



HARFORD COUNTY

PUBLIC WORKS

DIVISION OF WATER AND SEWER

APPROVED LIST OF SUPPLIERS AND MATERIALS FOR WATER AND SEWER CONSTRUCTION

GENERAL RULES AND REGULATIONS PART 15

January 1, 2026

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PART 14 APPROVED LIST OF SUPPLIERS AND MATERIALS FOR WATER AND SEWER CONSTRUCTION

I. GENERAL

- A. The Chief of Water and Sewer Maintenance shall maintain the approved materials list. The amendment of the list shall be the result of an evaluation and recommendation of a committee of operations, maintenance, and engineering staff of the Division of Water and Sewer periodically designated by the Deputy Director. The list shall be utilized by contractors, suppliers, designers, and County staff when identifying materials which have been approved for use in the County water and sewer systems. This list of approved materials shall be utilized in construction or maintenance when the project specifications do not contain enough detail to identify every item. This list of approved materials is to be used or referenced in designs unless a material not contained in the list is otherwise approved for use in a specification package
- B. The supplier of a material not on the list may request inclusion of a product by pursuing the following evaluation procedures:
1. Materials must be presented with a request for inclusion in the approved materials list. The request may initially be for an individual or limited number of projects.
 2. Five (5) copies of fact sheets, specifications, laboratory test results, drawing and significant information on applicability of use of the product must be presented before a request will be considered.
 3. Documentation of approval for use for the proposed application by other local, state or federal water and sewer operations and construction agencies must be presented.
 4. Depending on the nature of the product, factory visits and on-site visits to locations where the material or product is being utilized in construction and/or operation may be required as part of the evaluation process.
 5. If evaluation of the aforementioned information is acceptable, the product may be approved for use on a trial basis in a developer-funded or County capital project. NOTE: Large quantities or extensive use in the trial installation will normally not be allowed.
 6. The County reserves the right to have the product tested by an independent agency to assure that it meets the minimum requirements established in the Standard Specifications. In the

event that the product does not meet the minimum requirements, the manufacturer will be responsible for all associated cost including, but not limited to, the test performed and any additional testing by Harford County. Should the product not pass a retest, the product will be removed from the Approved Material List.

7. If the trial installation produces satisfactory results, then after an appropriate time for observation, the material or product may be utilized on a limited basis
8. Pending continued satisfactory performance and evaluation during the trial installation and limited use periods, the material or product may be added to the list of approved suppliers.

II. WATER MAIN CONSTRUCTION

1. PIPE, DUCTILE IRON (D.I.P.)

Slip Joint

U.S. Pipe & Fdy.
Griffin
American
McWane
Atlantic States
Clow

Restrained Joint

T.R. Flex
Snap Lock
Flex Ring
Super Lock

Field Lock Gasket

* Gasket by same manufacture

Special Thickness Class

Note:

3" – 6" Class 52
8" – 12" Class 52
14" & above Class 52

2. PIPE, POLYVINYL CHLORIDE WATER

Westlake Pipe & Fittings
J.M. Eagle
National Pipe & Plastic
Diamond
Cresline SDR-21 (2" only)
Sanderson Pipe

Note:

Rubber Ring Slip Joint Only
3" or smaller SDR-21 200 psi
4"-12" DR-14 305 psi

3. PIPE, CAST IRON (C.I.P.)

Not approved.

4. PIPE, WATER SERVICE (3/4", 1", 1-1/2", 2")

Copper Tubing-Type K (All Sizes)
Halstead
Reading
Cerro
Mueller Tubing Company
Howell Metals
Cambridge-Lee

5. FIRE HYDRANT, 5-1/4" VALVE OPENINGS - MECHANICAL JOINT

American Flow Darling 5-1/4" B-84-B-5 with
Alpha Base
American Flow Control Series 2500-1 RSGV

6. PAINT FOR FIRE HYDRANTS

"SCHOOL BUS YELLOW"

Primer:

Sherwin-Williams – Gray #B65G11
Tnemec Co. – Hydo Zinc #94-H20

Intermediate:

Sherwin-Williams – Macropoxy 646-100
Epoxy – Safety Yellow
B58W00620

Tnemec Co. – Hi-build Epoxoline H Series
V69-02SF Safety Yellow

Finish/Top:

