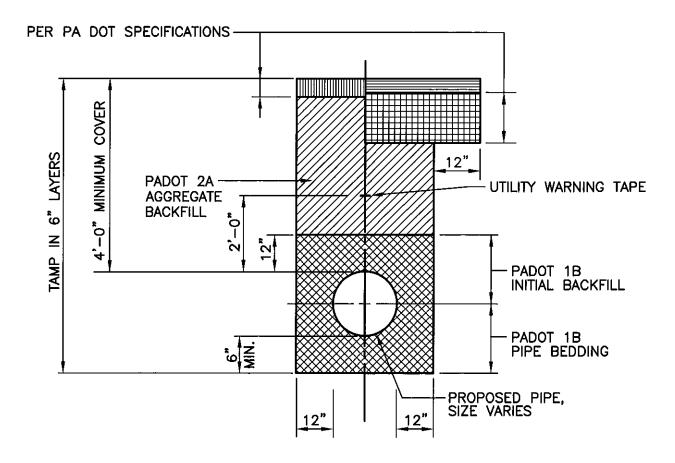
### **APPENDIX 5**

### Standard Details

<u>Standard Details</u>	Detai
	No.
Backfill and Pavement Restoration Detail – State/Borough/Township Roads	1
Trench Restoration - Lawn/Agricultural Areas	2
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**TEMPORARY** 

**PERMANENT** 



ALL WORK TO BE DONE IN ACCORDANCE WITH PADOT PUBLICATION 408 WHEN IN PADOT R.O.W.

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvania 17543 Tei 717.569.7021

### **BACKFILL AND PAVEMENT RESTORATION DETAIL FOR STATE/BORO/TWP ROADS**

DATE:

OCTOBER 2016

**DETAIL:** 

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ARRG

108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

TRENCH RESTORATION LAWN/AGRICULTURAL AREAS

DATE:

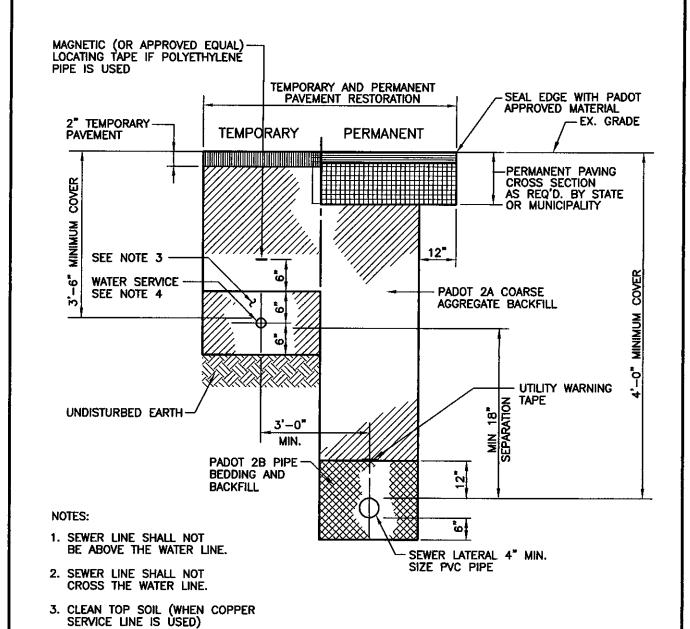
APRIL 2020

DETAIL:

2

4/6/2020 7:26 AM Plotted: 00221052.DWG

Name:



Quarryville Borough Authority
STANDARD DETAIL - WATER SYSTEM

4. WATER SERVICE LINE MIN. 3/4" TYPE K COPPER (MAIN TO CURB STOP)

ARRO

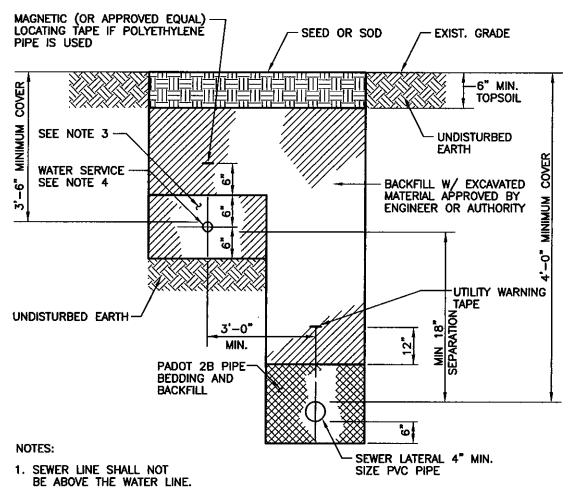
108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

COMBINED TRENCH DETAIL SEWER LATERAL/WATER SERVICE LINE STATE/BORO/TWP. ROADS

DATE:

APRIL 2020

DETAIL:



- 2. SEWER LINE SHALL NOT CROSS THE WATER LINE.
- 3. CLEAN TOP SOIL (WHEN COPPER SERVICE LINE IS USED)
- 4. WATER SERVICE LINE MIN. 3/4" TYPE K COPPER (MAIN TO CURB STOP)

# Quarryville Borough Authority STANDARD DETAIL - WATER SYSTEM

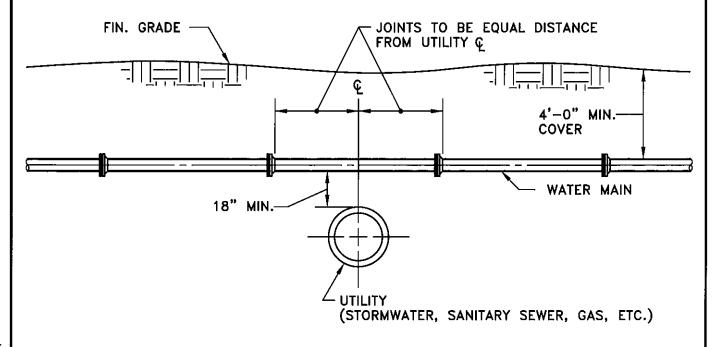
ARRO

108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

COMBINED TRENCH DETAIL SEWER LATERAL/ WATER SERVICE LINE LAWN/AGRICULTURAL AREAS DATE:

**APRIL 2020** 

DETAIL:



- NOTE: 1. THE UTILITY OWNER MAY, AT THEIR DISCRETION AND IN CONSULATION WITH THE BOROUGH. REQUIRE CONCRETE ENCASEMENT OF EITHER THE UTILITY OR THE WATER LINE.
  - 2. THE 18" VERTICAL SEPARATION CAN BE REDUCED TO A MINIMUM OF 6 INCHES, UTILIZING STEEL CASING PIPE WITH THE BOROUGH'S APPROVAL.

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM

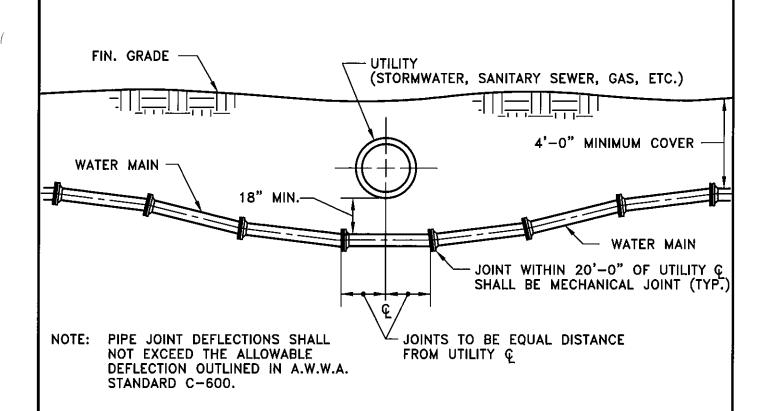


Lititz, Pennsylvanio 17543 Tel 717.569.7021

STANDARD WATER MAIN **CROSSING ABOVE UTILITIES**  DATE:

OCTOBER 2016

**DETAIL:** 



- NOTE: 1. THE UTILITY OWNER MAY, AT THEIR DISCRETION AND IN CONSULATION WITH THE BOROUGH, REQUIRE CONCRETE ENCASEMENT OF EITHER THE UTILITY OR THE WATER LINE.
  - 2. THE 18" VERTICAL SEPARATION CAN BE REDUCED TO A MINIMUM OF 6 INCHES, UTILIZING STEEL CASING PIPE WITH THE BOROUGH'S APPROVAL.

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

STANDARD WATER MAIN CROSSING BENEATH UTILITIES

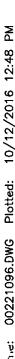
DATE:

OCTOBER 2016

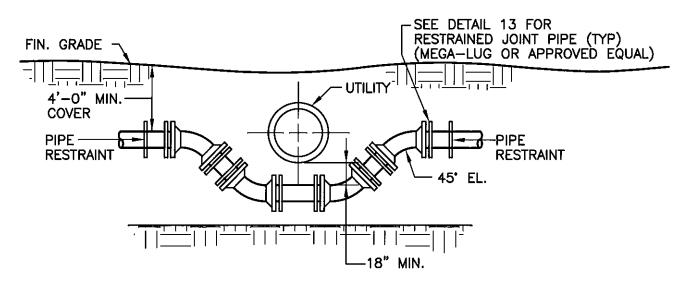
DETAIL:

6

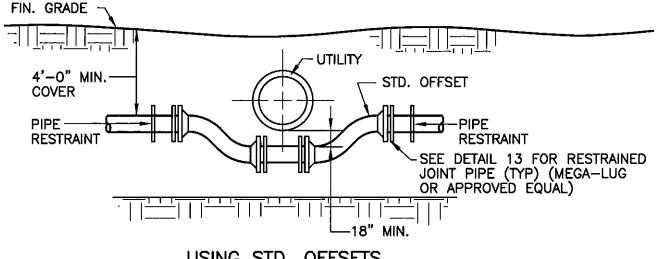
Dwg. Name: 002



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#### **USING ELBOWS**



USING STD. OFFSETS

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvonia 17543 Tel 717.569.7021

STANDARD WATER MAIN **CROSSING UTILITIES USING FITTINGS**  DATE:

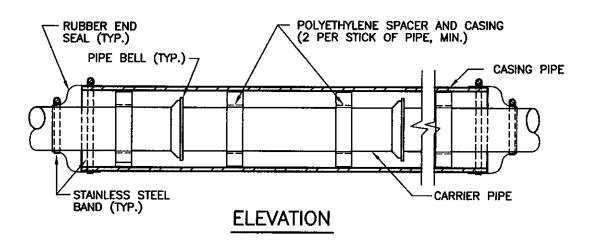
OCTOBER 2016

**DETAIL:** 

7

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Quarryville Borough Authority
STANDARD DETAIL - WATER SYSTEM

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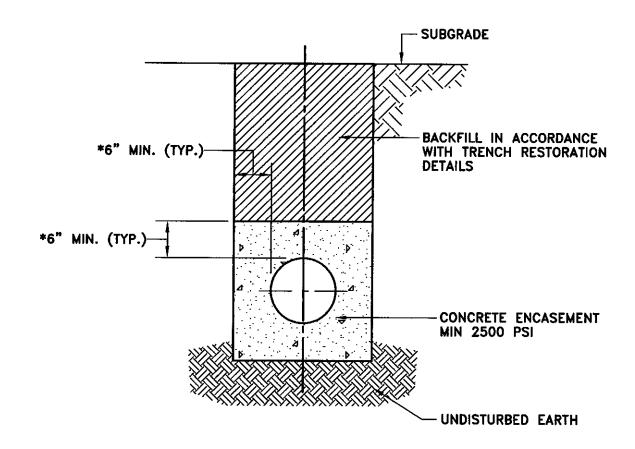
108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

STANDARD CASING CRADLE DETAIL

DATE:

APRIL 2020

DETAIL:



MINIMUM THICKNESS FOR PIPES UP TO 24 INCHES DIAMETER.
MINIMUM THICKNESS FOR PIPES 24 INCHES DIAMETER AND GREATER.

Quarryville Borough Authority STANDARD DETAIL - WATER SYSTEM

108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

STANDARD CONCRETE ENCASEMENT DETAIL (SPECIAL EXCEPTION ONLY)

DATE:

**APRIL 2020** 

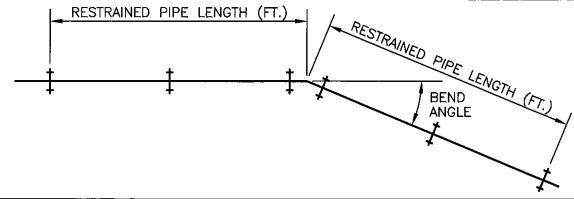
DETAIL:

11

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RESTRAINED PIPE LENGTH SCHEDULE						
PIPE DIAMETER		HORIZONTAL	& VERTICAL	UP BENDS		
	90*	45*	22 1/2*	11 1/4*	PLUGS & TEES	
6"	18.3'	7.6'	3.6'	1.8'	50'	
8"	24.0'	9.9'	4.8'	2.4'	65'	
10"	28.6'	11.9'	5.7'	2.8'	75'	
12"	33.4'	13.9'	6.7'	3.3'	90'	
14"	38.1'	15.8'	7.6'	3.7'	100'	
16"	42.4'	17.6'	8.4	4.2'	115'	

<sup>\*</sup> ADD 40% TO LENGTH IF PIPE IS POLYETHYLENE ENCASED.

	RESTRAINED PIPE	LENGTH SCHEDULE	
PIPE DIAMETER	V	ERTICAL DOWN BEND	S
	45*	22 1/2*	11 1/4°
6"	23.3'	13.2'	7.0'
8"	29.8'	16.9'	9.0'
10"	35.7'	20.2'	10.7
12"	41.4*	23.4'	12.4'
14"	46.8'	26.4'	14.0'
16"	52.1'	29.4'	15.6'

<sup>\*</sup> ADD 40% TO LENGTH IF PIPE IS POLYETHYLENE ENCASED.

