

DALLAS WATER UTILITIES

BID ITEM AND COST ESTIMATING MANUAL



**7TH Edition
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INTRODUCTION

Pipeline projects are usually written as line item contracts. Each item of work to be paid is identified in the contract as a bid item. The BID ITEM LIST shows bid item numbers and specifications now available for use in preparing pipeline contracts. The bid item descriptions refer to the North Central Texas Council of Governments (NCTCOG) Standard Specifications for Public Works Construction, Third Edition, 1998, and to the DWU Addendum thereto.

To insure uniformity, each specific bid item carries a unique identifying Bid Item Number. The Bid Item Number consists of four or five digits and one to four letters. The Bid Item Numbers are derived from the 6th Edition Bid Item Numbers. The first three digits for most items are the same as the 6th Edition numbers. The fourth digit is added in this addition and is usually a zero. New items in this edition have a unique four digit number not associated with any number in earlier editions. The letter portion of a Bid Item Number is the size indicator for items with a size requirement (see section H. UNIFORM SIZE INDICATOR TABLE). The size indicators are uniformly assigned and are consistent throughout this list regardless of which type of pipe, fitting, or appurtenance they indicate. Extra depth items include an "X" and "with Paving" items for use on joint contracts include a "P".

A member of the Engineering Services Program shall be designated as the Administrator of the Bid Item List and is assigned the responsibility of maintaining and distributing the list of bid items to be used on pipeline contracts.

A. BID ITEM LIST DISTRIBUTION

The Administrator will be responsible to distribute a copy of the latest bid item list on an annual basis.

B. BID QUANTITY AND COST ESTIMATE RESPONSIBILITY

The Designer is responsible for preparing a Bid Quantity and Cost Estimate to include all bid items and quantities required for construction of the project he/she designs. The Bid Quantity and Cost Estimate must be checked by either the Section Manager or a person designated by the Manager.

The Project Manager is responsible for reviewing the Bid Quantity and Cost Estimate and aiding the Designer by ensuring that the proper bid item number is called out for the work intended.

The Project Manager is responsible for identifying bid items that may be required for construction of a project that may be missing from the Designer's Bid Quantity and Cost Estimate.

It is the final responsibility of the Project manager to add or utilize accurate bid items. Where necessary and approved the Project manager can include bid items for "No Separate Pay Items" if it is to the benefit of the bid and the management of the project.

In any City Contract where multiple or alternate pipe materials are specified on the design plans for the same pipe segment the project manager shall coordinate with the Contracts Program to include Alternate Bid Items in the contract documents. The Alternate Bid Items format shall conform to the language currently approved by the City Attorney's office.

C. PROCEDURE

1. PLANS ARE ESSENTIALLY COMPLETE

When the plans are sent out for review and comments the reviewers from other divisions within the water department may identify bid items that should be included in the contract.

The initial Bid Quantity and Cost Estimate, including the worksheet used to calculate quantities, should be sent with the plans to the Project Manager for review. The final Bid Quantity and Cost Estimate should be sent with the sealed plans to the Project Manager for construction. The Project Manager will be responsible for forwarding the Bid Quantity and Cost Estimate to Mapping and Capital Services for the preparation of bid documents.

2. BID QUANTITY AND COST ESTIMATE

The Bid Quantity and Cost Estimate should be prepared in an electronic spreadsheet format. Submit an electronic copy to the Project Manager with the review copy of the plans and with the sealed plans. A hard copy should be kept in the project file folder. See Appendix C for an example of the spreadsheet layout. The spreadsheet should always include the following information:

PROJECT:	Name of project.
FILE:	411Q or 685W file number.
CONTRACT NO.:	The engineering or construction contract number.
PREPARED BY:	Usually the Designer.
CHECKED BY:	Section Manager or the manager's designated representative.
REVIEWED BY:	Project Manager.
ESTIMATE:	Estimate after all adjustments.
ITEM NO:	The Bid Item Number obtained from the BID ITEM LIST.
UNIT:	The is the unit of measurement for the item.
GEN. ITEMS:	Items needed in the contract but are not specifically found on a particular sheet in the plans, (i.e.) Sand Backfill, Rock Foundation, etc.
SHEET #:	A listing of the quantities of a bid item found on that particular sheet of the plans.
PLAN QUANTITY:	A total of the quantities in the GEN. ITEMS and SHEET # columns.
ROUNDED QNTY:	The rounded PLAN QUANTITIES.
BID QUANTITY:	Adjustments made to the ROUNDED QUANTITIES. Project Management personnel may increase or decrease specific quantities they deem necessary. If the Project Manager does not make an entry in this column then the amount shown in the ROUNDED QUANTITY column will be used.
UNIT PRICE:	An estimated unit cost for a bid item. The Administrator maintains a tabulation of the average unit bid prices for each

item.

BID ESTIMATE: The total estimated cost for that specific bid item. This is obtained by multiplying the BID QUANTITY by the UNIT PRICE.

ESTIMATE: Total estimated cost of the contract.

D. LIST OF ABBREVIATIONS

These abbreviations are used in the Bid Item Index and in the Bid Item List.

Units		Common		Pipe	
Bd	Bed Width	BOTOC	By Other Than Open Cut	DI	Ductile Iron
CF	Cubic Feet	CL	Center Line	ECI	Enamel Cast Iron
CY	Cubic Yard	CTB	Cement Treated Base	HDPE	High Density Polyethylene3
EA	Each	DWU	Dallas Water Utilities	RCP	Reinforced Concrete Pipe
LF	Linear Feet	Elev	Elevation	RCPP	Reinforced Concrete Pressure Pipe
LS	Lump Sum	FH	Fire Hydrant	RTRP	Reinforced Thermosetting Resin
SF	Square Feet	FL	Flow Line	PCCP	Prestressed Concrete Cylinder Pipe
SY	Square Feet	MH	Man Hole	PVC	Polyvinyl Chloride
TN	Ton	PL	Property Line	VCT	Vitrified Clay Tile
VF	Vertical Feet	ROW	Right of Way		
		SWPPP	Storm Water Pollution Prevention		
		W	Water		
		WW	Waste Water		

E. GOVERNING ENTITIES

TCEQ	Texas Commission on Environmental Quality (formerly TNRCC – Texas Natural Resource Conservation Commission)
AWWA	American Waterworks Association
ASTM	American Society for Testing and Materials
NCTCOG	North Central Texas Council of Governments
EPA	Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
TXDOT	Texas Department of Transportation
DART	Dallas Area Rapid Transit
TRE	Trinity Railway Express

F. UPDATE PROCEDURE

The BID ITEM LIST is generally revised for one the following reasons:

- 1) There is not a bid item for a pay item needed in a contract
- 2) A special bid item is required to describe work done under a change order, or
- 3) A bid item is no longer used and may be removed from the list.

1. NEW BID ITEM REQUIRED

A request for a new bid item can originate from any source. All requests will be routed to the Administrator through the appropriate Project Manager. If approved, the Administrator will add the item to the BID ITEM LIST. No new bid item should be introduced without informing the Administrator.

2. SPECIAL AND TEMPORARY BID ITEMS

A special bid item is generally required for a change order and is needed as soon as possible. The request should be made directly to the Administrator for assignment of a bid item number. In most cases, the item is not included in the BID ITEM LIST since it is usually only used one time. A special or modified bid item needed for a particular contract can also be set up as a temporary bid item and not added to the BID ITEM LIST. The request should be made to the Administrator for assignment of a temporary bid item number.

3. BID ITEM NO LONGER REQUIRED

A bid item should be removed from the BID ITEM LIST if it is determined that the item is no longer necessary by the Manager of the Engineering Services, Pipe Line Project Management Programs, and the Private Development Program.

G. GUIDELINES FOR ESTIMATE PREPARATIONS

1. ROUNDING PROCEDURE

- A. All pipe items shall be rounded up to the nearest ten feet. All associated pipe items such as trench safety and television inspection must be increased accordingly.
- B. All items in SY, CY, or Tons shall be rounded up to the nearest whole number.
- C. All BOTOC items shall be rounded up to the nearest even foot.
- D. All Bid prices will be rounded up to the nearest dollar.
- E. EA items will not be increased from the plan quantity except at the Project Manager's request.

2. GENERAL CHECKLIST FOR CITY CONTRACTS

- A. Include all pipe lengths, sizes, and materials
- B. Include all appurtenances.
- C. Include all BOTOC and special crossing items.
- D. Grass restoration items must be included when any part of the proposed construction is outside of paving. Use Item 6902 Place Block Sod in residential areas and Item 6904 Seed in commercial areas.
- E. Item 6925 Trench Safety & Support must be included and shall be equal to the total length of all pipes minus total length of all BOTOC.
- F. Item 7030 Rock Foundation must be calculated for all pipes. Use the formula and proportion of pipe length shown in the bid item manual to calculate a 1-foot thickness.
- G. Item 7050 Sand Backfill will be included as a general item quantity per contract and should not be calculated separately.
- H. Temporary and permanent paving items must be included when any part of the proposed construction is within existing paving.
 - i. Temporary paving must include Item 7520 Temporary Paving (Hot Mix) and Item 7560 Crushed Rock For Paving Repairs (Ditch Line Temporary Paving Base)
 - ii. Temporary paving shall be calculated for trench width only.
 - iii. Permanent paving shall be the type, materials, and dimensions as specified in the City of Dallas PW &T Paving Cut Manual, pages 20-29.
 - iv. Use Item 7590 Reinforced Concrete Alley Approach for alley transition concrete pavement. Alley transition pavement is the concrete pavement connecting a street and an alley where the alley pavement is other than concrete. Use Item 7525 Flex Base (Crushed Rock) Alley Surface for alley surfaces that are not concrete or asphalt.
- I. Include appropriate quantities of Item 7530 Concrete Curb and/or Gutter, Item 7540 Concrete Curb, Item 7580 Reinforced Concrete Sidewalk and Item 7583 Reinforced Concrete Driveway. Assume all these to be replaced if within the trench limits or within 3 feet of the edge of the trench.

- J. Include Item 8011 Construction Surveying & Staking (Water & WW Mains) for the total length of all pipes.
- K. Include Item 8012 Construction Surveying & Staking (Paving) for lengths of pipes under existing paving.
- L. Item No. 8000 BARRICADING should only be used if barricading is specifically called out on the plans, including the length and type of barricades to be used. Barricading is incidental and not counted separately on most bid items.
- M. Brick paving or brick sidewalk will be specified for payment as a separate bid item.
- N. Item No. 7712 STORM WATER POLLUTION PREVENTION PLAN will be included as lump sum general item per contract unless directed otherwise.
- O. Item No. 20500 INVESTIGATION is used on all contracts as a contingency item. Include one per pipeline segment and any additional as directed by the Project Manager.

3. GENERAL CHECKLIST FOR CITY - WATER CONTRACTS

In addition to the specified items for City Contracts, the following are specific to Water contracts.

- A. Item No. 5020 CAST IRON FITTINGS will be included as a general item per contract on all water main projects requiring either Ductile Iron or PVC pipe.
- B. Use Item No. 5050 WATER SERVICE for all water service sizes from 3/4" through 2".
- C. Use Item 5091 INSTALL FIRE HYDRANT for all new fire hydrants. Use Item No. 5092 REMOVE EXISTING FIRE HYDRANT and Item No. 5093 DELIVER FIRE HYDRANT whenever any existing fire hydrant is replaced or otherwise taken out of service.
- D. Item 5110__x__ TAPPING SLEEVE: If more than one configuration of tap is used a separate bid item number is used for each size. The tapping valve should be included in the total item count for Item 5100__ GATE VALVE.
- E. Item No. 5600 CUT AND PLUG EXISTING WATER MAIN must be called out as an item of work on the plans and should only be used when one side of the cut main will remain in service and no other fitting for connection is called out.
- F. Item No. 5610 CUT AND PLUG EXISTING WATER MAIN FOR TEST is a contingent item and should be counted one per water pipe segment to be replaced.
- G. Use Item No. 7071 CLASS "B" CONCRETE for blocking of all bends and tees. List every fitting to be blocked and the volume for each fitting on the calculations sheet. Use the tables in the DWU Standard Drawings Manual, pages 229-234 for volumes of concrete per fitting.
- H. Concrete water mains will require bid items for all closure sections, test fittings, monitoring stations, blow-offs, and air valves. Bends and bevels are included in the pipe item.
- I. If a valve is included that requires a manhole, then the manhole should be a separate bid item.
- J. Item No. 7730 DISPOSAL OF HEAVILY CHLORINATED WATER MAIN FLUSHING WATER is used as a general item per contract on all contracts that require chlorination of water mains.

4. GENERAL CHECKLIST FOR CITY - WASTEWATER CONTRACTS

In addition to the specified items for City Contracts, the following are specific to Wastewater contracts.

- A. For Item 6110__ DROP CONNECTION MANHOLE, Item 6120__ TYPE "S" MANHOLE, and Item 6130__ WASTEWATER MANHOLE always specify size and type on plans.
- B. Item No. 6140 ABANDON EXISTING MANHOLE should only be used for manholes to be abandoned which are outside the trench for the proposed main, and which would otherwise remain undisturbed by construction.
- C. One of Item No. 6141 VACUUM TEST FOR WASTEWATER MANHOLE should be counted for every new wastewater manhole.
- D. Use Item No. 6060 WASTEWATER LATERAL for all wastewater laterals. This item includes all sizes and types of laterals.
- E. Item 6920 should be used for all proposed wastewater mains

5. GENERAL CHECKLIST FOR JOINT CONTRACTS

- A. Always use the pipe bid item that includes all related items (with paving) in its bid item description, except for closures. These are 1500__P, 1800__P, 2000__P, 2010__P, 3000__P, 3100__P, 3110__P, and 3460__P.
- B. Always include at least one Item No. 5050 WATER SERVICE as a contingency, even if there will be no adjustment to the water main.
- C. Always include at least one Item No. 6060 WASTEWATER LATERAL as a contingency, even if there will be no adjustment to the wastewater main.
- F. Always use Item No. 6921 TELEVISION INSPECTION for Joint contracts. Always double the length of wastewater main when calculating quantities. This allows payment for two inspections.
- G. Item No. 6925 TRENCH SAFETY AND SUPPORT is used on all Contracts. The quantity should equal the length of new main (water + wastewater) to be installed.
- H. Item No. 7050 SAND BACKFILL and Item No. 7030 ROCK FOUNDATION are used on all contracts.
- I. Item No. 7730 DISPOSAL OF HEAVILY CHLORINATED WATER MAIN FLUSHING WATER is used on all contracts that require chlorination of water mains.
- J. Item No. 8000 BARRICADING should only be used if barricading is specifically called out on the plans, including the length and type of barricades to be used. Barricading is incidental and not counted separately on most bid items.
- K. Include all necessary alteration and adjustment items (20000 series items). Item No. 20500 INVESTIGATION is used on all contracts.
- L. Always include at least one Item No. 5080 RECONNECT EXISTING WATER SERVICE as a contingency, even if there will be no adjustment to the water main.
- M. If Public Works includes a Storm Water Pollution Prevention Plan (SWPPP) in their bid documents, then include bid Item No. 7711 SILT FENCE AND HAY BALES. If Public Works does not include a SWPPP, include bid Item No. 7712 STORM WATER POLLUTION PREVENTION PLAN or 7713 EROSION CONTROL unless directed otherwise.

6. TABLE OF BID ITEMS THAT MUST ALSO INCLUDE OTHER ITEMS.

Item Number (Description)	Additional Required Items
1500__ Ductile Iron Water Pipe 1800__ PVC Water Pipe	5020 Iron Fittings
2000__ Bar-Wrapped Conc. Cylinder Water Pipe 2010__ Pre-stressed Conc. Cylinder Water Pipe	6930__ Closure Section
5050 Water Service	2030 Adjustment and/or Relocation of Water Meter Boxes (For Joint Contracts Only)
5092 Remove Fire Hydrant	5093 Deliver Fire Hydrant
5110__ x__ Tapping Sleeve	5100__ Gate Valve
All Wastewater Manholes (all sizes, configurations, and materials)	6141 Vacuum Test
All Wastewater Pipes (all sizes, all materials)	6920 Television Inspection (City) 6921 Television Inspection (Joint)
5155__ Access Manhole With Blow-off	5140__ Flap Valve

H. UNIFORM SIZE INDICATOR TABLE

The following table shall be used for selecting the uniform size indicator for all pipes, fittings, and appurtenances for the bid items in this manual.

<i>A = 3/4"</i>	<i>U = 21"</i>	<i>AM = 90"</i>
<i>B = 1"</i>	<i>V = 24"</i>	<i>AN = 96"</i>
<i>C = 1 1/2"</i>	<i>W = 27"</i>	<i>AQ = 102"</i>
<i>D = 2"</i>	<i>Y = 30"</i>	<i>AR = 108"</i>
<i>E = 3"</i>	<i>Z = 33"</i>	<i>AS = 114"</i>
<i>F = 4"</i>	<i>AA = 36"</i>	<i>AU = 120"</i>
<i>G = 5"</i>	<i>AB = 39"</i>	<i>AV = 126"</i>
<i>H = 6"</i>	<i>AC = 42"</i>	<i>AW = 132"</i>
<i>J = 8"</i>	<i>AD = 45"</i>	<i>AY = 138"</i>
<i>K = 10"</i>	<i>AE = 48"</i>	<i>AZ = 144"</i>
<i>L = 12"</i>	<i>AF = 54"</i>	
<i>M = 14"</i>	<i>AG = 60"</i>	
<i>N = 15"</i>	<i>AH = 66"</i>	
<i>Q = 16"</i>	<i>AJ = 72"</i>	
<i>R = 18"</i>	<i>AK = 78"</i>	
<i>S = 20"</i>	<i>AL = 84"</i>	

BID ITEM DESCRIPTIONS

1100 - 2100	Water Pipe	Page 14
3000 - 3820	Wastewater and Recycled Wastewater Pipe	Page 24
5020 - 5770	Water Appurtenances and related items	Page 39
5990 - 6200	Wastewater Appurtenances and related items	Page 70
6240 - 6995	Miscellaneous Restoration, Fittings and Special Items	Page 96
7030 - 7766	Embedment, Backfill, Paving and Environmental Items	Page 107
7800 - 7837	Special Paving Items (Paving Restoration Contracts)	Page 128
8000 - 8200	Survey Staking and Traffic Items	Page 143
20300 - 20930	Alteration and Adjustment Items (Joint Contracts)	Page 145
Bid Items List		Page 167

ITEM NO. 1100__ __" TEMPORARY WATER MAIN

This item consists of furnishing and placing approximately __ Linear Feet of __" Galvanized Water Pipe in accordance with Items 2.9.2 , 2.12.9 and 6.7.3 of these specifications and addenda thereto.

This item to include all valves, __" blow-off coppers, temporary water service connection, asphalt paving, and barricading necessary to protect the main from traffic. This item to include the removal of the __" water pipe and asphalt paving when the new __" water main is placed in service. The removed system will become the property of the Contractor.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts . Embedment is not required. Use the following size indicators:

D = 2" Temporary Water Main

F = 4" Temporary Water Main

H = 6" Temporary Water Main

J = 8" Temporary Water Main

ITEM NO. 1100__P __" TEMPORARY WATER MAIN WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Galvanized Water Pipe in accordance with Items 2.9.2 , 2.12.9 and 6.7.3 of these specifications and addenda thereto.

This item complete and to include all valves, __" blow-off coppers, temporary water service connection, polywrap, fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.). This item to include the removal of the __" water pipe and asphalt paving when the new __" water main is placed in service. The removed system will become the property of the Contractor.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. Embedment is not required. Use the following size indicators:

D = 2" Temporary Water Main

F = 4" Temporary Water Main

H = 6" Temporary Water Main

J = 8" Temporary Water Main

ITEM NO. 1500__ __" DUCTILE IRON WATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Ductile Iron Water Pipe in accordance with Items 6.7.3 and 2.12.8 of these specifications and addenda thereto.

This item includes all fittings, polywrap (AWWA C105-99), barricading, and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. The plans will indicate pipe Class 52 or 53. Use the following size indicators:

*D = 2" Ductile Iron Water Pipe S = 20" Ductile Iron Water Pipe
 F = 4" Ductile Iron Water Pipe V = 24" Ductile Iron Water Pipe
 H = 6" Ductile Iron Water Pipe Y = 30" Ductile Iron Water Pipe
 J = 8" Ductile Iron Water Pipe AA = 36" Ductile Iron Water Pipe
 K = 10" Ductile Iron Water Pipe AE = 48" Ductile Iron Water Pipe
 L = 12" Ductile Iron Water Pipe AF = 54" Ductile Iron Water Pipe
 Q = 16" Ductile Iron Water Pipe AG = 60" Ductile Iron Water Pipe*

ITEM NO. 1500__P __" DUCTILE IRON WATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Ductile Iron Water Pipe in accordance with Items 6.7.3 and 2.12.8 of these specifications and addenda thereto.

This item is complete and includes polywrap (AWWA C105-99), fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. The plans will indicate pipe Class 52 or 53. Use the following size indicators:

*D = 2" Ductile Iron Water Pipe S = 20" Ductile Iron Water Pipe
 F = 4" Ductile Iron Water Pipe V = 24" Ductile Iron Water Pipe
 H = 6" Ductile Iron Water Pipe Y = 30" Ductile Iron Water Pipe
 J = 8" Ductile Iron Water Pipe AA = 36" Ductile Iron Water Pipe
 K = 10" Ductile Iron Water Pipe AE = 48" Ductile Iron Water Pipe
 L = 12" Ductile Iron Water Pipe AF = 54" Ductile Iron Water Pipe
 Q = 16" Ductile Iron Water Pipe AG = 60" Ductile Iron Water Pipe*

ITEM NO. 1505 ___ ___" DUCTILE IRON WATER PIPE AERIAL CROSSING

This item consists of

TO BE AMENDED

This item is used on DWU CITY contracts.

Use the following size indicators:

*D = 2" Ductile Iron Water Pipe S = 20" Ductile Iron Water Pipe
 F = 4" Ductile Iron Water Pipe V = 24" Ductile Iron Water Pipe
 H = 6" Ductile Iron Water Pipe Y = 30" Ductile Iron Water Pipe
 J = 8" Ductile Iron Water Pipe AA = 36" Ductile Iron Water Pipe
 K = 10" Ductile Iron Water Pipe AE = 48" Ductile Iron Water Pipe
 L = 12" Ductile Iron Water Pipe AF = 54" Ductile Iron Water Pipe
 Q = 16" Ductile Iron Water Pipe AG = 60" Ductile Iron Water Pipe*

ITEM NO. 1600 ___ ___" STEEL WATER PIPE

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Steel Water Pipe....

TO BE AMENDED

This item is used for DWU CITY contracts. The plans will indicate minimum pipe thickness. Use the following size indicators:

<i>S = 20" Steel Pipe</i>	<i>AM = 90" Steel Pipe</i>
<i>V = 24" Steel Pipe</i>	<i>AN = 96" Steel Pipe</i>
<i>Y = 30" Steel Pipe</i>	<i>AQ = 102" Steel Pipe</i>
<i>AA = 36" Steel Pipe</i>	<i>AR = 108" Steel Pipe</i>
<i>AC = 42" Steel Pipe</i>	<i>AS = 114" Steel Pipe</i>
<i>AE = 48" Steel Pipe</i>	<i>AU = 120" Steel Pipe</i>
<i>AF = 54" Steel Pipe</i>	<i>AV = 126" Steel Pipe</i>
<i>AG = 60" Steel Pipe</i>	<i>AW = 132" Steel Pipe</i>
<i>AH = 66" Steel Pipe</i>	<i>AY = 138" Steel Pipe</i>
<i>AJ = 72" Steel Pipe</i>	<i>AZ = 144" Steel Pipe</i>
<i>AK = 78" Steel Pipe</i>	

ITEM NO. 1600__P __" STEEL WATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Steel Water Pipe....

TO BE AMENDED

This item is used for DWU JOINT contracts. The plans will indicate minimum pipe thickness. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

S = 20" Steel Pipe

V = 24" Steel Pipe

Y = 30" Steel Pipe

AA = 36" Steel Pipe

AC = 42" Steel Pipe

AE = 48" Steel Pipe

AF = 54" Steel Pipe

AG = 60" Steel Pipe

AH = 66" Steel Pipe

AJ = 72" Steel Pipe

AK = 78" Steel Pipe

AM = 90" Steel Pipe

AN = 96" Steel Pipe

AQ = 102" Steel Pipe

AR = 108" Steel Pipe

AS = 114" Steel Pipe

AU = 120" Steel Pipe

AV = 126" Steel Pipe

AW = 132" Steel Pipe

AY = 138" Steel Pipe

AZ = 144" Steel Pipe

ITEM NO. 1800__" PVC WATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe (C-900) in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item includes fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

F = 4" PVC Water Pipe K = 10" PVC Water Pipe

H = 6" PVC Water Pipe L = 12" PVC Water Pipe

J = 8" PVC Water Pipe

ITEM NO. 1800__P __" PVC WATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe (C-900) in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

F = 4" PVC Water Pipe K = 10" PVC Water Pipe

H = 6" PVC Water Pipe L = 12" PVC Water Pipe

J = 8" PVC Water Pipe

ITEM NO. 1805__ __" PVC WATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe (C-905) in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item includes fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

Q = 16" PVC Water Pipe

ITEM NO. 1805__P __" PVC WATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe (C-905) in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

Q = 16" PVC Water Pipe

ITEM NO. 1810__ __" FUSIBLE PVC WATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe (C-905) in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item includes fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

*F = 4" PVC Water Pipe K = 10" PVC Water Pipe
H = 6" PVC Water Pipe L = 12" PVC Water Pipe
J = 8" PVC Water Pipe Q = 16" PVC Water Pipe*

ITEM NO. 1810__P __" FUSIBLE PVC WATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe (C-905) in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

*F = 4" PVC Water Pipe K = 10" PVC Water Pipe
H = 6" PVC Water Pipe L = 12" PVC Water Pipe
J = 8" PVC Water Pipe Q = 16" PVC Water Pipe*

ITEM NO. 1820__ __" RESTRAINED JOINT PVC WATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item includes fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

*F = 4" PVC Water Pipe K = 10" PVC Water Pipe
H = 6" PVC Water Pipe L = 12" PVC Water Pipe
J = 8" PVC Water Pipe*

ITEM NO. 1820__P __" RESTRAINED JOINT PVC WATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

*F = 4" PVC Water Pipe K = 10" PVC Water Pipe
H = 6" PVC Water Pipe L = 12" PVC Water Pipe
J = 8" PVC Water Pipe.*

ITEM NO. 1900__P __" PVC OR DUCTILE IRON WATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe or Ductile Iron Water Pipe in accordance with Items 6.7.3 and 2.12.8 or 2.12.20 of these specifications and addenda thereto.

This item shall be completely installed and include polywrap, fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

*F = 4" PVC Water Pipe K = 10" PVC Water Pipe
H = 6" PVC Water Pipe L = 12" PVC Water Pipe
J = 8" PVC Water Pipe*

ITEM NO. 2000__ __" BAR-WRAPPED CONCRETE CYLINDER WATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Bar-Wrapped Concrete Cylinder Water Pipe; including bends, bevels, outlets, other concrete fittings as shown on the plans, barricading and all embedment materials in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

*K = 10" Bar Wrapped CC Pipe V = 24" Bar Wrapped CC Pipe
L = 12" Bar Wrapped CC Pipe W = 27" Bar Wrapped CC Pipe
M = 14" Bar Wrapped CC Pipe Y = 30" Bar Wrapped CC Pipe
Q = 16" Bar Wrapped CC Pipe AA = 36" Bar Wrapped CC Pipe
R = 18" Bar Wrapped CC Pipe AC = 42" Bar Wrapped CC Pipe
S = 20" Bar Wrapped CC Pipe AE = 48" Bar Wrapped CC Pipe*

ITEM NO. 2000__P __" BAR-WRAPPED CONCRETE CYLINDER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Bar-Wrapped Concrete Cylinder Water Pipe; including bends, bevels, outlets and other concrete fittings as shown on the plans and in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

*K = 10" Bar Wrapped CC Pipe V = 24" Bar Wrapped CC Pipe
L = 12" Bar Wrapped CC Pipe W = 27" Bar Wrapped CC Pipe
M = 14" Bar Wrapped CC Pipe Y = 30" Bar Wrapped CC Pipe
Q = 16" Bar Wrapped CC Pipe AA = 36" Bar Wrapped CC Pipe
R = 18" Bar Wrapped CC Pipe AC = 42" Bar Wrapped CC Pipe
S = 20" Bar Wrapped CC Pipe AE = 48" Bar Wrapped CC Pipe*

ITEM NO. 2010 ___ ___" PRESTRESSED CONCRETE CYLINDER WATER PIPE

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Prestressed Concrete Cylinder Water Pipe; including bends, bevels, outlets, other concrete fittings and all embedment materials as shown on the plans, and barricading in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. This item is used for either Pre-stressed Concrete Cylinder Pipe or Pre-stressed Concrete Embedded Cylinder Pipe. Use the following size indicators:

Q = 16" Pre-stressed CC Pipe

R = 18" Pre-stressed CC Pipe

S = 20" Pre-stressed CC Pipe

V = 24" Pre-stressed CC Pipe

Y = 30" Pre-stressed CC Pipe

AA = 36" Pre-stressed CC Pipe

AC = 42" Pre-stressed CC Pipe

AE = 48" Pre-stressed CC Pipe

AF = 54" Pre-stressed CC Pipe

AG = 60" Pre-stressed CC Pipe

AH = 66" Pre-stressed CC Pipe

AJ = 72" Pre-stressed CC Pipe

AK = 78" Pre-stressed CC Pipe

AL = 84" Pre-stressed CC Pipe

AM = 90" Pre-stressed CC Pipe

AN = 96" Pre-stressed CC Pipe

AQ = 102" Pre-stressed CC Pipe

AR = 108" Pre-stressed CC Pipe

AS = 114" Pre-stressed CC Pipe

AU = 120" Pre-stressed CC Pipe

AV = 126" Pre-stressed CC Pipe

AW = 132" Pre-stressed CC Pipe

AY = 138" Pre-stressed CC Pipe

AZ = 144" Pre-stressed CC Pipe

ITEM NO. 2010__P __" PRESTRESSED CONCRETE CYLINDER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Pre-stressed Concrete Cylinder Water Pipe; including bends, bevels, outlets, test plugs, other concrete fittings and all embedment materials as shown on the plans, and in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. This item is used for either Pre-stressed Concrete Cylinder Pipe or Pre-stressed Concrete Embedded Cylinder Pipe. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

Q = 16" Pre-stressed CC Pipe

R = 18" Pre-stressed CC Pipe

S = 20" Pre-stressed CC Pipe

V = 24" Pre-stressed CC Pipe

Y = 30" Pre-stressed CC Pipe

AA = 36" Pre-stressed CC Pipe

AC = 42" Pre-stressed CC Pipe

AE = 48" Pre-stressed CC Pipe

AF = 54" Pre-stressed CC Pipe

AG = 60" Pre-stressed CC Pipe

AH = 66" Pre-stressed CC Pipe

AJ = 72" Pre-stressed CC Pipe

AK = 78" Pre-stressed CC Pipe

AL = 84" Pre-stressed CC Pipe

AM = 90" Pre-stressed CC Pipe

AN = 96" Pre-stressed CC Pipe

AQ = 102" Pre-stressed CC Pipe

AR = 108" Pre-stressed CC Pipe

AS = 114" Pre-stressed CC Pipe

AU = 120" Pre-stressed CC Pipe

AV = 126" Pre-stressed CC Pipe

AW = 132" Pre-stressed CC Pipe

AY = 138" Pre-stressed CC Pipe

AZ = 144" Pre-stressed CC Pipe

Item No. 2100__X __" Extra Depth Water Pipe (+20')

This item consists of additional excavation of __" Extra Depth Water Pipe for __ Linear Feet. This item is supplementary to the pipe item for extra depth exceeding twenty vertical feet and shall be paid per Linear Foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone.

Measurement and Payment will be per Linear Foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone and will include any equipment, materials, and labor, crossing diagonal utilities, costs for barricading, trench safety and support for these mains, encasement, and embedment.

This item is used on ALL contracts. This item is for excavation only and does not include pipe. The regular pipe item must include the extra depth footage.

Use the following size indicators:

H = 6" PVC Water Pipe K = 10" PVC Water Pipe

J = 8" PVC Water Pipe L = 12" PVC Water Pipe

ITEM NO. 3000__ __" CLAY WASTEWATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Clay Wastewater Pipe in accordance with Items 6.7.2 and 2.12.1 of these specifications and addenda thereto.

This item to include all embedment materials and barricading.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

*H = 6" Clay WW Pipe K = 10" Clay WW Pipe N = 15" Clay WW Pipe U = 21" Clay WW Pipe
J = 8" Clay WW Pipe L = 12" Clay WW Pipe R = 18" Clay WW Pipe V = 24" Clay WW Pipe*

ITEM NO. 3000__P __" CLAY WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Clay Wastewater Pipe in accordance with Items 6.7.2 and 2.12.1 of these specifications and addenda thereto.

This item complete and to include all embedment materials, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

*H = 6" Clay WW Pipe K = 10" Clay WW Pipe N = 15" Clay WW Pipe U = 21" Clay WW Pipe
J = 8" Clay WW Pipe L = 12" Clay WW Pipe R = 18" Clay WW Pipe V = 24" Clay WW Pipe*

ITEM NO. 3100__ __" PVC WASTEWATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Wastewater Pipe in accordance with Items 6.7.2 and 2.12.14 of these specifications and addenda thereto.

This item to include all embedment materials and barricading.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. The specific type of PVC, if required, will be specified in the profile. Use the following for size indicators:

*H = 6" PVC WW Pipe N = 15" PVC WW Pipe W = 27" PVC WW Pipe AB = 39" PVC WW Pipe
J = 8" PVC WW Pipe R = 18" PVC WW Pipe Y = 30" PVC WW Pipe AC = 42" PVC WW Pipe
K = 10" PVC WW Pipe U = 21" PVC WW Pipe Z = 33" PVC WW Pipe AE = 48" PVC WW Pipe
L = 12" PVC WW Pipe V = 24" PVC WW Pipe AA = 36" PVC WW Pipe*

ITEM NO. 3100__P __" PVC WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Wastewater Pipe accordance with Items 6.7.2 and 2.12.14 of these specifications and addenda thereto.

This item complete and to include all embedment materials, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following for size indicators:

<i>H = 6" PVC WW Pipe</i>	<i>N = 15" PVC WW Pipe</i>	<i>W = 27" PVC WW Pipe</i>	<i>AB = 39" PVC WW Pipe</i>
<i>J = 8" PVC WW Pipe</i>	<i>R = 18" PVC WW Pipe</i>	<i>Y = 30" PVC WW Pipe</i>	<i>AC = 42" PVC WW Pipe</i>
<i>K = 10" PVC WW Pipe</i>	<i>U = 21" PVC WW Pipe</i>	<i>Z = 33" PVC WW Pipe</i>	<i>AE = 48" PVC WW Pipe</i>
<i>L = 12" PVC WW Pipe</i>	<i>V = 24" PVC WW Pipe</i>	<i>AA = 36" PVC WW Pipe</i>	

ITEM NO. 3110__ __" PVC PRESSURE RATED WASTEWATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Pressure Rated Wastewater Pipe conforming to ASTM D2241 (DR 26) Minimum Pressure Rating of 160 PSI and ASTM D3139 joints, and in accordance with Items 6.7.2 and 2.12.25 of these specifications and addenda thereto.

This item to include barricading and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts where a proposed main is less than 9' away from any potable water main. Use this item for pipe sizes 12" and smaller. Use item 3120__ for pipe sizes 16" and larger. Use the following for size indicators:

<i>F = 4" PVC Pressure WW Pipe</i>	<i>H = 6" PVC Pressure WW Pipe</i>
<i>J = 8" PVC Pressure WW Pipe</i>	<i>K = 10" PVC Pressure WW Pipe</i>
<i>L = 12" PVC Pressure WW Pipe</i>	

ITEM NO. 3110__P __" PVC PRESSURE RATED WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Pressure Rated Wastewater Pipe conforming to ASTM D2241 (DR 26) Minimum Pressure Rating of 160 PSI and ASTM D3139 joints, and in accordance with Items 6.7.2 and 2.12.25 of these specifications and addenda thereto.

This item complete and to include all embedment materials, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts where a proposed main is less than 9' away from any potable water main. Use this item for pipe sizes 12" and smaller. Use item 3120__P for pipe sizes 16" and larger. The Unit Price for this item includes most items except trench safety. Use the following for size indicators:

*F = 4" PVC Pressure WW Pipe
J = 8" PVC Pressure WW Pipe
L = 12" PVC Pressure WW Pipe*

*H = 6" PVC Pressure WW Pipe
K = 10" PVC Pressure WW Pipe*

ITEM NO. 3120__ __" PVC PRESSURE RATED WASTEWATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Pressure Rated Wastewater Pipe conforming to ASTM C905 (DR 25) Minimum Pressure Rating of 165 PSI and ASTM D3139 joints, and in accordance with Items 6.7.2 and 2.12.25 of these specifications and addenda thereto.

This item to include barricading and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts where a proposed main is less than 9' away from any potable water main. Use this item for pipe sizes 16" and larger. Use 3110__ for pipe sizes 12" and smaller. Use the following for size indicators:

*Q = 16" PVC Pressure WW Pipe (Alt)
R = 18" PVC Pressure WW Pipe (Alt)
S = 20" PVC Pressure WW Pipe (Alt)
Z = 33" PVC Pressure WW Pipe (Alt)
AB = 39" PVC Pressure WW Pipe (Alt)*

*V = 24" PVC Pressure WW Pipe (Alt)
W = 27" PVC Pressure WW Pipe (Alt)
Y = 30" PVC Pressure WW Pipe (Alt)
AA = 36" PVC Pressure WW Pipe (Alt)*

ITEM NO. 3120__P __" PVC PRESSURE RATED WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Pressure Rated Wastewater Pipe conforming to ASTM C905 (DR 25) Minimum Pressure Rating of 165 PSI and ASTM D3139 joints, and in accordance with Items 6.7.2 and 2.12.25 of these specifications and addenda thereto.

This item complete and to include all embedment materials, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts where a proposed main is less than 9' away from any potable water main.. Use this item for pipe sizes 16" and larger. Use 3110__P for pipe sizes 12" and smaller. Use the following for size indicators:

*Q = 16" PVC Pressure WW Pipe V = 24" PVC Pressure WW Pipe Z = 33" PVC Pressure WW Pipe
R = 18" PVC Pressure WW Pipe W = 27" PVC Pressure WW Pipe AA = 36" PVC Pressure WW Pipe
S = 20" PVC Pressure WW Pipe Y = 30" PVC Pressure WW Pipe AB = 39" PVC Pressure WW Pipe*

ITEM NO. 3130__ __" FUSIBLE PVC WASTEWATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Wastewater Pipe in accordance with Items 6.7.2 and 2.12.14 of these specifications and addenda thereto.

This item to include all embedment materials and barricading.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. The specific type of PVC, if required, will be specified in the profile. Use the following for size indicators:

*H = 6" PVC WW Pipe K = 10" PVC WW Pipe Q = 16" PVC WW Pipe
J = 8" PVC WW Pipe L = 12" PVC WW Pipe R = 18" PVC WW Pipe*

ITEM NO. 3130__P __" FUSIBLE PVC WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Wastewater Pipe in accordance with Items 6.7.2 and 2.12.14 of these specifications and addenda thereto.

This item complete and to include all embedment materials, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. The specific type of PVC, if required, will be specified in the profile. Use the following for size indicators:

*H = 6" PVC WW Pipe K = 10" PVC WW Pipe Q = 16" PVC WW Pipe
J = 8" PVC WW Pipe L = 12" PVC WW Pipe R = 18" PVC WW Pipe*

ITEM NO. 3140 ___ " RESTRAINED JOINT PVC WASTEWATER PIPE

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Polyvinyl Chloride Wastewater Pipe in accordance with Items 6.7.2 and 2.12.14 of these specifications and addenda thereto.

This item to include all embedment materials and barricading.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. The specific type of PVC, if required, will be specified in the profile. Use the following for size indicators:

*H = 6" PVC WW Pipe
K = 10" PVC WW Pipe*

*J = 8" PVC WW Pipe
L = 12" PVC WW Pipe*

ITEM NO. 3140__P ___" RESTRAINED JOINT PVC WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Polyvinyl Chloride Wastewater Pipe in accordance with Items 6.7.2 and 2.12.14 of these specifications and addenda thereto.

This item complete and to include all embedment materials, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. The specific type of PVC, if required, will be specified in the profile. Use the following for size indicators:

*H = 6" PVC WW Pipe
K = 10" PVC WW Pipe*

*J = 8" PVC WW Pipe
L = 12" PVC WW Pipe*

ITEM NO. 3410 ___ " REINFORCED CONCRETE WASTEWATER PIPE

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Reinforced Concrete Wastewater Pipe in accordance with Items 6.7.2 and 2.12.4 of these specifications and addenda thereto.

This item to include all barricading and embedment materials.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. Use the following for size indicators:

<i>Y = 30" Reinforced Concrete WW Pipe</i>	<i>AG = 60" Reinforced Concrete WW Pipe</i>
<i>Z = 33" Reinforced Concrete WW Pipe</i>	<i>AH = 66" Reinforced Concrete WW Pipe</i>
<i>AA = 36" Reinforced Concrete WW Pipe</i>	<i>AJ = 72" Reinforced Concrete WW Pipe</i>
<i>AB = 39" Reinforced Concrete WW Pipe</i>	<i>AK = 78" Reinforced Concrete WW Pipe</i>
<i>AC = 42" Reinforced Concrete WW Pipe</i>	<i>AL = 84" Reinforced Concrete WW Pipe</i>
<i>AD = 45" Reinforced Concrete WW Pipe</i>	<i>AM = 90" Reinforced Concrete WW Pipe</i>
<i>AE = 48" Reinforced Concrete WW Pipe</i>	<i>AN = 96" Reinforced Concrete WW Pipe</i>
<i>AF = 54" Reinforced Concrete WW Pipe</i>	

ITEM NO. 3410__P __" REINFORCED CONCRETE WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Reinforced Concrete Wastewater Pipe in accordance with Items 6.7.2 and 2.12.4 of these specifications and addenda thereto.

This item complete and to include all embedment materials, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following for size indicators:

<i>Y = 30" Reinforced Concrete WW Pipe</i>	<i>AG = 60" Reinforced Concrete WW Pipe</i>
<i>Z = 33" Reinforced Concrete WW Pipe</i>	<i>AH = 66" Reinforced Concrete WW Pipe</i>
<i>AA = 36" Reinforced Concrete WW Pipe</i>	<i>AJ = 72" Reinforced Concrete WW Pipe</i>
<i>AB = 39" Reinforced Concrete WW Pipe</i>	<i>AK = 78" Reinforced Concrete WW Pipe</i>
<i>AC = 42" Reinforced Concrete WW Pipe</i>	<i>AL = 84" Reinforced Concrete WW Pipe</i>
<i>AD = 45" Reinforced Concrete WW Pipe</i>	<i>AM = 90" Reinforced Concrete WW Pipe</i>
<i>AE = 48" Reinforced Concrete WW Pipe</i>	<i>AN = 96" Reinforced Concrete WW Pipe</i>
<i>AF = 54" Reinforced Concrete WW Pipe</i>	

ITEM NO. 3420__ __" RTRP WASTEWATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" fiberglass glass-fiber reinforced thermosetting-resin Wastewater Pipe (RTRP – ASTM D 3262) in accordance with Items 6.7.2 and 2.12.23 of these specifications and addenda thereto.

This item to include barricading, all embedment materials, and fittings.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. Use the following for size indicators:

<i>R = 18" RTRP WW Pipe</i>	<i>AA = 36" RTRP WW Pipe</i>	<i>AJ = 72" RTRP WW Pipe</i>
<i>S = 20" RTRP WW Pipe</i>	<i>AC = 42" RTRP WW Pipe</i>	<i>AK = 78" RTRP WW Pipe</i>
<i>V = 24" RTRP WW Pipe</i>	<i>AE = 48" RTRP WW Pipe</i>	<i>AL = 84" RTRP WW Pipe</i>
<i>W = 27" RTRP WW Pipe</i>	<i>AF = 54" RTRP WW Pipe</i>	<i>AM = 90" RTRP WW Pipe</i>
<i>Y = 30" RTRP WW Pipe</i>	<i>AG = 60" RTRP WW Pipe</i>	<i>AN = 96" RTRP WW Pipe</i>
<i>Z = 33" RTRP WW Pipe</i>	<i>AH = 66" RTRP WW Pipe</i>	

ITEM NO. 3420__P __ " RTRP WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" fiberglass glass-fiber reinforced thermosetting-resin Wastewater Pipe (RTRP – ASTM D 3262) in accordance with Items 6.7.2 and 2.12.23 of these specifications and addenda thereto.