Sherwin-Williams – Pro Industrial DTM
Acrylic B66Y11037 – Gloss Safety
Yellow

Tnemec Co. – Endura Shield Series
#1095-02SF Safety Yellow

WATER MAIN CONSTRUCTION

7. <u>RESILIENT SEAT/WEDGE VALVES</u> <u>MECHANICAL JOINT (Flanged for Interior Use)</u> <u>Sizes Thru 30" (AWWA C-509-01)</u> Clow Series F-6100 (4"- 48") Kennedy Kenseal (4"-12") M&H Style 4067 (4"-12") Mueller Series A-2360-20 (4"-12") U.S. Pipe V&H – USP-0-20 (4"-12") <u>Sizes 4" - 12" (AWWA C-515)</u> American Flow Control 2500 series (4"-12") Clow 2638 series (4"-12") Kennedy KS-RW series (4"-12") M&H 7000 series (4"-12") Mueller A-2361 series (4"-12") U.S. Pipe – AUSP1 series (4"-12") <u>Sizes 14" - 36" (AWWA C-515-02)</u> American Flow Control Series 2500 Clow Series F-6100 Kennedy Kenseal M&H Style 7571 Mueller Series A-2361-20 U.S. Pipe V&H – USP-1-20 (14"-48") <u>Sizes 24" and Above</u> Pre-approval required Note: 1. Gearing required above 16" 2. 3"-36" Non-Rising Stem 3. 3"-16" OS&Y 4. Brass Test Plug 5. All valves are required to use 316 stainless bolts and nuts.
8. <u>BUTTERFLY VALVES (24" & LARGER)</u> <u>(Valve Shafts-Horizontal)</u> Submit shop drawings

9. <u>VALVE, COMBINATION AIR/VACUUM</u> <u>RELEASE</u> Duo Matic/Kenetic* 1" on Mains thru 12" Apco (Valve & Primer) 143-C 142 Valmatic 201-C 101 Cla-Val Series 36 A.R.I. D-040 2" on Mains 14"-20" (Where Specified) Apco 145-C 144 Valmatic 202-C 102 Cla-Val Series 36 A.R.I. *Kenetic-Harford County Model
10. <u>TAPPING SLEEVE ONLY (MECH. JOINT)</u> PowerSeal Tap Sleeve with S.S. MJ Outlet – All Sizes U.S. Pipe M&H Valve 6" – 12" Mueller 4"-12" H-619(A.C.) Mueller 4"-24" H-615 (C.I., D.I.) Tyler Pipe 4"-12" S-149 (for C.I.), S-349 (for A.C.) 4" – 12" American Flow Control M.J. Sleeve - D.I. 4"-36" 14" and Greater For A/C Pipe (Pre-app. required) JCM-414 Romac-FT425 Note: 1. 316 S.S. nuts and bolts 2. Coating – Epoxy (fusion), E-coat

WATER MAIN CONSTRUCTION

11. <u>FITTINGS - MECHANICAL JOINT - CEMENT LINED OR EPOXY COATED - D.I. 3" – 48"</u> (Flanged for Interior Use) Star 3" – 48" Tyler Fdy – 36" Tyler Fdy./Union Fdy (C.I. upon request) – 3"- 48" Clow – 4" – 30" HarCo-PVC - Slip Joint with restraints Union Fdy. (C.I. upon request) Sigma 3" – 48" Note: 1. 48" Class 350 D.I (AWWA C-53) 2. M.J. Fittings to be Cement Lined 3. Flanged Fittings to be Epoxy Coated where available 4. Flanged fittings to have 316 S.S. bolts w/brass nuts.	14. <u>VALVE BOX SCREW - TYPE 2-PIECE</u> 36"- 48" (5-1/4") (3" Valves & Larger & Blow-off) Bingham & Taylor #4905 Capital Foundry of Virginia, Inc. #564s East Jordan #664-S						
	15. <u>CURB-BOX LOCKING SCREW- TYPE (4-1/4")</u> Bingham & Taylor #4903 Capital Foundry of Virginia, Inc. #NH-138-H-UP						
12. <u>RETAINER GLAND DUCTILE IRON - WEDGED</u> (For D.I.P. Only) EBAA Iron Mega-A-Lug Uni-Flange/Ford Wedge Action-Series 1400 Mueller Company-Aqua Grip (4"-12") (Fire Hydrant and Valve Only) Star Grip – 3000 series Sigma – SLD – one lock Tuf-Grip-Tyler-Union Foundry Note: epoxy, nylon, mega-bond, e-coat, star bond.	16. <u>METER VAULT (18", 24", 30")</u> (Pre-Cast Concrete) Mayer Brothers, Inc.						
13. <u>PIPE COUPLING - FOR D.I.P., C-900, AC</u> *Ford - Style FC 2"-24" *Smith-Blair - Style 441 2"-16" *Romac - Style 501 Hymax – 2000 2" – 16" PowerSeal Transition Coupling #350108B00000 – All Sizes Kraus *Submit shop drawing for A.C above 10" for approval Note: 1. All couplings to be coated w/epoxy, nylon, e-coat. 2. 316 S.S. nuts and bolts	17. <u>15" METER FRAME & COVER</u> <table> <tr> <td>A.Y. McDonald Frame Single Hole Double Hole</td> <td>Ford Meter Box Co Frame Single Hole Double Hole</td> </tr> <tr> <td>Bingham & Taylor Frame Single Hole Double Hole</td> <td>Vestal Frame Single Hole Double Hole</td> </tr> <tr> <td>Capital Foundry Frame Single Hole Double Hole</td> <td></td> </tr> </table>	A.Y. McDonald Frame Single Hole Double Hole	Ford Meter Box Co Frame Single Hole Double Hole	Bingham & Taylor Frame Single Hole Double Hole	Vestal Frame Single Hole Double Hole	Capital Foundry Frame Single Hole Double Hole	
A.Y. McDonald Frame Single Hole Double Hole	Ford Meter Box Co Frame Single Hole Double Hole						
Bingham & Taylor Frame Single Hole Double Hole	Vestal Frame Single Hole Double Hole						
Capital Foundry Frame Single Hole Double Hole							
	18. <u>EXTENSION RING</u> <u>24" x 30"</u> Ford Vestal A.Y. McDonald						

