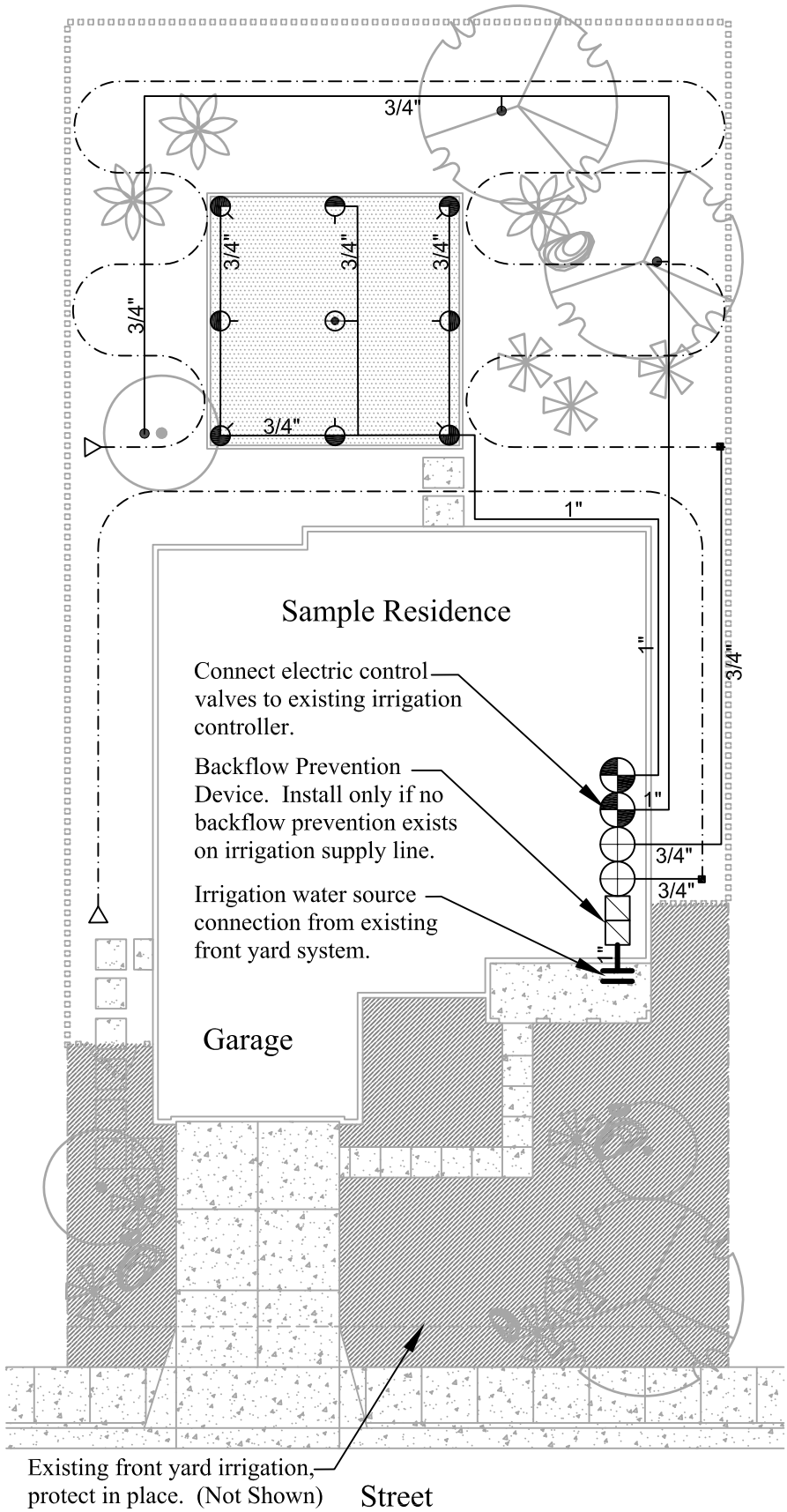
Point-to-Point Drip Irrigation Legend:

Symbol	Image	Description	Detail
		Pop-Up Spray Head	1
		Tree Well Bubbler	2
		Flush Valve	3
		5/8" Polyethelyne Tubing	4
Not Shown		1/4" Polyethelyne Tubing	4
Not Shown		Drip Emitter	4
		PVC to Polyethylene Tubing Adapter	N/A
		Drip Zone Valve Assembly	8
		Electric Remote Control Valve	9
		Pressure Vacuum Breaker - or - Reduced Principal Backflow Prevention Device	10
		PVC Schedule 40 Piping & Fittings	11



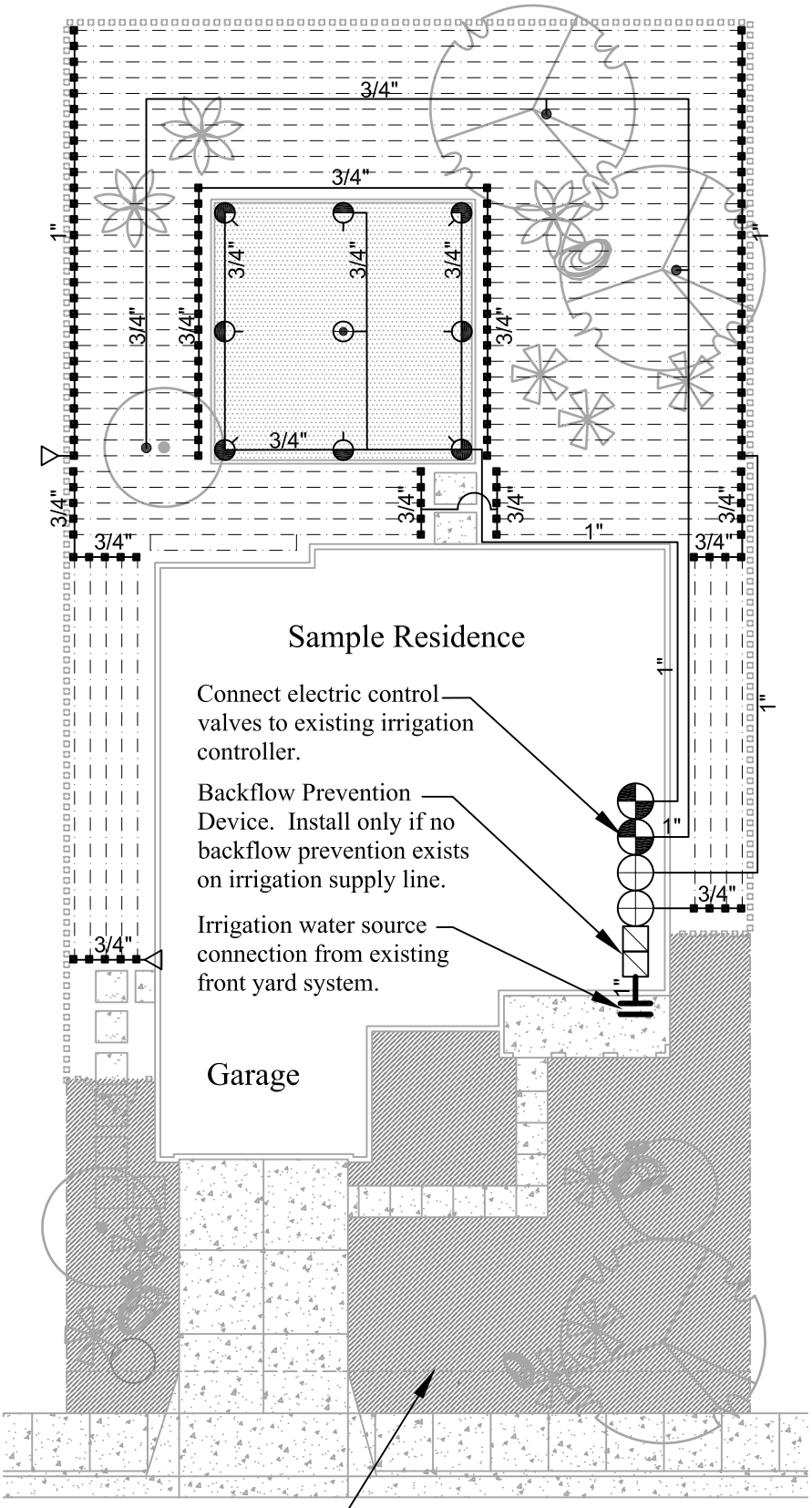
This sample irrigation concept plan is intended for general guidance only. Irrigation emission device layout, piping layout and piping sizes are based upon Landscape Concept Plan 2. It is intended that homeowners adapt the concept as needed for the specific conditions of their property, including choice of materials, appropriate layout and installation of materials per local codes and manufacturer's recommendations. EMWD assumes no responsibility for final design or installation.