This item complete and to include all embedment materials, fittings, mechanical tamping, barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement saw-cut, base, asphalt, concrete, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. Use the following for size indicators:

<i>R = 18" RTRP WW Pipe</i>	<i>AA = 36" RTRP WW Pipe</i>	<i>AJ = 72" RTRP WW Pipe</i>
<i>S = 20" RTRP WW Pipe</i>	<i>AC = 42" RTRP WW Pipe</i>	<i>AK = 78" RTRP WW Pipe</i>
<i>V = 24" RTRP WW Pipe</i>	<i>AE = 48" RTRP WW Pipe</i>	<i>AL = 84" RTRP WW Pipe</i>
<i>W = 27" RTRP WW Pipe</i>	<i>AF = 54" RTRP WW Pipe</i>	<i>AM = 90" RTRP WW Pipe</i>
<i>Y = 30" RTRP WW Pipe</i>	<i>AG = 60" RTRP WW Pipe</i>	<i>AN = 96" RTRP WW Pipe</i>
<i>Z = 33" RTRP WW Pipe</i>	<i>AH = 66" RTRP WW Pipe</i>	

ITEM NO. 3430__ __ " HDPE WASTEWATER PIPE

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyethylene Wastewater Pipe in accordance with Items 6.7.2 and 2.12.22 of these specifications and addenda thereto.

This item to include barricading, all embedment materials, and fittings.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. Use the following for size indicators:

<i>R = 18" HDPE WW Pipe</i>	<i>W = 27" HDPE WW Pipe</i>	<i>AA = 36" HDPE WW Pipe</i>
<i>U = 21" HDPE WW Pipe</i>	<i>Y = 30" HDPE WW Pipe</i>	<i>AC = 42" HDPE WW Pipe</i>
<i>V = 24" HDPE WW Pipe</i>	<i>Z = 33" HDPE WW Pipe</i>	<i>AE = 48" HDPE WW Pipe</i>

ITEM NO. 3430__P __ " HDPE WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet __" Polyethylene Wastewater Pipe in accordance with Items 6.7.2 and 2.12.22 of these specifications and addenda thereto.

This item complete and to include all embedment materials, fittings, mechanical tamping, barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement saw-cut, base, asphalt, concrete, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following for size indicators:

<i>R = 18" HDPE WW Pipe</i>	<i>W = 27" HDPE WW Pipe</i>	<i>AA = 36" HDPE WW Pipe</i>
<i>U = 21" HDPE WW Pipe</i>	<i>Y = 30" HDPE WW Pipe</i>	<i>AC = 42" HDPE WW Pipe</i>
<i>V = 24" HDPE WW Pipe</i>	<i>Z = 33" HDPE WW Pipe</i>	<i>AE = 48" HDPE WW Pipe</i>

ITEM NO. 3450__P __" PVC, HDPE, OR RTRP WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride, Polyethylene, or Reinforced Thermosetting-Resin Wastewater Pipe in accordance with Items 6.7.2 , 2.12.14 , 2.12.22 , or 2.12.23 of these specifications and addenda thereto.

This item complete and to include all embedment materials, fittings, mechanical tamping, barricading, fittings, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts.

Use the following for size indicators:

R = 18" PVC, HDPE or RTRP WW Pipe

Z = 33" PVC, HDPE or RTRP WW Pipe

S = 20" PVC, HDPE or RTRP WW Pipe

AA = 36" PVC, HDPE or RTRP WW Pipe

U = 21" PVC, HDPE or RTRP WW Pipe

A = 39" PVC, HDPE or RTRP WW Pipe

V = 24" PVC, HDPE or RTRP WW Pipe

AC = 42" PVC, HDPE or RTRP WW Pipe

W = 27" PVC, HDPE or RTRP WW Pipe

AD = 45" PVC, HDPE or RTRP WW Pipe

Y = 30" PVC, HDPE or RTRP WW Pipe

AE = 48" PVC, HDPE or RTRP WW Pipe

ITEM NO. 3500__P __" RCP OR PVC WASTEWATER PIPE WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Reinforced Concrete or Polyvinyl Chloride Wastewater Pipe in accordance with Items 6.7.2 and 2.12.4 or 2.12.14 of these specifications and addenda thereto.

This item complete and to include all embedment materials, fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts where either RCP or PVC pipe is indicated. Use the following for size indicators:

AA = 36" RCP or PVC WW Pipe

AC = 42" RCP or PVC WW Pipe

AE = 48" RCP or PVC WW Pipe

AF = 54" RCP or PVC WW Pipe

ITEM NO. 3510__ __" WASTEWATER FORCE MAIN

This item consists of furnishing and placing approximately __ Linear Feet of __" Wastewater Force Main in accordance with Items 6.7.2 and 2.12.8 of these specifications and as shown on the plans, and addenda thereto.

This item to include barricading, all embedment materials, and fittings.

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU CITY contracts. Use the following for size indicators:

*F = 4" WW Force Main L = 12" WW Force Main
H = 6" WW Force Main N = 15" WW Force Main
J = 8" WW Force Main R = 18" WW Force Main
K = 10" WW Force Main S = 20" WW Force Main*

ITEM NO. 3510__P __" WASTEWATER FORCE MAIN WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Wastewater Force Main in accordance with Items 6.7.2 and 2.12.8 of these specifications and as shown on the plans, and addenda thereto.

This item complete and to include all embedment materials, fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(k) of these specifications.

This item is used for DWU JOINT contracts. Use the following for size indicators:

*F = 4" WW Force Main L = 12" WW Force Main
H = 6" WW Force Main N = 15" WW Force Main
J = 8" WW Force Main R = 18" WW Force Main
K = 10" WW Force Main S = 20" WW Force Main*

ITEM NO. 3520__ REHABILITATION OF EXISTING __" WASTEWATER MAIN

This item consists of the Rehabilitation of approximately __ Linear Feet of __" Wastewater Main in accordance with Part T - Technical Specifications. This item to include all labor, materials, equipment, barricading, and incidentals required to complete the rehabilitation of the wastewater main in accordance with these specifications and addenda thereto.

Measurement shall be the actual Linear Footage of main rehabilitated. Payment shall be at the contract Unit Price per Linear Foot complete in place.

This bid item is used for rehabilitating wastewater mains using trenchless technologies (CIPP.) This item requires the Section Manager's approval beforehand. Be sure to include the proper corresponding Item No. 3540_ and bid item 6070. Use the following for size indicators:

*H = 6" WW Main L = 12" WW Main
J = 8" WW Main N = 15" WW Main
K = 10" WW Main*

ITEM NO. 3530 ___ ___" CORRUGATED METAL PIPE (SPLIT ENCASUREMENT)

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Corrugated Metal Spilt Encasement Pipe in accordance with Items 2.12.16 and 2.12.19 of these specifications and addenda thereto.

This item to include all barricading, the ___" to ___" adapter, bolts, nuts, mastic sealer, angle iron and other materials required to complete the work.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for ALL DWU contracts when encasement pipe is required around an existing water or wastewater main. Use the following for size indicators:

*K = 10" Corrugated Metal Pipe (Split Encasement)
 L = 12" Corrugated Metal Pipe (Split Encasement)
 N = 15" Corrugated Metal Pipe (Split Encasement)
 R = 18" Corrugated Metal Pipe (Split Encasement)
 V = 24" Corrugated Metal Pipe (Split Encasement)
 Y = 30" Corrugated Metal Pipe (Split Encasement)
 AA = 36" Corrugated Metal Pipe (Split Encasement)
 AC = 42" Corrugated Metal Pipe (Split Encasement)
 AE = 48" Corrugated Metal Pipe (Split Encasement)
 AF = 54" Corrugated Metal Pipe (Split Encasement)
 AG = 60" Corrugated Metal Pipe (Split Encasement)
 AH = 66" Corrugated Metal Pipe (Split Encasement)
 AJ = 72" Corrugated Metal Pipe (Split Encasement)
 AK = 78" Corrugated Metal Pipe (Split Encasement)
 AL = 84" Corrugated Metal Pipe (Split Encasement)*

ITEM NO. 3540 ___ POINT REPAIR OF ___" WASTEWATER MAIN

This item consists of the Repair of approximately ___ Linear Feet of ___" Wastewater Main.

This item to include all labor, materials, equipment, and incidentals required to complete the repairs; including, but not limited to: excavation, trench safety and support, barricading, furnishing and installing pipe material, connection to existing main, by-pass pumping, and all backfill and embedment materials. This shall be a contingent item and shall only be used if directed by the Construction Engineer. The provisions of Item 1.37.1 of the specifications related to over and under runs do not apply to this item.

Measurement shall be the actual Linear Footage of main repaired. Payment shall be at the contract Unit Price per Linear Foot of repair complete in place.

This item is only used in conjunction with bid item 3520_ to facilitate wastewater main rehabilitation. Set up a minimum of 20 LF for each size. Use the following for size indicators:

<i>H = Point of Repair of 6" WW Main</i>	<i>R = Point of Repair of 18" WW Main</i>
<i>J = Point of Repair of 8" WW Main</i>	<i>U = Point of Repair of 21" WW Main</i>
<i>K = Point of Repair of 10" WW Main</i>	<i>V = Point of Repair of 24" WW Main</i>
<i>L = Point of Repair of 12" WW Main</i>	<i>Y = Point of Repair of 30" WW Main</i>
<i>N = Point of Repair of 15" WW Main</i>	

ITEM NO. 3550 REMOVAL OF INTERNAL OBSTRUCTIONS FOR WASTEWATER MAINS

This item consists of the Removal of __ Each Internal Obstruction in an Existing Wastewater Main without excavation.

This item to include all labor, materials, equipment and incidentals required to complete the removal of obstructions; including, but not limited to: trench safety and support, barricading, by-pass pumping, identifying and locating obstructions, providing and operating specialized cutting and removal equipment and disposal of debris. This item includes only those obstructions and blockages that are not removed in accordance with the Technical Specifications for Wastewater Main Cleaning. This shall be a contingent item and shall only be used if directed by the Project Manager, in writing. The provisions of Item 1.37.1 of the specifications related to over and under runs do not apply to this item.

Measurement and payment will be per each obstruction removed. Two or more obstructions shall be considered as one item for payment purposes if they are separated by less than 3' and can be removed with the same equipment setup.

This item is used in conjunction with Item No. 3520__, and when the Designer has reason to believe that obstructions are blocking the main.

ITEM NO. 3560 CONNECTION TO EXISTING MANHOLE

This item consists of furnishing and placing approximately __ Each Connection to an Existing Manhole, in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be per each in place in accordance with Item 6.7.2.(i)(3) of these specifications.

ITEM NO. 3570 __x__ PIPE BURSTING OF EXISTING __" WASTEWATER MAIN WITH __" WASTEWATER MAIN

This item consists of Pipe Bursting approximately __ Linear Feet of __" Wastewater Main with __" Wastewater Main in accordance with Part T - Technical Specifications. This item to include all labor, materials, equipment, barricading, and incidentals required to complete the pipe bursting replacement of the wastewater main in accordance with these specifications and addenda thereto.

Measurement shall be the actual Linear Footage of main replaced. Payment shall be at the contract Unit Price per Linear Foot complete in place.

Use the following for size indicators:

HxJ = Pipe Bursting (6" to 8")

JxJ = Pipe Bursting (8" to 8")

KxL = Pipe Bursting (10" to 12")

LxL = Pipe Bursting (12" to 12")

ITEM NO. 3610 ___ ___ " DUCTILE IRON WASTEWATER PIPE

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Ductile Iron Wastewater Pipe in accordance with Item 6.7.2 of these specifications and addenda thereto.

This item to include all embedment materials, all coal tar lined fittings, and barricading. The Ductile Iron Wastewater Pipe shall have Coal Tar Epoxy Lining as per 2.12.9.(e) and A.W.W.A. Publication C203.

Measurement and payment will be in accordance with Items 6.7.2.(h)(6) and 6.7.2.(k) of these specifications.

Use the following for size indicators:

H = 6" DI WW Pipe K = 10" DI WW Pipe

J = 8" DI WW Pipe L = 12" DI WW Pipe

ITEM NO. 3700 ___X ___ " EXTRA DEPTH WASTEWATER PIPE (+20')

This item consists of additional excavation of ___" Wastewater Pipe Extra Depth for ___ Linear Feet. This item is supplementary to the pipe item for extra depth exceeding twenty vertical feet and shall be paid per Linear Foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone.

Measurement and Payment will be per Linear Foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone and will include any equipment, materials, and labor, crossing diagonal utilities, costs for barricading, and trench safety and support for these mains..

This item is used on DWU CITY contracts.

Use the following size indicators:

H = 6" PVC Water Pipe K = 10" PVC Water Pipe

J = 8" PVC Water Pipe L = 12" PVC Water Pipe

**ITEM NO. 3800 ___ ___ " PVC RECYCLED WASTEWATER PIPE
(PURPLE)**

This item consists of furnishing and placing approximately ___ Linear Feet of ___" Polyvinyl Chloride Water Pipe in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item includes fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

F = 4" PVC Water Pipe K = 10" PVC Water Pipe

H = 6" PVC Water Pipe L = 12" PVC Water Pipe

J = 8" PVC Water Pipe

**ITEM NO. 3800__P __" PVC RECYCLED WASTEWATER PIPE
(PURPLE) WITH PAVING**

This item consists of furnishing and placing approximately __ Linear Feet of __" Polyvinyl Chloride Water Pipe in accordance with Items 6.7.3 and 2.12.20 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, polywrap for fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

*F = 4" PVC Water Pipe K = 10" PVC Water Pipe
H = 6" PVC Water Pipe L = 12" PVC Water Pipe
J = 8" PVC Water Pipe*

**ITEM NO. 3810__ __" BAR-WRAPPED CONCRETE CYLINDER
RECYCLED WASTEWATER PIPE (PURPLE)**

This item consists of furnishing and placing approximately __ Linear Feet of __" Bar-Wrapped Concrete Cylinder Water Pipe; including bends, bevels, outlets, other concrete fittings as shown on the plans, barricading and all embedment materials in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. Use the following size indicators:

*K = 10" Bar Wrapped CC Pipe V = 24" Bar Wrapped CC Pipe
L = 12" Bar Wrapped CC Pipe W = 27" Bar Wrapped CC Pipe
M = 14" Bar Wrapped CC Pipe Y = 30" Bar Wrapped CC Pipe
Q = 16" Bar Wrapped CC Pipe AA = 36" Bar Wrapped CC Pipe
R = 18" Bar Wrapped CC Pipe AC = 42" Bar Wrapped CC Pipe
S = 20" Bar Wrapped CC Pipe AE = 48" Bar Wrapped CC Pipe*

ITEM NO. 3810__P __ " BAR-WRAPPED CONCRETE CYLINDER RECYCLED WASTEWATER PIPE (PURPLE) WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __ " Bar-Wrapped Concrete Cylinder Water Pipe; including bends, bevels, outlets and other concrete fittings as shown on the plans and in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.), and all embedment materials.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

*K = 10" Bar Wrapped CC Pipe V = 24" Bar Wrapped CC Pipe
L = 12" Bar Wrapped CC Pipe W = 27" Bar Wrapped CC Pipe
M = 14" Bar Wrapped CC Pipe Y = 30" Bar Wrapped CC Pipe
Q = 16" Bar Wrapped CC Pipe AA = 36" Bar Wrapped CC Pipe
R = 18" Bar Wrapped CC Pipe AC = 42" Bar Wrapped CC Pipe
S = 20" Bar Wrapped CC Pipe AE = 48" Bar Wrapped CC Pipe*

ITEM NO. 3820__ __ " PRESTRESSED CONCRETE CYLINDER RECYCLED WASTEWATER PIPE (PURPLE)

This item consists of furnishing and placing approximately __ Linear Feet of __ " Prestressed Concrete Cylinder Water Pipe; including bends, bevels, outlets, other concrete fittings and all embedment materials as shown on the plans, and barricading in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU CITY contracts. This item is used for either Pre-stressed Concrete Cylinder Pipe or Pre-stressed Concrete Embedded Cylinder Pipe. Use the following size indicators:

*Q = 16" Pre-stressed CC Pipe AL = 84" Pre-stressed CC Pipe
R = 18" Pre-stressed CC Pipe AM = 90" Pre-stressed CC Pipe
S = 20" Pre-stressed CC Pipe AN = 96" Pre-stressed CC Pipe
V = 24" Pre-stressed CC Pipe AQ = 102" Pre-stressed CC Pipe
Y = 30" Pre-stressed CC Pipe AR = 108" Pre-stressed CC Pipe
AA = 36" Pre-stressed CC Pipe AS = 114" Pre-stressed CC Pipe
AC = 42" Pre-stressed CC Pipe AU = 120" Pre-stressed CC Pipe
AE = 48" Pre-stressed CC Pipe AV = 126" Pre-stressed CC Pipe
AF = 54" Pre-stressed CC Pipe AW = 132" Pre-stressed CC Pipe
AG = 60" Pre-stressed CC Pipe AY = 138" Pre-stressed CC Pipe
AH = 66" Pre-stressed CC Pipe AZ = 144" Pre-stressed CC Pipe
AJ = 72" Pre-stressed CC Pipe
AK = 78" Pre-stressed CC Pipe*

ITEM NO. 3820__P __" PRESTRESSED CONCRETE CYLINDER RECYCLED WASTEWATER PIPE (PURPLE) WITH PAVING

This item consists of furnishing and placing approximately __ Linear Feet of __" Pre-stressed Concrete Cylinder Water Pipe; including bends, bevels, outlets, test plugs, other concrete fittings and all embedment materials as shown on the plans, and in accordance with Items 6.7.3 and 2.12.5 of these specifications and addenda thereto.

This item shall be completely installed and include fittings, mechanical tamping, diagonal utilities, barricading, and all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.3.(g) of these specifications.

This item is used for DWU JOINT contracts. This item is used for either Pre-stressed Concrete Cylinder Pipe or Pre-stressed Concrete Embedded Cylinder Pipe. The Unit Price for this item includes most items except trench safety. Use the following size indicators:

Q = 16" Pre-stressed CC Pipe

R = 18" Pre-stressed CC Pipe

S = 20" Pre-stressed CC Pipe

V = 24" Pre-stressed CC Pipe

Y = 30" Pre-stressed CC Pipe

AA = 36" Pre-stressed CC Pipe

AC = 42" Pre-stressed CC Pipe

AE = 48" Pre-stressed CC Pipe

AF = 54" Pre-stressed CC Pipe

AG = 60" Pre-stressed CC Pipe

AH = 66" Pre-stressed CC Pipe

AJ = 72" Pre-stressed CC Pipe

AK = 78" Pre-stressed CC Pipe

AL = 84" Pre-stressed CC Pipe

AM = 90" Pre-stressed CC Pipe

AN = 96" Pre-stressed CC Pipe

AQ = 102" Pre-stressed CC Pipe

AR = 108" Pre-stressed CC Pipe

AS = 114" Pre-stressed CC Pipe

AU = 120" Pre-stressed CC Pipe

AV = 126" Pre-stressed CC Pipe

AW = 132" Pre-stressed CC Pipe

AY = 138" Pre-stressed CC Pipe

AZ = 144" Pre-stressed CC Pipe

ITEM NO. 5020 CAST IRON FITTINGS

This item consists of furnishing and placing approximately ___ Tons of Iron Fittings in accordance with Items 6.7.3.(n)(1) and 2.12.7.(e) or 2.12.8.(e) of these specifications and addenda thereto.

This item is intended to provide compensation for extra fittings not called for on the plans, which are required, for changes in horizontal or vertical alignment of water mains, as approved by the Construction Engineer, to avoid conflicts with existing utilities.

Measurement and payment will be in accordance with Item 6.7.3.(n)(2) of these specifications.

For City contracts 5.0 TN shall be included as a contingency lump sum general item. Do not calculate this item for each individual project segment.

ITEM NO. 5050 WATER SERVICE

This item consists of furnishing and placing approximately ___ Each Water Service on an existing or new water main. This item includes all sizes of water services, 3/4" through 2", water meter boxes and meters, 5/8" through 2". This item does not include Commercial Water Meter Vaults. This item includes tapping of the existing or new water main, removing the existing meter box and lid and old service line and replacing with a new meter box and lid, transferring the water service to the meter, and installing a new service line from the new meter box to the property line in accordance with Item 6.7.3.(o) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The new meter box and lid shall be replaced to the proper grade and relocated to the correct location on a sand cushion. The disturbed area around the meter box will be replaced with sod in accordance with Item 3.9, or concrete in accordance with Item 8.3 to match the existing surface. If the meter is determined by the Project Manager to be defective, it will be replaced with a new meter, furnished by the City. This bid item will also be utilized to provide a water service to a vacant lot where no meter transfer is involved. It will be the Contractor's responsibility to relocate the existing backflow prevention devices on the existing water service between the meter and property line to a proper location as directed by the Project Manager. Should any additional services be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed services not be necessary, they will be removed from the contract without having any effect on the Unit Price. The provisions of Paragraph 1.37.1 of the specifications regarding negotiating for revised consideration for over/underruns do not apply to this item.

Measurement and payment will be in accordance with Item 6.7.3.(o)(2) of these specifications and will include any costs for pipe, copper, equipment, materials and labor, all boring, tapping, crossing diagonal utilities, costs for barricading, trench safety and support for these services, encasement, embedment, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod), and all other work associated with this item.

This item includes all work necessary to install a new water service for sizes 3/4" through 2". On CITY contracts, the final appurtenance adjustment is included in this item, but on JOINT contracts, it is not. Bid item 20300 must be included for the appurtenance adjustment on JOINT contracts. Include bid item 5080 on DWU JOINT contracts, where the service is not being replaced and the service may need to be relocated to clear proposed Storm Sewers. Also, on JOINT Contracts, include this bid item for service replacement if the services are 1962 or older. The Items No. 5051 and 5052 are used for PRIVATE DEVELOPMENT projects only.

ITEM NO. 5051___ WATER SERVICE (PRIVATE DEVELOPMENT)

This item consists of furnishing and placing approximately ___ Each Water Service on an existing or new water main. This item includes all sizes of water services, 3/4" through 2", water meter boxes and meters, 5/8" through 2". This item does not include Commercial Water Meter Vaults. This item includes tapping of the existing or new water main, removing the existing meter box and lid and old service line and replacing with a new meter box and lid, transferring the water service to the meter, and installing a new service line from the new meter box to the property line in accordance with Item 6.7.3.(o) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The new meter box and lid shall be replaced to the proper grade and relocated to the correct location on a sand cushion. The disturbed area around the meter box will be replaced with sod in accordance with Item 3.9, or concrete in accordance with Item 8.3 to match the existing surface. If the meter is determined by the Project Manager to be defective, it will be replaced with a new meter, furnished by the City. This bid item will also be utilized to provide a water service to a vacant lot where no meter transfer is involved. It will be the Contractor's responsibility to relocate the existing backflow prevention devices on the existing water service between the meter and property line to a proper location as directed by the Project Manager. Should any additional services be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed services not be necessary, they will be removed from the contract without having any effect on the Unit Price. The provisions of Paragraph 1.37.1 of the specifications regarding negotiating for revised consideration for over/underruns do not apply to this item.

Measurement and payment will be in accordance with Item 6.7.3.(o)(2) of these specifications and will include any costs for pipe, copper, equipment, materials and labor, all boring, tapping, crossing diagonal utilities, costs for barricading, trench safety and support for these services, encasement, embedment, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod), and all other work associated with this item.

This item includes all work necessary to install a new water service for sizes 3/4" through 2". The Items No. 5051 and 5052 are used for PRIVATE DEVELOPMENT projects only.

A = 3/4" Water Service

B = 1" Water Service

C = 1 1/2" Water Service

D = 2" Water Service

ITEM NO. 5052__ WATER SERVICE WITH TRANSFER (PRIVATE DEVELOPMENT)

This item consists of furnishing and placing approximately __ Each Water Service on an existing or new water main. This item includes all sizes of water services, 3/4" through 2", water meter boxes and meters, 5/8" through 2". This item does not include Commercial Water Meter Vaults. This item includes tapping of the existing or new water main, removing the existing meter box and lid and old service line and replacing with a new meter box and lid, transferring the water service to the meter, and installing a new service line from the new meter box to the property line in accordance with Item 6.7.3.(o) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The new meter box and lid shall be replaced to the proper grade and relocated to the correct location on a sand cushion. The disturbed area around the meter box will be replaced with sod in accordance with Item 3.9, or concrete in accordance with Item 8.3 to match the existing surface. If the meter is determined by the Project Manager to be defective, it will be replaced with a new meter, furnished by the City. This bid item will also be utilized to provide a water service to a vacant lot where no meter transfer is involved. It will be the Contractor's responsibility to relocate the existing backflow prevention devices on the existing water service between the meter and property line to a proper location as directed by the Project Manager. Should any additional services be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed services not be necessary, they will be removed from the contract without having any effect on the Unit Price. The provisions of Paragraph 1.37.1 of the specifications regarding negotiating for revised consideration for over/underruns do not apply to this item.

Measurement and payment will be in accordance with Item 6.7.3.(o)(2) of these specifications and will include any costs for pipe, copper, equipment, materials and labor, all boring, tapping, crossing diagonal utilities, costs for barricading, trench safety and support for these services, encasement, embedment, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod), and all other work associated with this item.

This item includes all work necessary to install a new water service for sizes 3/4" through 2". The Items No. 5051 and 5052 are used for PRIVATE DEVELOPMENT projects only.

A = 3/4" Water Service with Transfer C = 1 1/2" Water Service with Transfer

B = 1" Water Service with Transfer D = 2" Water Service with Transfer

ITEM NO. 5055X WATER SERVICE – EXTRA DEPTH (+20')

This item consists of additional excavation of Water Service Extra Depth for __ Linear Feet. This item is supplementary to Item No. 5050 for extra depth exceeding twenty vertical feet and shall be paid per Linear Foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone.

Measurement and payment will be per Linear Foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone and will include any equipment, materials and labor, crossing diagonal utilities, costs for barricading, trench safety and support for these services.

This item is used on DWU CITY contracts.

**ITEM NO. 5060 ___x___ " COMBINED SERVICE WITH
___ " METER AND TRANSFER**

This item consists of installing ___ Each new ___" Combined Service with ___" Meter, removing the existing vault and existing meter, and transferring service in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new ___" meter and the meter access hatch cover to the Contractor for the new ___" Combined Service.

The Contractor will remove and salvage the existing ___" meter and deliver it to the Large Meter Repair Shop, 2821 Municipal Street. If the existing ___" meter is damaged during removal, the Contractor will be liable for the replacement cost. If the ___" meter is determined by the Engineer to be defective or damaged prior to any work by the Contractor, the Contractor will not be liable for replacement cost.

Measurement and payment will be per Each and will include all work to install the ___" Combined Service; to include ___" gate valves, meter, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The ductile iron pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under Item No. ___, ___" Ductile Iron Water Pipe.

This item is used when replacing or relocating an existing service. Use the following for size indicators:

FxF = 4" Combined Service with 4" Meter and Transfer

HxH = 6" Combined Service with 6" Meter and Transfer

JxH = 8" Combined Service with 6" Meter and Transfer

JxJ = 8" Combined Service with 8" Meter and Transfer

KxJ = 10" Combined Service with 8" Meter and Transfer

KxK = 10" Combined Service with 10" Meter and Transfer

ITEM NO. 5061__x__ ___" DOMESTIC SERVICE WITH ___" METER AND TRANSFER

This item consists of installing __ Each new ___" Domestic Service with ___" Meter, removing the existing vault and existing meter, and transferring service in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new ___" meter and the meter access hatch cover to the Contractor for the new ___" Domestic Service.

The Contractor will remove and salvage the existing ___" meter and deliver it to the Large Meter Repair Shop, 2821 Municipal Street. If the existing ___" meter is damaged during removal, the Contractor will be liable for the replacement cost. If the ___" meter is determined by the Engineer to be defective or damaged prior to any work by the Contractor, the Contractor will not be liable for replacement cost.

Measurement and payment will be per Each and will include all work to install the ___" Domestic Service; to include ___" gate valves, meter, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The ductile iron pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under Item No. , " Ductile Iron Water Pipe.

This item is used when replacing or relocating an existing service. Use the following for size indicators:

FxE = 4" Domestic Service with 3" Meter and Transfer

FxF = 4" Domestic Service with 4" Meter and Transfer

HxH = 6" Domestic Service with 6" Meter and Transfer

JxH = 8" Domestic Service with 6" Meter and Transfer

ITEM NO. 5062__x__ " CLOSED FIRELINE SERVICE WITH __" DETECTOR CHECK DEVICE AND TRANSFER

This item consists of installing __ Each new __" Closed Fireline Service with __" Detector Check Device, removing and disposing of the existing vault piping and fittings, and salvaging the existing detector check device, and transferring service in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new __" detector check device and the vault access hatch cover to the Contractor for the new __" Closed Fireline Service.

The Contractor will remove and salvage the existing __" detector check device and deliver it to the Large Meter Repair Shop, 2821 Municipal Street. If the existing __" detector check device is damaged during removal, the Contractor will be liable for the replacement cost. If the __" detector check device is determined by the Engineer to be defective or damaged prior to any work by the Contractor, the Contractor will not be liable for replacement cost.

Measurement and payment will be per Each and will include all work to dispose of the existing vault, piping and fittings, and all work to install the __" Closed Fireline Service; to include __" detector check device, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving and paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The ductile iron pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under Item No. , " Ductile Iron Water Pipe.

This item is used when replacing or relocating an existing service. Use the following for size indicators:

FxF = 4" Closed Fireline Service with 4" D.C. Device and Transfer

HxH = 6" Closed Fireline Service with 6" D.C. Device and Transfer

JxH = 8" Closed Fireline Service with 6" D.C. Device and Transfer

JxJ = 8" Closed Fireline Service with 8" D.C. Device and Transfer

KxK = 10" Closed Fireline Service with 10" D.C. Device and Transfer

**ITEM NO. 5063 __x__ __" STANDPIPE FIRELINE SERVICE WITH
__" METER AND TRANSFER**

This item consists of installing __ Each new __" Standpipe Fireline Service with __" Turbine Meter with U.L. approved strainer, removing and disposing of the existing vault piping and fittings, and transferring service in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new __" turbine meter and the meter access hatch cover to the Contractor for the new __" Standpipe Fireline Service. The Contractor will install the new vault, meter, frame, and cover.

Measurement and payment will be per Each and will include all work to dispose of the existing vault, piping and fittings, and all work to install the __" Standpipe Fireline Service; to include __" gate valve and __" turbine meter, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving and paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The water pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under the bid item for the appropriate water pipe.

This item is used when replacing or relocating an existing service. Use the following for size indicators:

FxF = 4" Standpipe Fireline Service with 4" Meter and Transfer

HxH = 6" Standpipe Fireline Service with 6" Meter and Transfer

JxJ = 8" Standpipe Fireline Service with 8" Meter and Transfer

KxJ = 10" Standpipe Fireline Service with 8" Meter and Transfer

KxK = 10" Standpipe Fireline Service with 10" Meter and Transfer

ITEM NO. 5064 __x__ __" COMBINED SERVICE WITH __" METER

This item consists of installing __ Each new __" Combined Service with __" Meter in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new __" meter and the meter access hatch cover to the Contractor for the new __" Combined Service. The Contractor will install the new vault, meter and frame, and cover.

Measurement and payment will be per Each and will include all work to install the __" Combined Service; to include __" gate valve, meter, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The ductile iron pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under Item No. , " Ductile Iron Water Pipe.

This item is utilized for new installations where no existing service exists. Use the following for size indicators:

*FXF = 4" Combined Service with 4" Meter
 HXH = 6" Combined Service with 6" Meter
 JXH = 8" Combined Service with 6" Meter
 JXJ = 8" Combined Service with 8" Meter
 KXJ = 10" Combined Service with 8" Meter
 KXK = 10" Combined Service with 10" Meter*

ITEM NO. 5065 __x__ __" DOMESTIC SERVICE WITH __" METER

This item consists of installing __ Each new __" Domestic Service with __" Meter in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new __" meter and the meter access hatch cover to the Contractor for the new __" Domestic Service. The Contractor will install the new vault, meter and frame, and cover.

Measurement and payment will be per Each and will include all work to install the __" Domestic Service; to include __" gate valve, meter, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The ductile iron pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under Item No. , " Ductile Iron Water Pipe.

This item is utilized for new installations where no service exists. Use the following for size indicators:

*FxE = 4" Domestic Service with 3" Meter
 FxF = 4" Domestic Service with 4" Meter
 HxH = 6" Domestic Service with 6" Meter
 JxH = 8" Domestic Service with 6" Meter*

ITEM NO. 5066__x__" CLOSED FIRELINE SERVICE WITH __" DETECTOR CHECK DEVICE

This item consists of installing __ Each new __" Closed Fireline Service with __" Detector Check Device in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new __" detector check device and the vault access hatch cover to the Contractor for the new __" Closed Fireline Service.

Measurement and payment will be per Each and will include all work to install the __" Closed Fireline Service; to include __" detector check device, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving, and paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The ductile iron pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under Item No. , " Ductile Iron Water Pipe.

This item is used when replacing or relocating an existing service. Use the following for size indicators:

FxF = 4" Closed Fireline Service with 4" D.C. Device

HxH = 6" Closed Fireline Service with 6" D.C. Device

JxH = 8" Closed Fireline Service with 6" D.C. Device

JxJ = 8" Closed Fireline Service with 8" D.C. Device

KxK = 10" Closed Fireline Service with 10" D.C. Device

ITEM NO. 5067__x__" STANDPIPE FIRELINE SERVICE WITH __" METER

This item consists of installing __ Each new __" Standpipe Fireline Service with __" Turbine Meter with U.L. approved strainer in accordance with the specifications and addenda thereto, and the Standard Drawings and Standard Appurtenance Sheets.

The City will furnish the new __" turbine meter and the meter access hatch cover to the Contractor for the new __" Standpipe Fireline Service. The Contractor will install the new vault, meter and frame, and cover.

Measurement and payment will be per Each and will include all work to install the __" Standpipe Fireline Service; to include __" gate valve and __" turbine meter, installation of the new vault, vault floor, piping, blocking, disposal of excess material, boring, crossing diagonal utilities, and all temporary and permanent paving, and paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.), and any costs for barricading, trench safety and support for these services.

The water pipe from the new main to the first fitting of the by-pass piping will not be included in this item. This pipe will be paid under the bid item for the appropriate water pipe.

This item is used when replacing or relocating an existing service. Use the following for size indicators:

FXF = 4" Standpipe Fireline Service with 4" Meter

HXH = 6" Standpipe Fireline Service with 6" Meter

JXJ = 8" Standpipe Fireline Service with 8" Meter

KXJ = 10" Standpipe Fireline Service with 8" Meter

KXK = 10" Standpipe Fireline Service with 10" Meter

***ITEM NO. 5070 INSTALL AUTOMATED METER READING
EQUIPMENT***

This item consists of....

TO BE AMENDED

ITEM NO. 5080 RECONNECT EXISTING WATER SERVICE

This item consists of furnishing and placing approximately ___ Each Water Service on an existing or new water main. This item includes all sizes of water services, 3/4" through 2", water meter boxes and meters, 5/8" through 2". This item does not include Commercial Water Meter Vaults. This item includes removing a portion of the existing service line and replacing it with a new copper service line to clear all obstructions, and if required by the Project Manager, any or all of the following; tapping of the existing water main, removing the existing meter box and lid and old service line and replacing with a new meter box and lid, and transferring the water service to the meter from the new meter box to the property line in accordance with Item 6.7.3.(o) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

If a new meter is required by the Project Manager, the new meter box and lid shall be replaced to the proper grade and relocated to the correct location on a sand cushion. The disturbed area around the meter box will be replaced with sod in accordance with Item 3.9 , or concrete in accordance with Item 8.3 to match the existing surface. If the meter is determined by the Project Manager to be defective, it will be replaced with a new meter furnished by the City. It will be the Contractor's responsibility to relocate the existing backflow prevention devices on the existing water service between the meter and property line to a proper location as directed by the Project Manager. Should any additional services be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed services not be necessary, they will be removed from the contract without having any effect on the Unit Price. The provisions of Paragraph 1.37.1 of the specifications regarding negotiating for revised consideration for over/underruns do not apply to this item

Measurement and payment will be in accordance with Item 6.7.3.(o)(2) of these specifications and will include any costs for pipe, copper, fittings, equipment, materials and labor, all boring, tapping, crossing diagonal utilities, costs for barricading, trench safety and support for these services, encasement, embedment, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod) and all other work associated with this item.

This item is most often used on DWU JOINT contracts where the water service is not being replaced and only a portion of the water service may need to be replaced to clear proposed storm sewers. The item includes all water services of sizes 3/4" through 2" and all approved material types. This item includes all items necessary to relocate the water service. Refer to DWU Standard Drawings 201-206A of the Dallas Water Utilities Standard Drawings for Water and Wastewater Construction for more detail.

ITEM NO. 5091 INSTALL FIRE HYDRANT

This item consists of furnishing and placing approximately __ Each Fire Hydrant in accordance with Items 6.7.3.(m) and 2.14 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(m)(3) of these specifications and will include all items necessary to furnish and install a fire hydrant; including barricading, all paving removal and replacement, saw-cut, embedment, and concrete blocking required. This item does not include any of the fire hydrant lead. That pipe will be paid for under the appropriate 6" D.I. or 6" PVC Water Pipe bid item.

Only new fire hydrants are installed regardless of the age of the existing fire hydrant.

ITEM NO. 5092 REMOVING EXISTING FIRE HYDRANT

This item consists of Removing, in the most economical manner, approximately __ Each Existing Fire Hydrant. If the Project Manager determines the fire hydrant is to be salvaged and paid for under Item No. 509C, the Contractor must take necessary precautions to insure the fire hydrant is not damaged. A cap or plug on the existing fire hydrant lead is included with this item.

This includes all items necessary to remove a fire hydrant.

ITEM NO. 5093 DELIVER FIRE HYDRANT

This item consists of delivering approximately __ Each Existing Fire Hydrant.

This item to include loading and hauling the fire hydrant to the Dallas Water Utilities Yard located at 4120 Scottsdale Road.

This item is a contingent item and payment will be made only if directed by the Project Manager. If delivery is not directed, the fire hydrant shall become the property of the Contractor.

This bid item pays the Contractor for delivering a fire hydrant to stores yard for salvage usage. The total number of this bid item should be the same as the total number removed under Item No. 509B. The Project Manager is responsible for determining if DWU wants these delivered to stores yard based on age, type, condition, and bid cost.

ITEM NO. 5093 RELOCATE FIRE HYDRANT

This item is to consist of moving and relocating approximately __ Each Existing Fire Hydrant as shown on the plans.

This item is used for DWU PRIVATE DEVELOPMENT contracts only. Do not use this item if an existing fire hydrant is to be relocated on a CITY or JOINT contract. Use Items No. 5091, 5092, and 5093 or 5095 for CITY and 5091, 5092, and 5093 for JOINT contracts..

ITEM NO. 5100__ __" GATE VALVE

This item consists of furnishing and placing approximately __ Each __" Gate Valve in accordance with Items 6.7.3.(k) and 2.13.1 , of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(k)(3) of these specifications.

Always include the tapping valve(s) with the total number of gate valves when arriving at a total, as there is no separate item specifically for tapping valves. If a valve placement requires installation of a manhole, the manhole will be paid for under bid item 5160. Use the following for size indicators:

F = 4" Gate Valve

H = 6" Gate Valve

J = 8" Gate Valve

K = 10" Gate Valve

L = 12" Gate Valve

Q = 16" Gate Valve

R = 18" Gate Valve

S = 20" Gate Valve

V = 24" Gate Valve

Y = 30" Gate Valve

AA = 36" Gate Valve

AC = 42" Gate Valve

AE = 48" Gate Valve

AF = 54" Gate Valve

AG = 60" Gate Valve

AH = 66" Gate Valve

AJ = 72" Gate Valve

AK = 78" Gate Valve

AL = 84" Gate Valve

AM = 90" Gate Valve

Item No. 5105__ __" Gate Valve (PLACE ONLY)

This item consists of removing existing valve, vault, associated appurtenances and placing approximately __ each __" Gate Valve in accordance with 6.7.3.(k) and 2.13.1, of these specifications and addenda thereto, and the applicable standard appurtenance sheets.

This item shall include barricading, trench safety, four "F" flowable backfill, all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and gutter, sod, seed, etc.) All paving in City ROW shall be installed in accordance with the Pavement Cut and Repair Standards Manual issued by the Department of Public Works and Transportation, latest edition, except as stated in the special provisions. All paving installed in TxDOT ROW shall be in accordance with the latest edition of the TxDOT paving cut manual.

This item also includes all associated piping, closures, fittings, transitional couplings and new vault construction. This item includes pick-up of the city provided valve and delivery to the job site. The Contractor shall take necessary precautions to ensure that the valve is not damaged.

Measurement and Payment will be in accordance with Item 6.7.3.(k)(3) of these specifications and will include all labor, materials, tools, equipment, and incidental items necessary to complete the work.

The manhole(s) for this item will be furnished under Item No. 5160__. Use the following for size indicators:

*F = 4" Gate Valve
H = 6" Gate Valve
J = 8" Gate Valve
K = 10" Gate Valve
L = 12" Gate Valve
Q = 16" Gate Valve
R = 18" Gate Valve
S = 20" Gate Valve
V = 24" Gate Valve
Y = 30" Gate Valve*

*AA = 36" Gate Valve
AC = 42" Gate Valve
AE = 48" Gate Valve
AF = 54" Gate Valve
AG = 60" Gate Valve
AH = 66" Gate Valve
AJ = 72" Gate Valve
AK = 78" Gate Valve
AL = 84" Gate Valve
AM = 90" Gate Valve*

ITEM NO. 5110__x__ __" x __" TAPPING SLEEVE

This item consists of furnishing and placing approximately __ Each __" x __" Tapping Sleeve in accordance with Item 2.13.1.(r) of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 6.7.3.(n) of these specifications.

Most sizes are indicated below. Each individual size on the contract must have a separate bid item assigned to it. Use the following for size indicators:

FxF = 4" x 4" Tapping Sleeve

HxH = 6" x 6" Tapping Sleeve

JxJ = 8" x 2" Tapping Sleeve

JxH = 8" x 6" Tapping Sleeve

JxJ = 8" x 8" Tapping Sleeve

KxJ = 10" x 8" Tapping Sleeve

LxJ = 12" x 8" Tapping Sleeve

LxL = 12" x 12" Tapping Sleeve

QxJ = 16" x 8" Tapping Sleeve

QxL = 16" x 12" Tapping Sleeve

SxJ = 20" x 8" Tapping Sleeve

SxL = 20" x 12" Tapping Sleeve

VxL = 24" x 12" Tapping Sleeve

VxQ = 24" x 16" Tapping Sleeve

YxL = 30" x 12" Tapping Sleeve

AAxH = 36" x 6" Tapping Sleeve

AAxL = 36" x 12" Tapping Sleeve

VxJ = 24" x 8" Tapping Sleeve

QxQ = 16" x 16" Tapping Sleeve

RxJ = 18" x 8" Tapping Sleeve

SxQ = 20" x 16" Tapping Sleeve

YxQ = 30" x 16" Tapping Sleeve

AAxQ = 36" x 16" Tapping Sleeve

YxV = 30" x 24" Tapping Sleeve

JxF = 8" x 4" Tapping Sleeve

LxH = 12" x 6" Tapping Sleeve

ACxAC = 42" x 12" Tapping Sleeve

KxK = 10" x 10" Tapping Sleeve

QxH = 16" x 6" Tapping Sleeve

MxD = 14" x 2" Tapping Sleeve

AAxJ = 36" x 8" Tapping Sleeve

LxL = 12" x 2" Tapping Sleeve

ALxAE = 84" x 48" Tapping Sleeve

AAxS = 36" x 20" Tapping Sleeve

AExAE = 48" x 16" Tapping Sleeve

LxF = 12" x 4" Tapping Sleeve

HxF = 6" x 4" Tapping Sleeve

For any size combination not shown, use the size indicator table in the Introduction Section H to determine the appropriate size indicator.

ITEM NO. 5120__ REMOVE, SALVAGE, AND DELIVER __" VALVE

This item consists of Removing, Salvaging, and delivering approximately __ Each __" Valve. This item to include cleaning, loading, hauling and unloading the valve at Dallas Water Utilities Yard located at 4120 Scottsdale Road. If the Contractor has damaged the valve, after unloading and in the opinion of the Project Manager, no payment on this item will be made, and the Contractor will be charged the replacement cost of the valve.

. Use the following for size indicators:

F = 4" Valve

H = 6" Valve

J = 8" Valve

K = 10" Valve

L = 12" Valve

Q = 16" Valve

R = 18" Valve

S = 20" Valve

V = 24" Valve

Y = 30" Valve

AA = 36" Valve

AC = 42" Valve

AE = 48" Valve

AF = 54" Valve

AG = 60" Valve

AH = 66" Valve

AJ = 72" Valve

AK = 78" Valve

AL = 84" Valve

AM = 90" Valve

ITEM NO. 5130__ " CUT-IN VALVE

This item consists of furnishing and placing approximately __ Each __" Cut-in Valve in accordance with Items 6.7.3.(k) and 2.13.1 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(k)(3) of these specifications and will include all items necessary to furnish and install a cut-in valve; including barricading, all temporary and permanent paving removal and replacement, saw-cut, embedment, and concrete blocking required.

This item is required when a need exists to isolate a portion of main being installed or lowered so as not to disrupt existing customers. It includes all material necessary to install the valve. Use the following for size indicators:

H = 6" Cut-In Valve

J = 8" Cut =In Valve

L = 12" Cut-In Valve

Q = 16" Cut-In Valve

ITEM NO. 5140__ " FLAP VALVE

This item consists of furnishing and placing approximately __ Each __" Flap Valve in accordance with Items 6.7.3.(k) and 2.13.1 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(k)(3) of these specifications.

