

LOCATION MAP

GENERAL NOTES:

1. ALL GATE VALVES ARE TO OPEN LEFT.
2. MAV/CL2 ASSEMBLIES ARE REQUIRED ON ALL WATER MAIN EXTENSIONS. THE EXACT QUANTITY AND LOCATION WILL BE DETERMINED AT THE PROJECT SITE BY THE ASSIGNED AQUA PENNSYLVANIA INSPECTOR.
3. ALL DIRECTIONAL CHANGE FITTINGS REQUIRE RETAINING GLANDS (MEGA-LUG OR EQUAL) AND THE PROPER RESTRAINED LENGTH AND OR THE PROPER SQUARE FOOTAGE OF CONCRETE BLOCKING.
4. ALL PERMANENT BLOW-OFFS ARE TO BE BLOCKED WITH A STEEL RAIL AND THE PROPER RESTRAINED LENGTH AND OR THE PROPER SQUARE FOOTAGE OF CONCRETE BLOCKING.
5. WHEN THE WORKING PRESSURE OF THE MAIN EXCEEDS 80 PSI, PRESSURE REDUCING VALVES ARE REQUIRED ON THE AFFECTED SERVICES. PRESSURE REDUCING VALVES ARE NOT SUPPLIED OR MAINTAINED BY AQUA PENNSYLVANIA, INC
6. ALL THRUST BLOCK VALVES AND RESTRAINED LENGTHS ARE DETERMINED ACCORDING TO THE INTENDED WORKING PRESSURE OF THE PROPOSED MAIN. WHEN PRESSURES ARE IN EXCESS OF 200 PSI, THE ENGINEERING DEPARTMENT WILL PROVIDE SPECIFIC REQUIREMENTS.
7. THIS PLAN WAS PREPARED FROM INFORMATION OBTAINED FROM PLANS PROVIDED BY: API PLANS & FIELD NOTES.

[illegible]

PENNSYLVANIA LAW REQUIRES 3 WORKING
DAYS NOTICE FOR CONSTRUCTION PHASE AND
10 WORKING DAYS IN DESIGN STAGE
- STOP CALL
POCS SERIAL NUMBER(S):
20233322339

0		PROPOSED TO CONSTRUCTION	
NO	DATE	REVISION	INTL

AQUA PENNSYLVANIA, INCORPORATED
762 LANCASTER AVENUE, BRYN MAWR, PA., 19010

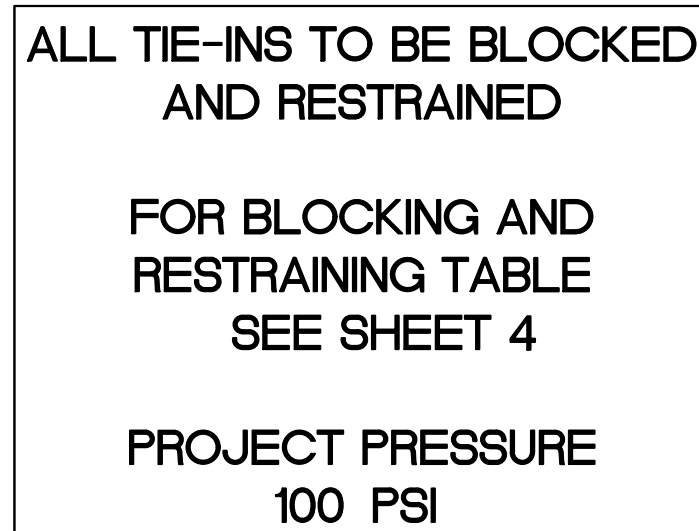
PROJECT PLAN FOR:
PLUM STREET PROJECT
COVER SHEET
MEDIA BOROUGH, DELAWARE COUNTY

DRAWN BY: A.H.		CHK'D BY:	EXT No: 20395-S
DATE: 10-19-23		SCALE: NTS	PLATE: F-32
PROJECT No: 566.23		ACTIVITY No: 159	A - 68057
APPROVED			
			COVER

THE FOLLOWING MAIN(S) HAVE BEEN ABANDONED:

4"	DI	7266-S	A-4051
4"	CI	9405-S	N/P
8"	DI	19529-S	A-6667

COORDINATE SYSTEM: NAD 1983 (2011) STATE PLANE PENNSYLVANIA SOUTH FIPS 3702 (US FEET)

MILL & OVERLAY AFFECTED
LANES IN BOROUGH R-O-W

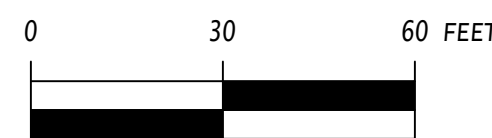
0		PROPOSED TO CONSTRUCTION			
NO	DATE		REVISION		INTL.
AQUA PENNSYLVANIA, INCORPORATED 762 LANCASTER AVENUE, BRYN MAWR, PA., 19010					
PROJECT PLAN FOR: PLUM STREET PROJECT W PEARL STREET, W JASPER STREET, VETERANS SQUARE, N ORANGE STREET MEDIA BOROUGH, DELAWARE COUNTY					
DRAWN BY:	A.H.	CHK'D BY:		EXT No:	20395-S
DATE:	10-19-23	SCALE:	1" = 30'	PLATE:	F-32
PROJECT No:	568.23	ACTIVITY No:	159	A - 68057	
APPROVED					
			SHEET	1	OF 4

LEGEND

 = PROPOSED WATER MAIN

= EXISTING WATER MAIN

SCALE

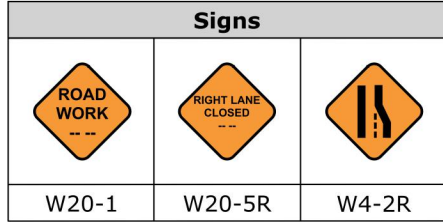


CM#

WO#

PATA 125-A

1. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.

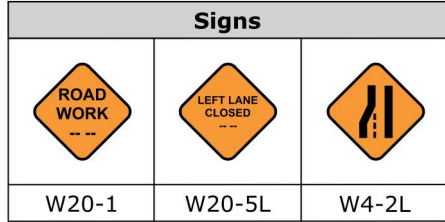


Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space					
Speed	Channelizing Devices Spacing	Sign Spacing		Buffer Space	Roll Ahead Space
		Urban	Rural		
S (MPH)	2S (Feet)	A (Feet)	A (Feet)	E (Feet)	H (Feet)
25	50	100 - 200	500 - 800	155	150
30	50	100 - 200	500 - 800	200	150
35	70	100 - 200	500 - 800	250	150
40	80	350 - 500	500 - 800	305	150
45	90	350 - 500	500 - 800	360	150
50	100	350 - 500	500 - 800	425	250
55	110	350 - 500	500 - 800	495	250

Taper Lengths and Minimum Number of Channelizing Devices						
Speed	Merging Taper: L		Shoulder Taper: 1/3L		50' Per Lane Taper	
S (MPH)	Length (Feet)	Minimum Number Of Devices	Length (Feet)	Minimum Number Of Devices	Length (Feet)	Minimum Number Of Devices
25	125	6	45	6	50	6
30	180	7	60	6	50	6
35	245	8	85	6	50	6
40	320	9	110	6	50	6
45	540	13	180	6	50	6
50	600	13	200	6	50	6
55	660	13	220	7	50	6

PATA 125-B

1. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.



Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space					
Speed	Channelizing Devices Spacing	Sign Spacing		Buffer Space	Roll Ahead Space
		Urban	Rural		
S (MPH)	2S (Feet)	A (Feet)	A (Feet)	E (Feet)	H (Feet)
25	50	100 - 200	500 - 800	155	150
30	50	100 - 200	500 - 800	200	150
35	70	100 - 200	500 - 800	250	150
40	80	350 - 500	500 - 800	305	150
45	90	350 - 500	500 - 800	360	150
50	100	350 - 500	500 - 800	425	250
55	110	350 - 500	500 - 800	495	250

Taper Lengths and Minimum Number of Channelizing Devices						
Speed	Merging Taper: L		Shoulder Taper: 1/3L		50' Per Lane Taper	
S (MPH)	Length (Feet)	Minimum Number Of Devices	Length (Feet)	Minimum Number Of Devices	Length (Feet)	Minimum Number Of Devices
25	125	6	45	6	50	6
30	180	7	60	6	50	6
35	245	8	85	6	50	6
40	320	9	110	6	50	6
45	540	13	180	6	50	6
50	600	13	200	6	50	6
55	660	13	220	7	50	6

PATA 109 (A Through L)

1. PATA 109 drawings show work spaces on roads that approach and depart T-intersections with through-roads. Single-flagger or multi-flagger intersection control is illustrated for intersections with three types of permanent control:

- One-Way Stop
 - Alli-Way Stop
 - Traffic Signal
2. Flaggers shall be clearly visible to traffic for a minimum distance of E.
- The ROAD WORK, ONE LANE ROAD, and FLAGGER SYMBOL signs are not required.
 - All channelizing devices may be eliminated if a shadow vehicle is present and the operation does not proceed against normal traffic flow.
4. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.



Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space					
Speed	Channelizing Devices Spacing	Sign Spacing		Buffer Space	Roll Ahead Space
		Urban	Rural		
S (MPH)	2S (Feet)	A (Feet)	A (Feet)	E (Feet)	H (Feet)
25	50	100 - 200	500 - 800	155	150
30	60	100 - 200	500 - 800	200	150
35	70	100 - 200	500 - 800	250	150
40	80	350 - 500	500 - 800	305	150
45	90	350 - 500	500 - 800	360	150
50	100	350 - 500	500 - 800	425	250
55	110	350 - 500	500 - 800	495	250

Taper Lengths and Minimum Number of Channelizing Devices		
Speed	50' Per Lane Taper	
S (MPH)	Length (Feet)	Minimum Number Of Devices
25	50	6
30	50	6
35	50	6
40	50	6
45	50	6
50	50	6
55	50	6

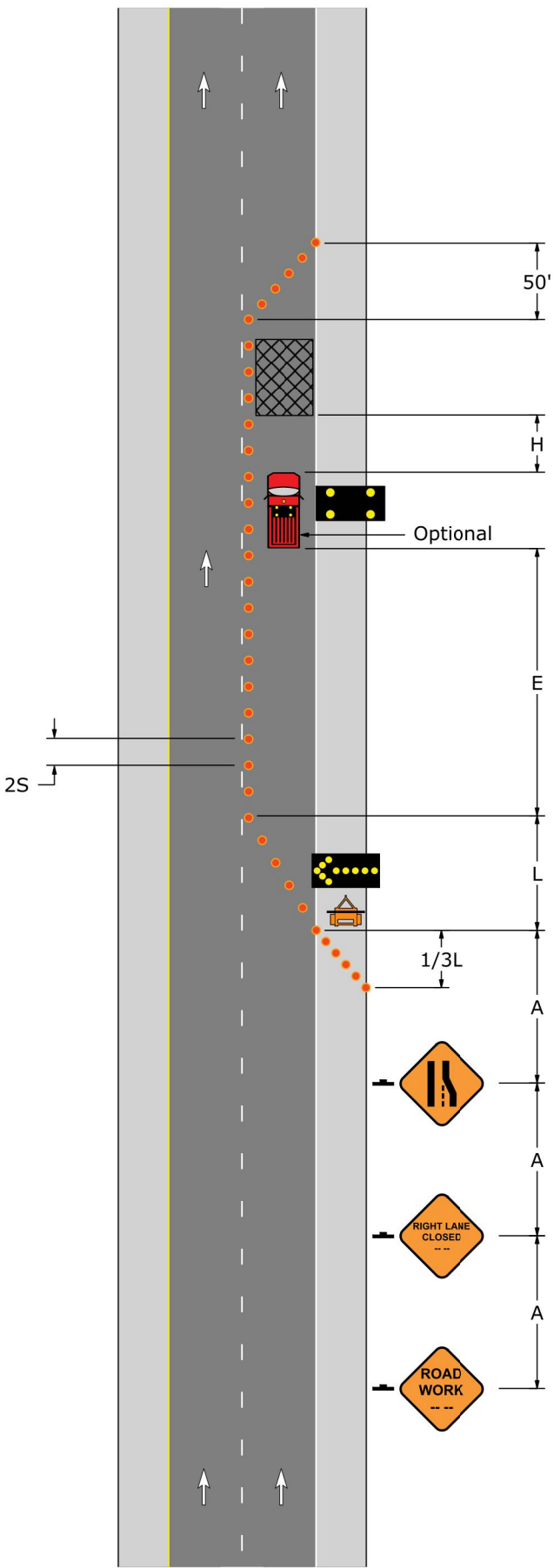
PENNDOT CONSTRUCTION NOTES:

- TOWNSHIP TO BE NOTIFIED PRIOR TO WORKING NEAR SCHOOL SIGNALS AND SHALL MARK OUT AS REQUIRED.
- SHOULDER AREAS PRONE TO WASHOUT SHALL BE PAVED.
- ANY DAMAGE TO TREES OR CUT SLOPES CAUSING THEM TO FAIL SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.
- MAIN TO BE SLEEVED OR ENCASED WHERE PASSING THROUGH GUARDRAIL.
- PERMITTEE AND HIS CONTRACTOR ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE REQUIRED EROSION AND SEDIMENTATION CONTROL MEASURES. APPROPRIATE CONTROLS ARE TO BE IN PLACE PRIOR TO SITE DISTURBANCE, CONTINUALLY MAINTAINED DURING CONSTRUCTION UNTIL REMOVED AND LEFT IN PLACE UNTIL SITE IS STABILIZED.
- TOWNSHIP TO BE NOTIFIED PRIOR TO WORKING NEAR TRAFFIC SIGNAL LOOPS AND SHALL MARK OUT AS REQUIRED.
- A BRIDGE OCCUPANCY LICENSE SHALL BE OBTAINED FOR THE STRUCTURE EXCEPT IN EMERGENCY SITUATION.
- EACH FLAGGER STATION SHALL BE ILLUMINATED AT NIGHT WITH AN OVERHEAD LIGHTING SOURCE HAVING 30,000 TO 40,000 LUMENS MINIMUM OF LIGHT OUTPUT FOR AN AREA OF NOT LESS THAN 7,500 SQUARE FEET. THE LIGHTING SOURCE SHALL HAVE A MINIMUM COLOR TEMPERATURE OF 3,000 DEGREES AND A MAXIMUM OF 4,000 DEGREES. POSITION THE LIGHT SO THE FLAGGERS CAN BE SEEN AND NOT CAUSE EXCESSIVE GLARE TO MOTORIST TRAVELING THROUGH THE WORK ZONE.
- NOTIFY THE DISTRICT 6-0 REGIONAL TRAFFIC MANAGEMENT CENTER (RTMC) 610-205-6934 FIFTEEN (15) MINUTES IN ADVANCE OF ANY PROPOSED LANE OR SHOULDER RESTRICTION, ROAD CLOSURE, OR ANY OPERATION IMPEDING THE FLOW OF TRAFFIC. NOTIFY THE RTMC WHEN THE ROAD IS RESTORED TO NORMAL OPERATION.
- SUBMIT A COMPLETED M-937R FORM TO THE DISTRICT HAULING PERMIT OFFICE (610-205-6787) AND THE INSPECTOR-IN-CHARGE TEN WORKING DAYS IN ADVANCE OF ALL TRAFFIC RESTRICTIONS.
- PROTECT DROP-OFFS ADJACENT TO A TRAVEL LANE IN ACCORDANCE WITH PUBLICATION 408, SECTION 901.3(J).
- THE WORK MUST BE PERFORMED IN WAY THAT WILL NOT CREATE A HAZARD FOR VEHICLE TRAFFIC OR PEDESTRIAN TRAFFIC.
- COORDINATE DELIVERY OF EQUIPMENT, MATERIAL TO MINIMIZE INCONVENIENCE TO TRAVELING PUBLIC.
- REPLACE ALL PAVEMENT MARKINGS WHICH HAD BEEN REMOVED DURING CONSTRUCTION, UNLESS OTHERWISE NOTED.