WATER MAIN CONSTRUCTION

19. VALVE/METER VAULT, PRE-CAST CONCRETE, LARGE

Horne Concrete Construction
Gillespie Precast
Atlantic Precast
A.C. Miller/Fabcrete Pre- Piped Vault

Note: Vault manufacturers not NPCA certified may be permitted to supply vaults if other requirements can be met. Contact the Division of Water and Sewer Maintenance Section for details.

20. 4" FRAMES & COVERS FOR VALVE VAULTS & AIR-RELEASE MANHOLES

East Jordan Iron Works
E.A. Quirin Foundry
Neenah Foundry

24" Frame-1565-2001
Lid No-1565-5134

30" Frame-1568-2000
Lid No. 1568-5001

21. ALUMINUM METER VAULT DOORS (H-20 Loading)

BilCo
Syracuse Castings
Just-Set P.A. Insert (Har. Co. Spec.)

22. PRE-CAST VAULT TO PIPE LINE CONNECTOR

Atlantic Pre-Cast – A-Lock (<18° grade)
Z-Lock (<18° grade)
Terre-Hill Concrete Products – Dual Seal II
RX101 Water Stop
Hail Mary Rubber Company – Star Seal

23. JOINT PROTECTOR (Steel End Ring Concrete Pipe)

Flex-Protex Pipe Ring Protectors
MarMac Mfg. Company

24. SERVICE SADDLE

Ford Style FC-202
Romac 202N
Smith-Blair 317 Nylon-Coated
Mueller DN2S or DE2S
JCM – 406
PowerSeal – #3450AS All Sizes
PowerSeal – Service saddle compression corporation stop combination Model 3450AS
D.I.P. 1 ½" - 2" or PVC 3" - 12"

- a. Specify type of pipe when ordering.
- b. All saddles to be epoxy, nylon, or high-density fusion plastic, E-Coat.
- c. Pre-sized for PVC pipe.

25. INSIDE METER SETTING

Note: Plumbing Department Use Only

5/8" Meter #1 Handyhorn:
Ford #HH1-34G
McDonald 742-1----TT33
Mueller 200- 1412 (State Size)

3/4" Meter Kornerhorn:
Ford 02A-95277 w/2 ea. PJA4-44G
McDonald 741-3----PP55
w/2 ea. 74754 T (1" x 1-1/4")
Mueller 330-H1442----02 (State Size)

Sweat Joint
5/8" McDonald-743-1----SS33
¾" N/A
5/8" Ford - #1 Copper Horn
¾" N/A

26. CORPORATION STOP, COMPRESSION JOINT

¾"-2"
Ford FB-1000 Gripper Joint
Mueller B-25008 110 Compression
McDonald 74701Q Compression

27. CURBSTOP, THREADED

¾"-2"
Ford B-11 Series
Mueller B-20283
McDonald 76101

WATER MAIN CONSTRUCTION

28. CURBSTOP, COMPRESSION JOINT

Ford B-44 Series Gripper Joint
Mueller B-25209N 110 Compression
McDonald 76100Q Compression