This item is required as a bid item to drain water on a water main containing a water access manhole with blowoff. Use the following for size indicators:

H = 6" Flap Valve

J = 8" Flap Valve

L = 12" Flap Valve

ITEM NO. 5150 ___ ___" ACCESS MANHOLE

This item consists of furnishing and placing ___ Each ___" Access Manhole.

This item complete and to include the manhole, valves, labor, materials, drain pipe, fittings, barricading, and incidentals as detailed on Map ___.

Measurement and payment will be per each and in accordance with Item 6.7.3.(t)(4) of these specifications.

This item is normally used on large diameter water mains to provide access at a flanged outlet. Use the following for size indicators:

AE = 48" Access Manhole

AG = 60" Access Manhole

AJ = 72" Access Manhole

ITEM NO. 5155 ___ ___" ACCESS MANHOLE WITH BLOWOFF

This item consists of furnishing and placing ___ Each ___" Access Manhole.

This item complete and to include the manhole, blowoff valves, labor, materials, drain pipe, fittings, barricading, and incidentals as detailed on Map ___.

Measurement and payment will be per each and in accordance with Item 6.7.3.(t)(4) of these specifications.

This item is normally used on large diameter water mains to provide access at a blowoff drainage structure. Use the following for size indicators:

AE = 48" Access Manhole with Blowoff

AG = 60" Access Manhole with Blowoff

AJ = 72" Access Manhole with Blowoff

ITEM NO. 5160__ __" DIAMETER WATER MANHOLE

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.3.(t) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Barricading is included in this item. Nonshrink grout shall be used in place of mortar.

Measurement and payment will be in accordance with Item 6.7.3.(t)(4) of these specifications per each complete in place.

All horizontal gate valves, large tapping valves, and horizontal butterfly valves require this bid item to install the manhole as a separate bid item. Use the following for size indicators:

AG = 60" Diameter Water Manhole AJ = 72" Diameter Water Manhole

ITEM NO. 5160__P __" DIAMETER WATER MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.3.(t) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Barricading is included in this item. Nonshrink grout shall be used in place of mortar.

This item should also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.)

Measurement and payment will be in accordance with Item 6.7.3.(t)(4) of these specifications per each complete in place.

All horizontal gate valves, large tapping valves, and horizontal butterfly valves require this bid item to install the manhole as a separate bid item. This item is for DWU JOINT Contracts. Use the following for size indicators:

AG = 60" Diameter Water Manhole AJ = 72" Diameter Water Manhole

ITEM NO. 5170__ __" PRESSURE REDUCING VALVE AND VAULT

This item consists of furnishing and placing __ each __" pressure reducing valve and vault per the detail drawings on the plan sheet _____. This item includes all special couplings, appurtenances, pilot piping, valves, excavation, foundation material, backfill, and incidentals required for a complete in place pressure reducing valve and vault.

Payment will be per each as set forth in the contract.

A detail drawing must be included on the design sheets. Use the following for size indicators:

F = 4" PRV & Vault

L = 12" PRV & Vault

V = 24" PRV & Vault

H = 6" PRV & Vault

Q = 16" PRV & Vault

Y = 30" PRV & Vault

J = 8" PRV & Vault

R = 18" PRV & Vault

AA = 36" PRV & Vault

K = 10" PRV & Vault

S = 20" PRV & Vault

ITEM NO. 5180__ __" DIAMETER WATER MANHOLE – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.3.(t) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Barricading is included in this item. Nonshrink grout shall be used in place of mortar.

Measurement and payment will be in accordance with Item 6.7.3.(t)(4) of these specifications per each complete in place.

All horizontal gate valves, large tapping valves, and horizontal butterfly valves require this bid item to install the manhole as a separate bid item. Use the following for size indicators:

AE = 48" Diameter Water Manhole

AG = 60" Diameter Water Manhole

AJ = 72" Diameter Water Manhole

ITEM NO. 5180__P __" DIAMETER WATER MANHOLE WITH PAVING – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.3.(t) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Barricading is included in this item. Nonshrink grout shall be used in place of mortar.

This item should also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.)

Measurement and payment will be in accordance with Item 6.7.3.(t)(4) of these specifications per each complete in place.

All horizontal gate valves, large tapping valves, and horizontal butterfly valves require this bid item to install the manhole as a separate bid item. This item is for DWU JOINT Contracts. Use the following for size indicators:

AE = 48" Diameter Water Manhole

AG = 60" Diameter Water Manhole

AJ = 72" Diameter Water Manhole

ITEM NO. 5200__ __" BUTTERFLY VALVE

This item consists of furnishing and placing approximately __ Each __" Butterfly Valve in accordance with Items 6.7.3.(k) and 2.13.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(k)(3) of these specifications and will include all labor, materials, tools, equipment, and incidental items necessary to complete the work.

The manhole(s) for this item will be furnished under Item No. 5160__. Use the following for size indicators:

J = 8" Butterfly Valve

Q = 16" Butterfly Valve

R = 18" Butterfly Valve

S = 20" Butterfly Valve

V = 24" Butterfly Valve

Y = 30" Butterfly Valve

AA = 36" Butterfly Valve

AC = 42" Butterfly Valve

AE = 48" Butterfly Valve

AF = 54" Butterfly Valve

AG = 60" Butterfly Valve

AH = 66" Butterfly Valve

AJ = 72" Butterfly Valve

AL = 84" Butterfly Valve

AN = 96" Butterfly Valve

ITEM NO. 5205__ __" BUTTERFLY VALVE (PLACE ONLY)

This item consists of furnishing and placing approximately __ Each __" Butterfly Valve in accordance with Items 6.7.3.(k) and 2.13.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item shall include barricading, trench safety, four "F" flowable backfill, all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and gutter, sod, seed, etc.) All paving in City ROW shall be installed in accordance with the Pavement Cut and Repair Standards Manual issued by the Department of Public Works and Transportation, latest edition, except as stated in the special provisions. All paving installed in TxDOT ROW shall be in accordance with the latest edition of the TxDOT paving cut manual.

This item also includes all associated piping, closures, fittings, and transitional couplings. This item includes pick-up of the city provided valve and delivery to the job site. The Contractor shall take necessary precautions to ensure that the valve is not damaged.

Measurement and payment will be in accordance with Item 6.7.3.(k)(3) of these specifications and will include all labor, materials, tools, equipment, and incidental items necessary to complete the work.

The manhole(s) for this item will be furnished under Item No. 5160__. Use the following for size indicators:

J = 8" Butterfly Valve

Q = 16" Butterfly Valve

R = 18" Butterfly Valve

S = 20" Butterfly Valve

V = 24" Butterfly Valve

Y = 30" Butterfly Valve

AA = 36" Butterfly Valve

AC = 42" Butterfly Valve

AE = 48" Butterfly Valve

AF = 54" Butterfly Valve

AG = 60" Butterfly Valve

AH = 66" Butterfly Valve

AJ = 72" Butterfly Valve

AL = 84" Butterfly Valve

AN = 96" Butterfly Valve

ITEM NO. 5500 ___ ___" WATER MAIN (BOTO C)

This item consists of approximately ___ Linear Feet of ___" Water Main to be installed By Other Than Open Cut in accordance with Item 6.4 of these specifications and addenda thereto, and as shown on Plan ___.

The ___" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.4.4 of these specifications.

This item is used for BOTO C construction methods (Jacking/Boring/Tunneling). Size & type of encasement pipe is not usually specified. Actual soil conditions will determine if encasement pipe is required, but no additional compensation will be paid to the Contractor for encasement. Use the following for size indicators:

D = 2" Water Main (BOTO C)

AA = 36" Water Main (BOTO C)

F = 4" Water Main (BOTO C)

AC = 42" Water Main (BOTO C)

H = 6" Water Main (BOTO C)

AE = 48" Water Main (BOTO C)

J = 8" Water Main (BOTO C)

AF = 54" Water Main (BOTO C)

L = 12" Water Main (BOTO C)

AG = 60" Water Main (BOTO C)

Q = 16" Water Main (BOTO C)

AH = 66" Water Main (BOTO C)

R = 18" Water Main (BOTO C)

AJ = 72" Water Main (BOTO C)

S = 20" Water Main (BOTO C)

AK = 78" Water Main (BOTO C)

S = 20" Water Main (BOTO C)

AL = 84" Water Main (BOTO C)

V = 24" Water Main (BOTO C)

AM = 90" Water Main (BOTO C)

Y = 30" Water Main (BOTO C)

AN = 96" Water Main (BOTO C)

ITEM NO. 5505 ___ ___" WATER MAIN BY HORIZONTAL DIRECTIONAL DRILLING

This item consists of approximately ___ Linear Feet of ___" Water Main to be installed by Horizontal Directional Drilling in accordance with Part "T" of these specifications and addenda thereto, and as shown on the Plans.

The pipe and any associated special appurtenances are included in this item.

Measurement and payment will be per linear foot of pipe installed.

Use the following for size indicators:

SIZES TO BE DETERMINED.

ITEM NO. 5510__ HIGHWAY CROSSING FOR __" WATER MAIN (BOTO)

This item consists of approximately __ Linear Feet of Highway Crossing for the proposed __" Water By Other Than Open Cut in accordance with Items 6.6.2 and 6.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the manhole, if shown on the plans. The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is used for BOTO construction methods (Jacking/Boring/Tunneling). It is required when crossing under a State Highway. Size and type of encasement pipe must be shown on the plans. Use the following for size indicators:

<i>D = 2" Water Highway, Crossing (BOTO)</i>	<i>AC = 42" Water Highway, Crossing (BOTO)</i>
<i>F = 4" Water Highway, Crossing (BOTO)</i>	<i>AE = 48" Water Highway, Crossing (BOTO)</i>
<i>H = 6" Water Highway, Crossing (BOTO)</i>	<i>AF = 54" Water Highway, Crossing (BOTO)</i>
<i>J = 8" Water Highway, Crossing (BOTO)</i>	<i>AG = 60" Water Highway, Crossing (BOTO)</i>
<i>L = 12" Water Highway, Crossing (BOTO)</i>	<i>AH = 66" Water Highway, Crossing (BOTO)</i>
<i>Q = 16" Water Highway, Crossing (BOTO)</i>	<i>AJ = 72" Water Highway, Crossing (BOTO)</i>
<i>S = 20" Water Highway, Crossing (BOTO)</i>	<i>AK = 78" Water Highway, Crossing (BOTO)</i>
<i>V = 24" Water Highway, Crossing (BOTO)</i>	<i>AL = 84" Water Highway, Crossing (BOTO)</i>
<i>Y = 30" Water Highway, Crossing (BOTO)</i>	<i>AM = 90" Water Highway, Crossing (BOTO)</i>
<i>AA = 36" Water Highway, Crossing (BOTO)</i>	

ITEM NO. 5520__ HIGHWAY CROSSING FOR __" WATER MAIN (BY OPEN CUT)

This item consists of approximately __ Linear Feet of Highway Crossing for the proposed __" Water By Open Cut in accordance with Items 6.6.2 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item. This item is intended to cover that portion of the crossing at which open cut is permissible. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is typically used when TXDOT requires BOTO to a minimum distance from the roadway, but allows Open Cut (normally with encasement) for the remainder of the of the R.O.W. crossing. Generally, bid items 5510__ and 5520__ are used together on a contract to be specified on the plans. Use the following for size indicators:

D = 2" Water Highway, Crossing (By Open Cut)
F = 4" Water Highway, Crossing (By Open Cut)
H = 6" Water Highway, Crossing (By Open Cut)
J = 8" Water Highway, Crossing (By Open Cut)
L = 12" Water Highway, Crossing (By Open Cut)
Q = 16" Water Highway, Crossing (By Open Cut)
S = 20" Water Highway, Crossing (By Open Cut)
V = 24" Water Highway, Crossing (By Open Cut)
Y = 30" Water Highway, Crossing (By Open Cut)
AA = 36" Water Highway, Crossing (By Open Cut)
AC = 42" Water Highway, Crossing (By Open Cut)
AE = 48" Water Highway, Crossing (By Open Cut)
AF = 54" Water Highway, Crossing (By Open Cut)
AG = 60" Water Highway, Crossing (By Open Cut)
AH = 66" Water Highway, Crossing (By Open Cut)
AJ = 72" Water Highway, Crossing (By Open Cut)
AK = 78" Water Highway, Crossing (By Open Cut)
AL = 84" Water Highway, Crossing (By Open Cut)
AM = 90" Water Highway, Crossing (By Open Cut)

ITEM NO. 5530__ RAILROAD CROSSING FOR __" WATER MAIN (BOTO C)

This item consists of approximately __ Linear Feet of Railroad Crossing for the proposed __" Water Main By Other Than Open Cut in accordance with Items 6.6.4 and 6.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the manhole, if shown on the plans. The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is used for BOTO C construction methods (Jacking/Boring/Tunneling). This item is required when crossing under Railroad tracks. Size and type of encasement pipe must be shown on the plans, and requirements vary with each railroad. Use bid items A through T.

This item is used for BOTO C construction methods (Jacking/Boring/Tunneling). This item is required when crossing under Railroad tracks. Size and type of encasement pipe must be shown on the plans, and requirements vary with each railroad. Use the following for size indicators:

<i>D = 2" Water, RR Crossing (BOTO C)</i>	<i>AC = 42" Water, RR Crossing (BOTO C)</i>
<i>F = 4" Water, RR Crossing (BOTO C)</i>	<i>AE = 48" Water, RR Crossing (BOTO C)</i>
<i>H = 6" Water, RR Crossing (BOTO C)</i>	<i>AF = 54" Water, RR Crossing (BOTO C)</i>
<i>J = 8" Water, RR Crossing (BOTO C)</i>	<i>AG = 60" Water, RR Crossing (BOTO C)</i>
<i>L = 12" Water, RR Crossing (BOTO C)</i>	<i>AH = 66" Water, RR Crossing (BOTO C)</i>
<i>Q = 16" Water, RR Crossing (BOTO C)</i>	<i>AJ = 72" Water, RR Crossing (BOTO C)</i>
<i>S = 20" Water, RR Crossing (BOTO C)</i>	<i>AK = 78" Water, RR Crossing (BOTO C)</i>
<i>V = 24" Water, RR Crossing (BOTO C)</i>	<i>AL = 84" Water, RR Crossing (BOTO C)</i>
<i>Y = 30" Water, RR Crossing (BOTO C)</i>	<i>AM = 90" Water, RR Crossing (BOTO C)</i>
<i>AA = 36" Water, RR Crossing (BOTO C)</i>	<i>AN = 96" Water, RR Crossing (BOTO C)</i>

ITEM NO. 5540__ RAILROAD CROSSING FOR __" WATER MAIN (BY OPEN CUT)

This item consists of approximately __ Linear Feet of Railroad Crossing for the proposed __" Water Main By Open Cut in accordance with Items 6.6.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is similar to bid item 5520__ whereby the Railroad Company will allow a portion of their R.O.W. to be Open Cut. This item is generally used on a contract with bid item 5530__. Plans must show the limits and size and type of encasement pipe in this section "By Open Cut." Use the following for size indicators:

<i>D = 2" Water, RR Crossing (By Open Cut)</i>	<i>AC = 42" Water, RR Crossing (By Open Cut)</i>
<i>F = 4" Water, RR Crossing (By Open Cut)</i>	<i>AE = 48" Water, RR Crossing (By Open Cut)</i>
<i>H = 6" Water, RR Crossing (By Open Cut)</i>	<i>AF = 54" Water, RR Crossing (By Open Cut))</i>
<i>J = 8" Water, RR Crossing (By Open Cut)</i>	<i>AG = 60" Water, RR Crossing (By Open Cut)</i>
<i>L = 12" Water, RR Crossing (By Open Cut)</i>	<i>AH = 66" Water, RR Crossing (By Open Cut)</i>
<i>Q = 16" Water, RR Crossing (By Open Cut)</i>	<i>AJ = 72" Water, RR Crossing (By Open Cut)</i>
<i>S = 20" Water, RR Crossing (By Open Cut)</i>	<i>AK = 78" Water, RR Crossing (By Open Cut)</i>
<i>V = 24" Water, RR Crossing (By Open Cut)</i>	<i>AL = 84" Water, RR Crossing (By Open Cut)</i>
<i>Y = 30" Water, RR Crossing (By Open Cut)</i>	<i>AM = 90" Water, RR Crossing (By Open Cut)</i>
<i>AA = 36" Water, RR Crossing (By Open Cut)</i>	

ITEM NO. 5550__ __" WATER MAIN CROSSING (BOTO)

This item consists of approximately __ Linear Feet of __" Water Main to be installed By Other Than Open Cut in accordance with Item 6.6.3 of these specifications and addenda thereto.

The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is similar to bid item 5500__, except the Designer requires encasement pipe. This encasement may be for protection of the main from planned construction, or the soil conditions warrant encasement pipe. Plans must show the limits of the crossing, and size and type of encasement pipe. Use the following for size indicators:

<i>D = 2" Water Main Crossing (BOTO)</i>	<i>AC = 42" Water Main Crossing (BOTO)</i>
<i>F = 4" Water Main Crossing (BOTO)</i>	<i>AE = 48" Water Main Crossing (BOTO)</i>
<i>H = 6" Water Main Crossing (BOTO)</i>	<i>AF = 54" Water Main Crossing (BOTO)</i>
<i>J = 8" Water Main Crossing (BOTO)</i>	<i>AG = 60" Water Main Crossing (BOTO)</i>
<i>L = 12" Water Main Crossing (BOTO)</i>	<i>AH = 66" Water Main Crossing (BOTO)</i>
<i>Q = 16" Water Main Crossing (BOTO)</i>	<i>AJ = 72" Water Main Crossing (BOTO)</i>
<i>R = 18" Water Main Crossing (BOTO)</i>	<i>AK = 78" Water Main Crossing (BOTO)</i>
<i>S = 20" Water Main Crossing (BOTO)</i>	<i>AL = 84" Water Main Crossing (BOTO)</i>
<i>V = 24" Water Main Crossing (BOTO)</i>	<i>AM = 90" Water Main Crossing (BOTO)</i>
<i>Y = 30" Water Main Crossing (BOTO)</i>	<i>AN = 96" Water Main Crossing (BOTO)</i>
<i>AA = 36" Water Main Crossing (BOTO)</i>	

ITEM NO. 5560 ___ ___ " **WATER MAIN CROSSING (BY OPEN CUT)**

This item consists of approximately ___ Linear Feet of ___" Water Main Crossing to be installed by Open Cut in accordance with Item 6.6.3 of these specifications and addenda thereto.

The ___" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

Usually this item is used when crossing a street and the Designer can allow open construction, but wishes to encase the carrier pipe for future protection or because the street/highway is not yet built. Plans must show the limits of the crossing, and size and type of encasement pipe. Use the following for size indicators:

D = 2" Water Main Crossing (By Open Cut)

F = 4" Water Main Crossing (By Open Cut)

H = 6" Water Main Crossing (By Open Cut)

J = 8" Water Main Crossing (By Open Cut)

L = 12" Water Main Crossing (By Open Cut)

Q = 16" Water Main Crossing (By Open Cut)

R = 18" Water Main Crossing (By Open Cut)

S = 20" Water Main Crossing (By Open Cut)

V = 24" Water Main Crossing (By Open Cut)

Y = 30" Water Main Crossing (By Open Cut)

AA = 36" Water Main Crossing (By Open Cut)

AC = 42" Water Main Crossing (By Open Cut)

AE = 48" Water Main Crossing (By Open Cut)

AF = 54" Water Main Crossing (By Open Cut)

AG = 60" Water Main Crossing (By Open Cut)

AH = 66" Water Main Crossing (By Open Cut)

AJ = 72" Water Main Crossing (By Open Cut)

AK = 78" Water Main Crossing (By Open Cut)

AL = 84" Water Main Crossing (By Open Cut)

AM = 90" Water Main Crossing (By Open Cut)

AN = 96" Water Main Crossing (By Open Cut)

ITEM NO. 5570 **PITOT OUTLET AND MANHOLE**

This item consists of furnishing and placing approximately ___ Each Pitot Outlet, complete, in accordance with Item 6.7.3.(p)(1) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the manhole and barricading.

Measurement and payment will be in accordance with Item 6.7.3.(p)(2) of these specifications.

ITEM NO. 5580 ___ ___" DISHED HEAD PLUG

This item consists of furnishing and placing approximately ___ Each Dished Head Plug in accordance with Item 6.7.3.(u) of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 6.7.3.(u)(1) of these specifications.

This bid item is used on concrete water mains for testing purposes and on dead-end concrete mains. Use the following for size indicators:

Q = 16" Dished Head Plug

R = 18" Dished Head Plug

S = 20" Dished Head Plug

V = 24" Dished Head Plug

Y = 30" Dished Head Plug

AA = 36" Dished Head Plug

AC = 42" Dished Head Plug

AE = 48" Dished Head Plug

AF = 54" Dished Head Plug

AG = 60" Dished Head Plug

AH = 66" Dished Head Plug

AJ = 72" Dished Head Plug

AK = 78" Dished Head Plug

AL = 84" Dished Head Plug

AM = 90" Dished Head Plug

AN = 96" Dished Head Plug

AQ = 102" Dished Head Plug

AR = 108" Dished Head Plug

AS = 114" Dished Head Plug

AU = 120" Dished Head Plug

AV = 126" Dished Head Plug

AW = 132" Dished Head Plug

AY = 138" Dished Head Plug

AZ = 144" Dished Head Plug

ITEM NO. 5585 ___ ___" TEST FITTINGS

This item consists of furnishing and placing approximately ___ Each ___" Test Fittings.

This item to include all plugs and other fittings, and all concrete and steel for blocking.

Measurement and payment shall include all labor, materials, and equipment necessary to construct the test fittings.

Usually used for concrete water mains when requiring internal or external test fittings and plugs to hydrostatically test the water main. Detailed drawing must be shown on the plans. Use the following for size indicators:

Q = 16" Test Fitting

R = 18" Test Fitting

S = 20" Test Fitting

V = 24" Test Fitting

Y = 30" Test Fitting

AA = 36" Test Fitting

AC = 42" Test Fitting

AE = 48" Test Fitting

AF = 54" Test Fitting

AG = 60" Test Fitting

AH = 66" Test Fitting

AJ = 72" Test Fitting

AK = 78" Test Fitting

AL = 84" Test Fitting

AM = 90" Test Fitting

AN = 96" Test Fitting

AQ = 102" Test Fitting

AR = 108" Test Fitting

AS = 114" Test Fitting

AU = 120" Test Fitting

AV = 126" Test Fitting

AW = 132" Test Fitting

AY = 138" Test Fitting

AZ = 144" Test Fitting

ITEM NO. 5590 ___ " NIGHT CAP PLUG

This item consists of furnishing and placing approximately ___ Each ___" Night Cap Plug in accordance with Item 6.7.3.(u) of these specifications and addenda thereto.

Measurement and payment shall be in accordance with Item 6.7.3.(u) of these specifications.

Use the following for size indicators:

Q = 16" Night Cap Plug

R = 18" Night Cap Plug

S = 20" Night Cap Plug

V = 24" Night Cap Plug

Y = 30" Night Cap Plug

AA = 36" Night Cap Plug

AC = 42" Night Cap Plug

AE = 48" Night Cap Plug

AF = 54" Night Cap Plug

AG = 60" Night Cap Plug

AH = 66" Night Cap Plug

AJ = 72" Night Cap Plug

AK = 78" Night Cap Plug

AL = 84" Night Cap Plug

AM = 90" Night Cap Plug

AN = 96" Night Cap Plug

AQ = 102" Night Cap Plug

AR = 108" Night Cap Plug

AS = 114" Night Cap Plug

AU = 120" Night Cap Plug

AV = 126" Night Cap Plug

AW = 132" Night Cap Plug

AY = 138" Night Cap Plug

AZ = 144" Night Cap Plug

ITEM NO. 5600 CUT AND PLUG EXISTING WATER MAIN

This item consists of approximately ___ Each Cut and Plug Existing Water Main as indicated on the plans. The cast iron plug and barricading shall be incidental to this bid item.

Measurement and payment will be per each complete in place and shall include all labor, materials, and equipment necessary to Cut and Plug Existing Water Main.

This must be designed and indicated on plans. Normally a cut and plug bid item is not established where a new main is being connected into an existing main.

ITEM NO. 5600P CUT AND PLUG EXISTING WATER MAIN WITH PAVING

This item consists of approximately ___ Each Cut and Plug Existing Water Main as indicated on the plans.

This item shall also include barricading, all temporary and permanent paving, and paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.). The cast iron plug shall be incidental to this bid item.

Measurement and payment will be per each complete in place and shall include all labor, materials, and equipment necessary to Cut and Plug Existing Water Main.

This item is for DWU JOINT contracts and must be designed and indicated on plans. Normally a cut and plug bid item is not established where a new main is being connected into an existing main.

ITEM NO. 5610 CUT AND PLUG WATER MAIN FOR TEST

This item consists of __ Each Cut and Plug Water Main for Test.

This is a contingent item to be used if approved by the Project Manager, in the event pressure testing of the newly constructed main proves unsatisfactory because of leaks in the existing system. In such case, the Contractor must isolate the new construction, perform the required test, and then tie the newly constructed main to the existing water main.

Measurement and payment will be per each complete in place and shall include all labor, materials, and equipment necessary to Cut and Plug Existing Water Main for Test.

Sometimes, when an existing valve is near a tie-in, a Contractor connects into the existing system and pressure tests against the existing valve. If the test fails, he is required to isolate the new main and retest. Set up a minimum of 1 for every 3 new water mains to be constructed in a contract.

ITEM NO. 5620X CUT AND PLUG MAINS – EXTRA DEPTH (+20')

This item consists of additional excavation of Cut and Plug Mains Extra Depth. This item is supplementary to Items No. 5600 and 5600P for extra depth exceeding twenty vertical feet and shall be paid once per location where depth is greater than twenty vertical feet measured to the bottom of the existing main.

Measurement and payment will be per each location for depth exceeding twenty feet measured to the bottom of the existing main and will include any equipment, materials and labor, crossing diagonal utilities, costs for barricading, trench safety and support.

This item is used on DWU CITY contracts.

ITEM NO. 5650 REMOVAL OF LEAD PIPE JOINTS

This item consists of removing each of lead pipe segment(s) service leads found during construction.

This item shall include all labor and equipment required to remove and dispose of the lead joints and connect the existing iron pipe to the new pipe. This item does not include payment for any materials or incidentals necessary to complete the work. Material costs will be included in other bid items. This item is a contingent item and payment will be made only if directed by the DWU Construction Superintendent.

Measure and Payment shall be at the Contract Unit Price per each.

This item is used for the labor and equipment to remove lead and jute pipe joints commonly used on older iron pipes. The lead joint will be cut off the iron pipe and new pipe will be joined with appropriate cast-iron mechanical fittings to adequately restrain the pipes and prevent leaking.

ITEM NO. 5750__ __" FLUSH POINT

This item consists of furnishing and placing approximately __ Each __" Flush Point, complete, in accordance with Item 6.7.3.(j) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(j)(6) of these specifications.

Use this item or Item 5755 at plug end of all dead end water mains. 3/4" Flush Points are no longer acceptable to DWU. 1" flush points are sufficient for sizes up to 36" mains, 2" for larger mains. Use the following for size indicators:

B = 1" Flush Point

D = 2" Flush Point

ITEM NO. 5755__ __" AUTOMATED FLUSH POINT

This item consists of furnishing and placing approximately __ Each __" Automated Flush Point, complete, in accordance with Item 6.7.3.(j) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(j)(6) of these specifications.

Use this item or Item 5750 at plug end of all dead end water mains. 1" flush points are sufficient for sizes up to 36" mains, 2" for larger mains. Use the following for size indicators:

B = 1" Flush Point

D = 2" Flush Point

ITEM NO. 5761 TYPE 1 AIR VALVE INSTALLATION

This item consists of furnishing and placing approximately __ Each Type 1 Air Valve Installation, complete, in accordance with Items 2.13.2 and 6.7.3.(1) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(1)(3) of these specifications.

ITEM NO. 5762__ __" TYPE 2 AIR VALVE INSTALLATION

This item consists of furnishing and placing approximately __ Each Type 2 Air Valve Installation, complete, in accordance with Items 2.13.2 and 6.7.3.(1) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(1)(3) of these specifications.

Use the following for size indicators:

D = 2" Type 2 Air Valve

E = 3" Type 2 Air Valve

F = 4" Type 2 Air Valve

H = 6" Type 2 Air Valve

J = 8" Type 2 Air Valve

K = 10" Type 2 Air Valve

L = 12" Type 2 Air Valve

ITEM NO. 5770__ STANDARD __" WATER MAIN LOWERING

This item consists of constructing __ Each __" Water Main Lowering in accordance with the specifications and addenda thereto, and a Standard Drawing and Standard Appurtenance Sheets,

This item is to include all required __" ductile iron water pipe, including bends, fittings and polywrap in accordance with Items 6.7.3 and 2.12.8 . This item also is to include the required concrete blocking, pipe embedment, backfill, temporary and permanent paving.

Measurement and payment will per each completed and accepted work and shall include all cost for labor and equipment, barricading, trench safety, all temporary and permanent paving related items (saw-cut, base, asphalt, sidewalk, driveway, curb and/or gutter, sod, etc.) and all other work associated with this item.

This item is a contingent item and payment will be made only if work is directed by the Project Manager. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitation as set forth in the specifications.

This item is used for DWU JOINT contracts when a temporary main is designed. Embedment is not required. The Unit Price for this item includes most items and trench safety. . Use the following for size indicators:

H = Standard 6" Main Lowering

J = Standard 8" Main Lowering

L = Standard 12" Main Lowering

Q = Standard 16" Main Lowering

ITEM NO. 5990 ___ ___ " WASTEWATER MAIN (BOTO C)

This item consists of approximately ___ Linear Feet of ___" Wastewater Main to be installed By Other Than Open Cut in accordance with Item 6.4 of these specifications and addenda thereto.

The ___" carrier pipe is not to be included in this item. The encasement pipe, if required, is included in this item.

Measurement and payment will be in accordance with Item 6.4.4 of these specifications.

This item is used for BOTO C construction methods (Jacking/Boring/Tunneling). It is usually specified when crossing under a major thoroughfare or some other obstruction that is not to be disturbed. Size and type of encasement pipe is not usually specified. Actual soil conditions will determine if encasement pipe is required, but no additional compensation will be paid to the Contractor for encasement. Use the following for size indicators:

H = 6" Wastewater Main (BOTO C)

J = 8" Wastewater Main (BOTO C)

K = 10" Wastewater Main (BOTO C)

L = 12" Wastewater Main (BOTO C)

N = 15" Wastewater Main (BOTO C)

Q = 16" Wastewater Main (BOTO C)

R = 18" Wastewater Main (BOTO C)

U = 21" Wastewater Main (BOTO C)

V = 24" Wastewater Main (BOTO C)

W = 27" Wastewater Main (BOTO C)

Y = 30" Wastewater Main (BOTO C)

Z = 33" Wastewater Main (BOTO C)

AA = 36" Wastewater Main (BOTO C)

AB = 39" Wastewater Main (BOTO C)

AC = 42" Wastewater Main (BOTO C)

AD = 45" Wastewater Main (BOTO C)

AE = 48" Wastewater Main (BOTO C)

AF = 54" Wastewater Main (BOTO C)

AG = 60" Wastewater Main (BOTO C)

AH = 66" Wastewater Main (BOTO C)

AJ = 72" Wastewater Main (BOTO C)

AK = 78" Wastewater Main (BOTO C)

AN = 96" Wastewater Main (BOTO C)

AQ = 102" Wastewater Main (BOTO C)

AU = 120" Wastewater Main (BOTO C)

ITEM NO. 6000__ HIGHWAY CROSSING FOR __" WASTEWATER MAIN (BOTO)

This item consists of approximately __ Linear Feet of Highway Crossing Cut for the proposed __" Wastewater Main By Other Than Open Cut in accordance with Items 6.6.2 and 6.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the manhole, if shown on the plans. The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is used for BOTO construction methods (Jacking/Boring/Tunneling). It is required when crossing under a State Highway. Size and type of encasement pipe must be shown on the plans. Use the following for size indicators:

H = 6" Wastewater, Hwy Crossing (BOTO)
J = 8" Wastewater, Hwy Crossing (BOTO)
C = 10" Wastewater, Hwy Crossing (BOTO)
L = 12" Wastewater, Hwy Crossing (BOTO)
N = 15" Wastewater, Hwy Crossing (BOTO)
Q = 16" Wastewater, Hwy Crossing (BOTO)
R = 18" Wastewater, Hwy Crossing (BOTO)
U = 21" Wastewater, Hwy Crossing (BOTO)
V = 24" Wastewater, Hwy Crossing (BOTO)
W = 27" Wastewater, Hwy Crossing (BOTO)
Y = 30" Wastewater, Hwy Crossing (BOTO)
Z = 33" Wastewater, Hwy Crossing (BOTO)
AA = 36" Wastewater, Hwy Crossing (BOTO)

AB = 39" Wastewater, Hwy Crossing (BOTO)
AC = 42" Wastewater, Hwy Crossing (BOTO)
AD = 45" Wastewater, Hwy Crossing (BOTO)
AE = 48" Wastewater, Hwy Crossing (BOTO)
AF = 54" Wastewater, Hwy Crossing (BOTO)
AG = 60" Wastewater, Hwy Crossing (BOTO)
AH = 66" Wastewater, Hwy Crossing (BOTO)
AJ = 72" Wastewater, Hwy Crossing (BOTO)
AK = 78" Wastewater, Hwy Crossing (BOTO)
AN = 96" Wastewater, Hwy Crossing (BOTO)
AQ = 102" Wastewater, Hwy Crossing (BOTO)
AU = 120" Wastewater, Hwy Crossing (BOTO)

ITEM NO. 6010__ HIGHWAY CROSSING FOR __" WASTEWATER MAIN (BY OPEN CUT)

This item consists of approximately __ Linear Feet of Highway Crossing for the proposed __" Wastewater Main By Open Cut in accordance with Item 6.6.2 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is typically used when TXDOT requires BOTO to a minimum distance from the roadway, but allows Open Cut (normally with encasement) for the remainder of the of the R.O.W. crossing. Generally 6000__ and 6010__ are used together on a contract to be specified on the plans. Use the following for size indicators:

H = 6" Wastewater, Hwy Crossing (By Open Cut)
J = 8" Wastewater, Hwy Crossing (By Open Cut)
K = 10" Wastewater, Hwy Crossing (By Open Cut)
L = 12" Wastewater, Hwy Crossing (By Open Cut)
N = 15" Wastewater, Hwy Crossing (By Open Cut)
Q = 16" Wastewater, Hwy Crossing (By Open Cut)
R = 18" Wastewater, Hwy Crossing (By Open Cut)
S = 20" Wastewater, Hwy Crossing (By Open Cut)
U = 21" Wastewater, Hwy Crossing (By Open Cut)
V = 24" Wastewater, Hwy Crossing (By Open Cut)
Y = 30" Wastewater, Hwy Crossing (By Open Cut)
AA = 36" Wastewater, Hwy Crossing (By Open Cut)
AC = 42" Wastewater, Hwy Crossing (By Open Cut)
AE = 48" Wastewater, Hwy Crossing (By Open Cut)
AF = 54" Wastewater, Hwy Crossing (By Open Cut)
AG = 60" Wastewater, Hwy Crossing (By Open Cut)
AH = 66" Wastewater, Hwy Crossing (By Open Cut)
AJ = 72" Wastewater, Hwy Crossing (By Open Cut)
AK = 78" Wastewater, Hwy Crossing (By Open Cut)
AL = 84" Wastewater, Hwy Crossing (By Open Cut)
AM = 90" Wastewater, Hwy Crossing (By Open Cut)

ITEM NO. 6020 ___ RAILROAD CROSSING FOR ___ " WASTEWATER MAIN (BOTO)

This item consists of approximately ___ Linear Feet of Railroad Crossing for the proposed ___" Wastewater Main By Other Than Open Cut in accordance with Item 6.6.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the manhole, if shown on the plans. The ___" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is used for BOTO construction methods (Jacking/Boring/Tunneling). This item is required when crossing under a Railroad track. Size and type of encasement pipe must be shown on the plans, and requirements vary with each railroad. Use the following for size indicators:

<i>H = 6" Wastewater, RR Crossing (BOTO)</i>	<i>Z = 33" Wastewater, RR Crossing (BOTO)</i>
<i>J = 8" Wastewater, RR Crossing (BOTO)</i>	<i>AA = 36" Wastewater, RR Crossing (BOTO)</i>
<i>K = 10" Wastewater, RR Crossing (BOTO)</i>	<i>AB = 39" Wastewater, RR Crossing (BOTO)</i>
<i>L = 12" Wastewater, RR Crossing (BOTO)</i>	<i>AC = 42" Wastewater, RR Crossing (BOTO)</i>
<i>N = 15" Wastewater, RR Crossing (BOTO)</i>	<i>AD = 45" Wastewater, RR Crossing (BOTO)</i>
<i>Q = 16" Wastewater, RR Crossing (BOTO)</i>	<i>AE = 48" Wastewater, RR Crossing (BOTO)</i>
<i>R = 18" Wastewater, RR Crossing (BOTO)</i>	<i>AF = 54" Wastewater, RR Crossing (BOTO)</i>
<i>U = 21" Wastewater, RR Crossing (BOTO)</i>	<i>AG = 60" Wastewater, RR Crossing (BOTO)</i>
<i>V = 24" Wastewater, RR Crossing (BOTO)</i>	<i>AH = 66" Wastewater, RR Crossing (BOTO)</i>
<i>W = 27" Wastewater, RR Crossing (BOTO)</i>	<i>AJ = 72" Wastewater, RR Crossing (BOTO)</i>
<i>Y = 30" Wastewater, RR Crossing (BOTO)</i>	<i>AK = 78" Wastewater, RR Crossing (BOTO)</i>

ITEM NO. 6030__ RAILROAD CROSSING FOR __" WASTEWATER MAIN (BY OPEN CUT)

This item consists of approximately __ Linear Feet of Railroad Crossing for the proposed __" Wastewater Main By Open Cut in accordance with Items 6.6.4 and 6.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the manhole, if shown on the plans. The __" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is similar to bid item 6020__, whereby the Railroad Company will allow a portion of their property to be Open Cut. This item is generally used on a contract with bid item 6020__. Plans must show the limits, size and type of encasement pipe, if required in this section "By Open Cut." Use the following for size indicators:

H = 6" Wastewater RR Crossing (By Open Cut)

J = 8" Wastewater RR Crossing (By Open Cut)

K = 10" Wastewater RR Crossing (By Open Cut)

L = 12" Wastewater RR Crossing (By Open Cut)

N = 15" Wastewater RR Crossing (By Open Cut)

Q = 16" Wastewater RR Crossing (By Open Cut)

S = 20" Wastewater RR Crossing (By Open Cut)

V = 24" Wastewater RR Crossing (By Open Cut)

Y = 30" Wastewater RR Crossing (By Open Cut)

AA = 36" Wastewater RR Crossing (By Open Cut)

AC = 42" Wastewater RR Crossing (By Open Cut)

AE = 48" Wastewater RR Crossing (By Open Cut)

AF = 54" Wastewater RR Crossing (By Open Cut)

AG = 60" Wastewater RR Crossing (By Open Cut)

AH = 66" Wastewater RR Crossing (By Open Cut)

AJ = 72" Wastewater RR Crossing (By Open Cut)

AK = 78" Wastewater RR Crossing (By Open Cut)

AL = 84" Wastewater RR Crossing (By Open Cut)

AM = 90" Wastewater RR Crossing (By Open Cut)

AQ = 102" Wastewater RR Crossing (By Open Cut)

ITEM NO. 6040 ___ ___ " WASTEWATER MAIN CROSSING (BOTO)

This item consists of approximately ___ Linear Feet of ___" Wastewater Main to be installed By Other Than Open Cut in accordance with Item 6.6.3 of these specifications and addenda thereto.

The ___" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

This item is similar to Item No. 5990___, except the Designer requires encasement pipe. This encasement may be for future protection of the main, or soil conditions that warrant encasement pipe. Plans must show the limits of the crossing and size and type of encasement pipe. Use the following for size indicators:

H = 6" Wastewater Main Crossing (BOTO)
J = 8" Wastewater Main Crossing (BOTO)
K = 10" Wastewater Main Crossing (BOTO)
L = 12" Wastewater Main Crossing (BOTO)
N = 15" Wastewater Main Crossing (BOTO)
Q = 16" Wastewater Main Crossing (BOTO)
R = 18" Wastewater Main Crossing (BOTO)
U = 21" Wastewater Main Crossing (BOTO)
V = 24" Wastewater Main Crossing (BOTO)
W = 27" Wastewater Main Crossing (BOTO)
Y = 30" Wastewater Main Crossing (BOTO)
Z = 33" Wastewater Main Crossing (BOTO)
AA = 36" Wastewater Main Crossing (BOTO)

AB = 39" Wastewater Main Crossing (BOTO)
AC = 42" Wastewater Main Crossing (BOTO)
AD = 45" Wastewater Main Crossing (BOTO)
AE = 48" Wastewater Main Crossing (BOTO)
AF = 54" Wastewater Main Crossing (BOTO)
AG = 60" Wastewater Main Crossing (BOTO)
AH = 66" Wastewater Main Crossing (BOTO)
AJ = 72" Wastewater Main Crossing (BOTO)
AK = 78" Wastewater Main Crossing (BOTO)
AL = 84" Wastewater Main Crossing (BOTO)
AN = 96" Wastewater Main Crossing (BOTO)
AQ = 102" Wastewater Main Crossing (BOTO)
AU = 120" Wastewater Main Crossing (BOTO)

ITEM NO. 6050 ___ ___ " WASTEWATER MAIN CROSSING (BY OPEN CUT)

This item consists of approximately ___ Linear Feet of ___" Wastewater Main to be installed By Open Cut in accordance with Item 6.6.3 of these specifications and addenda thereto.

The ___" carrier pipe is not to be included in this item. The encasement pipe is included in this item.

Measurement and payment will be in accordance with Item 6.6.5 of these specifications.

Usually this item is used when crossing a street and the Designer can allow open construction, but wishes to encase the carrier pipe for future protection, or because the street/highway is not yet built. Plans must show the limits of the crossing, and size and type of encasement pipe. Use the following for size indicators:

H = 6" Wastewater Main Crossing (By Open Cut)
J = 8" Wastewater Main Crossing (By Open Cut)
K = 10" Wastewater Main Crossing (By Open Cut)
L = 12" Wastewater Main Crossing (By Open Cut)
N = 15" Wastewater Main Crossing (By Open Cut)
Q = 16" Wastewater Main Crossing (By Open Cut)
R = 18" Wastewater Main Crossing (By Open Cut)
U = 21" Wastewater Main Crossing (By Open Cut)
V = 24" Wastewater Main Crossing (By Open Cut)
W = 27" Wastewater Main Crossing (By Open Cut)
Y = 30" Wastewater Main Crossing (By Open Cut)
Z = 33" Wastewater Main Crossing (By Open Cut)
AA = 36" Wastewater Main Crossing (By Open Cut)
AB = 39" Wastewater Main Crossing (By Open Cut)
AC = 42" Wastewater Main Crossing (By Open Cut)
AD = 45" Wastewater Main Crossing (By Open Cut)
AE = 48" Wastewater Main Crossing (By Open Cut)
AF = 54" Wastewater Main Crossing (By Open Cut)
AG = 60" Wastewater Main Crossing (By Open Cut)
AH = 66" Wastewater Main Crossing (By Open Cut)
AJ = 72" Wastewater Main Crossing (By Open Cut)
AK = 78" Wastewater Main Crossing (By Open Cut)
AN = 96" Wastewater Main Crossing (By Open Cut)
AQ = 102" Wastewater Main Crossing (By Open Cut)
AU = 120" Wastewater Main Crossing (By Open Cut)

ITEM NO. 6060 WASTEWATER LATERAL

This item consists of furnishing and placing approximately __ Each Wastewater Lateral on an existing or new wastewater main. This item will include street, alley, and easement laterals with cleanouts, with or without caps in accordance with Item 6.7.2.(h)(7) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

Laterals will be replaced with the same size and type as the existing lateral or as indicated on the plans, with a minimum of 6" diameter pipe required. This item will include, if required, Polyvinyl Chloride Pressure Rated Laterals conforming to ASTM D2241 (DR 26), minimum pressure rating of 160 PSI and ASTM D3139 joints. If a deep cut connection is required, the costs will be included in this item.

The replacement shall include removal of the existing lateral, plugging the existing lateral near the main, installing a new lateral with cleanout by removing a portion of the existing main, installing a wye, connecting to the existing main with adapters for 6" and 8" mains and by tapping mains 10" and larger, installing a new lateral with cleanout and connection to the existing house lateral. Should a private wastewater lateral not exist, a wastewater mainline lateral shall be installed with a cleanout and cap, or a cap only as indicated on the plans. The disturbed area around the cleanout will be replaced with sod in accordance with Item 3.9 , or concrete or asphalt in accordance with Item 8.3 to match the existing surface. The Contractor shall furnish a cleanout casting if lost, stolen, or damaged due to Contractor's negligence. Should any additional laterals be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed laterals not be necessary, they will be removed from the contract without having any effect on the unit price. The provisions of Paragraph 1.37.1 of the specifications regarding negotiating for revised consideration for over/underruns do not apply to this item

Measurement and payment will be in accordance with Item 6.7.2.(h)(8) of these specifications, and will include any costs for pipe, equipment, materials and labor, deep cut connections, all boring, encasement, crossing diagonal utilities, costs for barricading, trench safety and support for these laterals, embedment, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod) and all other work associated with this item.