IRRIGATION CONCEPT PLAN 1

EASTERN MUNICIPAL WATER DISTRICT

IN-Line Emitter Tubing Irrigation Legend:

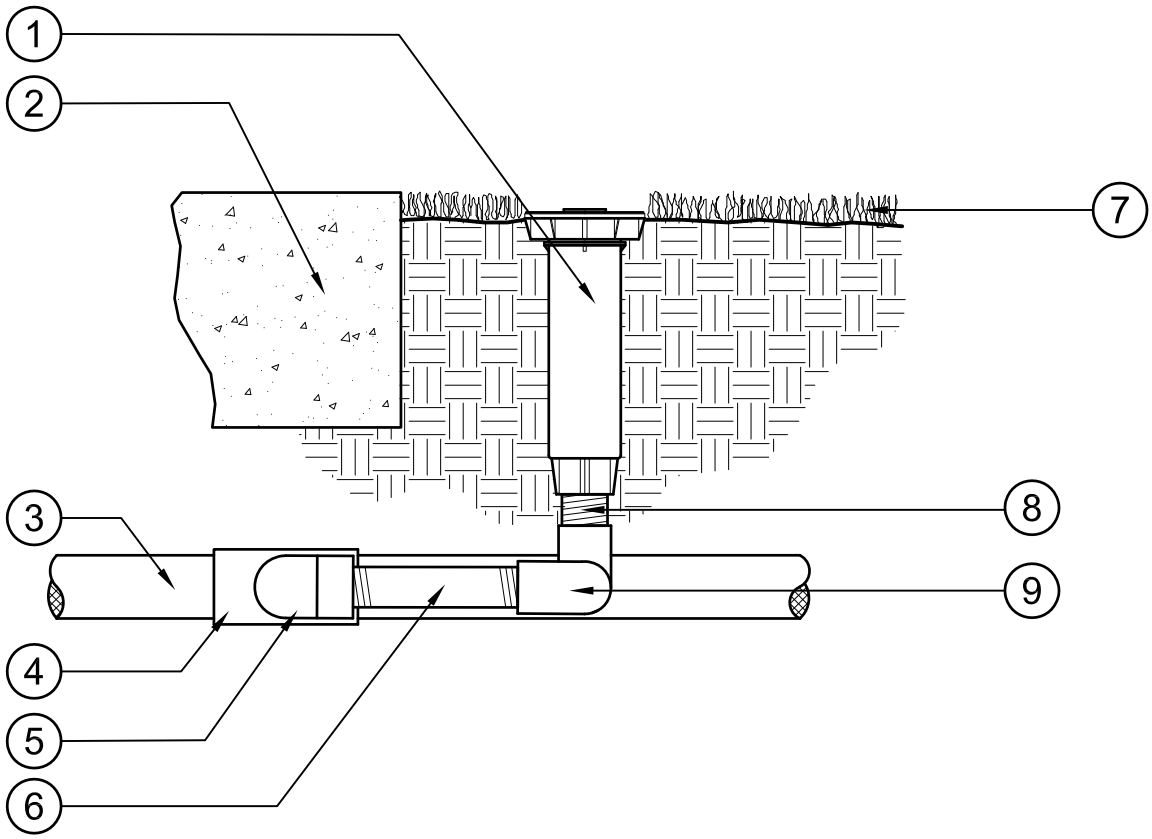
Symbol	Image	Description	Detail
		Pop-Up Spray Head	1
		Tree Well Bubbler	2
		Flush Valve	3
		In-Line Emitter Polyethelyne Tubing	5, 6 & 7
		Polyethylene Tubing Elbow	6
		PVC to Polyethylene Tubing Adapter	6
		Drip Zone Valve Assembly	8
		Electric Remote Control Valve	9
		Pressure Vacuum Breaker - or - Reduced Principal Backflow Prevention Device	10
		PVC Schedule 40 Piping & Fittings	11



This sample irrigation concept plan is intended for general guidance only. Irrigation emission device layout, piping layout and piping sizes are based upon Landscape Concept Plan 2. It is intended that homeowners adapt the concept as needed for the specific conditions of their property, including choice of materials, appropriate layout and installation of materials per local codes and manufacturer's recommendations. EMWD assumes no responsibility for final design or installation.