29. COUPLING, COPPER COMPRESSION JOINT

Ford C-44 Series Gripper Joint
Mueller H-15403N 110 Compression
McDonald 74758Q Compression

30. Y-BRANCH COUPLING, COMPRESSION

Ford: 1" x 3/4" x 3/4" Y-44-243G Gripper Joint
1 1/2" x 1" x 1" Y-44-264G

*Mueller: H-15343N 110 Compression

*A.Y. McDonald: 708YSQ Compression

*Specify size

31. CATHODIC PROTECTIVE CAP NUT (Oversized)

Protector Cap
Trumbull Industries
Mars Co.

32. DISMANTLING JOINT

Smith-Blair Series 975
Romac DJ-400
Kraus 811 – 316 S.S. bolts

Note:

1. W/S.S. tie-rods and nuts, w/epoxy, nylon, or e-coat coating.
2. 316 S.S. bolt w/brass nuts.

33. FLANGE PIPE/ADAPTOR

Flanged end spool piece to be used, Minimum working pressure 200 psi

Hymax
EBAA-2100 Series

Note:

1. Pre-approved only.
2. Epoxy, nylon, e-coat coating.
3. 316 S.S. bolt w/brass nuts.

34. REPAIR CLAMPS

PowerSeal Repair Clamp #3121AS
All Sizes

WATER MAIN CONSTRUCTION

35. INLET YOKE ANGLE VALVE

	<u>5/8"</u>	<u>3/4"</u>	<u>1"</u>
Ford	AV94-313WG	AV94-324WG	AV91-444W w/C84-46G
Mueller	*H-14273N	*H-14278N w/H-15928N	B24278N W/H15428N
A.Y. McDonald	74602YQ	74604Y w/4753Q	74644BY w/4753Q

*Specify size of service

36. METER YOKE ASSEMBLY

	<u>5/8"</u>	<u>3/4"</u>	<u>1"</u>
Ford	Y501	Y503	Y504
Mueller	H-5010	H-5030	H-5040
A.Y. McDonald	14-1	14-3	14-4

*Epoxy, E-Coat, etc.

37. OUTLET YOKE DUAL CARTRIDGE CHECK VALVE

	<u>5/8"</u>	<u>3/4"</u>	<u>1"</u>
Ford	HHCA94-313	HHCA91-323 w/C84-34G	HHCA91-444 w/C84-46G
Mueller	*H-14466-A	*H-14464-A w/H-15428	*H-14464-A w/H-15428
A.Y. McDonald	712-3YT23	*712-3YE33 w/4753Q	*712-3YE44 w/4753Q

*Specify size of service.

38. EXPANSION CONNECTION

	<u>5/8"</u>	<u>3/4"</u>	<u>1"</u>
Ford	EC-1	EC-23	EC-4
Mueller	---	---	---
A.Y. McDonald	714-1E	714-2E	714-4E

39. YOKE GASKETS

	<u>5/8"</u>	<u>3/4"</u>	<u>1"</u>
Ford	GT112	GT118	GT123
Mueller	500844	500845	311335
A.Y. McDonald	14-1G	14-2G	14-4G

40. YOKE NUTS

	<u>5/8"</u>	<u>3/4"</u>	<u>1"</u>
Ford	YLN-1	YLN-23	YLN-4
Mueller	509326	509316	526268
A.Y. McDonald	14-1N	14-2N	14-4N

WATER MAIN CONSTRUCTION

41. <u>THREADED BRASS FITTINGS</u>				
All Manufacturers				
42. <u>BALL VALVE BRASS</u>				
	<u>3/4"</u>	<u>1"</u>	<u>1 1/2"</u>	<u>2"</u>
Ford	B-11-333	B-11-444	B-11-666	B-11-777
Mueller	20283+Size	20283+Size	20283+Size	20283+Size
A.Y. McDonald	76101+Size	76101+Size	76101+Size	76101+Size
43. <u>LOCK-WING BALL VALVE BRASS</u>				
	<u>3/4"</u>	<u>1"</u>	<u>1 1/2"</u>	<u>2"</u>
Ford	B-11-333-W	B-11-444-W	B-11-666-W	B-11-777-W
Mueller	20200-W+Size	20200-W+Size	20200-W+Size	20200-W+Size
A.Y. McDonald	76101WW+Size	76101WW+Size	76101WW+Size	76101WW+Size
44. <u>DUST CAP</u>				
Niagara				
45. <u>BRASS PIPE – THREADED</u>				
All Manufacturers				
46. <u>OUTSIDE DOMESTIC WATER SERVICE COMPLETE (3/4")</u>				
See Standard Detail for material needed				
47. <u>OUTSIDE DOMESTIC WATER SERVICE COMPLETE (1")</u>				
See Standard Detail for material needed				

