and

fittings shall be uniformly coated with bituminous coating. Joints will be rubber gasket. Rubber gaskets shall conform to ASTM C564. 4" x 4" combination wye and eighth bends shall be short pattern -Fig. No. SV-32 by Charlotte Pipe and Foundry (or approved equal). 4" cleanouts shall consist of a 4" service weight cast iron ferrule (with 3" iron pipe size tap) and a 3" brass plug. The plug shall have a low raised square head (Southern Code). Cleanouts shall be Part Number 184 by Jumbo Manufacturing Company (or approved equal).

Page 10-62, Article 1036-2, Copper Pipe
In Paragraph 2, delete: "Use flared or"

Page 10-62, Article 1036-3, Plastic Pipe
Delete in its entirety.

Replace with: POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS (2 INCH ONLY): Pipe and fittings shall be manufactured and tested in the U.S.A. All two (2) inch PVC pipe shall have a hydrostatic minimum working pressure of 250 psi (SDR 17 or SDR 13.5) and pipe shall conform to ASTM D-2241 or the latest revision. PVC pipe shall have the National Sanitation Foundation (NSF) seal of approval. Pipe jointing shall be push on integral bell type with elastomeric joints and shall conform to ASTM D-3139. PVC pipe shall be furnished in standard lay lengths of twenty feet with one or both ends tapered for use with the integral bell. Any lubrication used shall conform to AWWA and the pipe manufacturer. Fittings shall be push on joint PVC with elastomeric joints and shall conform to ASTM D-3139. Fittings shall have a hydrostatic minimum working pressure of 200 psi (SDR 21). If, for any reason, the Engineer finds any or all PVC pipe unacceptable, the Contractor shall be responsible for obtaining acceptable pipe. The Engineer's acceptance or rejection of all pipe will be final.

Page 10-62, Article 1036-4, Steel Pipe
Delete Subarticle **(A) Water Pipe** in its entirety. City does not allow new steel pipe in its water system.

(B) Encasement Pipe
Add the following paragraph after the first paragraph:

Steel encasement pipe shall be smooth wall pipe with welded joints. The encasement pipe must be capable of withstanding highway loadings and must have an inside diameter which will allow the carrier pipe to be removed subsequently without disturbing the encasement pipe. Minimum wall thicknesses for steel encasement pipe are as follows: ENCASEMENT PIPE SIZE (Outside Diameter) WALL THICKNESS (NCDOT) 16" 0.250", 18" 0.250", 20" 0.250", 24" 0.250", 30" 0.312", 36" 0.375", 48" 0.500". Pipe diameter shall be as shown on the Engineer's drawings.

Page 10-63, Article 1036-5, Ductile Iron Pipe and Fittings
Add the following after the second paragraph:

Rubber gasket joints for pipe shall conform to ANSI A21.11 (AWWA C111). Pipe design laying condition will be Type 2, flat-bottom trench with backfill lightly consolidated to centerline of pipe. Ductile iron pipe for water shall be Pressure Class 350 for 3" – 16" and Pressure Class 250 for 18" and above.

The exterior of all ductile iron pipe and fittings shall be coated with a bituminous coating.

For fittings, all glands shall be ductile iron, not gray iron. Fittings shall have a minimum pressure rating of 250 psi. Rubber gasket joints shall conform to ANSI A21.11 (AWWA C111). "DI" or "Ductile" shall be cast on each fitting.

Page 10-63, Article 1036-5, Ductile Iron Pipe and Fittings
Add the following sentences to the third paragraph:

All retainer glands shall be wedge-action glands with torque-limiting twist off nuts. Glands shall be Megalug Series 1100 by EBAA Iron, Inc., Uni-Flange Series 1400 by Ford Meter Box Company, Inc., RomaGrip by Romac Industries, Inc., One-Lok Series SLDE by Sigma Corp., Stargrip Series 3000 by Star Pipe Products, Cam-Lock Series 111 by Smith-Blair, Inc., EZ Grip by SIP Industries, Tufgrip by Tyler Union, or approved equal.

Page 10-63, Article 1036-6, Fire Hydrants
Delete the following:
"Outlets shall have national standard fire hose coupling threads. Use fire hydrants with a minimum bury length of 36 inches."

Add the following:
All fire hydrants shall be dry-barrel fire hydrants which comply with ANSI/AWWA C502. All hydrants will have a dry top with O-ring seals which permanently seal off the stem operating threads from water and keep the lubricant in. All hydrants shall be opened by turning the operating nut on top of the hydrant counterclockwise. The operating nut and cap nuts shall be pentagon-shaped, 1 ½" measured point to flat. The main valve shall be a compression type valve with a valve opening of 5 ¼". Each hydrant will have two hose nozzles and one steamer nozzle. The 2 ½" hose nozzles shall have national standard threads. The steamer nozzle shall have a 5" integral Storz connection. The nozzle shall be fastened into the hydrant barrel by mechanical means, but shall not be leaded into the barrel. Nozzle caps shall be chained to the barrel. All hydrants will be furnished with a breakable traffic feature that will break upon impact. The feature shall consist of a breakable safety flange on the barrel and a breakable safety coupling in the main valve stem. Hydrants must have a bronze main valve seat ring that threads into a bronze drain ring. Each hydrant shall have at least two bronze drain outlets. All hydrants will have 6" mechanical joint base connections or the Alpha connection by American Flow Control unless otherwise specified by the Engineer. Hydrants shall be designed for a minimum working pressure of 250 psi. Assembled hydrants shall be subjected to hydrostatic tests of twice the rated working pressure in accordance with ANSI/AWWA C502. All exterior iron surfaces below ground level shall be covered with two coats of asphaltic varnish or fusion bonded epoxy. All exterior iron surfaces above ground level shall be painted yellow to the satisfaction of the Engineer. Yellow paint shall be Rust-Oleum 7446, Rust-Oleum V2148, Kimball Midwest 80-942, or manufacturer's standard equivalent. All interior iron surfaces of the hydrant shoe which are in contact with water (including the lower valve plate and nut) shall be coated with a minimum of 8 mils of fusion bonded epoxy or liquid epoxy in accordance with ANSI/AWWA C550. All hydrants shall have a thrust or anti-friction washer in the operating area of the hydrant bonnet. A weather cap around the operating nut on top of the hydrant is required.

Hydrants accepted by the City of Winston- Salem are as follows:
(1) Super Centurion 250, manufactured by Mueller Company
(2) B-84-B-5, manufactured by American Flow Control
(3) K-81D Guardian, manufactured by Kennedy Valve Company
(4) Medallion, manufactured by Clow Valve Company

Page 10-63, Article 1036-7, Water Valves

(A) Gate Valves:
Delete in its entirety, and replace with the following:

All gate valves shall be resilient-seated gate valves which meet the specifications of ANSI/AWWA C509 or ANSI/AWWA C515. The valve body, bonnet and seal plate shall be coated on all exterior and interior surfaces with a minimum of 8-10 mils of fusion-bonded epoxy in accordance with ANSI/AWWA C550. The valve shall incorporate a guide system with guide lugs on the wedge or on the body. The wedge shall be gray or ductile iron, fully encapsulated with rubber (including guide lugs and stem nut holder). Non-rising stem valves shall have two O-ring seals above the stem thrust collar that can be replaced with the valve under pressure. Non-rising stem valves shall also have a thrust washer on the stem thrust collar. Valves used for buried service will have a non-rising stem, mechanical joint end connections, and a 2" square operating nut. The word "OPEN" and an arrow to indicate the direction of opening the valve shall be cast on the flanged base of the operating nut. Above ground valves, unless otherwise specified, will have an outside screw and yoke rising stem or a non-rising stem, flanged end connections, and a handwheel to operate the valve. The word "OPEN" and an arrow to indicate the direction of opening the valve shall be cast on the rim of the handwheel. All valves will open by turning the nut or handwheel counterclockwise. Valves installed in manholes will normally be considered to be buried service valves and valves installed in vaults will normally be considered to be above ground valves.

Resilient-seated gate valves shall be designed for a minimum working pressure of 250 psi. Each valve shall be seat tested at the rated working pressure and shell tested at twice the rated working pressure in accordance with ANSI/AWWA C509 - Section 5 or ANSI/AWWA C515 - Section 5. All valves shall be warranted for l0 years from date of purchase against defective materials and workmanship.

Gate valves furnished under these specifications must be manufactured by one of the following or approved equal:
(1) Clow Valve Company
(2) M & H Valve Company
(3) American Flow Control
(4) U.S. Pipe and Foundry Company
(5) Mueller Company
(6) Kennedy Valve Company

(B) Bronze Gate Valves:
Delete in its entirety, and replace with the following:

The use of bronze gate valves shall not be permitted.

(C) Tapping Valves:
Delete in its entirety and replace with the following:

Use tapping valves conforming to the special provision above for gate valves. The valve shall have an inlet flange (with centering ring) for connection to the flanged sleeve outlet.
Tapping valves furnished under these specifications must be manufactured by one of the following or approved equal:
(1) Clow Valve Company
(2) M & H Valve Company
(3) American Flow Control
(4) U.S. Pipe and Foundry Company
(5) Mueller Company
(6) Kennedy Valve Company

Page 10-63, Article 1036-8 Sleeves, Couplings and Miscellaneous
(A) Tapping Sleeves - Add the following after the first paragraph:

Tapping sleeves and valves shall be used for "wet" taps into existing water mains as indicated on the Engineer's drawings. The Contractor shall verify the type of material, size, etc., of the existing main prior to ordering the sleeve. The sleeve shall be a split sleeve with mechanical joint end connections and a flanged outlet.

All tapping sleeves and valves shall be water tested before the tap is made. Test pressure shall be 200 psi. All tapping sleeves and valves shall be installed level. The Engineer must be present during the entire tapping and testing process.

Tapping sleeves furnished under these specifications must be manufactured by one of the following or approved equal:
(1) Mueller Company
(2) American Flow Control
(3) Tyler Pipe Company
(4) U.S. Pipe and Foundry Company
(5) Kennedy Valve Company

Page 10-64, Article 1036-9, Service Line Valves and Fittings
Add the following to the first paragraph:

All corporation stops shall be made of brass. All brass fittings shall be manufactured in accordance with AWWA C800 and ASTM B-584. All brass components in contact with potable water must be made from CDA/UNS Brass Alloy C89833 with a maximum lead content of 0.25% by weight. Brass alloys not listed in ANSI/AWWA C800 Paragraph 4.1.2 are not approved. All fittings shall be UL classified to NSF/ANSI 61 and NSF/ANSI 372 standards and stamped or embossed with a mark or name indicating that the product is manufactured from the low-lead alloy as specified. All corporation stops shall be of the ball valve type with AWWA inlet threads.

Page 10-64, Article 1036-9 Service Line Valves and Fittings
Add the following to the second paragraph:

Service saddles shall be used as follows:

Pipe Size	Maximum Size Direct Tap without Saddle
4"	3/4"
6"	1"
8"	1"
12"	1-1/2"

The saddle body shall be ductile iron with corrosion-resistant paint. The body shall have a CC threaded outlet. Attached to the body shall be double U-bolt straps. Straps, washers and nuts shall be Type 305 or Type 316 stainless steel. Saddles shall be F202-SSB by Ford, or 202SSU by Romac Industries, Inc.

Page 10-64, Article 1036-9 Service Line Valves and Fittings
Add the following paragraph after the third paragraph:

Use brass fittings manufactured in accordance with AWWA C800 and ASTM B-584. All brass components in contact with potable water must be made from CDA/UNS Brass Alloy C89833 with a maximum lead content of 0.25% by weight. Brass alloys not listed in ANSI/AWWA C800 Paragraph 4.1.2 are not approved. All fittings shall be UL classified to NSF/ANSI 61 and NSF/ANSI 372 standards and stamped or embossed with a mark or name indicating that the product is manufactured from the low-lead alloy as specified.