IRRIGATION CONCEPT PLAN 2

EASTERN MUNICIPAL WATER DISTRICT

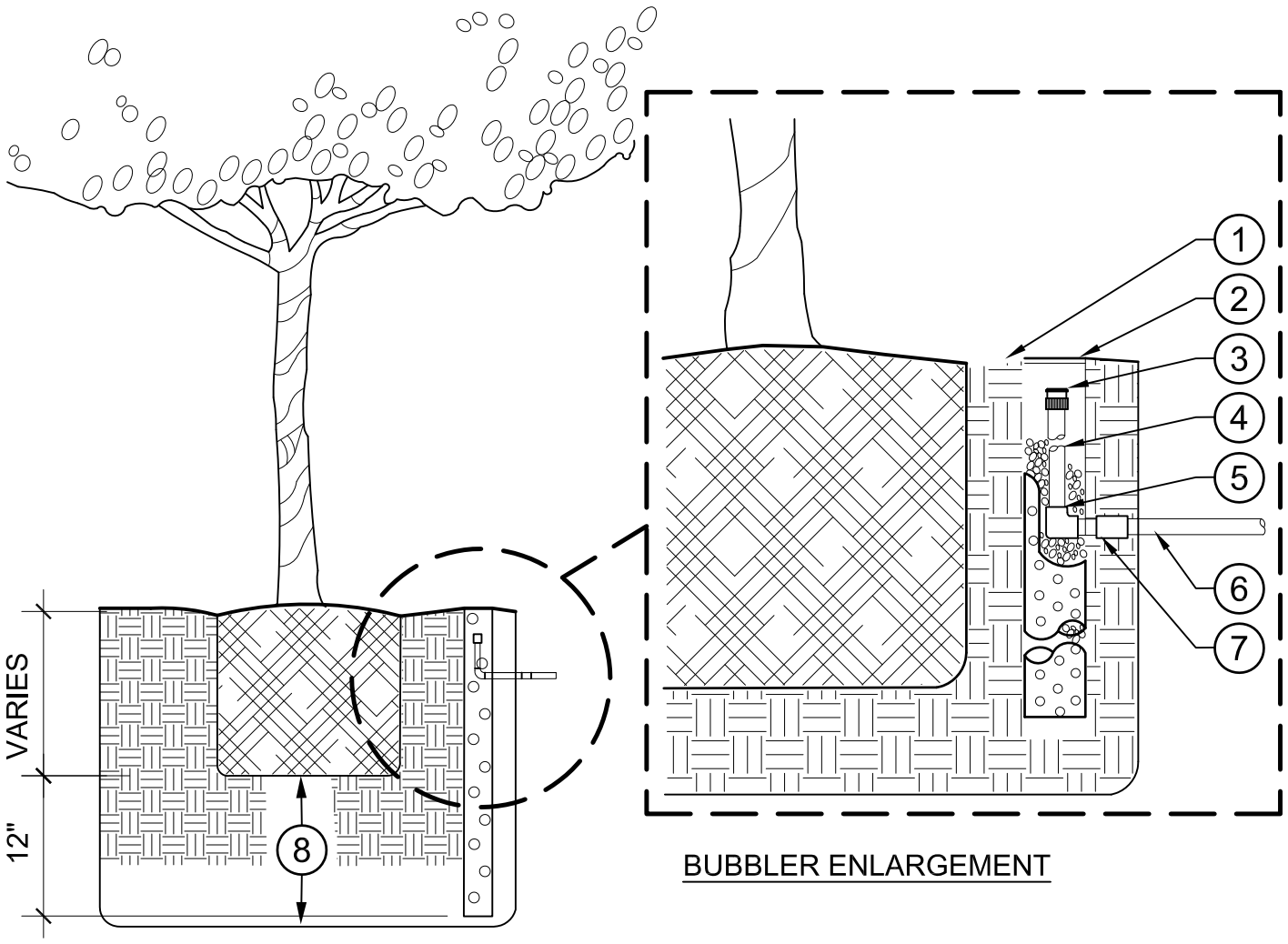


1. 6" POP-UP SPRAY HEAD WITH PRECISION SPRAY OR ROTATING NOZZLE AND CHECK VALVE
2. ADJACENT HARDSCAPE (IF APPLICABLE)
3. PVC SCH. 40 NON-PRESSURE LATERAL LINE (SIZE AS NOTED ON PLAN)
4. S x S x T SCH. 40 TEE IN LATERAL LINE (LATERAL SIZE x 1/2" FIPT)
5. 1/2" FIPT X MIPT SCH 40 90 DEGREE ELBOW (2 REQUIRED)
6. 1/2" x 8" PVC SCH. 80 NIPPLE
7. FINISH GRADE
8. 1/2" x 2" PVC SCH. 80 NIPPLE
9. 1/2" FIPT x FIPT SCH. 40 90 DEGREE ELBOW (1 REQUIRED)

Scale: 3" = 1'-0"

IRRIGATION DETAIL 1
POP-UP SPRAY HEAD

EASTERN MUNICIPAL WATER DISTRICT



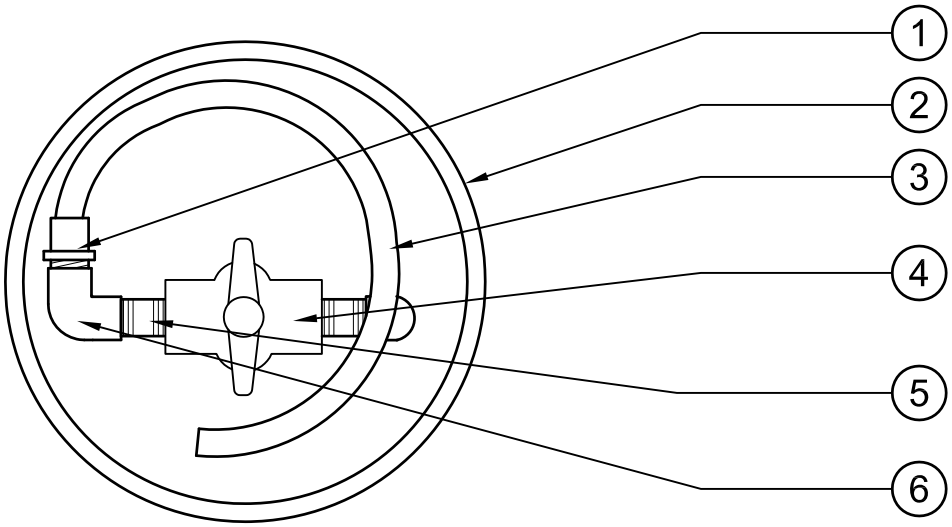
BUBBLER ENLARGEMENT

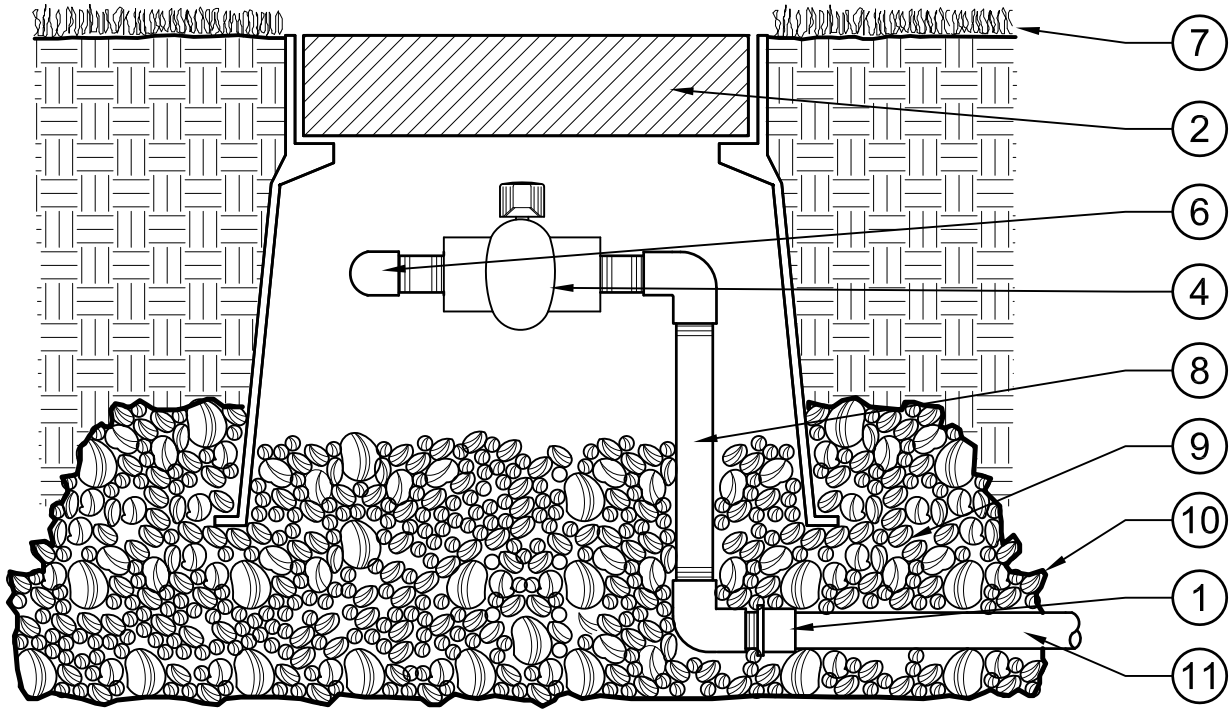
1. FINISH GRADE
2. SCH 40 PVC 4" PERFORATED RIGID PIPE WITH FILTER SOCK AND 4" GREEN DRAINAGE GRATE CAP FASTEN CAP WITH A MINIMUM OF (2) STAINLESS STEEL SCREWS
3. 1 GPM BUBBLER INSTALL 1" MINIMUM BELOW DRAIN GRATE
4. 1/2" MIPT X 1/2" MIPT SCH. 80 NIPPLE (LENGTH AS REQUIRED) (2 REQUIRED)
5. 1/2" FIPT X 1/2" FIPT SCH. 40 90 DEGREE ELBOW
6. IRRIGATION LATERAL LINE
7. 1/2" FIPT X 1/2" SLIP SCH. 40 FEMALE ADAPTER
8. TUBE DEPTH BELOW ROOT BALL 12"