WATER MAIN CONSTRUCTION

48. WATER METERS

5/8"	(As per Yearly Bid) Badger Model 25 Hersey Products Model 430 Sensus iPerl	2"	[Application Varies] Hersey Products, Inc. (MVR Model 160) Elster Amco EVOQ4
3/4"	(As per Yearly Bid) Badger Model 35 Hersey Products Model 442 Sensus iPerl	3"	[Application Varies] Hersey Products, Inc. (MVR Model 350) Elster Amco EVOQ4
1"	(As per Yearly Bid) [Application Varies] Badger Model 70 Hersey Products Model MVR-50 Sensus iPerl	4"-6"	[Application Varies] Hersey Products, Inc. (MVR 650, MVR 1200) Elster Amco EVOQ4
1-1/2"	(As per Yearly Bid) [Application Varies] Badger Model 120 Hersey Products MVR-100 Elster Amco EVOQ4	6"-12"	[Application Varies] Elster Amco EVOQ4

49. WATER METERS FOR FIRE FLOW

5/8"	N/A
3/4"	Hersey Meter Co. – FSMVR-30, Sensus iPerl
1"	Hersey Meter Co. – FSMVR-50, Sensus iPerl
1 1/2"	Hersey Meter Co. – FSMVR-100, Elster EVOQ4
2"	Hersey Meter Co. – FSMVR-160, Elster EVOQ4
3"-12"	Elster Amco EVOQ4

50. BACKFLOW PREVENTERS

Apollo Valves/Conbraco Industries, Inc.

Apollo Model DCLF4A	1/2" – 12"
Apollo Model RPLF4A	3/4" – 12"
Apollo Model DCDALF4A	2 1/2" – 12"
Apollo Model RPDALF4A	2 1/2" – 12"

Zurn Wilkins Models DDC and RPZ

Note:

1. Retest and certification required before operational approval.
2. All reduced pressure models require air gap funnel drain.

III. SEWER MAIN CONSTRUCTION

1. <u>PIPE, POLYVINYL CHLORIDE (PVCSP)</u> North American Pipe J.M. Eagle National Pipe & Plastic Diamond Sanderson Pipe Note: 4" thru 24" - ASTM D3034	4. <u>MANHOLE, PRECAST CONCRETE</u> Atlantic Precast Concrete Pipe & Products Terre-Hill Monarch Products Company, Inc. Hanson Products Advanced Drainage Structures Contractor – Precast: Giles pie																						
2. <u>PIPE, DUCTILE IRON</u> <table border="0"> <tr> <td><u>Slip Joint</u></td><td><u>Restrained Joint</u></td></tr> <tr> <td>U.S. Pipe & Fdy.</td><td>T.R. Flex</td></tr> <tr> <td>Griffin</td><td>Snap Lock</td></tr> <tr> <td>American</td><td>Flex Ring</td></tr> <tr> <td>McWane</td><td>N/A</td></tr> <tr> <td>Atlantic States</td><td>N/A</td></tr> <tr> <td>Clow</td><td>Super Lock</td></tr> </table> <u>Special Thickness Class</u> Note: <table border="0"> <tr> <td>3" thru 6"</td><td>Class 52 min</td></tr> <tr> <td>8" thru 12"</td><td>Class 52 min</td></tr> <tr> <td>14" & above</td><td>Class 52 min</td></tr> <tr> <td colspan="2">Double Cement Lined</td></tr> </table>	<u>Slip Joint</u>	<u>Restrained Joint</u>	U.S. Pipe & Fdy.	T.R. Flex	Griffin	Snap Lock	American	Flex Ring	McWane	N/A	Atlantic States	N/A	Clow	Super Lock	3" thru 6"	Class 52 min	8" thru 12"	Class 52 min	14" & above	Class 52 min	Double Cement Lined		5. <u>MANHOLE TO PIPE CONNECTORS</u> (Grades >18% and <45%) A-Lok - Z-Lok Products PressSeal
<u>Slip Joint</u>	<u>Restrained Joint</u>																						
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3. <u>FORCE MAIN SEWER PIPE</u> 2" - 3" - Rubber Ring Slip Joint - SDR 21, Class 200 PVC 3" - D.I.P. Class 52 4" - 12" - DR 14 - C-900 PVC - D.I.P. - Class 52 Over 12" - D.I.P. - Class 52 Note: 1. Refer to Water Main Materials for approved manufacturers 2. All D.I.P. is to be special thickness class. 3. Double cement Lining.	6. <u>MANHOLE TO PIPE CONNECTORS</u> (Grade <18%) A-Lok - Atlantic Precast Dual Seal II - Terre-Hill Concrete Products Star-Seal (greater than 16") 7. <u>BUILT IN-PLACE MANHOLE TO PIPE CONNECTORS</u> A-Lok Field Kit - A-Lok Products Z-Lok Field Kit - A-Lok Products Note: 18% Grade = 10.2° 19.5% Grade = 11°																						
	8. <u>CORED MANHOLE GASKETS</u> A-Lok - A-Lok Products Link-Seal - Thunderline Corp. Z-Lok XP - A-Lok Products Kor-N-Seal - National Pollution Control Systems, Inc. Model S406-12APW Note: All gaskets require two S.S. bands																						

