Peninsula Township
Invoice Approval Report

VENDOR	DESCRIPTION/DISTRIBUTION		AMOUNT
AVERY MARY	MILEAGE		$306.72
	101-253-870.000	*214.92*	
	508-000-870.000	*91.80*	
CHEMICAL CONTROL COMPANY, INC	PEST CONTROL		$126.50
	101-265-818.000	*126.50*	
CONSUMERS ENERGY	STREETLIGHTS		$341.98
	101-000-226.010	*10.33*	
	101-265-926.000	*17.49*	
	101-265-926.000	*28.34*	
	101-000-226.000	*14.17*	
	101-000-226.075	*18.74*	
	206-000-926.000	*9.92*	
	101-265-926.000	*9.92*	
	208-751-926.000	*39.67*	
	101-000-226.030	*9.92*	
	101-000-226.040	*9.92*	
	101-000-226.060	*138.85*	
	101-000-226.070	*9.92*	
	206-000-926.000	*12.41*	
	101-265-926.000	*12.38*	
EMERGENCY MEDICAL PRODUCTS	SHARPS CONTAINER		$14.85
	206-000-932.000	*14.85*	
GARAGE DOOR SERVICES	GARAGE DOOR REPAIR		$106.00
	206-000-930.000	*106.00*	
GOURDIE-FRASER, INC	THE 81 ON EAST BAY		$1,680.00
	101-400-818.000	*1,680.00*	
GOURDIE-FRASER, INC	OME-BRAEMER SAD		$5,223.10
	101-101-967.LHB	*5,223.10*	
GOURDIE-FRASER, INC	LOGAN HILLS-MAPLE TERRACE SAD		$1,070.00
	101-101-967.LHB	*1,070.00*	
GT COUNTY TREASURER	AUGUST 2, 2016 ELECTION COSTS		$317.60
	101-191-726.000	*317.60*	
KOPY SALES, INC.	FD COPIES		$40.00
	206-000-818.000	*40.00*	
LONG LAKE TOWNSHIP	NFPA FIRE INSPECTOR 1		$850.00
	206-000-960.000	*850.00*	

VENDOR	DESCRIPTION/DISTRIBUTION		AMOUNT
NW REGIONAL FIRE TRAINING	MEMBERSHIP 16-17		$400.00
	206-000-958.000	*400.00*	
SCHOOLMASTER, CLAIRE	MILEAGE		$21.87
	101-420-870.000	*21.87*	
STEVEN H. SCHWARTZ	GENERAL MATTERS		$3,010.00
	206-000-801.UNI	*3,010.00*	
TIME EMERGENCY EQUIPMENT	7 SURVIVOR 4AA AKALINE		$409.83
	206-000-937.000	*409.83*	
WILKINSON ROBERT	MAINTENANCE		$3,311.00
	101-265-818.000	*896.47*	
	208-751-818.000	*2,414.53*	
YOUNG, GRAHAM, ELSENHEIMER	AUGUST 2016		$10,393.50
	101-101-967.LHB	*744.00*	
	101-101-801.KAH	*31.00*	
	101-101-801.000	*1,643.00*	
	101-209-801.000	*62.00*	
	101-101-801.000	*201.50*	
	206-000-801.000	*62.00*	
	101-101-801.000	*62.00*	
	101-209-801.000	*46.50*	
	101-101-801.KAH	*46.50*	
	101-209-801.000	*31.00*	
	101-101-801.KAH	*31.00*	
	101-410-801.000	*589.00*	
	101-101-801.000	*1,209.00*	
	297-000-801.000	*10.00*	
	101-101-801.000	*20.00*	
	101-400-801.000	*20.00*	
	101-420-801.000	*40.00*	
	206-000-801.000	*20.00*	
	208-751-801.000	*30.00*	
	101-410-801.000	*3,983.50*	
	101-101-801.000	*465.00*	
	101-410-801.000	*124.00*	
	101-420-801.000	*914.50*	
	101-101-801.000	*8.00*	
YOUNG, GRAHAM, ELSENHEIMER	AUGUST 2016		$30.00
	591-000-801.000	*30.00*	
YOUNG, GRAHAM, ELSENHEIMER	AUGUST 2016 SEWER		$30.00
	590-000-801.000	*30.00*	
		Total:	**$27,682.95**

Peninsula Fire Department
14247 Center Road, Traverse City, Michigan
49686
Tel 231-223-4699 Fax 231-223-4697

ADVANCED LIFE SUPPORT INTERCEPT AGREEMENT

Peninsula Township Emergency Services and North Flight Ground Division desire to demonstrate their commitment to providing the best possible care for their patients by entering into this Advanced Life Support Intercept Agreement.

