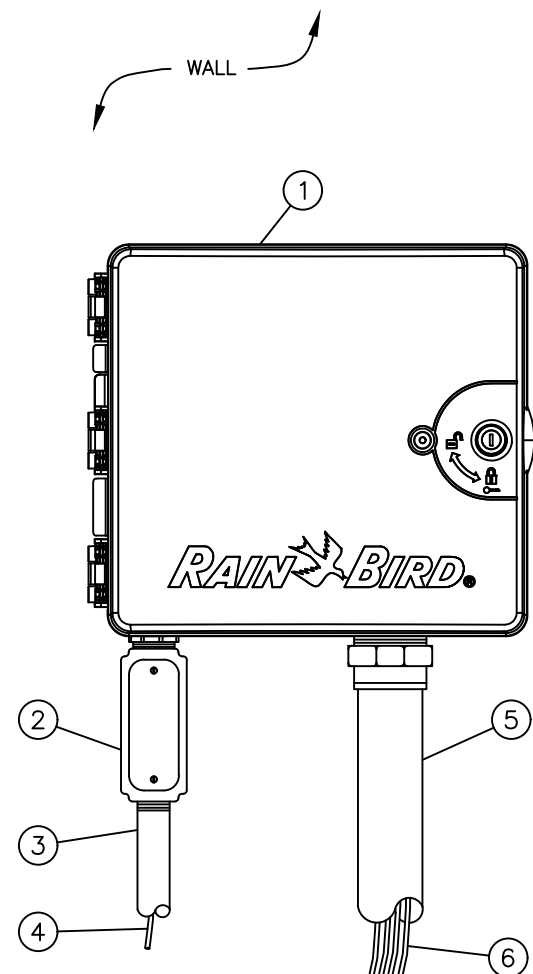


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Apr. 14, 2021 - 2:57pm Plotted By: Irwinjg@ch2m Hilltop, OH 04-DWG) C:\p\Sheet\026800_18-SWTS-LNDC-DTLS.dwg Layout: IRRIGATION DETAILS 1 V:\026800-Panda Express - Master 2018\026800_18-Hilltop, OH 04-DWG) C:\p\Sheet\026800_18-SWTS-LNDC-DTLS.dwg Layout: IRRIGATION DETAILS 1

