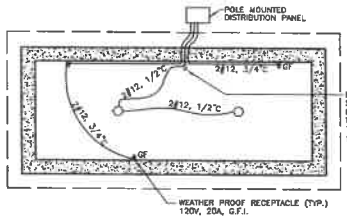
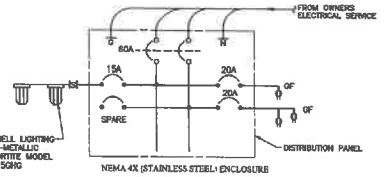


Water Meter Electrical Plan
N. T. S.



Electrical Single Line Schematic
N. T. S.

General Electrical Notes

1. GROUNDING WIRE(S) AND RELEASED APPURTENANCES ARE NOT SHOWN ON THE DRAWINGS. ALL GROUNDING SHALL BE PROVIDED PER SECTION 250 OF THE NATIONAL ELECTRICAL CODE (LATEST EDITION). EQUIPMENT GROUNDING WIRES SHALL BE INSTALLED IN ADDITION TO CONDUCTORS SHOWN (PER TABLE 250-122 OF NEC).
2. ALL POWER CONDUITS SHALL BE PVC HEAVY WALL. ALL CHANGES IN DIRECTION SHALL BE MADE USING LONG RADIUS BENDS.
3. ALL POWER WIRING INSULATION SHALL BE THHN-THWN. WIRE SIZE TO BE #12. MINIMUM CONDUIT SIZE TO BE 1/2".
4. CONTRACTOR TO PROVIDE PULL AND JUNCTION BOXES AS REQUIRED.
4. ELECTRICAL SERVICE SHALL BE INSTALLED AND INSPECTED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES.

General Notes

1. ALL DUCTILE IRON PIPING SHALL BE CLASS 52 HAVING A MINIMUM WORKING PRESSURE OF 350 PSI.
2. THE PRECAST CONCRETE METER PIT SECTIONS SHALL BE FURNISHED TO THE DIMENSIONS SHOWN AND SHALL BE BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING:
   CONCRETE – 4000 PSI @ 28 DAYS
   ENTRAINED AIR – 5% (±1%)
   STEEL – ASTM A496-A615
   – GRADE 60

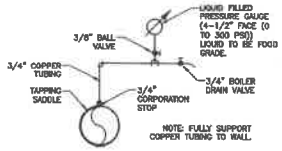
   DESIGN LOADING – AASHTO HS-25 WITH 30% IMPACT AND EQUIVALENT SOIL PRESSURE OF 130 PSF.

   THE PRECAST CONCRETE METER PIT SHOP DRAWINGS SHALL BE ACCOMPANIED BY COMPLETE STRUCTURAL AND UPLIFT DESIGN CALCULATIONS. UPLIFT CALCULATIONS SHALL ASSUME COMPLETE SUBMERGENCE OF THE METER PIT. SOIL RESISTANCE TO UPLIFT SHALL BE EVALUATED IN A VERTICAL PLANE ONLY ABOVE THE FLANGED BASE. ALL DESIGN CALCULATIONS SHALL BEAR THE SEAL AND SIGNATURE OF A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF PA.
3. ALL PRECAST METER PIT JOINTS SHALL BE BOLTED TOGETHER AND SEALED WATERTIGHT PER THE MANUFACTURER'S SPECIFICATIONS.
4. ALL PRECAST METER PIT SECTIONS SHALL HAVE A WATERPROOF BITUMASTIC COATING APPLIED TO ALL EXTERIOR SURFACES BELOW FINISHED GRADE.
5. ALL INTERIOR PIPING, FITTINGS, VALVES, ETC. SHALL BE PAINTED BLUE ACCORDING TO THE FOLLOWING OR APPROVED EQUIVALENT:

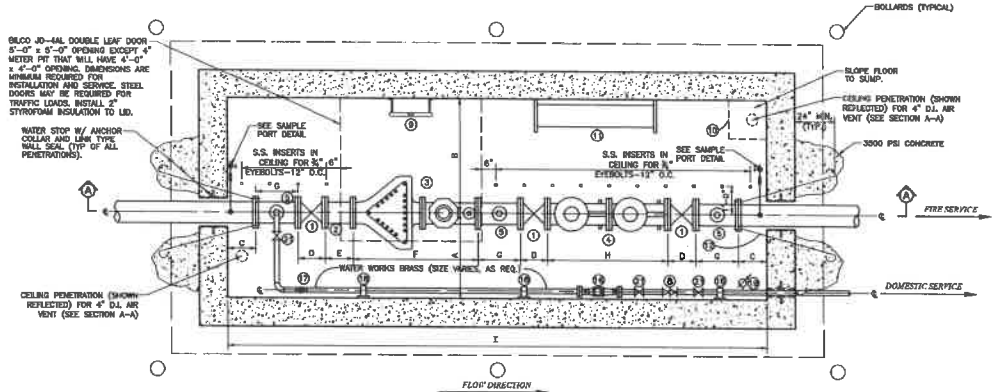
   TAR COATED APPURTENANCES.
   – ONE(1) COAT TNEMEC SERIES 1 OMNITHANE M10-ZINC MCU @ 3.0-4.0 MILS DFT
   – TWO(2) COATS TNEMEC SERIES 440 PERMA-SHIELD MCU @ 6.0-8.0 MILS DFT PER COAT.