Page 10-64, Section 1036 Water Pipe and Fittings
Add the following Articles:

1036-10 Retainer Glands
All retainer glands shall be wedge-action glands with torque-limiting twist off nuts. Glands shall be Megalug Series 1100 by EBAA Iron, Inc., Uni-Flange Series 1400 by Ford Meter Box Company, Inc., RomaGrip by Romac Industries, Inc., One-Lok Series SLDE by Sigma Corp., Stargrip Series 3000 by Star Pipe Products, Cam-Lock Series 111 by Smith-Blair, Inc., EZ Grip by SIP Industries, Tufgrip by Tyler Union, or approved equal.

1036-11 Casing Spacers
Casing spacers shall be made of Type 304 stainless steel (including risers and hardware). Each shell shall be PVC lined and shall have bolted flanges. Casing spacer runners shall be constructed of ultra-high molecular weight polymer (minimum 1-1/2" wide) with a friction coefficient of not more than 0.12. Risers shall be 10 gauge. Risers and runners for top and bottom shells shall be of equal height. With approval of the Engineer, unequal height risers and runners may be used to obtain proper grade for sanitary sewer mains. Casing spacers must be designed to ensure that only the runners of the spacer are in contact with the steel encasement pipe. The bell of the carrier pipe will not be allowed to be in contact with the encasement.

Casing spacers shall be manufactured by one of the following or approved equal:
(1) Cascade Waterworks Manufacturing Company

(2) Advance Products and Systems, Inc.
(3) BWM Company
(4) Black Widow by Spider Manufacturing, Inc.

Page 10-119, Article 1074-8 Steps
Replace with the following:

All manhole steps shall conform to current OSHA standards and ASTM C478. The approved step shall conform to the City of Winston-Salem detail drawing for "Polypropylene Manhole Step". All other steps must be approved by the Engineer prior to being installed.

Page 15-1, Article 1500-2 Cooperation with the Utility Owner
Add the following after the second paragraph:

The water and sewer utility owner is the City of Winston-Salem City/County Utilities Division (City). The contact person is Todd Lewis, PE, Senior Civil Engineer. He can be reached by phone at (336) 747-6842. All coordination with shutdowns and tie-ins to existing water and sewer facilities are to be coordinated through CCUC's main point of contact.

Page 15-2, Article 1500-7, Submittals and Records
Add the following after the third paragraph:

As a final measure required for acceptance, the Contractor shall clean and televise all sanitary sewer mains prior to requesting final inspection. The Contractor shall televise the entire sewer main and all service connections using standardized NASSCO (PACP, MACP, & LACP) practices, unless otherwise specified.

Two copies of the entire video inspection along with a properly formatted PACP standard exchange database shall be submitted to the Engineer on a data disc (DVD or flash drive).

Page 15-2, Article 1500-9 Placing Pipelines into Service
Add the following after the second paragraph:

Obtain approval from City prior to placing a new water line into service. Use backflow prevention assemblies for temporary connections to isolate new water lines from existing water line. A representative from City will witness all tests performed on their water facilities.

Obtain approval from City prior to placing a new sewer line into service. A representative from City will witness all tests performed on their sewer facilities.

Page 15-3, Article 1505-2 Materials:
Replace Line 12 with the following:

Use Class VI select material for foundation conditioning and bedding.

Page 15-4, Subarticle 1505-3 (C), Bedding:
Replace the first three (3) sentences with the following:

Stone bedding shall have a minimum thickness beneath the pipe of four inches (4") or one-eighth of the outside diameter of the pipe, whichever is greater. The required thickness shall be determined by the Engineer.

Page 15-4, Subarticle 1505-3 (E), Thrust Restraint:
Replace the fourth paragraph with the following:

Concrete thrust blocks shall be constructed as directed by the Engineer at all bends, tees, tapping sleeves, tapping saddles, reducers, plugs, etc. to provide restraint against thrust resulting from internal pressure. Any exceptions to this such as restrained joints or mechanical joints with retainer glands will be noted on the Engineer's drawings or otherwise specified. Thrust blocks will not be required for restrained joint pipe (exception - blocking will be required when connecting restrained pipe to existing pipe).

All thrust blocks will be constructed of a minimum of Class A concrete. Thrust blocks for bends, fire hydrants, tees and stub-outs shall be constructed in accordance with the City of Winston-Salem thrust block detail drawings.

Polyethylene shall be placed over all fittings before the concrete is poured. All nuts and bolts shall be clear of concrete so that the joint will be accessible. Plywood shall be used as forms for blocking. Concrete is to be poured only against stable undisturbed soil and should be allowed to set prior to any backfilling. Thrust blocks should be allowed to cure two days prior to pressure testing the water main. Higher strength concrete may be required when it is necessary to pressure test prior to the end of the two-day curing time.

Page 15-6, Subarticle 1510-3 (A), General
Replace the words "36" to 42" of cover" with "a minimum of 36" of cover".

Page 15-6, Subarticle 1510-3 (B), Testing and Sterilization
Add the following to second paragraph:

The backflow preventer must be approved by the City.

Page 15-6, Subarticle 1510-3 (B), Testing and Sterilization
Add the following to the fifth paragraph:

Prior to pressure testing and disinfection, the Contractor shall flush all water mains with a polyurethane foam pipe pig (minimum 5 pounds per cubic foot density) by Knapp Poly Pig, Inc. or approved equal. The pipe pig shall be propelled hydraulically through the mains at a rate sufficient to remove all foreign matter. Valves shall be operated in a manner which will direct the pipe pig toward the end of the main or a selected discharge point. The pig shall be removed through an open end of the main, a fitting, or through a fire hydrant which has the main valve seat ring removed. Flushing shall continue until the Engineer determines that the mains are free from all foreign matter. The Engineer must be present during the entire flushing process. Any work done without the Engineer's supervision will not be accepted.

Page 15-6, Subarticle 1510-3 (B), Testing and Sterilization
Add the following to the sixth paragraph:

The Engineer must be present during the entire sterilization process. Any work done without his supervision will not be accepted. Pounds of calcium hypochlorite for sterilization shall be as follows:

Pounds of Calcium Hypochlorite Required to Sterilize Water Mains with 100 Parts Per Million of Chlorine

Main Size	Pounds Per 1,000 Feet of Pipe
2"	0.2
4"	0.8
6"	1.8
8"	3.1
12"	7.0
16"	12.4
20"	19.4
24"	28.0
30"	43.9
36"	63.0

Page 15-6, Subarticle 1510-3 (B), Testing and Sterilization
Add the following to tenth paragraph:

The City must be notified prior to flushing. De-chlorination shall be accomplished using equipment by Pollard or approved equal. While the main is being flushed, all service connections shall be thoroughly flushed in order to disinfect each connection.

Page 15-6, Subarticle 1510-3 (B), Testing and Sterilization
Add the following before the last paragraph:

After final flushing and before the main is placed in service, a sample or samples shall be collected by City personnel from the line and tested for bacteriological quality. The City, upon 24 hours advance notice, will furnish the personnel and laboratory facilities to conduct the required bacteriological tests. No samples will be taken on Friday, the day before a holiday or on a holiday. The City will sample water from the pipes and test the water in their laboratory. Do not place the water lines into service until tests performed by the City are satisfactory.

Page 15-8, Subarticle 1515-3 (A), Valves
Add the following paragraph:

All existing valves larger than 12" that must be operated shall be operated by the City.

Page 15-8, Subarticle 1515-3 (B), Meters
Add the following paragraphs after the second paragraph:

For existing service connections being replaced:
Prior to connecting the dwelling or business to the new meter, the Contractor shall expose a portion of the water line from the dwelling or business to determine the material and have proper fittings for reconnection to the new meter box. After the new water line and connections have been pressure tested & disinfected & approved by the Engineer, the Contractor shall remove the existing meter and install it in the new yoke. The Contractor shall reconnect the dwelling or business side water line to the new meter box. This reconnection shall be directed by the Engineer and performed in a timely manner so that the dwelling or business is without water for a minimal time.

For relocated meters (with change to horizontal location):
The Contractor shall install a new meter box, angle valves, yoke, tee and ball valve as directed by the Engineer. The Contractor shall expose a portion of the water line from the dwelling or business to determine the material and have proper fittings for reconnection to the new meter box. At the approval of the Engineer, the Contractor shall remove the existing meter and install it in the new yoke. The Contractor shall reconnect the property side water line from the existing meter box to the new meter box. This reconnection shall be directed by the Engineer and performed in a timely manner so that the property is without water for a minimal amount of time. The Contractor shall remove and dispose of the existing meter box and yoke and backfill as shown on the plans or as directed by the Engineer.

For new and relocated 3/4" & 1" water connections, the Contractor shall install connection per the City of Winston-Salem detail drawing for "3/4" & 1" Water Connection (Without Curb & Gutter / Single Family)".

Page 15-8, Article 1515-3 Construction Methods
Add the following Subarticle:

(H) Tapping Sleeves
Tapping sleeves and valves shall be used for "wet" taps into existing water mains as indicated on the Engineer's drawings. The Contractor shall verify the type of material, size, etc., of the existing main prior to ordering the sleeve. For taps on larger mains (24" and above), a saddle may be used in lieu of a sleeve, but only if the tap is less than or equal to half the size of the line to be tapped. All tapping sleeves and valves shall be water tested before the tap is made. Test pressure shall be 200 psi for 15 minutes without any drop in pressure. All tapping sleeves and valves shall be installed level. The Engineer must be present during the entire tapping and testing process.

Page 15-9, Article 1515-4, Measurement and Payment
Add the following after the first paragraph:

36"x6" tapping sleeves and valves, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "36"x6" Tapping Sleeve and Valve". Such price and payments will be full compensation for all materials, labor, excavation, installation, sterilization, pressure testing, valve box installation with necessary extension pieces, backfilling, and incidentals necessary to complete the work as required.

Page 15-10, Article 1515-4, Measurement and Payment
Add the following pay item and pay unit to the Pay Item Table below Line 7:

Pay Item:	Pay Unit
36"x6" Tapping Sleeve and Valve	Each

Page 15-10, Article 1520-2, Materials
Delete the following sentence: "Use screw type plastic or brass cleanouts."

Replace with the following: "Cleanouts shall be constructed of cast iron soil pipe with brass plug."

Page 15-11, Article 1520-3, Construction Methods
Delete the third paragraph in its entirety. No PVC pipe is allowed on this project.

Add the following to the third sentence of the fifth paragraph: "or within fenced areas."

Page 15-11, Article 1520-3, Construction Methods
Delete the following: "10%"

Replace with the following "18%-22%"

Page 15-11, Article 1520-3, Construction Methods
Delete the seventh paragraph in its entirety.

Replace with the following: The standard fall through manhole is 1" (0.08') including 6" connections into a manhole.

Page 15-10, Article 1520-3 Construction Methods
Add the following:

Sewer connections shall be installed as shown on the appropriate City of Winston-Salem detail drawing. Wyes or taps will not be allowed within 5 feet of a manhole. Only one bend will be allowed for connecting the sewer connection to the sewer main. If more than one bend is needed (Ex: bored sewer connection), the road shall be open cut and the connection installed properly. Sewer connections shall be a maximum of 75 feet from the sewer main to the cleanout. Cleanouts shall be installed between property corners of the lot for which the connection is intended. Connections into manholes will require a flexible sleeve at the manhole. If approved by the Engineer, four-inch (4") connections will be allowed to spill into deep manholes. For connections which spill, the 4" pipe shall protrude a minimum of 4" and a maximum of 6" beyond the inside wall of the manhole. Connections into manholes must be at least 6" from the nearest manhole step. Six-inch (6") connections must connect into a manhole.

When installing new sewer connections intended to replace existing ones, the new sewer connection shall be of like size to the existing. Reconnection of the old connection to the new shall be performed by a qualified utility contractor or by a licensed plumbing contractor. The Contractor shall be responsible for all permits and inspections required for the reconnection.