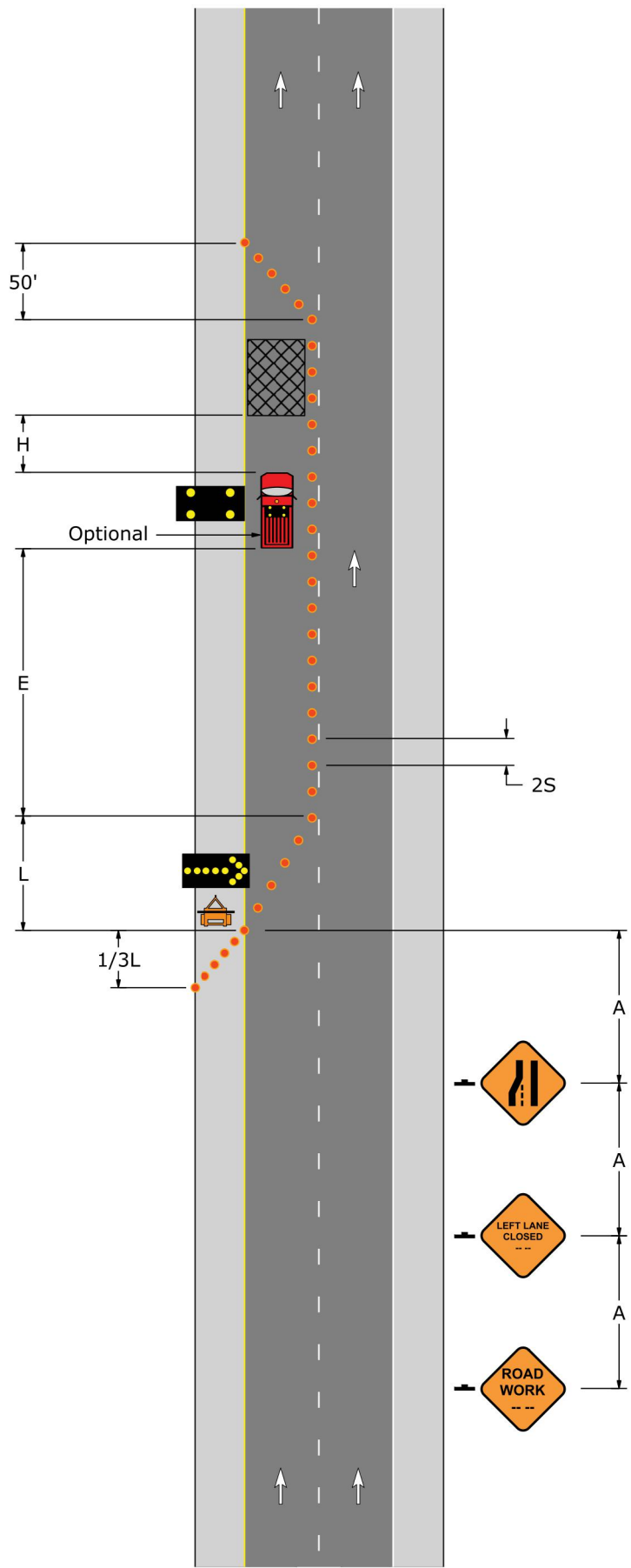
NOTES:

- ALL SIGNS SHALL BE REFLECTORIZED.
- ALL FLAGGERS MUST BE IN COMMUNICATION WITH EACH OTHER AND PENNDOT CERTIFIED.
- EACH FLAGGER SHOULD BE CLEARLY VISIBLE TO THE TRAFFIC WHICH IS BEING CONTROLLED.
- NOTIFY THE LOCAL MUNICIPALITY WHEN A SIGNALIZED INTERSECTION FALLS WITHIN THE WORK ZONE. DO NOT FLAG A SIGNALIZED INTERSECTION WITHOUT THE MUNICIPALITY PLACING THE SIGNAL ON FLASH.
- NO OPEN TRENCHES WILL BE PERMITTED AT NIGHT.
- MAINTAIN ALL ACCESS TO DRIVEWAYS AND SIDE ROADS.
- NO LANE CLOSURES OR TRAFFIC RESTRICTIONS ON LEGAL HOLIDAYS. AND BETWEEN THE HOURS OF 6:00 AM TO 9:00 AM AND 3:00 PM TO 7:00 PM.
- NOTIFY LOCAL EMERGENCY UNITS (POLICE, FIRE, MEDICAL, ETC.), LOCAL BUSINESSES, SCHOOL DISTRICT, THE LOCAL MEDIA AND THE REPRESENTATIVE TEN (10) WORKING DAYS IN ADVANCE OF THE START OF WORK.
- THE CONTRACTOR IS REQUIRED TO SUBMIT A ROAD RESTRICTION FORM TO THE DISTRICT 6-0 PRESS OFFICE ONE WEEK IN ADVANCE OF ANY LANE CLOSURES AND TWO WEEKS IN ADVANCE OF ANY FULL CLOSURES THAT NECESSITATE A DETOUR. THE FORM IS AVAILABLE ONLINE AT penndot.gov/district6/roadrestrictionform OR BY CALLING 610-205-6797.