   PRIMED OR UNPAINTED APPURTENANCES
   – ONE(1) COAT TNEMEC SERIES 1 OMNITHANE M10-ZINC MCU @ 3.0-4.0 MILS DFT.
   – ONE(1) COAT TNEMEC SERIES 27 TYPOXY POLYAMIDE EPOXY @ 2.0-3.0 MILS DFT.
   – ONE(1) COAT TNEMEC SERIES 73 ENDURA-SHIELD ALIPHATIC ACRYLIC URETHANE @ 2.0-3.0 MILS DFT.
6. PIPE SUPPORTS, TIE RODS, ANCHORS AND THRUST RESTRAINT AT FITTINGS AND VALVES SHALL BE PROVIDED SUFFICIENT, TO ALLOW PIPING TO STAND WITH REMOVAL OF METERS. FRICTION CLAMPS OR FLANGES.
7. 2" VALVES AND UNDER ARE L.P.S. 4" VALVES AND OVER ARE FLANGED – 125 P.S.I. CLASS FLANGE W/125 P.S.I. DRILLING.
8. IT WILL BE NECESSARY FOR THE CUSTOMER TO INSTALL PROPER GRAVITY DRAINAGE OR OTHER MECHANICAL MEANS TO KEEP VAULT DEWATERED. ALL SUBMITTALS SHALL BE APPROVED BY CTWA PRIOR TO FABRICATION AND INSTALLATION.
9. GATE VALVES AND PIPING SHOULD BE SAME SIZE AS METER.
10. UNLESS NOTED OTHERWISE, ALL COMPONENTS SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE CUSTOMER IN ACCORDANCE WITH CTWA RULES AND REGULATIONS.
11. BILCO TYPE DOOR TO BE CENTERED OVER METER ASSEMBLY AND ACCESS LADDER.
12. TIE RODS TO BE EMBEDDED IN CONCRETE. CTWA TO INSPECT BEFORE BACKFILLING.
13. INSTALL PIPE BOLLARDS AROUND PERIMETER OF METER PIT TO PREVENT VEHICULAR TRAFFIC FROM TRAVELING OVER PIT.
14. TOUCH READ PADS TO BE INSTALLED ON DOUBLE LEAF DOOR
15. METER SIZES TO BE DETERMINED BY THE CTWA BASED ON ACTUAL WATER REQUIREMENTS.
16. ALL FLANGE BOLTS TO BE STAINLESS STEEL.
17. PROVIDE SUFFICIENT STRAIGHT RUNS OF WATERLINE BEFORE AND AFTER METERS AS RECOMMENDED BY THE METER MANUFACTURER.
18. ALL PIPING BELOW 4" TO BE WATER WORKS BRASS MEETING CURRENT NO LEAD REQUIREMENTS. STAINLESS STEEL WILL BE ACCEPTED AS AN ALTERNATIVE.

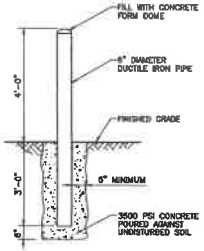
VAULT AND PIPING LENGTHS									
METER SIZE	A	B	C	D	E	F	G	H	TOTAL LENGTH OF VAULT
4"	2'-6"	3'-6"	1'-0"	9"	1'-0"	2'-9"	1'-1"	2-10"	14'-1"
6"	3'-0"	4'-0"	1'-0"	10-1/2"	1'-0"	3'-9"	1'-4"	3'-8"	16'-11"
8"	3'-0"	4'-0"	1'-0"	11-1/2"	1'-0"	4'-5"	1'-6"	4'-4"	18'-2"
10"	3'-3"	4'-3"	1'-0"	13"	1'-0"	5'-6"	1'-10"	5'-4"	22'-6"