NOTE: ALL LENGTHS BASED ON 150 PSI MAXIMUM PRESSURE. FOR HIGHER PRESSURES, INCREASE LENGTHS IN PROPORTION TO PRESSURE RATIO.

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



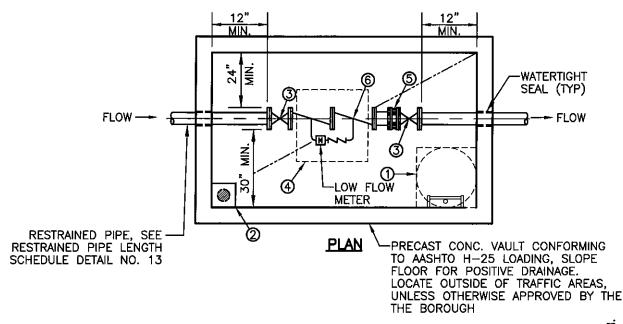
108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

### RESTRAINED PIPE LENGTH SCHEDULE

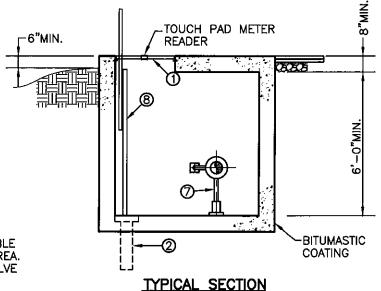
DATE:

OCTOBER 2016

DETAIL:



- (1) 30" MANHOLE COVER (TRAFFIC AREAS) OR 30" SQ. WATERTIGHT AL. ACCESS HATCH (NON TRAFFIC AREAS).
- 2' LENGTH OF 6" DIP HALF FILLED WITH 1" GRAVEL. PIPE SHALL CONTAIN A CHECK VALVE OR OTHER MEANS OF PROTECTION TO PREVENT GROUND WATER FLOW INTO VAULT AS APPROVED BY THE BOROUGH.
- ③ OS&Y GATE VALVE
- 4 36" SQ. (MIN.) WATERTIGHT HATCH. SUITABLE FOR H-25 IMPACT LOADING IN TRAFFIC AREA. POSITION HATCH OVER DOUBLE CHECK VALVE ASSEMBLY FOR ABOVE GRADE READING.
- ⑤ FLANGED ADAPTER (RESTRAINED)
- 6 AMES 3001 DOUBLE CHECK DETECTOR ASSEMBLY W/LOW FLOW METER & DOUBLE CHECK VALVE.
- STN. STL. ADJUSTABLE PIPE SADDLE SUPPORTS.
- AL. LADDER W/ EXTENDIBLE STN STL CENTER SAFTEY POST
   ON THE STREET STREET
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### Quarryville Borough Authority

STANDARD DETAIL - WATER SYSTEM

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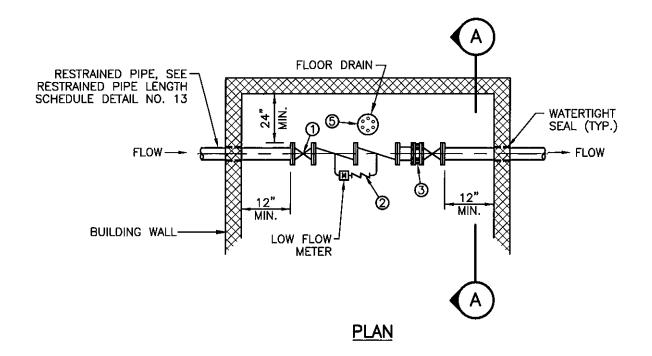
Lititz, Pennsylvania 17543
Tel 717.569.7021

FIRE SERVICE SETTING DETAIL - VAULT INSTALLATION (SPECIAL EXCEPTION ONLY)

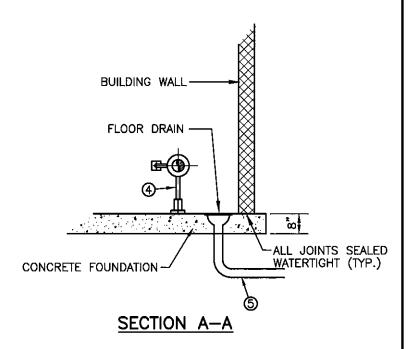
DATE:

OCTOBER 2016

DETAIL:



- ① OS&Y GATE VALVE
- 2 AMES 3001 DOUBLE CHECK DETECTOR ASSEMBLY W/LOW FLOW METER & DOUBLE CHECK VALVE
- 3 FLANGED ADAPTER (RESTRAINED)
- STN STL ADJUSTABLE SADDLE **SUPPORTS**
- ⑤ FLOOR DRAIN WITH SUFFICIENT GRAVITY DRAINAGE TO A FREE DISCHARGE SHALL BE PROVIDED WHEN A REDUCED PRESSURE ZONE DEVICE (RPZD) IS REQUIRED



### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM

Lititz, Pennsylvania 17543 Tel 717,569,7021

FIRE SERVICE SETTING DETAIL **BLDG. INSTALLATION** 

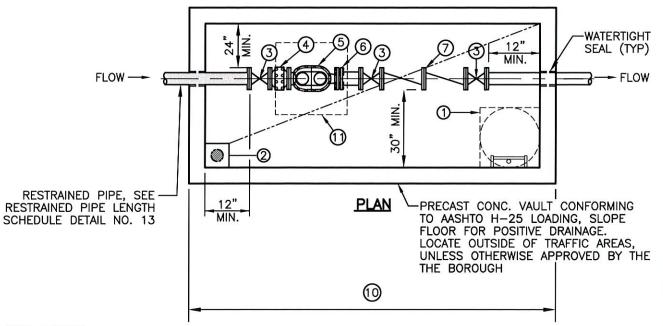
DATE:

OCTOBER 2016

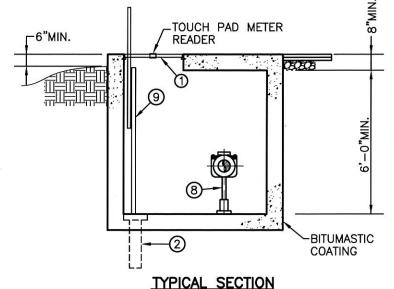
**DETAIL:** 

15

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- ① 30" MANHOLE COVER (TRAFFIC AREAS) OR 30" SQ. WATERTIGHT AL. ACCESS HATCH (NON TRAFFIC AREAS).
- 2' LENGTH OF 6" DIP HALF FILLED WITH 1" GRAVEL. PIPE SHALL CONTAIN A CHECK VALVE OR OTHER MEANS OF PROTECTION TO PREVENT GROUND WATER FLOW INTO VAULT AS APPROVED BY THE BOROUGH
- 3 OS&Y GATE VALVE
- 4 STRAINER MOUNTED UPSTREAM OF METER.
- (5) METER FURNISHED & INSTALLED BY CONSUMER (METER & PIPING SHALL BE THE SAME NOMINAL SIZE).
- 6 FLANGED ADAPTER (RESTRAINED)
- (7) BACKFLOW PREVENTOR: SHALL BE TYPE REQUIRED BASED ON SPECIFIC APPLICATION.
- STN. STL. ADJUSTABLE PIPE SADDLE SUPPORTS.
- AL. LADDER W/ EXTENDABLE STN STL CENTER SAFTEY POST
   ON THE STREET STREET
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- (10) THE MINIMUM DIMENSIONS OF THE METER PIT SHALL BE INCREASED IN LENGTH ACCORDINGLY TO SATISIFY METER MFGR'S STRAIGHT PIPE REQUIREMENTS.



1) 36" SQ. (MIN.) WATERTIGHT HATCH. SUITABLE FOR H-25 IMPACT LOADING IN TRAFFIC AREA. POSITION HATCH OVER METER FOR ABOVE GRADE READING.

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

DOMESTIC METER SETTING DETAIL - VAULT INSTALLATION
UTILIZING METERS 3' AND LARGER
(SPECIAL EXCEPTION ONLY)

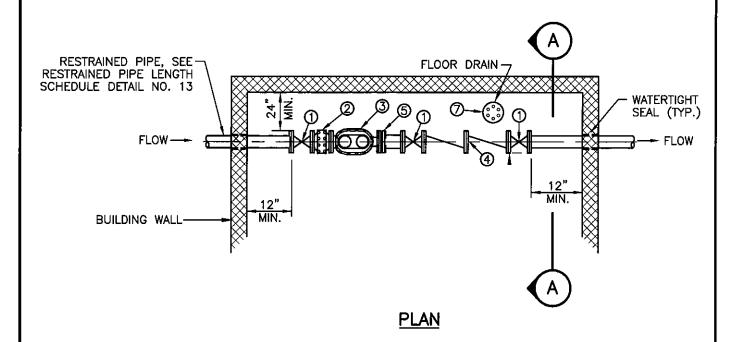
DATE:

OCTOBER 2016

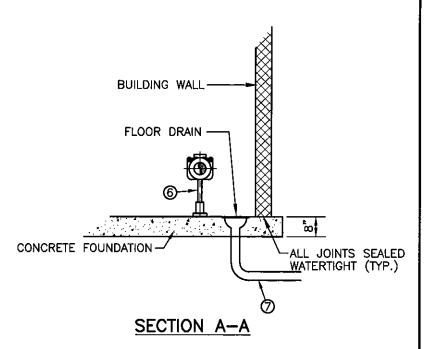
**DETAIL:** 

16

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- ① OS&Y GATE VALVE
- ② STRAINER MOUNTED UPSTREAM OF METER
- METER FURNISHED & INSTALLED BY CONSUMER. MANUFACTURER'S STRAIGHT PIPE REQUIREMENTS SHALL BE UTILIZED
- BACKFLOW PEVENTOR SHALL BE TYPE BASED ON SPECIFIC APPLICATION
- (5) FLANGED ADAPTER (RESTRAINED)
- 6 STN STL ADJUSTABLE SADDLE SUPPORTS
- TLOOR DRAIN WITH SUFFICIENT GRAVITY DRAINAGE TO A FREE DISCHARGE SHALL BE PROVIDED WHEN A REDUCED PRESSURE ZONE DEVICE (RPZD) IS REQUIRED



### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



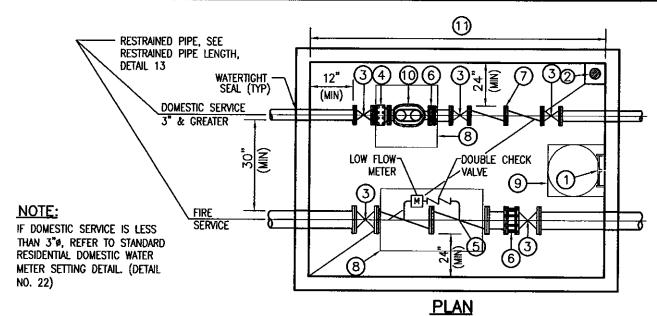
108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

DOMESTIC METER SETTING DETAIL-BLDG. INSTALLATION UTILIZING METERS 3" AND LARGER

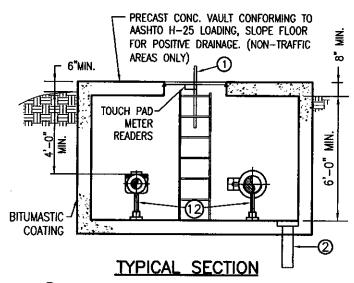
DATE:

OCTOBER 2016

DETAIL:



- AL. LADDER W/EXTENDABLE STN. STL. CENTER SAFETY POST
- (2) 2' LENGTH OF 6' DIP HALF FILLED WITH 1" GRAVEL, PIPE SHALL CONTAIN A CHECK VALVE OR OTHER MEANS OF PROTECTION TO PREVENT GROUND WATER FLOW INTO THE VAULT AS APPROVED BY THE AUTHORITY.
- (3) OS&Y GATE VALVE
- STRAINER MOUNTED UPSTREAM OF METER
- AMES 3001 DOUBLE CHECK DETECTOR ASSEMBLY W/LOW FLOW BYPASS METER & DOUBLE CHECK VÁLVE
- (6) FLANGED ADAPTER (RESTRAINED)
- BACKFLOW PREVENTOR, SHALL BE TYPE REQUIRED BASED ON SPECIFIC APPLICATION
- (8) 36" SQ. (MIN.) WATERTIGHT HATCH SUITABLE FOR H-25 WITH IMPACT LOADING IN TRAFFIC AREAS. POSITION HATCH OVER METER FOR ABOVE GRADE READING
- 30" MANHOLE COVER (TRAFFIC AREAS) OR 30" SQ. WATERTIGHT AL. ACCESS HATCH (NON TRAFFIC areas)



- (10) METER FURNISHED & INSTALLED BY CONSUMER (METER & PIPING SHALL BE THE SAME NOMINAL SIZE)
- (1.1) THE MINIMUM DIMENSIONS OF THE METER PIT SHALL BE INCREASED IN LENGTH ACCORDINGLY TO SATISFY METER MFGR'S STRAIGHT PIPE REQUIREMENTS
- (12) STAINLESS STEEL ADJUSTABLE SADDLE SUPPORTS

### Quarryville Borough Authority STANDARD DETAIL - WATER SYSTEM

ARRO

108 West Airport Road Lititz, Pennsylvonia 17543 Tel 717.569.7021

COMBINATION FIRE & DOMESTIC METER SETTING DETAIL - VAULT INSTALLATION (BY SPECIAL EXCEPTION ONLY)

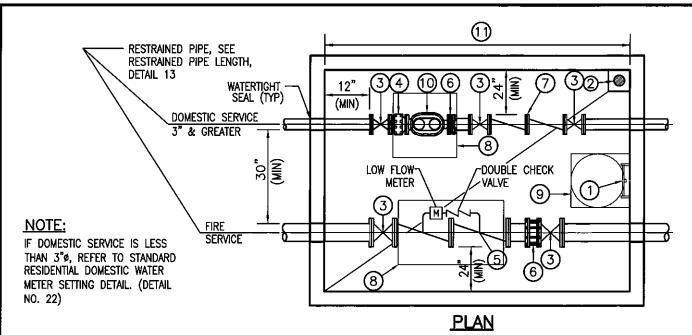
DATE:

APRIL 2020

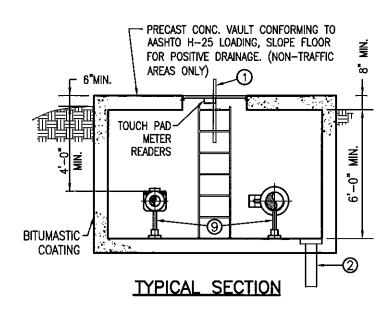
DETAIL:

18

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- AL. LADDER W/EXTENDABLE STN. STL. CENTER SAFETY POST
- 2' LENGTH OF 6' DIP HALF FILLED WITH 1" GRAVEL, PIPE SHALL CONTAIN A CHECK VALVE OR OTHER MEANS OF PROTECTION TO PREVENT GROUND WATER FLOW INTO THE VAULT AS APPROVED BY THE BOROUGH
- 3 OS&Y GATE VALVE
- (4) STRAINER MOUNTED UPSTREAM OF METER
- 5 AMES 3001 DOUBLE CHECK DETECTOR ASSEMBLY W/LOW FLOW BYPASS METER & DOUBLE CHECK VALVE
- (6) FLANGED ADAPTER (RESTRAINED)
- BACKFLOW PREVENTOR, SHALL BE TYPE REQUIRED BASED ON SPECIFIC APPLICATION
- 8 36" SQ. (MIN.) WATERTIGHT HATCH SUITABLE FOR H-25 WITH IMPACT LOADING IN TRAFFIC AREAS. POSITION HATCH OVER METER FOR ABOVE GRADE READING
- 9 30"ø MANHOLE COVER (TRAFFIC AREAS) OR 30" SQ. WATERTIGHT AL. ACCESS HATCH (NON TRAFFIC AREAS)



- METER FURNISHED & INSTALLED BY CONSUMER (METER & PIPING SHALL BE THE SAME NOMINAL SIZE)
- THE MINIMUM DIMENSIONS OF THE METER PIT SHALL BE INCREASED IN LENGTH ACCORDINGLY TO SATISFY METER MFGR'S STRAIGHT PIPE REQUIREMENTS

### Quarryville Borough Authority

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

COMBINATION FIRE & DOMESTIC METER SETTING DETAIL - VAULT INSTALLATION (BY SPECIAL EXCEPTION ONLY)

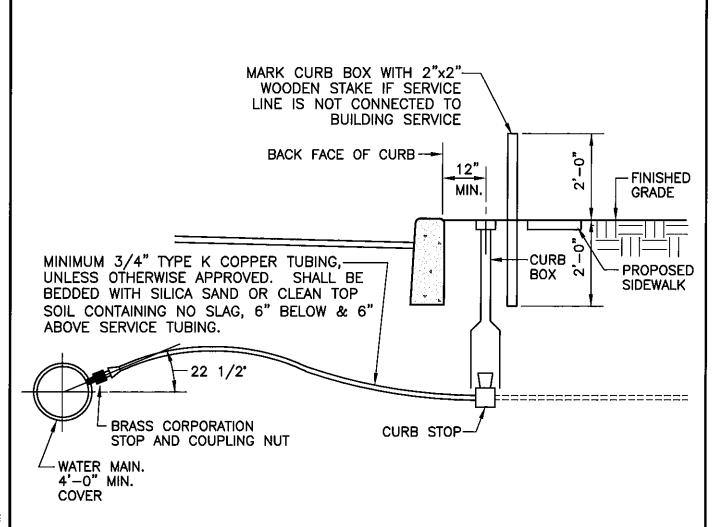
DATE:

OCTOBER 2016

DETAIL:

18

wg. Name: 002211



#### NOTES:

- 1) IF CURB STOP CAN NOT BE INSTALLED AT LOCATION SHOWN. THE BOROUGH WILL DESIGNATE LOCATION.
- 2) NO CURB STOP SHALL BE LOCATED IN CURB.