This item includes all items necessary to install new laterals and/or make any required adjustments or alterations to existing laterals of any size. On DWU JOINT contracts where the service is not being replaced, and the service may need to be relocated to clear proposed Storm Sewers include bid item 6090. Also, on JOINT contracts, include this bid item for lateral replacement if the laterals are 1973 or older.

ITEM NO. 6065X WASTEWATER LATERAL – EXTRA DEPTH (+20’)

This item consists of additional excavation of Wastewater Lateral Extra Depth for __ Linear Feet. This item is supplementary to Item No. 6060 for extra depth exceeding twenty vertical feet and shall be paid per linear foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone.

Measurement and payment will be per Linear Foot for the distance where depth is greater than twenty vertical feet measured to the bottom of the embedment zone and will include any equipment, materials and labor, crossing diagonal utilities, costs for barricading, and trench safety and support.

This item is used on DWU CITY contracts.

ITEM NO. 6070 EXTERNAL LATERAL CONNECTION

This item consists of the reinstatement of approximately __ Each External Lateral Connection in accordance with Part T - Technical Specifications.

All wastewater lateral services shall be reinstated within 24 hours of beginning the lining process. The external live laterals shall be reinstated by excavating the existing connection and installing a new lateral with cleanout to the property line where and when possible.

This item is completed as each and is to include all labor, materials, equipment, barricading, embedment, clean out, backfilling and incidentals required to complete the reinstatement of the laterals in accordance with these specifications and addenda thereto.

Measurement and payment will be per each complete in place.

This item is only used in conjunction with bid item 3570_x_ to facilitate wastewater main rehabilitation.

ITEM NO. 6075 INTERNAL LATERAL CONNECTION

This item consists of the reinstatement of approximately __ Each Internal Lateral Connection in accordance with Part T - Technical Specifications.

All wastewater lateral services shall be reinstated within 24 hours of beginning the inversion or lining process. The existing live laterals shall be reinstated by using an interior cutting device and television camera from within the wastewater main. The cutter shall reinstate each connection to not less than 90% capacity.

This item complete and to include all labor, materials, equipment, barricading, and incidentals required to complete the reinstatement of the laterals in accordance with these specifications and addenda thereto.

Measurement and payment will be per each complete in place.

This item is only used in conjunction with bid item 3520__ to facilitate wastewater main rehabilitation.

ITEM NO. 6080 STANDARD MAINLINE CLEANOUT

This item consists of furnishing and placing approximately __ Each Standard Mainline Cleanout in accordance with Item 6.7.2.(j)(1) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item shall include barricading

Measurement and payment will be in accordance with Item 6.7.2.(j)(2) of these specifications.

This item is used for DWU CITY contracts.

ITEM NO. 6080P STANDARD MAINLINE CLEANOUT WITH PAVING

This item consists of furnishing and placing approximately __ Each Standard Mainline Cleanout in accordance with Item 6.7.2.(j)(1) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This shall also include barricading, all temporary and permanent paving, and paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(j)(2) of these specifications.

This item is used for DWU JOINT contracts.

ITEM NO. 6090 ADJUSTMENT OF EXISTING WASTEWATER LATERAL

This item consists of furnishing and placing approximately ___ Each Wastewater Lateral on an existing or new wastewater main. This item will include street, alley, and easement laterals with cleanouts, with or without caps in accordance with Item 6.7.2.(h)(7) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

Laterals will be replaced with the same size and type as the existing lateral or as indicated on the plans, with a minimum of 6" diameter pipe required. This item will include, if required, Polyvinyl Chloride Pressure Rated Laterals conforming to ASTM D2241 (DR 26) minimum pressure rating of 160 PSI and ASTM D3139 joints. If a deep cut connection is required, the costs will be included in this item.

This item includes removing a portion of the existing lateral and replacing that portion of the lateral as detailed in the DWU Standard Drawings for Water & Wastewater Construction, page 406. If a new wye or tee connection is required by the Project Manager, this item shall also include plugging the existing lateral near the main, installing a wye or tee, connecting to the existing main with adapters for 6" and 8" mains, and by tapping mains 10" and larger. Should any additional laterals be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed laterals not be necessary, they will be removed from the contract without having any effect on the Unit Price. The provisions of Paragraph 1.37.1 of the specifications regarding negotiating for revised consideration for over/underruns do not apply to this item.

Measurement and payment will be in accordance with Item 6.7.2.(h)(8) of these specifications and will include any costs for pipe, equipment, materials and labor, deep cut connections, all boring, encasement, crossing diagonal utilities, costs for barricading, trench safety and support for these laterals, embedment, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod), and all other work associated with this item.

This item is most often used on DWU JOINT contracts, where the wastewater laterals are not being replaced and only a portion of the lateral may need to be replaced to clear proposed Storm Sewers. The item includes all sizes and all approved material types for wastewater laterals. This item includes all items necessary to adjust the wastewater lateral. Refer to Dallas Water Utilities Standard Drawings for Water & Wastewater Construction, p. 406 for more detail.

ITEM NO. 6100 WASTEWATER ACCESS DEVICE

This item consists of furnishing and placing approximately ___ Each Wastewater Access Device in accordance with the plans and Standard Appurtenance Sheet.

Removal of any existing conflicting manhole or cleanout, if required, will be included in this item. This item shall include barricading.

Measurement and payment will be paid for at contract Unit Price per Each, complete in place, as shall be the total compensation for the furnishing of all labor, materials, tools and equipment and incidentals necessary to complete the work, including each excavation, disposal of surplus materials, and backfill all in accordance with the plans and specifications.

This device may be installed on DWU CITY contracts at the end of a wastewater main in lieu of a manhole or main line clean out.

ITEM NO. 6100P WASTEWATER ACCESS DEVICE WITH PAVING

This item consists of furnishing and placing approximately __ Each Wastewater Access Device in accordance with the plans and Standard Appurtenance Sheet.

Removal of any existing conflicting manhole or cleanout, if required, will be included in this item.

This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be paid for at contract Unit Price per Each, complete in place, as shall be the total compensation for the furnishing of all labor, materials, tools and equipment and incidentals necessary to complete the work, including each excavation, disposal of surplus materials, and backfill all in accordance with the plans and specifications.

This device may be installed on DWU JOINT contracts at the end of a wastewater Main in lieu of a manhole or main line clean out.

ITEM NO. 6110__ __" DIAMETER DROP CONNECTION MANHOLE

This item consists of furnishing and placing approximately __ Each __" Diameter Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Manhole

AL = 84" Drop Manhole

AG = 60" Drop Manhole

AN = 96" Drop Manhole

AJ = 72" Drop Manhole

ITEM NO. 6110__P __" DIAMETER DROP CONNECTION MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __" Diameter Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Manhole

AL = 84" Drop Manhole

AG = 60" Drop Manhole

AN = 96" Drop Manhole

AJ = 72" Drop Manhole

ITEM NO. 6111__X __" DIAMETER DROP CONNECTION MANHOLE – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Manhole

AL = 84" Drop Manhole

AG = 60" Drop Manhole

AN = 96" Drop Manhole

AJ = 72" Drop Manhole

ITEM NO. 6111__PX __" DIAMETER DROP CONNECTION MANHOLE WITH PAVING – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Manhole

AL = 84" Drop Manhole

AG = 60" Drop Manhole

AN = 96" Drop Manhole

AJ = 72" Drop Manhole

ITEM NO. 6120__ __" DIAMETER TYPE "S" MANHOLE

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Type "S" Manhole

AL = 84" Type "S" Manhole

AG = 60" Type "S" Manhole

AN = 96" Type "S" Manhole

AJ = 72" Type "S" Manhole

ITEM NO. 6120__P __" DIAMETER TYPE "S" MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Type "S" Manhole

AL = 84" Type "S" Manhole

AG = 60" Type "S" Manhole

AN = 96" Type "S" Manhole

AJ = 72" Type "S" Manhole

ITEM NO. 6121__X __" DIAMETER TYPE "S" MANHOLE – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Type "S" Manhole

AL = 84" Type "S" Manhole

AG = 60" Type "S" Manhole

AN = 96" Type "S" Manhole

AJ = 72" Type "S" Manhole

ITEM NO. 6121__PX __" DIAMETER TYPE "S" MANHOLE WITH PAVING – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Type "S" Manhole

AL = 84" Type "S" Manhole

AG = 60" Type "S" Manhole

AN = 96" Type "S" Manhole

AJ = 72" Type "S" Manhole

ITEM NO. 6125__ __" DIAMETER TYPE "S" DROP CONNECTION MANHOLE

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Type "S" Manhole

AL = 84" Drop Type "S" Manhole

AG = 60" Drop Type "S" Manhole

AN = 96" Drop Type "S" Manhole

AJ = 72" Drop Type "S" Manhole

ITEM NO. 6125__P __" DIAMETER TYPE "S" DROP CONNECTION MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Type "S" Manhole

AL = 84" Drop Type "S" Manhole

AG = 60" Drop Type "S" Manhole

AN = 96" Drop Type "S" Manhole

AJ = 72" Drop Type "S" Manhole

ITEM NO. 6126__X __" DIAMETER TYPE "S" DROP CONNECTION MANHOLE – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Type "S" Manhole

AL = 84" Drop Type "S" Manhole

AG = 60" Drop Type "S" Manhole

AN = 96" Drop Type "S" Manhole

AJ = 72" Drop Type "S" Manhole

ITEM NO. 6126__PX __" DIAMETER TYPE "S" DROP CONNECTION MANHOLE WITH PAVING – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Type "S" Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Drop Type "S" Manhole

AL = 84" Drop Type "S" Manhole

AG = 60" Drop Type "S" Manhole

AN = 96" Drop Type "S" Manhole

AJ = 72" Drop Type "S" Manhole

ITEM NO. 6130__ __" DIAMETER WASTEWATER MANHOLE

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout and precast concrete grade rings shall be used for adjustments of the ring and cover. This item is to include Wastewater Manhole Frame Seals for each manhole installed (see Technical Specifications). This item shall also include trench safety and barricades.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Wastewater Manhole

AL = 84" Wastewater Manhole

AG = 60" Wastewater Manhole

AN = 96" Wastewater Manhole

AJ = 72" Wastewater Manhole

ITEM NO. 6130__P __" DIAMETER WASTEWATER MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Wastewater Manhole

AL = 84" Wastewater Manhole

AG = 60" Wastewater Manhole

AN = 96" Wastewater Manhole

AJ = 72" Wastewater Manhole

ITEM NO. 6131__X __" DIAMETER WASTEWATER MANHOLE – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout and precast concrete grade rings shall be used for adjustments of the ring and cover. This item is to include Wastewater Manhole Frame Seals for each manhole installed (see Technical Specifications). This item shall also include trench safety and barricades.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item used for DWU CITY contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Wastewater Manhole

AL = 84" Wastewater Manhole

AG = 60" Wastewater Manhole

AN = 96" Wastewater Manhole

AJ = 72" Wastewater Manhole

ITEM NO. 6131__PX __" DIAMETER WASTEWATER MANHOLE WITH PAVING – EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts. If the existing manhole is not in conflict with any proposed construction, then it should be abandoned using Item No. 6140. Use the following for size indicators:

AE = 48" Wastewater Manhole

AL = 84" Wastewater Manhole

AG = 60" Wastewater Manhole

AN = 96" Wastewater Manhole

AJ = 72" Wastewater Manhole

ITEM NO. 6140 ABANDON EXISTING MANHOLE

This item consists of abandoning approximately __ Each Existing Manhole, backfilling the manhole with granular material at 95% standard proctor dry density, and removing and salvaging the frame and cover as per the applicable Standard Appurtenance Sheet.

This item to also include the cleaning, loading, hauling, and unloading the frame and cover at the Stores Division, Yard #2, 2901 Municipal Street. The Contractor will be charged new item replacement cost for any amount lost, stolen, or broken due to the Contractor's negligence prior to delivery into Water Utilities Department Salvage Yard. This item shall also include barricading.

Measurement and payment shall be at the contract Unit Price per Each completed and accepted abandonment.

This item is used whenever an existing manhole will be abandoned and not replaced at the same location.

ITEM NO. 6141 VACUUM TEST FOR WASTEWATER MANHOLE

This item consists of performing approximately __ Each Vacuum Test for Wastewater Manhole in accordance with Item 6.7.2.(c) of The Dallas Water Utilities Addendum to the Standard Specifications.

This item shall include all materials, equipment, labor, and incidentals required to complete the test as specified. This item is a contingent item and payment will be made only if directed by the DWU Construction Superintendent. Should any of the listed tests not be necessary, they will be removed from the contract without having any effect on the Unit Price.

Measurement and payment shall be in accordance with Item 6.7.2.(e) of these specifications and addenda thereto.

This item should be included for every manhole even though some manholes may not be tested. The Project Engineer or DWU Construction Superintendent will make the decision as to which ones will be tested.

ITEM NO. 6142 DROP CONNECTION TO EXISTING MANHOLE

This item consists of furnishing and placing approximately __ Each Drop Connection to Existing Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of any existing conflicting drop connection, if required, will be included in this item. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used when installing a new main into an existing manhole using a drop connection. It includes all material to make the complete drop connection.

ITEM NO. 6143 ABANDON EXISTING STRUCTURAL MANHOLE

This item consists of abandoning __ Each Existing Structural Manhole, backfilling the manhole with granular material at 95% standard proctor dry density, and removing and salvaging the frame and cover as per the applicable Standard Appurtenance Sheet.

This item to also include the cleaning, loading, hauling, and unloading the frame and cover at the Stores Division #2, 2901 Municipal Street. The Contractor will be charged new item replacement cost for any amount lost, stolen, or broken due to the Contractor's negligence prior to delivery into Water Utilities Department Salvage Yard.

Measurement and payment shall be at the contract Unit Price per Each completed and accepted abandonment.

This item is used on DWU CITY contracts.

ITEM NO. 6150 __ " DIAMETER MANHOLE REHABILITATION

This item consists of rehabilitating approximately __ Each __" Diameter Manhole with Gunitite in accordance with these specifications and addenda thereto, the applicable Standard Appurtenance Sheets and the Specifications attached (see Part - T Technical Specifications).

This item includes barricading, pavement removal, replacement, and all other work required to complete the rehabilitation.

Measurement and payment shall be at contract Unit Price for complete and accepted work.

This item requires a technical specification in the contract documents. Use the following for size indicators:

AE = 48" Manhole Rehabilitation

AG = 60" Manhole Rehabilitation

AF = 54" Manhole Rehabilitation

AJ = 72" Manhole Rehabilitation

ITEM NO. 6151__X __" DIAMETER MANHOLE REHABILITATION – EXTRA DEPTH (+20')

This item consists of rehabilitating approximately __ Each __" Diameter Manhole with Gunitite in accordance with these specifications and addenda thereto, the applicable Standard Appurtenance Sheets and the Specifications attached (see Part - T Technical Specifications).

This item includes barricading, pavement removal, replacement, and all other work required to complete the rehabilitation.

Measurement and payment shall be at contract Unit Price for complete and accepted work.

This item requires a technical specification in the contract documents. Use the following for size indicators:

AE = 48" Manhole Rehabilitation

AG = 60" Manhole Rehabilitation

AF = 54" Manhole Rehabilitation

AJ = 72" Manhole Rehabilitation

ITEM NO. 6155 ___ ___" DIAMETER DROP CONNECTION MANHOLE REHABILITATION

This item consists of rehabilitating approximately ___ Each ___" Diameter Drop Connection Manhole with Gunite in accordance with these specifications and addenda thereto, the applicable Standard Appurtenance Sheets and the Specifications attached (see Part - T Technical Specifications).

This item includes barricading, pavement removal, replacement, and all other work required to complete the rehabilitation.

Measurement and payment shall be at contract Unit Price for complete and accepted work.

This item requires a technical specification in the contract documents. Use the following for size indicators:

AE = 48" Drop Manhole Rehabilitation AG = 60" Drop Manhole Rehabilitation
AF = 54" Drop Manhole Rehabilitation AJ = 72" Drop Manhole Rehabilitation

ITEM NO. 6156 ___ X ___" DIAMETER DROP CONNECTION MANHOLE REHABILITATION - EXTRA DEPTH (+20')

This item consists of rehabilitating approximately ___ Each ___" Diameter Drop Connection Manhole with Gunite in accordance with these specifications and addenda thereto, the applicable Standard Appurtenance Sheets and the Specifications attached (see Part - T Technical Specifications).

This item includes barricading, pavement removal, replacement, and all other work required to complete the rehabilitation.

Measurement and payment shall be at contract Unit Price for complete and accepted work.

This item requires a technical specification in the contract documents. Use the following for size indicators:

AE = 48" Drop Manhole Rehabilitation AG = 60" Drop Manhole Rehabilitation
AF = 54" Drop Manhole Rehabilitation AJ = 72" Drop Manhole Rehabilitation

ITEM NO. 6160 ___ ___" SPECIAL MANHOLE

This item consists of furnishing and placing approximately ___ Each ___" Diameter Special Manhole in accordance with Item 6.7.2.(h) , 7.6 of these specifications and addenda thereto.

This item includes barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i) of these specifications.

This item is used for DWU CITY contracts for other than standard manholes, where a detail is shown on the plans. The station will be indicated in the bid item description along with the title. Use the following for size indicators:

AE = 48" Special Manhole
AF = 54" Special Manhole
AG = 60" Special Manhole
AJ = 72" Special Manhole

ITEM NO. 6160__P __” SPECIAL MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __” Diameter Special Manhole in accordance with Item 6.7.2.(h) , 7.6 of these specifications and addenda thereto.

This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts for other than standard manholes, where a detail is shown on the plans. The station will be indicated in the bid item description along with the title. Use the following for size indicators:

AE = 48” Special Manhole

AF = 54” Special Manhole

AG = 60” Special Manhole

AJ = 72” Special Manhole

ITEM NO. 6161__X __” SPECIAL MANHOLE - EXTRA DEPTH (+20’)

This item consists of furnishing and placing approximately __ Each __” Diameter Special Manhole in accordance with Item 6.7.2.(h) , 7.6 of these specifications and addenda thereto.

This item includes barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i) of these specifications.

This item is used for DWU CITY contracts for other than standard manholes, where a detail is shown on the plans. The station will be indicated in the bid item description along with the title. Use the following for size indicators:

AE = 48” Special Manhole

AF = 54” Special Manhole

AG = 60” Special Manhole

AJ = 72” Special Manhole

ITEM NO. 6161__PX __” SPECIAL MANHOLE WITH PAVING - EXTRA DEPTH (+20’)

This item consists of furnishing and placing approximately __ Each __” Diameter Special Manhole in accordance with Item 6.7.2.(h) , 7.6 of these specifications and addenda thereto.

This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

This item is used for DWU JOINT contracts for other than standard manholes, where a detail is shown on the plans. The station will be indicated in the bid item description along with the title. Use the following for size indicators:

AE = 48” Special Manhole

AF = 54” Special Manhole

AG = 60” Special Manhole

AJ = 72” Special Manhole

ITEM NO. 6170__X __" EXTRA DEPTH MANHOLE

Used for PRIVATE DEVELOPMENT contracts only. Use the following for size indicators:

AE = 48" Extra Depth Manhole

AF = 54" Extra Depth Manhole

AG = 60" Extra Depth Manhole

ITEM NO. 6180__ __" DIAMETER GAS SEALED DROP CONNECTION MANHOLE

This item consists of furnishing and placing approximately __ Each __" Diameter Gas Sealed Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item includes barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Gas Sealed Drop Manhole

AG = 60" Gas Sealed Drop Manhole

AJ = 72" Gas Sealed Drop Manhole

AL = 84" Gas Sealed Drop Manhole

AN = 96" Gas Sealed Drop Manhole

ITEM NO. 6180__P __" DIAMETER GAS SEALED DROP CONNECTION MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __" Diameter Gas Sealed Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Gas Sealed Drop Manhole

AG = 60" Gas Sealed Drop Manhole

AJ = 72" Gas Sealed Drop Manhole

AL = 84" Gas Sealed Drop Manhole

AN = 96" Gas Sealed Drop Manhole

**ITEM NO. 6181__X __" DIAMETER GAS SEALED DROP
CONNECTION MANHOLE - EXTRA DEPTH (+20')**

This item consists of furnishing and placing approximately __ Each __" Diameter Gas Sealed Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item includes barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Gas Sealed Drop Manhole

AL = 84" Gas Sealed Drop Manhole

AG = 60" Gas Sealed Drop Manhole

AN = 96" Gas Sealed Drop Manhole

AJ = 72" Gas Sealed Drop Manhole

**ITEM NO. 6181__PX __" DIAMETER GAS SEALED DROP
CONNECTION MANHOLE WITH PAVING - EXTRA
DEPTH (+20')**

This item consists of furnishing and placing approximately __ Each __" Diameter Gas Sealed Drop Connection Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Removal of existing conflicting manhole, if required, will be included in this item. Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Gas Sealed Drop Manhole

AL = 84" Gas Sealed Drop Manhole

AG = 60" Gas Sealed Drop Manhole

AN = 96" Gas Sealed Drop Manhole

AJ = 72" Gas Sealed Drop Manhole

ITEM NO. 6190__ __" DIAMETER VORTEX MANHOLE

This item consists of furnishing and placing approximately __ Each __" Diameter Vortex Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Vortex Manhole

AL = 84" Vortex Manhole

AG = 60" Vortex Manhole

AN = 96" Vortex Manhole

AJ = 72" Vortex Manhole

ITEM NO. 6190__P __" DIAMETER VORTEX MANHOLE WITH PAVING

This item consists of furnishing and placing approximately __ Each __" Diameter Vortex Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Vortex Manhole

AL = 84" Vortex Manhole

AG = 60" Vortex Manhole

AN = 96" Vortex Manhole

AJ = 72" Vortex Manhole

ITEM NO. 6191__X __" DIAMETER VORTEX MANHOLE - EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Vortex Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Nonshrink grout shall be used in place of mortar. This item shall include barricading.

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Vortex Manhole

AL = 84" Vortex Manhole

AG = 60" Vortex Manhole

AN = 96" Vortex Manhole

AJ = 72" Vortex Manhole

ITEM NO. 6191__PX __" DIAMETER VORTEX MANHOLE WITH PAVING - EXTRA DEPTH (+20')

This item consists of furnishing and placing approximately __ Each __" Diameter Vortex Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Nonshrink grout shall be used in place of mortar. This item shall also include barricading, all temporary and permanent paving, and paving related items (removal, disposal, replacement, saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod, seed, etc.).

Measurement and payment will be in accordance with Item 6.7.2.(i)(3) of these specifications.

Use the following for size indicators:

AE = 48" Vortex Manhole

AL = 84" Vortex Manhole

AG = 60" Vortex Manhole

AN = 96" Vortex Manhole

AJ = 72" Vortex Manhole

ITEM NO. 6200__ __" WASTEWATER AERIAL CROSSING

This item consists of furnishing and placing approximately __ Each __" Aerial Crossing in accordance with Item 6.7.2.(h) of these specifications and addenda thereto.

This item includes all barricading, trench safety, utility supports, encasement pipe, carrier pipe, manholes, manhole vacuum tests, paving, and all plan details and notes.

Measurement and payment shall be at contract Unit Price for complete and accepted work.

This item is used for wastewater main aerial crossings where a detail is shown on the plans. The station will be indicated in the bid item description along with the title. Use the following for size indicators:

J = 8" Wastewater Aerial Crossing

N = 15" Wastewater Aerial Crossing

L = 12" Wastewater Aerial Crossing

U = 21" Wastewater Aerial Crossing

ITEM NO. 6240 TREE

This item consists of furnishing and placing approximately __ Each Tree at locations approved by the Project Manager, in accordance with Section __ in the Technical Specifications.

Measurement and payment will be in accordance Section __ in the Technical Specifications.

This must describe the type and diameter of the trees to be planted. The Technical Specifications must be included in the contract documents.

ITEM NO. 6250 SHRUBS, FLOWERS, GROUND COVER, ETC.

This item consists of furnishing and placing approximately __ Each (Type/Size") Pots at locations approved by the Project Manager, in accordance with Special Provision S __ - Tree Planting, of these specifications.

Measurement and payment will be in accordance with Special Provision S __ of these specifications.

This must describe the type of shrubs/flowers, etc. to be planted. The Special Provision must also contain the Technical Specifications in the Contract Documents.

ITEM NO. 6260 CLEARING AND GRUBBING

This item consists of required Clearing and Grubbing within the limits shown on the plans and in accordance with Item 3.2 of these specifications and addenda thereto.

Payment will be Lump Sum at contract bid price.

This item is used to pay a Contractor to remove timber and shrubs within a given area as shown on the plans.

ITEM NO. 6270 FENCE REPLACEMENT

This item consists of installing __ Linear Feet of various types of Fence to replace existing fences within the limits described on the plans.

Fences shall be installed plumb. They shall be constructed of new materials of like kind and same construction as the existing fences to be replaced. Replacement fences shall abut adjacent fences to maintain the completeness of previously enclosed areas. This item shall include any posts and footings, gates, and all accessory objects necessary to install and match the individual types of existing fences to be replaced.

This is a contingent item and payment will only be made if directed by the Project Manager. Basis for payment shall be per Linear Foot of fence replaced.

ITEM NO. 6320 ABANDON WASTEWATER LIFT STATION

This item consists of Abandoning Lift Station(s).

This item includes furnishing all labor, equipment, supervision, tools, miscellaneous items, barricading, and all incidentals required to perform the work as specified.

Payment will be made at the Lump Sum cost as set forth in the contract.

ITEM NO. 6321 PUMP, MOTOR, AND VARIABLE SPEED DRIVE

This item consists of furnishing and placing Pump, Motor, and Variable Speed Drive at Lift Station as specified in Part T - Technical Specifications.

This item to include furnishing all labor, equipment, supervision, tools miscellaneous items, and all incidentals required to perform the work as specified.

Payment will be made at the Lump Sum cost as set forth in the contract.

ITEM NO. 6322 WASTEWATER LIFT STATION

This item consists of constructing ___ Each Wastewater Lift Station in accordance to Items 2.2 7.1.3 7.2.3 7.3 7.4 7.4.6 7.5 7.6 7.9 8.1 8.3 8.9 8.10 8.11 8.13 and of these specifications and addenda thereto.

This item to include the plastic liner, all pumps, base elbows, ___" discharge pipe, ___" gate valves, ___" check valves, access frame and covers, lever sensors, electrical wiring and conduit, service pole, chain link fence, barricading, and all other equipment and material pertinent to the lift station accessibility and operation.

The pumps and electrical wiring shall be in accordance with Part T - Technical Specifications.

Measurement and payment shall be in accordance with Items 7.1.4 7.3.8 7.4.9 7.6.15 7.9.6 8.1.3 8.3.4 8.9.5 8.11.4 , and 8.13.4 of these specifications and addenda thereto.

ITEM NO. 6400 ___" GATE VALVE – CCW OPEN FOR RECYCLED WASTEWATER

This item consists of furnishing and placing approximately ___ Each ___" Counter-clockwise Opening Gate Valve for Recycled Wastewater mains in accordance with Items 6.7.3.(k) and 2.13.1 , of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.3.(k)(3) of these specifications.

Use this item for all valves on reclaimed/Recycled Wastewater lines. If a valve placement requires installation of a manhole, the manhole will be paid for under bid item 5160. Use the following for size indicators:

F = 4" Gate Valve

AA = 36" Gate Valve

H = 6" Gate Valve

AC = 42" Gate Valve

J = 8" Gate Valve

AE = 48" Gate Valve

K = 10" Gate Valve

L = 12" Gate Valve

Q = 16" Gate Valve

R = 18" Gate Valve

S = 20" Gate Valve

V = 24" Gate Valve

Y = 30" Gate Valve

ITEM NO. 6800 PROJECT PARTNERING

This item is intended for compensating the Contractor for all costs to implement Project Partnering as detailed in the technical specifications.

This item to include hiring a third party facilitator, travel and lodging expenses, meeting room rental, program materials, reproduction costs and all costs associated with Contractor's own personnel, Subcontractors and Suppliers participating in partnering.

Payment for this item shall be Lump Sum.

This item is to be included in all DWU CITY contracts with an estimated cost of \$500,000.00 or more.

ITEM NO. 6870 MOVE IN AND MOVE OUT

This item is intended for compensating the Contractor for Move In and Move Out, completely off the limits of this project.

This is a contingent item and payment will be made at the direction of the Project Manager.

This item is used when a section of R.O.W. has not been obtained at design time, but is anticipated that it will be by work order date. In the event it is not obtained, the Contractor will be paid under this bid item to move his equipment from the job and return when R.O.W. is clear.

ITEM NO. 6875 MOVE TO ANOTHER LOCATION

This item is intended for compensating the Contractor for Moving from One Location to Another specified Location within the project limits.

This is a contingent item and payment will be made at the direction of the Project Manager.

This item is similar to Item No. 6870, except that the Contractor is allowed to complete work in one section of the project, and move to another location within the project and continue work.

ITEM NO. 6900 PLACEMENT OF GRASS SODDING

This item consists of furnishing and placing approximately __ Square Yards of Grass Sodding in accordance with Items 3.9.1 , 3.9.2 , and 3.9.3.(b) of these specifications and addenda thereto.

This is a contingent item and payment will be made, if placement is directed by the Project Manager.

Measurement will be specified as ditch width and the length measured in Linear Feet.

Payment will be in accordance with Item 3.9.4 of these specifications.

This item will normally result as a requirement of Inspection personnel through their plan review or as requested by the Parks and Recreation Department, as a part of their easement agreement.

ITEM NO. 6901 PLACEMENT OF SPOT SODDING

This item consists of furnishing and placing approximately __ Square Yards of Spot Sodding in accordance with Items 3.9.1 , 3.9.2 , and 3.9.3.(a) of these specifications and addenda thereto.

This is a contingent item and payment will be made, if placement is directed by the Project Manager.

Measurement will be specified as ditch width and the length measured in Linear Feet.

Payment will be in accordance with Item 3.9.4 of these specifications.

This item will normally result as a requirement of Inspection personnel through their plan review or as requested by the Parks and Recreation Department, as a part of their easement agreement.

ITEM NO. 6902 PLACEMENT OF BLOCK SODDING

This item consists of furnishing and placing approximately __ Square Yards of Block Sodding in accordance with Items 3.9.1 , 3.9.2 , and 3.9.3.(b) of these specifications and addenda thereto.

This is a contingent item and payment will be made, if placement is directed by the Project Manager.

Measurement will be specified ditch width with the length measured in Linear Feet.

Payment will be in accordance with Item 3.9.4 of these Specifications.

This is the normal bid item used when in residential areas. It is used on CITY contracts only, since JOINT contract items contain sod replacement within their description. If other than ditch width is calculated, a special provision is written stating where the extra amount is planning to be used.

ITEM NO. 6903 PLACEMENT OF SPRIGS

This item consists of furnishing and placing approximately __ Square Yards of Sprigs in accordance with Special Provision S-__.

This is a contingent item and payment will be made, if placement is directed by the Project Manager.

Measurement will be specified as ditch width and the length measured in Linear Feet.

Payment will be in accordance with Item 3.9.4 of these specifications.

This item will normally result as a requirement of Inspection personnel through their plan review, or as requested by the Parks and Recreation Department, as a part of their easement agreement. A special provision will be included along with this item in the contract documents.

ITEM NO. 6904 HYDROMULCH

This item consists of furnishing and placing approximately __ Square Yards of Seed by Hydromulch in accordance with these specifications and addenda thereto. Hydromulch shall be in accord with Items 2.15.2 , 3.10.3 , 3.10.7 , 3.11.1 , and 3.11.2 of these specifications.

This item shall include all labor, tools, transportation, materials, (including topsoil, seed and fertilizer), equipment, supervision, and incidentals required to establish a grass turf as specified in Special Provisions S-__.

Measurement and payment will be in accordance with Items 3.10.8 and 3.11.3 of these specifications and addenda thereto.

This item will normally result as a requirement of Inspection personnel through their plan review, or as requested by the Parks and Recreation Department, as a part of their easement agreement. The limits of the Hydromulch will be shown on the plans and in a Special Provision further describing the Hydromulch procedure.

ITEM NO. 6905 PLACEMENT OF SEED

This item consists of furnishing and placing approximately __ Square Yards of Seed in accordance with Items 3.10.1 , 3.10.2 , and 3.10.3 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 3.10.8 of these Specifications.

This is normally used in areas that are rural in nature, or when crossing Park Department property where seeding is required. Some contracts will contain a portion requiring sodding and another requiring seeding. Quantity calculations vary from job to job and may require use of a written special provision in the contract. Seeding cannot be placed in winter months.

ITEM NO. 6907 FERTILIZER

This item consists of furnishing and placing approximately __ Tons of Fertilizer having the analysis shown on the plans in accordance with Item 3.11 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 3.11.3 of these specifications

This item will normally result as a requirement of Inspection personnel through their plan review, or as requested by the Parks and Recreation Department, as a part of their easement agreement. Fertilizer cannot be placed in winter months.

ITEM NO. 6908 PLACE BRICK PAVING

This item consists of furnishing and placing approximately __ Square Yards of Brick Paving Replacement. See Part - T Technical Specifications of the contract.

Measurement and payment shall include all labor, materials, and equipment necessary to replace paving based on the maximum permissible ditch width plus two feet for the specified conduit or as directed by the Project Manager.

This item must also contain in the contract documents a technical section for type of brick, material, and method of replacement.

ITEM NO. 6909 PLACE BRICK SIDEWALK

This item consists of furnishing and placing approximately __ Square Yards of Brick Sidewalk Replacement. See Part - T Technical Specifications of the contract.

Measurement and payment shall include all labor, materials, and equipment necessary to replace sidewalk based on the maximum permissible ditch width plus two feet for the specified conduit or as directed by the Project Manager

This item must also contain in the contract documents a technical section for type of brick, material, and method of replacement.

ITEM NO. 6910 COBBLESTONE SIDEWALK PAVERS

This item consists of removing and replacing approximately __ Square Yards of Cobblestone Sidewalk Pavers in areas specified on the plans.

This item shall include all materials, equipment, and labor required to remove and salvage the cobblestones, saw cut and remove the underlying concrete base material, and when the new main has been accepted, dowel into the existing concrete base, pour new concrete base, install the sand bedding and reset the cobblestones, maintaining the same color patterns, configurations, and grade as currently exists. Cobblestones that are damaged during this process shall be replaced with like kind and color at the Contractor's expense.

Measurement and payment shall be in Square Yards of completed and accepted work. Payment shall be limited to a maximum of ditch width plus four feet, in accordance with Item 6.2.12 of these specifications and addenda thereto.

Details for this bid item can be found on the original paving construction plans for Main Street 311D-3225.

ITEM NO. 6911 CORSOL\BRICK INTERSECTION PAVERS

This item consists of removing and replacing approximately __ Square Yards of Corsol\Brick Intersection Pavers in areas specified on the plans.

This item shall include all materials, equipment, and labor required to remove and salvage the pavers, saw cut and remove the underlying concrete base material, and when the new main has been accepted, dowel into the existing concrete base, pour new concrete base, install the sand bedding and reset the pavers, maintaining the same color patterns, configurations, and grade as currently exists. Pavers that are damaged during this process shall be replaced with like kind and color at the Contractor's expense.

Measurement and payment shall be in Square Yards of completed and accepted work. Payment shall be limited to a maximum of ditch width plus four feet, in accordance with Item 6.2.12 of these specifications and addenda thereto.

Details for this bid item can be found on the original paving construction plans for Main Street 311D-3225.

ITEM NO. 6920 TELEVISION INSPECTION

This item consists of performing a Television Inspection on approximately __ Linear Feet of Wastewater Main in accordance with Item 6.7.2.(c) of the DWU Addendum to the Standard Specifications for Public Works Construction.

Payment will be allowed only for inspections made to a particular section of main in accordance with Item 6.7.2(c)(10) of the DWU Addendum to the Standard Specifications for Public Works Construction.

This is used for CITY contracts and is normally calculated for the entire length of wastewater main being installed.

ITEM NO. 6921 TELEVISION INSPECTION

This item consists of performing a Television Inspection on approximately __ Linear Feet of Wastewater Main in accordance with Item 6.7.2.(c) of the DWU Addendum to the Standard Specifications for Public Works Construction.

Payment will be allowed for two inspections made to a particular section of main in accordance with Item 6.7.2.(c)(10) of the DWU Addendum to the Standard Specifications for Public Works Construction.

This is used for JOINT (Advance of Paving) contracts and is normally calculated as twice the entire length of wastewater main being installed. The main is televised twice; once after backfilling is completed and again prior to paving operations to check for possible damage caused by another Contractor.

ITEM NO. 6925 TRENCH EXCAVATION SAFETY AND SUPPORT

This item consists of Trench Excavation Safety and Support for approximately __ Linear Feet of trench in accordance with the Occupational Safety and Health Administration Standards 1926.652 “Requirements for Protective Systems”.

Trench Excavation Safety and Support shall be measured along the centerline of the trench where trench is sloped to maintain angle of repose, a trench box is utilized or trench is shored. Payment shall be allowed for all section of trench regardless of depth.

This is a requirement for all contracts with water and wastewater mains or fire hydrant leads. The footage of mains and fire hydrant leads installed, minus the total length of any BOTOE footage, should equal the quantity of this item in LF. This item is included in the descriptions of water services and wastewater laterals items.

ITEM NO. 6930 ___ ___" CLOSURE SECTION

This item consists of furnishing and placing approximately ___ Each ___" Closure Section.

This item shall include the flanged outlet on the closure section and all fittings required to complete the installation.

This is a contingent item to be used and paid for only if directed by the Project Manager.

This item is to be used on all concrete water mains, which are built, tested, and then connected into the existing system or another newly constructed main. Use the following for size indicators:

Q = 16" Closure Section

AC = 42" Closure Section

S = 20" Closure Section

AE = 48" Closure Section

V = 24" Closure Section

AF = 54" Closure Section

Y = 30" Closure Section

AG = 60" Closure Section

AA = 36" Closure Section

AH = 66" Closure Section

ITEM NO. 6940 BASE PREPARATION

This item consists of preparing and placing approximately ___ Square Yards of Base Materials for Type A Paving Repair in accordance with Special Provision S-___.

This item will be used to repair existing base failures prior to installing the new paving material. It is normally requested by Inspection personnel, during the review process, or by the Street Department. A special provision is to describe specific base material to use and depth to be placed.

ITEM NO. 6941 LIME TREATED BASE

This item consists of furnishing and placing approximately ___ Square Yards of Lime Treated Base in accordance with Item 4.6 of these specifications and addenda thereto.

This item shall be a Commercial Lime Slurry, 6" in depth, with a 6% lime content. Quick Lime will not be allowed.

Measurement and payment will be in accordance with Item 4.6.7 of these specifications.

This item is sometimes used when lime treated base is already in existence. It may be required by another agency.

ITEM NO. 6942 STREET SURFACE MILLING

This item consists of Street Surface Milling approximately ___ Square Yards in preparation for asphalt resurfacing of existing concrete streets in accordance with the Special Provisions.

This item shall include all labor, materials, and equipment necessary to complete the street surface milling.

ITEM NO. 6950 GABIONS FOR SLOPE PROTECTION

This item consists of furnishing and placing approximately __ Cubic Yards of Gabion Structures for slope protection in accordance with Items 2.24.2 and 2.24.3 of these specifications and addenda thereto, and the applicable Standard Appurtenance sheets.

Gabions shall be measured and paid for at contract Unit Price per Cubic Yard of completed and accepted work.

This bid item is very specific and must contain a detailed drawing of the type and placement of gabion to be used. The limits of the gabions are detailed on the plans.

ITEM NO. 6960__ REMOVE __" INTERNAL TEST PLUG

This item consists of removing __ Each __" Internal Test Plug.

Measurement and payment shall include all labor, materials, and equipment necessary for dewatering and removal of the test plug.

An internal test plug will be designed into the concrete water main as required, and as indicated on the plan. The removal of this plug is a separate bid item.. Use the following for size indicators:

<i>Q = 16" Internal Test Plug</i>	<i>AC = 42" Internal Test Plug</i>
<i>S = 20" Internal Test Plug</i>	<i>AE = 48" Internal Test Plug</i>
<i>V = 24" Internal Test Plug</i>	<i>AF = 54" Internal Test Plug</i>
<i>Y = 30" Internal Test Plug</i>	<i>AG = 60" Internal Test Plug</i>
<i>AA = 36" Internal Test Plug</i>	<i>AH = 66" Internal Test Plug</i>

ITEM NO. 6970 PIPE TO SOIL POTENTIAL MONITORING STATION

This item consists of furnishing and placing approximately __ Each Pipe to Soil Monitoring Station as specified on the attached detail. Exact placement shall be as directed by the Project Engineer.

This item is to include all costs for labor, materials, incidentals, and taps necessary to complete the work.

This item is required on all concrete water mains. A detailed drawing is required on the plans.

ITEM NO. 6980__ " ENCASEMENT THROUGH STORM SEWER

This item consists of furnishing and placing approximately __ Linear Feet of __" Encasement Pipe Through Proposed Reinforced Concrete Storm Sewer.

Measurement and payment shall be per Linear Foot at contract Unit Price, for complete in place and accepted work. The __" carrier pipe is not to be included in this item.

This bid item is normally used when a wastewater main must pass through an existing storm sewer pipe. Ductile iron pipe is normally used for the encasement pipe. Use the following for size indicators:

<i>J = 8" Encasement Pipe Through Storm Sewer</i>
<i>L = 12" Encasement Pipe Through Storm Sewer</i>
<i>Q = 16" Encasement Pipe Through Storm Sewer</i>
<i>S = 20" Encasement Pipe Through Storm Sewer</i>
<i>V = 24" Encasement Pipe Through Storm Sewer</i>

ITEM NO. 6990__ __" GATE VALVE REPLACEMENT

This item consists of furnishing and placing approximately __ Each __" Gate Valve Replacement in accordance with Items 6.7.3.(k) and 2.13.1 , of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the removal of the existing valve, placing one cut-in valve, and furnishing and placing __ manholes. This item, also, to include all fittings and polywrap in accordance with Items 6.7.3 and 2.12.8 of these specifications and addenda thereto; trench safety and support in accordance with Occupational Safety and Health Administration Standards 1926.652 “Requirements for Protective Systems”; embedment in accordance with Items 2.1.8.(b) , 6.3.1 , 2.1.8.(d) , 6.2.12 , and 6.3.2 of these specifications; cement stabilized sand backfill in accordance with Items 6.2.10.(b) of these specifications; sand backfill in accordance with Items 6.2.10.(f) and 2.1.8.(f) of these specifications; temporary pavement in accordance with Items 6.5.2 and 5.7 of these specifications; and permanent paving in accordance with Items 6.5.2 , 5.7 , and 2.4.13 . All barricading necessary for this item is included in this item.

Payment will be Lump Sum for complete in place and accepted work.

This Item is used on CITY contracts when replacing existing valves. Manholes are included in this item.

Use the following for size indicators:

H = 6" Gate Valve Replacement

J = 8" Gate Valve Replacement

K = 10" Gate Valve Replacement

L = 12" Gate Valve Replacement

E = 16" Gate Valve Replacement

F = 18" Gate Valve Replacement

S = 20" Gate Valve Replacement

V = 24" Gate Valve Replacement

Y = 30" Gate Valve Replacement

AA = 36" Gate Valve Replacement

AC = 42" Gate Valve Replacement

AE = 48" Gate Valve Replacement

ITEM NO. 6995 ___ ___" GATE VALVE REPLACEMENT (CITY FURNISHED VALVE)

This item consists of placing approximately ___ Each City Furnished ___" Gate Valve in accordance with Items 6.7.3.(k) and 2.13.1 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This item to include the removal of the existing valve, placing one cut-in valve, and furnishing and placing ___ manholes. This item, also, to include all fittings and polywrap in accordance with Items 6.7.3 and 2.12.8 of these specifications and addenda thereto; trench safety and support in accordance with Occupational Safety and Health Administration Standards 1926.652 "Requirements for Protective Systems"; embedment in accordance with Items 2.1.8.(b) , 6.3.1 , 2.1.8.(d) , 6.2.12 , and 6.3.2 of these specifications; cement stabilized sand backfill in accordance with Item 6.2.10.(b) of these specifications; sand backfill in accordance with Items 6.2.10.(f) and 2.1.8.(f) of these specifications; temporary pavement in accordance with Items 6.5.2 and 5.7 of these specifications; and permanent paving in accordance with Items 6.5.2 , 5.7 , and 2.4.13 . All barricading necessary for this item is included in this item.

Payment will be Lump Sum for complete in place and accepted work.