Scale: Not to Scale

IRRIGATION DETAIL 2
TREE WELL BUBBLER

EASTERN MUNICIPAL WATER DISTRICT



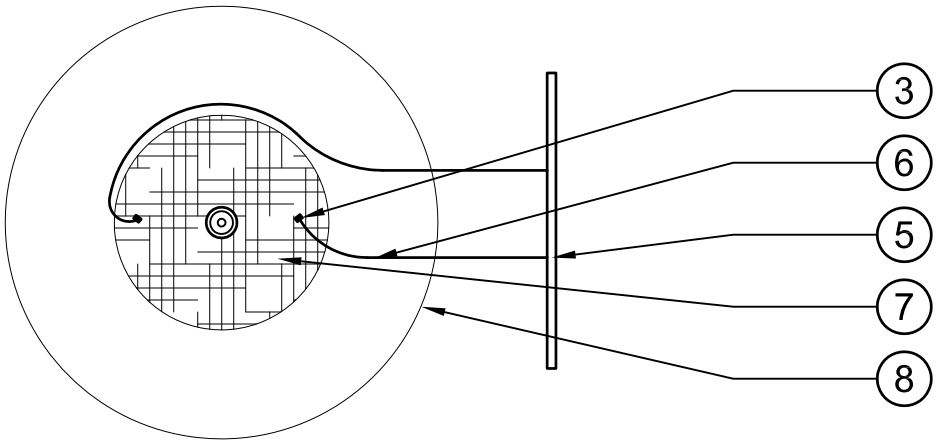


1. 3/4" SLIP X MIPT SCH 40 PVC ADAPTER (2 REQUIRED)
2. ROUND VALVE BOX (SEE SPECIFICATIONS, DO NOT CUT ADDITIONAL HOLES INTO BOX)
3. 18" LENGTH OF 3/4" SCH. 40 FLEXIBLE PVC TUBING FOR FLUSHING OUTSIDE OF BOX
4. 3/4" SCH. 40 PVC BALL VALVE
5. CLOSED NIPPLE (2 REQUIRED)
6. 3/4" PVC SCH. 40 FIPT X FIPT ELL (3 REQUIRED)
7. FINISH GRADE
8. 8" LONG X 3/4" PVC SCH. 80 RISER
9. 3/4" GRAVEL SUMP IN, UNDER AND AROUND VALVE BOX (FILL TO TOP OF HOLES)
10. INSTALL FILTER FABRIC AROUND GRAVEL SUMP
11. DRIP TUBING AND/OR LATERAL LINE (SEE SPECIFICATIONS)

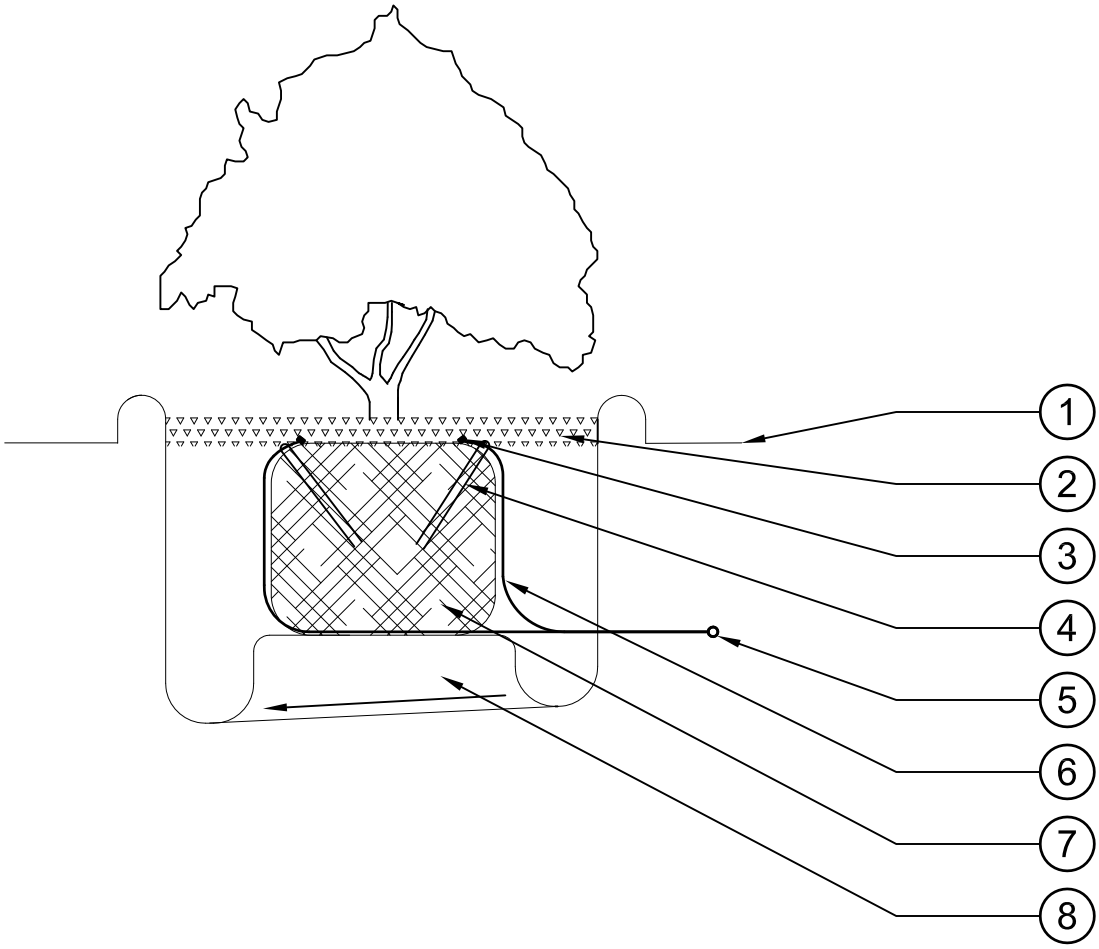
Scale: 3" = 1'-0"