Page 15-11, Subarticle 1520-3 (A), Gravity Sanitary Sewer
Add the following to the first paragraph:

"and City of Winston-Salem, North Carolina Department of Public Works Engineering Division."

Page 15-11, Subarticle 1520-3 (A), Gravity Sanitary Sewer
Under "(1) Pipe Installation", after the second paragraph, add the following:

Contractor shall provide labor, materials, and supervision to temporarily provide bypass pumping around the Contractor's work in accordance with the specific needs of the work. No interruption of sewage flow shall be permitted. Bypass operation shall be 24 hours per day during the period of Work. The bypassed flow shall be continuously monitored. The bypassing system shall not be shut down between shifts, on holidays or weekends, or during work stoppages.

Prior to the start of temporary bypass pumping, the Contractor will submit a Bypass Pumping Plan prepared, signed and sealed by a Professional Engineer licensed in the State of North Carolina that includes, at a minimum, the following:

- Staging areas for pumps.
- Sewer plugging method and types of plugs.
- Size and location of manholes or access points for suction and discharge hose or piping.
- Size of pipeline or conveyance system to be bypassed.
- Number, size, material, location and method of installation of suction and discharge piping.
- Bypass pump sizes, capacities, and number of each size to be provided on-site including all primary, secondary, and spare pumping units.
- Calculations of static lift, friction losses, and flow velocity (pump curves showing pump, operating range shall be submitted).
- System pressure for calculation of hydrostatic testing requirements.
- Downstream discharge plan.
- Method of protecting discharge manholes or structures from erosion and damage.
- Thrust and restraint block sizes and locations. Provide the details necessary to demonstrate the integrity of all suction and discharge piping including piping and fittings associated with all primary and secondary pumping units.
- Sections showing suction and discharge pipe depth, embedment, select fill and special backfill.
- Method of noise control for each pump and any additional equipment that is included in the Bypass Pumping Plan (pumps and generators shall keep the noise level below 70 dBA at 30 feet).
- Any temporary pipe supports and anchoring requirements.
- Access plans to all bypass pumping locations indicated on the drawings.
- Calculations for selection of bypass pumping pipe size.
- Schedule for installation of and maintenance of bypass pumping lines.
- Plan indicating location of bypass pumping pipe locations.
- Emergency plan for adverse weather and flooding for various phases of the Work.
- Contractor's plan for providing continuous monitoring of the bypass pumping operation as well as the monitoring persons' qualifications.

- Emergency Contact List: Provide list of three emergency contacts who are able to respond and be on site within two hours of contact. Provide name, cell phone, and email addresses. List shall be posted in a conspicuous location at the bypass pump location.

The Bypass Pumping Plan must be approved prior to the start of the work. The Contractor shall notify the City at least 48 hours prior to any bypassing or diverting of flow.
Contractor shall maintain on site, sufficient equipment and materials to ensure continuous and successful operation of the bypass systems. The Contractor shall maintain on site a sufficient number of valves, spare pumps, tees, elbows, connections, tools, sewer plugs, piping, fuel and/or back-up generator, and other parts or system hardware to ensure immediate repair or modification of any part of the system as necessary.

The Contractor shall be responsible for all bypass flows installed. The Contractor shall inspect the entire bypass pumping and piping system for leaks or spills on an hourly basis. No bypassing to the ground surface, receiving waters, storm drains, or bypassing which results in soil or groundwater contamination or any potential health hazards shall be permitted. In the event of any sewage spill, the Contractor shall notify Owner immediately and be responsible for the prompt cleanup and disinfecting of the spill per local and state requirements. The Contractor shall compensate the Owner for the cost of any fines levied as the result of a spill or unauthorized discharge.

Prior to operation, test each section of discharge piping with maximum pressure equal to 2.0 times the maximum operating pressure of system or 50 psi, whichever is greater. Notify Engineer at least 24 hours prior to testing. The line shall be sealed on the discharge end. The Contractor shall fill the line with water. The test shall run for a period of two hours. The line may be put in service if, after the two-hour period, the pressure has been maintained with no observable leaks.

The Contractor shall inspect the entire bypass pumping and piping system at a minimum of every hour. Keep written inspection log at each pumping location. The bypass system shall have a trained and qualified attendant on site 24 hours per day, 7 days per week to maintain the bypass pumping system from the start of bypass until the bypassing of the specific pipeline is no longer required. A float and dialer monitoring system is acceptable in place of a trained and qualified attendant. If used, the float and dialer system shall have a dual power source and a redundant system to send alarms. Bypass system shall be physically checked at least on a daily basis with float and dialer system. Contractor shall provide an on-site response from an alarm of less than two hours.

The bypass pumping system shall be cleaned and drained prior to being dismantled and moved to the next location. Upon completion of the bypass pumping operation, clean disturbed areas, restoring to original condition, including pavement restoration, at least equal to existing condition prior to start of work.

Page 15-11, Subarticle 1520-3 (A), Gravity Sanitary Sewer
Under "(2) Testing", delete in its entirety and replace with the following:

A low-pressure air test shall be performed by the Contractor after the pipeline is completely backfilled and before being placed into service. The Engineer must be present during the entire testing process. Any work done without their supervision will not be accepted.

(a) Low Pressure Air Testing Requirements:
The Contractor shall use an approved pressure gauge and perform the test in accordance with ASTM C-828. Each section of pipeline (including connections) between manholes will be tested by plugging the upstream manhole and the downstream manhole. By using mirrors, lights, etc., the Contractor must show the Engineer that the 2 plugs are at the proper location and that the line is clear between the plugs. Air is added to the line until the pressure is between 3.0 psi and 4.0 psi. If the pressure drops more than 1.0 psi during the time shown on the chart below, the line is presumed to have failed the test. An obvious leak in any section will be corrected even if the section passes testing. The Contractor will be responsible for the complete removal of all plugs.

Air test time shall be as follows:

Minimum Air Test Time

Main Size	Time (minutes per 100 feet of pipe)
8"	1.5
10"	1.8
12"	2.1
15"	2.4
18"	2.7
21"	3.3
24"	3.9
27"	4.5
30"	5.1
36"	6.3
42"	7.6

No direct payment will be made for acceptance testing, as such work will be incidental to the installation of the pipe and/or service connections.

(b) Video Inspection:
As a final measure required for acceptance, the Contractor shall clean and televise all sanitary sewer mains prior to requesting final inspection. The Contractor shall televise the entire sewer main and all service connections using standardized NASSCO (PACP, MACP, & LACP) practices, unless otherwise specified below. The process shall begin at the upstream manhole for each segment, and proceed to the downstream manhole for that same segment. Connections shall be televised from the cleanout to the main. Video inspection may occur only after Record Drawings are accepted and approved by the City of Winston-Salem. Prior to beginning the process, a 24 hour notice must be given by the Contractor to the Engineer. Prior to video inspection in paved areas, structures must be raised to final grade and 2" of asphalt must be in place. The City will not accept video that is more than 180 days old unless approved by the Engineer.

The cameras used for inspection shall be ones specifically designed and constructed for sanitary sewer pipeline inspection. Lighting for the cameras shall be suitable to provide a clear color picture

of the entire periphery of the pipe. The cameras used for mains must be able to pan, tilt and zoom in order to allow for 360-degree viewing. The television system shall be equipped to indicate the camera travel distance in feet by display on the video viewing screen. All television equipment (camera, monitor, etc.) must be capable of producing picture quality which is satisfactory to the Engineer.

Within 2 hours of the video inspection, the Contractor shall clean the sewer mains and service connections with a high velocity water jet. All debris shall be collected in the downstream manhole and removed by the Contractor. Debris shall not be released into the existing sewer system. During the entire video process, the distance counter must be set at zero at each upstream manhole for each segment (set the counter at zero at the ground for each service connection). The Contractor will be required to pan and tilt at each manhole and at each service connection. The interior of each manhole must be marked with the manhole station (or manhole number) with paint or some other legible identifier (6" - 12" high letters or numbers). Each cleanout stack must be marked with the house number or the lot number. For mains, the Contractor will also be required to pan, tilt and zoom at all couplings, at all dates for ceramic-epoxy lined ductile iron pipe, and when any potential problems or abnormalities are noticed or suspected. Travel speed for the camera will be 15 - 30 feet per minute. The following video screen data will be required:

- Project name and project number
- Date of inspection
- Travel distance and time
- Station of start and end manholes
- Depth of start and end manholes
- Size of main
- Type of pipe

All above data shall be shown at the start and end manholes of each segment. While the camera is moving through the main and service connections, distance shall be the only data shown on the screen (top left or top right of screen).

For mains, a stream of water approximately 1" in width must be flowing during the entire video process. For service connections, a minimum of 5 gallons of water must be introduced into each cleanout stack just prior to the video process. In all cases, the flow must be shown on the bottom of the video screen.

Two copies of the entire video inspection along with a properly formatted PACP standard exchange database shall be submitted to the Engineer on a data disc (DVD or flash drive). A "properly formatted PACP standard exchange database" includes properly PACP coded defects (NASSCO version 6.x), proper media paths to associated video files, and all asset IDs used in the inspection must match what the submitted record drawings indicate for each asset. The video file shall be formatted to MPEG-4 (MP4) with software compatible and readable by the City of Winston-Salem. The City of Winston-Salem shall not be responsible for purchasing additional software necessary to view the video file. Each inspection (manhole to manhole or cleanout to main) shall be separated into its own chapter or file. In the event of a main inspection, the chapter or file shall be named to indicate the upstream manhole station or number and then the downstream manhole station or number (e.g. MH1-MH2). In the event of a service connection inspection, the

chapter or file shall be named to indicate the house number or lot number associated with the inspection. All file naming should match the identification numbers (manhole station or number, house number, or lot number) shown on the Record Drawings. The submitted video must have the ability to be viewed using fast forward and rewind.

Any video that does not clearly show the pipe and service connections will be rejected. In the event that repairs are made, the segment receiving the repairs shall be flushed and televised again. The Engineer must oversee the entire cleaning and televising process. Final approval of the video inspection will only be after the Engineer has reviewed the video in the office (videos will not be field approved).

No direct payment will be made for cleaning and video inspection, as such work will be incidental to the installation of the pipe and/or service connections.

Page 15-13, Article 1520-4, Measurement and Payment:
Add the following:

All materials, permits, and work performed to reconnect existing sewer services to new cleanouts will be considered incidental to the installation of Sanitary Sewer Clean-Out.

Page 15-14, Article 1525-2, Materials
In the first paragraph, add the following after the second sentence:

All manhole joints shall be sealed on the outside of the manhole with butyl adhesive tape (minimum 6" wide). When unstable subgrade is encountered, manholes shall be bedded on stabilization stone. Manholes on outfalls shall be built 24" above existing ground unless a Type "B" manhole is used or the manhole is in a yard. Precast reinforced concrete manholes used on right-of-way maintained by the North Carolina Department of Transportation must be approved the North Carolina Department of Transportation before being installed.

Page 15-14, Article 1525-2, Materials
First paragraph, delete the third sentence in its entirety.

Replace with the following: "Flexible manhole connectors shall conform to ASTM C923."

Page 15-14, Article 1525-2, Materials
On Line 10, add the following:

Connectors shall be manufactured by Press-Seal Gasket Corporation, Hamilton Kent, NPC Inc. or approved equal.