North Flight Ground Division agrees to provide Peninsula Township Emergency Services with Advance Life Support (ALS) intercept service when Peninsula Township Emergency Services request such service. When such response is requested and provided, the billing procedures outlined within this agreement will be followed.

1. When North Flight Ground Division provides ALS care and Peninsula Township Emergency Services transports the patient with their vehicle:

   A. Peninsula Township Emergency Services will be responsible for the patient billing and collection associated with the ALS service provided by North Flight Ground Division as required by the Centers for Medicare and Medicaid Services (CMS) regulations.

   B. North Flight Ground Division will bill Peninsula Township Emergency Services for all intercepts a flat fee of $250.00 when North Flight Ground Division provides services for patients transported to Munson Medical Center.
2. When North Flight Ground Division provides ALS care and transports the patient in a North Flight vehicle:

   A. North Flight Ground Division will be responsible for the billing and collections associated with its service.

This Agreement will become effective when signatures from both parties have been placed on this agreement and will remain in effect until either party provides the other party with a thirty day written notice of cancellation or modification.

Peninsula Emergency Services (Name of service)	North Flight Ground Division (Name of Service)
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____

RESOLUTION NUMBER - _____

RESOLUTION ADOPTING THE 2016 REVISIONS TO THE EDITION OF THE *STANDARD TECHNICAL SPECIFICATIONS AND CONSTRUCTION DETAILS* FOR THE DESIGN AND CONSTRUCTION OF WATER AND SEWER LINES FOR THE TOWNSHIP OF PENINSULA

WHEREAS the Township of Peninsula owns a water distribution and wastewater collection system and the Grand Traverse County Department of Public Works (DPW) operates the same; and

WHEREAS the Township has existing minimum standards for the design and construction of water and sewer lines; and

WHEREAS, it has been determined by the DPW that the existing minimum standards for the design and construction of water and sewer lines do not provide adequate protections to the Township and its water and sewer systems; and

WHEREAS the DPW has developed 2016 Revisions to the Standards; and

WHEREAS the Township of Peninsula finds that the adoption of these Revisions is necessary and proper to the continued management, growth and protection of the Township water and wastewater system.

NOW THEREFORE, BE IT RESOLVED BY THE TOWNSHIP OF PENINSULA THAT:

1. The Township of Peninsula adopts the 2016 Revisions to the *2015 Standard Technical Specifications and Construction Details*.
2. Any resolution, resolution section, policy, or directive in conflict with this Resolution is repealed or amended to reflect and achieve the purposes stated herein.

PASSED AND APPROVED this 13th day of September, 2016

Yes: _____

_____

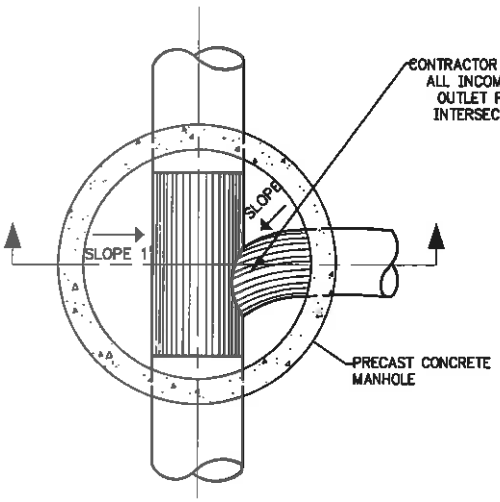
No: _____

Absent: _____

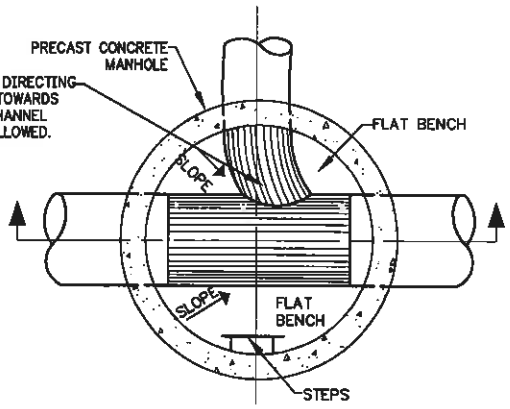
ATTEST:

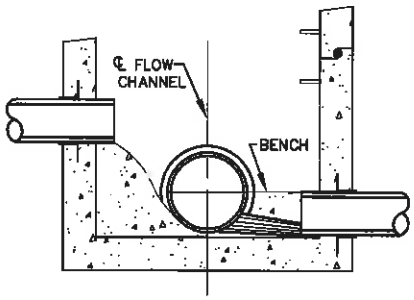
_____

Township Clerk/Deputy Clerk

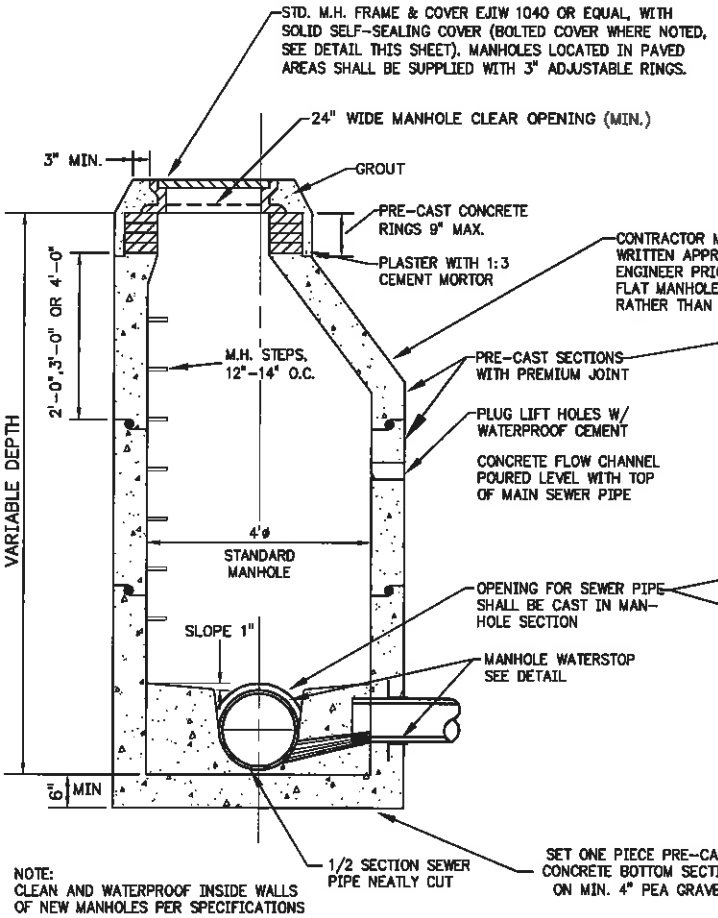


PLAN VIEW

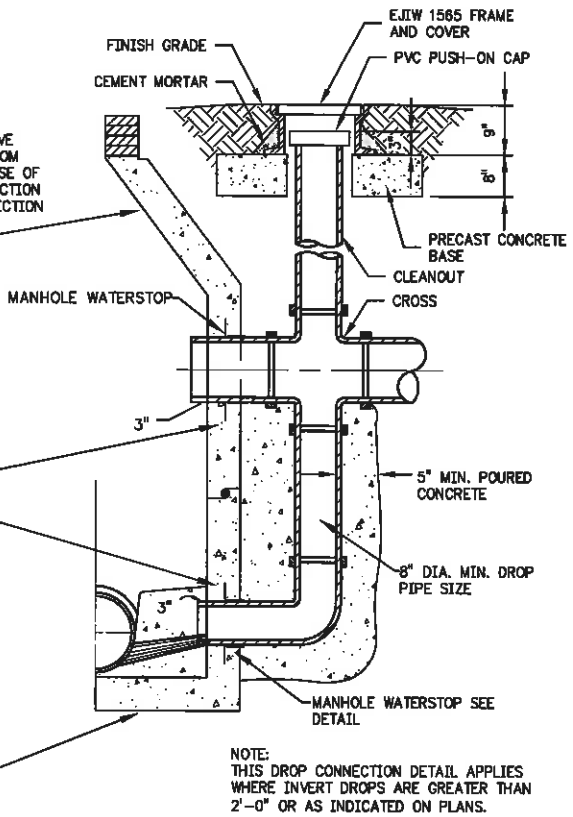




TYPICAL DETAIL 2' DROP OR LESS



SECTION THRU STANDARD MANHOLE



PARTIAL SECTION THRU DROP MANHOLE

DETAIL - STANDARD MANHOLE

NO SCALE

SECTION 8

FORCE MAINS

8.01 SCOPE OF WORK

The work covered by this section of the specifications consists in the furnishing of all plant, labor, materials, equipment and/or in performing all operations necessary for the installation of the force mains, valves and fittings, complete, in accordance with these specifications and applicable drawings.