This item is used on CITY contracts when replacing existing City furnished valves. Manholes are included in this item. Use the following for size indicators:

<i>H = 6" Gate Valve Replacement (City Furn)</i>	<i>S = 20" Gate Valve Replacement (City Furn)</i>
<i>J = 8" Gate Valve Replacement (City Furn)</i>	<i>V = 24" Gate Valve Replacement (City Furn)</i>
<i>K = 10" Gate Valve Replacement (City Furn)</i>	<i>Y = 30" Gate Valve Replacement (City Furn)</i>
<i>L = 12" Gate Valve Replacement (City Furn)</i>	<i>AA = 36" Gate Valve Replacement (City Furn)</i>
<i>E = 16" Gate Valve Replacement (City Furn)</i>	<i>AC = 42" Gate Valve Replacement (City Furn)</i>
<i>F = 18" Gate Valve Replacement (City Furn)</i>	<i>AE = 48" Gate Valve Replacement (City Furn)</i>

ITEM NO. 7030 ROCK FOUNDATION

This item consists of furnishing and placing approximately __ Cubic Yards of Rock Foundation at locations approved by the Project Manager, in accordance with Items 6.3.1 and 2.1.8.(d) of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 6.3.2 of these specifications.

This item is used as a support for water and wastewater mains when unstable material is found in or below the embedment zone. If used it is normally placed in depths from 12" to 36" below the embedment zone. A rule of thumb is to calculate ditch width @ 12" thickness for 10% of the total pipe length of wastewater mains, and about half that for water mains. This will be included as a contingency item on all contracts.

$$CY = \frac{(\text{LF of pipe})(\text{Ditch Width})(\text{Depth})(F)}{(27 \text{ CF/CY})}$$

Where:

F = 0.05 (5%)(water mains)

F = 0.10 (10%)(wastewater mains)

ITEM NO. 7040 STABILIZED BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Stabilized Backfill in accordance with Item 6.2.10.(b) of these specifications and addenda thereto, and as shown on the plans and detailed on the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Items 6.2.11 and 6.2.12 of these specifications.

This item is used as a stabilizing material in the space above the embedment zone to the ground surface. It can be used in water or wastewater main construction. The limits must be shown on the plans.

$$CY = \frac{(\text{LF of pipe})(\text{Ditch Width})(\text{Depth from top of embedment to ground line})}{(27 \text{ CF/CY})}$$

ITEM NO. 7041 FLOWABLE BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Flowable Backfill in accordance with Items 6.2.10.(g) and 2.1.5.(e) of these specifications and addenda thereto.

This is a contingent item and placement shall be made only as directed by the Project Manager.

Measurement and payment shall be at the contract Unit Price per Cubic Yard for completed and accepted work.

This bid item is used to provide a stabilizing material in the space above the embedment zone as in Item No. 7040, but has a compressive strength of between 250 PSI and 450 PSI after 28 days. It can be used for both water and wastewater mains. It is normally an item requested by Inspection personnel during the review process.

ITEM NO. 7042 MODIFIED FLOWABLE BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Modified Flowable Backfill in accordance with Items 6.2.10.(h) and 2.1.5.(f) of these specifications and addenda thereto.

This is a contingent item and placement shall be made only as directed by the Project Manager.

Measurement and payment shall be at the contract Unit Price per Cubic Yard for completed and accepted work.

This bid item is used to provide a stabilizing material in the space above the embedment zone as in Item No. 7040, but has a compressive strength of between 50 PSI and 150 PSI after 28 days. It can be used for both water and wastewater mains. It is normally an item requested by Inspection personnel during the review process.

ITEM NO. 7043 FOUR “F” FLOWABLE BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Four “F” Flowable Backfill in accordance with Item 6.2.10.(g) of these specifications and addenda thereto.

This is a contingent item and placement shall be made only as directed by the Project Manager.

Measurement and payment shall be at the contract Unit Price per Cubic Yard for completed and accepted work.

This bid item is used to provide a stabilizing material in the space above the embedment zone as in Item No. 7040, but has a compressive strength of between 25 PSI and 100 PSI after 28 days. It can be used for both water and wastewater mains. It is normally an item requested by Inspection personnel during the review process.

**ITEM NO. 7044 FOUR “F” FLOWABLE BASE - HIGH STRENGTH,
FAST SET**

This item consists of furnishing and placing approximately __ Cubic Yards of Four “F” Flowable Base-High Strength, Fast Set in accordance with Items 6.2.10.(g) and 2.1.5.(e) of these specifications, Dallas Street Cut Standard Manual, and addenda thereto.

This is a contingent item and placement shall be made only as directed by the Project Manager.

Measurement and payment shall be at the contract Unit Price per Cubic Yard for completed and accepted work. The price per unit of volume will remain the same, regardless of the volume used.

This bid item is used to provide a stabilizing material in the space above the embedment zone as in Item No. 7040, but has a compressive strength of between 300 PSI and 500 PSI after 28 days. It can be used for both water and wastewater mains. It is normally used as the base material under asphalt pavement.

ITEM NO. 7050 SAND BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Sand Backfill at locations approved by the Project Manager, in accordance with Items 6.2.10.(f) and 2.1.8.(f) of these specifications and addenda thereto.

This is a contingent item to be used and paid for only as directed by the Project Manager.

Measurement and payment will be in accordance with Item 6.3.12.(b)(2) of these specifications. The price per unit of volume will remain the same, regardless of the volume used.

A contingency volume of sand as a General Item will be determined by the Project Manager on a contract by contract basis. Do not calculate a quantity by pipe length for individual pipeline segments.

ITEM NO. 7051 TOPSOIL

This item consists of furnishing and placing approximately __ Square Yards of Topsoil in accordance with Part P-__ Park Department Specifications and Item 3.8 of these specifications, and addenda thereto.

Payment will be made for topsoil salvaged, and all salvaged topsoil shall be used before any topsoil may be brought in. The basis of payment will be on the maximum permissible width of ditch as specified for type of kind of conduit to be constructed, as shown on the plans or Standard Appurtenance Sheets, plus two feet. This item to include all items required to furnish and place the topsoil under Section 0201 of the Part P-__ Park Department Specifications.

Measurement and payment will be in accordance with Item 3.8.3 of these specifications.

This item is sometimes required when crossing Parks and Recreation Department property. The Parks and Recreation Department specifications are always included with the contract documents.

ITEM NO. 7052 CEMENT TREATED BASE BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Cement Treated Base Backfill in accordance with Item 6.2.9 of these specifications, Part T - Technical Specifications, Special Provision S-__, and addenda thereto.

Measurement and payment will be in accordance with Items 6.2.11 and 6.2.12 of these specifications and will include all materials, tools, labor and incidentals necessary to complete the work.

Cement Treated Base is sometimes used in lieu of stabilized or concrete backfill. CTB has a special design mix and the technical specifications must always be included with the contract documents.

ITEM NO. 7053 CEMENT STABILIZED SAND BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Cement Stabilized Sand Backfill in accordance with Part T - Technical Specifications and addenda thereto.

Measurement and payment above the pipe shall be at the trench width in accordance with Item 6.2.12 of these specifications and the addenda thereto. Measurement and payment in other areas where placement is directed will be at the contract Unit Price per Cubic Yard of completed and accepted work.

This bid item may, at the discretion of the Engineer, be used in lieu of Item No. 7044 above the pipe in areas designated on the plans, or in locations as directed by the Engineer.

ITEM NO. 7060 CONCRETE BACKFILL

This item consists of furnishing and placing approximately __ Cubic Yards of Concrete Backfill in accordance with Item 6.2.10.(c) of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Concrete backfill will be placed above the Class “G” embedment to the top of the existing rock line. If the rock line is below the existing ground line, the trench above the rock line shall be backfilled with trench-excavated material, and the Class “B” concrete cap will not be required.

Measurement and payment will be in accordance with Items 6.2.11 and 6.2.12 of these specifications.

This item is normally used for stabilizing the space between the Class “G” embedment and the 6" thick Class “B” concrete cap when Class “G-1” embedment is required in wastewater mains. The difference between this item and stabilized backfill is that native soils may not be used with this two-sack mix. Rock or granular material must not be used in the mix. The formula for calculating quantities is:

$$CY = \frac{(\text{LF of pipe})(\text{Ditch width})(\text{Depth from top of embedment to ground line})}{(27 \text{ CF/CY})}$$

ITEM NO. 7070 CLASS “A” CONCRETE

This item consists of furnishing and placing approximately __ Cubic Yards of Class “A” Concrete in accordance with Items 6.3.1 , 6.7.3.(r) , and 7.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.3.2 or 6.7.3.(r) of these specifications.

This item is a 4000-PSI concrete.

ITEM NO. 7071 CLASS “B” CONCRETE

This item consists of furnishing and placing approximately __ Cubic Yards of Class “B” Concrete in accordance with Items 6.3.1 , 6.7.3.(r) , and 7.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.3.2 or 6.7.3.(r) of these specifications.

This item is 2000-PSI concrete, normally used in blocking. Always calculate the worst case for blocking. Use earth, not rock, for material type, and the next higher degree bend when using odd angle bends. In addition, when using combination angle bends, the bend type will be vertical bends.

ITEM NO. 7072 CLASS “C” CONCRETE

This item consists of furnishing and placing approximately __ Cubic Yards of Class “C” Concrete in accordance with Items 6.3.1 , 6.7.3.(r) , and 7.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.3.2 or 6.7.3.(r) of these specifications.

This item is 3600-PSI concrete.

ITEM NO. 7073 CLASS "D" CONCRETE

This item consists of furnishing and placing approximately __ Cubic Yards of Class "D" Concrete in accordance with Items 6.3.1 , 6.7.3.(r) , and 7.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.3.2 or 6.7.3.(r) of these specifications.

This item is 500-PSI concrete.

ITEM NO. 7074 CLASS "E" CONCRETE

This item consists of furnishing and placing approximately __ Cubic Yards of Class "E" Concrete in accordance with Items 6.2.5.(e) , 6.7.1.(d) , and 7.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.7.1.(d) of these specifications.

This item is 3000-PSI concrete for Type "A" utility supports. Utility supports are required when a proposed main crosses under an existing utility or other structure within ~4' (vertically). The quantity is calculated using the following:

$$CY = \frac{(\text{Ditch width}+2')(12" \text{ minimum thickness})(\text{Width of utility being crossed 'the horizontal section'})}{(27 \text{ CF/CY})}$$

The vertical columns are calculated, at a minimum:

$$CY = \frac{(12\text{in}/\text{ft})(12\text{in}/\text{ft})(\text{Length required})}{(27 \text{ CF/CY})}$$

ITEM NO. 7075 CLASS "F" CONCRETE

This item consists of furnishing and placing approximately __ Cubic Yards of Class "F" Concrete in accordance with Items 6.3.1 , 6.7.3.(r) , and 7.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.3.2 or 6.7.3.(r) of these specifications.

This item is 4200-PSI concrete.

ITEM NO. 7076 CLASS "H" CONCRETE

This item consists of furnishing and placing approximately __ Cubic Yards of Class "H" Concrete in accordance with Items 6.3.1 , 6.7.3.(r) , and 7.4 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

Measurement and payment will be in accordance with Item 6.3.2 or 6.7.3.(r) of these specifications.

This item is a prestressed concrete, and is to be specified on the plans.

ITEM NO. 7090 FURNISH AND PLACE RIP RAP

This item consists of furnishing and placing approximately ___ Square Yards of Rip Rap in accordance with Items 8.15.3.(a) and 2.1.6 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This is not to include Stabilized Backfill, which is a separate bid item.

Measurement and payment will be in accordance with Item 8.15.4 of these specifications.

This item is used to indicate any type of riprap, other than that shown in DWU Standard Drawing No. 120, which is Item No. 7095 Dry Rip Rap, Type A.

ITEM NO. 7095 FURNISH AND PLACE DRY RIP RAP (TYPE A)

This item consists of furnishing and placing approximately ___ Square Yards of Rip Rap in accordance with Items 8.15.3.(a) and 2.1.6 of these specifications and addenda thereto, and the applicable Standard Appurtenance Sheets.

This is not to include Stabilized Backfill, which is a separate bid item.

Measurement and payment will be in accordance with Item 8.15.4 of these specifications.

The dimensions must be shown on the plans for the limits, both horizontally and vertically. The minimum thickness is 12". The quantity is calculated by the SY area of that is detailed in the plan view. Whatever is shown on the plans will be calculated in SY and shown on the estimate. Stabilized backfill will be calculated and shown as the bid item for stabilized backfill.

ITEM NO. 7520 TEMPORARY PAVING (HOT MIX OR HIGH PERFORMANCE MIX)

This item consists of furnishing, placing, and removing approximately ___ Tons of Hot or High Performance Mix Asphalt Pavement for Temporary Paving, as authorized by the Engineer. Hot Mix Asphalt shall conform to Items 2.4.13 and 2.4.15 of these specifications. Hot or High Performance Mix shall be placed in accordance with Items 6.5.2 and 5.7 of these specifications and addenda thereto.

The method of measurement for payment will be in Tons (2,000 pounds) of material in place and accepted. The basis of payment will be based on the maximum permissible width of ditch as specified for type or kind of ___ conduit to be constructed as shown on the plans or Standard Appurtenance sheet, and a compacted thickness of 1" over flexible base or 2" over compacted fill.

This item is used for temporary paving, only on CITY contracts. This item requires Item 7560 Crushed Rock for Paving Repairs (Ditch Line Temporary Paving) on CITY contracts. Asphalt is calculated in Tons based on 1" compacted thickness, weighing 110 pounds per square yard. Always make bid quantity calculations based on (220 lbs/SY) using the formula:

$$\text{TON} = \frac{(\text{LF of pipe})(\text{Ditch width})(220 \text{ lbs/SY})}{(9 \text{ SF/YD})(2000 \text{ lbs/ton})}$$

ITEM NO. 7525 FLEX BASE (CRUSHED ROCK) ALLEY SURFACE

This item consists of removing existing alley surface, furnishing and placing approximately ___ Cubic Yards of Crushed Rock (Flexible Base) for final alley driving surface as authorized by the Project Manager in accordance with Items 6.5.2, 4.5, and 2.1.3.(b) of these specifications and addenda thereto.

This item also includes haul off of spoil, grading, blading, hauling, spreading, and compacting the material. Item 1.37.1 of these specifications does not apply to this bid item.

The basis of payment will be based on the maximum permissible depth of 8" of compacted stone by approximately 10' wide or as specified by the Project Manager.

This item will be used on CITY contracts for all alleys with no permanent paving. For 10' alleys calculate for the entire width. For alleys greater than 10' width, make bid quantity calculations using the formula:

$$\text{CY} = \frac{(\text{LF of Pipe})(\text{Ditch width})(\text{Thickness})}{(27 \text{ CF/CY})}$$

ITEM NO. 7530 CONCRETE CURB AND/OR GUTTER

This item consists of furnishing and placing approximately __ Linear Feet of Concrete Curb and/or Gutter in accordance with Items 6.5.2.(b) and 8.2 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Items 6.5.2.(b) and 6.5.3 of these specifications.

This item should be mainly used on CITY contracts where the installation of a water or wastewater main requires removal of existing curb and/or gutter. Even if the proposed main installation is not anticipated to disturb any existing curb and/or gutter, approximately 20 LF per City block shall be added to allow for a contingency item.

ITEM NO. 7531 ASPHALT CURB AND/OR GUTTER

This item consists of furnishing and placing approximately __ Linear Feet of Asphalt Curb and/or Gutter in accordance with Items 6.5.2, 5.7, and 2.14.13 of these specifications and addenda thereto.

The Asphalt Curb and/or gutter will consist of Hot Mix Asphalt and conform to Item 2.4.13 of these specifications.

Measurement and payment will be in accordance with Items 6.5.2.(d)(e) or (f), and 6.5.3 of these specifications.

This item should be used to match existing asphalt curb and/or gutter removed during water and wastewater construction.

ITEM NO. 7532 CONCRETE GUTTER

This item consists of furnishing and placing approximately __ Linear Feet of Concrete Gutter in accordance with Items 6.5.2.(b) and 8.2 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Items 6.5.2.(b) and 6.5.3 of these specifications.

There are some locations throughout the city, which have streets with no curbs, only gutters. If replacing this type of gutter, the dimensions and thickness for replacement are to be indicated on the plans.

ITEM NO. 7540 CONCRETE CURB

This item consists of furnishing and placing approximately __ Linear Feet of Concrete Curb in accordance with Items 6.5.2.(b) and 8.2 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Items 6.5.2.(b) and 6.5.3 of these specifications.

This item should be mainly used on CITY contracts, when replacing a curb and/or gutter in the same pour with the paving. The curb is paid in LF as a separate item. Reinforced Concrete Paving is paid to the back of curb and no gutter is paid. If a monolithic pour needs to be set up in the contract prior to advertisement, this bid item for the curb should be used. This is more common for large mains, where a wide section of street is being removed and replaced.

ITEM NO. 7545 ASPHALT CURB

This item consists of furnishing and placing approximately __ Linear Feet of Asphalt Curb in accordance with Items 6.5.2, 5.7, and 2.14.13 of these specifications and addenda thereto.

The Asphalt Curb and/or Gutter will consist of Hot Mix Asphalt and conform to Item 2.14.13 of these specifications.

Measurement and payment will be in accordance with Items 6.5.2.(d)(e) or (f), and 6.5.3, and 6.5.3 of these specifications.

This item should be used to match existing asphalt curb removed during water and wastewater construction.

ITEM NO. 7560 CRUSHED ROCK FOR TEMPORARY PAVING BASE

This item consists of furnishing and placing approximately __ Cubic Yards of Crushed Rock (Flexible Base) for Temporary Paving Base material in accordance with Items 6.5.2 , 4.5 , and 2.1.3.(b) of these specifications and addenda thereto.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width.

Measurement and payment will be in accordance with Items 6.5.2.(f) or (g) , and 6.5.3 of these specifications.

This item is used on CITY contracts, as a base material underneath Temporary Asphalt or Hot Mix Asphalt Pavement. Make bid quantity calculations using the formula:

$$\text{CY} = \frac{(\text{LF of pipe})(\text{Ditch width})(\text{Thickness})}{(27 \text{ CF/CY})}$$

ITEM NO. 7570 REINFORCED CONCRETE PAVING

This item consists of furnishing and placing approximately __ Cubic Yards of Reinforced Concrete Paving in accordance with Items 6.5.2.(c) , 2.1 , 2.2 , and 5.8 of these specifications and addenda thereto.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2 and 6.5.3 of these specifications.

This item is normally used on CITY contracts and requires Class "A" (4000-PSI) concrete. The replacement paving must be the same thickness as the existing paving, with a 6" minimum thickness. If information from probes or corings indicates a greater thickness than 6", use that thickness. The CBD requires a minimum 9" replacement thickness. Make bid quantity calculations using the formula:

$$\text{CY} = \frac{(\text{LF of pipe})(\text{Ditch width}+2')(\text{Thickness})}{(27 \text{ CF/CY})}$$

ITEM NO. 7575 TYPE 3K-2 REINFORCED CONCRETE PAVING

This item consists of furnishing and placing approximately __ Cubic Yards of Type 3K-2 Reinforced Concrete Paving in accordance with Items 6.5.2.(c) , 2.1 , 2.2 , and 5.8 of these specifications, Dallas Street Cut Standard Manual, and addenda thereto.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2 and 6.5.3 of these specifications.

This is a contingent item and placement shall be made only as directed by the Project Manager. The price per unit of volume will remain the same, regardless of the volume used.

This item is normally used on CITY contracts and requires Class "A" 4000 PSI concrete. The replacement paving must be the same thickness as the existing paving, with a 6" minimum thickness. If information from probes or corings indicates a greater thickness than 6", use that thickness. The CBD requires a minimum 9" replacement thickness. Make bid quantity calculations using the formula:

$$CY = \frac{(\text{LF of pipe})(\text{Ditch width}+2')(\text{Thickness})}{(27 \text{ CF/CY})}$$

ITEM NO. 7580 REINFORCED CONCRETE SIDEWALK

This item consists of furnishing and placing approximately __ Square Yards of Reinforced Concrete Sidewalk in accordance with Items 6.5.2 and 8.3 of these specifications and addenda thereto.

This item shall also include removal and disposal of existing sidewalk, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2 and 8.3.3 of these specifications.

This item is normally used on CITY contracts and requires 3000-PSI concrete. A small contingent quantity (1.0 SY) per contract should be included if there is a possibility of sidewalk removal and replacement. The minimum thickness is 4" and minimum width 4'.

$$SY = \frac{(\text{LF of sidewalk})(\text{Width of sidewalk})}{(9 \text{ SF/SY})}$$

ITEM NO. 7581 TEMPORARY HOT MIX ASPHALT SIDEWALK

This item consists of furnishing, placing, and removing approximately __ Square Yards of Hot Mix Asphalt for Temporary Sidewalk as authorized by the Engineer. Hot Mix shall be placed in accordance with Items 6.5.2 and 5.7 of these specifications and addenda thereto. The Hot Mix Asphalt shall conform to Item 2.14.13 of these specifications.

Measurement and payment will be in Square Yards of material in place and accepted.

This item is normally used on JOINT contracts. The minimum thickness is 4" and minimum width 4'.

$$SY = \frac{(\text{LF of sidewalk})(\text{Width of sidewalk})}{(9 \text{ SF/SY})}$$

ITEM NO. 7582 REINFORCED CONCRETE PAVING

This item consists of furnishing and placing approximately __ Square Yards of Reinforced Concrete Paving in accordance with Items 6.5.2 , 2.1 , 2.2 , and 5.8 of these specifications and addenda thereto.

This item also includes removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2 and 5.8.7 of these specifications.

This item is normally used on CITY contracts and JOINT contracts with PW&T. This item requires 4000-PSI concrete. The replacement paving must be the same thickness as the existing paving, with a 6" minimum thickness. If information from probes or corings indicates a greater thickness than 6", use that thickness. The CBD requires a minimum 9" replacement thickness. This bid item is not to be used unless the thickness being replaced is indicated on the plans, general notes, or in special provisions. Make bid quantity calculations using the formula:

$$SY = \frac{(LF \text{ of pipe})(Ditch width+2')}{(9 \text{ SF/SY})}$$

ITEM NO. 7583 REINFORCED CONCRETE DRIVEWAY

This item consists of furnishing and placing approximately __ Square Yards of Reinforced Concrete Driveway in accordance with Items 6.5.2 , 2.1 , 2.2 , and 5.8 of these specifications and addenda thereto.

This item also includes removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2 and 5.8.7 of these specifications.

This item is normally used on CITY contracts and requires 4000-PSI concrete. A small contingent quantity (5.0 SY) per contract should be included if there is a possibility of driveway removal and replacement. The replacement paving must be the same thickness as the existing paving, with a 6" minimum thickness. If information from probes or corings indicates a greater thickness than 6", use that thickness. Make bid quantity calculations using the formula:

$$SY = \frac{(LF \text{ of pipe})(Ditch width + 2')}{(9 \text{ SF/SY})}$$

ITEM NO. 7584 SLURRY SEAL SURFACE TREATMENT

This item consists of furnishing and placing approximately __ Square Yards of Slurry Seal Surface Treatment in accordance with Section 5.9 of the Dallas Water Utilities Addendum to the North Central Texas Standard Specifications for Slurry Seal.

This is a contingent item. Placement and payment shall be made only as directed by the Project Manager.

Slurry Seal shall be measured and paid for at the contract Unit Price per Square Yard on surface area of completed and accepted work.

This item is normally used for asphalt streets on CITY contracts. The entire street is treated, which seals cracks and covers up 'unsightly' lines caused by paving removal and replacement. Quantity is normally the entire street where replacement was made. A special provision must be included in all contracts containing Slurry Seal.

ITEM NO. 7585 BARRIER FREE RAMP

This item consists of constructing approximately __ Each Concrete Barrier Free (wheelchair) Ramps as specified herein and in conformity with special details.

This item shall include all necessary saw-cut, removal of existing sidewalk, curb and gutter, excavation and backfill, subgrade preparation, furnishing and placing all materials; including expansion joint materials, asphalt replacement needed to adjacent to new gutter area, and any related work for manipulation, labor, tools, equipment and incidentals.

Measurement and payment shall be at unit contract price for complete and accepted work.

This item is used on DWU CITY contracts and requires 4000-PSI concrete.

ITEM NO. 7590 REINFORCED CONCRETE DRIVEWAY

This item consists of furnishing and placing approximately __ Cubic Yards of Reinforced Concrete Driveway in accordance with Items 6.5.2 and 8.3 of these specifications and addenda thereto.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2.(b) and 6.5.3 of these specifications.

This item is normally used on CITY contracts. A small contingent quantity (1) per contract should be included if there is a possibility of driveway removal and replacement required. The minimum thickness is 6" and minimum width is ditch width plus 2'.

ITEM NO. 7600 REINFORCED CONCRETE BASE

This item consists of furnishing and placing approximately __ Cubic Yards of Reinforced Concrete Base in accordance with Items 6.5.2 , 2.1 , 2.2 , and 5.8 of these specifications and addenda thereto.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2.(d) and 6.5.3 of these specifications.

This item is normally used on CITY contracts under asphalt as a base. It consists of 4000-PSI concrete and must match the existing base, with minimum thickness of 6". Inside the CBD, use a minimum of 9" thickness. Make bid quantity calculations using the formula:

$$\text{CY} = \frac{(\text{LF of pipe})(\text{Ditch width}+2')(\text{Thickness})}{(27 \text{ CF/CY})}$$

ITEM NO. 7605 TYPE 3K-2 REINFORCED CONCRETE BASE

This item consists of furnishing and placing approximately __ Cubic Yards of Type 3K-2 Reinforced Concrete Base in accordance with Items 6.5.2 , 2.1 , 2.2 , and 5.8 of these specifications and addenda thereto.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2.(d), and 6.5.3 of these specifications.

This is a contingent item and placement shall be made only as directed by the Project Manager. The price per unit of volume will remain the same, regardless of the volume used.

This item is normally used on CITY contracts under asphalt as a base. It consists of 4000-PSI concrete and must match the existing base, with minimum thickness of 6". Inside the CBD, use a minimum of 9" thickness. Make bid quantity calculations using the formula:

$$\text{CY} = \frac{(\text{LF of pipe})(\text{Ditch width}+2')(\text{Thickness})}{(27 \text{ CF/CY})}$$

ITEM NO. 7650 PENETRATION TYPE ASPHALT REPLACEMENT

This item consists of furnishing and placing approximately __ Square Yards of Asphalt Pavement. This item shall pertain to replacing Penetration Type Pavement on Flexible Base with 1" Hot Mix Asphaltic Concrete in accordance with Items 6.5.2 , 5.7 , and 2.4.13 of these specifications or Two Course Penetration Asphalt Surface in accordance with Items 6.5.2 and 5.5 of these specifications and addenda thereto.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2.(g) and 6.5.3 of these specifications.

This seldom-used item is for CITY contracts. Rarely, when placing a new main in an existing street of this type, should Two Course Penetration be specified as a replacement. The Designer normally specifies Hot Mix as a replacement. Sometimes when the street has been shot with several layers of penetration asphalt and stone, it actually resembles more of an asphaltic concrete type of paving than penetration type. Since the quantities are in SY, the thickness (1.5") must be specified on the plans. Reinforced Concrete Base (6") must be included when using this item. Always make bid quantity calculations using the formula:

$$SY = \frac{(LF \text{ of pipe})(Ditch \text{ width}+2')}{(9 \text{ SF/SY})}$$

ITEM NO. 7655 HOT MIX ASPHALT CONCRETE PAVEMENT

This item consists of furnishing and placing approximately __ Tons of Hot Mix Asphalt Concrete Pavement in accordance with Items 6.5.2 , 5.7 and 2.4.13 of these specifications and addenda thereto. Hot Mix Asphalt shall conform to Item 2.4.13 of these specifications.

A prime coat shall be applied to a completed granular base course as described in Items 5.3 and 5.7 , at a rate of 0.25 gallons per square yard. A tack coat shall be applied to a surface of concrete, brick, or asphalt at a rate of 0.10 gallons per square yard. Prime coat and tack coat shall be not be measured for payment, but will be subsidiary to this bid item.

This item shall also include removal and disposal of existing pavement, if it lies outside of trench width plus two feet.

Measurement and payment will be in accordance with Items 6.5.2.(d) , 6.5.2.(e) , or 6.5.2.(f) , and 6.5.3 of these specifications.

This item is the most common type of asphalt replacement used for CITY contracts. It is to be installed over a 6" (minimum) Concrete Base. If the street needs repairing in several areas adjacent to the ditch line, Inspection personnel should note this during their review and add additional asphalt. Normally additional base is added if additional asphalt is added. The specifications require 1.5" thickness over Concrete Base. Always make bid quantity calculations using the formula:

$$TON = \frac{(LF \text{ of pipe})(Ditch \text{ width}+2')(220 \text{ lbs/SY})}{(9 \text{ SF/YD})(2000 \text{ lbs/ton})}$$

ITEM NO. 7700 GEOTEXTILE FABRIC (EROSION CONTROL)

This item consists of furnishing and placing approximately __ Linear Feet of Geotextile Fabric for Erosion Control in accordance with Item 2.23 of these specifications and addenda thereto.

Measurement and payment will be per Linear Foot of Geotextile Fabric in place as approved by the Project Manager.

This item is used to help prevent erosion after placement of a main. The fabric to be used must be specified in a special provision or detail drawn on the plans. The dimensions must be shown on the detail.

ITEM NO. 7701 GEOTEXTILE FABRIC (EROSION CONTROL)

This item consists of furnishing and placing approximately __ Square Yards of Geotextile Fabric for Erosion Control in accordance with Item 2.23 of these specifications and addenda thereto.

Measurement and payment will be per Square Yard of Geotextile Fabric in place as approved by the Project Manager.

This item is used to help prevent erosion after placement of a main. The fabric to be used must be specified in a special provision or detail drawn on the plans. The dimensions must be shown on the detail.

ITEM NO. 7702 GEOTEXTILE FABRIC (EMBEDMENT)

This item consists of furnishing and placing approximately __ Linear Feet of Geotextile Fabric in accordance with Item 2.23 of these specifications and addenda thereto.

Measurement and payment will be per Linear Foot of Geotextile Fabric in place as approved by the Project Manager.

This item is used to provide a material between the embedment and the surrounding soil to prevent infiltration of the embedment zone. The fabric to be used must be specified in a special provision or detail drawn on the plans. The dimensions must be shown on the detail.

ITEM NO. 7703 GEOTEXTILE FABRIC (EMBEDMENT)

This item consists of furnishing and placing approximately __ Square yards of Geotextile Fabric in accordance with Item 2.23 of these specifications and addenda thereto.

Measurement and payment will be per Square Yard of Geotextile Fabric in place as approved by the Project Manager.

This item is used to provide a material between the embedment and the surrounding soil to prevent infiltration of the embedment zone. The fabric to be used must be specified in a special provision or detail drawn on the plans. The dimensions must be shown on the detail.

ITEM NO. 7710 SILT FENCE

This item consists of furnishing and placing approximately __ Linear Feet of Geotextile Silt Fence in accordance with Item 2.23.4 and the detail sheet included in Part T - Technical Specifications.

This item to include the installation, maintenance, and removal of silt fence. Replacement of silt fence, if it is determined to be ineffective by the Engineer, will be at no additional cost to the City.

The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be in Linear Feet measured along the centerline of the fence and will include all materials and labor to install, maintain, and remove silt fence. Materials that are removed and reinstalled at another location will be paid, provided that the materials are in a satisfactory condition as determined by the owner.

This should be included in any contract as a contingency item when silt fence only is required without hay bales. 100 LF is adequate for most contracts, unless the construction is in open ground outside existing paving. A special provision outlining the Contractor's general responsibilities for providing measures to control soil erosion sediment and water pollution will be included in each contract. Each contract must include the silt fence detail sheet.

ITEM NO. 7711 SILT FENCE AND HAY BALES

This item consists of furnishing and placing approximately __ Linear Feet of Geotextile Silt Fence in accordance with Item 2.23.4 and __ Linear Feet of Hay Bales in accordance with the detail sheet provided in Part T-Technical Specifications.

This item to include the installation, maintenance, and removal of silt fence and hay bales. Replacement of silt fence and/or hay bales, if it is determined to be ineffective by the Engineer, will be at no additional cost to the City. Hay Bales shall be rectangular and shall have minimum dimensions of 14"W x 18"H x 36"L.

The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be in Linear Feet measured along the centerline of the silt fence and hay bales and will include all materials and labor to install, maintain, and remove hay bales. Materials that are removed and reinstalled at another location will be paid, provided that the materials are in a satisfactory condition as determined by the owner.

This should be included as a contingency item only if Item No. 7712 or Item No. 7713 is not used. 100 LF of silt fence and 100 LF of hay bales are adequate for most contracts, unless the construction is in open ground outside existing paving. A special provision outlining the Contractor's general responsibilities for providing measures to control soil erosion sediment and water pollution will be included in each contract. Each contract must also include the silt fence and hay bales detail sheet.

ITEM NO. 7712 STORM WATER POLLUTION PREVENTION PLAN

This item is to reimburse the Contractor for costs to implement the Storm Water Pollution Prevention Plan. Modification to the SWPPP or additional control items required by the Engineer will be at no additional cost.

This item to include all equipment, materials, labor, and maintenance necessary to control storm water pollution.

Payment will be Lump Sum for complete, in place, maintained, removed, and accepted work.

This item is used on CITY contracts, unless advised otherwise, and any JOINT contract whereby the Public Works agency does not include a bid item or special provision for a Storm Water Pollution Prevention Plan, if the disturbed area is greater than five acres. The Storm Water Pollution Prevention Plan must be shown as part of the bid documents (usually as a sheet in the plans). It is not necessary to specify hay bales or silt fences when using this item since the bid item includes all pollution control devices.

ITEM NO. 7713 EROSION CONTROL

This item is to reimburse the Contractor for costs to install pollution control devices to prevent sediment from entering the storm water system or waterway. Modifications or additions to the control measures used as directed by the Engineer will be at no additional cost.

This item to include all equipment, materials, labor, and maintenance necessary to control storm water pollution.

Payment will be Lump Sum for complete, in place, maintained, removed, and accepted work.

This item is used on CITY contracts, unless advised otherwise, and any JOINT contract whereby the Public Works agency does not include a bid item or special provision for Erosion Control, if the disturbed area is less than five acres. The types and locations of the erosion control devices will not be part of the bid documents. It is not necessary to specify hay bales or silt fences when using this item since the bid item includes all pollution control devices.

ITEM NO. 7720 EXCAVATION

This item consists of __ Cubic Yards of required Excavation for channels within limits shown on plans and in accordance with Item 3.5 of these specifications and addenda thereto.

Measurement and payment will be in accordance with Item 3.5.4 of these specifications.

This item is used when a special excavation is required to facilitate installation of pipe, i.e. by-pass channel. The quantities are calculated by:

$$\text{CY} = \frac{(\text{Length})(\text{Width})(\text{Depth})}{(27 \text{ CF/CY})}$$

ITEM NO. 7725 ROCK EXCAVATION

This item used on PRIVATE DEVELOPMENT contracts only.

ITEM NO. 7730 DISPOSAL OF HEAVILY CHLORINATED WATER MAIN FLUSHING WATER

This item consists of Disposal of Heavily Chlorinated Water Main Flushing Water after sterilization or re-sterilization in accordance with the requirements of the EPA [40 C.F.R. 122.26], and NCTCOG Storm Water Quality Best Management Practices for Construction Activities (BPM) for disposal of discharge from water line disinfection.

Measurement and payment will be Lump Sum, complete to include all labor, materials, and equipment necessary to dispose of the heavily chlorinated water main flushing water after sterilization or re-sterilization.

This item is to be used on ALL contracts when a water main is installed and requires chlorination. The Special Provision is to be included whenever Item No. 7730 is used.

ITEM NO. 7740 DISPOSAL AND REMOVAL OF PETROLEUM CONTAMINATED SOIL

This item consists of removal and disposal of __ Cubic Yards of Contaminated Soil. This item shall include all equipment, materials, permits, treatment, disposal fees, labor and all other costs necessary to handle and dispose of contaminated soils.

This is a contingent item and payment will only be made if directed by the Project Engineer.

Basis of payment will be per Cubic Yard of contaminated soil. Volume will be based on specified trench width and depth. Unless otherwise directed by the Project Engineer, all additional material required to be disposed of from outside the specified pay limits will be considered a subsidiary obligation of Contractor and no direct payment shall be made therefore.

This item is to be used on contracts when a main is to be installed in an area suspected of being previously contaminated by petroleum products.

ITEM NO. 7760 HEALTH AND SAFETY PLAN

This item is to reimburse the Contractor for costs to develop and implement a Health and Safety Plan as required.

Payment will be Lump Sum.

This item is used on DWU CITY contracts.

ITEM NO. 7761 MONITORING PLAN

This item is to reimburse the Contractor for costs to develop and implement a Monitoring Plan as required in areas subject to contaminated materials.

The item shall include all equipment, materials, labor, testing and maintenance necessary to monitor for potentially petroleum/hazardous waste material in areas specified.

Payment will be Lump Sum.

This item is used on DWU CITY contracts.

ITEM NO. 7762 CORRECTIVE ACTION PLAN

This item is to reimburse the Contractor for costs to develop and implement a Health and Safety Plan and a Monitoring Plan in areas where the Contractor's monitoring has identified contaminated materials.

This item shall include all equipment, materials, labor, testing and maintenance necessary to monitor for potentially petroleum/hazardous waste material in areas specified.

Payment will be Lump Sum.

This item is used on DWU CITY contracts.

ITEM NO. 7763 DISPOSAL OF PETROLEUM CONTAMINATED SOILS

This item is to reimburse the Contractor for costs to handle and dispose of ___ Cubic Yards of petroleum contaminated materials.

This item shall include all equipment, materials, permits, treatment, disposal fees, labor and other costs necessary to handle and dispose of petroleum contaminated soils.

This is a contingent item and payment will only be made if directed by the Construction Engineer. Basis for payment shall be per Cubic Yard of contaminated soils. Volume will be based on specified trench width and depth. Unless otherwise directed by the Engineer, all additional material required to be disposed outside the specified pay limits will be considered a subsidiary obligation of the Contractor and no direct payment shall be made therefore.

This item is used on DWU CITY contracts.

**ITEM NO. 7764 DISPOSAL OF PETROLEUM CONTAMINATED
GROUNDWATER**

This item is to reimburse the Contractor for costs to handle and dispose of ___ Gallons of petroleum contaminated groundwater.

This item shall include all equipment, materials, permits, treatment, disposal fees, labor, and all other costs necessary to handle and dispose of petroleum contaminated groundwater.

This is a contingent item and payment will only be made if directed by the Construction Engineer. Basis for payment shall be per Gallon of contaminated groundwater. Volume will be based on pumping the contaminated groundwater into a container and determining the volume prior to disposal.

This item is used on DWU CITY contracts.

**ITEM NO. 7765 DISPOSAL OF CLASS I NON-HAZARDOUS
INDUSTRIAL WASTE**

This item is to reimburse the Contractor for costs to handle and dispose of ___ Cubic Yards of Class I Non-hazardous Industrial Waste.

This item shall include all equipment, materials, permits, treatment, disposal fees, labor, and all other costs necessary to handle and dispose of Class I Non-hazardous Industrial Waste.

This is a contingent item and payment will only be made if directed by the Construction Engineer. Basis for payment shall be per Cubic Yard of Class I Non-hazardous Industrial Waste.

This item is used on DWU CITY contracts.

**ITEM NO. 7766 DISPOSAL OF CLASS II NON-HAZARDOUS
INDUSTRIAL WASTE**

This item is to reimburse the Contractor for costs to handle and dispose of ___ Cubic Yards of Class II Non-hazardous Industrial Waste.

This item shall include all equipment, materials, permits, treatment, disposal fees, labor, and all other costs necessary to handle and dispose of Class II Non-hazardous Industrial Waste.

This is a contingent item and payment will only be made if directed by the Construction Engineer. Basis for payment shall be per Cubic Yard of Class II Non-hazardous Industrial Waste.

This item is used on DWU CITY contracts.

Items No. 7800 through 7837 to be used on DWU City Pavement Restoration contracts ONLY.

ITEM NO. 7800 CONCRETE CURB AND GUTTER

This Item Consists Of Removing And Placing Approximately ___ Linear Feet Of Concrete Curb And Gutter, As Needed, In Accordance With Items 6.5.2(B) And 8.2. Of These Specifications And Addenda Thereto.

This Item Shall Include All Work Necessary To Bring All Curb And Gutter To Proper Grade (Elevations), Break Out Of Existing Curb And Gutter, Sawing, Clearing And Grubbing, Disposal Of Excavated Material, Clearing And Wrecking Of Forms, Replacement Of Backfill Material.

Measurement And Payment Will Be In Accordance With Item 6.5.2(B) And 6.5.3 Of These Specifications Per Linear Foot.

ITEM NO. 7801___ " REINFORCED CONCRETE PAVEMENT OR BASE

This Item Consists Of Removing Approximately ___ Square Feet Of Existing Concrete Pavement, Furnishing And Placing, As Needed, ___-Inch Reinforced Concrete Paving In Accordance With Items 6.5.2(C), 2.1, 2.2, And 5.8 Of These Specifications And Addenda Thereto.

This Item Will Pay For A Minimum Depth Of ___ Inches. Any Thickness Over ___-Inches Will Measured And Paid Proportionally, On Pro-Rata Basis.

This Item Shall Also Include Sawing, Removal, Backfill And Disposal Of Existing Pavement.

Measurement And Payment Will Be Per Square Foot In Accordance With Item 6.5.2(C) And 6.5.3 Of These Specifications

Use the following size indicators:

F = 4" Reinforced Concrete

H = 6" Reinforced Concrete

J = 8" Reinforced Concrete

ITEM NO. 7802 PROJECT PARTNERING AND PRECONSTRUCTION

This Item Is Intended For Compensating The Contractor For All Costs To Implement "Project Partnering" As Detailed In Part-"T", Technical Specifications.

This Item Is To Include Hiring A Third Party Facilitator, Travel And Lodging Expenses, Meeting Room Rental, Program Materials, Reproduction Costs And All Costs Associated With Contractor's Own Personnel, Subcontractors And Suppliers Participating In Partnering.

Payment For This Item Shall Be Lump Sum.

ITEM NO. 7803 REINFORCED CONCRETE SIDEWALK

This Item Consists Of Removing, Furnishing And Replacing Approximately __ Square Feet Of Reinforced Concrete Sidewalk. To Include Break Out Of Existing Sidewalk, Sawing, Disposal Of Excavated Material, Placement Of New Concrete Sidewalk, Clearing And Wrecking Of Forms And Replacement Of Backfill Material.

Measurement And Payment Will Be Per Square Foot In Accordance With Item 6.5.2(C) And 8.3.3 Of These Specifications. Normally Four (4) Inches In Depth.

ITEM NO. 7804D 2-INCH HOT-MIX ASPHALT CONCRETE PAVEMENT

This Item Consists Of Removing, Furnishing And Replacing Approximately __ Square Feet Of 2-Inch Hot-Mix Asphalt Concrete Pavement In Accordance With Items 6.5.2., 5.7 And 2.4.13. Of These Specifications And Addenda Thereto.

A Prime Coat Shall Be Applied To A Completed Granular Base Course As Described In Item 5.3 And 5.7 At A Rate Of 0.25 Gallons Per Square Yard. A Tack Coat Shall Be Applied To A Surface Of Concrete, Brick, Or Asphalt At A Rate Of 0.10 Gallons Per Square Yard.

This Item Shall Be For 1.5 To 2.0 Inches Of Hot Mix Asphaltic Concrete Over Portland Concrete Base Or Other Base Material. Any Thickness Over 2-Inches Will Measured And Paid Proportionally, On Pro-Rata Basis.

Measurement And Payment Will Be Per Square Foot In Accordance With Item 6.5.2.(D)(E)Or(3) And 6.5.3 Of These Specifications.

**ITEM NO. 7805H 6" TYPE FOUR F FLOWABLE-HIGH
STRENGTH/FAST SET**

This Item Consists Of Removing, Furnishing And Replacing Approximately __ Square Feet Of Type Four F Flowable-High Strength/Fast Set In Accordance With Items 6.2.10(G) And 2.15(E), Of These Specifications, The Dallas Street Cut Standard Manual And Addenda Thereto.

Any Thickness Over 6-Inches Will Measured And Paid Proportionally, On Pro-Rata Basis. This Is A Contingent Item And Placement Shall Be Made Only As Directed By The Project Manager.

Measurement And Payment Will Be At The Contract Unit Price Per Square

Foot Of Completed And Accepted Work. The Price Per Unit Of Volume Will Remain The Same, Regardless Of The Volume Used.

**ITEM NO. 7806H 6" CLASS "K" REINFORCED CONCRETE
PAVING**

This Item Consists Of Removing, Furnishing And Placing Approximately __ Square Feet Of 6-Inch Concrete Paving In Accordance With Items 361, 420, And 421 Of The Texas Department Of Transportation (TXDOT) Standard Specifications.

Any Thickness Over 6-Inches Will Measured And Paid Proportionally, On Pro-Rata Basis.

Measurement And Payment Will Be Per Square Foot In Accordance With Items 361.4 And 361.5 Of The TXDOT Standard Specifications.

**ITEM NO. 7807F 4" WASHED/ARCHITECTURAL/EXPOSED
AGGREGATE CONCRETE PAVING**

This Item Consists Of Removing, Furnishing And Placing Approximately __ Square Feet Of 4-Inch Exposed Aggregate Concrete Paving. Contractor Will Evaluate And Match Existing Pavement Structure, Type And Appearance.