Page 15-14, Article 1525-2, Materials
Replace the second paragraph (Lines 12 – 16) with the following:

Type 1 manhole rings and covers will be made of cast iron and will conform to ASTM A48, Class 35B. In addition, all manhole rings and covers shall be designed to support an H-20 wheel load. All castings will conform to the shape and dimensions shown on the City of Winston- Salem detail

drawing for "Manhole Ring and Cover (Type 1)" and will be free from holes, cracks or any other defects. Rings and covers will have machined seats so that the cover will not rattle. Rings will weigh a minimum of 190 pounds and covers a minimum of 120 pounds. The name of the manufacturer and the part number shall be cast permanently on the ring and the cover. Castings that do not meet specifications shall be rejected. Type 2 manhole rings and covers shall meet all specifications for Type 1 rings and covers and shall conform to the City of Winston-Salem detail drawing for "Manhole Ring and Cover (Type 2)". Type 3 manhole rings and covers shall meet all specifications for Type 1 rings and covers, except that rings will weigh a minimum of 136 pounds and covers a minimum of 120 pounds. All rings and covers shall conform to the City of Winston-Salem detail drawing for "Manhole Ring and Cover (Type 3)".

Page 15-14, Article 1525-3, Construction Methods
In the second paragraph, first sentence, delete "resilient" and replace with "flexible".

Delete the second and third sentences in their entirety.

Page 15-14, Article 1525-3, Construction Methods
In the fifth paragraph, fourth sentence, delete "recommended but not required", and replace with "required, except for horseshoe (doghouse) manholes".

Page 15-15, Sub-Article 1525-3 (D), Testing
Replace with the following:

Each manhole constructed by the Contractor shall be vacuum tested by the Contractor after assembly of the manhole. Prior to testing, and as directed by the Engineer, the Contractor shall clean out each manhole without foreign material being discharged into the existing sanitary sewer system. The test shall be conducted in accordance with ASTM C-1244. The test shall be performed after all grade rings and rings and covers have been installed. After the testing equipment is in place, a vacuum of 10 inches of mercury shall be drawn on the manhole. The time for the vacuum to drop to 9 inches of mercury must be greater than the minimum time listed below:

Minimum Vacuum Test Time (Seconds)

Manhole Depth	Diameter of Manhole		
	4'	5'	6'
0' - 10'	60 sec.	75 sec.	90 sec.
10' - 15'	75 sec.	90 sec.	105 sec.
15' - 25'	90 sec.	105 sec.	120 sec.
25' - 30'	105 sec.	120 sec.	135 sec.

The Engineer shall be present during the entire testing process. Any subsequent repairs to manholes which fail the vacuum test must be made on the inside and outside of each manhole. The Contractor will be responsible for the complete removal of all plugs.

No direct payment will be made for vacuum testing of manholes, as such work will be incidental to the installation of the manhole.

Page 15-16, Subarticle 1530-3 (A), Abandoning Pipe
Add the following paragraph:

When abandoning water mains up to a main that is to remain in service, any valve or tee associated with the main to be abandoned shall be removed. A sleeve and any necessary piping shall be installed to reconnect the water main to remain in service. All other main line valves on abandoned water mains that are plugged and left in place shall be abandoned by removing the valve box. Hydrants connected to abandoned mains that are plugged and left in place shall also be abandoned by removing the hydrant and valve box. The work covered in this paragraph shall be considered incidental to the abandonment.

Page 15-17, Subarticle 1530-3 (C), Remove Water Meter
Replace the first sentence with the following:

Remove water meter by closing the corporation cock at the main and removing the lateral including the angle valve, setter and meter box.

Page 15-17, Subarticle 1530-3 (D), Remove Fire Hydrant
Replace the first paragraph with the following: "The work performed to remove a hydrant from a main to be left in service shall include removing the hydrant, valve box and hydrant tee. A sleeve and any necessary piping shall be installed to reconnect the water main to be left in service."

Replace the second paragraph with the following: "Removed hydrants shall be provided to the City."

Page 15-17, Article 1530-3 Construction Methods
Add the following Subarticle:

(E) Abandoning Sewer Connections
Sewer connections shall be abandoned by removing the cleanout stack (if one exists) and plugging the lateral at the base of the stack. If no cleanout exists, the Contractor shall plug the lateral at the right-of-way line.

Page 15-17, Article 1530-4 Measurement and Payment
After the fourth paragraph, add the following paragraph: "*Abandon Sewer Connections* will not be measured and paid."

Page 15-18, Article 1540-2, Materials
Add the following:

Item	Section
Casing Spacers	1036-11

Page 15-18, Subarticle 1540-3 (D), Carrier Pipe Installation
Replace the first paragraph with the following:

Carrier pipe installed through encasement shall be ductile iron flexible restrained joint pipe. Casing spacers are required and shall be placed at 10-foot intervals within the encasement. One spacer

shall be placed not more than 2 feet from each end of the encasement. Only the runners of the casing spacer shall be in contact with the encasement. The bell of the carrier pipe will not be allowed to be in contact with the encasement. The Engineer must be present to observe the entire installation of the carrier pipe.

Page 15-20, Subarticle 1550-4 (A), Bore and Jack
Add the following paragraphs after Line 44:

As the boring operation progresses, each new section of encasement pipe shall be butt-welded to the previously installed section. Voids are to be filled with a Portland cement grout consisting of one (1) part Portland cement grout to three (3) parts sand at sufficient pressure to insure there will be no settlement of the highway or railroad. In the event that an obstruction is encountered during the dry boring operation, the auger is to be withdrawn, the excess pipe cut off and capped, and the pipe abandoned by completely filling the void with Portland cement grout as described above.

Encasement pipe installed either trenchless or by open-cut shall be installed prior to laying the carrier pipe within 50 feet of either end of the encasement. The Contractor is responsible for using the methods and equipment needed to attain the alignment, grade and elevation shown on the Engineer's drawings. Any deviations shall be corrected at the Contractor's expense.

Additional attempts may be required at alternate locations as directed by the Engineer. The option to install the encasement by open-cutting shall not be permitted unless approved by the Engineer and, when applicable, the North Carolina Department of Transportation. If approved, open-cut encasement shall be installed per Section 1505 for excavation, trenching, pipe laying and backfill.

<u>City of Winston-Salem Acceptable Product List:</u>

Hydrants accepted by the City of Winston-Salem are as follows:
(1) Super Centurion 250, manufactured by Mueller Company
(2) B-84-B-5, manufactured by American Flow Control
(3) K -81D Guardian, manufactured by Kennedy Valve Company
(4) Medallion , Manufactured by Clow Valve Company

Gate valves furnished under these specifications must be manufactured by one of the following:
(1) Clow Valve Company
(2) M & H Valve Company
(3) American Flow Control
(4) U.S. Pipe and Foundry Company
(5) Mueller Company
(6) Kennedy Valve Company

Approved tapping saddles are as follows:
(1) American Flow Control
(2) U.S. Pipe and Foundry Company

Approved tapping sleeves are as follows:
(1) Mueller Company

(2) American Flow Control
(3) Tyler Pipe Company
(4) U.S. Pipe and Foundry Company
(5) Kennedy Valve Company

Approved tapping valves are as follows:
(1) Clow Valve Company
(2) M & H Valve Company
(3) American Flow Control
(4) U.S. Pipe and Foundry Company
(5) Mueller Company
(6) Kennedy Valve Company

All corporation cocks shall be: 3/4", 1", 1 1/2" and 2"- FB1000-G by Ford or 74701BT by McDonald.

Saddles shall be Model 202SSU by Romac Industries, Inc. or Model F202-SSB by Ford.

A. 3/4" Water Connection
1. Meter yoke- Y501 by Ford, H-5010 by Mueller or 14-1 by McDonald.
2. Angle ball valve with padlock wings- BA94-313W-G-NL by Ford (City side).
3. Angle ball valve without padlock wings- BA94-313-G-NL by Ford (property side).

B. 1" Water Connection
1. Meter Yoke - Y504 by Ford.
2. Angle ball valve with padlock wings- BA94-444W-G-NL by Ford- two required.

C. 1-1/2" Water Connection
Custom-setter with ball valve bypass and ball valves on inlet and outlet. (VBB76-12B-11-66-NL by Ford) as per City detail drawing.

D. 2" Water Connection
Custom-setter with ball valve bypass and ball valves on inlet and outlet (VBB77-12B-11-77-NL by Ford) as per City detail drawing.

METER BOXES (CAST IRON - 5/ 8" AND 1" METERS): Cast iron meter boxes furnished under these specifications shall be manufactured by one of the following:
(1) Sigma Corp.
(2) SIP Industries
(3) DSI International
(4) Star pipe Products
(5) Tri Cast Inc.

METER BOXES (POLYMER CONCRETE- 1 1/2" AND 2" METERS): Part numbers are as follows:
Box: PG2436B500
Cover: PG2436WAP1-50

Approved ductile iron flexible restrained joint pipe and fittings are as follows:
(1) Flex Ring by American
(2) TR-Flex by US Pipe
(3) TR-Flex by McWane

Approved flexible manhole connectors are as follows:
(1) Press-Seal Gasket Corporation
(2) Hamilton Kent

Approved manhole rings and covers are as follows:
(1) East Jordan Iron Works
(2) U.S. Foundry & Manufacturing Corp.

All interior linings for a sewer ductile iron pipe and fittings shall be Protecto 401™.

All butyl adhesive tape used for joint sealant on the exterior of manholes shall be EZ Wrap by Press-Seal Gasket Corporation.

All interior linings for ductile iron flexible restrained joint pipe and fittings shall be Protecto 401™.

Plan Sheet UC-3A, Steel Pile Pier Detail. The Contractor's attention is directed to this detail.

STEEL PILE PIERS:

For the proposed 8" sanitary gravity sewer line (PS500), install Steel Pile Piers per the details shown on Sheet UC-3D and to the depth shown on sheet UC-24 or to refusal, whichever is less. The locations of the proposed Steel Pile Piers are shown on Sheets UC-14, UC-15, and UC-24. All steel shall conform to the requirements of ASTM A992 Grade 50. All welds shall be by a certified welder. All steel members and straps will be power tool cleaned to a minimum of SSPC-SP3 and hot-dipped galvanized per ASTM A123. Bolts and washers shall be hot-dip galvanized per ASTM A153. All welds shall be grinded and coated with two (2) coats of a cold-applied galvanizing paint.

Measurement and Payment:
Payment for Steel Pile Piers, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "Steel Pile Pier". Such price and payment will be full compensation for furnishing all materials, installation, excavation, equipment including pile driving, backfilling, and incidentals necessary to complete the work as required.

Pay Item:	**Pay Unit**
Steel Pile Pier	Each

Plan Sheet UC-3H, 4" Combination Air Valve in Manhole. The Contractor's attention is directed to this detail.

The 4" Combination Air Valve in Manhole shall be installed in accordance with the applicable Special Provisions herein, as shown on the Utility Plans, and/or as directed by the Engineer.

4" Combination Air Valve

A. Description and Service

1. Valve shall have four functions of uninterrupted discharge of air/gas during filling, continuous discharge of dis-entrained pressurized air/gas, unrestricted vacuum break, and pipeline surge protection in a single chamber. Valves shall be anti-surge and antishock air release and vacuum break valves.
    a. The large orifice shall allow air to escape during pipeline filling and allow air intake during pipeline draining.
    b. The small orifice shall release air accumulations after the pipeline is filled, under pressure and in operation.
    c. The valve shall be equipped with an integral surge alleviation mechanism that automatically dampens surge pressures due to rapid air discharge or the subsequent rejoining of separated water columns.

B. Construction and Design

1. The intake/discharge orifice area is equal to the nominal size of the valve, i.e., a 4" valve shall have 4" full flow inlet and 4" outlet. Area around the floats must equal equivalent are of inlet/outet.
2. Valve shall utilize solid unbreakable HDPE floats with EPDM O-Ring seals. Floats must not deform, leak or experience damage of any kind at twice the design pressure, with floats providing continuous discharge of pressurized air release without levers, pins, springs that can break.
3. Materials of Construction:
    a. 316 Stainless Steel Barrel, Flanges, Tie Rods, Nozzle and Fasteners. ABS Polylac Top Cover.
    b. Floats: High Density Polyethylene
4. Valve shall be capable of operating between a pressure range 7.25 - 276 psi.
5. Valve shall have a 10 year in-service warranty for all internal components.
6. The valves furnished shall be standard products in regular production by the manufacturer and shall have been in satisfactory and successful operation for a period of at least five (5) years.