When selecting pipe materials for force main the design engineer should clearly understand that the Township Engineer that reviews the final plans, and the Michigan Department of Environmental Quality (DEQ) Office of Drinking Water and Municipal Assistance, will have the final say as to which type is preferred for any given location

8.02 MATERIALS

A. Pipe Materials

1. Ductile Iron Pipe and Fittings shall be designed in accordance with the latest revision of ANSI specifications A 21.50 and A 21.51 and AWWA C151. The pipe shall be designed to withstand a minimum working pressure of 150 psi and a minimum hydrostatic test pressure of 300 psi. The pipe shall also be designed for a minimum laying depth of 6'.

   All ductile iron pipe and fittings shall be coated on the outside with a bituminous coating of either coal tar of asphalt base one mil thick at the point of manufacture in accordance with the specifications of the American Water Works Association. All ductile iron pipes shall be cement lined, standard thickness, in accordance with ANSI A 21.4. The spigot ends of all pipe lengths which have been cut in the field shall be ground to a smooth surface, tapered back about 1/8" at an angle of 30 degrees with the pipe centerline, and painted with two coats of asphaltum metal protective paint.

   Ductile iron pipe shall conform to the dimensions set forth in the table below. Tolerances permitted in ANSI specifications listed above will apply. Pipe classes shown on the plans shall control. Ductile iron pipe shall be utilized for all force mains larger than 3".

Pipe Size Nominal Inside Diameter in Inches	Outside Diameter in Inches	Pipe Barrel Thickness in Inches	Thickness Class
4"	4.80	0.26	51
6"	6.90	0.25	50
8"	9.05	0.27	50
10"	11.10	0.29	50
12"	13.20	0.31	50
14"	15.30	0.36	51
16"	17.40	0.37	51
18"	19.50	0.41	52
20"	21.60	0.42	52

2. Polyvinyl chloride (PVC) pipe shall meet the requirements for Type 1, Grade 1 (PVC 1120) of ASTM Specification D-1784 and ASTM D-2241, Standard Specification for PVC pipe (SDR-PR). PVC pipe shall be a minimum rating of Class 200, SDR 21. ~~PVC shall only be utilized for all force mains 3" or less in pipe diameters.~~

3. High Density Polyethylene Pipe (HDPE) for directional drilled applications shall be Ductile Iron Pipe Size (DIPS) and shall meet either of the following two (2) pressure class rating systems:

   AWWA C906 or ASTM F714
   Working pressure of at least 200 psi
   Working pressure and Surge Pressure of at least 300 psi

   All HDPE pipe shall be joined by heat fusion per manufacturer's requirements. HDPE sections shall be pressure tested independently of other Force main. See Section 8.04 of these specifications. This method and locations must be approved by the Township Engineer. Refer to standard details for the connection of ductile iron pipe to HDPE. The use of HDPE requires special attention as specified in Section 4 – Excavation, Trenching and Backfilling.

   HDPE pipe shall be inspected prior to installation by a qualified person or by the Township Engineer. If damage is found to be unacceptable according to the manufacturer, then suitable efforts shall be made to repair the damaged pipe or the pipe shall be rejected from use.

4. Fusible Polyvinyl Chloride Pipe (PVC) for directionally drilled applications shall be DR 14, Class 12454 per ASTM D1784 as supplied by Underground Solutions, or equal, and meet the following conditions.

Pipe Size Standard	Dimension Ratio (DR)	Working Pressure	Working Pressure + Surge Pressure
DIPS	14	200 psi	300 psi

All Fusible PVC pipe shall be joined by heat fusion per manufacturer's requirements. River crossing section shall be pressure tested independently of other force main. See Section 8.04 of these specifications. This method and locations must be approved by the Township Engineer. Refer to standard details for the connection of ductile iron pipe to Fusible PVC.

The use of PVC C900 shall be as specified in Section 4 – Excavation, Trenching and Backfilling.

Fusible PVC pipe shall be inspected prior to installation by a qualified person or by the Township Engineer. If damage is found to be unacceptable according to the manufacturer, then suitable efforts shall be made to repair the damaged pipe or the pipe shall be rejected from use.

B. Pipe Joints

1. Flanged joints shall be made with flanges, bolts, nuts, washers and gaskets, conforming to ANSI Standard B 16.1, Class 125.

2. Mechanical joints for cast and ductile iron pipe shall conform to ANSI Standard A21.11 and AWWA C111 or to Federal Specifications WW-P-421.