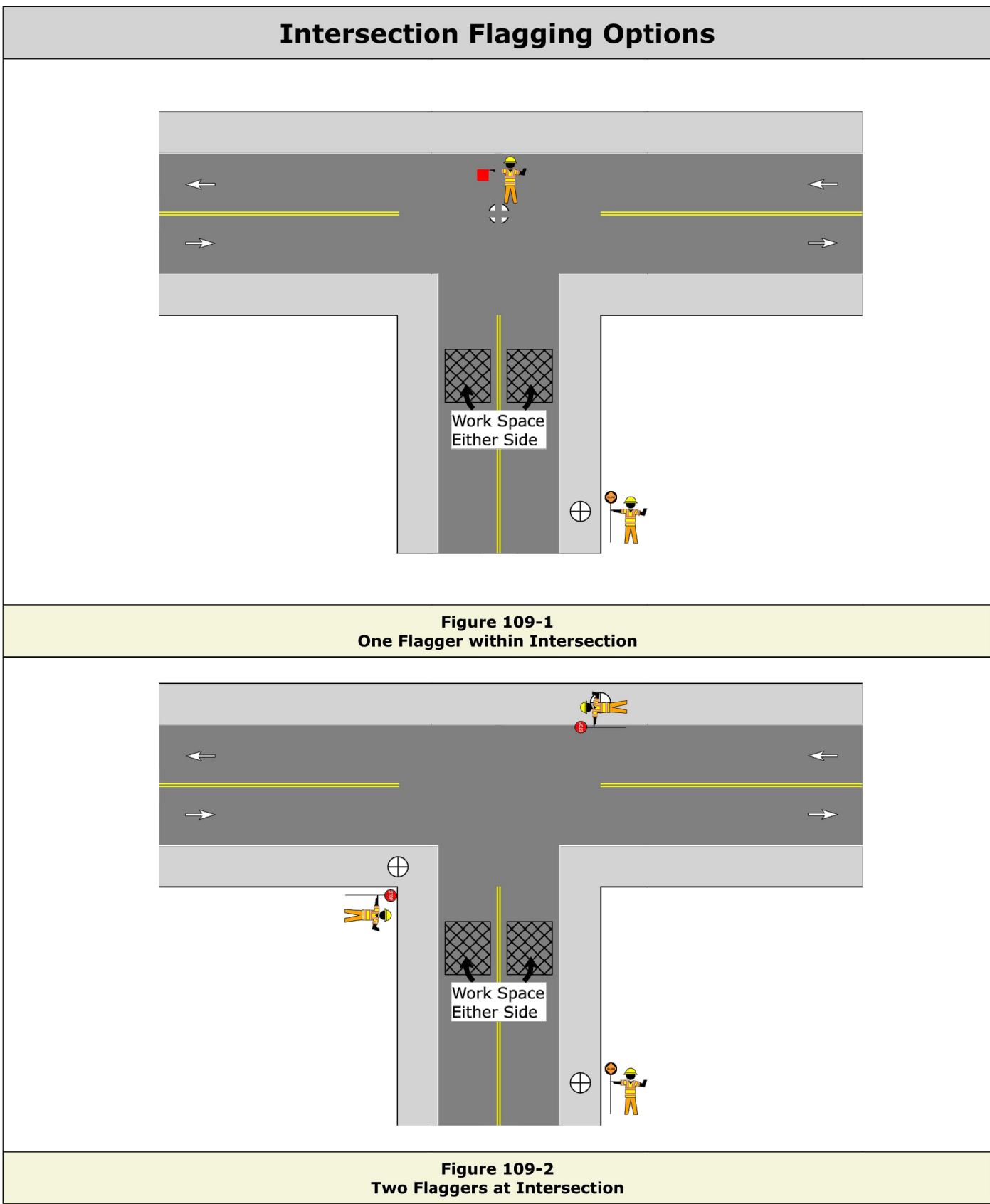
PATA 125-A



PATA 125-B

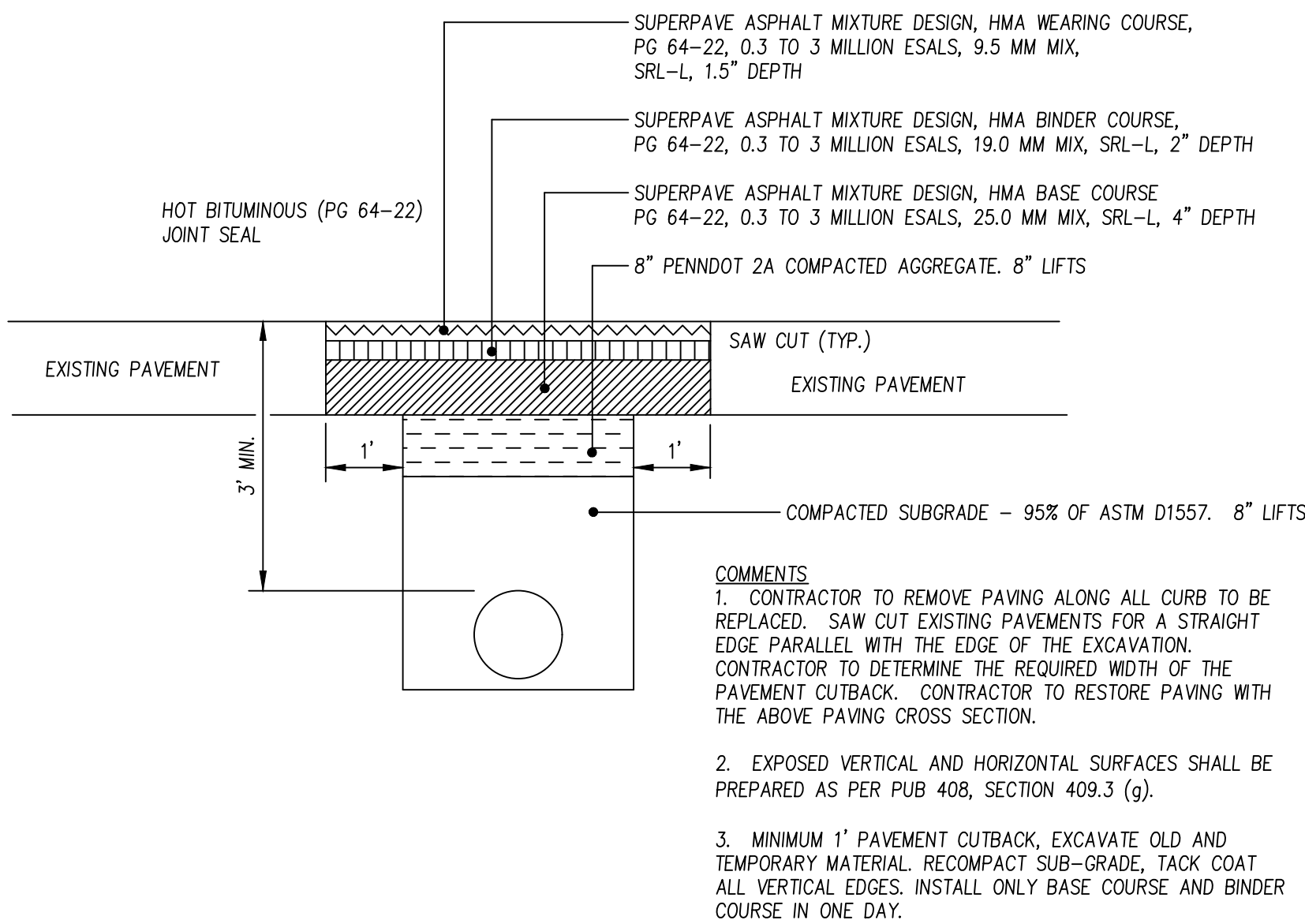
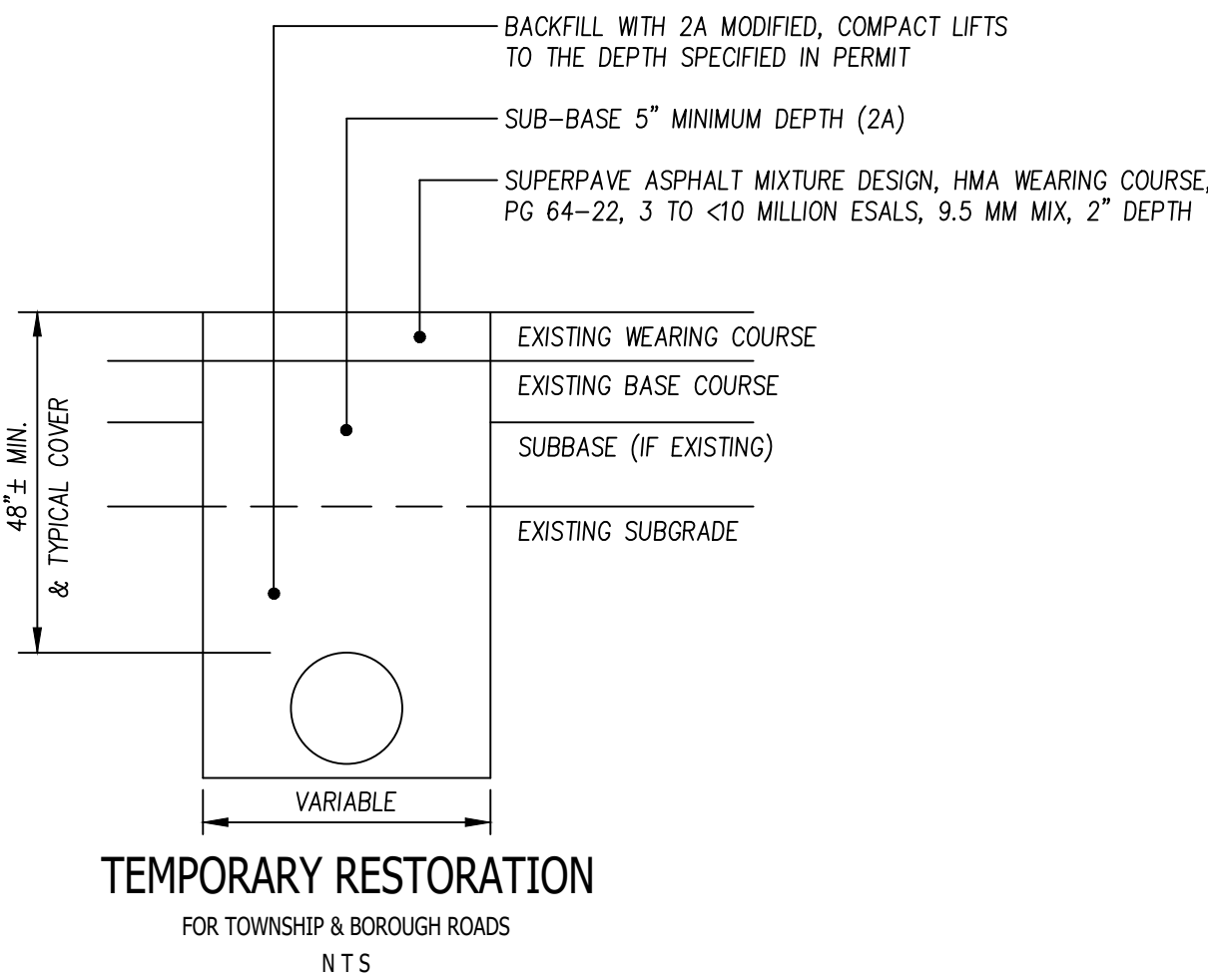


