

## PART 1 – SUBMITTALS

1. Netafim dripper tubing specified with pressure compensating emitters
2. Netafim insert barbed fittings
3. Netafim in-line disc filter
4. Netafim pressure regulator
5. Stainless steel clamps
6. Metal ground stakes for tubing
7. PVC threaded and insert fittings

- (10) Of dripper line for each dripper interval and discharge rate used on the project
- (6) Barbed couplings
- (6) Barbed 90 degree elbow fittings
- (6) Barbed tee fittings
- (6) 180 degree 2-way adapter tee fittings
- (6) Male adapters with 3/4" fpt
- (1) Spare filter element of the same mesh size used on the project

2.10 Piping materials Netafim Technline landscape dripline model TLHCXVR7-7172XX with copper stripe, pressure compensating, continuously self-flushing, with emitter check valve (3' of elevation change), shall be of nominal size one-half inch low density, polyethylene resistant to chlorine and chlorine dioxide, with a maximum operating pressure of 150 psi, self-cleaning, integral drippers (each with a built in check valve) at a specified interval. The tubing shall conform to an outside diameter (OD) of 0.66" and an inside diameter (ID) of .56". The low volume tubing shall be capable of discharging 0.77 gallons per hour (GPH) between operating pressures of 15 to 50 PSI for each dripper. Each individual dripper shall be constructed of three individual pieces, two pieces on the inside of the tubing wall. The emitters are constructed of three individual pieces:

- 2.20 Insert barbed fittings – shall be constructed of molded, ultraviolet resistant, brown colored plastic having a nominal inside dimension (ID) of 0.56". Each fitting shall have a minimum of two ridges or barbs per outlet. All fittings shall be of one manufacturer and shall be available in one of the following end configurations:

- Barbed insert fittings
- Male pipe threads (MPT) with barbed insert fittings
- Female pipe threads (FPT) with barbed insert fittings

- 2.40 Disc filter – these filter body shall be molded black plastic with male pipe threads (MPT) for both the inlet and the outlet ports. A threaded cap on one end of the body shall be capable of periodic servicing by unscrewing the cap from the main body. On the 1/4" model, a manual shutoff valve shall be incorporated to the opposite end of the female pipe threads. The cap shall be capable of closing off the inlet port so the disc element can be removed when the main line is still pressurized. The filter elements shall be either a disc-type or a canister screen filter. The disc-type shall be color coded in one of four colors indicating filtration levels of 10, 40, 80, and 140 mesh. The canister type screen shall be available in three levels of filtration, 80,120, and 140 mesh.

- 2.50 Stainless steel clamps – tubing clamps shall be constructed to 304 ANSI stainless steel and shall be one "ear" type. The "ear" shall be capable of being pinched with a pinching tool to secure the tubing around the insert barbed fitting. The interior clamp wall shall be smooth to prevent crimping or pinching of the tubing. Wall thickness of clamps shall be .0236" with an overall band width of 1/4". Properly secured clamps shall be capable of withstanding a maximum operating pressure of 441 psi.

- 2.60 Flush Valves — example layouts shown demonstrating furthest downstream point for flush valve placement in drip zones. All flush valve placement and installation t.b.d. by actual field conditions, zone size, topography, hardscapes, etc. Install one flush valve per 15 gpm of zone size. Flush valves to be installed following all manufacturer specifications and recommendations, and irrigation plan notes and details, typ.

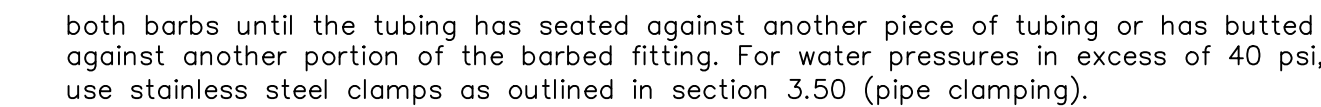
- 2.70 Operation Indicators – pop-up style drip operation indicators, minimum of one indicator per drip zone. Use multiple indicators for drip zones with separate bed layout areas.

3.10 Staking for lateral dripper line layout – verify existing field dimensions of the area to be irrigated using the irrigation plans for reference/accuracy. Begin dripper tubing layout 4" away from both hardscape surfaces; i.e., concrete sidewalks, curbs, asphalt, and/or undefined edges; i.e., shovel-cut headers. Mark tubing intervals on the ground with flags, paint, or some other markings that can be maintained throughout the installation.

1. Over excavation – small areas, where it is feasible, over-excavate the entire area to a depth of 4" below finish grade. Plant all specimen trees and shrubs, then place tubing at the row spacing interval indicated on the plans.
2. Trenching – hand or mechanically trench to the pipe depth (4") and back fill flush with finish grade. Avoid mechanically trenching within the drip line of existing trees and shrubs. Hand trenching around existing trees and shrubs when root systems greater than 1" in diameter are encountered. Remove all rock 1-1/2" in diameter and larger when excavating and remove from site. Do not back fill trenches with rock that will come in direct contact with tubing or rigid PVC piping.

- 3.12 Cover – Install underground piping horizontally and as level as possible. PVC piping should be installed to the depths and in the manner outlined in the general irrigation notes. Netafim tubing should be installed to a depth of 4" in shrub areas and 6" in turf areas. Netafim tubing should be installed with the water outlets in upward or downward facing position. Offset the outlets in adjacent rows to obtain a triangular pattern throughout the tubing layout. In irregular areas, some water outlets may end up too close to fixed improvements and may have to be capped off with a dripper plug ring.

- 3.13 Barbed fittings – Connect dripper tubing to barbed fittings by pushing on and over



- 3.14 Pipe clamping – When design operating pressure exceeds 40 psi, stainless steel pipe clamps shall be used. Slip clamps over tubing before slipping tubing over insert barbed fitting. Place clamp between the first and second ridge of the barbed fittings and crimp the 'ear' of the clamp tightly. Crimp the 'ear' a second time to ensure proper seating.

- 3.15 Pressure regulator – If a pressure regulator is specified, install it below grade, downstream, and in line with the remote control valve. Refer to the detail sheet. If a prv is specified it will be detailed with the remote control valve. Place the regulator with the arrow, that is molded into the side of the body, pointing in the direction of the flow of water. Provide straight piping on the outlet side of the regulator for a dimension not less than three lengths of the overall body dimension.