3. Rubber gasket joints for cast and ductile iron pipe shall be of a bell and spigot type conforming to ANSI Standard A21.11. These joints shall be similar to "TYTON" as manufactured by the U.S. Pipe and Foundry Co., "SUPER BELL TITE" as manufactured by James B. Clow & Sons, Inc. or equal.

4. Rubber gasket joints for PVC pipe shall be of bell and spigot type meeting ASTM D3139 requirements. The pipe shall be jointed by the means of rubber ring, which shall be an integral and homogeneous part of the pipe barrel.

C. Valves and Appurtenances

1. Gate valves shall meet the requirements of AWWA Standard C500 or C515 of the American Water Works Association. Valves shall be designed for not less than 150 psi working pressure and shall be

tested for leakage and distortion under a hydraulic pressure of not less than 150 psi. Under such pressure, the valves shall show no leakage or distortion.

All gate valves shall be cast iron body, fully bronze mounted, bronze stem double disc gate valves or resilient seated gate valves. Each valve shall have a clear waterway equivalent in area, when open, to that of the connecting pipe. Valves shall be made to close when turned to the right or clockwise. All valves shall be operated by non-rising stems and shall have square wrench nuts, or hand-wheel operators with an opening arrow cast in the metal.

2. Plug valves shall be lubricated round port valves. Valves shall be 100% port area type with semi-steel body. Valve bodies shall be suitably marked to indicate whether the valve is open or closed.

   The seating surface of the rotating element shall be of material recommended by the manufacturer for sewage sludge service. Bearings at the top and bottom supporting the rotating element shall be permanently lubricated corrosion-resistant type, suitable for sewage plant service. Stem seals shall be O-ring type of the same material as the seating surface and designed so replacement can be accomplished without disassembly of the valve.

   All plug valves shall be designed to operate with a pressure of 150 psi on either side of the valve without leakage.

3. Check valves shall be designed for a minimum working pressure of 150 pounds per square inch or as indicated. Valves shall have a clear waterway equal to the full nominal diameter of the valve. Valves shall open to permit flow when inlet pressure is greater than the discharge pressure and shall close tightly to prevent return flow when discharge pressure exceeds inlet pressure. Distinctly cast on the body of each valve shall be the manufacturer's name or initials or trademark by which he can be readily identified and the size of the valve, working pressure and the direction of flow.

   Check valves larger than 2" shall be iron body, bronze mounted, shall have flanged ends and shall be the non-slam type. Flanges shall be the 125-pound type conforming to ANSI Standard B16.1. **All check valves shall be supplied with an external lever and weight**. Springs shall be applied to lever, if necessary, to create a non-slam condition.

4. Valve operators shall be provided for all sewage and sludge valves of a type as indicated on the plans. Valve operators shall be of sufficient size and strength to overcome expected maximum operating torque. Valve operators found to be inadequate strength

will be replaced by the Contractor at no expense to the Owner or the Township.

All valves 8" and larger are to have a crank, handwheel, chain wheel or square nut for buried service, totally enclosed, weatherproof worm gear or traveling screw-type operators with indicators.

For automatic (if required by the drawings) operation, cylinder, rotary or similar types of electric or pneumatic actuators may be used regardless of valve size. Various accessories shall be used, depending on the application, such as positioners, limit switches, solenoid valves, speed controls and failsafe assemblies.

5. Valve boxes shall be cast-iron, three piece, adjustable type with a 5-¼" shaft. Covers shall be furnished with fingerholes and marked "SEWER". Valve boxes shall be similar to that as manufactured by the East Jordan Iron Works, Clow Corporation or equal.

6. Pipe supports, where required, shall be of the adjustable type made to support cast iron type pipe.

8.03 INSTALLATION OF PIPE AND FITTINGS FOR FORCE MAIN

All pipe and fittings shall be installed in strict accordance with the recommendations of the manufacturer. Piping and fittings for force mains shall be of the types and materials hereinbefore specified. The pipe and accessories shall be new and unused.

The interior of the pipe and fittings shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging the ends or other approved methods. When work is not in progress, open ends of pipe and fittings shall be securely closed so that no trench water, earth, animals or other substance will enter the pipes.

No pipe or fittings shall be laid in water or when the trench or weather conditions are unsuitable for work, except by permission of the Township Engineer.

The full length of each section of pipe shall rest solidly upon the pipe bed with recesses provided to accommodate the bells and joints. Deflections from a straight line or grade, as required by vertical curves, horizontal curves or offsets, shall not exceed 1" per lineal foot of pipe for pipe less than 10" in diameter between the centerlines extended of any two connecting pipes. If the alignment requires deflections in excess of these limitations, special bends or a sufficient number of shorter lengths of pipe shall be furnished to provide the angular deflection required.