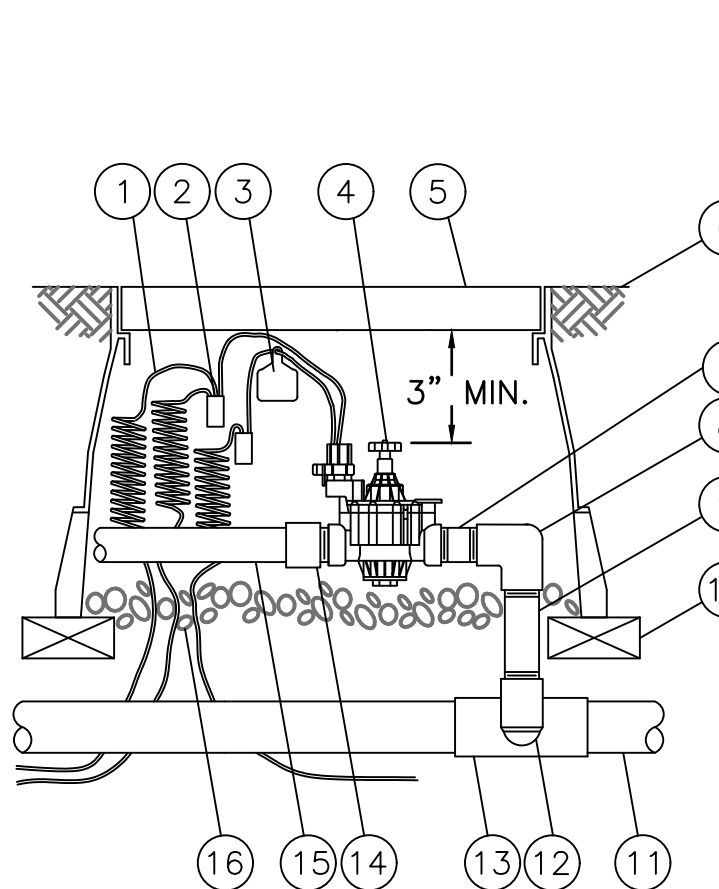


- ① IRRIGATION CONTROLLER:
RAIN BIRD ESP-LXME CONTROLLER IN PLASTIC CABINET
WITH WALL MOUNT. INSTALL CONTROLLER AND CABINET
ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- ② JUNCTION BOX
- ③ 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
- ④ POWER SUPPLY WIRE
- ⑤ 2-INCH CONDUIT AND FITTINGS FOR STATION WIRES
- ⑥ WIRES TO REMOTE CONTROL VALVES

NOTES:
1. ESP-LXME CONTROLLER IS AVAILABLE IN 8- OR
12-STATION BASE MODELS. ADDITIONAL MODULES IN
4-, 8- AND 12-STATION VERSIONS MAY BE ADDED TO
BRING THE CONTROLLER UP TO 48 STATIONS MAXIMUM.
2. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH
MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT
THE BASE OF CONTROLLER AND TRANSITION LARGER
VALVE AND COMMON WIRES FROM FIELD TO 18 AWG
MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
3. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40
PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE
GROUND RESISTANCE OF 10 OHMS OR LESS.