IRRIGATION DETAIL 3
MANUAL FLUSH VALVE

EASTERN MUNICIPAL WATER DISTRICT



PLAN



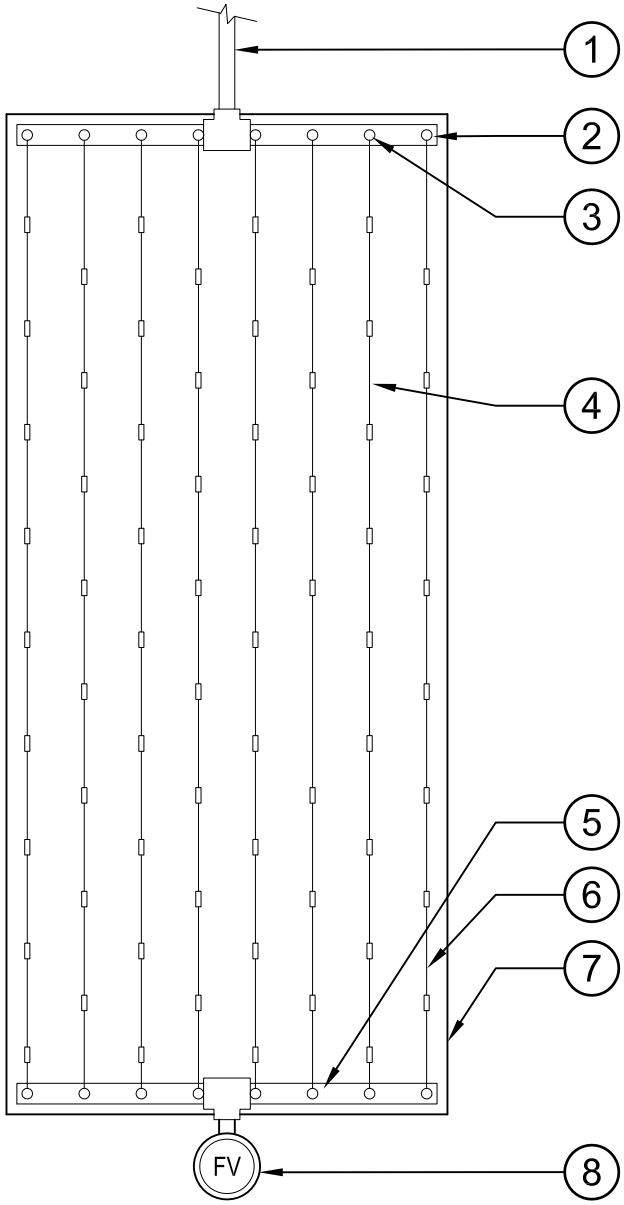
SECTION

1. FINISH SURFACE
2. MULCH LAYER
3. INSTALL EMITTERS EQUIDISTANT AROUND ROOTBALL A MAX OF 1" ABOVE FINISH SURFACE
4. TUBING STAKES (SEE SPECS)
5. 5/8" POLYETHELYNE DRIP TUBING, INSTALL AT 12” DEPTH
6. 1/4” POLYETHELYNE TUBING, INSTALL AT 12" DEPTH AND BRING TO 1" ABOVE FINISH SURFACE
7. SHRUB ROOTBALL (STAKE EMITTER TUBING TO SHRUB ROOTBALL)
8. PLANTING PIT

Scale: 1" = 1'-0"

IRRIGATION DETAIL 4
POINT TO POINT DRIP

EASTERN MUNICIPAL WATER DISTRICT



PLAN

1. PVC LATERAL LINE FROM ELECTRIC CONTROL VALVE
2. PVC SUPPLY MANIFOLD
3. MANIFOLD TO ELBOW CONNECTION
4. DRIP LINE LATERAL
5. PVC FLUSH MANIFOLD
6. PERIMETER LATERALS 12" FROM EDGE
7. HARDSCAPE EDGE
8. MANUAL FLUSH VALVE PLUMBED TO FLUSH AT LOW POINT

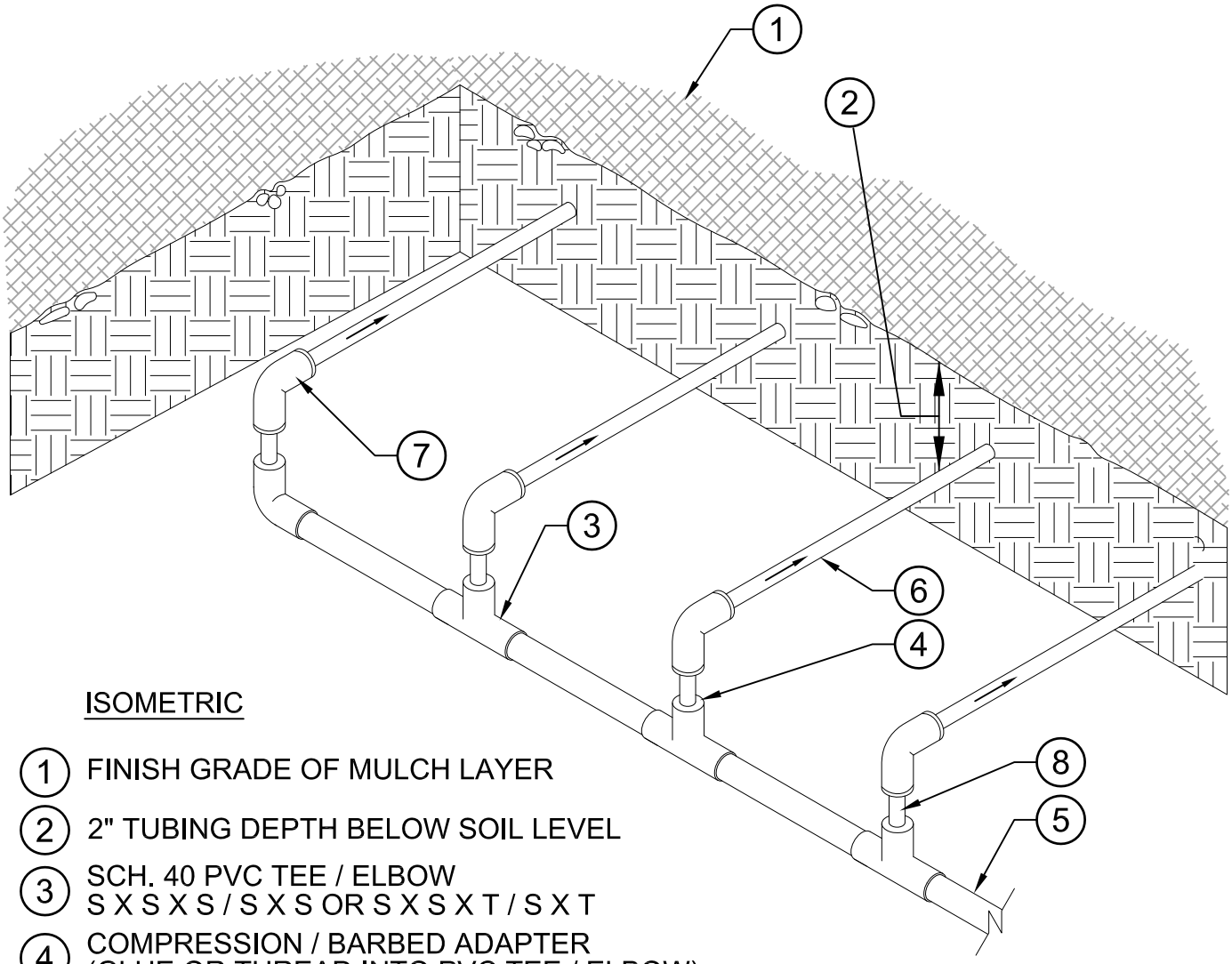
NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH PER MANUFACTURER'S SPECIFICATIONS.