PATA 109 (A Through L)

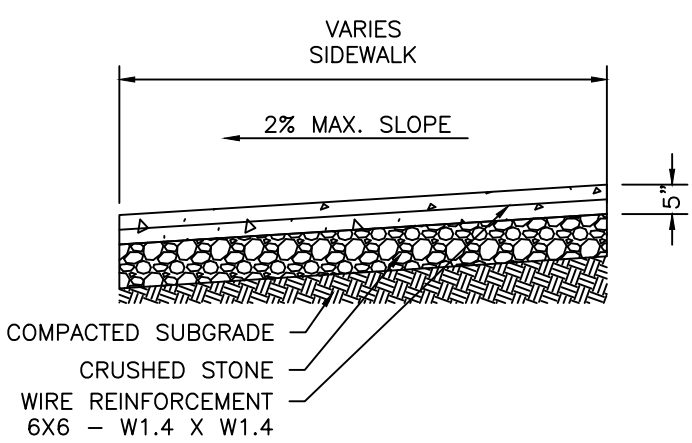


NOTE: CONTRACTOR TO SELECT APPROPRIATE TRAFFIC CONTROL OPTION (PATA 109-A THROUGH PATA 109-L) BASED ON TYPE OF PERMANENT CONTROL AND FIELD CONDITIONS.

0		PROPOSED TO CONSTRUCTION	
NO	DATE	REVISION	INTL
AQUA PENNSYLVANIA, INCORPORATED 762 LANCASTER AVENUE, BRYN MAWR, PA., 19010			
PROJECT PLAN FOR: PLUM STREET PROJECT TRAFFIC CONTROL DETAILS MEDIA BOROUGH, DELAWARE COUNTY			
DRAWN BY:	A.H.	CHK'D BY:	EXT No: 20395-S
DATE:	10-19-23	SCALE:	NTS
PROJECT No:	566.23	ACTIVITY No:	159
APPROVED			A - 68057
			SHEET 2 OF 4



FLEXIBLE PAVEMENT RESTORATION
MEDIA BORO.



- NOTES:
1. ALL SIDEWALK SHALL BE CONSTRUCTED ON A 4" MINIMUM DEPTH ¾" CLEAN CRUSHED STONE BASE (AASHTO NO. 57 OR PENNDOT NO. 2B)
 2. ALL CEMENT CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
 3. ALL EXPANSION JOINTS SHALL BE A ½" THICK PREMOLDED, NON-EXTRUDING, RESILIENT BITUMINOUS JOINT FILLER, PLACED AT 20' INTERVALS.
 4. SCORED CONTRACTION JOINTS OR EXPANSION JOINTS SHALL BE PROVIDED AT 5' INTERVALS IN SIDEWALK. EXPANSION JOINTS SHALL BE PLACED BETWEEN THE CURB AND SIDEWALK IF THEY ABUT EACH OTHER.