C. Manufacturers:

1. Vent-O-Mat – Series RBX
2. Vent-Tech – Model WTR
3. Approved equal.

Gate Valve
Gate valve inside the Combination Air Valve Manhole shall meet the requirements of Section 1036-7(A) of the NCDOT Standard Specifications, and shall be resilient-seated type gate valve with hand-wheel operator and flanged ends.

Precast Concrete Manhole
The pressure relief valve manhole shall be an approved precast concrete manhole conforming to ASTM C-478. The precast manhole top slab shall be H-20 rated. Steps shall be cast into the interior wall of the manhole as shown on the plans.

Access Hatch
The aluminum access hatch shall have a 1/4 inch thick, one-piece, mill finish, extruded aluminum frame, incorporating a continuous concrete anchor. The inside of the frame shall have a door-support ledge on two (2) sides. Both frame and ledge must be supported by a full bed of Class A concrete. The door panel shall be 1/4" aluminum diamond plate, reinforced to withstand a live H-20 uniform load. Door shall open to 90° and automatically lock with a T-316 stainless steel hold open arms with release handle. For ease of operation, door shall incorporate enclosed stainless steel compression spring assists. Door shall close flush with the frame. Hinges and all fastening hardware shall be T-316 stainless steel. Unit shall lock with a T-316 stainless steel slam lock with removable key and have a non-corrosive handle. Unit shall carry a lifetime guarantee against defects in material and/or workmanship.

Measurement and Payment:
Payment for 4" combination air valve in MH shall be per each valve, and paid for under the contract price for "4" Combination Air Valve in MH". Such price and payments will be full compensation for all labor, materials, excavation, backfilling, and any incidentals necessary to complete the work, as required.