Scale: Not to Scale

IRRIGATION DETAIL 5
EMITTER TUBING LAYOUT

EASTERN MUNICIPAL WATER DISTRICT



ISOMETRIC

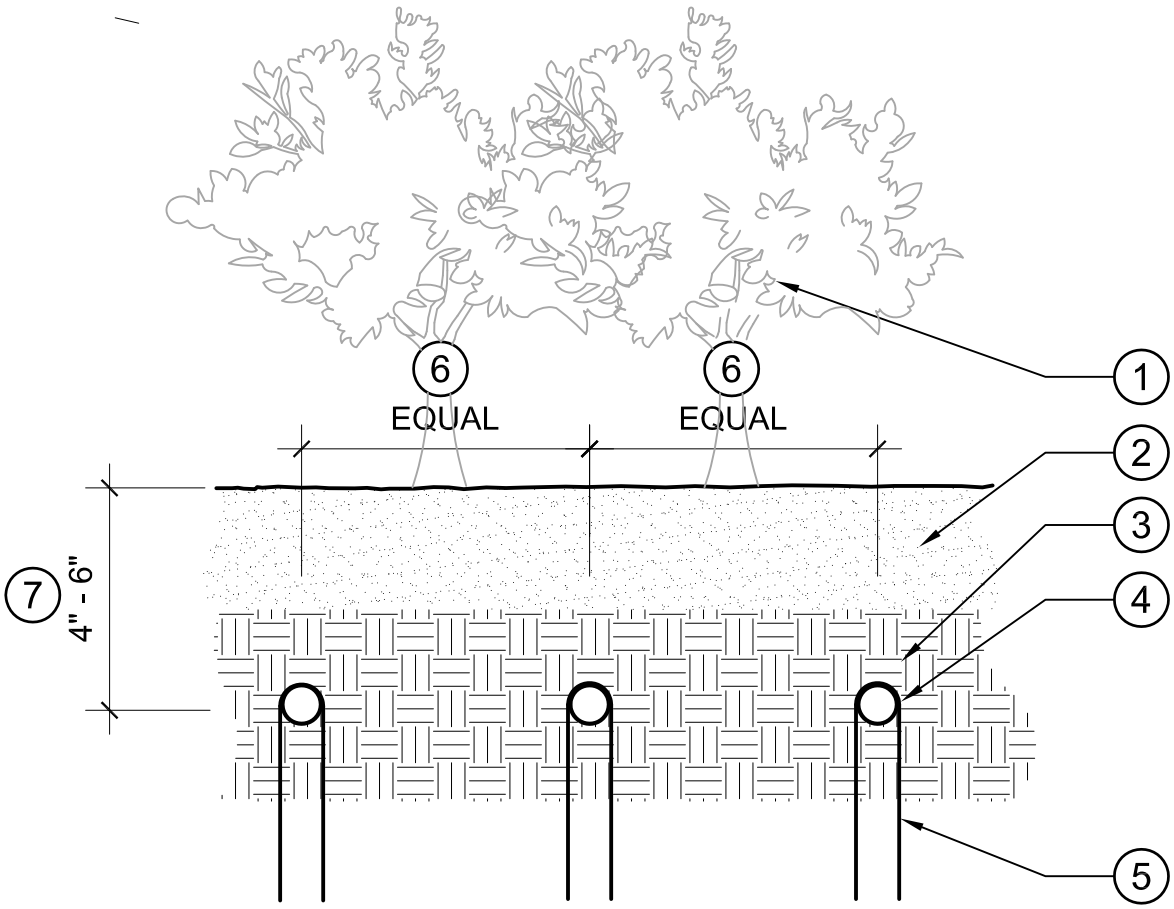
1. FINISH GRADE OF MULCH LAYER
2. 2" TUBING DEPTH BELOW SOIL LEVEL
3. SCH. 40 PVC TEE / ELBOW
   S X S X S / S X S OR S X S X T / S X T
4. COMPRESSION / BARBED ADAPTER
   (GLUE OR THREAD INTO PVC TEE / ELBOW)
5. PVC MANIFOLD/SUPPLY LINE
   FROM DRIP VALVE AND FILTER
6. DRIP LINE WITH INTEGRAL EMITTERS
   2" - 4" BELOW FINISH GRADE OF TOP SOIL
7. COMPRESSION / BARBED ELBOW
8. DRIP LINE

NOTES:
INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

Scale: Not to Scale

IRRIGATION DETAIL 6
EMITTER TUBING ISOMETRIC VIEW

EASTERN MUNICIPAL WATER DISTRICT

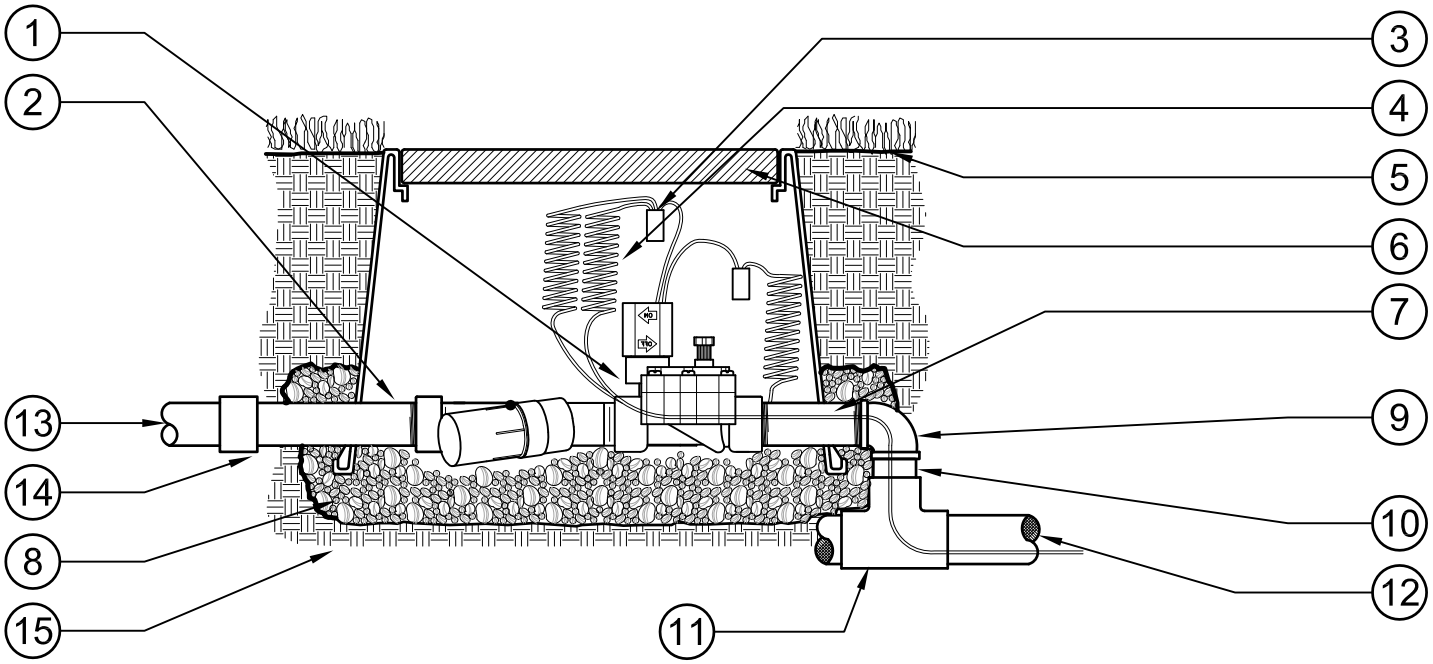


1. SHRUB OR GROUNDCOVER
2. 2" - 4" BARK MULCH LAYER
3. AMENDED SOIL MIX
4. SUB-SURFACE TUBING, BURIED INTO SOIL 2" - 4"
5. TUBING STAKE
6. TUBING SPACING VARIES 12" - 18" ON CENTER BASED ON EMITTER SPACING
7. TOTAL TUBING DEPTH 4"-6" BELOW MULCH AND SOIL