- 3.16 Remote control valve – Install the remote control valves level and below grade with a minimum of 4" of clearance to the top of the inside of the valve box cover. The arrow cast or molded into the side/bottom of the remote control valve should be pointing in the direction of the flow of water. Place a minimum of one cubic foot of 3/4" gravel in the bottom of the valve box. Support each corner of the valve box with a common red brick. At finish grade, the top of the valve box shall be two inches above surrounding grades.

- 3.17 Disc filter – Install the disc filter, horizontally level, below grade and after the remote control valve (refer to the detail and note sheets). The position of the disc filter in the valve box shall be off-center to allow for removal of the disc element for periodic servicing. Include a minimum of 3" deep of 3/4" gravel in the bottom of the valve box. Support the valve box using a common red brick under each corner of the valve box.

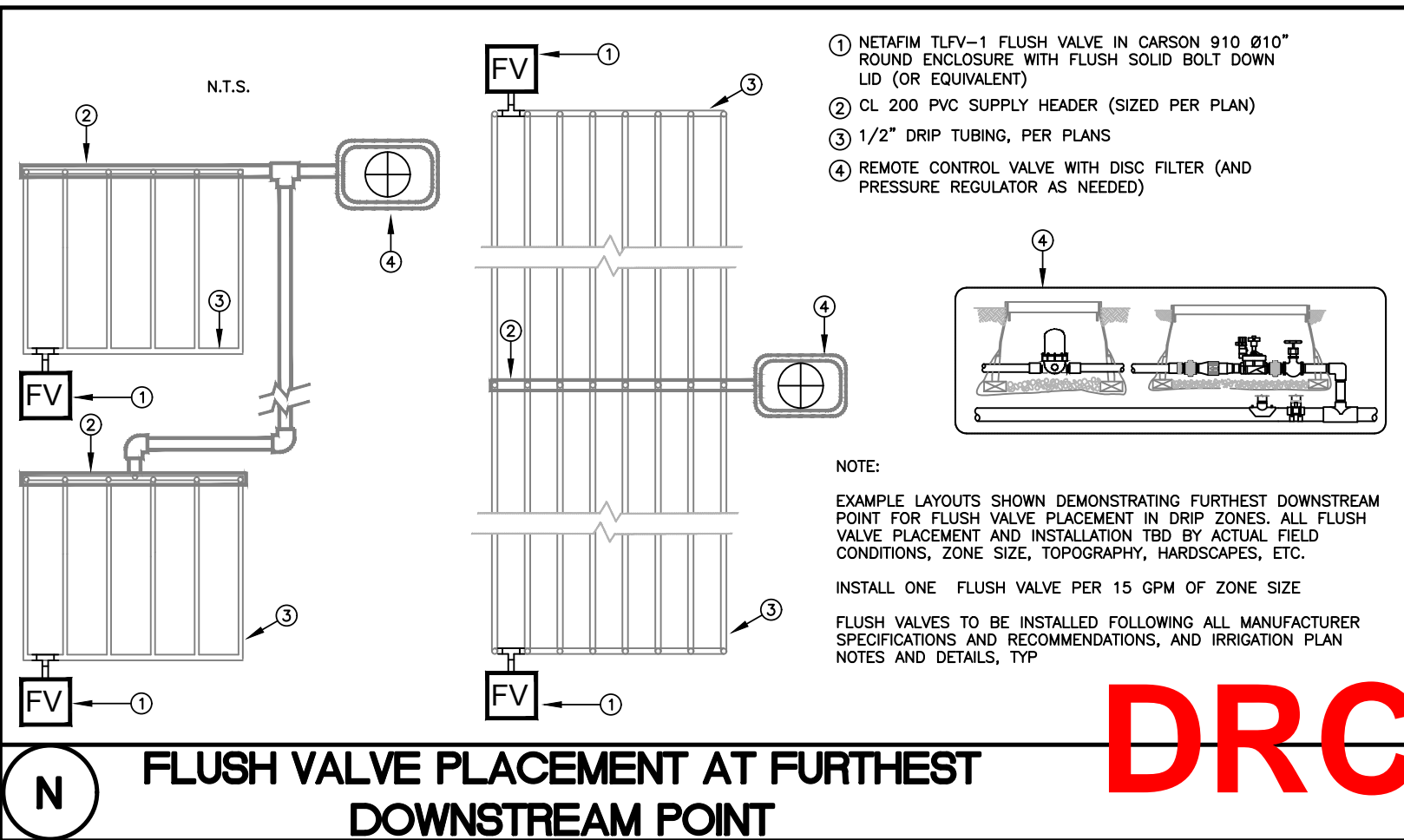
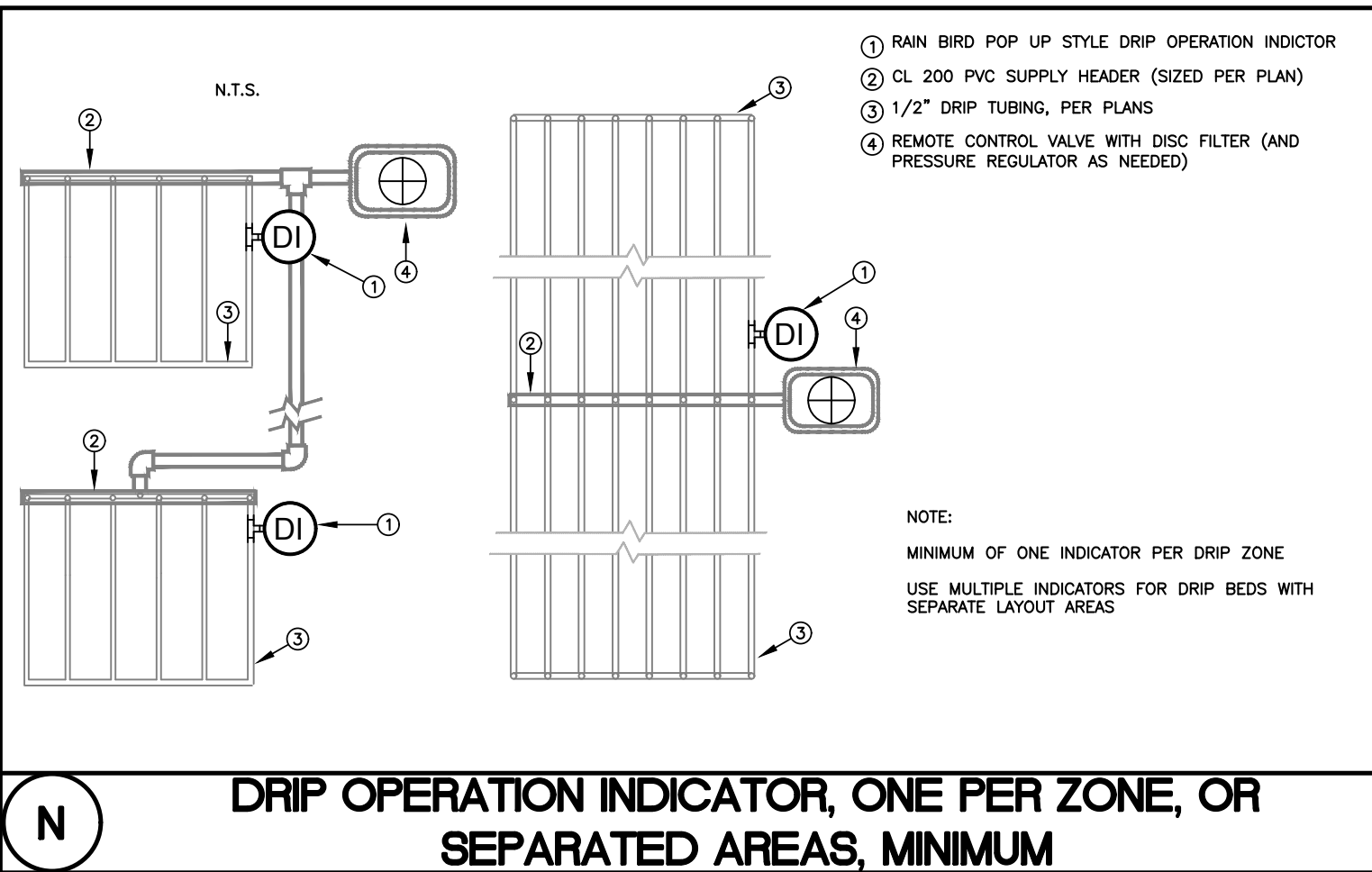
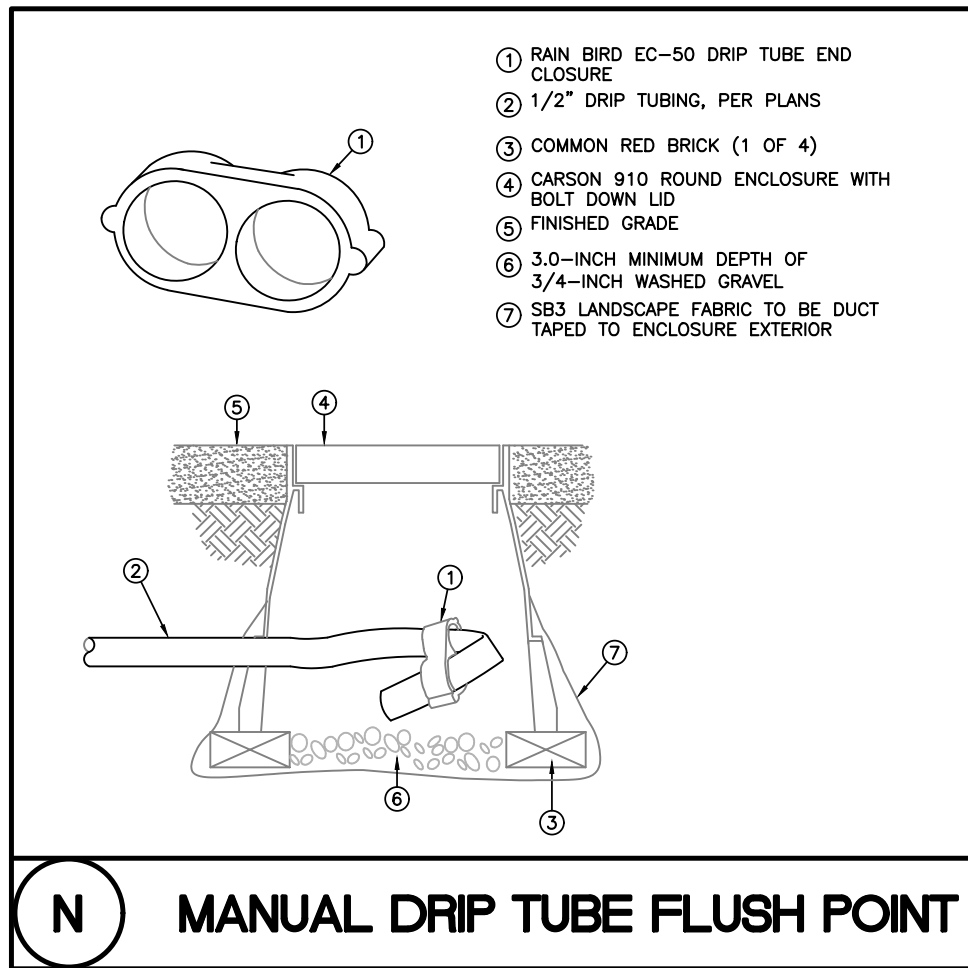
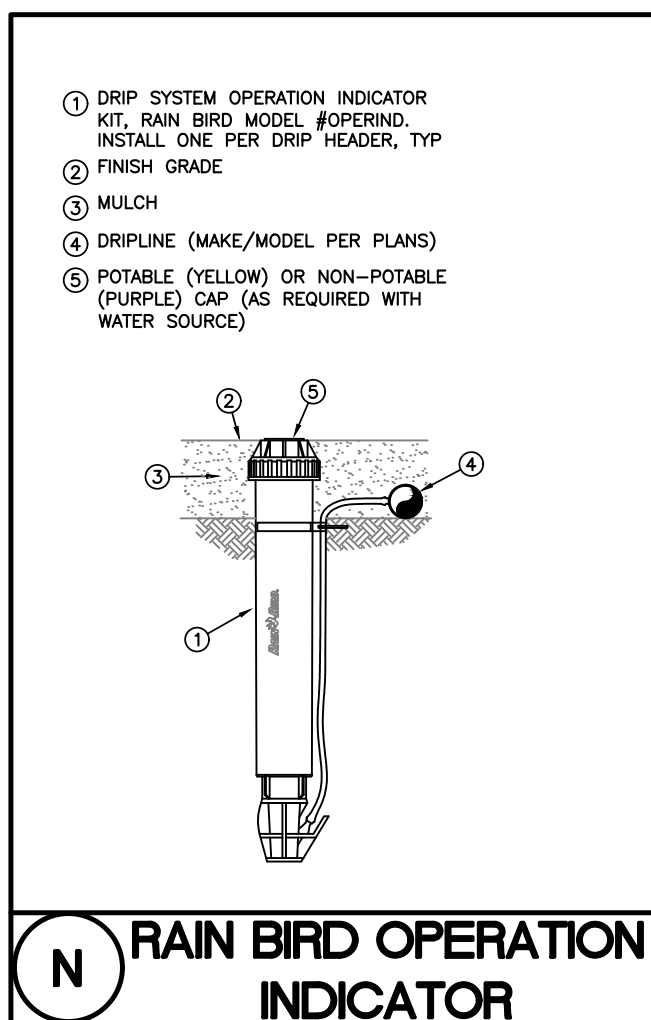
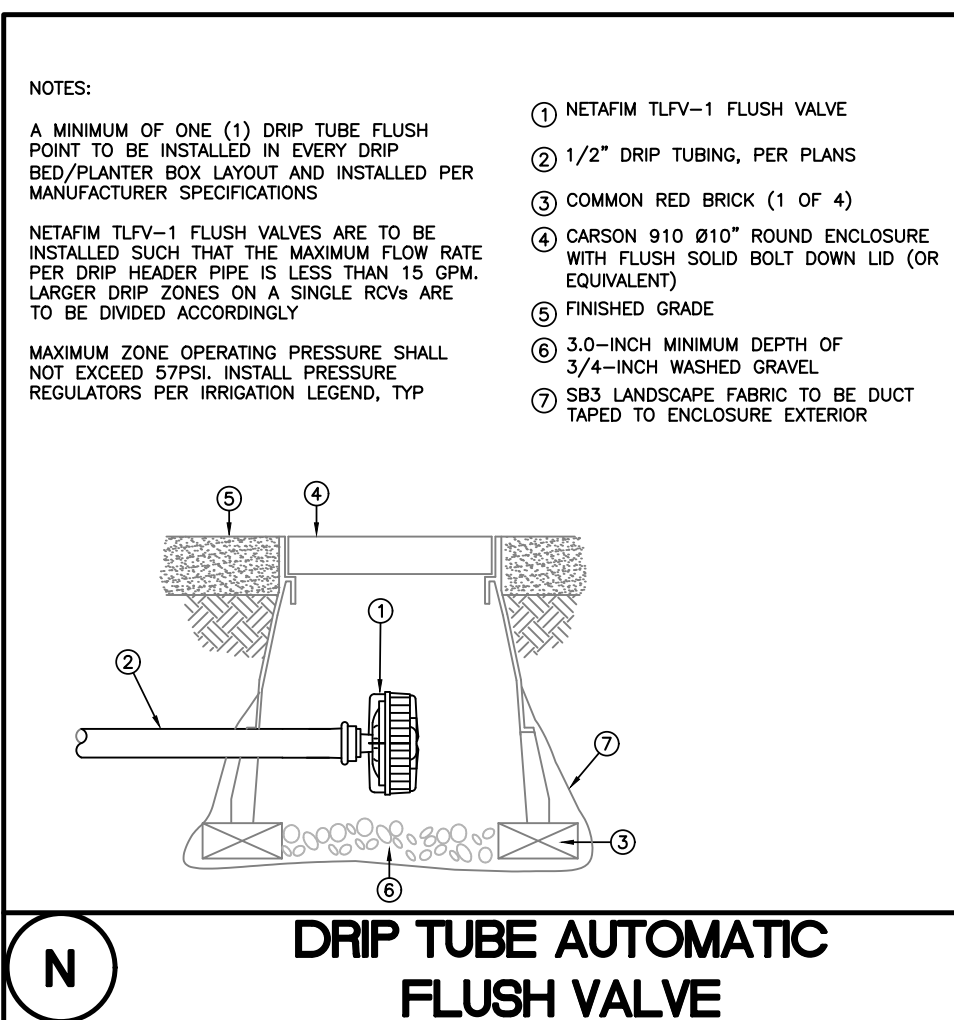
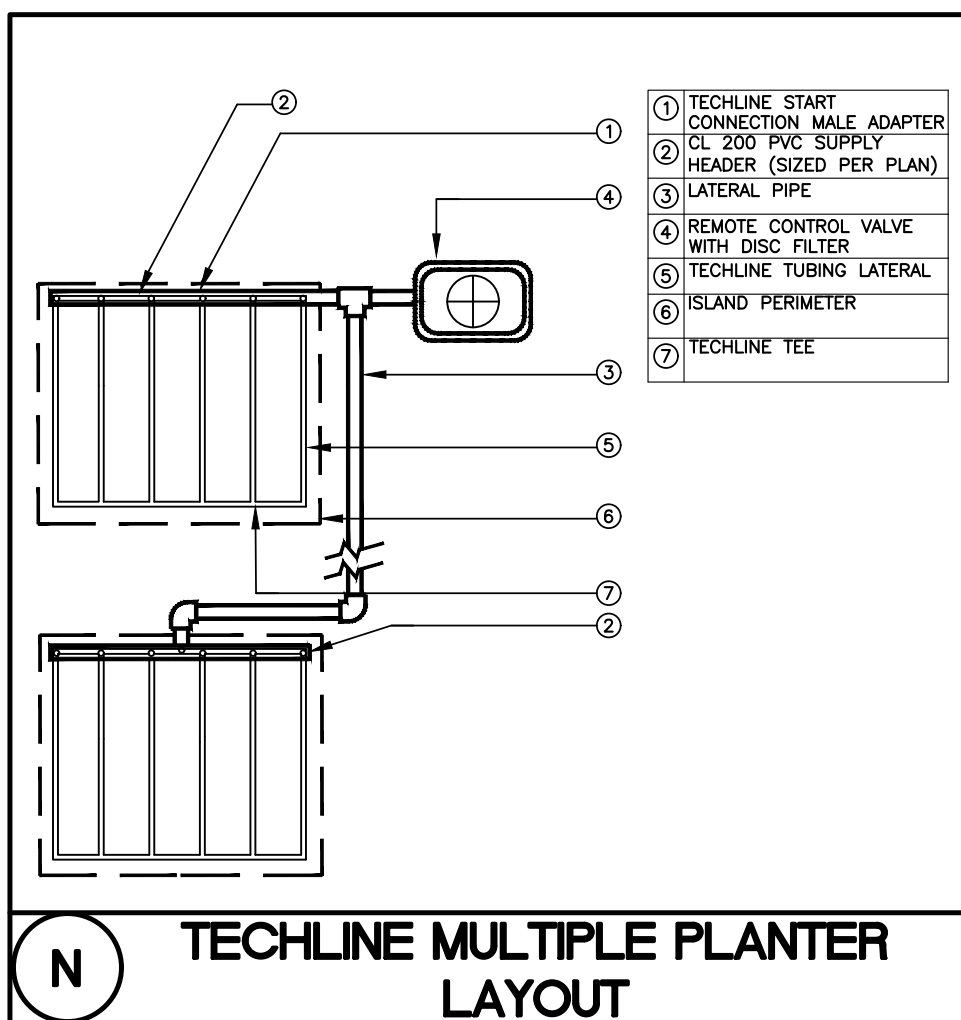
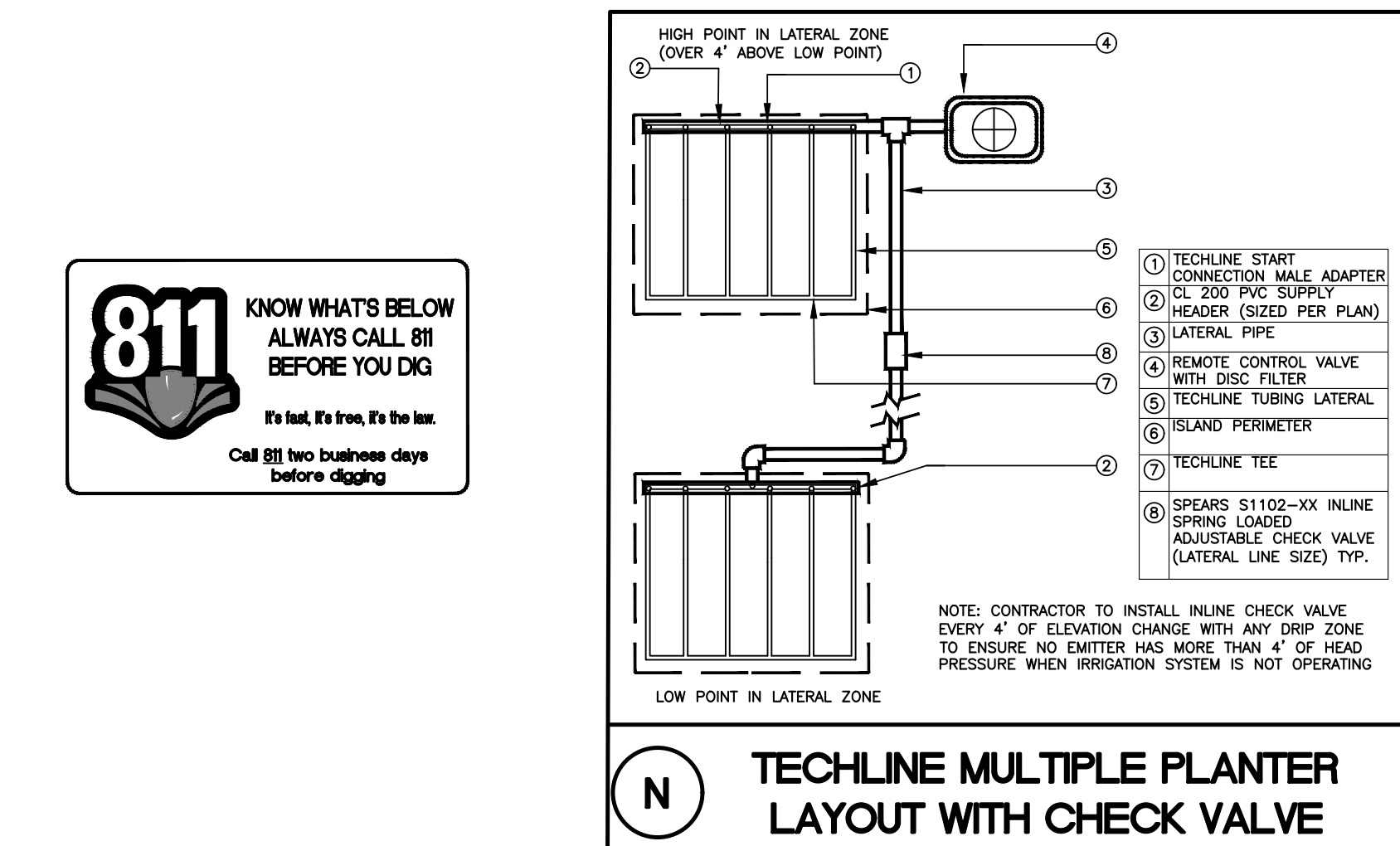
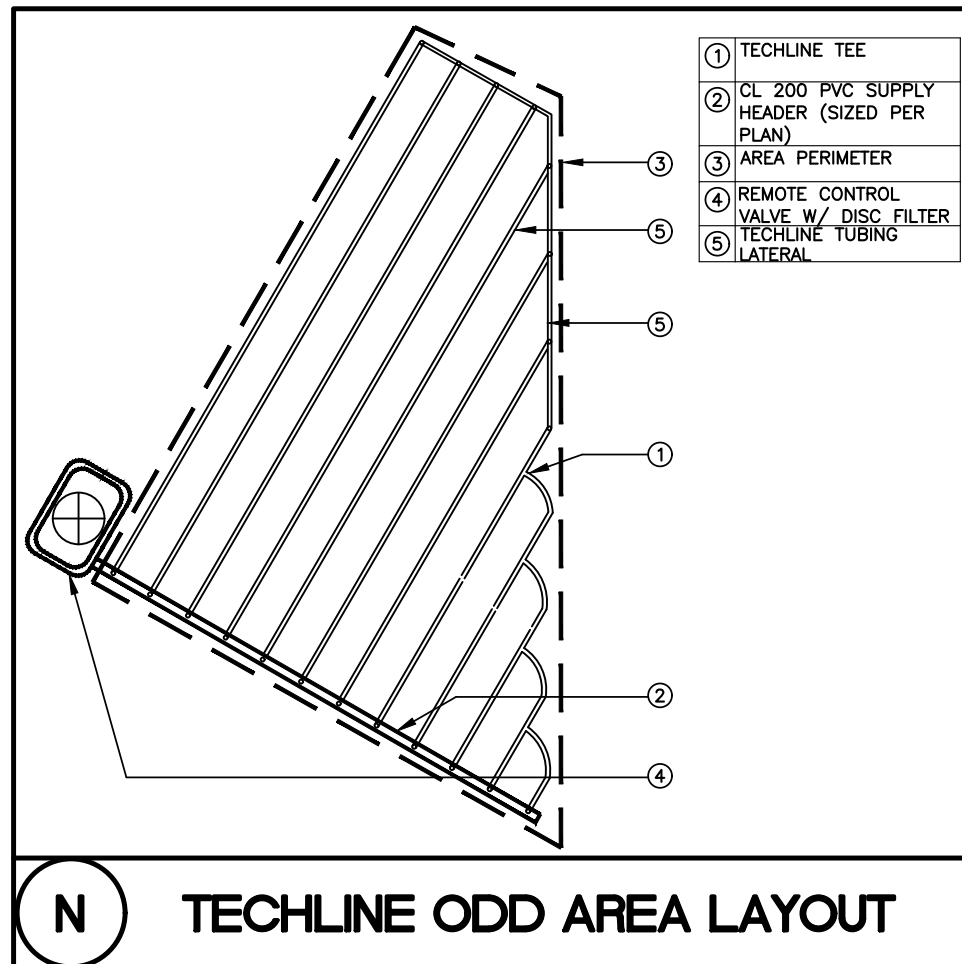