Any Thickness Over 4-Inches Will Be Measured And Paid Proportionally, On Pro-Rata Basis.

Measurement And Payment Will Be Per Square Foot In Accordance With Item 6.5.2(C) And 6.5.3. Of These Specifications.

ITEM NO. 7808H 6" SPECIAL PAVEMENT

This Item Consists Of Removing, Furnishing And Placing Approximately ___ Square Feet Of 6-Inch Special Pavement, Including Brick, Stone, Granite, Slate, Dyed, Stamped Or Dyed Concrete. Paving Contractor Will Evaluate And Match Existing Pavement Structure, Type And Appearance.

Any Thickness Over 6-Inches Will Be Measured And Paid Proportionally, On Pro-Rata Basis.

Measurement And Payment Will Be Per Square Foot In Accordance With Item 6.5.2(C) And 6.5.3. Of These Specifications.

ITEM NO. 7809 24-HOUR EMERGENCY CALLOUT

This Item, Per Each Occurrence, Is Intended For Compensating The Contractor For Approximately ___ Occurrences For All Costs Associated With Scheduling, Rescheduling And Mobilization Activated With An Emergency Callout. The Contractor Will Be Given Notice Prior To Implementation Of This Bid Item And Must Respond Within 4-Hours. This Item Does Not Cover The Cost Of The Other Paving Items Which Will Be Paid Under Their Respective Bid Item Number. This Item Is All Inclusive And Is A Contingency Item.

This Item Is Not To Be Used For Scheduling Purposes, Traffic Control Requiring Night Or Weekend Work Or Other Normal Activities Covered By This Contract.

Measurement And Payment Will Be At The Contract Unit Price Of Per Each Occurrence For Requested And Accepted Work. The Price Will Remain The Same Regardless Of Overrun Or Underrun.

ITEM NO. 7810 STAND-BY TIME

This Item, Is Intended For Compensating The Contractor Approximately ___ Hours For All Costs Associated With Stand-By Time. This Item Is To Be Used As Approved By The Dwu Inspector. This Item Is To Compensate The Contractor For Idle Time While Waiting For Completion Of Water And Wastewater Repairs Associated With An Emergency Callout. This Item Does Not Cover The Cost Of The Other Paving Items Which Will Be Paid Under Their Respective Bid Item Number. This Item Is All Inclusive And Is A Contingency Item.

Stand-By Time Is Defined As The Time Over The Initial 4-Hour Response Time To The Emergency Callout Provided The Contractor Must Have The Necessary Personnel, Equipment And Materials On Site To Complete The Repair Work.

Measurement And Payment Will Be At The Contract Unit Price Of Per Hour For Requested And Accepted Work. The Price Will Remain The Same Regardless Of Overrun Or Underrun.

ITEM NO. 7811 STAR (CORE) HOLE REPAIR

This Item Consists Of Repairing Approximately __ Star Hole's In Existing Concrete Or Asphalt Pavement.

This Repair Will Be Made In Accordance To The Latest "Pavement Cut And Repair Standards Manual" And Any Addenda Thereto.

Measurement And Payment Will Be At The Contract Unit Price Of Per Each For Requested And Accepted Work. The Price Will Remain The Same Regardless Of Overrun Or Underrun. See Special Provision S-48.

ITEM NO. 7812 TRAFFIC BUTTONS

This Item, All Types And Sizes, Consists Of Approximately __ Traffic Buttons.

These Buttons Will Be Placed In Accordance To The Latest "Pavement Cut And Repair Standards Manual", City Of Dallas Specifications For Public Works Construction, Standard Construction Details, Special Provision S-27 And Any Addenda Thereto.

Existing Traffic Buttons In Areas To Be Rehabilitated Will Be Removed And The Pavement Surface Smoothed. Before Buttons Are Removed, The Contractor Will Verify Need With The The Project Engineer And Receive Approval Of Sequence Of Operations To Assure Prompt Resurfacing And Replacement Of Buttons As Directed.

Measurement And Payment Will Be At The Contract Unit Price Of Per Each For Requested And Accepted Work Regardless Of Type Or Size. The Price Will Remain The Same Regardless Of Quantity Overrun Or Underrun.

ITEM NO. 7813 TRAFFIC STRIPING

This Item, All Types And Sizes, Consists Of Approximately __ Linear Feet Of Traffic Striping.

This Striping Will Be Placed In Accordance To The Latest "Pavement Cut And Repair Standards Manual", City Of Dallas Specifications For Public Works Construction, Standard Construction Details, Special Provision S-27 And Any Addenda Thereto.

Measurement And Payment Will Be At The Contract Unit Price Of Per Linear Foot For Requested And Accepted Work Regardless Of Type Or Size. The Price Will Remain The Same Regardless Of Quantity Overrun Or Underrun.

ITEM NO. 7814 STORM DRAIN MANHOLE ADJUSTMENT

This Item, Approximately __ Each, Is The Adjustment Of Storm Drain Manhole. Adjust Or Cap Existing Manholes Or Inlets. Drainage Junction Boxes Will Be Classified As Manholes.

LOWERING THE TOP OF A MANHOLE OR INLET. Remove A Sufficient Depth Of Brick Courses Or Concrete To Permit Reconstruction On A Batter Not Exceeding 1 In. Horizontal To 2 In. Vertical. Where Brickwork Is Present, Clean The Mortar From The Top Course Of Brick. Rebuild The Manhole Or Inlet To The Original Top Dimensions Or To The Dimensions Shown In The Plans. Install The Manhole Or Inlet Ring And The Cover, Plate, Or Grate To Conform To The Proposed New Surface Contour.

RAISING THE TOP OF THE MANHOLE OR INLET. Clean The Top Surface Of Brick Or Concrete. Construct To The Proper New Elevation Using New Brick, Brick Salvaged From Other Manholes Or Inlets, Prefabricated Metals Extension Rings, Concrete Rings, Or Class A Concrete. Install The Manhole Or Inlet Ring And The Cover, Plate Or Grate To Conform To The Proposed New Surface Contour. Install Prefabricated Extension Rings In Accordance With Manufacturer's Instructions.

CAPPING AN INLET OR MANHOLE. Remove The Inlet Or Manhole To A Minimum Of 1 Ft. Below Subgrade Elevation Or As Indicated On The Plans. Cap As Shown On The Plans.

Measure For Payment Shall Be Measured And Paid Per Each In Accordance With These Specifications.

ITEM NO. 7815 LUMP SUM COST DIFFERENCE FOR SCHEDULE A ITEMS USING OTHER THAN DRY KILN PORTLAND CEMENT

This Item, Lump Sum, Consists Of The Cost Difference For Schedule A Items (1, 2, 3, 4, 6, 7, 8, 9, 10 And 11) Containing Portland Cement Manufactured By Means Other Than The "Dry Kiln" Process As Outlined In Special Provision S-51 And Section A-27 Of These Specifications.

Measurement And Payment Will Be Deductive Per Lump Sum As Set Forth In The Contract.

ITEM NO. 7816 SAWING

This Item, Approximately __ Linear Feet, Of Sawing. This Shall Apply In The Removal Of Bituminous Or Concrete Pavement, Curb, Gutter, Sidewalk Or Driveways. This Item Shall Also Govern For The Sawing Of Weakened Plane Joints (Contraction Joints). Sawing Shall Be In Accordance With The Requirements Of This Item. Dust And Residues From Sawing Shall Be Prevented From Entering The Atmosphere Or Storm Drain. The Edge Of Pavements, Curb, Gutter, Sidewalk And/Or Driveways Shall Be Neatly Sawed. Saw Cuts Shall Be Made Perpendicularly To Surface To Full Pavement Depth Or As Directed By The Owner. The Edges Of Pavement And Appurtenances Damaged Subsequent To Sawing Shall Again Be Saw Cut To Neat Straight Lines For The Purpose Of Removing The Damaged Areas. Such Saw Cuts Shall Be Parallel To The Original Saw Cut. Concrete Sidewalk Or Driveway To Be Removed Shall Be Neatly Sawed In Straight Lines Either Parallel To The Curb Or At Right Angles To The Alignment Of The Sidewalk.

Measure For Payment Shall Be Measured And Paid In Linear Feet Of Groove Actually Cut In Accordance With These Specifications .

ITEM NO. 7817 UNCLASSIFIED SIDEWALK EXCAVATION

This Item, Approximately __ Cubic Yards, For Unclassified Sidewalk Excavation Shall Consist Of All The Required Excavation Within The Limits Of The Right-Of-Way And Areas Adjacent Thereto (Except Excavation Specifically Described And Provided For Elsewhere In The Specifications); The Removal, Proper Utilization Or Disposal Of All Excavation Material; And The Shaping And Finishing Of All Earthwork In The Conformity With The Lines And Grades As Shown On The Plans Or As Established By The OWNER All In Accordance With The Specifications Requirements Contained Herein. Without Regard To Materials Encountered, All Sidewalk Excavations Shall Be Unclassified And Shall Be Designated As “Unclassified Sidewalk Excavation”, Which Shall Include All Materials Excavated. It Is To Be Distinctly Understood That Any Reference To Rock Or Other Material On The Plans And/Or In This Specification Is Solely For The OWNER’S And CONTRACTOR’S Information And Is Not To Be Taken As An Indication Of Classification Of Excavation.

Measure For Payment Shall Be Measured And Paid In Cubic Yards In Accordance With These Specifications.

ITEM NO. 7818 UNCLASSIFIED STREET EXCAVATION

This Item, Approximately __ Cubic Yards, Is For Unclassified Street Excavation Shall Consist Of All The Required Excavation Within The Limits Of The Right-Of-Way And Areas Adjacent Thereto (Except Excavation Specifically Described And Provided For Elsewhere In The Specifications); The Removal, Proper Utilization Or Disposal Of All Excavation Material; And The Shaping And Finishing Of All Earthwork In The Conformity With The Lines And Grades As Shown On The Plans Or As Established By The Owner All In Accordance With The Specifications Requirements Contained Herein. Without Regard To Materials Encountered, All Street Excavations Shall Be Unclassified And Shall Be Designated As “Unclassified Street Excavation”, Which Shall Include All Materials Excavated. It Is To Be Distinctly Understood That Any Reference To Rock Or Other Material On The Plans And/Or In This Specification Is Solely For The Owner’s And Contractor’s Information And Is Not To Be Taken As An Indication Of Classification Of Excavation.

Measure For Payment Shall Be Measured And Paid In Cubic Yards In Accordance With These Specifications.

ITEM NO. 7819 UNCLASSIFIED ALLEY EXCAVATION

This Item, Approximately __ Cubic Yards, Is For Unclassified Alley Excavation Shall Consist Of All The Required Excavation Within The Limits Of The Right-Of-Way And Areas Adjacent Thereto (Except Excavation Specifically Described And Provided For Elsewhere In The Specifications); The Removal, Proper Utilization Or Disposal Of All Excavation Material; And The Shaping And Finishing Of All Earthwork In The Conformity With The Lines And Grades As Shown On The Plans Or As Established By The OWNER All In Accordance With The Specifications Requirements Contained Herein. Without Regard To Materials Encountered, All Alley Excavations Shall Be Unclassified And Shall Be Designated As “Unclassified Alley Excavation”, Which Shall Include All Materials Excavated. It Is To Be Distinctly Understood That Any Reference To Rock Or Other Material On The Plans And/Or In This Specification Is Solely For The OWNER’S And CONTRACTOR’S Information And Is Not To Be Taken As An Indication Of Classification Of Excavation.

Measure For Payment Shall Be Measured And Paid In Cubic Yards In Accordance With These Specifications.

ITEM NO. 7820 GENERAL REQUIREMENTS FOR ASPHALT BASE RECYCLING

This Item, Approximately __ Square Yards Asphalt Base Recycling. It Is The Intent Of The Following Specifications To Establish Provisions For Restoration Of Selected City Of Dallas Asphaltic Concrete And/Or Penetration Type Asphalt Streets Which Are Unimproved (Without Curb And Gutter). The Reconstruction Will Consist Of Recycling The Existing Base And Asphalt Into A New Base, Application Of Super Slurry Or Cement Slurry 4-6% Per Square Yard. The Program Is Generally Referred To As "Full Depth Reclamation". This Specification May Also Be Used For Improved Streets (With Curb And Gutter). Other Work Items Related To Base Repair, And Valley Gutter Replacement Shall Be Paid For By The Contract Pay Items Provided Elsewhere In The Contract Proposal And Special Provisions. (See Technical Spec)

This Item Will Pay For A Minimum Depth Of Six (6) Inches. Any Thickness Over 6 Inches Will Measure And Be Paid Proportionally On A Pro-Rata Basis.

Measure For Payment Shall Be Measured And Paid In Square Yards In Accordance With These Specifications.

ITEM NO. 7821 FENCE REPLACEMENT

This Item Consists Of Installing Approximately __ Linear Feet Of Wood Or Chain Link Types Of Fence To Replace Existing Fences Within The Limits Described On The Plans. Fences Shall Be Installed Plumb. They Shall Be Constructed Of New Materials Of Like Kind And Same Construction As The Existing Fences To Be Replaced. Replacement Fences Shall Abut Adjacent Fences To Maintain The Completeness Of Previously Enclosed Areas. This Item Shall Include Any Posts And Footings, Gates, And All Accessory Objects Necessary To Install And Match The Individual Types Of Existing Fences To Be Replaced.

Measure For Payment Shall Be Measured And Paid In Linear Feet In Accordance With These Specifications.

ITEM NO. 7822 TEMPORARY PAVING (HOT MIX OR HIGH PERFORMANCE MIX)

This Item, Approximately __ Tons, Consists Of Furnishing, Placing, And Removing Hot Or High Performance Mix Asphalt Pavement For Temporary Paving, As Authorized By The Engineer. Hot Mix Asphalt Shall Conform To Items 2.4.13 And 2.4.15 If These Specifications. Hot Or High Performance Mix Shall Be Placed In Accordance With Items 6.5.2 And 5.7 Of These Specifications And Addenda Thereto. The Method Of Measurement For Payment Will Be In Tons (2,000 Pounds) Of Material In Place And Accepted. The Basis Of Payment Will Be Based On The Maximum Permissible Width Of Ditch As Specified For Type Or Kind Of Conduit To Be Constructed As Shown On The Plans Or Standard Drawings, And A Compacted Thickness Of 1" Over Flexible Base Or 2" Over Compacted Fill.

Measure For Payment Shall Be Measured And Paid In Tons In Accordance With These Specifications.

ITEM NO. 7823 BASE REPAIR, FLEXBASE, CTB OR REBASE

This Item, Approximately ___ Cubic Yards Consists Of Base Repair, Flexbase, Ctb Or Rebase. Base Repairs Shall Be Made With Course Graded Asphaltic Concrete Base Course, Cement Treated Base, Crushed Limestone Flex Base, 6" To 8" Reinforced Concrete To Match As Closely As Possible The Existing Base And Valley Gutters. Depths Of Asphalt Base And Flex Base May Be Increased When Deemed Desirable By The Engineer Due To Soil Conditions Of Other Considerations. Street Shall Be Inspected By The Contractor In Advance Of Starting Work And With Representatives Of Street Operations And Public Works To Determine Actual Locations And Extent Of Base Repairs And Valley Gutters Needed. This Pay Item Includes Sawing (If Required), Breakout, Removal, Replacement Of Unstable Subgrade Down To 2 Feet Depth If Necessary, Compaction, Base Material Compaction, And All Other Incidentals Necessary To Perform The Base And Valley Gutter Repair Work Authorized By The Engineer In Accordance With This Special Provision. Payment Shall Be Based On The Quantity Of Surface Area Of Actual Base And Valley Gutter Repair Work Authorized And Performed In Tons, For Full Depth Asphalt Base Work At The Bid Price. For Item 504a And In Square Yards For Concrete Work, Complete In Place. Disposal Of Material, Select Borrow Material, Subgrade Preparation, And All Other Minor Items Of Work For Which Pay Items Are Not Provided Shall Be Considered Incidental And Not Paid For Separately. The Pay Items Provided Shall Be Considered Full Compensation For The Repairs And Valley Gutter Construction On This Contract. (See Technical Spec)

Measure For Payment Shall Be Measured And Paid In Cubic Yards In Accordance With These Specifications.

ITEM NO. 7824 HOT MIX ASPHALTIC CONCRETE SURFACE COURSE

This Item, Approximately ___ Tons, Shall Consist Of A Leveling-Up Course, A Surface Course Or A Combination Of These Courses As Directed By The Engineer, Each To Be Composed Of A Compacted Mixture Of Mineral Aggregate And Asphaltic Material. The Asphaltic Concrete Will Be Applied On Existing Pavement After Preparation As Directed And Described Elsewhere In The Specifications And These Special Provisions To Provide A New Surface Of 2" Compacted Thickness And As Shown By Details Included Herein. (See Technical Spec)

Measure For Payment Shall Be Measured And Paid In Tons In Accordance With These Specifications.

ITEM NO. 7825 STREET SURFACE MILLING

This Item, Approximately ___ Square Yards, Consists Of Street Surface Milling In Preparation For Asphalt Resurfacing Of Existing Concrete Streets In Accordance With The Specifications Provisions. This Item Shall Include Labor, Materials, And Equipment Necessary To Complete The Street Surface Milling. (See Technical Spec)

Measure For Payment Shall Be Measured And Paid In Square Yards In Accordance With These Specifications.

ITEM NO. 7826 UNDERSEAL

This Item, Approximately __ Square Yards, Shall Consist Of A Surface Treatment Composed Of A Single Application Of Asphalt Covered With Aggregate For The Sealing Of Existing Pavements In Accordance With These Specifications. Underseal Shall Not Be Applied When The Air Temperature Is Below 60 F And Is Falling, But May Be Applied When The Air Temperature Is Above 50 F And Is Rising, The Air Temperature Being Taken In The Shade And Away From Artificial Heat. Underseal Shall Not Be Applied When The Temperature Of The Roadway Surface Is Below 60 F. Asphaltic Material Shall Not Be Placed When General Weather Conditions, In The Opinion Of The Engineer, Are Not Suitable.

Measure For Payment Shall Be Measured And Paid In Square Yards In Accordance With These Specifications.

ITEM NO. 7827 SURFACE, EDGE, AND BUTT JOINT MILLING

This Item, Approximately __ Linear Feet, Consists Of Six (6) Foot Edge And Butt Joint Milling Of The Existing Surface On Designated Streets And Shall Be Milled To The Depths And Dimensions Directed By The Engineer. It Is The Intent Of The Specifications To Hold Milling Work To A Minimum. Only Those Locations Specifically Designated In The Field By The Engineer Shall Be Milled. Milling Work Shall Only Be Performed On This Contract To Prevent Potential Bumper Drag Or Blockage Of Drainage And To Provide A Smooth Match To Existing Concrete Curb And Gutter And Valley Gutters With Standard Overlay Thickness. All Other Milling Work Not Directed Or Authorized By The Engineer Shall Be Considered Incidental To The Performance Of The Contract Work And Separate Payment Shall Not Be Made For Such Work.

Measure For Payment Shall Be Measured And Paid In Linear Feet In Accordance With These Specifications.

ITEM NO. 7828 SODDING

This Item, Approximately __ Square Yards, Shall Consist Of Furnishing And Planting Grass As Designated On The Plans And In Accordance With The Requirements Of This Specification And Special Conditions. Sod Shall Be “Stenotaphrum Secundatum” (St. Augustine Grass), “Cynodon Dactylon” (Common Bermuda Grass), “Buchloe Dactyloides” (Buffalograss). Sod Shall Be Alive, Healthy, Vigorous, Free Of Insects, Disease, Stones, And Undesirable Foreign Materials, Weeds And Grasses Deleterious To Its Growth Or Which Might Affect Its Subsistence Or Hardiness When Transplanted. Sod To Be Placed Between Curb And Walk And On Terraces Shall Be The Same Type Grass As Adjacent Grass Or Existing Lawn. Measure And Payment Plugging And Solid Sodding Shall Be Measured For Payment In Square Yards (M2) Of Sodded Area Completed In Accordance With The Plans And Specifications. Plugging Or Solid Sodding, As The Case May Be, Shall Be Paid For At The Contract Unit Price Per Square Yard (M2), Complete In Place, As Provided In The Proposal And Contract.

Measure For Payment Shall Be Measured And Paid In Square Yards In Accordance With These Specifications.

ITEM NO. 7829 BARRIER FREE RAMP (INSIDE DALLAS CITY LIMITS)

This Item Consists Of Constructing Approximately __ Each Concrete Barrier Free (Wheelchair) Ramps As Specified Herein And In Conformity With Special Details.

This Item Shall Include All Necessary Saw-Cut, Removal Of Existing Sidewalk, Curb And Gutter, Excavation And Backfill, Subgrade Preparation, Furnishing And Placing All Materials; Including Expansion Joint Materials, Asphalt Replacement Needed To Adjacent To New Gutter Area, And Any Related Work For Manipulation, Labor, Tools, Equipment And Incidentals.

Measurement And Payment Shall Be At Unit Contract Price For Complete And Accepted Work.

Pavers Will Have Detectable Warning That Consists Of Raised Truncated Domes With A Diameter Of 0.9 Inches (23 Mm). A Height Of Nominal 0.2 Inches (5 Mm) And A Center-To-Center Spacing Of Nominal 2.35 Inches (60 Mm) And Shall Be Red In Color. (NO SEPARATE PAY ITEM FOR PAVERS)

ITEM NO. 7830 BARRIER FREE RAMP (OUTSIDE DALLAS CITY LIMITS)

This Item Consists Of Constructing Approximately __ Each Concrete Barrier Free (Wheelchair) Ramps Outside City Limits As Specified Herein And In Conformity With Special Details.

This Item Shall Include All Necessary Saw-Cut, Removal Of Existing Sidewalk, Curb And Gutter, Excavation And Backfill, Subgrade Preparation, Furnishing And Placing All Materials; Including Expansion Joint Materials, Asphalt Replacement Needed To Adjacent To New Gutter Area, And Any Related Work For Manipulation, Labor, Tools, Equipment And Incidentals.

Measurement And Payment Shall Be At Unit Contract Price For Complete And Accepted Work.

Pavers Will Have Detectable Warning That Consists Of Raised Truncated Domes With A Diameter Of 0.9 Inches (23 Mm). A Height Of Nominal 0.2 Inches (5 Mm) And A Center-To-Center Spacing Of Nominal 2.35 Inches (60 Mm) And Shall Be Red In Color. (No Separate Pay Item For Pavers)

ITEM NO. 7831 STORM WATER POLLUTION PREVENTION PLAN

This Item Is To Reimburse The Contractor For Costs To Develop, Implement And Maintain The Storm Water Pollution Prevention Plan. Modification To The SWPPP Or Additional Control Items Required By The Engineer Will Be At No Additional Cost.

This Item To Include All Equipment, Materials, Labor, And Maintenance Necessary To Control Storm Water Pollution.

This Is A Lump Sum Item And Payment Shall Be Based On The Percentage Of Construction For Complete, In Place, Maintained, Removed, And Accepted Work.

**ITEM NO. 7832__ ADJUSTMENT RINGS FOR __” STORM SEWER
MANHOLE FRAME AND COVER, ANCHOR-LOCK
TYPE**

This Item, Approximately __ Each, Shall Consist Of Adjusting __” Storm Sewer Manhole Ring And Cover. The Manhole Adjusting Ring Shall Provide A Clear Unobstructed Opening Into The Manhole After Installation And Shall Be Designed To Be Mechanically Locked Into The Existing Frame And Use The Existing Lid. The Entire Installation Shall Be Made Watertight By Using A Water-Swelling Elastic Component Sealant.

Measure For Payment Shall Be Measured And Paid Per Each In Accordance With These Specifications.

Use the following size indicators:

V = 24” Bar Wrapped CC Pipe

Y = 30” Bar Wrapped CC Pipe

AA = 36” Bar Wrapped CC Pipe

AB = 40” Bar Wrapped CC Pipe

AC = 42” Bar Wrapped CC Pipe

AE = 48” Bar Wrapped CC Pipe

**ITEM NO. 7833 ADJUSTMENT OF WATER VALVE STACK BOX RISER
AND LID IN ADVANCE OF RESURFACING**

This Item Consists Of Installing And Adjusting __ Each Anchor Type Water Valve Stack Box Riser And Lid In Accordance With Item 6.7.3.(K)(1) Of These Specifications And Addenda Thereto, And The Applicable Drawings.

The Adjustment Shall Include Removal Of The Existing Water Valve Stack Box Riser And Lid, And Installing A New Anchor Type Water Valve Stack Box Riser And Lid To The Proper Grade.

This Item Complete And To Include All Equipment, Materials And Labor, All Temporary And Permanent Paving, And Paving Related Items, Sidewalk, Curb And/Or Gutter, Driveways, Sod, Costs For Barricading, Trench Safety And Support, And All Other Work Associated With This Item. The Bid Price For This Item Will Not Be Subject To Renegotiation Due To Quantity Overrun Or Underrun Limitations As Set Forth In The Specifications.

Measurement And Payment Will Be Per Each Complete In Place.

ITEM NO. 7834 ADJUSTMENT OF WASTEWATER ACCESS DEVICE

This Item Shall Consist Of Adjusting ___ Each Wastewater Mainline Access Device In Accordance With The Specifications And Applicable Drawings.

The Adjustment Shall Include Extending Or Lowering Of The 15" Riser Pipe And Resetting The Frame, Plug, And Cover To The Proper Grade. The Contractor Shall Furnish A Frame, Plug And Cover If Lost, Stolen, Or Damaged Due To Contractors Negligence.

This Item Complete And To Include All Equipment, Materials And Labor, All Temporary And Permanent Paving, And Paving Related Items, Side Walk, Curb And/Or Gutter, Driveways, Sod, Costs For Barricading, Trench Safety And Support, And All Other Work Associated With This Item. The Bid Price For This Item Will Not Be Subject To Renegotiation Due To Quantity Overrun Or Underrun Limitations As Set Forth In The Specifications.

Measurement And Payment Will Be Per Each Complete In Place.

ITEM NO. 7835 ADJUSTMENT OF WASTEWATER MAINLINE CLEANOUT IN ADVANCE OF RESURFACING

This Item Consists Of Installing And Adjusting ___ Each Anchor Type Cleanout Boot Riser For Wastewater Mainline Cleanout In Accordance With Items 6.7.2.(H) And 6.7.2.(J) Of These Specifications And Addenda Thereto, And The Applicable Drawings.

The Adjustment Shall Include Removal Of The Existing Cleanout Lid And Installing A New Anchor Type Cleanout Boot Riser And Replacing The Existing Lid To The Proper Grade, And Forming An Invert To Allow Access To The Cleanout Stack.

This Item Complete And To Include All Equipment, Materials And Labor, All Temporary And Permanent Paving, And Paving Related Items, Sidewalk, Curb And/Or Gutter, Driveways, Sod, Costs For Barricading, Trench Safety And Support, And All Other Work Associated With This Item. The Bid Price For This Item Will Not Be Subject To Renegotiation Due To Quantity Overrun Or Underrun Limitations As Set Forth In The Specifications.

Measurement And Payment Will Be Per Each Complete In Place.

ITEM NO. 7836V ADJUSTMENT OF WASTEWATER MANHOLES WITH 24" LID IN ADVANCE OF RESURFACING

This Item Consists Of Installing And Adjusting __ Each Anchor Type Grade Adjusting Ring For Wastewater Manhole With 24" Diameter Cover In Accordance With Item 6.7.2.(I) Of These Specifications And Addenda Thereto, And The Applicable Drawings.

The Adjustment Shall Include Removal Of The Existing Manhole Cover, Installing The Anchor Type Grade Adjusting Ring And Seal And Replacing The Existing Manhole Cover To The Proper Grade. The Contractor Shall Furnish A Manhole Cover If Lost, Stolen, Or Damage Due To Contractor's Negligence.

This Item Complete And To Include All Equipment, Materials And Labor, All Temporary And Permanent Paving, And Paving Related Items, Sidewalk, Curb And/Or Gutter, Driveways, Sod, Costs For Barricading, Trench Safety And Support, And All Other Work Associated With This Item. The Bid Price For This Item Will Not Be Subject To Renegotiation Due To Quantity Overrun Or Underrun Limitations As Set Forth In The Specifications.

Measurement And Payment Will Be Per Each Complete In Place.

ITEM NO. 7837 JOINT AND CRACK SEALING

This Item, Approximately __ Linear Feet, Consists Of Joint And Crack Sealing. All Joints And Cracks Shall Be Inspected, Accepted And Measured For Payment Prior To The Application Of Surface Treatment. If Any Deterioration Occurs Between The Time The Joints Or Cracks Are Sealed And The Time Treatment Is Applied, The Damage Must Be Repaired To The Satisfaction Of The Engineer Before The Treatment Is Applied, (No Separate Pay). Joint And Crack Routing And Sealing, Pay Item 7837, Shall Be Measured And Paid For By The Linear Foot For The Actual Area Of Work Satisfactorily Completed And Accepted As Authorized By The Engineer. The Contract Price For This Item Will Be Full Compensation For All Material, Labor, Equipment, Routing, Overhead, And All Other Costs Necessary To Complete The Work In Full Compliance With The Requirements Of This Special Provision Of The Contract. The Contract Unit Price For Item 7837, Shall Not Be Subject To Renegotiation Due To Underrun Of Quantities As Set Forth In Item 1.37.1 Of The Standard Specifications. Joint And Crack Routing And Sealing In Accordance With This Specification Shall Also Be Required On Streets Restored And Resurfaced Under Schedule 1 Of This Contract During The Warranty Maintenance Period As Directed By The Engineer At No Cost To The City. The Contractor Shall Provide An Acceptable Schedule To The City Within 48 Hours Of Notice By The City That Crack Sealing Is Required. The Performance Of Joint And Crack Sealing During The Warranty Period Shall In No Way Be Construed To Relieve The Contractor Of His Obligations For Guarantee Of Material And Workmanship Under The Contract Bonds.

Measure For Payment Shall Be Measured And Paid In Square Yards In Accordance With These Specifications.

ITEM NO. 8000 BARRICADING (WATER AND WW MAINS ONLY)

This item is to reimburse the Contractor for costs to install and maintain Barricades, warning devices, flagmen, signs and lights, and other precautionary measures in accordance with the City of Dallas Barricade Manual for protection of persons or property during the construction process on __ Linear Feet.

Payment will be in Linear Feet as determined by the length of pipe installed.

This item is now included in with most bid items as incidental work. This bid item was left in the manual for special use only.

ITEM NO. 8005 CONCRETE BARRICADING (WATER AND WW MAINS ONLY)

This item is to reimburse the Contractor for costs to install, maintain, and remove continuous Concrete Barricades for protection of persons or property during the construction process on approximately __ Linear Feet.

Payment will be in Linear Feet as determined by the length of excavation to be barricaded.

This item allows payment for concrete barricading. A detail drawing and/or callout note showing the type and limits of concrete barricades needs to be included on the plans.

ITEM NO. 8010 CONSTRUCTION STAKING

This bid item consists of furnishing all supervision, labor, materials, equipment, fees, incidentals, and related items required to Survey Stake Water and Wastewater Main and related appurtenances in accordance with the contract's drawings and specifications or as designated by the Engineer.

Payment will be made at Lump Sum price as set forth in the contract.

ITEM NO. 8011 CONSTRUCTION SURVEYING AND STAKING OF PROPOSED WATER & WASTEWATER MAINS

This item consists of providing Construction Surveying and Staking by the Contractor's qualified personnel for approximately __ Linear Feet of Proposed Water and Wastewater Main installations shown on the plan drawings and in accordance with Item 1.32.1 of the NCTCOG Specifications and addenda thereto.

This item shall include establishment of all horizontal and vertical controls, horizontal and vertical alignments per plan drawings, and cut depths for all proposed mains shown on the plan drawings with specific grades, elevations and profiles.

Measurement and payment will be per Linear Foot of proposed water and per Linear Foot of proposed wastewater main including instrumentation and equipment, staking materials, notes and cut sheets in final form and any other associated costs, such as barricading and traffic control for these services. Payment will be made when surveying is complete from point of beginning to point of end as shown on the plan drawings and upon submission and approval of survey data (see Technical Specifications for approved data format). The Contractor is responsible for maintaining all staked controls and hubs in the construction area at all times and any costs for re-staking or re-establishing controls required shall be borne by the Contractor.

ITEM NO. 8012 CONSTRUCTION SURVEYING AND STAKING OF PROPOSED STREET AND ALLEY PAVING

This item consists of providing Construction Surveying and Staking by the Contractor's qualified personnel for approximately ___ Linear Feet of Proposed Alley and/or Street Pavement Replacement shown on the plan drawings and in accordance with Item 1.32.1 of the NCTCOG Specifications and addenda thereto.

This item shall include establishment of all horizontal and vertical controls, horizontal and vertical alignments, and cut/fill depths for all proposed street and/or alley pavement replacement.

Measurement and payment will be per Linear Foot of proposed pavement including instrumentation and equipment, staking materials, notes and cut sheets in final form, and any other associated costs, such as barricading and traffic control for these services. Payment will be made when surveying is complete for the full street/alley width from point of beginning to point of end as shown on the plan drawings and upon submission and approval of survey data (see Technical Specifications for approved data format). This item does not include pavement repairs and patches, nor does it include pavement replacement associated with bid item 7570. The Contractor is responsible for maintaining all staked controls and hubs in the construction area at all times and any costs for re-staking or re-establishing controls required shall be borne by the Contractor.

ITEM NO. 8200 TRAFFIC DETOURS

This bid item consists of furnishing all supervision, labor, materials, equipment, incidentals and related items required to install, maintain and remove the required Temporary Traffic Detour.

This item to include all work and materials necessary to remove and restore existing vegetation, topsoil, paving (including curb, striping, signs, etc.), and all incidentals associated with the installation and removal of the detour, in accordance with the general specifications and addenda thereto, and as described in the Special Provision ___.

Measurement and partial payment shall be based on an approved schedule of values to be submitted by the Contractor prior to construction. Payment will be made at Lump Sum price as set forth in the contract.

ITEM NO. 20300 ADJUSTMENT AND/OR RELOCATION OF WATER METER BOX

This item consists of Adjusting and/or Relocating __ Each Water Meter Box and Meter in accordance with Item 6.7.3.(o) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

This item includes all sizes of water services, 3/4" through 2", water meter boxes and meters 5/8" through 2". This item does not include Commercial Water Meter Vaults. The meter box and meter shall be placed to the finished grade and correct location on a sand cushion. Any extension, alterations, or relocations to the service required to adjust the meter box and meter will be included in this item. The Contractor shall furnish a new meter box that is the correct size and type (i.e. a roadway box and cover is required for meters that are placed in driveways or areas subjected to vehicular traffic). If the meter is determined to be defective by the Engineer, it will be replaced with a new meter furnished by the City. Should any additional services be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed services not be necessary, they will be removed from the contract without having any effect on the Unit Price. The provisions of Paragraph 1.37.1 of the specifications regarding negotiating for revised consideration for over/underruns do not apply to this item.

This item complete and to include any costs for pipe, copper, equipment, materials and labor, all boring, tapping, crossing diagonal utilities, costs for barricading, trench safety and support for these services, encasement, embedment, and all temporary and permanent paving related items (saw-cut, base, asphalt, concrete, sidewalk, driveways, curb and/or gutter, sod), and all other work associated with this item.

Measurement and payment will be per each complete in place.

Include this item with all JOINT contracts in conjunction with Item No. 5050 Water Service. Always include a minimum of one these items under the General items category per contract even if none are indicated on the plans.

ITEM NO. 20330 ADJUSTMENT OF WATER VALVE COVERS AND VALVE STACKS

This item consists of adjusting __ Each Water Valve Cover and Valve Stack in accordance with Item 6.7.3.(k)(1) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal and replacement of the valve cover, adjusting the valve stack, and resetting the valve cover and lid to the proper grade. The Contractor shall furnish a valve cover and lid, if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

Always include a minimum of one these items per contract under the General items category even if none are indicated on the plans. Also, be sure to include the by-pass valve on large diameter horizontal gate valves as an adjustment.

ITEM NO. 20331 ADJUSTMENT OF WATER VALVE STACK BOX RISER AND LID IN ADVANCE OF RESURFACING

This item consists of installing and adjusting ___ Each Anchor Type Water Valve Stack Box Riser and Lid in accordance with Item 6.7.3.(k)(1) of these specifications and addenda thereto, and the applicable Drawings.

The adjustment shall include removal of the existing water valve stack box riser and lid, and installing a new anchor type water valve stack box riser and lid to the proper grade.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

This bid item is used for all JOINT contracts in conjunction with Public Works Rehabilitation and Restoration projects. Always include a minimum of one these items under the General items category per contract even if none are present in the area indicated by Public Works. The Designer must include the standard drawing in the contract Technical Specifications since there is not a detail in the Standard Drawing book.

ITEM NO. 20332 ADJUSTMENT OF WATER VALVE STACK BOX RISER AND LIDS IN ADVANCE OF RESURFACING

This item consists of adjusting ___ Each Water Valve Stack Box Riser and Lid in accordance with Item 6.7.3.(k)(1) of these specifications and addenda thereto, and the applicable Drawings.

If the existing water valve stack box riser and lid has existing damage or is damaged due to Contractor's negligence and cannot be used with the anchor type water valve stack box riser, the Contractor shall furnish a new standard water valve stack box riser and lid. The existing water valve stack box riser and lid shall be removed, and the new water valve stack box riser and lid installed and adjusted to the proper grade.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

This bid item is used for all JOINT contracts in conjunction with Public Works Rehabilitation and Restoration projects. Always include a minimum of one these items under the General items category per contract even if none are present in the area indicated by Public Works. The Designer must include the standard drawing in the contract Technical Specifications since there is not a detail in the Standard Drawing book.

ITEM NO. 20340 ADJUSTMENT OF WASTEWATER LATERAL CLEANOUT

This item consists of adjusting __ Each Wastewater Lateral Cleanout in accordance with Items 6.7.2.(h) and 6.7.2.(j) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal of the cleanout casting extending or lowering the cleanout pipe and replacing the cleanout casting to the proper grade. The Contractor shall furnish a cleanout casting if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place and in accordance with Item 6.7.2.(j)(2) of these specifications.

Include this item with all JOINT Contracts. Always indicate one as a contingency item, even if none are shown on the plans.

ITEM NO. 20350 ADJUSTMENT OF WASTEWATER MAINLINE CLEANOUT

This item consists of adjusting __ Each Wastewater Mainline Cleanout in accordance with Items 6.7.2.(h) and 6.7.2.(j) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal of the cleanout stopper, extending or lowering the cleanout pipe and replacing the cleanout casting to the proper grade. The Contractor shall furnish a cleanout casting if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place and in accordance with Item 6.7.2.(j)(2) of these specifications.

ITEM NO. 20351 ADJUSTMENT OF WASTEWATER ACCESS DEVICE

This item shall consist of adjusting __ Each Wastewater Mainline Access Device in accordance with the specifications and applicable drawings.

The adjustment shall include extending or lowering of the 15" riser pipe and resetting the frame, plug, and cover to the proper grade. The Contractor shall furnish a frame, plug and cover if lost, stolen, or damaged due to Contractors negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, side walk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20352 ADJUSTMENT OF WASTEWATER MAINLINE CLEANOUT IN ADVANCE OF RESURFACING

This item consists of installing and adjusting __ Each Anchor Type Cleanout Boot Riser for Wastewater Mainline Cleanout in accordance with Items 6.7.2.(h) and 6.7.2.(j) of these specifications and addenda thereto, and the applicable Drawings.

The adjustment shall include removal of the existing cleanout lid and installing a new anchor type cleanout boot riser and replacing the existing lid to the proper grade, and forming an invert to allow access to the cleanout stack.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

This bid item is used for all JOINT contracts in conjunction with Public Works Rehabilitation and Restoration projects. Always include a minimum of one these items under the General items category per contract even if none are present in the area indicated by Public Works. The Designer must include the standard drawing in the contract Technical Specifications since there is not a detail in the Standard Drawing book

ITEM NO. 20353 ADJUSTMENT OF WASTEWATER MAINLINE CLEANOUT IN ADVANCE OF RESURFACING

This item consists of adjusting ___ Each Wastewater Mainline Cleanout in accordance with Items 6.7.2.(h) and 6.7.2.(j) of these specifications and addenda thereto, and the applicable Drawings.

If the existing cleanout casting has existing damage or is damaged due to Contractor's negligence and cannot be used with the anchor type cleanout boot riser, the Contractor shall furnish a new standard mainline cleanout casting and lid. The adjustment shall include removal of the cleanout concrete base, cleanout casting and lid, and replacing the cleanout casting and lid to the proper grade, and forming an invert to allow access to the cleanout stack. If the cleanout stack is damaged during breakout, the Contractor shall replace it with like material and jointed to existing undamaged pipe using a rubber coupling with stainless steel bands.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

This bid item is used for all JOINT contracts in conjunction with Public Works Rehabilitation and Restoration projects. Always include a minimum of one these items under the General items category per contract even if none are present in the area indicated by Public Works. The Designer must include the standard drawing in the contract Technical Specifications since there is not a detail in the Standard Drawing book.

ITEM NO. 20360 ADJUSTMENT OF WASTEWATER MANHOLES

This item consists of adjusting ___ Each Wastewater Manholes in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal of the manhole ring and cover, constructing a manhole neck of new manhole rings and nonshrink grout, replacing the manhole ring and cover to the proper grade, and coating the outside of the manhole neck with a waterproof bituminous coating. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to Contractor's negligence. This item also includes removal of the false bottom during final inspection.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20361 ADJUSTMENT OF WASTEWATER MANHOLES IN ADVANCE OF RESURFACING

This item consists of installing and adjusting ___ Each Anchor Type Grade Adjusting Ring for Wastewater Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings.

The adjustment shall include removal of the existing manhole cover, installing the anchor type grade-adjusting ring and seal and replacing the existing manhole cover to the proper grade. The Contractor shall furnish a manhole cover if lost, stolen, or damage due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the Specifications.

Measurement and payment will be per each complete in place.

This bid item is used for all JOINT contracts in conjunction with Public Works Rehabilitation and Restoration projects. Always include a minimum of one these items under the General items category per contract even if none are present in the area indicated by Public Works. The Designer must include the standard drawing in the contract Technical Specifications since there is not a detail in the Standard Drawing book.

ITEM NO. 20362 ADJUSTMENT OF TYPE "S" WASTEWATER MANHOLE

This item consists of adjusting ___ Each Type "S" Wastewater Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal of the manhole ring, cover and concrete cone, constructing a cast-in-place manhole extension, replacing the manhole ring and cover to the proper grade, and coating the new concrete with a waterproof bituminous coating. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20363 ADJUSTMENT OF WASTEWATER MANHOLE IN ADVANCE OF RESURFACING

This item consists of adjusting __ each Wastewater Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings.

If the existing manhole frame has existing damage or is damaged due to Contractor's negligence and cannot be used with the anchor type grade-adjusting ring, the Contractor shall furnish a new standard manhole frame. The adjustment shall include removal of the manhole frame and cover, adding concrete grade ring(s) and nonshrink grout, installing a new manhole frame and replacing the existing manhole cover to the proper grade. The Contractor shall furnish a manhole cover if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place

This bid item is used for all JOINT contracts in conjunction with Public Works Rehabilitation and Restoration projects. Always include a minimum of one these items under the General items category per contract even if none are present in the area indicated by Public Works. The Designer must include the standard drawing in the contract Technical Specifications since there is not a detail in the Standard Drawing book.

ITEM NO. 20380 ADJUSTMENT OF WATER MANHOLE

This item consists of adjusting __ Each Water Manhole in accordance with Item 6.7.3.(t) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets

The adjustment shall include removal of the manhole ring and cover, constructing a manhole neck of new manhole rings and nonshrink grout, replacing the manhole ring and cover to the proper grade. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20381 ADJUSTMENT OF WATER MANHOLE IN ADVANCE OF RESURFACING

This item consists of installing and adjusting ___ Each Anchor Type Grade Adjusting Ring for Water Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings.

The adjustment shall include removal of the existing manhole cover, installing the anchor type grade-adjusting ring and seal and replacing the existing manhole cover to the proper grade. The Contractor shall furnish a manhole cover if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

This bid item is used for all JOINT Contracts in conjunction with Public Works Rehabilitation and Restoration projects. Always include a minimum of one these items under the General items category per contract even if none are present in the area indicated by Public Works. The Designer must include the standard drawing in the contract Technical Specifications since there is not a detail in the Standard Drawing book.

ITEM NO. 20400 ADJUSTMENT OF FLUSH POINT

This item consists of adjusting ___ Each Flush Point in accordance with Item 6.7.3.(s)(2)(B)(2)(i) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The meter box and lid shall be placed to the proper grade on sand cushion. Any extensions or alterations to the service pipe required and adjustments to the meter box and lid will be included in this item. The Contractor shall furnish a new meter box if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20410 ADJUSTMENT OF TYPE 1 AIR VALVE

This item consists of adjusting __ Each Type 1 Air Valve in accordance with Item 6.7.3.(1) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal of the manhole ring and cover, constructing a manhole neck of new brick or new manhole rings and nonshrink grout, replacing the manhole ring and cover to the proper grade. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20420 ADJUSTMENT OF TYPE 2 AIR VALVE

This item consists of adjusting __ Each Type 2 Air Valve in accordance with Item 6.7.3.(1) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal of the manhole ring and cover, constructing a manhole neck or new brick or new manhole rings and nonshrink grout, and replacing the manhole ring and cover to the proper grade. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to Contractor's negligence. This item also covers any adjustment for the riser pipe if required.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20430 INSTALL FIRE HYDRANT EXTENSION

This item consists of installing ___ Each Fire Hydrant Extension in accordance with Items 6.7.3.(m) and 2.14 of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

This item shall include removal of the existing fire hydrant, installation of the extension, and reconnection of the existing fire hydrant. The Contractor shall furnish a new fire hydrant if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, excavation, backfill, compaction, disposal of excess material, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

Sufficient extensions must be established in the contract to allow the fire hydrant to be able to function until the final grading is completed. Always establish Item No. 20440 along with Item No. 20430.