When pipe is cut in the field, the outside of the cut end shall be tapered back about ⅛" at an angle of 30 degrees with the centerline of pipe to remove any sharp, rough edges and painted with two coats of asphaltum metal protective paint.

Fittings at bends in the pipeline shall be firmly wedged against the undisturbed, vertical face of the trench to prevent the fittings from being blown off the lines when under pressure. Concrete thrust blocks shall be installed at all deflections as shown on the drawings or as directed by the Township Engineer.

Where pipe ends are left for future connections, they shall be valved, plugged or capped as called for on the drawings. Where connections are made between new work and existing mains, the connections shall be made by using specials and fittings required to suit the actual conditions.

All force main shall be laid with a continuous ¼ inch diameter, woven wire, stainless steel cable tracer wire, per Section 8.10. Tracer wire shall be laid six inches (6") above force main. Tracer wire shall terminate in a tracer wire box. Tracer wire box shall be placed at each clean-out or approximately every four hundred feet (400').

8.04 DIRECTIONALLY DRILLED FORCE MAIN

A. Description

This work shall consist of constructing underground crossings of rivers or wetlands using the directional drilling method of placing pipe to serve as carrier pipe.

B. Depth of Bore

The minimum depth of drill using this method shall be 6' of cover below existing grade, and a minimum depth of 3' under any existing stream.

C. Construction Method

This method consists of auguring or jacking a steerable rod; then pulling back a cone that expands the soil or a wing cutter, which cuts a hole big enough to obtain the desired diameter. The diameter of the reamer or wing cutter is not to exceed the diameter of the pipe being placed plus 2".

A drilling fluid of water and bentonite may be used in all operations of a directional drill. The use of a polymer for lubrication in the drilling fluid is acceptable.

Connection to HDPE and PVC Pipe shall not be made immediately after the pipe has been installed. It is recommended to wait overnight so that the pipe can approach an equilibrium temperature with its surrounding environments. Linear dimensions will vary with temperature changes. A tracer wire, adequate for future location of the pipe, shall be installed with all HDPE and PVC projects, in accordance with Section 8.09 of these Specifications.

8.05 HYDROSTATIC TESTS FOR FORCE MAIN

The force main or sections thereof shall be tested by the Contractor in the presence of the Township Resident Project Representative and all leaks shall be made tight to meet the requirements below. The Contractor shall furnish all piping, bulkheads, pumps, gauges and other equipment required to carry out the testing.

The section of main to be tested shall be filled with water at least 24 hours prior to starting the test.

At the start of testing, the main shall be pumped up to a pressure of 150 psi and the test period shall start immediately thereafter. The line shall then be maintained under this test pressure for a continuous period of two hours by pumping water into the line at frequent intervals. The volume of water so added shall be measured and considered to represent the leakage from the line under test during the interval. In calculating leakage, the Township Engineer will make allowance for added joints in the line over the normal for unit lengths of pipe. The leakage per 1,000' under the conditions of test shall not exceed the values shown in the following table, in accordance with AWWA Standard C600 for Ductile Iron and C605 for Plastic Pipe:

Hydrostatic testing allowance per 1,000 ft of pipeline-gph:
Test Pressure **150 psi**

Nominal Pipe Diameter	Maximum Leakage Gallons
6"	0.50
8"	0.66
10"	0.83
12"	0.99
14"	1.16
16"	1.32
18"	1.49
20"	1.66
24"	1.99

In the event that the leakage exceeds the specified amount, the joints in the line shall be carefully inspected for leaks and repaired where necessary. Any pipes or special casting found to be cracked shall be removed and replaced by new pieces by the Contractor. After this work has been done, the test shall be repeated. Final acceptance of the lines will not be made until satisfactory tests have been passed.

8.06 MARKING PIPE

Each piece of cast iron pipe and each cast iron fitting shall have its weight and class designation conspicuously painted or cast on it. All other pipe materials shall have the class designation painted thereon. Where required, other designation marks shall be painted on the pipe or fittings to indicate correct location of the pipe section in conformity to a detailed layout plan.

8.07 PAINTING

All pipe, valves, bolts and any other portions of force main exposed inside manholes and other structures shall be painted per the table below. If necessary, heat shall be provided to maintain good drying conditions. All items to be painted shall be dry and clean before application of the paint. Any rust or scale shall be removed by wire brushing or scraping. All piping must be painted prior to operating the system.