SEWER MAIN CONSTRUCTION

9. <u>PLUGS - SEWER (WING-NUT)</u> Cherne Industries Inc. - "Gripper" R.C. Graham - "Hand-Tite" Circle Gas Manufacturing	13. <u>LAMPHOLE FRAME & COVER</u> Capitol Foundry of Virginia, Inc. Frame & Cover No. #VB-9*S East Jordan Iron Works, Inc. Frame Model No. 1565Z Lid Model No. 1565A Neenah Foundry Company Frame Model No. 1976-0001 Lid Model No. 1976-0032
10. <u>FITTINGS</u> Molded 4"- 8" HarCo PVC Multi-Fitting PVC (Thru 15") Plastic-Trend-PVC G.P.K. Products, Inc. Fabricated 10" & Larger Multi-Fitting 18"- 36" Freedom 10"- 36" Nyoplast 10"- 36" B&H Inc. 10"- 15" G.P.K. Products, Inc. 10"- 27" PVC 6"- 8" Wye, 45° Bend Plastic Trends SDR-26 HarCo SDR-26 Multi-fitting – SDR-26 G.P.K. SDR-26 D.I.P. 6"- 8" Wye, 45° Bend HarCo Hersey Products, Inc. Note (applies to Hersey ONLY): 1. Fusion, bonded epoxy, nylon, e-coat lining 2. < 4" Fusion bonded epoxy Interior double cement lined	14. <u>MANHOLE FRAME & COVER (STANDARD)</u> Capital Foundry of Virginia Item No. MH-1676 HAR-SS-STR Neenah Foundry Company Frame Model No. 1565-2300 Lid Model No. 1565-5120 East Jordan Iron Works, Inc. Frame Model No. 1545Z3 Cover Model No. 1544A
11. <u>PLASTIC STEP</u> M.A. Industries, Inc.	15. <u>MANHOLE FRAME AND COVER WATERTIGHT)</u> East Jordan Iron Works, Inc. Frame Model No. 2060ZVHPT Cover Model No. 2065AVHPT Neenah Foundry Company Model No. 0785-015
12. <u>SADDLE</u> Geneco Sealtite (Specify type pipe) Romac "CB" (Any type pipe) PowerSeal Sewer Saddle 4" & 6" Note: To be epoxy, nylon, or E-coated	16. <u>BRICK - SM GRADE</u> Redland Brick Glen-Geary Brick Co. Pine Hall Brick Lawrenceville Brick McAvoy Cobset Brick 17. <u>GRADE RINGS (6" MAXIMUM HEIGHT) W/STEEL REINFORCEMENT</u> Atlantic Pre-Cast Terra-Hill Products