SIDEWALK REPLACEMENT DETAIL
NTS

CONCRETE SPECIFICATIONS – CURB AND SIDEWALK

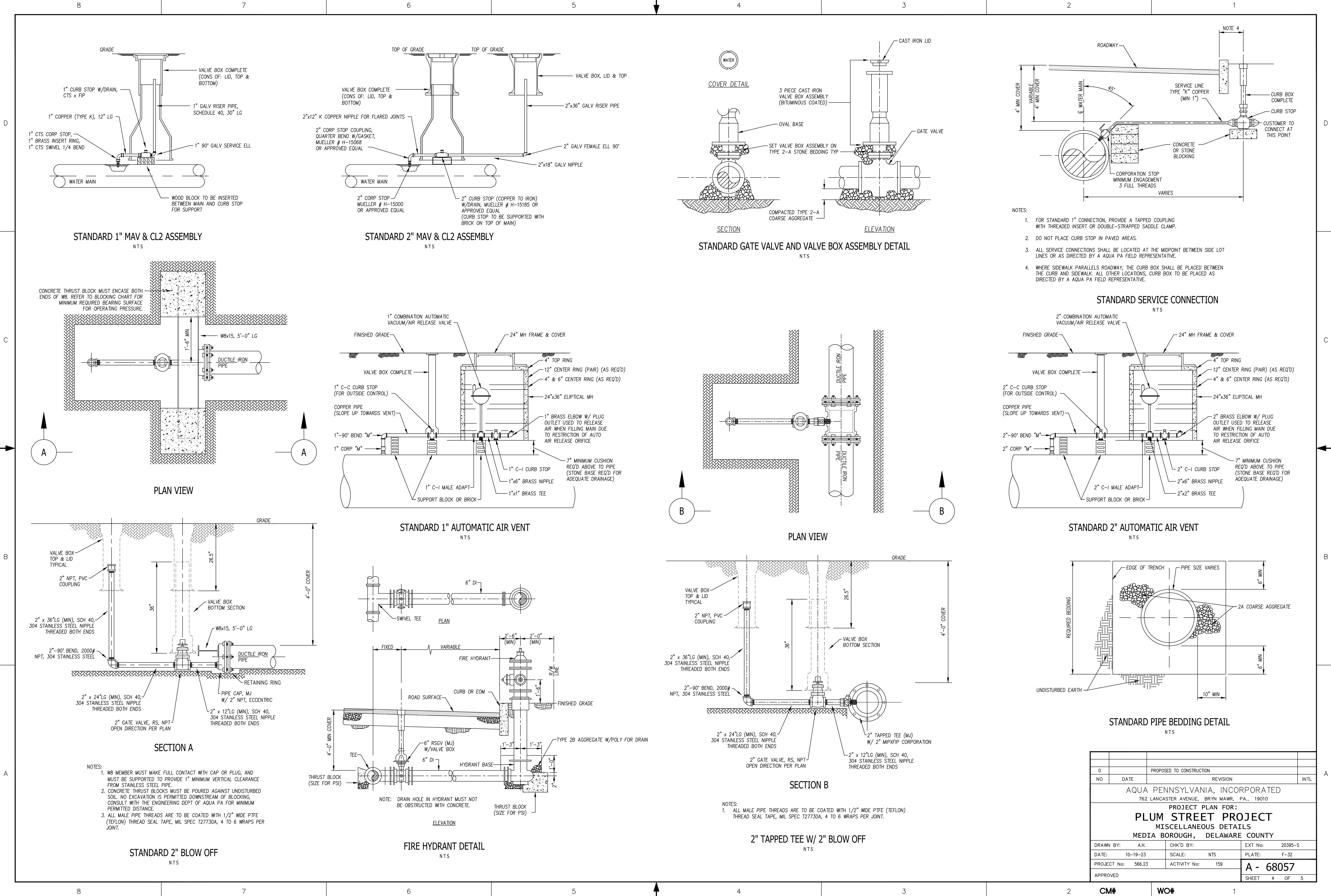
SLUMP	4" MAXIMUM
AIR ENTRAINMENT	5% TO 8% OF AIR TOTAL CONTENT
CEMENTIOUS MATERIALS' CONTENT	564 LBS/CU YD OF CONCRETE
WATER-CEMENT RATIO	0.45 OR LESS

0		PROPOSED TO CONSTRUCTION	
NO	DATE	REVISION	INTL
AQUA PENNSYLVANIA, INCORPORATED 762 LANCASTER AVENUE, BRYN MAWR, PA., 19010			
PROJECT PLAN FOR: PLUM STREET PROJECT ROAD RESTORATION DETAILS MEDIA BOROUGH, DELAWARE COUNTY			
DRAWN BY:	A.H.	CHK'D BY:	EXT No: 20395-S
DATE:	10-19-23	SCALE:	NTS
PROJECT No:	566.23	ACTIVITY No:	159
APPROVED			A - 68057
			SHEET 3 OF 5

CM#

WO#

1



0		PROPOSED TO CONSTRUCTION	
NO	DATE	REVISION	INTL
AQUA PENNSYLVANIA, INCORPORATED 762 LANCASTER AVENUE, BRYN MAWR, PA., 19010			
PROJECT PLAN FOR: PLUM STREET PROJECT MISCELLANEOUS DETAILS MEDIA BOROUGH, DELAWARE COUNTY			
DRAWN BY:	A.H.	CHK'D BY:	EXT No: 20395-S
DATE:	10-19-23	SCALE:	NTS
PROJECT No:	566.23	ACTIVITY No:	159
APPROVED			A - 68057
			SHEET 4 OF 5

D

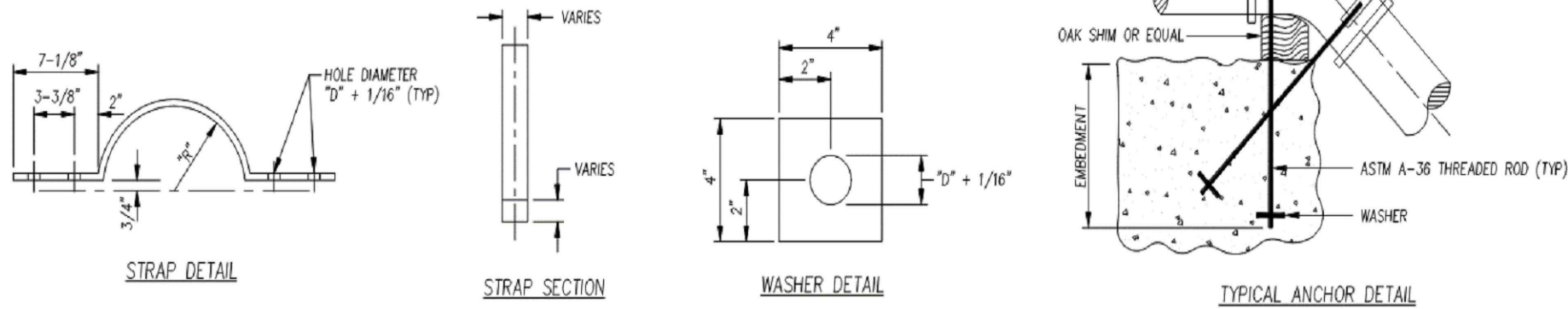
C

B

A

MINIMUM
CONCRETE VOLUMES
AND STEEL STRAP
SIZES REQUIRED FOR
BLOCKING 6", 8", 12"
AND 16" VERTICAL
BENDS

DETAILS (NTS)



KEY	PIPE DIAMETER (INCH)	PRESSURE (PSI)	BEND ANGLE (DEGREE)	CONCRETE REQUIRED (CU YD)	STEEL STRAP SIZE	"R" STRAP RADIUS	ANCHOR BOLT DIAMETER "D" AND NUMBER REQUIRED PER STRAP	EMBEDMENT LENGTH
A	6	0-100	ALL	1.0	1/4" x 2 1/2"	3 5/8"	(2) 3/4"	24"
A-1	6	101-200	ALL	2.5	1/4" x 2 1/2"	3 5/8"	* (2) 1"	36"
B	8	0-100	ALL	2.0	3/8" x 3"	4 3/4"	* (2) 1"	36"
B-1	8	101-200	45	3.0	3/8" x 3"	4 3/4"	* (2) 1"	36"
B-2	8	101-200	90	4.0	3/8" x 3"	4 3/4"	(4) 1"	36"
C	12	0-100	ALL	4.5	1/2" x 3"	6 3/4"	(4) 1"	36"
C-1	12	101-200	45	6.0	(2) 1/2" x 3"	6 3/4"	(4) 1"	36"
C-2	12	101-200	90	8.5	(2) 1/2" x 3"	6 3/4"	(4) 1"	36"
D	16	0-100	ALL	10.0	5/8" x 4"	8 3/4"	(4) 1 1/4"	48"
D-1	16	101-200	45	11.0	(2) 5/8" x 4"	8 3/4"	(4) 1 1/4"	48"
D-2	16	101-200	90	15.0	(2) 5/8" x 4"	8 3/4"	(4) 1 1/4"	48"