Scale: Not to Scale

IRRIGATION DETAIL 7
TUBING DEPTH AND SPACING

EASTERN MUNICIPAL WATER DISTRICT



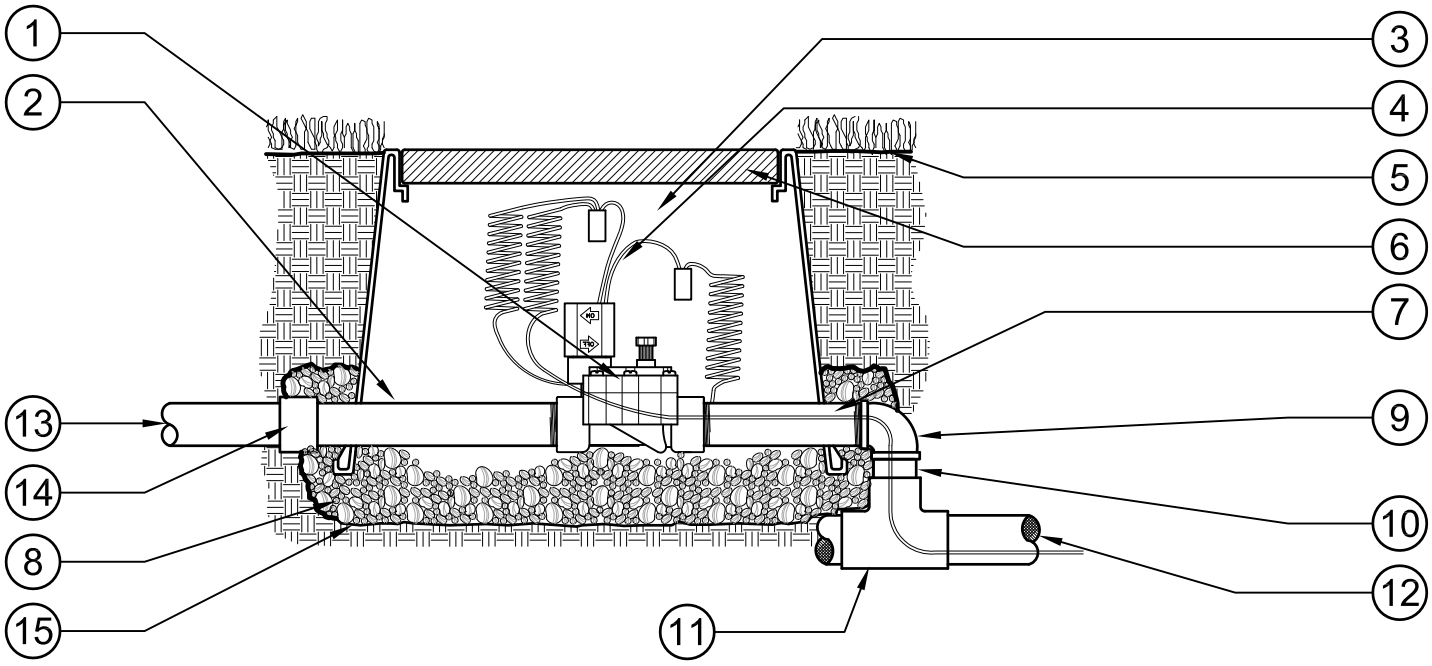
SECTION

1. ELECTRIC DRIP ZONE CONTROL VALVE WITH PRESSURE REGULATOR AND FILTER
2. 6" LONG SCH. 80 TOE NIPPLE (LATERAL LINE SIZE)
3. CONNECT WIRES TO VALVE USING WATER TIGHT CONNECTORS
4. USE 1/2" PVC SCRAP TO WRAP 12" OF ADDITIONAL WIRE BEFORE CONNECTING
5. FINISH GRADE
6. RECTANGULAR VALVE BOX (DO NOT CUT ADDITIONAL HOLES INTO BOX)
7. 4" LONG SCH 80 NIPPLE (LATERAL LINE SIZE)
8. 3/4" GRAVEL SUMP IN, UNDER AND AROUND VALVE BOX. FILL
9. SLIP X FIP ELL (LATERAL LINE SIZE)
10. PVC PRESSURE SUPPLY LINE (CUT TO FIT MAXIMUM DIMENSION FROM TOP OF VALVE TO TOP OF LID)
11. TEE IN PRESSURE SUPPLY LINE (SEE PLAN FOR SIZE)
12. PRESSURE SUPPLY LINE (SEE PLAN FOR SIZE)
13. LATERAL LINE (SEE PLAN FOR SIZE)
14. SCH. 80 COUPLING (LATERAL LINE SIZE)
15. INSTALL FILTER FABRIC AROUND GRAVEL SUMP

Scale: 1" = 1'-0"