ITEM NO. 20440 REMOVE FIRE HYDRANT EXTENSION

This item consists of removing ___ Each Fire Hydrant Extension in accordance with Items 6.7.3.(m) and 2.14 of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

This item shall include removal of the existing fire hydrant, removal of the existing extension, and reconnection of the existing fire hydrant. The Contractor shall furnish a new fire hydrant if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, excavation, backfill, compaction, disposal of excess material, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

The fire hydrant extensions, when removed during final grading adjustments, should adjust the fire hydrant sufficiently to the finished grade with no adjustment to the fire hydrant lead. Always establish Item No. 20440 along with Item No. 20430.

ITEM NO. 20450 ADJUSTMENT OF LARGE WATER SERVICE HATCH COVERS AND FRAME

This item consists of adjusting ___ each 3'x4' Aluminum Access Hatch Cover in accordance with Item 6.7.3.(o) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The adjustment shall include removal and replacement of the existing cover and frame, replacement with a new aluminum hatch cover to final grade using brick risers and non-shrink grout. The old frame and cover shall become the property of the Contractor. If the meter is determined to be defective by the Project Manager, it shall be replaced with a new meter furnished by the City. The old meter shall be salvaged and delivered to the large meter repair shop at 2821 Municipal Street, Dallas, Texas. If the existing meter is lost, stolen, or damaged due to Contractor's negligence the Contractor will become responsible for the replacement cost. The replacement meter, access hatch covers, and frame will be furnished by the City and picked up and transported to the site by the Contractor. The new meters and access hatch covers and frame will be made available at 2900 Municipal Street.

This item is a contingent item and shall be installed only if directed by the Project Manager. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each and will include all materials and labor, disposal of excess material, pickup and delivery of the salvaged meter, costs for barricading, trench safety and support, and all other work associated with this item.

Always include a minimum of one these items per contract even if none are indicated on the plans under the General items category.

ITEM NO. 20500 INVESTIGATION

This item consists of excavating at approximately ___ each locations to a specific infrastructure(s) to determine type, size, location, elevation, and/or condition as determined by the Engineer. The disturbed area will be replaced with compacted backfill in accordance with Items 6.2.9 and 6.2.10.(a) of these specifications and addenda thereto.

In paved areas, the pavement will be replaced with a compacted 8" thick base of Crushed Rock in accordance with Items 6.5.2 , 4.5 , and 2.1.3.(b) , and a compacted 2" thick surface of Hot or Cold Mix asphalt pavement for temporary paving in accordance with Items 6.5.2 , 5.7 , and 2.4.13 .

This item complete and to include all equipment, materials and labor, saw-cut, pavement, base, and sub-base removal, excavation, backfill, compaction, disposal of excess materials, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, support for existing utilities, and all other work associated with this item.

Payment will not be made under this item if the infrastructure is to be adjusted, abandoned, or replaced prior to the placement of backfill. If the investigation is for more than one infrastructure in the same excavation, payment shall be made for only one investigation.

Measurement and payment will be per each complete in place.

Establish a minimum of one investigation each for water and one for wastewater per Each City block of work done on the project. This item should be included on all Advance of Paving projects whether in JOINT contract with Public Works or a separate CITY contract.

ITEM NO. 20540 ALTER WATER VALVE COVERS AND VALVE STACKS

This item consists of altering ___ Each Water Valve Covers and Valve Stacks in accordance with Items 6.7.3.(k) and 6.7.3.(k)(2)(A) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The alteration shall include removal and replacement of the valve cover, extending or removing a portion of the existing valve stack, and resetting the valve cover to a point 2' to 4' above the proposed paving grade. Final adjustment to the paving grade will be paid under another bid item. The Contractor shall furnish a new valve cover and lid if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

Always include one per contract as a minimum for a contingency.

ITEM NO. 20550 ALTER WASTEWATER MAINLINE CLEANOUT

This item consists of altering __ Each Wastewater Mainline Cleanout in accordance with Item 6.7.2.(j) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The alterations shall include removal and storage of the cleanout casting, removal or extending a portion of the existing cleanout pipe, if required, and installing a stopper in the end of the cleanout pipe. Extension of the cleanout pipe and setting the cleanout casting to final grade will be paid under another bid item. The Contractor shall furnish a cleanout casting if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20560 ALTER WASTEWATER MANHOLE

This item consists of altering __ Each Wastewater Manhole in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The alteration shall include installing a false bottom, removal of the manhole ring and cover, removing the existing grade rings or brick neck, if required, removing a portion of the manhole and rebuilding the manhole to the proper grade, and setting the salvaged manhole ring and cover on the top of the cone section with mortar. Final adjustment of the manhole ring and cover to the paving grade will be paid under another bid item. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to the Contractor's negligence. This item also includes removal of the false bottom during the final inspection.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20580 ALTER WATER MANHOLE

This item consists of altering ___ Each Water Manhole in accordance with Item 6.7.3.(t) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The alteration shall include removal of the manhole ring and cover, removing the existing grade rings or brick neck, if required, removing a portion of the manhole and rebuilding the manhole to the proper grade, and setting the salvaged manhole ring and cover on the top of the reset cone section with mortar. Final adjustment of the manhole ring and cover to the paving grade will be paid under another bid item. The Contractor shall furnish a manhole ring or manhole cover if lost, stolen, or damaged due to the Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20600 INSTALL CLEANOUT ON AN EXISTING WASTEWATER LATERAL

This item consists of installing ___ Each Wastewater Lateral Cleanout on an existing wastewater lateral in accordance with Item 6.7.2.(j) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The installation shall include removal of the existing lateral, installing additional piping, tee, cleanout stack, adapters, embedment, compacted backfill material, cleanout casting, concrete and connection to the existing lateral to the cleanout and the existing house line. The Contractor shall furnish a cleanout casting if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

Any existing lateral that does not contain a cleanout is to have one installed under this bid item.

ITEM NO. 20620 REPLACE EXISTING WASTEWATER LATERAL CLEANOUT

This item consists of replacing ___ Each Wastewater Lateral Cleanout in accordance with Item 6.7.2.(j) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets

The replacement shall include removal of the existing cleanout, installing a new lateral piping with a new cleanout and connection to the existing house lateral. The Contractor shall furnish a cleanout casting if lost, stolen, or damaged due to Contractor's negligence.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item will not be subject to renegotiation due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20630 RELOCATION OF TYPE 1 AIR VALVE

This item consists of relocating __ Each Type 1 Air Valve in accordance with Item 6.7.3.(1) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The relocation shall include the removal of the existing manhole ring and cover, manhole neck, manhole, combination air valve, piping, riser and riser support and installing a new combination air valve and riser with support at a new location to the proper grade and reinstalling the salvaged manhole, manhole ring and cover. If the existing air valve is located in a meter box rather than a manhole the Contractor will furnish a new manhole, manhole ring and cover at no additional pay.

Final adjustment of the manhole ring and cover and construction of the manhole neck wall be paid under a separate item. Contractor shall furnish a new cone section and/or manhole ring and/or cover if lost, stolen, or damaged due to the Contractor's negligence.

This item complete and to include all equipment, materials and labor, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20640 RELOCATION OF TYPE 2 AIR VALVE

This item consists of relocating __ Each Type 2 Air Valve in accordance with Item 6.7.3.(1) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The relocation shall include the removal of the existing manhole ring and cover, manhole neck, a portion of the manhole, combination air valve, piping, riser and riser support and installing new piping, a new combination air valve and riser with support at a new location to the proper grade with a new manhole, manhole ring and cover, rebuilding the upper portion of the existing manhole and cover, and resetting the salvaged manhole ring and cover.

Final adjustment of the manhole ring and cover and construction of the manhole neck wall be paid under a separate item. Contractor shall furnish a new cone section and/or manhole ring and/or cover if lost, stolen, or damaged due to the Contractor's negligence.

This item complete and to include all equipment, materials and labor, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

ITEM NO. 20650 REPLACE EXISTING FIRE HYDRANT

This item consists of replacing __ Each Existing Fire Hydrant in accordance with Items 6.7.3.(m) and 2.14 of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

The replacement shall include removal and salvage of the existing fire hydrant, removal of a portion of the fire hydrant lead or extending the fire hydrant lead, if required, installing fittings, if required, and setting a new fire hydrant. The Contractor shall furnish a new valve at no cost to the City if the existing valve is damaged due to the Contractor's negligence.

This item complete and to include all equipment, materials and labor, fittings, fire hydrant, concrete, embedment, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, delivery of the removed fire hydrant to the DWU Stores' yard at 2901 Municipal Street (call 214-670-8035 or 214-670-8970, 24 hours in advance), and all other work associated with this item.

Readjustment of fire hydrant to accommodate a slip-form-paving machine will not be eligible for reimbursement. If a fire hydrant valve is required, it shall be paid under another item to the contract. Adjustment of the existing fire hydrant barrel to the final elevation will be paid under another item to the contract. The new fire hydrant lead will be paid under another item to the contract. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

Always establish additional 6" valves for the leads in the event some of the existing leads do not have valves. The new fire hydrant lead will be paid as a separate bid item (1500H or 1800H).

ITEM NO. 20651 REPLACE EXISTING FIRE HYDRANT TO FINAL GRADE

This item consists of replacing __ Each Existing Fire Hydrant in accordance with Items 6.7.3.(m) and 2.14 of these specifications and addenda thereto, and the applicable Drawings and the Standard Appurtenance Sheets.

The replacement shall include removal and salvage of the existing fire hydrant, removal of a portion of the fire hydrant lead or extending the fire hydrant lead or new fire hydrant lead, if required, installing fittings, if required, and setting a new fire hydrant. The Contractor shall furnish a new valve at no cost to the City if the existing valve is damaged due to the Contractor's negligence.

This item complete and to include all equipment, fire hydrant lead, materials and labor, fittings, the replacement of the fire hydrant tee, tapping, including plugging the existing tee, boring, crossing diagonal utilities, fire hydrant, concrete, embedment, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, erosion control devices, such as silt fences and hay bales, delivery of the removed fire hydrant to the DWU Stores' yard at 2901 Municipal Street (call 214-670-8035 or 214-670-8970, 24 hours in advance), and all other work associated with this item.

Readjustment of fire hydrant to accommodate a slip-form paving machine will not be eligible for reimbursement. If a fire hydrant valve is required, it shall be paid under another item to the contract. Adjustment of the existing fire hydrant barrel to the final elevation is included in this item. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

This bid item should be used on Public Works projects where only a sidewalk is being constructed. Always establish additional 6" valves for the leads in the event some of the existing leads do not have valves.

ITEM NO. 20652 ADJUST / RELOCATE NEW FIRE HYDRANT

This item consists of relocating __ Each Existing Fire Hydrant in accordance with Items 6.7.3.(m) and 2.14 of these specifications and addenda thereto, and the applicable Drawings and the Standard Appurtenance Sheets.

This item shall include removal of the existing fire hydrant, removal or extending a portion of the fire hydrant lead, installing fittings, if required, and resetting the existing fire hydrant. The Contractor shall furnish a new fire hydrant, valve or associated materials, at no cost to the City, if these existing items are damaged due to the Contractor's negligence.

This item complete and to include all equipment, materials and labor, embedment, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, erosion control devices such as silt fences and hay bales, and all other work associated with this item.

Readjustment of fire hydrant to accommodate a slip-form paving machine will not be eligible for reimbursement. If a fire hydrant valve is required, it shall be paid under another item to the contract. Adjustment of the existing fire hydrant barrel to the final elevation is included in this item. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

This bid item should be used on Public Works projects where there is a possibility of needing to relocate a new fire hydrant installed by the same contract, due to an unforeseen paving conflict or staking error.

ITEM NO. 20660 RELOCATE COMMERCIAL WATER SERVICE

This item consists of relocating __ Each Commercial Water Service by removing the vault, piping, and meter, and relocating at a new location in accordance with the Specifications and addenda thereto, and the Drawings and Standard Appurtenance Sheet.

The relocation shall include removal of the existing vault, piping, fittings, meter, relocation of the vault, piping, fittings, meter, service extension, service cut and sleeves. Any items damaged during removal shall be replaced at no cost to the City. If any item is determined by the Engineer to be defective or damaged prior to any work by the Contractor, the item will be furnished, by the City, at no cost to the Contractor.

This item complete and to include all equipment, materials and labor, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

This relocation can either be vertically and/or horizontally. Be aware of major grade changes to the existing ground line at the vault when determining the necessity of this item.

ITEM NO. 20670 ABANDON WATER SERVICE OFF EXISTING MAIN

This item consists of abandoning approximately __ Each Water Service and shall include turning off the corporation stop at the water main, cutting and removing a portion of the water service, and installing a cap on the existing corporation stop.

Should any additional abandonments be found necessary, they shall be added to the contract at the same unit bid price. Likewise should any of the listed abandonments be found not necessary, they shall be deleted from the contract without having any effect on the unit bid price.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items (saw-cut, base, concrete, hot mix asphalt, sidewalk, driveways, curb and/or gutter), sod, backfill compaction, any costs for barricading, trench safety and support, and all other incidentals necessary to complete the work.

Measurement and payment will be per each complete in place.

ITEM NO. 20680 ABANDON WASTEWATER LATERAL OFF EXISTING MAIN

This item consists of abandoning approximately __ Each Wastewater Lateral and shall include removing a portion of the existing wastewater lateral and capping the existing lateral wye and encasing it with Class "B" concrete.

Should any additional abandonments be found necessary, they shall be added to the contract at the same unit bid price. Likewise should any of the listed abandonments be found not necessary, they shall be deleted from the contract without having any effect on the unit bid price.

This item complete and to include all equipment, materials and labor, all temporary and permanent paving, and paving related items (saw-cut, base, concrete, hot mix asphalt, sidewalk, driveways, curb and/or gutter), sod, backfill compaction, any costs for barricading, trench safety and support, and all other incidentals necessary to complete the work.

Measurement and payment will be per each complete in place.

ITEM NO. 20700 ADJUST EXISTING WASTEWATER LATERAL

This item consists of adjusting approximately __ Each Existing Wastewater Lateral, including reconnection to the existing main if necessary and transferring the lateral in accordance with Item 6.7.2.(h)(7) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets.

This adjustment of the wastewater lateral shall include new pipe, and, if necessary, transferring the lateral and reconnection to the existing wastewater main.

This item is a contingent item and payment will be made only if directed by the Construction Engineer. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

This item complete and to include all equipment, materials and labor, all excavation, backfill, compaction, disposal of excess material, all boring, crossing diagonal utilities, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item.

Measurement and payment will be per each complete in place, and in accordance with Item 6.7.2.(h)(8) of these specifications.

If there is an existing wastewater main within the project limits, this item is to be established in the contract as a contingency item.

ITEM NO. 20910 REPLACE EXISTING 4' DIAMETER MANHOLE

This item consists of replacing __ Each 4' Diameter Wastewater Manhole with 32" Diameter Lid in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets

The replacement shall include salvaging the existing manhole ring and cover, removing and disposing of the existing manhole and manhole base, constructing or installing a new 4' diameter concrete manhole and base to proper grade, setting the salvaged manhole ring and cover on the top of the cone section with mortar, and installing a false bottom. Final adjustment of the manhole ring and cover to the paving grade will be paid under another bid item. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to the Contractor's negligence. This item also includes removal of the false bottom during the final inspection.

Should any additional manholes be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed manholes not be necessary, they will be removed from the contract without having effect on the Unit Price.

This item complete and to include all equipment, materials and labor, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

Replace all existing brick manholes within the project limits, regardless of their condition.

ITEM NO. 20920 REPLACE EXISTING 5' DIAMETER MANHOLE

This item consists of replacing __ Each 5' Diameter Wastewater Manholes with 32" or 40" Diameter Lid in accordance with Item 6.7.2.(i) of these specifications and addenda thereto, and the applicable Drawings and Standard Appurtenance Sheets

The replacement shall include salvaging the existing manhole ring and cover, removing and disposing of the existing manhole and manhole base, constructing or installing a new 5' diameter concrete manhole and base to proper grade, setting the salvaged manhole ring and cover on the top of the cone section with mortar, and installing a false bottom. Final adjustment of the manhole ring and cover to the paving grade will be paid under another bid item. The Contractor shall furnish a manhole ring or cover if lost, stolen, or damaged due to the Contractor's negligence. This item also includes removal of the false bottom during the final inspection.

Should any additional manholes be found necessary, they will be added to the contract at the same Unit Price. Likewise, should any of the listed manholes not be necessary, they will be removed from the contract without having effect on the Unit Price.

This item complete and to include all equipment, materials and labor, all excavation, backfill, compaction, disposal of excess material, all temporary and permanent paving, and paving related items, sidewalk, curb and/or gutter, driveways, sod, costs for barricading, trench safety and support, and all other work associated with this item. The bid price for this item is not subject to renegotiations due to quantity overrun or underrun limitations as set forth in the specifications.

Measurement and payment will be per each complete in place.

Replace all brick manholes within the project limits, regardless of their condition.

ITEM NO. 20930 RELOCATE PIPE-TO-SOIL POTENTIAL MONITORING STATION

This item consists of removing, furnishing and placing approximately __ Each Pipe to Soil Potential Monitoring Stations as specified on the plans. Exact placement shall be as directed by the Project Engineer.

This item is to include the removal of the existing Pipe to Soil Potential Monitoring Station, cutting the existing conduit and wire at the existing test station, furnishing and placing new conduit and wire from the existing test station to the new location, splicing the existing wire to the new wire, connecting and bonding the existing conduit to the new conduit, furnishing and placing a new meter box and test station, barricades, excavation, backfill, and any paving or ground cover necessary to return the site to its original condition.

Measurement and payment shall include and all costs for labor, materials, and incidentals necessary to complete the work.

Refer to new Standard Drawing #417

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
1100D	2" Temporary Water Main	LS	CITY	Water	Pipe	-
1100F	4" Temporary Water Main	LS	CITY	Water	Pipe	-
1100H	6" Temporary Water Main	LS	CITY	Water	Pipe	-
1100J	8" Temporary Water Main	LS	CITY	Water	Pipe	-
1100DP	2" Temporary Water Main with Paving	LS	JOINT	Water	Pipe	-
1100FP	4" Temporary Water Main with Paving	LS	JOINT	Water	Pipe	-
1100HP	6" Temporary Water Main with Paving	LS	JOINT	Water	Pipe	-
1100JP	8" Temporary Water Main with Paving	LS	JOINT	Water	Pipe	-
1500D	2" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500DP	2" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500F	4" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500FP	4" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500H	6" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500HP	6" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500J	8" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500JP	8" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500K	10" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500KP	10" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500L	12" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500LP	12" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500Q	16" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500QP	16" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500S	20" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500SP	20" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500V	24" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500VP	24" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500Y	30" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500YP	30" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500AA	36" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500AAP	36" Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1500AE	48" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500AF	54" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1500AG	60" Ductile Iron Water Pipe	LF	CITY	Water	Pipe	-
1505F	4" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505H	6" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505J	8" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505K	10" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505L	12" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505Q	16" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505S	20" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505V	24" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505Y	30" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
1505AA	36" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505AE	48" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505AF	54" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1505AG	60" Ductile Iron Water Pipe Aerial Crossing	LF	CITY	Water	Pipe	-
1600S	20" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600SP	20" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600V	24" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600VP	24" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600Y	30" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600YP	30" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AA	36" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AAP	36" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AC	42" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600ACP	42" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AE	48" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AEP	48" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AF	54" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AFP	54" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AG	60" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AGP	60" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AH	66" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AHP	66" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AJ	72" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AJP	72" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AK	78" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AKP	78" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AL	84" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600ALP	84" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AM	90" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AMP	90" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AN	96" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600ANP	96" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AQ	102" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AQP	102" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AR	108" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600ARP	108" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AS	114" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600ASP	114" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AU	120" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AUP	120" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AV	126" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AVP	126" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
1600AW	132" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AWP	132" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AY	138" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AYP	138" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1600AZ	144" Steel Water Pipe	LF	CITY	Water	Pipe	-
1600AZP	144" Steel Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1800D	2" PVC Water Pipe	LF	CITY	Water	Pipe	-
1800F	4" PVC Water Pipe	LF	CITY	Water	Pipe	-
1800FP	4" PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1800H	6" PVC Water Pipe	LF	CITY	Water	Pipe	-
1800HP	6" PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1800J	8" PVC Water Pipe	LF	CITY	Water	Pipe	-
1800JP	8" PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1800K	10" PVC Water Pipe	LF	CITY	Water	Pipe	-
1800KP	10" PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1800L	12" PVC Water Pipe	LF	CITY	Water	Pipe	-
1800LP	12" PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1805Q	16" PVC Water Pipe	LF	CITY	Water	Pipe	-
1805QP	16" PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1810F	4" Fusible PVC Water Pipe	LF	CITY	Water	Pipe	-
1810FP	4" Fusible PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1810H	6" Fusible PVC Water Pipe	LF	CITY	Water	Pipe	-
1810HP	6" Fusible PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1810J	8" Fusible PVC Water Pipe	LF	CITY	Water	Pipe	-
1810JP	8" Fusible PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1810L	12" Fusible PVC Water Pipe	LF	CITY	Water	Pipe	-
1810LP	12" Fusible PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1810Q	16" Fusible PVC Water Pipe	LF	CITY	Water	Pipe	-
1810QP	16" Fusible PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1810R	18" Fusible PVC Water Pipe	LF	CITY	Water	Pipe	-
1810RP	18" Fusible PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1820F	4" Restrained Joint PVC Water Pipe	LF	CITY	Water	Pipe	-
1820FP	4" Restrained Joint PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1820H	6" Restrained Joint PVC Water Pipe	LF	CITY	Water	Pipe	-
1820HP	6" Restrained Joint PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1820J	8" Restrained Joint PVC Water Pipe	LF	CITY	Water	Pipe	-
1820JP	8" Restrained Joint PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1820L	12" Restrained Joint PVC Water Pipe	LF	CITY	Water	Pipe	-
1820LP	12" Restrained Joint PVC Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1900FP	4" PVC or Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1900HP	6" PVC or Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1900JP	8" PVC or Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
1900KP	10" PVC or Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
1900LP	12" PVC or Ductile Iron Water Pipe with Paving	LF	JOINT	Water	Pipe	-
2000K	10" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000KP	10" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000L	12" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000LP	12" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000M	14" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000MP	14" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000Q	16" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000QP	16" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000R	18" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000RP	18" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000S	20" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000SP	20" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000V	24" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000VP	24" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000W	27" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000WP	27" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000Y	30" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000YP	30" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000AA	36" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000AAP	36" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000AC	42" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000ACP	42" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2000AE	48" Bar-Wrapped Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2000AEP	48" Bar-Wrapped Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010Q	16" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010QP	16" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010R	18" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010RP	18" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010S	20" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010SP	20" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010V	24" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010VP	24" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010Y	30" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010YP	30" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AA	36" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AAP	36" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AC	42" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010ACP	42" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AE	48" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AEP	48" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
2010AF	54" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AFP	54" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AG	60" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AGP	60" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AH	66" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AHP	66" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AJ	72" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AJP	72" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AK	78" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AKP	78" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AL	84" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010ALP	84" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AM	90" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AMP	90" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AN	96" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010ANP	96" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AQ	102" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AQP	102" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AR	108" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010ARP	108" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AS	114" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010ASP	114" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AU	120" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AUP	120" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AV	126" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AVP	126" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AW	132" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AWP	132" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AY	138" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AYP	138" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2010AZ	144" Prestressed Concrete Cylinder Pipe	LF	CITY	Water	Pipe	-
2010AZP	144" Prestressed Concrete Cylinder Pipe with Paving	LF	JOINT	Water	Pipe	-
2100HX	6" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100JX	8" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100KX	10" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100LX	12" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100MX	14" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100QX	16" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100RX	18" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100SX	20" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100VX	24" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100WX	27" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
2100YX	30" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AAX	36" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100ACX	42" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AEX	48" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AFX	54" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AGX	60" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AHX	66" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AJX	72" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AKX	78" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100ALX	84" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AMX	90" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100ANX	96" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AQX	102" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100ARX	108" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100ASX	114" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AUX	120" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AWX	132" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AYX	138" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
2100AZX	144" Extra Depth Water Pipe (+20')	LF	ALL	Water	Excavation	-
3000H	6" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000HP	6" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3000J	8" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000JP	8" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3000K	10" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000KP	10" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3000L	12" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000LP	12" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3000N	15" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000NP	15" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3000R	18" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000RP	18" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3000U	21" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000UP	21" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3000V	24" Clay Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3000VP	24" Clay Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100H	6" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100HP	6" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100J	8" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100JP	8" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100K	10" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100KP	10" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100L	12" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3100LP	12" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100N	15" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100NP	15" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100R	18" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100RP	18" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100U	21" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100UP	21" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100V	24" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100VP	24" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100W	27" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100WP	27" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100Y	30" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100YP	30" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100Z	33" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100ZP	33" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100AA	36" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100AAP	36" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100AB	39" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100ABP	39" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100AC	42" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100ACP	42" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3100AE	48" PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3100AEP	48" PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3110D	2" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3110DP	2" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3110H	6" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3110HP	6" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3110J	8" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3110JP	8" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3110K	10" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3110KP	10" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3110L	12" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3110LP	12" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120Q	16" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120R	18" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120S	20" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120V	24" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120W	27" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120Y	30" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120Z	33" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120AA	36" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3120AB	39" PVC Pressure Rated Wastewater Pipe	LF	CITY	Wastewater	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3120QP	16" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120RP	18" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120SP	20" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120VP	24" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120WP	27" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120YP	30" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120ZP	33" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120AAP	36" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3120ABP	39" PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3130F	4" Fusible PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3130FP	4" Fusible PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3130H	6" Fusible PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3130HP	6" Fusible PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3130J	8" Fusible PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3130JP	8" Fusible PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3130L	12" Fusible PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3130LP	12" Fusible PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3130Q	16" Fusible PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3130QP	16" Fusible PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3130R	18" Fusible PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3130RP	18" Fusible PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3140F	4" Restrained Joint PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3140FP	4" Restrained Joint PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3140H	6" Restrained Joint PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3140HP	6" Restrained Joint PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3140J	8" Restrained Joint PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3140JP	8" Restrained Joint PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3140L	12" Restrained Joint PVC Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3140LP	12" Restrained Joint PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410Y	30" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410YP	30" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410Z	33" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410ZP	33" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AA	36" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410AAP	36" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AB	39" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410ABP	39" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AC	42" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410ACP	42" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AD	45" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410ADP	45" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AE	48" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3410AEP	48" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AF	54" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410AFP	54" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AG	60" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410AGP	60" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AH	66" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410AHP	66" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AJ	72" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410AJP	72" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AK	78" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410AKP	78" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AL	84" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410ALP	84" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AM	90" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410AMP	90" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3410AN	96" Reinforced Concrete Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3410ANP	96" Reinforced Concrete Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420R	18" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420RP	18" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420S	20" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420SP	20" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420V	24" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420VP	24" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420W	27" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420WP	27" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420Y	30" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420YP	30" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420Z	33" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420ZP	33" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AA	36" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420AAP	36" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AB	39" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420ABP	39" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AC	42" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420ACP	42" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AD	45" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420ADP	45" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AE	48" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420AEP	48" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AF	54" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420AFP	54" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AG	60" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3420AGP	60" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AH	66" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420AHP	66" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AJ	72" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420AJP	72" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AK	78" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420AKP	78" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AL	84" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420ALP	84" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AM	90" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420AMP	90" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3420AN	96" RTRP Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3420ANP	96" RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430R	18" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430RP	18" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430U	21" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430UP	21" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430V	24" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430VP	24" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430W	27" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430WP	27" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430Y	30" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430YP	30" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430Z	33" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430ZP	33" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430AA	36" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430AAP	36" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430AC	42" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430ACP	42" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3430AE	48" HDPE Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3430AEP	48" HDPE Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450RP	18" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450SP	20" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450UP	21" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450VP	24" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450WP	27" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450YP	30" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450ZP	33" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450AAP	36" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450ABP	39" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450ACP	42" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3450ADP	45" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3450AEP	48" PVC, HDPE, or RTRP Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3480QP	16" PVC, RTRP, or PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3480RP	18" PVC, RTRP, or PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3480UP	21" PVC, RTRP, or PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3480VP	24" PVC, RTRP, or PVC Pressure Rated Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3500AAP	36" RCP or PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3500ACP	42" RCP or PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3500AEP	48" RCP or PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3500AFP	54" RCP or PVC Wastewater Pipe with Paving	LF	JOINT	Wastewater	Pipe	-
3510F	4" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510FP	4" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3510H	6" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510HP	6" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3510J	8" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510JP	8" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3510K	10" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510KP	10" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3510L	12" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510LP	12" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3510N	15" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510NP	15" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3510R	18" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510RP	18" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3510S	20" Wastewater Force Main	LF	CITY	Wastewater	Pipe	-
3510SP	20" Wastewater Force Main with Paving	LF	JOINT	Wastewater	Pipe	-
3520H	Rehabilitation Of Existing 6" Wastewater Main	LF	ALL	Wastewater	Rehabilitation	-
3520J	Rehabilitation Of Existing 8" Wastewater Main	LF	ALL	Wastewater	Rehabilitation	-
3520K	Rehabilitation Of Existing 10" Wastewater Main	LF	ALL	Wastewater	Rehabilitation	-
3520L	Rehabilitation Of Existing 12" Wastewater Main	LF	ALL	Wastewater	Rehabilitation	-
3520N	Rehabilitation Of Existing 15" Wastewater Main	LF	ALL	Wastewater	Rehabilitation	-
3530K	10" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530L	12" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530R	18" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530V	24" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530Y	30" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AA	36" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AC	42" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AE	48" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AF	54" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AG	60" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AH	66" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530N	15" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3530AJ	72" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AK	78" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3530AL	84" Corrugated Metal Pipe (Split Encasement)	LF	ALL	Wastewater	Encasement	-
3540H	Point Repair of 6" Wastewater Main	LF	ALL	Wastewater	Repair	-
3540J	Point Repair of 8" Wastewater Main	LF	ALL	Wastewater	Repair	-
3540K	Point Repair of 10" Wastewater Main	LF	ALL	Wastewater	Repair	-
3540L	Point Repair of 12" Wastewater Main	LF	ALL	Wastewater	Repair	-
3540N	Point Repair of 15" Wastewater Main	LF	ALL	Wastewater	Repair	-
3540U	Point Repair of 21" Wastewater Main	LF	ALL	Wastewater	Repair	-
3540V	Point Repair of 24" Wastewater Main	LF	ALL	Wastewater	Repair	-
3540Y	Point Repair of 30" Wastewater Main	LF	ALL	Wastewater	Repair	-
3550	Removal of Internal Obstructions for Wastewater Mains	EA	ALL	Wastewater	Repair	-
3560	Connection to Existing Manhole	EA	ALL	Wastewater	Appurtenance	-
3570HxJ	Pipe Bursting (6" to 8")	LF	ALL	Wastewater	Rehabilitation	-
3570JxJ	Pipe Bursting (8" to 8")	LF	ALL	Wastewater	Rehabilitation	-
3570JxK	Pipe Bursting (8" to 10")	LF	ALL	Wastewater	Rehabilitation	-
3570JxL	Pipe Bursting (8" to 12")	LF	ALL	Wastewater	Rehabilitation	-
3570KxK	Pipe Bursting (10" to 10")	LF	ALL	Wastewater	Rehabilitation	-
3570KxL	Pipe Bursting (10" to 12")	LF	ALL	Wastewater	Rehabilitation	-
3570LxL	Pipe Bursting (12" to 12")	LF	ALL	Wastewater	Rehabilitation	-
3610H	6" Ductile Iron Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3610J	8" Ductile Iron Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3610K	10" Ductile Iron Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3610L	12" Ductile Iron Wastewater Pipe	LF	CITY	Wastewater	Pipe	-
3700HX	6" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700JX	8" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700KX	10" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700LX	12" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700NX	15" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700QX	16" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700RX	18" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700UX	21" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700VX	24" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700WX	27" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700YX	30" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700ZX	33" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700AAX	36" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700ABX	39" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700ACX	42" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700ADX	45" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700AEX	48" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700AFX	54" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3700AGX	60" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700AHX	66" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700AJX	72" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700AKX	78" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700ALX	84" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700AMX	90" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3700ANX	96" Extra Depth Wastewater Pipe (+20')	LF	ALL	Wastewater	Excavation	-
3800F	4" PVC Recycled Wastewater Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3800FP	4" PVC Recycled Wastewater Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3800H	6" PVC Recycled Wastewater Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3800HP	6" PVC Recycled Wastewater Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3800J	8" PVC Recycled Wastewater Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3800JP	8" PVC Recycled Wastewater Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3800K	10" PVC Recycled Wastewater Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3800KP	10" PVC Recycled Wastewater Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3800L	12" PVC Recycled Wastewater Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3800LP	12" PVC Recycled Wastewater Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810K	10" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810KP	10" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810L	12" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810LP	12" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810M	14" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810MP	14" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810Q	16" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810QP	16" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810R	18" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810RP	18" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810S	20" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810SP	20" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810V	24" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810VP	24" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810W	27" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810WP	27" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810Y	30" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810YP	30" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810AA	36" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810AAP	36" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810AC	42" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810ACP	42" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3810AE	48" Bar-Wrapped Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3810AEP	48" Bar-Wrapped Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820Q	16" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
3820QP	16" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820R	18" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3820RP	18" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820S	20" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3820SP	20" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820V	24" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3820VP	24" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820Y	30" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3820YP	30" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820AA	36" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3820AAP	36" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820AC	42" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3820ACP	42" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
3820AE	48" Prestressed Concrete Cylinder Pipe (Purple)	LF	CITY	Recycled	Pipe	-
3820AEP	48" Prestressed Concrete Cylinder Pipe (Purple) with Paving	LF	JOINT	Recycled	Pipe	-
5020	Cast Iron Fittings	TN	ALL	Water	Appurtenance	-
5050	Water Service	EA	ALL	Water	Appurtenance	201-206
5051A	0.75" Water Service	EA	P.DEV	Water	Appurtenance	201-206
5051B	1" Water Service	EA	P.DEV	Water	Appurtenance	201-206
5051C	1.5" Water Service	EA	P.DEV	Water	Appurtenance	201-206
5051D	2" Water Service	EA	P.DEV	Water	Appurtenance	201-206
5052A	0.75" Water Service with Transfer	EA	P.DEV	Water	Appurtenance	201-206
5052B	1" Water Service with Transfer	EA	P.DEV	Water	Appurtenance	201-206
5052C	1.5" Water Service with Transfer	EA	P.DEV	Water	Appurtenance	201-206
5052D	2" Water Service with Transfer	EA	P.DEV	Water	Appurtenance	201-206
5055X	Water Service - Extra Depth	LF	CITY	Water	Excavation	-
5060FxF	4" Combined Service with 4" Meter and Transfer	EA	ALL	Water	Appurtenance	507
5060HxH	6" Combined Service with 6" Meter and Transfer	EA	ALL	Water	Appurtenance	508
5060JxH	8" Combined Service with 6" Meter and Transfer	EA	ALL	Water	Appurtenance	509
5060JxJ	8" Combined Service with 8" Meter and Transfer	EA	ALL	Water	Appurtenance	510
5060KxJ	10" Combined Service with 8" Meter and Transfer	EA	ALL	Water	Appurtenance	511
5060KxK	10" Combined Service with 10" Meter and Transfer	EA	ALL	Water	Appurtenance	512
5061FxE	4" Domestic Service with 3" Meter and Transfer	EA	ALL	Water	Appurtenance	513
5061FxF	4" Domestic Service with 4" Meter and Transfer	EA	ALL	Water	Appurtenance	514
5061HxH	6" Domestic Service with 6" Meter and Transfer	EA	ALL	Water	Appurtenance	515
5061JxH	8" Domestic Service with 6" Meter and Transfer	EA	ALL	Water	Appurtenance	516
5062FxH	4" Closed Fireline Service with 4" D.C. Device and Transfer	EA	ALL	Water	Appurtenance	517
5062HxH	6" Closed Fireline Service with 6" D.C. Device and Transfer	EA	ALL	Water	Appurtenance	518
5062JxH	8" Closed Fireline Service with 6" D.C. Device and Transfer	EA	ALL	Water	Appurtenance	519
5062JxJ	8" Closed Fireline Service with 8" D.C. Device and Transfer	EA	ALL	Water	Appurtenance	520
5062KxK	10" Closed Fireline Service with 10" D.C. Device and Transfer	EA	ALL	Water	Appurtenance	521
5063FxH	4" Standpipe Fireline Service with 4" Meter and Transfer	EA	ALL	Water	Appurtenance	522

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5063HxH	6" Standpipe Fireline Service with 6" Meter and Transfer	EA	ALL	Water	Appurtenance	523
5063JxJ	8" Standpipe Fireline Service with 8" Meter and Transfer	EA	ALL	Water	Appurtenance	525
5063KxJ	10" Standpipe Fireline Service with 8" Meter and Transfer	EA	ALL	Water	Appurtenance	526
5063KxK	10" Standpipe Fireline Service with 10" Meter and Transfer	EA	ALL	Water	Appurtenance	527
5064FxF	4" Combined Service with 4" Meter	EA	ALL	Water	Appurtenance	507
5064HxH	6" Combined Service with 6" Meter	EA	ALL	Water	Appurtenance	508
5064JxH	8" Combined Service with 6" Meter	EA	ALL	Water	Appurtenance	509
5064JxJ	8" Combined Service with 8" Meter	EA	ALL	Water	Appurtenance	510
5064KxJ	10" Combined Service with 8" Meter	EA	ALL	Water	Appurtenance	511
5064KxK	10" Combined Service with 10" Meter	EA	ALL	Water	Appurtenance	512
5065FxE	4" Domestic Service with 3" Meter	EA	ALL	Water	Appurtenance	513
5065FxF	4" Domestic Service with 4" Meter	EA	ALL	Water	Appurtenance	514
5065HxH	6" Domestic Service with 6" Meter	EA	ALL	Water	Appurtenance	515
5065JxJ	8" Domestic Service with 6" Meter	EA	ALL	Water	Appurtenance	516
5066FxF	4" Closed Fireline Service with 4" D.C. Device	EA	ALL	Water	Appurtenance	517
5066HxH	6" Closed Fireline Service with 6" D.C.Device	EA	ALL	Water	Appurtenance	518
5066JxH	8" Closed Fireline Service with 6" D.C.Device	EA	ALL	Water	Appurtenance	519
5066JxJ	8" Closed Fireline Service with 8" D.C.Device	EA	ALL	Water	Appurtenance	520
5066KxK	10" Closed Fireline Service with 10" D.C.Device	EA	ALL	Water	Appurtenance	521
5067FxF	4" Standpipe Fireline Service with 4" Meter	EA	ALL	Water	Appurtenance	522
5067HxH	6" Standpipe Fireline Service with 6" Meter	EA	ALL	Water	Appurtenance	523
5067JxJ	8" Standpipe Fireline Service with 8" Meter	EA	ALL	Water	Appurtenance	525
5067KxJ	10" Standpipe Fireline Service with 8" Meter	EA	ALL	Water	Appurtenance	526
5067KxK	10" Standpipe Fireline Service with 10" Meter	EA	ALL	Water	Appurtenance	527
5070	Install Automated Meter Reading Equipment	EA	ALL	Water	Appurtenance	-
5080	Reconnect Existing Water Service	EA	JOINT	Water	Appurtenance	-
5091	Install Fire Hydrant	EA	ALL	Water	Appurtenance	224
5092	Remove Existing Fire Hydrant	EA	ALL	Water	Appurtenance	-
5093	Deliver Fire Hydrant	EA	ALL	Water	Appurtenance	-
5094	Relocate Fire Hydrant	EA	P.DEV	Water	Appurtenance	224
5100F	4" Gate Valve	EA	ALL	Water	Appurtenance	219A
5100H	6" Gate Valve	EA	ALL	Water	Appurtenance	219A
5100J	8" Gate Valve	EA	ALL	Water	Appurtenance	219A
5100K	10" Gate Valve	EA	ALL	Water	Appurtenance	219A
5100L	12" Gate Valve	EA	ALL	Water	Appurtenance	219A
5100Q	16" Gate Valve	EA	ALL	Water	Appurtenance	219A
5100R	18" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100S	20" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100V	24" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100Y	30" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AA	36" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AC	42" Gate Valve	EA	ALL	Water	Appurtenance	212-213