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvanio 17543 Tel 717,569,7021

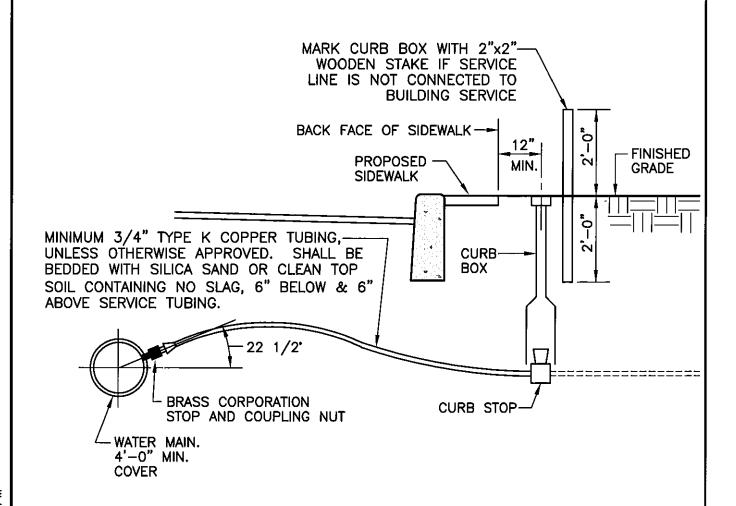
STANDARD WATER SERVICE LINE **INSTALLATION (ROADWAY w/CURBING)**  DATE:

OCTOBER 2016

**DETAIL:** 

19

Nanje:



#### NOTES:

- 1) IF CURB STOP CAN NOT BE INSTALLED AT LOCATION SHOWN, THE BOROUGH WILL DESIGNATE LOCATION.
- 2) NO CURB STOP SHALL BE LOCATED IN CURB.

### Quarryville Borough Authority

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

STANDARD WATER SERVICE LINE INSTALLATION (BEHIND CURB & SIDEWALK)

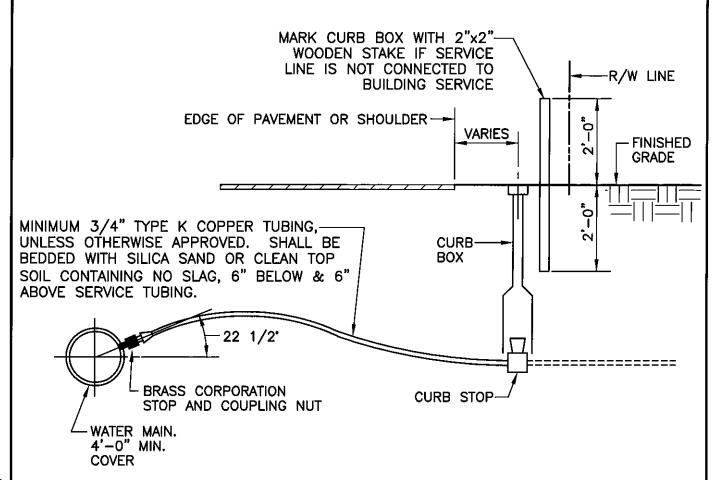
DATE:

OCTOBER 2016

DETAIL:

20

Dwg. Name: 002;



#### NOTES:

- 1) IF CURB STOP CAN NOT BE INSTALLED AT LOCATION SHOWN, THE BOROUGH WILL DESIGNATE LOCATION.
- NO CURB STOP SHALL BE LOCATED IN CURB.

### **Quarryville Borough Authority**

STANDARD DETAIL - WATER SYSTEM



108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

STANDARD WATER SERVICE LINE **INSTALLATION (ROADWAY w/o CURBING)**  DATE:

OCTOBER 2016

**DETAIL:** 

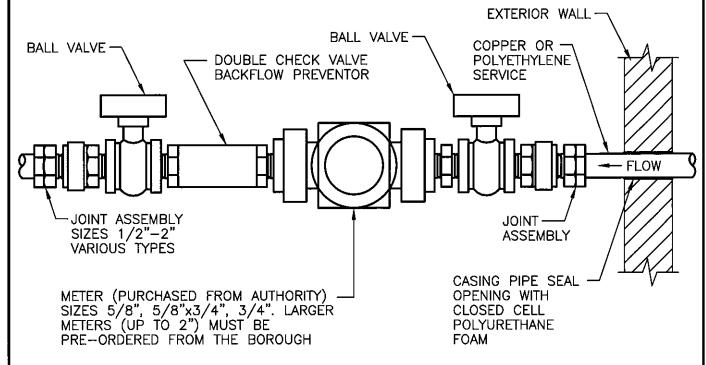
21

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NOTE: SHOULD THE AUTHORITY DECIDE THAT METER SHALL BE PLACED OUTSIDE OF BUILDING, THE REMOTE METER SHALL HAVE SAME GENERAL

CONFIGURATION AS SHOWN ON THIS DETAIL AND MUST BE APPROVED

BY THE BOROUGH.



### Quarryville Borough Authority

STANDARD DETAIL - WATER SYSTEM

### ARRO

108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021

## STANDARD RESIDENTIAL DOMESTIC WATER METER SETTING DETAIL

DATE:

OCTOBER 2016

DETAIL:

22

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g. Name: (