SEWER MAIN CONSTRUCTION

18. <u>MANHOLE PAINT FOR FRAME & COVER (OFF-SITE)</u> Day-Glo (Florescent Green Industrial Enamel) DG215-18 (Signal Green)	24. <u>AIR & VACUUM VALVES</u> Apco Val-Matic Cla-Val A.R.I. D-020, D-025 Note: As per shop drawing.
19. <u>MANHOLE PAINT FOR FRAME & COVER (OFF-SITE)</u> (White Primer) Coronado-Grip & Seal – 116-11 White	25. <u>MASTIC ROPE SEAL (3/4")</u> K.T. Snyder – “Rubber-Nek” Press Seal Gasket Corporation Conseal
20. <u>ADAPTOR (FROM 6" HOUSE CONNECTION TO CAST-IRON SOIL PIPE)</u> Fernco Calder IND Seal	26. <u>CLEANOUT - HUB & CAP (Penella Style 4" & 6")</u> Penella Industries PVC w/Magnet Jumbo Manufacturing Company Cast Iron w/Gasket Circle Gas Manufacturing Company Cast Iron w/Gas K.T. Snyder “Rubber-Nek”
21. <u>PVC RISER PIPE – CLEANOUT (SDR-26 - HEAVY WALL SEWER)</u> J.M. Eagle National Pipe & Plastic Diamond Westlake	27. <u>STAINLESS STEEL MANHOLE INSERT W/RELIEF VALVE</u> Southwestern Packing & Seal Company S.S. Rainstopper Parson Environmental Products, Inc. Stainless Steel Manhole Insert
22. <u>SOIL PIPE (CAST-IRON HEAVY DUTY) (Cleanout Riser 4")</u> Tyler Charlotte	28. <u>MANHOLE INSERT W/ODOR CONTROL</u> Calgon “Sweet Street” Parson Environmental Products, Inc.
23. <u>RETAINER GLAND-WEDGED (FOR D.I.P.)</u> Ebba Iron Meg-A-Lug Uni-Flange/Ford Wedge Action Series 1400 Star Grip – 3000 Series Sigma Tuf-Grip-Tyler-Union Foundry Note: Coating - Epoxy, nylon, Mega-Bond, e-coat, star bond	29. <u>MANHOLE EXTERIOR JOINT WRAP – 12”</u> Conseal – Con-Wrap CS-212 Press-Seal-EZ-Wrap

IV. WATER AND SEWER MAIN CONSTRUCTION

1. <u>STEEL CASING PIPE</u> Approved after shop drawing submittal.	10. <u>CATHODIC PROTECTIVE CAP NUTS.(OVERSIZED)</u> Protector Cap Trumbull Industries Mars Co.
2. <u>LINER PLATE</u> Approved after shop drawing submittal.	11. <u>REPAIR CLAMPS</u> <u>4" - 15" Two-Section</u> Smith-Blair 262 Ford Style FS2 Romac Style SS2 Powerseal Style 3122 AS Hymax – Easy Max <u>16" and above Three-Section</u> Ford Style FS3 Smith-Blair Style 263 Romac Style SS3 Powerseal Style 3123 AS
3. <u>DETECTOR TAPE</u> (3" Non-Metallic) Lineguard Allen Systems Linetec Empire Level	12. <u>2-1/2" TRACER TEST BOX W/TERMINAL BLOCK</u> Bingham & Taylor – P-200 Test Note: 1. Blue lid for water. Green lid for sewer 2. Test location at fire hydrant
4. <u>TRACER WIRE</u> (7 Strand No. 8 w/.045 PE Wall Blue) All Manufacturers	13. <u>5" TERMINAL BOARD (THREE TERMINALS) W/STANDARD 4-1/4" LOCKING CURB-BOX</u> Bingham & Taylor – Note: 1. Blue lid for water. Green lid for sewer
5. <u>SOLDERLESS SPLIT BOTTOM CONNECTORS</u> Brass	14. <u>INTERIOR MANHOLE COATING</u> Sentry Polymers, Inc. Epoxy Vinyl Ester (Semstone 5301)
6. <u>SPLICING TAPE-UNDERGROUND</u> 3M	
7. <u>BITUMINOUS COATING</u> (Military Spec. C-18480) All Manufacturers	
8. <u>COAL TAR EPOXY</u> (16 Mil D.F.T. Min) All Manufacturers	
9. <u>NON-SHRINK EPOXY GROUT</u> All Manufacturers	

WATER AND SEWER MAIN CONSTRUCTION

15. PIPE SUPPORT/SPACER FOR SLEEVE

PIPELINE Products, Inc.
J-Four-M33 - s.s.
Raci-casing spacer
CCI Pipeline System C558

16. SLEEVE/CARRIER PIPE END SEAL

CCI Pipeline Systems
Model ESC
Model ESW

NOTE:

- * The classes or designations of pipe shown on this list are the classes that are normally used in water and sewer construction in Harford County.

However, it is possible that the Contract Documents, Special Provisions and/or Plans may specify a class or designation that is different and/or greater than that shown on the list. In the event of such a discrepancy, then the Contract Documents, Special Provisions and/or Plans shall govern.