1 Coat - "Kopper's Plug Primer" or equal
(350 S.F./Gal.)

2 Coats - "Kopper's Rustamor 500" or equal
(500 S.F./Gal.)

8.08 THRUST BLOCKS

Concrete thrust blocks shall be poured on hand excavated, undisturbed soil bearing surfaces, of a minimum size as shown on the Standard Details, or increased in size according to the actual bearing values of the soil in each location, or as directed by the Township Engineer.

Thrust blocks shall be made of 3,000 psi concrete, wet mix. Concrete thrust blocks shall be placed at all 22-1/2 degree bends or greater, dead ends, tees, reducers, hydrants, and crosses as required. Pre-cast thrust blocks may be utilized for certain applications if approved by the Township Engineer. Retainer glands shall be utilized on all mechanical joint fittings.

8.09 EXCAVATION, TRENCHING AND BACKFILLING

Excavation, trenching and backfilling shall conform to these specifications.

8.10 PIPE LOCATOR

Directional Drilled

A continuous ¼" diameter stainless steel cable shall be installed along with the plastic pipe for use as a locator wire on all directionally drilled projects. Contractor shall verify continuity of the locator wire prior to acceptance by the engineer. The ¼" stainless steel cable locator wire shall be looped at 400' intervals and installed within a tracer wire access box. This tracer wire box shall be made of cast iron with a permanently attached 3"x12" ABS tube with a flared end to secure it in the ground. It shall be tamper resistant, with a cast iron locking lid and stainless steel terminal connections on the bottom side to which the tracer wires/cables are attached. Lid will open using a standard AWWA pentagon key. Tracer wire access box as distributed by USA Blue Book shall be utilized or equal. Located at each tracer wire access box a flexible rebounding marking post must be installed. This marking post must be able to snap back to its normal position when hit. It must extend at least 3' above ground for visibility and have a width of 4". This flexible blue rebounding marking post must have a permanent decal applied indicating "Warning Water Main Pipeline". This marker size and type must be approved by the owner.

Open-Cut

Tracer wire (#10 soli copper insulated trace wire) must be brought up into all valve boxes, fire hydrant valve boxes, metering houses, metering pits, and blow offs. The locator wire shall be looped at 400' intervals and installed within a tracer wire access box. This tracer wire box shall be made of cast iron with a permanently attached 3"x12" ABS tube with a flared end to secure it in the ground. It shall be tamper resistant, with a cast iron locking lid and stainless steel terminal connections on the bottom side to which the tracer wires/cables are attached. Lid will open using a standard AWWA pentagon key. Tracer wire access box as distributed by USA Blue Book shall be utilized or equal. Located at each tracer wire access box a flexible rebounding marking post must be installed. This marking post must be able to snap back to its normal position when hit. It must extend at least 3' above ground for visibility and have a width of 4". This flexible blue rebounding marking post must have a permanent decal applied indicating "Warning Water Main Pipeline". This marker size and type must be approved by the owner. All underground splices shall be butt spliced, sealed, and waterproofed. This will be done using the heat shrink method and electrical coating, or approved equal. Wire nuts and black tape will not be allowed. Underground caution tape must also be used. Must read "Caution Water Main Buried Below". This must be at a minimum depth of 1' and no more than 2' below finished grade.