Pay Item:	**Pay Unit**
4" Combination Air Valve in MH	Each

County : Forsyth

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum	L.S.	
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUBBING	5 ACR		
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	3,192,000 CY		
0006	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (22+26.35 -Y1B-)	Lump Sum	L.S.	
0007	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (23+43.03 -Y16-)	Lump Sum	L.S.	
0008	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (47+28.33 -Y15REV-)	Lump Sum	L.S.	
0009	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (47+63.62 -Y15FLYBD-)	Lump Sum	L.S.	
0010	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	
0011	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0012	0029000000-N	SP	TYPE III REINFORCED APPROACH FILL, STATION ******* (30+67.66 -Y4-)	Lump Sum	L.S.	
0013	0036000000-E	225	UNDERCUT EXCAVATION	10,000 CY		
0014	0127000000-N	235	EMBANKMENT SETTLEMENT GAUGES	4 EA		
0015	0134000000-E	240	DRAINAGE DITCH EXCAVATION	162,460 CY		
0016	0141000000-E	240	BERM DITCH CONSTRUCTION	6,820 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0017	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	64,350 SY		
0018	0163000000-E	250	REMOVAL OF EXISTING CONCRETE PAVEMENT	75,130 SY		
0019	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	16,650 SY		
0020	0185000000-E	250	BREAKING OF EXISTING CONCRETE PAVEMENT	9,630 SY		
0021	0192000000-N	260	PROOF ROLLING	120 HR		
0022	0194000000-E	265	SELECT GRANULAR MATERIAL, CLASS III	28,900 CY		
0023	0195000000-E	265	SELECT GRANULAR MATERIAL	10,000 CY		
0024	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	74,600 SY		
0025	0255000000-E	SP	GENERIC GRADING ITEM HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	500 TON		
0026	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	7,124 TON		
0027	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	25,560 SY		
0028	0343000000-E	310	15" SIDE DRAIN PIPE	1,416 LF		
0029	0344000000-E	310	18" SIDE DRAIN PIPE	344 LF		
0030	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (42", V)	362 LF		
0031	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (54", V)	292 LF		
0032	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (60", V)	620 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0033	0360000000-E	310	12" RC PIPE CULVERTS, CLASS III	124 LF		
0034	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	9,040 LF		
0035	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	12,832 LF		
0036	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	6,288 LF		
0037	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	3,838 LF		
0038	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	2,832 LF		
0039	0396000000-E	310	42" RC PIPE CULVERTS, CLASS III	1,756 LF		
0040	0402000000-E	310	48" RC PIPE CULVERTS, CLASS III	704 LF		
0041	0408000000-E	310	54" RC PIPE CULVERTS, CLASS III	212 LF		
0042	0414000000-E	310	60" RC PIPE CULVERTS, CLASS III	744 LF		
0043	0426000000-E	310	72" RC PIPE CULVERTS, CLASS III	56 LF		
0044	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (48")	168 LF		
0045	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (54")	292 LF		
0046	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (60")	360 LF		
0047	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	4,348 LF		
0048	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	2,932 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0049	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	1,232 LF		
0050	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	92 LF		
0051	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	784 LF		
0052	0448700000-E	310	42" RC PIPE CULVERTS, CLASS IV	348 LF		
0053	0576000000-E	310	**" CS PIPE CULVERTS, *****" THICK (36", 0.079")	164 LF		
0054	0576000000-E	310	**" CS PIPE CULVERTS, *****" THICK (42", 0.109")	80 LF		
0055	0582000000-E	310	15" CS PIPE CULVERTS, 0.064" THICK	2,390 LF		
0056	0588000000-E	310	18" CS PIPE CULVERTS, 0.064" THICK	688 LF		
0057	0594000000-E	310	24" CS PIPE CULVERTS, 0.064" THICK	752 LF		
0058	0600000000-E	310	30" CS PIPE CULVERTS, 0.079" THICK	580 LF		
0059	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (15", 0.064")	86 EA		
0060	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (18", 0.064")	26 EA		
0061	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (24", 0.064")	20 EA		
0062	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (30", 0.079")	18 EA		
0063	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (36", 0.079")	2 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0064	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (42", 0.109")	2 EA		
0065	0973100000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B IN SOIL (24", 0.375")	54 LF		
0066	0973100000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B IN SOIL (30", 0.375")	102 LF		
0067	0973100000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B IN SOIL (42", 0.500")	192 LF		
0068	0973100000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B IN SOIL (48", 0.500")	114 LF		
0069	0973300000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B NOT IN SOIL (24", 0.375")	54 LF		
0070	0973300000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B NOT IN SOIL (30", 0.375")	102 LF		
0071	0973300000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B NOT IN SOIL (42", 0.500")	192 LF		
0072	0973300000-E	330	**" WELDED STEEL PIPE, *****" THICK, GRADE B NOT IN SOIL (48", 0.500")	114 LF		
0073	0995000000-E	340	PIPE REMOVAL	14,480 LF		
0074	0996000000-N	350	PIPE CLEAN OUT	10 EA		
0075	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0076	1077000000-E	SP	#57 STONE	20 TON		
0077	1099500000-E	505	SHALLOW UNDERCUT	8,000 CY		
0078	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	98,565 TON		
0079	1110000000-E	510	STABILIZER AGGREGATE	500 TON		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0080	1111000000-E	SP	CLASS IV AGGREGATE STABILIZATION	9,500 TON		
0081	1115000000-E	SP	GEOTEXTILE FOR PAVEMENT STABILIZATION	187,400 SY		
0082	1121000000-E	520	AGGREGATE BASE COURSE	15,800 TON		
0083	1220000000-E	545	INCIDENTAL STONE BASE	1,000 TON		
0084	1231000000-E	560	SHOULDER BORROW	21,700 CY		
0085	1275000000-E	600	PRIME COAT	6,216 GAL		
0086	1330000000-E	607	INCIDENTAL MILLING	3,520 SY		
0087	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	139,930 TON		
0088	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	94,040 TON		
0089	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	50,950 TON		
0090	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	38,290 TON		
0091	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	16,525 TON		
0092	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	1,355 TON		
0093	1735000000-E	723	REPAIR OF JOINTED CONCRETE PAVEMENT SLABS	1,250 SY		
0094	1736000000-E	723	SELECT MATERIAL, CLASS IV	50 TON		
0095	1840000000-E	665	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)	57,550 LF		
0096	1847000000-E	710	******" PORT CEM CONC PAVEMENT, THROUGH LANES (WITH DOWELS) (12")	132,215 SY		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0097	1858000000-E	710	****** PORT CEM CONC PAVEMENT, RAMPS (WITH DOWELS) (12")	9,980 SY		
0098	1869000000-E	710	****** PORT CEM CONC PAVEMENT, MISCELLANEOUS (WITHOUT DOWELS) (12")	3,470 SY		
0099	1891000000-E	SP	GENERIC PAVING ITEM 7" JOINTED CONCRETE TRUCK APRON	380 SY		
0100	1891000000-E	SP	GENERIC PAVING ITEM DIAMOND GRINDING PCC PAVEMENT	45,730 SY		
0101	1913000000-E	720	CONCRETE SHOULDERS ADJACENT TO ******" PAVEMENT (12")	75,440 SY		
0102	1924000000-N	725	FIELD LABORATORY RENTAL, PORT CEM CONC PAVEMENT	Lump Sum	L.S.	
0103	1925000000-E	730	MILLED RUMBLE STRIPS (CONCRETE SHOULDERS)	60,240 LF		
0104	2000000000-N	806	RIGHT-OF-WAY MARKERS	278 EA		
0105	2020000000-N	806	CONTROL-OF-ACCESS MARKERS	8 EA		
0106	2022000000-E	815	SUBDRAIN EXCAVATION	5,174.4 CY		
0107	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	15,400 SY		
0108	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	2,587.2 CY		
0109	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	15,400 LF		
0110	2070000000-N	815	SUBDRAIN PIPE OUTLET	31 EA		
0111	2077000000-E	815	6" OUTLET PIPE	186 LF		
0112	2099000000-E	816	SHOULDER DRAIN	22,060 LF		
0113	2110000000-E	816	4" SHOULDER DRAIN PIPE	22,060 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0114	2121000000-E	816	4" OUTLET PIPE FOR SHOULDER DRAINS	1,780 LF		
0115	2132000000-N	816	CONCRETE PAD FOR SHOULDER DRAIN PIPE OUTLET	40 EA		
0116	2143000000-E	818	BLOTTING SAND	20 TON		
0117	2209000000-E	838	ENDWALLS	56.374 CY		
0118	2220000000-E	838	REINFORCED ENDWALLS	50 CY		
0119	2253000000-E	840	PIPE COLLARS	21.554 CY		
0120	2275000000-E	SP	FLOWABLE FILL	31 CY		
0121	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	502 EA		
0122	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	96.64 CY		
0123	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	518.6 LF		
0124	2354000000-N	840	FRAME WITH GRATE, STD 840.22	4 EA		
0125	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	19 EA		
0126	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	106 EA		
0127	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	176 EA		
0128	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	4 EA		
0129	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	7 EA		
0130	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	45 EA		
0131	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	46 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0132	2396000000-N	840	FRAME WITH COVER, STD 840.54	44 EA		
0133	2407000000-N	840	STEEL FRAME WITH TWO GRATES, STD 840.37	69 EA		
0134	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	6 EA		
0135	2473000000-N	SP	GENERIC DRAINAGE ITEM OUTLET CONTROL STUCTURE	2 EA		
0136	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	3,290 LF		
0137	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	13,160 LF		
0138	2556000000-E	846	SHOULDER BERM GUTTER	10,080 LF		
0139	2577000000-E	846	CONCRETE EXPRESSWAY GUTTER	550 LF		
0140	2591000000-E	848	4" CONCRETE SIDEWALK	2,550 SY		
0141	2605000000-N	848	CONCRETE CURB RAMPS	33 EA		
0142	2612000000-E	848	6" CONCRETE DRIVEWAY	1,200 SY		
0143	2619000000-E	850	4" CONCRETE PAVED DITCH	390 SY		
0144	2627000000-E	852	4" CONCRETE ISLAND COVER	6,020 SY		
0145	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	1,350 SY		
0146	2657000000-E	852	**" MONOLITHIC CONCRETE MEDIAN (*****) (8", NON-MOUNTABLE)	20 SY		
0147	2703000000-E	854	CONCRETE BARRIER, TYPE ******* (T)	9,670 LF		
0148	2703000000-E	854	CONCRETE BARRIER, TYPE ******* (T1)	1,850 LF		
0149	2703000000-E	854	CONCRETE BARRIER, TYPE ******* (T2)	2,750 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0150	2710000000-N	854	CONCRETE BARRIER TRANSITION SECTION	9 EA		
0151	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	17,520 LF		
0152	2738000000-E	SP	GENERIC PAVING ITEM FILL AND CAP BEHIND BARRIER	270 SY		
0153	2752000000-E	SP	GENERIC PAVING ITEM 2'-0" MODIFIED VALLEY GUTTER	230 LF		
0154	2752000000-E	SP	GENERIC PAVING ITEM DDI BARRIER	710 LF		
0155	2759000000-N	SP	GENERIC PAVING ITEM MEDIAN HAZARD PROTECTION	4 EA		
0156	2815000000-N	858	ADJUSTMENT OF DROP INLETS	2 EA		
0157	2860000000-N	859	CONVERT EXISTING CATCH BASIN TO JUNCTION BOX	1 EA		
0158	2905000000-N	859	CONVERT EXISTING DROP INLET TO JUNCTION BOX	6 EA		
0159	3030000000-E	862	STEEL BEAM GUARDRAIL	53,000 LF		
0160	3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	150 LF		
0161	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	10 EA		
0162	3180000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE ********** (B-77 MODIFIED)	1 EA		
0163	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	51 EA		
0164	3215000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE III	8 EA		
0165	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	52 EA		
0166	3288000000-N	SP	GUARDRAIL END UNITS, TYPE TL-2	13 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0167	3317000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE B-77	30 EA		
0168	3360000000-E	863	REMOVE EXISTING GUARDRAIL	8,650 LF		
0169	3365000000-E	863	REMOVE EXISTING GUIDERAIL	15,390 LF		
0170	3380000000-E	862	TEMPORARY STEEL BEAM GUARDRAIL	2,950 LF		
0171	3389150000-N	SP	TEMPORARY GUARDRAIL END UNITS, TYPE ***** (TL-2)	10 EA		
0172	3389400000-E	865	DOUBLE FACED CABLE GUIDERAIL	1,300 LF		
0173	3389500000-N	865	ADDITIONAL GUIDERAIL POSTS	5 EA		
0174	3389600000-N	865	CABLE GUIDERAIL ANCHOR UNITS	1 EA		
0175	3503000000-E	866	WOVEN WIRE FENCE, 47" FABRIC	51,900 LF		
0176	3509000000-E	866	4" TIMBER FENCE POSTS, 7'-6" LONG	3,256 EA		
0177	3515000000-E	866	5" TIMBER FENCE POSTS, 8'-0" LONG	825 EA		
0178	3559000000-E	866	** STRAND BARBED WIRE FENCE WITH POSTS (5)	3,230 LF		
0179	3564000000-E	866	SINGLE GATES, **' HIGH, **' WIDE, **' OPENING (47", 12', 12')	6 EA		
0180	3628000000-E	876	RIP RAP, CLASS I	8,220 TON		
0181	3635000000-E	876	RIP RAP, CLASS II	210 TON		
0182	3642000000-E	876	RIP RAP, CLASS A	10 TON		
0183	3649000000-E	876	RIP RAP, CLASS B	4,780 TON		
0184	3651000000-E	SP	BOULDERS	40 TON		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0185	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	35,825 SY		
0186	3659000000-N	873	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON	11 EA		
0187	4048000000-E	902	REINFORCED CONCRETE SIGN FOUNDATIONS	15 CY		
0188	4054000000-E	902	PLAIN CONCRETE SIGN FOUNDATIONS	3 CY		
0189	4057000000-E	SP	OVERHEAD FOOTING	727 CY		
0190	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	15,077 LB		
0191	4066000000-E	903	SUPPORTS, SIMPLE STEEL BEAM	4,418 LB		
0192	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	4,723 LF		
0193	4078000000-E	903	SUPPORTS, 2-LB STEEL U-CHANNEL	14 EA		
0194	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (155+88 -Y15-)	Lump Sum	L.S.	