NOTES:

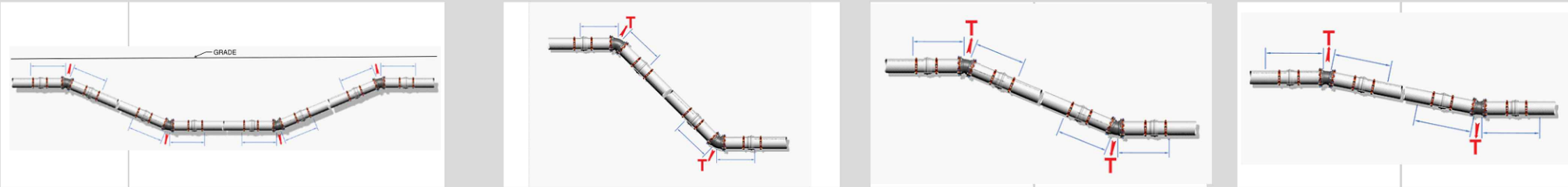
1. ALL STEEL SHALL CONFORM TO ASTM A-36
2. (2) STRAPS ARE REQUIRED, EACH WITH (4)-1" DIAMETER ANCHOR BOLTS FOR CASES C-1 AND C-2
3. REFER TO AQUA DRAWING E-4453 FOR USE AS PIPE AND VALVE CLAMP
4. CONTACT ENGINEERING DEPARTMENT FOR DESIGN ON PRESSURE EXCEEDING 200 PSI OR IF PIPE SIZE IS LARGER THAN 12"
5. COAT ALL EXPOSED METAL WITH 12 MILS OF ROSKOTE
6. BOLT LENGTH WILL EQUAL "EMBEDMENT LENGTH" + SHIM +1/2" OD OF PIPE +3-1/2".

VERTICAL BLOCKING TABLE

* - WHERE (2) 1" DIAMETER BOLTS ARE REQUIRED
(4) 3/4" DIAMETER BOLTS MAY BE USED

MINIMUM RESTRAINT
LENGTH FOR VERTICAL
FITTINGS

PROFILE VIEW (NTS)



3.5' MIN COVER / COMPACTED		1.5:1 SAFTEY FACTOR /EBBA	VERTICAL 45 BEND		VERTICAL 22 1/2 BEND		VERTICAL 11 1/4 BEND	
	DIA. (INCH)	MATERIAL	100 PSI/LF RESTRAINT	200 PSI/LF RESTRAINT	100 PSI/LF RESTRAINT	200 PSI/LF RESTRAINT	100 PSI/LF RESTRAINT	200 PSI/LF RESTRAINT
Backfill								
2A Modify (GW)	6"	DIP	7'	14'	4'	7'	2'	4'
Sand (SW)	6"	Poly Wrapped DIP	20'	40'	10'	19'	5'	10'
Sand (SW)	6"	PVC	11'	22'	6'	11'	3'	6'
2A Modify (GW)	8"	DIP	9'	18'	5'	9'	3'	5'
Sand (SW)	8"	Poly Wrapped DIP	26'	52'	13	25'	7'	13'
Sand (SW)	8"	PVC	14'	28'	7'	14'	4'	7'
2A Modify (GW)	12"	DIP	13'	25'	6'	12'	3'	6'
Sand (SW)	12"	Poly Wrapped DIP	37'	73'	18'	35'	9'	18'
Sand (SW)	12"	PVC	20'	40'	10'	20'	5'	10'
2A Modify (GW)	16"	DIP	17	33	8	16	4	8
Sand (SW)	16"	Poly Wrapped DIP	47	94	23	45	12	23
Sand (SW)	16"	PVC	26	52	13	25	7	13

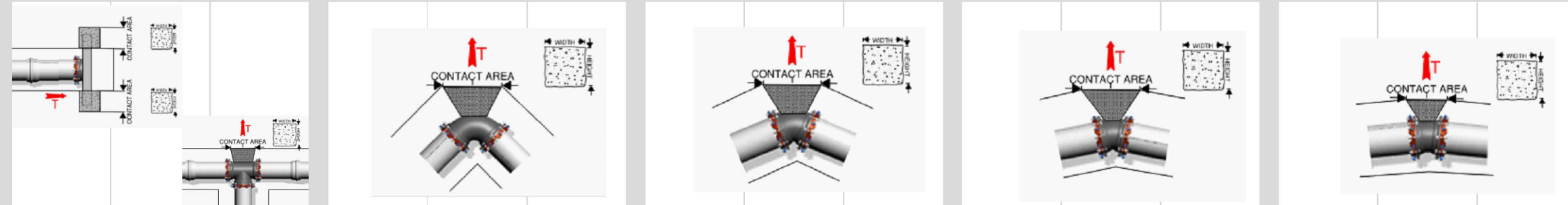
NOTES:

1. IMAGES ARE DI FITTINGS WITH PVC PIPE FOR CLARITY OF THE FITTING. IMAGES INCLUDE MECHANICAL RESTRAINT SYSTEM. PREFERRED METHOD IS THE USE OF (SURE/STOP FIELD LOK) RESTRAINING GASKET AT PUSH ON JOINTS AND APPROPRIATE MEGALUG RESTRAINTS AT MECHANICAL JOINTS (MJ).
2. RESTRAINED JOINT METHOD IS INTENDED TO BE USED ON NEW PIPE ONLY (NOT RETROFITTED TO EXISTING PIPE TO REMAIN). WHERE RESTRAINT AT CONNECTIONS TO EXISTING PIPE IS REQUIRED, USE VERTICAL STRAPPING METHOD.
3. FOR PRESSURES OVER 200 PSI AND DEPTHS OF COVER LESS THAN 3.5 FT. PLEASE CONTACT ENGINEERING DEPARTMENT FOR REQUIRED RESTRAINED LENGTH IF NOT OTHERWISE SPECIFIED.

VERTICAL RESTRAINED JOINT TABLE

MINIMUM THRUST BLOCK
AREAS REQUIRED
(SQUARE FEET (SF) OF
CONTACT SURFACE AREA
ALONG TRENCH WALL)

$$bh_{tee} = \frac{s_p PA}{s_b}$$
$$bh_{bend} = \frac{s_p 2PA \sin(\theta/2)}{s_b}$$
$$A = \frac{\pi}{4} D^2$$



4' COVER	1.5:1 SAFTEY FACTOR	DEAD-END / C&P / BO / HYD/TEE	HORIZ 90 BEND	HORIZ 45 BEND	HORIZ 22 1/2 BEND	HORIZ 11 1/4 BEND
Backfill	DIA. (INCH) MATERIAL	100 150 200	100 150 200	100 150 200	100 150 200	100 150 200
2A Modify/Sand (GW)	6 DIP/PVC/POLYWRAP	2 3 4	3 4 6	2 2 3	1 1 2	1 1 1
2A Modify/Sand (GW)	8 DIP/PVC/POLYWRAP	4 6 8	5 8 11	3 4 6	1 2 3	1 1 1
2A Modify/Sand (GW)	12 DIP/PVC/POLYWRAP	8 13 17	12 18 24	6 10 13	3 5 7	2 2 3
2A Modify/Sand (GW)	16 DIP/PVC/POLYWRAP	15 23 30	21 32 43	12 17 23	6 9 12	3 4 6
2A Modify/Sand (GW)	20 DIP/PVC/POLYWRAP	24 35 47	33 50 67	18 27 36	9 14 18	5 7 9
2A Modify/Sand (GW)	24 DIP/PVC/POLYWRAP	34 51 68	48 72 96	26 39 52	13 20 26	7 10 13
2A Modify/Sand (GW)	30 DIP/PVC/POLYWRAP	53 80 106	75 112 150	41 61 81	21 31 41	10 16 21