8.11 AIR RELEASE VALVES AND MANHOLES

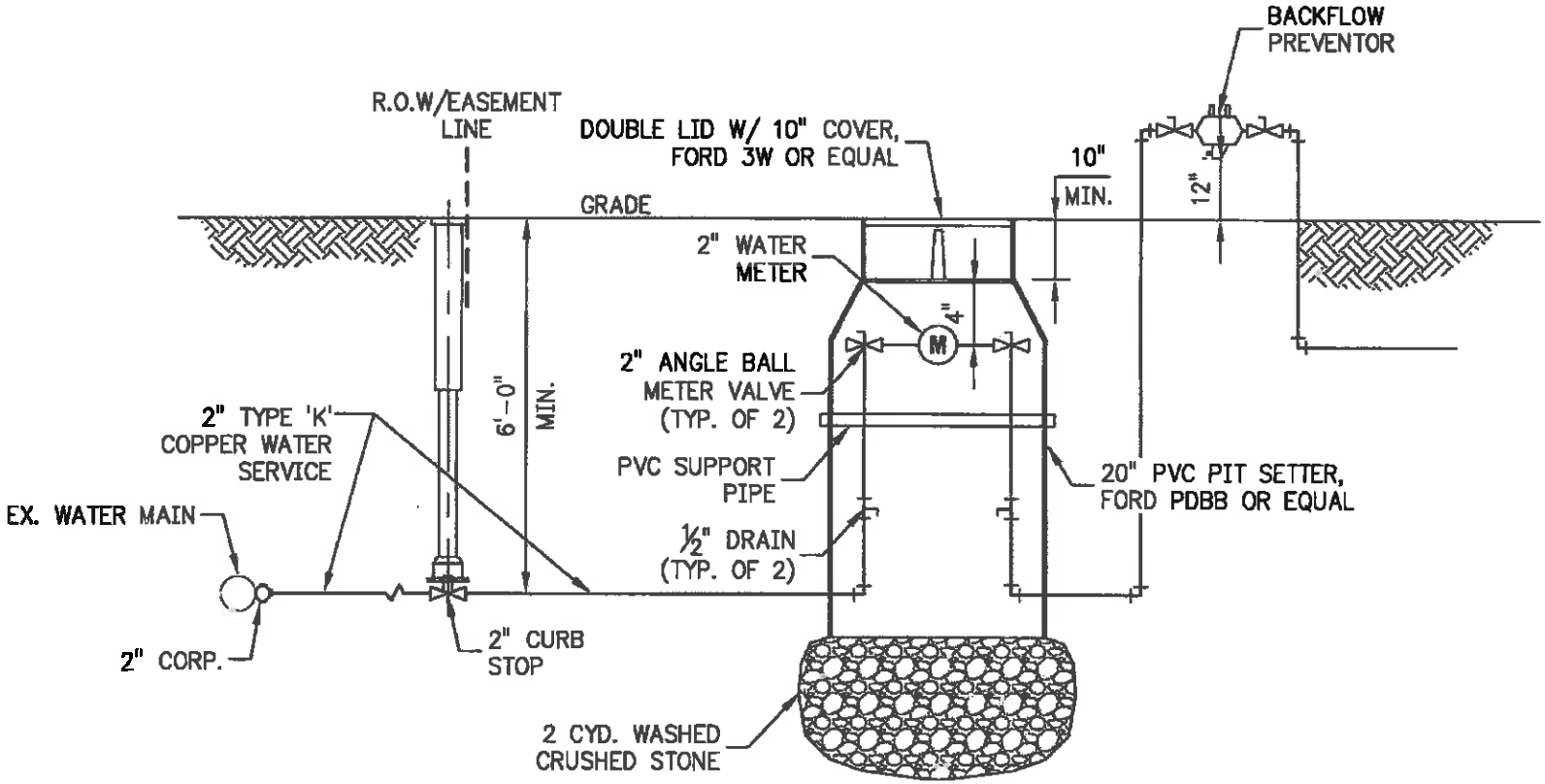
Air release valves and manholes shall be constructed as detailed on the detail drawings. Alternatives may be used pending approval by the DPW.

8.12 FORCE MAIN CLEANOUTS

Force main cleanouts shall be constructed as shown on the detail drawings.

8.13 CERTIFICATION

The manufacturer of pipe and fittings shall furnish a certified statement that all pipe and fittings furnished by him have been inspected and tested in accordance with the applicable specifications. Pipe will be subject to inspection and approval upon delivery and no cracked, broken, damaged or defective pipe or fittings shall be laid in the work. Any piece that is found to be defective after it has been laid shall be removed by the Contractor and replaced by a sound and perfect piece at no additional cost to the Owner or Township.



NOTES:

1. REFER TO SPECIFICATIONS (SECTION 9) AND STANDARD WATER MAIN DETAILS FOR SERVICE CONNECTION TO MUNICIPAL WATER.
2. ALL MATERIALS ARE SUBJECT TO APPROVAL BY THE D.P.W.
3. IRRIGATION METER AND ASSOCIATED APPURTENANCES SHALL BE INSTALLED OUTSIDE THE RIGHT-OF-WAY ON THE PROPERTY OWNER'S SIDE OF THE WATER SERVICE
4. BACKFLOW PREVENTOR SHALL BE PROVIDED AND SHALL BEAR ASSE SEAL AND COMPLY WITH CURRENT MDEQ CROSS CONNECTION MANUAL.
5. ALL MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. DETAIL IS REPRESENTATIVE FOR A 2" IRRIGATION SYSTEM. SIZES TO BE ADJUSTED IS ALTERNATE SIZE IS NEEDED.

IRRIGATION METER PIT SERVICE DETAIL

NO SCALE