0195	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (160+00 -Y15-)	Lump Sum	L.S.	
0196	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (160+85 -Y15-)	Lump Sum	L.S.	
0197	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (17+50 -Y15REV-)	Lump Sum	L.S.	
0198	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (20+87 -Y4-)	Lump Sum	L.S.	
0199	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (24+50 -Y15-)	Lump Sum	L.S.	
0200	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (26+00 -Y4-)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0201	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (26+37 -Y15FLYBD-)	Lump Sum	L.S.	
0202	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (29+41 -Y4-)	Lump Sum	L.S.	
0203	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (31+94 -Y4-)	Lump Sum	L.S.	
0204	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (32+00 -Y15-)	Lump Sum	L.S.	
0205	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (32+00 -Y15FLYAC-)	Lump Sum	L.S.	
0206	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (34+68 -Y15FLYCA-)	Lump Sum	L.S.	
0207	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (47+00 -Y15FLYAC-)	Lump Sum	L.S.	
0208	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (50+46 -Y15-)	Lump Sum	L.S.	
0209	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (52+00 -Y15FLYCA-)	Lump Sum	L.S.	
0210	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (56+00 -Y15REV-)	Lump Sum	L.S.	
0211	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (666+00 -L-)	Lump Sum	L.S.	
0212	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (686+00 -L-)	Lump Sum	L.S.	
0213	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (702+30 -L-)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0214	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (706+00 -L-)	Lump Sum	L.S.	
0215	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (737+50 -L- EB)	Lump Sum	L.S.	
0216	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (737+50 -L- WB)	Lump Sum	L.S.	
0217	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (757+00 -L-)	Lump Sum	L.S.	
0218	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (76+25 -Y15FLYBD-)	Lump Sum	L.S.	
0219	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (763+84 -L-)	Lump Sum	L.S.	
0220	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (794+00 -L-)	Lump Sum	L.S.	
0221	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (819+00 -L-)	Lump Sum	L.S.	
0222	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (826+00 -L-)	Lump Sum	L.S.	
0223	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (835+50 -L-)	Lump Sum	L.S.	
0224	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (89+70 -Y15REV-)	Lump Sum	L.S.	
0225	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (91+50 -Y15REV-)	Lump Sum	L.S.	
0226	4096000000-N	904	SIGN ERECTION, TYPE D	7 EA		
0227	4102000000-N	904	SIGN ERECTION, TYPE E	255 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0228	4108000000-N	904	SIGN ERECTION, TYPE F	7 EA		
0229	4109000000-N	904	SIGN ERECTION, TYPE *** (OVER-HEAD) (A)	56 EA		
0230	4109000000-N	904	SIGN ERECTION, TYPE *** (OVER-HEAD) (B)	29 EA		
0231	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	18 EA		
0232	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)	2 EA		
0233	4114000000-N	904	SIGN ERECTION, MILEMARKERS	12 EA		
0234	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (A)	3 EA		
0235	4138000000-N	907	DISPOSAL OF SUPPORT, STEEL BEAM	6 EA		
0236	4152000000-N	907	DISPOSAL OF SIGN SYSTEM, STEEL BEAM	5 EA		
0237	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	33 EA		
0238	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	562 SF		
0239	4402000000-E	SP	HIGH VISIBILITY STATIONARY SIGNS	2,452 SF		
0240	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	565 SF		
0241	4407000000-E	SP	HIGH VISIBILITY PORTABLE SIGNS	16 SF		
0242	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	380 SF		
0243	4415000000-N	1115	FLASHING ARROW BOARD	8 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0244	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	10 EA		
0245	4423000000-N	SP	WORK ZONE DIGITAL SPEED LIMIT SIGNS	10 EA		
0246	4424000000-N	SP	WORK ZONE PRESENCE LIGHTING	56 EA		
0247	4430000000-N	1130	DRUMS	410 EA		
0248	4432000000-N	SP	HIGH VISIBILITY DRUMS	510 EA		
0249	4434000000-N	SP	SEQUENTIAL FLASHING WARNING LIGHTS	60 EA		
0250	4435000000-N	1135	CONES	74 EA		
0251	4445000000-E	1145	BARRICADES (TYPE III)	936 LF		
0252	4447000000-E	SP	PEDESTRIAN CHANNELIZING DEVICES	45 LF		
0253	4455000000-N	1150	FLAGGER	106 DAY		
0254	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	9 EA		
0255	4470000000-N	1160	REMOVE & RESET TEMPORARY CRASH CUSHION	14 EA		
0256	4480000000-N	1165	TMA	6 EA		
0257	4485000000-E	1170	PORTABLE CONCRETE BARRIER	31,326 LF		
0258	4490000000-E	1170	PORTABLE CONCRETE BARRIER (ANCHORED)	250 LF		
0259	4500000000-E	1170	REMOVE AND RESET PORTABLE CONCRETE BARRIER	45,830 LF		
0260	4510000000-N	1190	LAW ENFORCEMENT	64 HR		
0261	4570000000-E	SP	TEMPORARY GLARE SCREEN	4,977 LF		
0262	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM AUDIBLE WARNING DEVICES	9 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0263	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM CONNECTED LANE CLOSURE DEVICE	8 EA		
0264	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM FLASHING BEACON AND DETECTION SYSTEM	2 EA		
0265	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	3,165 EA		
0266	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	44,152 LF		
0267	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	156,846 LF		
0268	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	2,728 LF		
0269	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	18,414 LF		
0270	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	108 EA		
0271	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	288 EA		
0272	4775000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (6") (IV)	1,646 LF		
0273	4785000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (12") (IV)	1,632 LF		
0274	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	200,932 LF		
0275	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	7,767 LF		
0276	4825000000-E	1205	PAINT PAVEMENT MARKING LINES (12")	134 LF		
0277	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	4,594 LF		
0278	4840000000-N	1205	PAINT PAVEMENT MARKING CHARAC-TER	60 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0279	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	465 EA		
0280	4847500000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 6"	268,270 LF		
0281	4847600000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 12"	9,332 LF		
0282	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	22,125 LF		
0283	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	164,490 LF		
0284	4860000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (8")	490 LF		
0285	4865000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (12")	3,829 LF		
0286	4870000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (24")	319 LF		
0287	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	27 EA		
0288	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM POLYUREA PAVEMENT MARKING LINES, 12" 30 MILS (STANDARD GLASS BEADS)	13,967 LF		
0289	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM POLYUREA PAVEMENT MARKING LINES, 4", 30 MILS (STANDARD GLASS BEADS)	4,479 LF		
0290	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM POLYUREA PAVEMENT MARKING LINES, 6", 30 MILS (STANDARD GLASS BEADS)	138,443 LF		
0291	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM POLYUREA PAVEMENT MARKING LINES, 8", 30 MILS (STANDARD GLASS BEADS)	124 LF		
0292	4891000000-E	1205	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	1,989 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0293	4895000000-N	SP	GENERIC PAVEMENT MARKING ITEM NON-CAST IRON SNOWPLOWABLE PAVEMENT MARKER	4,352 EA		
0294	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	145 EA		
0295	5010000000-E	1401	100' HIGH MOUNT STANDARD	3 EA		
0296	5020000000-N	1401	PORTABLE DRIVE UNIT	1 EA		
0297	5025000000-E	SP	HIGH MOUNT FOUNDATIONS	21 CY		
0298	5030000000-N	SP	HIGH MOUNT LUMINAIRES ******** (560W LED)	18 EA		
0299	5050000000-N	1404	LIGHT STANDARDS, TYPE MTLT ********** (45' SA, 15' ARM)	13 EA		
0300	5050000000-N	1404	LIGHT STANDARDS, TYPE MTLT ********** (45' TA, 15' ARM)	8 EA		
0301	5070000000-N	SP	STANDARD FOUNDATION ********* (TYPE R1)	19 EA		
0302	5070000000-N	SP	STANDARD FOUNDATION ********* (TYPE R2)	2 EA		
0303	5080000000-N	SP	LIGHT STANDARD LUMINAIRES, TYPE ********** (RDW, 285W LED)	29 EA		
0304	5120000000-N	1407	ELECTRIC SERVICE POLE **** ******** (30' CLASS 4)	1 EA		
0305	5125000000-E	1407	ELECTRIC SERVICE LATERAL ********** (3 1/0 USE)	25 LF		
0306	5145000000-N	1408	LIGHT CONTROL EQUIPMENT, TYPE RW ********** (240/480 V)	1 EA		
0307	5155000000-E	1409	ELECTRICAL DUCT, TYPE BD, SIZE ***** (2")	470 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0308	5160000000-E	1409	ELECTRICAL DUCT, TYPE JA, SIZE ***** (3")	655 LF		
0309	5160000000-E	1409	ELECTRICAL DUCT, TYPE JA, SIZE ***** (4")	315 LF		
0310	5170000000-E	1410	** #8 W/G FEEDER CIRCUIT (2)	460 LF		
0311	5175000000-E	1410	** #6 W/G FEEDER CIRCUIT (2)	600 LF		
0312	5180000000-E	1410	** #4 W/G FEEDER CIRCUIT (2)	190 LF		
0313	5205000000-E	1410	** #8 W/G FEEDER CIRCUIT IN ****** CONDUIT (2, 1.5")	5,230 LF		
0314	5210000000-E	1410	** #6 W/G FEEDER CIRCUIT IN ****** CONDUIT (2, 1.5")	3,040 LF		
0315	5215000000-E	1410	** #4 W/G FEEDER CIRCUIT IN ****** CONDUIT (2, 1.5")	2,635 LF		
0316	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (CS36)	1 EA		
0317	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (HM18)	3 EA		
0318	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (IG18)	13 EA		
0319	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (IG30)	5 EA		
0320	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (LS18)	19 EA		
0321	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (LS30)	2 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0322	5255000000-N	1413	PORTABLE LIGHTING	Lump Sum	L.S.	
0323	5325000000-E	1510	**" WATER LINE (36")	1,303 LF		
0324	5325200000-E	1510	2" WATER LINE	271 LF		
0325	5325600000-E	1510	6" WATER LINE	5,887 LF		
0326	5326200000-E	1510	12" WATER LINE	35 LF		
0327	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	41,890 LB		
0328	5540000000-E	1515	6" VALVE	41 EA		
0329	5558000000-E	1515	12" VALVE	1 EA		
0330	5571600000-E	1515	6" TAPPING SLEEVE & VALVE	1 EA		
0331	5600000000-E	1515	**" BLOW OFF (3/4")	1 EA		
0332	5648000000-N	1515	RELOCATE WATER METER	48 EA		
0333	5649000000-N	1515	RECONNECT WATER METER	4 EA		
0334	5666000000-N	1515	FIRE HYDRANT	24 EA		
0335	5672000000-N	1515	RELOCATE FIRE HYDRANT	1 EA		
0336	5673000000-E	1515	FIRE HYDRANT LEG	503 LF		
0337	5678400000-E	1515	6" LINE STOP	1 EA		
0338	5679000000-E	1515	12" LINE STOP	1 EA		
0339	5686500000-E	1515	WATER SERVICE LINE	2,465 LF		
0340	5691300000-E	1520	8" SANITARY GRAVITY SEWER	8,921 LF		
0341	5691600000-E	1520	16" SANITARY GRAVITY SEWER	1,586 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0342	5768000000-N	1520	SANITARY SEWER CLEAN-OUT	21 EA		
0343	5768500000-E	1520	SEWER SERVICE LINE	1,240 LF		
0344	5775000000-E	1525	4' DIA UTILITY MANHOLE	40 EA		
0345	5776000000-E	1525	5' DIA UTILITY MANHOLE	18 EA		
0346	5777000000-E	1525	6' DIA UTILITY MANHOLE	4 EA		
0347	5781000000-E	1525	UTILITY MANHOLE WALL 4' DIA	222 LF		
0348	5782000000-E	1525	UTILITY MANHOLE WALL 5' DIA	190 LF		
0349	5783000000-E	1525	UTILITY MANHOLE WALL 6' DIA	12 LF		
0350	5798000000-E	1530	ABANDON **" UTILITY PIPE (15")	1,565 LF		
0351	5798000000-E	1530	ABANDON **" UTILITY PIPE (36")	410 LF		
0352	5801000000-E	1530	ABANDON 8" UTILITY PIPE	5,100 LF		
0353	5811000000-E	1530	ABANDON 18" UTILITY PIPE	391 LF		
0354	5815000000-N	1530	REMOVE WATER METER	373 EA		
0355	5815500000-N	1530	REMOVE FIRE HYDRANT	49 EA		
0356	5816000000-N	1530	ABANDON UTILITY MANHOLE	102 EA		
0357	5828000000-N	1530	REMOVE UTILITY MANHOLE	5 EA		
0358	5835000000-E	1540	**" ENCASEMENT PIPE (54")	330 LF		
0359	5835800000-E	1540	18" ENCASEMENT PIPE	1,340 LF		
0360	5836200000-E	1540	30" ENCASEMENT PIPE	360 LF		
0361	5872500000-E	1550	BORE AND JACK OF **" (18")	885 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0362	5882000000-N	SP	GENERIC UTILITY ITEM 36" X 6" TAPPING SLEEVE AND VALVE	1 EA		
0363	5882000000-N	SP	GENERIC UTILITY ITEM 4" COMBINATION AIR VALVE IN MH	1 EA		
0364	5882000000-N	SP	GENERIC UTILITY ITEM STEEL PILE PIER	3 EA		
0365	6000000000-E	1605	TEMPORARY SILT FENCE	242,460 LF		
0366	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	9,325 TON		
0367	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	44,570 TON		
0368	6012000000-E	1610	SEDIMENT CONTROL STONE	25,840 TON		
0369	6015000000-E	1615	TEMPORARY MULCHING	1,404.5 ACR		
0370	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	54,100 LB		
0371	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	270.5 TON		
0372	6024000000-E	1622	TEMPORARY SLOPE DRAINS	24,585 LF		
0373	6029000000-E	SP	SAFETY FENCE	5,640 LF		
0374	6030000000-E	1630	SILT EXCAVATION	206,860 CY		
0375	6036000000-E	1631	MATTING FOR EROSION CONTROL	771,880 SY		
0376	6037000000-E	SP	COIR FIBER MAT	1,515 SY		
0377	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	18,500 SY		
0378	6042000000-E	1632	1/4" HARDWARE CLOTH	40,410 LF		
0379	6045000000-E	SP	**" TEMPORARY PIPE (15")	150 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0380	6046000000-E	1636	TEMPORARY PIPE FOR STREAM CROSSING	100 LF		
0381	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	165 SY		
0382	6069000000-E	1638	STILLING BASINS	1,016 CY		
0383	6070000000-N	1639	SPECIAL STILLING BASINS	13 EA		
0384	6071010000-E	SP	WATTLE	1,530 LF		
0385	6071012000-E	SP	COIR FIBER WATTLE	9,400 LF		
0386	6071013000-E	SP	WATTLE BARRIER	28,290 LF		