IRRIGATION DETAIL 8
DRIP ZONE VALVE ASSEMBLY

EASTERN MUNICIPAL WATER DISTRICT



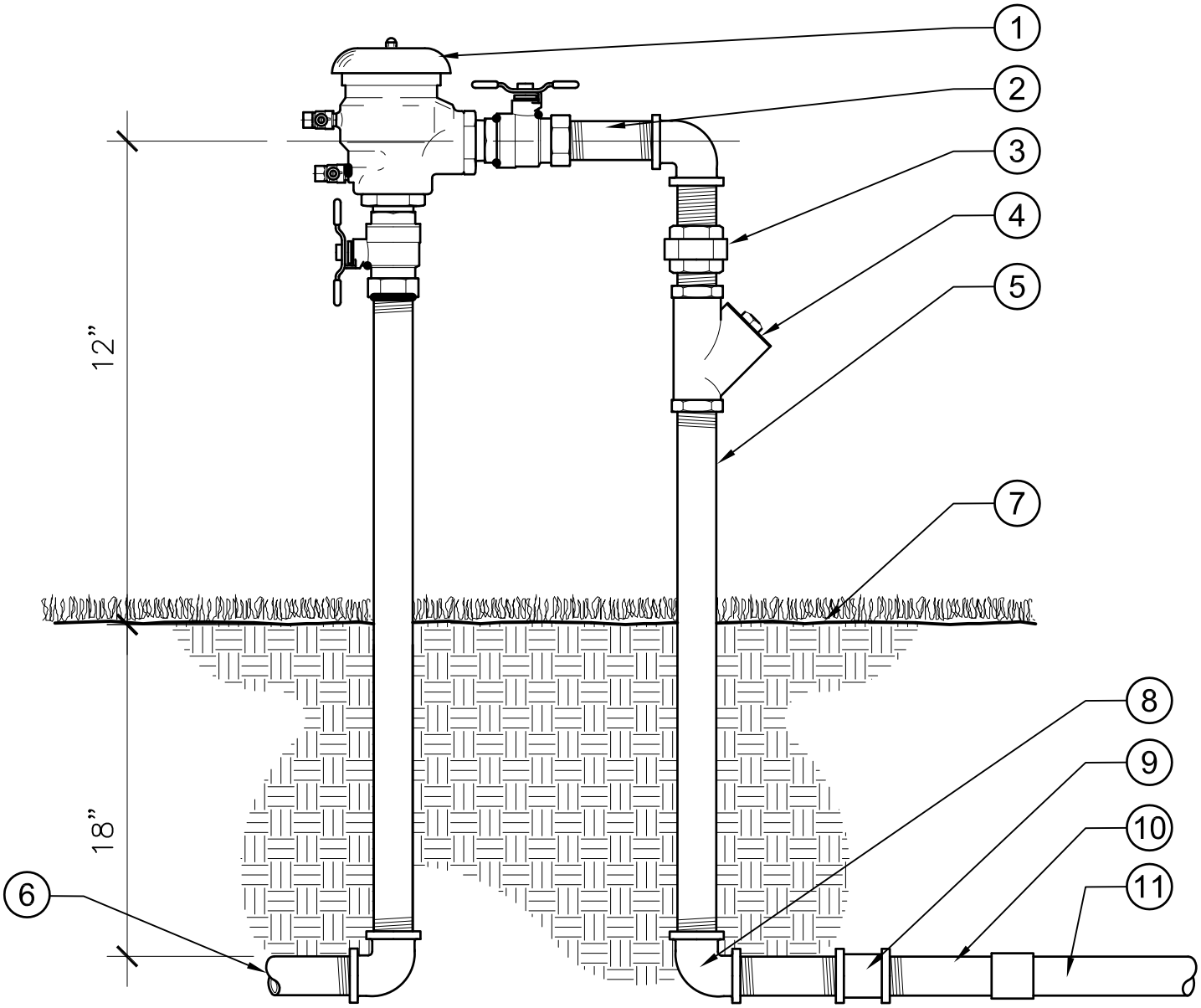
SECTION

1. ELECTRIC REMOTE CONTROL VALVE
2. 6" LONG SCH. 80 TOE NIPPLE (LATERAL LINE SIZE)
3. CONNECT WIRES TO VALVE USING WATER TIGHT CONNECTORS
4. USE 1/2" PVC SCRAP TO WRAP 12" OF ADDITIONAL WIRE BEFORE CONNECTING
5. FINISH GRADE
6. RECTANGULAR VALVE BOX (DO NOT CUT ADDITIONAL HOLES INTO BOX)
7. 4" SCH 80 NIPPLE (LATERAL LINE SIZE)
8. 3/4" GRAVEL SUMP IN, UNDER AND AROUND VALVE BOX. FILL
9. SLIP X FIP ELL (LATERAL LINE SIZE)
10. PVC PRESSURE SUPPLY LINE (CUT TO FIT MAXIMUM DIMENSION FROM TOP OF VALVE TO TOP OF LID)
11. TEE IN PRESSURE SUPPLY LINE (SEE PLAN FOR SIZE)
12. PRESSURE SUPPLY LINE (SEE PLAN FOR SIZE)
13. LATERAL LINE (SEE PLAN FOR SIZE)
14. SCH. 80 COUPLING (LATERAL LINE SIZE)
15. INSTALL FILTER FABRIC AROUND GRAVEL SUMP

Scale: 1" = 1'-0"

IRRIGATION DETAIL 9
ELECTRIC REMOTE CONTROL VALVE

EASTERN MUNICIPAL WATER DISTRICT



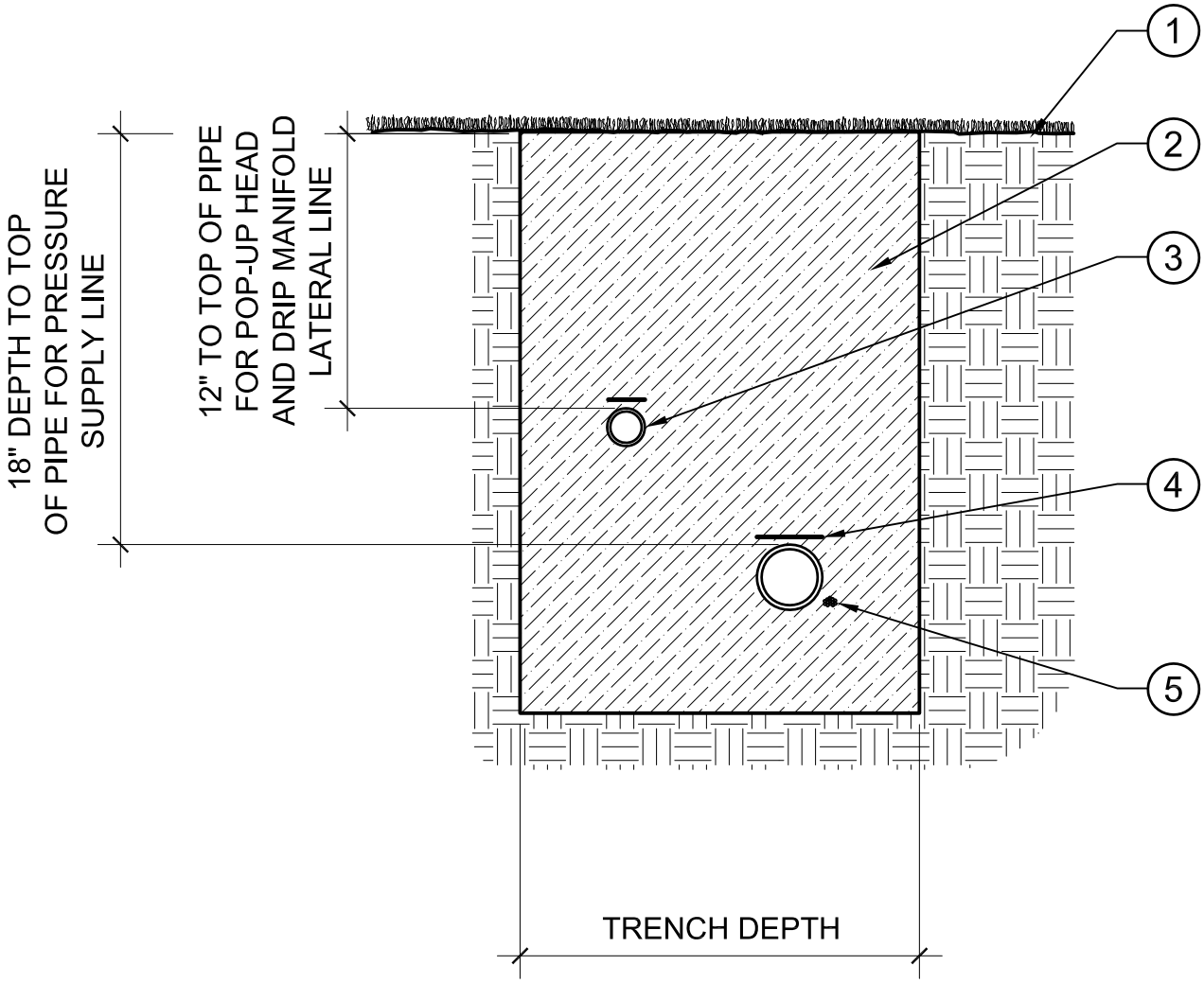
1. PRESSURE VACUUM BREAKER OR REDUCED PRINCIPAL BACKFLOW IF IRRIGATION EMISSION DEVICES ARE ARE INSTALLED ABOVE LEVEL OF BACKFLOW
2. BRASS THREADED NIPPLE (LINE SIZE)
3. BRASS THREADED UNION (LINE SIZE)
4. BRASS WYE STRAINER AND CLOSE BRASS NIPPLE (LINE SIZE)
5. BRASS THREADED RISER LINE SIZE, LENGTH VARIES (2 REQUIRED)
6. PRESSURE SUPPLY LINE FROM WATER SOURCE
7. FINISH SURFACE
8. BRASS THREADED ELBOW (LINE SIZE) (2 REQUIRED)
9. BRASS THREADED COUPLER (LINE SIZE) (1 REQUIRED)
10. 6" LONG SCH. 80 TOE NIPPLE AND SCH. 80 COUPLER (LINE SIZE)
11. PVC PRESSURE SUPPLY LINE EXTEND AS SHOWN ON PLAN

NOTE: CONTRACTOR SHALL BE BE RESPONSIBLE FOR CONSTRUCTING PRESSURE VACUUM BREAKER DEVICE IN ACCORDANCE WITH LOCAL WATER DISTRICT REQUIREMENTS.

Scale: 3" = 1'-0"

IRRIGATION DETAIL 10
PRESSURE VACUUM BREAKER

EASTERN MUNICIPAL WATER DISTRICT



1. FINISH GRADE
2. BACKFILL (FREE OF DEBRIS AND ROCK GREATER THAN 1")
3. NON-PRESSURE LATERAL LINE FROM POP-UP HEADS
4. PRESSURE SUPPLY LINE (SEE PLAN FOR SIZE)
5. CONTROL WIRES DIRECT BURIED ADJACENT TO AND TO THE SIDE OF PRESSURE SUPPLY LINE

Scale: 3" = 1'-0"

IRRIGATION DETAIL 11
TRENCH IN LANDSCAPE

EASTERN MUNICIPAL WATER DISTRICT