- * * The Packer Head pipe procedure will not be used

V. LOW PRESSURE SEWER CONSTRUCTION

1.	<u>PIPE HDPE</u> 1 ½" – 4" SDR-11 IPS EHMW PE3408 Performance Pipe Prod - Driscoplex 4300 Poly Pipe Flying W J.M. Eagle Charter Plastic																														
2.	<u>PIPE-HDPE FITTING/TRANSITION PIECES - BUTT FUSION TYPE</u> (Pressure Rated to Match System Piping) <table><tr><td><u>Molded 1 ½" - 4"</u></td><td><u>D.I.P.</u></td><td><u>Brass 1 ½" – 4"</u></td></tr><tr><td>IPEX</td><td>HarCo</td><td>All Manufactures</td></tr><tr><td>Central Plastic</td><td></td><td></td></tr><tr><td>Charter Plastic</td><td></td><td></td></tr><tr><td>TEGG</td><td></td><td></td></tr><tr><td>Agru</td><td></td><td></td></tr><tr><td>Independent</td><td></td><td></td></tr></table>			<u>Molded 1 ½" - 4"</u>	<u>D.I.P.</u>	<u>Brass 1 ½" – 4"</u>	IPEX	HarCo	All Manufactures	Central Plastic			Charter Plastic			TEGG			Agru			Independent									
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4.	<u>BALL VALVE CURB STOP - W/FEMALE IPT END CONNECTION (OR PACK JOINT)</u> <table><tr><td></td><td><u>Manufacturer</u></td><td><u>Female IPT End</u></td><td><u>Pack Joint</u></td></tr><tr><td>1 ½"</td><td>Ford</td><td>B11-666</td><td>B77-666</td></tr><tr><td></td><td>Mueller</td><td>B-20283+Size</td><td>V-25226</td></tr><tr><td></td><td>McDonald</td><td>6101</td><td>6100-44</td></tr><tr><td>2"</td><td>Ford</td><td>B11-777</td><td>B77-777</td></tr><tr><td></td><td>Mueller</td><td>B-20283+Size</td><td>V-25226</td></tr><tr><td></td><td>McDonald</td><td>6101</td><td>6100-44</td></tr></table>				<u>Manufacturer</u>	<u>Female IPT End</u>	<u>Pack Joint</u>	1 ½"	Ford	B11-666	B77-666		Mueller	B-20283+Size	V-25226		McDonald	6101	6100-44	2"	Ford	B11-777	B77-777		Mueller	B-20283+Size	V-25226		McDonald	6101	6100-44
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5.	<u>SEWAGE GRINDER PUMPING UNIT AND CONTROL PANEL</u> Environment/One Corporation																														

LOW PRESSURE SEWER CONSTRUCTION

6.	<u>VALVE KEY EXTENSION</u>		
	Genco		
7.	<u>FITTINGS FOR LP 2-5</u>		
	<u>D.I.P</u>	<u>Brass Ball Valve</u>	<u>Brass</u>
	HarCo	Ford	All Manufacturers
	Hersey	Mueller	
		A.Y. McDonald	
	Note:		
	D.I.P Fittings – Cement Lined		
8.	<u>ROADWAY BOXES – VALVE - 5 ¼" (SCRW TYPE)</u>		
	Bingham & Taylor 4905		
	Capital Foundry of Virginia, Inc. #564s		
	East Jordan 664-S		
9.	<u>FIRE HOSE COUPLING W/ CAP - 2 ½"-BRASS NST THREAD</u>		
	Potter-Roemer		
	Red Head/Dixon		
	Thompson Industrial		
10.	<u>NIPPLE/RISER - D.I.P/BRASS 2"- 4" NPT THREAD</u>		
	HarCo – D.I.P		
	Brass – All Manufacturers		
11.	<u>CONCRETE VAULT - 24"</u>		
	Mayer Brother, Inc		
12.	<u>TRACER WIRE</u> (7 Strand No. 8 w/.045 PE Wall Blue)		
	All Manufacturers		
13.	<u>FRAME & COVER - 24" - 24" X 4" – STANDARD SEWER</u>		
	East Jordan		
	Campbell Fdy.		
	Neenah – Frame – NF-15652001		
	Lid-NF-15655134		
14.	<u>R/S GATE VALVE – 3" & GREATER</u>		
	*See water main construction for approved manufacturers		

LOW PRESSURE SEWER CONSTRUCTION

15. ADJUSTMENT RING – 24"

East Jordan Infra-Riser