0387	6071020000-E	SP	POLYACRYLAMIDE (PAM)	14,635 LB		
0388	6071030000-E	1640	COIR FIBER BAFFLE	29,710 LF		
0389	6071050000-E	SP	"**" SKIMMER (1-1/2")	58 EA		
0390	6071050000-E	SP	"**" SKIMMER (2")	29 EA		
0391	6071050000-E	SP	"**" SKIMMER (2-1/2")	8 EA		
0392	6071050000-E	SP	"**" SKIMMER (3")	5 EA		
0393	6071050000-E	SP	"**" SKIMMER (4")	1 EA		
0394	6084000000-E	1660	SEEDING & MULCHING	747 ACR		
0395	6087000000-E	1660	MOWING	858 ACR		
0396	6090000000-E	1661	SEED FOR REPAIR SEEDING	14,250 LB		
0397	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	36.75 TON		
0398	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	18,275 LB		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0399	6108000000-E	1665	FERTILIZER TOPDRESSING	548 TON		
0400	6111000000-E	SP	IMPERVIOUS DIKE	1,090 LF		
0401	6114500000-N	1667	SPECIALIZED HAND MOWING	290 MHR		
0402	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	150 EA		
0403	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	2,650 EA		
0404	6120000000-E	SP	CULVERT DIVERSION CHANNEL	11 CY		
0405	6123000000-E	1670	REFORESTATION	34 ACR		
0406	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE	185 EA		
0407	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION DEVICE CLEANOUT	553 EA		
0408	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	16 EA		
0409	7060000000-E	1705	SIGNAL CABLE	15,050 LF		
0410	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	72 EA		
0411	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	7 EA		
0412	7144000000-E	1705	VEHICLE SIGNAL HEAD (12", 5 SECTION)	10 EA		
0413	7252000000-E	1710	MESSENGER CABLE (1/4")	4,600 LF		
0414	7264000000-E	1710	MESSENGER CABLE (3/8")	2,925 LF		
0415	7279000000-E	1715	TRACER WIRE	35,406 LF		
0416	7288000000-E	1715	PAVED TRENCHING (**********) (1, 2")	25 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0417	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 2")	4,271 LF		
0418	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2")	28,788 LF		
0419	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 2")	2,530 LF		
0420	7300000000-E	1715	UNPAVED TRENCHING (**********) (4, 2")	440 LF		
0421	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 2")	1,375 LF		
0422	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2")	2,354 LF		
0423	7301000000-E	1715	DIRECTIONAL DRILL (**********) (3, 2")	594 LF		
0424	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	98 EA		
0425	7348000000-N	1716	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	75 EA		
0426	7360000000-N	1720	WOOD POLE	23 EA		
0427	7372000000-N	1721	GUY ASSEMBLY	23 EA		
0428	7384000000-E	1722	***" RISER WITH ********** (1-1/2", WEATHERHEAD)	11 EA		
0429	7408000000-E	1722	1" RISER WITH WEATHERHEAD	2 EA		
0430	7420000000-E	1722	2" RISER WITH WEATHERHEAD	2 EA		
0431	7444000000-E	1725	INDUCTIVE LOOP SAWCUT	5,625 LF		
0432	7456000000-E	1726	LEAD-IN CABLE (**********) (14-2)	13,700 LF		
0433	7481000000-N	SP	SITE SURVEY	2 EA		
0434	7481200000-N	SP	LUMINAIRE ARM FOR VIDEO SYSTEM	4 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0435	7481240000-N	SP	CAMERA WITHOUT INTERNAL LOOP EMULATOR PROCESSING UNIT	8 EA		
0436	7481260000-N	SP	EXTERNAL LOOP EMULATOR PROCESSING UNIT	2 EA		
0437	7481280000-N	SP	RELOCATE CAMERA SENSOR UNIT	8 EA		
0438	7516000000-E	1730	COMMUNICATIONS CABLE (**FIBER) (144)	21,534 LF		
0439	7516000000-E	1730	COMMUNICATIONS CABLE (**FIBER) (24)	830 LF		
0440	7516000000-E	1730	COMMUNICATIONS CABLE (**FIBER) (36)	5,425 LF		
0441	7516000000-E	1730	COMMUNICATIONS CABLE (**FIBER) (72)	21,055 LF		
0442	7528000000-E	1730	DROP CABLE	5,271 LF		
0443	7540000000-N	1731	SPLICE ENCLOSURE	19 EA		
0444	7552000000-N	1731	INTERCONNECT CENTER	21 EA		
0445	7566000000-N	1733	DELINEATOR MARKER	87 EA		
0446	7575160000-E	1734	REMOVE EXISTING COMMUNICATIONS CABLE	4,900 LF		
0447	7576000000-N	SP	METAL STRAIN SIGNAL POLE	8 EA		
0448	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	6 EA		
0449	7613000000-N	SP	SOIL TEST	21 EA		
0450	7614100000-E	SP	DRILLED PIER FOUNDATION	95 CY		
0451	7631000000-N	SP	MAST ARM WITH METAL POLE DESIGN	6 EA		
0452	7636000000-N	1745	SIGN FOR SIGNALS	25 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0453	7642200000-N	1743	TYPE II PEDESTAL WITH FOUND-ATION	18 EA		
0454	7684000000-N	1750	SIGNAL CABINET FOUNDATION	4 EA		
0455	7696000000-N	1751	CONTROLLERS WITH CABINET (**********) (TYPE 2070E, BASE MOUNTED)	4 EA		
0456	7744000000-N	1751	DETECTOR CARD (TYPE 170)	32 EA		
0457	7901000000-N	1753	CABINET BASE EXTENDER	4 EA		
0458	7948000000-N	1757	TRAFFIC SIGNAL REMOVAL	1 EA		
0459	7980000000-N	SP	GENERIC SIGNAL ITEM 5/8" X 10' GROUNDING ELECTRODE	66 EA		
0460	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV METAL POLE (60')	7 EA		
0461	7980000000-N	SP	GENERIC SIGNAL ITEM DIGITAL CCTV CAMERA ASSEMBLY	8 EA		
0462	7980000000-N	SP	GENERIC SIGNAL ITEM DMS ACCESS LADDER	5 EA		
0463	7980000000-N	SP	GENERIC SIGNAL ITEM DMS PEDESTAL STRUCTURE	5 EA		
0464	7980000000-N	SP	GENERIC SIGNAL ITEM DYNAMIC MESSAGE SIGN (TYPE-2C)	5 EA		
0465	7980000000-N	SP	GENERIC SIGNAL ITEM EQUIPMENT CABINET DISCONNECT	11 EA		
0466	7980000000-N	SP	GENERIC SIGNAL ITEM ETHERNET EDGE SWITCH	17 EA		
0467	7980000000-N	SP	GENERIC SIGNAL ITEM FIELD EQUIPMENT CABINET	8 EA		
0468	7980000000-N	SP	GENERIC SIGNAL ITEM HUB CABINET	1 EA		
0469	7980000000-N	SP	GENERIC SIGNAL ITEM HUB CABINET BASE EXTENDER	1 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0470	7980000000-N	SP	GENERIC SIGNAL ITEM HUB CABINET FOUNDATION	1 EA		
0471	7980000000-N	SP	GENERIC SIGNAL ITEM JUNCTION BOX (SPECIAL OVER-SIZED)	12 EA		
0472	7980000000-N	SP	GENERIC SIGNAL ITEM METER BASE/DISCONNECT COMBINATION PANEL	11 EA		
0473	7980000000-N	SP	GENERIC SIGNAL ITEM SOLAR POWER ASSEMBLY	1 EA		
0474	7980000000-N	SP	GENERIC SIGNAL ITEM WOOD PEDESTAL	11 EA		
0475	7990000000-E	SP	GENERIC SIGNAL ITEM #4 SOLID BARE COPPER GROUNDING CONDUCTOR	660 LF		
0476	7990000000-E	SP	GENERIC SIGNAL ITEM 3-WIRE COPPER FEEDER CONDUCTORS	1,675 LF		
0477	7990000000-E	SP	GENERIC SIGNAL ITEM 4-WIRE COPPER FEEDER CONDUCTORS	3,570 LF		
			CULVERT ITEMS			
0478	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (30+13.47 -Y115REV-)	Lump Sum	L.S.	
0479	8065000000-N	SP	ASBESTOS ASSESSMENT	Lump Sum	L.S.	
0480	8126000000-N	414	CULVERT EXCAVATION, STA ****** (18+22.67 -Y5B-)	Lump Sum	L.S.	
0481	8126000000-N	414	CULVERT EXCAVATION, STA ****** (19+75.11 -Y5B-)	Lump Sum	L.S.	
0482	8126000000-N	414	CULVERT EXCAVATION, STA ****** (30+13.47 -Y115REV-)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0483	8126000000-N	414	CULVERT EXCAVATION, STA ****** (35+53.70 -Y15RPDREV-)	Lump Sum	L.S.	
0484	8126000000-N	414	CULVERT EXCAVATION, STA ****** (43+66.60 -Y15FLYCA-)	Lump Sum	L.S.	
0485	8126000000-N	414	CULVERT EXCAVATION, STA ****** (768+62.23 -L-)	Lump Sum	L.S.	
0486	8126000000-N	414	CULVERT EXCAVATION, STA ****** (792+88.12 -L-)	Lump Sum	L.S.	
0487	8133000000-E	414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	6,207 TON		
0488	8196000000-E	420	CLASS A CONCRETE (CULVERT)	4,604.7 CY		
0489	8245000000-E	425	REINFORCING STEEL (CULVERT)	799,380 LB		
0490	8590000000-E	876	RIP RAP, CLASS ** (A)	85 TON		
0491	8594000000-E	876	RIP RAP, CLASS B	85 TON		
0492	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	2,990 SY		
			WALL ITEMS			
0493	8801000000-E	SP	MSE RETAINING WALL NO **** (1)	4,090 SF		
0494	8801000000-E	SP	MSE RETAINING WALL NO **** (2)	3,250 SF		
0495	8847000000-E	SP	GENERIC RETAINING WALL ITEM ARCHITECTURAL SURFACE TREATMENT	555,368 SF		
0496	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL 1	56,818 SF		
0497	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL 2	85,427 SF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0498	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL 3	87,297 SF		
0499	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL 4	108,020 SF		
			STRUCTURE ITEMS			
0500	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 22+26.35 -Y1B-)	Lump Sum	L.S.	
0501	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	
0502	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0503	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 47+63.62 -Y15FLYBD-)	Lump Sum	L.S.	
0504	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0505	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (3, 47+63.62 -Y15FLYBD-)	Lump Sum	L.S.	
0506	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (3, 58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	
0507	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (3, 60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0508	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (4, 47+63.62 -Y15FLYBD-)	Lump Sum	L.S.	
0509	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (4, 58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0510	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (4, 60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0511	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (5, 47+63.62 -Y15FLYBD-)	Lump Sum	L.S.	
0512	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (5, 58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	
0513	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (5, 60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0514	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (6, 47+63.62 -Y15FLYBD-)	Lump Sum	L.S.	
0515	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (6, 58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	
0516	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (6, 60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0517	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (7, 58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	
0518	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (8, 60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0519	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (9, 60+66.06-Y15FLYAC-)	Lump Sum	L.S.	
0520	8096000000-E	450	PILE EXCAVATION IN SOIL	115 LF		
0521	8097000000-E	450	PILE EXCAVATION NOT IN SOIL	185 LF		
0522	8105500000-E	411	**'-**" DIA DRILLED PIERS IN SOIL (4'-6")	56 LF		
0523	8105500000-E	411	**'-**" DIA DRILLED PIERS IN SOIL (6'-0")	47 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0524	8105560000-E	411	4'-0" DIA DRILLED PIERS IN SOIL	98.5 LF		
0525	8105600000-E	411	**'-**" DIA DRILLED PIERS NOT IN SOIL (4'-6")	56 LF		
0526	8105600000-E	411	**'-**" DIA DRILLED PIERS NOT IN SOIL (5'-6")	140 LF		
0527	8105660000-E	411	4'-0" DIA DRILLED PIERS NOT IN SOIL	212 LF		
0528	8112730000-N	450	PDA TESTING	2 EA		
0529	8113000000-N	411	SID INSPECTIONS	5 EA		
0530	8114000000-N	411	SPT TESTING	8 EA		
0531	8115000000-N	411	CSL TESTING	4 EA		
0532	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	294,675 SF		
0533	8161000000-E	420	GROOVING BRIDGE FLOORS	268,594 SF		
0534	8175000000-E	420	CLASS AA CONCRETE (BRIDGE)	9,485.3 CY		
0535	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	2,195.6 CY		
0536	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (22+26.35 -Y1B-)	Lump Sum	L.S.	
0537	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (23+43.03 -Y16-)	Lump Sum	L.S.	
0538	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (30+67.66 -Y4-)	Lump Sum	L.S.	
0539	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (47+28.33 -Y15REV-)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0540	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (47+63.62 -Y15FLYBD-)	Lump Sum	L.S.	
0541	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (58+33.94 -Y15FLYCA-)	Lump Sum	L.S.	
0542	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (60+66.06 -Y15FLYAC-)	Lump Sum	L.S.	
0543	8217000000-E	425	REINFORCING STEEL (BRIDGE)	2,090,775 LB		
0544	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	29,987 LB		
0545	8265000000-E	430	54" PRESTRESSED CONCRETE GIRDERS	1,763.7 LF		
0546	8280000000-E	440	APPROX ..... LBS STRUCTURAL STEEL	11,906,699 LS		
0547	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)	114 EA		
0548	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 14 X 73)	805 EA		
0549	8364000000-E	450	HP12X53 STEEL PILES	4,420 LF		
0550	8384000000-E	450	HP14X73 STEEL PILES	40,416 LF		
0551	8391000000-N	450	STEEL PILE POINTS	39 EA		
0552	8392500000-E	450	PREDRILLING FOR PILES	96 LF		
0553	8475000000-E	460	TWO BAR METAL RAIL	1,617.2 LF		
0554	8503000000-E	460	CONCRETE BARRIER RAIL	10,618.7 LF		
0555	8505000000-E	460	VERTICAL CONCRETE BARRIER RAIL	423.5 LF		
0556	8510000000-E	460	CONCRETE MEDIAN BARRIER	309.7 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0557	8517000000-E	460	1'-**"X *****" CONCRETE PARA-PET (1'-2" X 2'-3 1/2")	354.1 LF		
0558	8517000000-E	460	1'-**"X *****" CONCRETE PARA-PET (1'-2" X 2'-6")	832.98 LF		
0559	8517000000-E	460	1'-**"X *****" CONCRETE PARA-PET (1'-2" X 3'-3 3/4")	481.4 LF		
0560	8531000000-E	462	4" SLOPE PROTECTION	4,824.2 SY		
0561	8654000000-N	SP	DISC BEARINGS	Lump Sum	L.S.	
0562	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0563	8706000000-N	SP	EXPANSION JOINT SEALS	Lump Sum	L.S.	
0564	8713000000-N	SP	MODULAR EXPANSION JOINT SEALS	Lump Sum	L.S.	
0565	8860000000-N	SP	GENERIC STRUCTURE ITEM POST TENSIONING ENCASEMENT	Lump Sum	L.S.	
0566	8860000000-N	SP	GENERIC STRUCTURE ITEM POST TENSIONING TENDONS	Lump Sum	L.S.	
0567	8867000000-E	SP	GENERIC STRUCTURE ITEM 63" PRESTRESSED CONCRETE FLORIDA I-BEAM GIRDERS	4,566.33 LF		
0568	8881000000-E	SP	GENERIC STRUCTURE ITEM 6000 PSI CONCRETE	95.2 CY		
0569	8897000000-N	SP	GENERIC STRUCTURE ITEM 9-5/8" DIA MICROPILES	196 EA		
0570	8897000000-N	SP	GENERIC STRUCTURE ITEM DEMONSTRATION MICROPILES	1 EA		
0571	8897000000-N	SP	GENERIC STRUCTURE ITEM MICROPILE PROOF TESTS	8 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0572	8897000000-N	SP	GENERIC STRUCTURE ITEM MICROPILE VERIFICATION TESTS	1 EA		

1357/Dec09/Q24607642.628/D2743137475000/E572 **Total Amount Of Bid For Entire Project :**