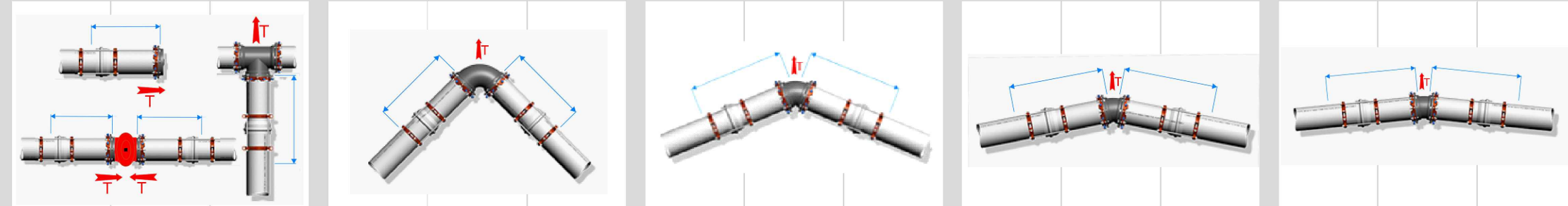
NOTES:

1. IMAGES ARE DI FITTINGS WITH PVC PIPE FOR CLARITY OF THE FITTING.
2. CONTACT ENGINEERING DEPARTMENT FOR PRESSURES ABOVE 200 PSI

HORIZONTAL BLOCKING TABLE

MINIMUM RESTRAINT
LENGTH FOR HORIZONTAL
FITTINGS

HORIZONTAL PLAN VIEW
(NTS)



4' COVER / COMPACTED 1.5:1 SAFTEY FACTOR /EBBA	INLINE VALVE/BLOW OFF/TEE BRANCH	HORIZ 90 BEND	HORIZ 45 BEND	HORIZ 22 1/2 BEND	HORIZ 11 1/4 BEND
Backfill	DIA. (INCH) MATERIAL	100 PSI/LF RESTRAIN T 150 PSI/LF RESTRAIN T 200 PSI/LF RESTRAIN T	100 PSI/LF RESTRAIN T 150 PSI/LF RESTRAIN T 200 PSI/LF RESTRAIN T	100 PSI/LF RESTRAIN T 150 PSI/LF RESTRAIN T 200 PSI/LF RESTRAIN T	100 PSI/LF RESTRAIN T 150 PSI/LF RESTRAIN T 200 PSI/LF RESTRAIN T
2A Modify (GW)	6" DIP	15' 22' 29'	7' 10' 13'	3' 4' 6'	2' 2' 3'
Sand (SW)	6" Poly Wrapped DIP	42' 63' 84'	9' 13' 17'	4' 6' 8'	1' 2' 2'
Sand (SW)	6" PVC	23' 34' 46'	8' 11' 15'	3' 5' 6'	1' 2' 2'
2A Modify (GW)	8" DIP	19' 29' 38'	8' 12' 16'	4' 5' 7'	2' 3' 4'
Sand (SW)	8" Poly Wrapped DIP	55' 82' 110'	12' 17' 23'	5' 7' 10'	3' 4' 5'
Sand (SW)	8" PVC	30' 45' 60'	10' 15' 19'	4' 6' 8'	2' 3' 4'
2A Modify (GW)	12" DIP	27' 40' 54'	12' 17' 23'	5' 7' 10'	3' 4' 5'
Sand (SW)	12" Poly Wrapped DIP	78' 117' 156'	16' 24' 31'	7' 10' 13'	4' 5' 7'
Sand (SW)	12" PVC	43' 64' 85'	14' 20' 27'	6' 9' 12'	3' 4' 6'
2A Modify (GW)	16" DIP	35' 52' 69'	15' 22' 29'	6' 9' 12'	3' 5' 6'
Sand (SW)	16" Poly Wrapped DIP	101' 151' 201'	20' 30' 40'	9' 13' 17'	4' 6' 8'
Sand (SW)	16" PVC	55' 83' 110'	17' 26' 34'	8' 11' 15'	4' 6' 7'
2A Modify (GW)	20" DIP	42' 63' 84'	18' 26' 35'	8' 11' 15'	4' 6' 7'
Sand (SW)	20" Poly Wrapped DIP	122' 183' 244'	24' 36' 48'	10' 15' 20'	5' 8' 10'
Sand (SW)	20" PVC	67' 101' 134'	21' 31' 41'	9' 13' 17'	5' 7' 9'
2A Modify (GW)	24" DIP	50' 74' 99'	21' 31' 41'	9' 13' 17'	4' 6' 8'
Sand (SW)	24" Poly Wrapped DIP	144' 215' 287'	28' 42' 55'	12' 18' 23'	6' 9' 11'
Sand (SW)	24" PVC	79' 118' 157'	24' 36' 48'	10' 15' 20'	5' 8' 10'
2A Modify (GW)	30" DIP	60' 89' 119'	24' 36' 48'	10' 15' 20'	5' 8' 10'
Sand (SW)	30" Poly Wrapped DIP	173' 260' 346'	33' 49' 65'	14' 21' 27'	7' 10' 13'
Sand (SW)	30" PVC	95' 142' 189'	29' 43' 57'	12' 18' 24'	6' 9' 12'

NOTES:

1. IMAGES ARE DI FITTINGS WITH PVC PIPE FOR CLARITY OF THE FITTING. IMAGES INCLUDE MECHANICAL RESTRAINT SYSTEM. PREFERRED METHOD IS THE USE OF (SURE/STOP FIELD LOK) RESTRAINING GASKET AT PUSH ON JOINTS AND APPROPRIATE MEGALUG RESTRAINTS AT MECHANICAL JOINTS (MJ).
2. RESTRAINED JOINT METHOD IS INTENDED TO BE USED ON NEW PIPE ONLY (NOT RETROFITTED TO EXISTING PIPE TO REMAIN). WHERE RESTRAINT AT CONNECTIONS TO EXISTING PIPE IS REQUIRED, USE BLOCKING METHOD.
3. FOR PRESSURES OVER 200 PSI AND DEPTHS OF COVER LESS THAN 4 FT. PLEASE CONTACT ENGINEERING DEPARTMENT FOR REQUIRED RESTRAINED LENGTH IF NOT OTHERWISE SPECIFIED.

HORIZONTAL RESTRAINED JOINT TABLE

0		PROPOSED TO CONSTRUCTION	
NO	DATE	REVISION	INTL
AQUA PENNSYLVANIA, INCORPORATED 762 LANCASTER AVENUE, BRYN MAWR, PA., 19010			
PROJECT PLAN FOR: PLUM STREET PROJECT BLOCKING & RESTRAINING TABLES MEDIA BOROUGH, DELAWARE COUNTY			
DRAWN BY:	A.H.	CHK'D BY:	EXT No: 20395-S
DATE:	10-19-23	SCALE:	NTS
PROJECT No:	566.23	ACTIVITY No:	159
APPROVED			A - 68057
			SHEET 5 OF 5

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