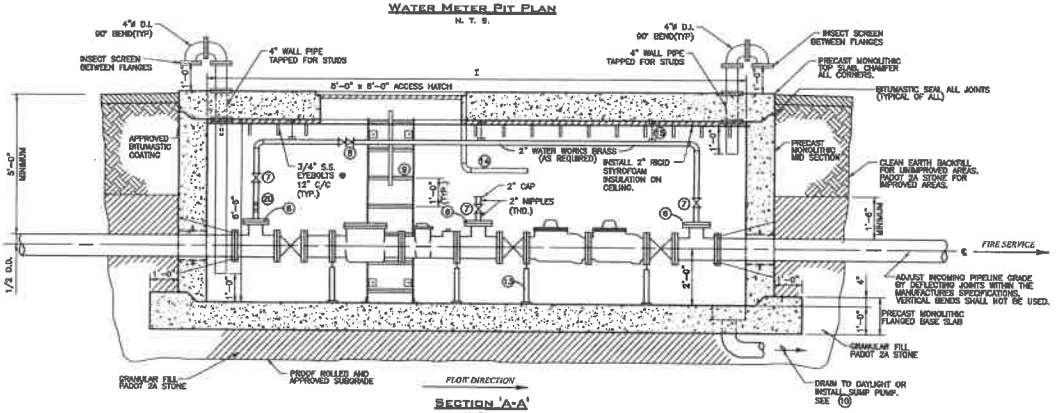
Sample Port Detail
N. T. S.



Water Meter Pit Plan
N. T. S.



Pipe Bollard Detail
N. T. S.



Section 'A-A'
N. T. S.

Fitting and Equipment Schedule

1. MUELLER CO. 2360 SERIES RESILIENT SEATED FLG x FLG GATE VALVE WITH RISING STEM (COUNTER CLOCKWISE OPEN)
2. FLG x FLG SPOOL PIECE
3. SENSUS OMNI P2 METER ASSEMBLY WITH WATERPROOF REGISTER AND TOUCH READ PAD (FURNISHED BY CTWA AT COST OF PROPERTY OWNER)
4. DOUBLE CHECK BACK FLOW PREVENTOR (WATTS SERIES 709)
5. FLG x FLG TEE
6. REDUCING FLANGE
7. LOCKING GATE VALVE
8. DOUBLE CHECK BACK FLOW PREVENTOR (PER CTWA)
9. STAINLESS STEEL LADDER WITH S.S. EXTENSION POST (HALLIDAY PRODUCTS MODEL L10)
10. SUMP FOR DRAIN (INSTALL SUMP PUMP IF REQUIRED – SEE GENERAL NOTE 8 ABOVE)
11. FLG x FLG SPOOL PIECE TO MATCH LENGTH OF METER ASSEMBLY
12. RESTRAINING RODS 3/4" DIA. – 8 REQUIRED (4 PER FITTING)
13. ADJUSTABLE GALVANIZED STEEL PIPE SUPPORT (AS REQ., MINIMUM OF 4) WITH 8" x 8" STL. BASE PLATE
14. 1" PVC DRAIN FOR GUTTER OF HATCH TO SUMP/DRAIN (S.S. SUPPORT TO WALL)
15. S.S. PIPE HANGERS (QUANTITY AS REQUIRED)
16. SENSUS DOMESTIC WATER METER (I-PEARL FOR METERS 1" AND SMALLER, OMNI C2 FOR METERS GREATER THAN 1") WITH WATERPROOF REGISTER AND TOUCH READ PAD (FURNISHED BY CTWA AT COST OF PROPERTY OWNER)
17. PRESSURE REDUCING VALVE – PRV (NOTE THAT MULTIPLE PRVs MAY BE REQUIRED TO OBTAIN THE DESIRED PRESSURE REDUCTION)
18. WALL MOUNTED STAINLESS STEEL PIPE SUPPORT (QUANTITY AS REQUIRED)
19. LIQUID FILLED PRESSURE GAUGE (4-1/2" FACE)
20. BRASS TEE
21. BALL VALVE

No.	Date	Description	By
1	1-1-14	Standard Meter Pit Detail	RM

Lennon, Smith, Souleret Engineering, Inc. 846 4th Avenue Coraopolis, Pennsylvania 15108 Phone: 412-264-4800 Fax: 412-264-1300 www.lssinc.com

28502meter Pit.dwg
January 1, 2014

Center Township Water Authority
224 Center Grange Road
Aliquippa, PA 15001

Industrial/Commercial Meter Pit Detail (4" through 10")
Located in Center Township, Beaver County, Pennsylvania

Industrial/Commercial Meter Pit Detail (4" to 10")
285-02
1 of 1

N.T.S.
Drawn By: DRJ
Checked By: Approved By: RM