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5100AE	48" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AF	54" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AG	60" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AH	66" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AJ	72" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AK	78" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AL	84" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5100AM	90" Gate Valve	EA	ALL	Water	Appurtenance	212-213
5105F	4" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	219A
5105H	6" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	219A
5105J	8" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	219A
5105K	10" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	219A
5105L	12" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	219A
5105Q	16" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	219A
5105R	18" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105S	20" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105V	24" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105Y	30" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AA	36" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AC	42" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AE	48" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AF	54" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AG	60" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AH	66" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AJ	72" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AK	78" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AL	84" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5105AM	90" Gate Valve (Place Only)	EA	CITY	Water	Appurtenance	212-213
5110FxF	4"x4" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110HxH	6"x6" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110JxD	8"x2" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110JxH	8"x6" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110JxJ	8"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110KxJ	10"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110LxJ	12"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110LxL	12"x12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110QxJ	16"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110QxL	16"x12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110SxJ	20"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110SxL	20"x12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110VxL	24"x12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110VxQ	24"x16" Tapping Sleeve	EA	ALL	Water	Fitting	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5110YxL	30"x12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110AAxH	36"x6" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110AAxL	36"x12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110VxJ	24"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110QxQ	16"x16" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110RxJ	18"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110SxQ	20"x16" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110YxQ	30"x16" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110AAxQ	36"x16" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110YxV	30"x24" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110JxF	8"x4" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110LxH	12"x6" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110ACxL	42"x12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110KxK	10"x10" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110QxH	16"x6" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110MxD	14"x2" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110AAxJ	36"x8" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110LxD	12"x2" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110ALxAE	84"x48" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110AAxS	36"x20" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110AExQ	48"x16" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110LxF	12"x4" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110HxF	6"x4" Tapping Sleeve	EA	ALL	Water	Fitting	-
5110RxD	18" x 12" Tapping Sleeve	EA	ALL	Water	Fitting	-
5120F	Remove, Salvage, & Deliver 4" Valve	EA	CITY	Water	Appurtenance	-
5120H	Remove, Salvage, & Deliver 6" Valve	EA	CITY	Water	Appurtenance	-
5120J	Remove, Salvage, & Deliver 8" Valve	EA	CITY	Water	Appurtenance	-
5120K	Remove, Salvage, & Deliver 10" Valve	EA	CITY	Water	Appurtenance	-
5120L	Remove, Salvage, & Deliver 12" Valve	EA	CITY	Water	Appurtenance	-
5120Q	Remove, Salvage, & Deliver 16" Valve	EA	CITY	Water	Appurtenance	-
5120R	Remove, Salvage, & Deliver 18" Valve	EA	CITY	Water	Appurtenance	-
5120S	Remove, Salvage, & Deliver 20" Valve	EA	CITY	Water	Appurtenance	-
5120V	Remove, Salvage, & Deliver 24" Valve	EA	CITY	Water	Appurtenance	-
5120Y	Remove, Salvage, & Deliver 30" Valve	EA	CITY	Water	Appurtenance	-
5120AA	Remove, Salvage, & Deliver 36" Valve	EA	CITY	Water	Appurtenance	-
5120AC	Remove, Salvage, & Deliver 42" Valve	EA	CITY	Water	Appurtenance	-
5120AE	Remove, Salvage, & Deliver 48" Valve	EA	CITY	Water	Appurtenance	-
5120AF	Remove, Salvage, & Deliver 54" Valve	EA	CITY	Water	Appurtenance	-
5120AG	Remove, Salvage, & Deliver 60" Valve	EA	CITY	Water	Appurtenance	-
5120AH	Remove, Salvage, & Deliver 66" Valve	EA	CITY	Water	Appurtenance	-
5120AJ	Remove, Salvage, & Deliver 72" Valve	EA	CITY	Water	Appurtenance	-
5120AK	Remove, Salvage, & Deliver 78" Valve	EA	CITY	Water	Appurtenance	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5120AL	Remove, Salvage, & Deliver 84" Valve	EA	CITY	Water	Appurtenance	-
5120AM	Remove, Salvage, & Deliver 90" Valve	EA	CITY	Water	Appurtenance	-
5130H	6" Cut-In Valve	EA	ALL	Water	Appurtenance	-
5130J	8" Cut-In Valve	EA	ALL	Water	Appurtenance	-
5130L	12" Cut-In Valve	EA	ALL	Water	Appurtenance	-
5130Q	16" Cut-In Valve	EA	ALL	Water	Appurtenance	-
5140H	6" Flap Valve	EA	ALL	Water	Appurtenance	-
5140J	8" Flap Valve	EA	ALL	Water	Appurtenance	-
5140K	10" Flap Valve	EA	ALL	Water	Appurtenance	-
5140L	12" Flap Valve	EA	ALL	Water	Appurtenance	-
5150AE	48" Access Manhole	EA	CITY	Water	Appurtenance	-
5150AF	54" Access Manhole	EA	CITY	Water	Appurtenance	-
5150AG	60" Access Manhole	EA	CITY	Water	Appurtenance	-
5150AJ	72" Access Manhole	EA	CITY	Water	Appurtenance	-
5155AE	48" Access Manhole with Blowoff	EA	CITY	Water	Appurtenance	-
5155AG	60" Access Manhole with Blowoff	EA	CITY	Water	Appurtenance	-
5155AJ	72" Access Manhole with Blowoff	EA	CITY	Water	Appurtenance	-
5160AG	60" Diameter Water Manhole	EA	CITY	Water	Appurtenance	-
5160AGP	60" Diameter Water Manhole with Paving	EA	JOINT	Water	Appurtenance	-
5160AJ	72" Diameter Water Manhole	EA	CITY	Water	Appurtenance	-
5160AJP	72" Diameter Water Manhole with Paving	EA	JOINT	Water	Appurtenance	-
5170F	4" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170H	6" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170J	8" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170K	10" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170L	12" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170Q	16" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170S	20" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170V	24" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170Y	30" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5170AA	36" Pressure Reducing Valve & Vault	EA	ALL	Water	Appurtenance	-
5180AEX	48" Water Manhole -Extra Depth (+20')	EA	ALL	Water	Appurtenance	-
5180AGX	60" Water Manhole -Extra Depth (+20')	EA	ALL	Water	Appurtenance	-
5180AJX	72" Water Manhole -Extra Depth (+20')	EA	ALL	Water	Appurtenance	-
5180AEPX	48" Water Manhole with Paving -Extra Depth (+20')	EA	ALL	Water	Appurtenance	-
5180AGPX	60" Water Manhole with Paving -Extra Depth (+20')	EA	ALL	Water	Appurtenance	-
5180AJPX	72" Water Manhole with Paving -Extra Depth (+20')	EA	ALL	Water	Appurtenance	-
5200J	8" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200Q	16" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200R	18" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200S	20" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200V	24" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5200Y	30" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AA	36" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AC	42" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AE	48" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AF	54" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AG	60" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AH	66" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AJ	72" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AL	84" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5200AN	96" Butterfly Valve	EA	ALL	Water	Appurtenance	214, 215
5205J	8" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205Q	16" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205R	18" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205S	20" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205V	24" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205Y	30" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AA	36" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AC	42" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AE	48" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AF	54" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AG	60" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AH	66" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AJ	72" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AL	84" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5205AN	96" Butterfly Valve (Place Only)	EA	ALL	Water	Appurtenance	214, 215
5500D	2" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500F	4" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500H	6" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500J	8" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500L	12" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500Q	16" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500R	18" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500S	20" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500V	24" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500Y	30" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AA	36" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AC	42" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AE	48" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AF	54" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AG	60" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AH	66" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AJ	72" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5500AK	78" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AL	84" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AM	90" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5500AN	96" Water Main (BOTO)	LF	ALL	Water	Std. BOTO	101
5505H	6" Water Main By Horiz. Directional Drilling	LF	ALL	Water	HDD BOTO	101
5505J	8" Water Main By Horiz. Directional Drilling	LF	ALL	Water	HDD BOTO	101
5505L	12" Water Main By Horiz. Directional Drilling	LF	ALL	Water	HDD BOTO	101
5510D	2" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	102
5510F	4" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	102
5510H	6" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	102
5510J	8" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	102
5510L	12" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	102
5510Q	16" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510S	20" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510V	24" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510Y	30" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AA	36" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AC	42" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AE	48" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AF	54" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AG	60" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AH	66" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AJ	72" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AK	78" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AL	84" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5510AM	90" Water, Highway Crossing (BOTO)	LF	ALL	Water	Highway X-ing	103
5520D	2" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520F	4" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520H	6" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520J	8" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520L	12" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520Q	16" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520S	20" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520V	24" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520Y	30" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AA	36" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AC	42" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AE	48" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AF	54" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AG	60" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AH	66" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AJ	72" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5520AK	78" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AL	84" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5520AM	90" Water, Highway Crossing (By Open Cut)	LF	ALL	Water	Highway X-ing	-
5530D	2" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530F	4" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530H	6" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530J	8" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530L	12" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530Q	16" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530S	20" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530V	24" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530Y	30" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AA	36" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AC	42" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AE	48" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AF	54" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AG	60" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AH	66" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AJ	72" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AK	78" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AL	84" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AM	90" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5530AN	96" Water, RR Crossing (BOTO)	LF	ALL	Water	Railway X-ing	-
5540D	2" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540F	4" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540H	6" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540J	8" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540L	12" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540Q	16" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540S	20" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540V	24" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540Y	30" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AA	36" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AC	42" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AE	48" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AF	54" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AG	60" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AH	66" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AJ	72" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AK	78" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AL	84" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-
5540AM	90" Water, RR Crossing (By Open Cut)	LF	ALL	Water	Railway X-ing	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5550D	2" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550F	4" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550H	6" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550J	8" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550L	12" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550Q	16" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550R	18" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550S	20" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550V	24" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550Y	30" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AA	36" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AC	42" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AE	48" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AF	54" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AG	60" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AH	66" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AJ	72" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AK	78" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AL	84" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AM	90" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5550AN	96" Water Main Crossing (BOTO)	LF	ALL	Water	Enc. BOTO	-
5560D	2" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560F	4" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560H	6" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560J	8" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560L	12" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560Q	16" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560R	18" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560S	20" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560V	24" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560Y	30" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AA	36" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AC	42" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AE	48" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AF	54" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AG	60" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AH	66" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AJ	72" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AK	78" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AL	84" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AM	90" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-
5560AN	96" Water Main Crossing (By Open Cut)	LF	ALL	Water	Encasement	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5570	Pitot Outlet and Manhole	EA	ALL	Water	Appurtenance	220
5580Q	16" Dished Head Plug	EA	ALL	Water	Fitting	-
5580R	18" Dished Head Plug	EA	ALL	Water	Fitting	-
5580S	20" Dished Head Plug	EA	ALL	Water	Fitting	-
5580V	24" Dished Head Plug	EA	ALL	Water	Fitting	-
5580Y	30" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AA	36" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AC	42" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AE	48" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AF	54" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AG	60" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AH	66" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AJ	72" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AK	78" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AL	84" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AM	90" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AN	96" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AQ	102" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AR	108" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AS	114" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AU	120" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AV	126" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AW	132" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AY	138" Dished Head Plug	EA	ALL	Water	Fitting	-
5580AZ	144" Dished Head Plug	EA	ALL	Water	Fitting	-
5585Q	16" Test Fitting	EA	ALL	Water	Fitting	-
5585R	18" Test Fitting	EA	ALL	Water	Fitting	-
5585S	20" Test Fitting	EA	ALL	Water	Fitting	-
5585V	24" Test Fitting	EA	ALL	Water	Fitting	-
5585Y	30" Test Fitting	EA	ALL	Water	Fitting	-
5585AA	36" Test Fitting	EA	ALL	Water	Fitting	-
5585AC	42" Test Fitting	EA	ALL	Water	Fitting	-
5585AE	48" Test Fitting	EA	ALL	Water	Fitting	-
5585AF	54" Test Fitting	EA	ALL	Water	Fitting	-
5585AG	60" Test Fitting	EA	ALL	Water	Fitting	-
5585AH	66" Test Fitting	EA	ALL	Water	Fitting	-
5585AJ	72" Test Fitting	EA	ALL	Water	Fitting	-
5585AK	78" Test Fitting	EA	ALL	Water	Fitting	-
5585AL	84" Test Fitting	EA	ALL	Water	Fitting	-
5585AM	90" Test Fitting	EA	ALL	Water	Fitting	-
5585AN	96" Test Fitting	EA	ALL	Water	Fitting	-
5585AQ	102" Test Fitting	EA	ALL	Water	Fitting	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5585AR	108" Test Fitting	EA	ALL	Water	Fitting	-
5585AS	114" Test Fitting	EA	ALL	Water	Fitting	-
5585AU	120" Test Fitting	EA	ALL	Water	Fitting	-
5585AV	126" Test Fitting	EA	ALL	Water	Fitting	-
5585AW	132" Test Fitting	EA	ALL	Water	Fitting	-
5585AY	138" Test Fitting	EA	ALL	Water	Fitting	-
5585AZ	144" Test Fitting	EA	ALL	Water	Fitting	-
5590Q	16" Night Cap Plug	EA	ALL	Water	Fitting	-
5590R	18" Night Cap Plug	EA	ALL	Water	Fitting	-
5590S	20" Night Cap Plug	EA	ALL	Water	Fitting	-
5590V	24" Night Cap Plug	EA	ALL	Water	Fitting	-
5590Y	30" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AA	36" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AC	42" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AE	48" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AF	54" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AG	60" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AH	66" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AJ	72" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AK	78" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AL	84" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AM	90" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AN	96" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AQ	102" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AR	108" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AS	114" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AU	120" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AV	126" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AW	132" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AY	138" Night Cap Plug	EA	ALL	Water	Fitting	-
5590AZ	144" Night Cap Plug	EA	ALL	Water	Fitting	-
5600	Cut and Plug Existing Water Main	EA	ALL	Water	Appurtenance	-
5600P	Cut and Plug Existing Water Main with Paving	EA	JOINT	Water	Appurtenance	-
5610	Cut and Plug Water Main for Test	EA	ALL	Water	Testing	-
5620X	Cut and Plug Mains - Extra Depth (+20')	VF	CITY	Water	Excavation	-
5650	Remove & Dispose of Lead Pipe Joint	EA	ALL	Water	Environmental	-
5750B	1" Flush Point	EA	ALL	Water	Appurtenance	207
5750D	2" Flush Point	EA	ALL	Water	Appurtenance	207
5755B	Automated 1" Flush Point	EA	ALL	Water	Appurtenance	-
5755D	Automated 2" Flush Point	EA	ALL	Water	Appurtenance	-
5761	Type 1 Air Valve Installation	EA	ALL	Water	Appurtenance	208
5762D	2" Type 2 Air Valve Installation	EA	ALL	Water	Appurtenance	209-211

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
5762E	3" Type 2 Air Valve Installation	EA	ALL	Water	Appurtenance	209-211
5762F	4" Type 2 Air Valve Installation	EA	ALL	Water	Appurtenance	209-211
5762H	6" Type 2 Air Valve Installation	EA	ALL	Water	Appurtenance	209-211
5762J	8" Type 2 Air Valve Installation	EA	ALL	Water	Appurtenance	209-211
5762K	10" Type 2 Air Valve Installation	EA	ALL	Water	Appurtenance	209-211
5762L	12" Type 2 Air Valve Installation	EA	ALL	Water	Appurtenance	209-211
5770H	Standard 6" Water Main Lowering	EA	JOINT	Water	Adjustment	225
5770J	Standard 8" Water Main Lowering	EA	JOINT	Water	Adjustment	225
5770L	Standard 12" Water Main Lowering	EA	JOINT	Water	Adjustment	225
5770Q	Standard 16" Water Main Lowering	EA	JOINT	Water	Adjustment	225
5990H	6" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990J	8" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990K	10" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990L	12" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990N	15" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990Q	16" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990R	18" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990U	21" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990V	24" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990W	27" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990Y	30" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990Z	33" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AA	36" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AB	39" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AC	42" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AD	45" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AE	48" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AF	54" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AG	60" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AH	66" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AJ	72" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AK	78" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AN	96" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AQ	102" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
5990AU	120" Wastewater Main (BOTO)	LF	ALL	Wastewater	Std.BOTO	101
6000H	6" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	102
6000J	8" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	102
6000K	10" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	102
6000L	12" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	102
6000N	15" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000Q	16" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000R	18" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6000U	21" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000V	24" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000W	27" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000Y	30" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000Z	33" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AA	36" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AB	39" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AC	42" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AD	45" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AE	48" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AF	54" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AG	60" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AH	66" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AJ	72" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AK	78" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AN	96" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AQ	102" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6000AU	120" Wastewater, Highway Crossing (BOTO)	LF	ALL	Wastewater	Highway X-ing	103
6010H	6" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010J	8" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010K	10" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010L	12" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010N	15" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010Q	16" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010R	18" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010U	21" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010S	20" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010V	24" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010Y	30" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AA	36" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AC	42" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AE	48" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AF	54" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AG	60" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AH	66" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AJ	72" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AK	78" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AL	84" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6010AM	90" Wastewater, Highway Crossing (By Open Cut)	LF	ALL	Wastewater	Highway X-ing	-
6020H	6" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020J	8" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020K	10" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6020L	12" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020N	15" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020Q	16" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020R	18" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020U	21" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020V	24" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020W	27" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020Y	30" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020Z	33" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AA	36" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AB	39" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AC	42" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AD	45" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AE	48" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AF	54" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AG	60" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AH	66" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AJ	72" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6020AK	78" Wastewater, RR Crossing (BOTO)	LF	ALL	Wastewater	Railway X-ing	-
6030H	6" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030J	8" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030K	10" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030L	12" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030N	15" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030Q	16" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030S	20" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030V	24" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030Y	30" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AA	36" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AC	42" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AE	48" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AF	54" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AG	60" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AH	66" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AJ	72" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AK	78" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AL	84" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AM	90" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6030AQ	102" Wastewater, RR Crossing (By Open Cut)	LF	ALL	Wastewater	Railway X-ing	-
6040H	6" Wastewater Main Crossing (BOTO)	LF	ALL	Wastewater	Enc. BOTO	-
6040J	8" Wastewater Main Crossing (BOTO)	LF	ALL	Wastewater	Enc. BOTO	-
6040K	10" Wastewater Main Crossing (BOTO)	LF	ALL	Wastewater	Enc. BOTO	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6040L	12" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040N	15" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040Q	16" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040R	18" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040U	21" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040V	24" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040W	27" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040Y	30" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040Z	33" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AA	36" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AB	39" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AC	42" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AD	45" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AE	48" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AF	54" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AG	60" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AH	66" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AJ	72" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AK	78" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AL	84" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AN	96" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AQ	102" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6040AU	120" Wastewater Main Crossing (BOTOC)	LF	ALL	Wastewater	Enc. BOTOC	-
6050H	6" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050J	8" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050K	10" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050L	12" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050N	15" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050Q	16" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050R	18" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050U	21" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050V	24" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050W	27" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050Y	30" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050Z	33" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AA	36" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AB	39" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AC	42" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AD	45" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AE	48" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AF	54" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AG	60" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6050AH	66" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AJ	72" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AK	78" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AN	96" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AQ	102" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6050AU	120" Wastewater Main Crossing (By Open Cut)	LF	ALL	Wastewater	Encasement	-
6060	Wastewater Lateral	EA	ALL	Wastewater	Appurtenance	319-325
6065X	Wastewater Lateral - Extra Depth (+20')	LF	CITY	Wastewater	Excavation	319-325
6070	External Wastewater Lateral Connection	EA	ALL	Wastewater	Appurtenance	-
6075	Internal Wastewater Lateral Connection	EA	ALL	Wastewater	Appurtenance	-
6080	Standard Mainline Cleanout	EA	CITY	Wastewater	Appurtenance	317
6080P	Standard Mainline Cleanout with Paving	EA	JOINT	Wastewater	Appurtenance	317
6090	Adjust Existing Wastewater Lateral	EA	JOINT	Wastewater	Adjustment	406
6100	Wastewater Access Device	EA	CITY	Wastewater	Appurtenance	328
6100P	Wastewater Access Device with Paving	EA	JOINT	Wastewater	Appurtenance	328
6110AE	48" Drop Manhole	EA	CITY	Wastewater	Appurtenance	307, 308
6110AEP	48" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	307, 308
6110AG	60" Drop Manhole	EA	CITY	Wastewater	Appurtenance	307, 308
6110AGP	60" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	307, 308
6110AJ	72" Drop Manhole	EA	CITY	Wastewater	Appurtenance	307, 308
6110AJP	72" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	307, 308
6110AL	84" Drop Manhole	EA	CITY	Wastewater	Appurtenance	307, 308
6110ALP	84" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	307, 308
6110AN	96" Drop Manhole	EA	CITY	Wastewater	Appurtenance	307, 308
6110ANP	96" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	307, 308
6111AEX	48" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	307, 308
6111AEPX	48" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	307, 308
6111AGX	60" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	307, 308
6111AGPX	60" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	307, 308
6111AJX	72" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	307, 308
6111JXP	72" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	307, 308
6111ALX	84" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	307, 308
6111ALPX	84" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	307, 308
6111ANX	96" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	307, 308
6111ANPX	96" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	307, 308
6120AE	48" Type "S" Manhole	EA	CITY	Wastewater	Appurtenance	304
6120AEP	48" Type "S" Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304
6120AG	60" Type "S" Manhole	EA	CITY	Wastewater	Appurtenance	304
6120AGP	60" Type "S" Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304
6120AJ	72" Type "S" Manhole	EA	CITY	Wastewater	Appurtenance	304
6120AJP	72" Type "S" Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304
6120AL	84" Type "S" Manhole	EA	CITY	Wastewater	Appurtenance	304

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6120ALP	84" Type "S" Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304
6120AN	96" Type "S" Manhole	EA	CITY	Wastewater	Appurtenance	304
6120ANP	96" Type "S" Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304
6121AEX	48" Type "S" Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304
6121AEPX	48" Type "S" Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304
6121AGX	60" Type "S" Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304
6121AGPX	60" Type "S" Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304
6121AJX	72" Type "S" Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304
6121AJPX	72" Type "S" Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304
6121ALX	84" Type "S" Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304
6121ALPX	84" Type "S" Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304
6121ANX	96" Type "S" Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304
6121ANPX	96" Type "S" Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304
6125AE	48" Type "S" Drop Manhole	EA	CITY	Wastewater	Appurtenance	304,307,308
6125AEP	48" Type "S" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304,307,308
6125AG	60" Type "S" Drop Manhole	EA	CITY	Wastewater	Appurtenance	304,307,308
6125AGP	60" Type "S" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304,307,308
6125AJ	72" Type "S" Drop Manhole	EA	CITY	Wastewater	Appurtenance	304,307,308
6125AJP	72" Type "S" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304,307,308
6125AL	84" Type "S" Drop Manhole	EA	CITY	Wastewater	Appurtenance	304,307,308
6125ALP	84" Type "S" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304,307,308
6125AN	96" Type "S" Drop Manhole	EA	CITY	Wastewater	Appurtenance	304,307,308
6125ANP	96" Type "S" Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	304,307,308
6126AEX	48" Type "S" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304,307,308
6126AEPX	48" Type "S" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304,307,308
6126AGX	60" Type "S" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304,307,308
6126AGPX	60" Type "S" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304,307,308
6126AJX	72" Type "S" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304,307,308
6126AJPX	72" Type "S" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304,307,308
6126ALX	84" Type "S" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304,307,308
6126ALPX	84" Type "S" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304,307,308
6126ANX	96" Type "S" Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	304,307,308
6126ANPX	96" Type "S" Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	304,307,308
6130AE	48" Wastewater Manhole	EA	CITY	Wastewater	Appurtenance	301, 302
6130AEP	48" Wastewater Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	301, 302
6130AG	60" Wastewater Manhole	EA	CITY	Wastewater	Appurtenance	301, 302
6130AGP	60" Wastewater Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	301, 302
6130AJ	72" Wastewater Manhole	EA	CITY	Wastewater	Appurtenance	301, 302
6130AJP	72" Wastewater Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	301, 302
6130AL	84" Wastewater Manhole	EA	CITY	Wastewater	Appurtenance	301, 302
6130ALP	84" Wastewater Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	301, 302
6130AN	96" Wastewater Manhole	EA	CITY	Wastewater	Appurtenance	301, 302

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6130ANP	96" Wastewater Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	301, 302
6131AEX	48" Wastewater Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	301, 302
6131AEPX	48" Wastewater Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	301, 302
6131AGX	60" Wastewater Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	301, 302
6131AGPX	60" Wastewater Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	301, 302
6131AJX	72" Wastewater Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	301, 302
6131AJPX	72" Wastewater Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	301, 302
6131ALX	84" Wastewater Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	301, 302
6131ALPX	84" Wastewater Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	301, 302
6131ANX	96" Wastewater Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	301, 302
6131ANPX	96" Wastewater Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	301, 302
6140	Abandon Existing Manhole	EA	ALL	Wastewater	Appurtenance	316
6141	Vacuum Test for Wastewater Manhole	EA	ALL	Wastewater	Appurtenance	-
6142	Drop Connection to Existing Manhole	EA	ALL	Wastewater	Appurtenance	307, 308
6143	Abandon Existing Structural Manhole	EA	CITY	Wastewater	Appurtenance	316
6150AE	48" Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6150AF	54" Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6150AG	60" Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6150AJ	72" Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6151AEX	48" Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6151AFX	54" Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6151AGX	60" Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6151AJX	72" Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6155AE	48" Drop Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6155AF	54" Drop Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6155AG	60" Drop Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6155AJ	72" Drop Manhole Rehabilitation	EA	ALL	Wastewater	Rehabilitation	-
6156AEX	48" Drop Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6156AFX	54" Drop Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6156AGX	60" Drop Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6156AJX	72" Drop Manhole Rehabilitation - Extra Depth (+20')	EA	ALL	Wastewater	Rehabilitation	-
6160AE	48" Special Manhole	EA	CITY	Wastewater	Appurtenance	-
6160AEP	48" Special Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6160AG	60" Special Manhole	EA	CITY	Wastewater	Appurtenance	-
6160AGP	60" Special Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6160AJ	72" Special Manhole	EA	CITY	Wastewater	Appurtenance	-
6160AJP	72" Special Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6160AL	84" Special Manhole	EA	CITY	Wastewater	Appurtenance	-
6160ALP	84" Special Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6160AN	96" Special Manhole	EA	CITY	Wastewater	Appurtenance	-
6160ANP	96" Special Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6161AEX	48" Special Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6161AEPX	48" Special Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6161AGX	60" Special Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6161AGPX	60" Special Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6161AJX	72" Special Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6161AJPX	72" Special Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6161ALX	84" Special Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6161ALPX	84" Special Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6161ANX	96" Special Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6161ANPX	96" Special Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6170AEX	48" Extra Depth Manhole	LF	P.DEV	Wastewater	Appurtenance	-
6170AFX	54" Extra Depth Manhole	LF	P.DEV	Wastewater	Appurtenance	-
6170AGX	60" Extra Depth Manhole	LF	P.DEV	Wastewater	Appurtenance	-
6180AE	48" Gas Sealed Drop Manhole	EA	CITY	Wastewater	Appurtenance	-
6180AG	60" Gas Sealed Drop Manhole	EA	CITY	Wastewater	Appurtenance	-
6180AJ	72" Gas Sealed Drop Manhole	EA	CITY	Wastewater	Appurtenance	-
6180AL	84" Gas Sealed Drop Manhole	EA	CITY	Wastewater	Appurtenance	-
6180AN	96" Gas Sealed Drop Manhole	EA	CITY	Wastewater	Appurtenance	-
6180AEP	48" Gas Sealed Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6180AGP	60" Gas Sealed Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6180AJP	72" Gas Sealed Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6180ALP	84" Gas Sealed Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6180ANP	96" Gas Sealed Drop Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6181AEX	48" Gas Sealed Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6181AGX	60" Gas Sealed Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6181AJX	72" Gas Sealed Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6181ALX	84" Gas Sealed Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6181ANX	96" Gas Sealed Drop Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6181AEPX	48" Gas Sealed Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6181AGPX	60" Gas Sealed Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6181AJPX	72" Gas Sealed Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6181ALPX	84" Gas Sealed Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6181ANPX	96" Gas Sealed Drop Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6190AE	48" Vortex Manhole	EA	CITY	Wastewater	Appurtenance	-
6190AG	60" Vortex Manhole	EA	CITY	Wastewater	Appurtenance	-
6190AJ	72" Vortex Manhole	EA	CITY	Wastewater	Appurtenance	-
6190AL	84" Vortex Manhole	EA	CITY	Wastewater	Appurtenance	-
6190AN	96" Vortex Manhole	EA	CITY	Wastewater	Appurtenance	-
6190AEP	48" Vortex Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6190AGP	60" Vortex Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6190AJP	72" Vortex Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6190ALP	84" Vortex Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-
6190ANP	96" Vortex Manhole with Paving	EA	JOINT	Wastewater	Appurtenance	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6191AEX	48" Vortex Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6191AGX	60" Vortex Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6191AJX	72" Vortex Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6191ALX	84" Vortex Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6191ANX	96" Vortex Manhole - Extra Depth (+20')	EA	CITY	Wastewater	Appurtenance	-
6191AEPX	48" Vortex Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6191AGPX	60" Vortex Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6191AJPX	72" Vortex Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6191ALPX	84" Vortex Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6191ANPX	96" Vortex Manhole with Paving - Extra Depth (+20')	EA	JOINT	Wastewater	Appurtenance	-
6200J	8" Wastewater Aerial Crossing	EA	ALL	Wastewater	Pipe	-
6200L	12" Wastewater Aerial Crossing	EA	ALL	Wastewater	Pipe	-
6200N	15" Wastewater Aerial Crossing	EA	ALL	Wastewater	Pipe	-
6200U	21" Wastewater Aerial Crossing	EA	ALL	Wastewater	Pipe	-
6240	Tree	EA	ALL	Restoration	Landscaping	-
6250	Shrubs, Flowers, Ground Cover, Etc..	EA	ALL	Restoration	Landscaping	-
6260	Clearing & Grubbing	LS	ALL	Restoration	Landscaping	-
6270	Fence Replacement	LF	ALL	Restoration	Landscaping	-
6320	Abandon Wastewater Lift Station	LS	ALL	Wastewater	Appurtenance	-
6321	Pump, Motor, & Variable Speed Drive	LS	ALL	Wastewater	Appurtenance	-
6322	Wastewater Lift Station	LS	ALL	Wastewater	Appurtenance	-
6400F	4" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400H	6" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400J	8" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400K	10" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400L	12" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400Q	16" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400R	18" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400S	20" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400V	24" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400Y	30" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400AA	36" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400AC	42" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6400AE	48" Gate Valve -CCW Open for Recycled Wastewater	EA	ALL	Recycled	Appurtenance	-
6800	Project Partnering	LS	CITY	General	Management	-
6870	Move In and Move Out	EA	CITY	General	Mobilization	-
6875	Move to another Location	EA	CITY	General	Mobilization	-
6900	Place Grass Sod	SY	CITY	Restoration	Landscaping	-
6901	Place Spot Sod	SY	CITY	Restoration	Landscaping	-
6902	Place Block Sod	SY	CITY	Restoration	Landscaping	-
6903	Place Sprig	SY	CITY	Restoration	Landscaping	-
6904	Hydromulch	SY	CITY	Restoration	Landscaping	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6905	Seed	SY	CITY	Restoration	Landscaping	-
6907	Fertilizer	SY	CITY	Restoration	Landscaping	-
6908	Place Brick Paving	SY	CITY	Paving	Paving	-
6909	Place Brick Sidewalk	SY	CITY	Paving	Paving	-
6910	Cobblestone Sidewalk Pavers	SY	CITY	Paving	Paving	-
6911	Corsel/Brick Intersection Pavers	SY	CITY	Paving	Paving	-
6920	Television Inspection	LF	CITY	Wastewater	Testing	-
6921	Television Inspection	LF	JOINT	Wastewater	Testing	-
6925	Trench Safety & Support	LF	ALL	General	Safety	-
6930Q	16" Closure Section	EA	ALL	General	Fitting	-
6930S	20" Closure Section	EA	ALL	General	Fitting	-
6930V	24" Closure Section	EA	ALL	General	Fitting	-
6930Y	30" Closure Section	EA	ALL	General	Fitting	-
6930AA	36" Closure Section	EA	ALL	General	Fitting	-
6930AC	42" Closure Section	EA	ALL	General	Fitting	-
6930AE	48" Closure Section	EA	ALL	General	Fitting	-
6930AF	54" Closure Section	EA	ALL	General	Fitting	-
6930AG	60" Closure Section	EA	ALL	General	Fitting	-
6930AH	66" Closure Section	EA	ALL	General	Fitting	-
6940	Base Preparation	SY	CITY	Paving	Paving	-
6941	Lime Treated Base	SY	CITY	Paving	Paving	-
6942	Street Surface Milling	SY	CITY	Paving	Paving	-
6950	Gabions for Slope Protection	CY	ALL	Restoration	Drainage	-
6960Q	Remove 16" Internal Test Plug	EA	ALL	Water	Fitting	-
6960S	Remove 20" Internal Test Plug	EA	ALL	Water	Fitting	-
6960V	Remove 24" Internal Test Plug	EA	ALL	Water	Fitting	-
6960Y	Remove 30" Internal Test Plug	EA	ALL	Water	Fitting	-
6960AA	Remove 36" Internal Test Plug	EA	ALL	Water	Fitting	-
6960AC	Remove 42" Internal Test Plug	EA	ALL	Water	Fitting	-
6960AE	Remove 48" Internal Test Plug	EA	ALL	Water	Fitting	-
6960AF	Remove 54" Internal Test Plug	EA	ALL	Water	Fitting	-
6960AG	Remove 60" Internal Test Plug	EA	ALL	Water	Fitting	-
6960AH	Remove 66" Internal Test Plug	EA	ALL	Water	Fitting	-
6970	Pipe to Soil Potential Monitoring Station	EA	ALL	Water	Appurtenance	226, 227
6980H	Encasement for 6" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416
6980J	Encasement for 8" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416
6980K	Encasement for 10" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416
6980L	Encasement for 12" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416
6980N	Encasement for 15" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416
6980R	Encasement for 18" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416
6980S	Encasement for 20" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416
6980V	Encasement for 24" Wastewater Pipe through Storm Sewer	LF	ALL	Wastewater	Encasement	414-416

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
6990H	6" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	219A
6995H	6" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	219A
6990J	8" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	219A
6995J	8" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	219A
6990K	10" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	219A
6995K	10" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	219A
6990L	12" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	219A
6995L	12" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	219A
6990Q	16" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	219A
6995Q	16" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	219A
6990R	18" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	212-213
6995R	18" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	212-213
6990S	20" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	212-213
6995S	20" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	212-213
6990V	24" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	212-213
6995V	24" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	212-213
6990Y	30" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	212-213
6995Y	30" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	212-213
6990AA	36" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	212-213
6995AA	36" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	212-213
6990AC	42" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	212-213
6995AC	42" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	212-213
6990AE	48" Gate Valve Replacement	LS	CITY-VALVE	Water	Appurtenance	212-213
6995AE	48" Gate Valve Replacement (City Furnished)	LS	CITY-VALVE	Water	Appurtenance	212-213
7030	Rock Foundation	CY	ALL	General	Trench	-
7040	Stabilized Backfill	CY	ALL	General	Trench	-
7041	Flowable Backfill	CY	ALL	General	Trench	-
7042	Modified Flowable Backfill	CY	ALL	General	Trench	-
7043	Four "F" Flowable Backfill	CY	ALL	General	Trench	-
7044	Four "F" Flowable Base - High Strength & Fast Set	CY	ALL	Paving	Paving	-
7050	Sand Backfill	CY	ALL	General	Trench	-
7051	Topsoil	CY	ALL	Restoration	Landscaping	-
7052	Cement Treated Base Backfill	CY	ALL	General	Trench	-
7053	Cement Stabilized Sand Backfill	CY	CITY	General	Trench	-
7060	Concrete Backfill	CY	ALL	General	Trench	-
7070	Class "A" Concrete	CY	ALL	General	Trench	-
7071	Class "B" Concrete	CY	ALL	General	Trench	-
7072	Class "C" Concrete	CY	ALL	General	Trench	-
7073	Class "D" Concrete	CY	ALL	General	Trench	-
7074	Class "E" Concrete	CY	ALL	General	Trench	-
7075	Class "F" Concrete	CY	ALL	General	Trench	-
7076	Class "H" Concrete	CY	ALL	General	Trench	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
7090	Furnish and Place Rip Rap	SY	ALL	Paving	Paving	-
7095	Furnish and Place Dry Rip Rap (Type A)	SY	ALL	Paving	Paving	-
7520	Temporary Paving (Hot or High Performance Mix)	TN	CITY	Paving	Paving	-
7525	Flex Base (Crushed Rock) Alley Surface	CY	CITY	Paving	Paving	-
7530	Concrete Curb and/or Gutter	LF	CITY	Paving	Paving	-
7531	Asphalt Curb and/or Gutter	LF	CITY	Paving	Paving	-
7532	Concrete Gutter	LF	CITY	Paving	Paving	-
7540	Concrete Curb	LF	CITY	Paving	Paving	-
7545	Asphalt Curb	LF	CITY	Paving	Paving	-
7560	Crushed Rock for Temporary Paving Base	CY	CITY	Paving	Paving	-
7570	Reinforced Concrete Paving	CY	CITY	Paving	Paving	-
7575	Type 3K-2 Reinforced Concrete Paving	CY	CITY	Paving	Paving	-
7580	Reinforced Concrete Sidewalk	SY	CITY	Paving	Paving	-
7581	Temporary Hot Mix Asphalt Sidewalk	SY	CITY	Paving	Paving	-
7582	Reinforced Concrete Paving	SY	CITY	Paving	Paving	-
7583	Reinforced Concrete Driveway	SY	CITY	Paving	Paving	-
7584	Slurry Seal Surface Treatment	SY	CITY	Paving	Paving	-
7585	Barrier Free Ramp	EA	CITY	Paving	Paving	-
7590	Reinforced Concrete Driveway	CY	CITY	Paving	Paving	-
7600	Reinforced Concrete Base	CY	CITY	Paving	Paving	-
7605	Type 3K-2 Reinforced Concrete Base	CY	CITY	Paving	Paving	-
7650	Penetration Type Asphalt Replacement	SY	CITY	Paving	Paving	-
7655	Hot Mix Asphalt Concrete Pavement	TN	CITY	Paving	Paving	-
7700	Geotextile Fabric (Erosion Control)	LF	ALL	General	Environmental	-
7701	Geotextile Fabric (Erosion Control)	SY	ALL	General	Environmental	-
7702	Geotextile Fabric (Embedment)	LF	ALL	General	Trench	-
7703	Geotextile Fabric (Embedment)	SY	ALL	General	Trench	-
7710	Silt Fence	LF	ALL	General	Environmental	-
7711	Silt Fence and Hay Bales	LF	ALL	General	Environmental	-
7712	Storm Water Pollution Prevention Plan	EA	ALL	General	Environmental	-
7713	Erosion Control	LS	ALL	General	Environmental	-
7720	Excavation	CY	SPECIAL	General	Excavation	-
7725	Rock Excavation	CY	P. DEV	General	Excavation	-
7730	Disposal of Heavy Chlorinated Water Main Flushing Water	LS	ALL	Water	Environmental	-
7740	Removal and Disposal of Contaminated Soil	CY	ALL	General	Environmental	-
7760	Health and Safety Plan	LS	CITY	General	Environmental	-
7761	Monitoring Plan	LS	CITY	General	Environmental	-
7762	Corrective Action Plan	LS	CITY	General	Environmental	-
7763	Disposal of Petroleum Contaminated Soils	CY	CITY	General	Environmental	-
7764	Disposal of Petroleum Contaminated Groundwater	GAL	CITY	General	Environmental	-
7765	Disposal of Class I Non-Hazardous Industrial Waste	CY	CITY	General	Environmental	-
7766	Disposal of Class II Non-Hazardous Industrial Waste	CY	CITY	General	Environmental	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
7800	Concrete Curb and Gutter	LF	CITY-PAVING	Paving	Paving	-
7801F	4" Reinforced Concrete Pavement Or Base	SF	CITY-PAVING	Paving	Paving	-
7801H	6" Reinforced Concrete Pavement Or Base	SF	CITY-PAVING	Paving	Paving	-
7801J	8" Reinforced Concrete Pavement Or Base	SF	CITY-PAVING	Paving	Paving	-
7802	Project Partnering And Preconstruction	LS	CITY-PAVING	Paving	General	-
7803	Reinforced Concrete Sidewalk	SF	CITY-PAVING	Paving	Paving	-
7804D	2" Hot-Mix Asphalt Concrete Pavement	SF	CITY-PAVING	Paving	Paving	-
7805H	6" Type Four F Flowable-High Strength/Fast Set	SF	CITY-PAVING	Paving	Paving	-
7806H	6" Class "K" Reinforced Concrete Paving	SF	CITY-PAVING	Paving	Paving	-
7807F	4" Washed/Architectural/Exposed Aggregate Concrete Paving	SF	CITY-PAVING	Paving	Paving	-
7808H	6" Special Pavement	SF	CITY-PAVING	Paving	Paving	-
7809	24-Hour Emergency Callout	EA	CITY-PAVING	Paving	Paving	-
7810	Stand-By Time	HR	CITY-PAVING	Paving	Paving	-
7811	Star (Core) Hole Repair	EA	CITY-PAVING	Paving	Paving	-
7812	Traffic Buttons	EA	CITY-PAVING	Paving	Paving	-
7813	Traffic Striping	LF	CITY-PAVING	Paving	Paving	-
7814	Storm Drain Manhole Adjustment	EA	CITY-PAVING	Paving	Adjustment	-
7815	Lump Sum Cost Difference - Other Than Dry Kiln Portland Cement	LS	CITY-PAVING	Paving	General	-
7816	Sawing	LF	CITY-PAVING	Paving	Paving	-
7817	Unclassified Sidewalk Excavation	CY	CITY-PAVING	Paving	Excavation	-
7818	Unclassified Street Excavation	CY	CITY-PAVING	Paving	Excavation	-
7819	Unclassified Alley Excavation	CY	CITY-PAVING	Paving	Excavation	-
7820	General Requirements For Asphalt Base Recycling	SY	CITY-PAVING	Paving	Environmental	-
7821	Fence Replacement	LF	CITY-PAVING	Paving	Restoration	-
7822	Temporary Paving (Hot Mix Or High Performance Mix)	TN	CITY-PAVING	Paving	Paving	-
7823	Base Repair, Flexbase, Ctb Or Rebase	CY	CITY-PAVING	Paving	Paving	-
7824	Hot Mix Asphaltic Concrete Surface Course	TN	CITY-PAVING	Paving	Paving	-
7825	Street Surface Milling	SY	CITY-PAVING	Paving	Paving	-
7826	Underseal	SY	CITY-PAVING	Paving	Paving	-
7827	Surface, Edge, And Butt Joint Milling	LF	CITY-PAVING	Paving	Paving	-
7828	Sodding	SY	CITY-PAVING	Paving	Restoration	-
7829	Barrier Free Ramp (Inside Dallas City Limits)	EA	CITY-PAVING	Paving	Paving	-
7830	Barrier Free Ramp (Outside Dallas City Limits)	EA	CITY-PAVING	Paving	Paving	-
7831	Storm Water Pollution Prevention Plan	LS	CITY-PAVING	Paving	Environmental	-
7832V	Adjustment Rings For 24" Storm Sewer Manhole	EA	CITY-PAVING	Paving	Adjustment	-
7832Y	Adjustment Rings For 30" Storm Sewer Manhole	EA	CITY-PAVING	Paving	Adjustment	-
7832AA	Adjustment Rings For 36" Storm Sewer Manhole	EA	CITY-PAVING	Paving	Adjustment	-
7832AB	Adjustment Rings For 40" Storm Sewer Manhole	EA	CITY-PAVING	Paving	Adjustment	-
7832AC	Adjustment Rings For 42" Storm Sewer Manhole	EA	CITY-PAVING	Paving	Adjustment	-
7832AE	Adjustment Rings For 48" Storm Sewer Manhole	EA	CITY-PAVING	Paving	Adjustment	-
7833	Adjustment Of Water Valve Stack Box Riser And Lid In Adv. Of Resurfacing	EA	CITY-PAVING	Paving	Adjustment	404
7834	Adjustment Of Wastewater Access Device	EA	CITY-PAVING	Paving	Adjustment	328

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
7835	Adjustment Of Wastewater Mainline Cleanout In Adv. Of Resurfacing	EA	CITY-PAVING	Paving	Adjustment	410
7836V	Adjustment Of Wastewater Manholes With 24" Lid In Adv. Of Resurfacing	EA	CITY-PAVING	Paving	Adjustment	401
7837	Joint And Crack Sealing	SY	CITY-PAVING	Paving	Paving	-
8000	Barricading (Water & WW Mains)	LF	SPECIAL	General	Safety	-
8005	Concrete Barricading (Water & WW Mains)	LF	ALL	General	Safety	-
8010	Construction Staking	LS	CITY	General	Survey	-
8011	Construction Surveying & Staking (Water & WW Mains)	LF	CITY	General	Survey	-
8012	Construction Surveying & Staking (Paving)	LF	CITY	General	Survey	-
8200	Traffic Detour	LS	CITY	General	Safety	-
20300	Adjust and/or Relocate Water Meter Box	EA	JOINT	Wat. Adj.	Adjustment	409, 411
20330	Adjust Water Valve Covers & Stacks	EA	JOINT	Wat. Adj.	Adjustment	404
20331	Adjust Water Valve Covers & Stacks in Advance of Resurfacing	EA	JOINT	Wat. Adj.	Adjustment	404
20332	Adjust Water Valve Covers & Stacks in Advance of Resurfacing	EA	JOINT	Wat. Adj.	Adjustment	404
20340	Adjust Wastewater Lateral Cleanout	EA	JOINT	WW. Adj.	Adjustment	406
20350	Adjust Wastewater Mainline Cleanout	EA	JOINT	WW. Adj.	Adjustment	410
20351	Adjust Wastewater Access Device	EA	JOINT	WW. Adj.	Adjustment	328
20352	Adjust Wastewater Mainline Cleanout in Advance of Resurfacing	EA	JOINT	WW. Adj.	Adjustment	410
20353	Adjust Wastewater Mainline Cleanout in Advance of Resurfacing	EA	JOINT	WW. Adj.	Adjustment	410
20360	Adjust Wastewater Manhole	EA	JOINT	WW. Adj.	Adjustment	412
20361	Adjust Wastewater Manhole in Advance of Resurfacing	EA	JOINT	WW. Adj.	Adjustment	412
20362	Adjust Type "S" Wastewater Manhole	EA	JOINT	WW. Adj.	Adjustment	412
20363	Adjust Wastewater Manhole in Advance of Resurfacing	EA	JOINT	WW. Adj.	Adjustment	412
20380	Adjust Water Manhole	EA	JOINT	Wat. Adj.	Adjustment	412
20381	Adjust Water Manhole in Advance of Paving	EA	JOINT	Wat. Adj.	Adjustment	412
20400	Adjust Flush Point	EA	JOINT	Wat. Adj.	Adjustment	207
20410	Adjust Type 1 Air Valve	EA	JOINT	Wat. Adj.	Adjustment	208
20420	Adjust Type 2 Air Valve	EA	JOINT	Wat. Adj.	Adjustment	209, 210
20430	Install Fire Hydrant Extension	EA	JOINT	Wat. Adj.	Adjustment	224
20440	Remove Fire Hydrant Extension	EA	JOINT	Wat. Adj.	Adjustment	-
20450	Adjust Large Water Service Cover and Frame	EA	JOINT	Wat. Adj.	Adjustment	411,502,506
20500	Investigation	EA	ALL	General	General	-
20510	Lump Sum Cost Difference - Other than Dry Kiln Portland Cement	LS	ALL	General	General	-
20540	Alter Water Valve Covers & Stacks	EA	JOINT	Wat. Adj.	Adjustment	-
20550	Alter Wastewater Mainline Cleanout	EA	JOINT	WW. Adj.	Adjustment	410
20560	Alter Wastewater Manhole	EA	JOINT	WW. Adj.	Adjustment	311
20580	Alter Water Manhole	EA	JOINT	Wat. Adj.	Adjustment	401
20600	Install Cleanout on Existing Wastewater Lateral	EA	JOINT	WW. Adj.	Adjustment	406
20620	Replace Existing Wastewater Lateral Cleanout	EA	JOINT	WW. Adj.	Adjustment	407
20630	Relocate Type 1 Air Valve	EA	JOINT	Wat. Adj.	Adjustment	208
20640	Relocate Type 2 Air Valve	EA	JOINT	Wat. Adj.	Adjustment	209, 210
20650	Replace Existing Fire Hydrant	EA	JOINT	Wat. Adj.	Adjustment	224
20651	Replace Existing Fire Hydrant To Final Grade	EA	JOINT	Wat. Adj.	Adjustment	-

Item No.	Item Description	Units	Contract Type	Item Category	Item Use	Standard Drawing
20652	Adjust/Relocate New Fire Hydrant	EA	JOINT	Wat. Adj.	Adjustment	224
20660	Relocate Commercial Water Service	EA	JOINT	Wat. Adj.	Adjustment	-
20670	Abandon Water Service Off Existing Main	EA	JOINT	Wat. Adj.	Adjustment	-
20680	Abandon Wastewater Lateral Off Existing Main	EA	JOINT	WW. Adj.	Adjustment	-
20700	Adjust Existing Wastewater Lateral	EA	JOINT	WW. Adj.	Adjustment	406
20910	Replace Existing 4' Diameter Manhole	EA	JOINT	WW. Adj.	Adjustment	311
20920	Replace Existing 5' Diameter Manhole	EA	JOINT	WW. Adj.	Adjustment	311
20930	Relocate Pipe-To-Soil Potential Monitoring Station	EA	JOINT	Wat. Adj.	Adjustment	417