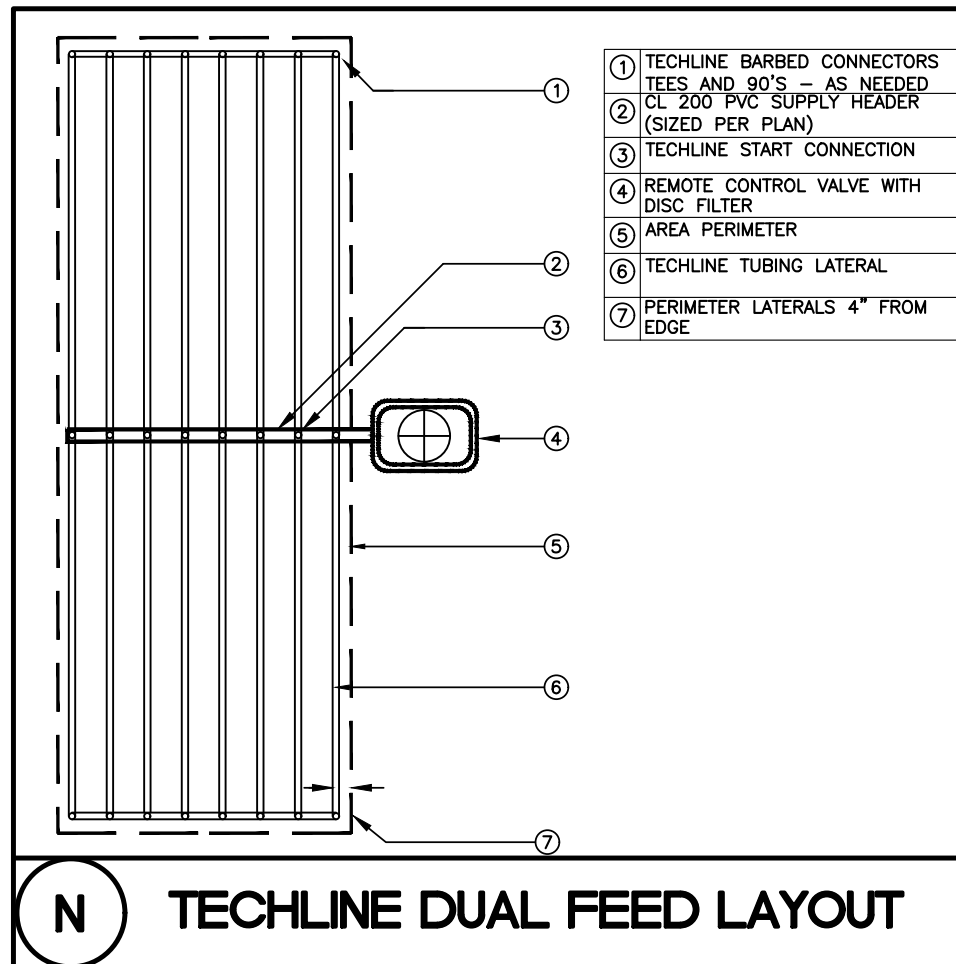
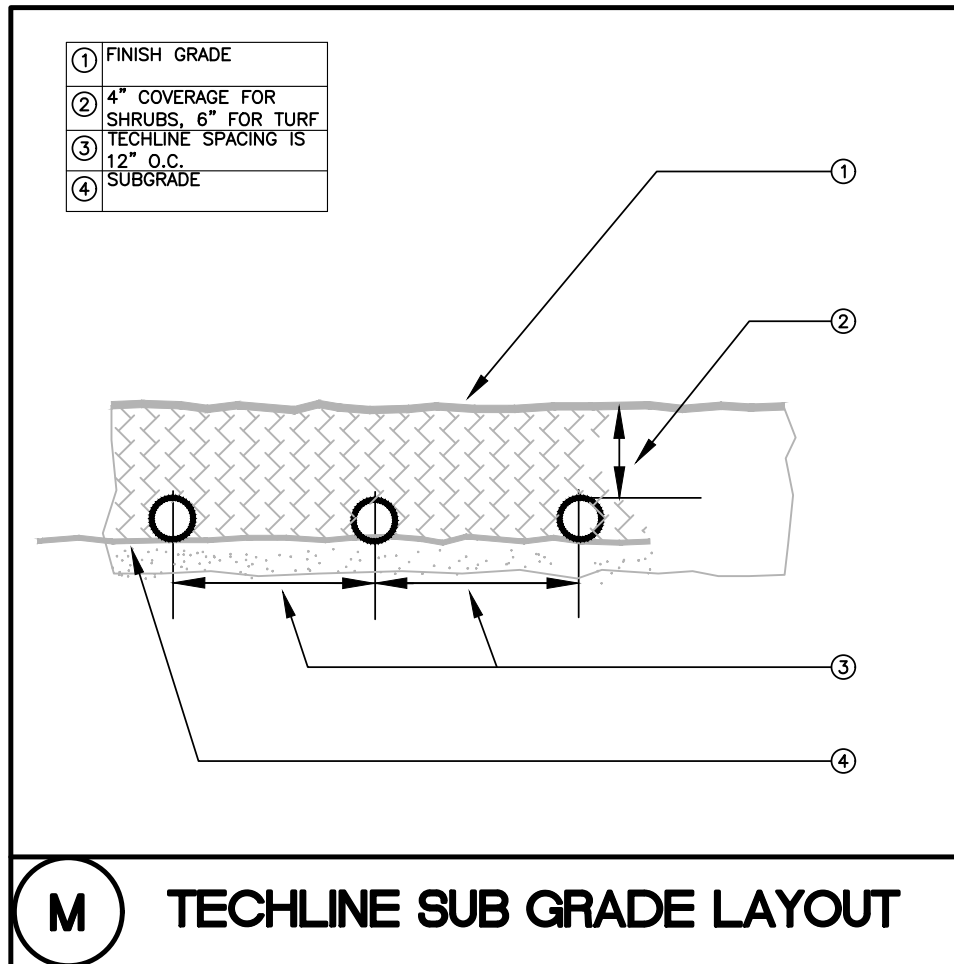
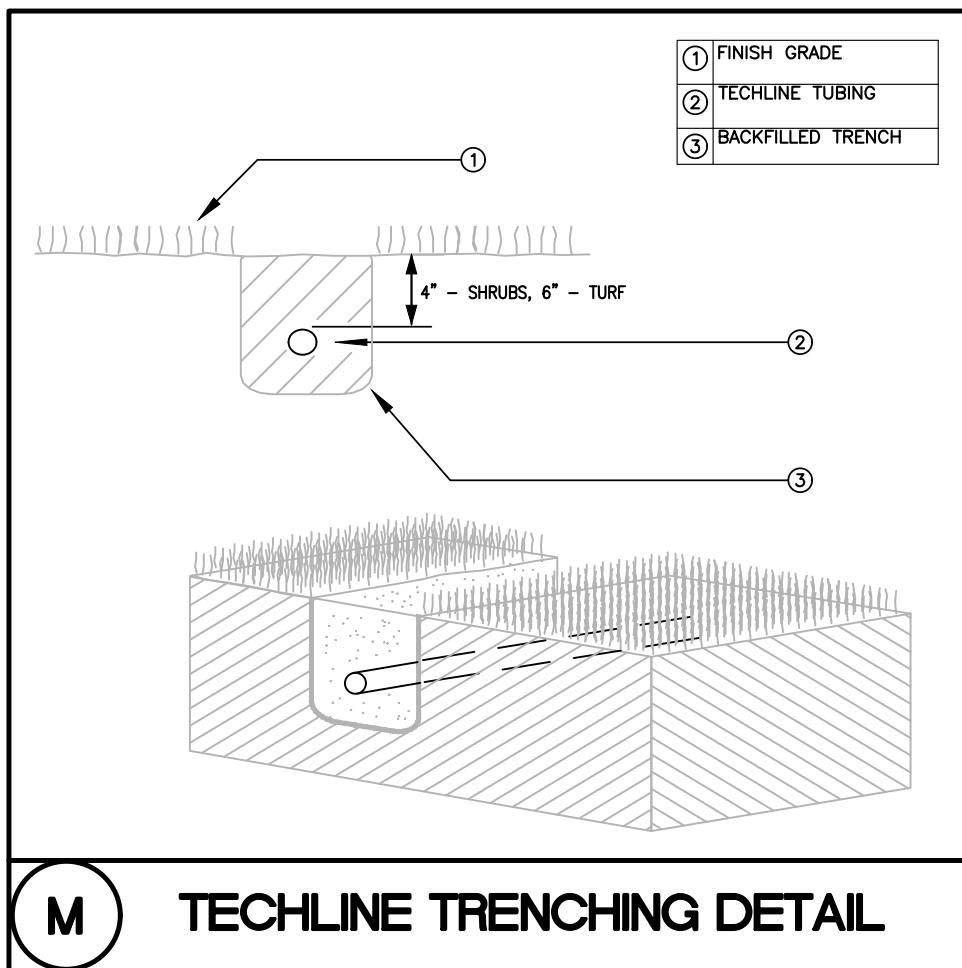
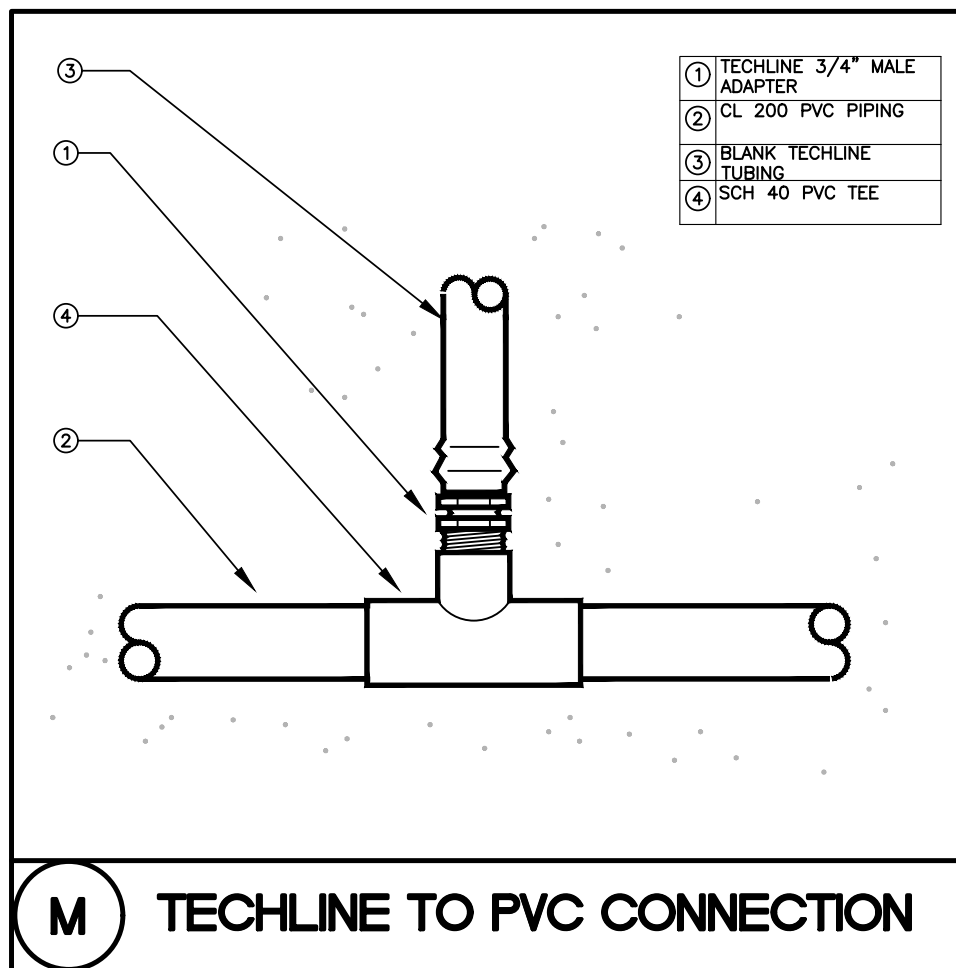
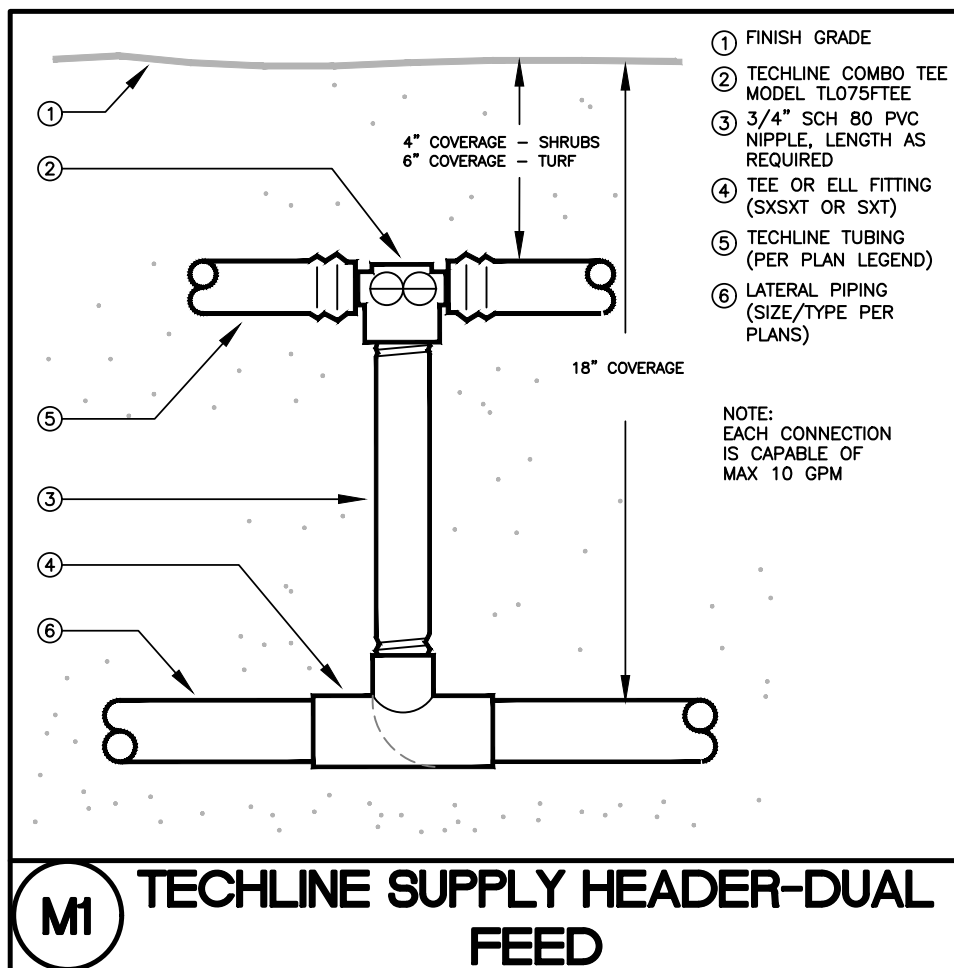
- 3.18 Flushing – Prior to backfill and before connection of the line flushing valves, flush the entire system to remove any dirt or sediment that may have entered the system during installation.

- 3.19 Testing – Prior to backfill, open the remote control valve and operate each zone. Check for leakage around barbed and threaded fittings. Make the necessary repairs to stop all leaks. After repairs, re-test to insure all leaks have been repaired. Continue this process until no more leaks are observed.

- 3.20 Backfill – After placement of tubing, connection to rigid PVC supply header, and initial system flushing, and testing, backfill can begin. Fill remainder of trenches, or where over-excavation and grade level installation was used, place shovel fulls of dirt on piping to keep them in place and maintain row spacing intervals as required. Bring soil up to finished grade and remove any rocks larger than 1" during final grading and contouring. Compact backfill by hand to a minimum of 90% relative compaction. Maintain adequate soil levels as needed to achieve the required compaction requirement.

- 3.21 Automatic Flush Valves – install automatic flush valves on all zones per manufacturer specificaitons.

FLOW PER 100' - 0.77 EMITTER		
SPACING	GPH	GPM
12"	77	1.28



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1501 WEST ATLANTIC BLVD.  
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PREPARED FOR:  
KAJA PROPERTIES INC.

NETAFIM NOTES AND DETAILS

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IR-4  
SHEET 4 OF 6