901 RAINBIRD ESP-LXME CONTRILLER DETAIL

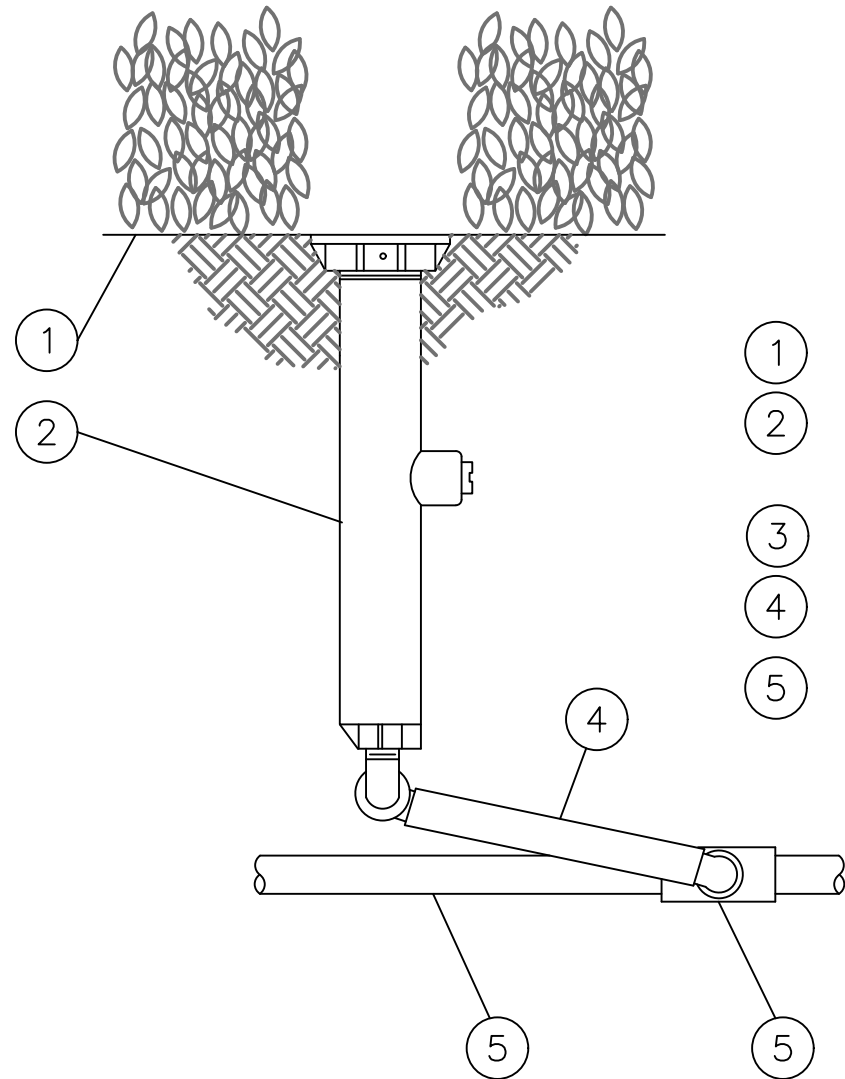
Not to Scale



- ① 30-INCH LINEAR LENGTH OF
WIRE, COILED
- ② WATERPROOF CONNECTION:
RAIN BIRD SPLICE-1 (1 OF 2)
- ③ ID TAG: RAIN BIRD VID SERIES
- ④ REMOTE CONTROL VALVE:
RAIN BIRD PGA
- ⑤ VALVE BOX WITH COVER:
RAIN BIRD VB-STD
- ⑥ FINISH GRADE/TOP OF MULCH
- ⑦ PVC SCH 80 NIPPLE (CLOSE)
- ⑧ PVC SCH 40 ELL
- ⑨ PVC SCH 80 NIPPLE
(LENGTH AS REQUIRED)
- ⑩ BRICK (1 OF 4)
- ⑪ PVC MAINLINE PIPE
- ⑫ SCH 80 NIPPLE (2-INCH
LENGTH, HIDDEN) AND
SCH 40 ELL
- ⑬ PVC SCH 40 TEE OR ELL
- ⑭ PVC SCH 40 MALE ADAPTER
- ⑮ PVC LATERAL PIPE
- ⑯ 3.0-INCH MINIMUM DEPTH OF
3/4-INCH WASHED GRAVEL

902 RAINBIRD REMOTE CONTROL VALVE DETAIL

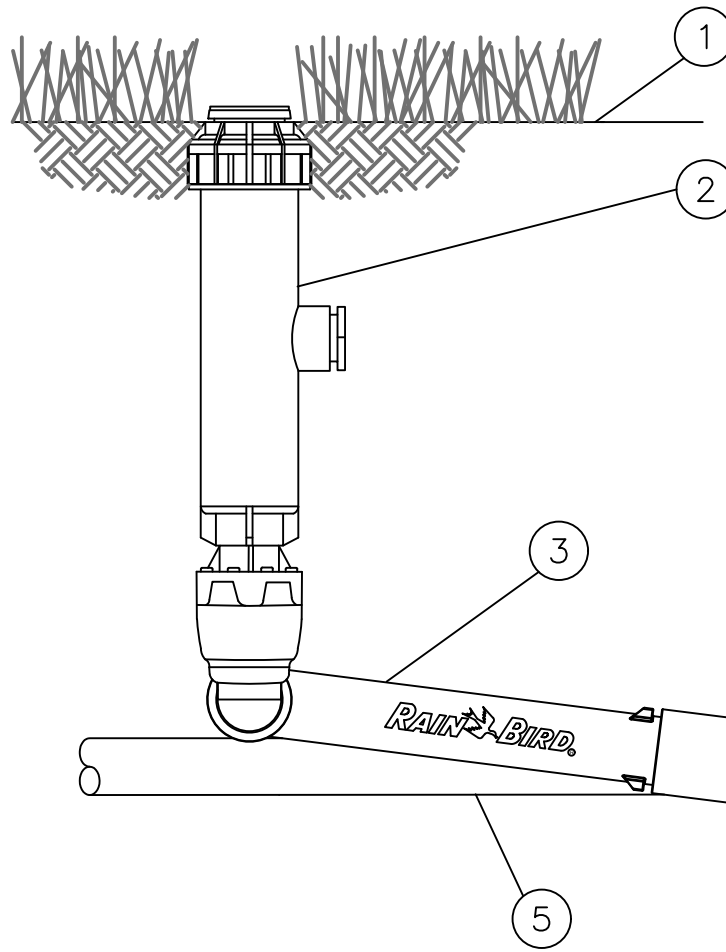
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- ① FINISH GRADE/TOP OF MULCH
- ② POP-UP SPRAY SPRINKLER:
RAIN BIRD 1806 -SAM-PRS WITH 1800 VPC
WITH RAIN BIRD ROTARY NOZZLE
- ③ PVC LATERAL PIPE
- ④ SWING ASSEMBLY:
RAIN BIRD MODEL SA 6050
- ⑤ PVC SCH 40 TEE OR ELL

903 POP-UP SPRINKLER W/SWING PIPE DETAIL

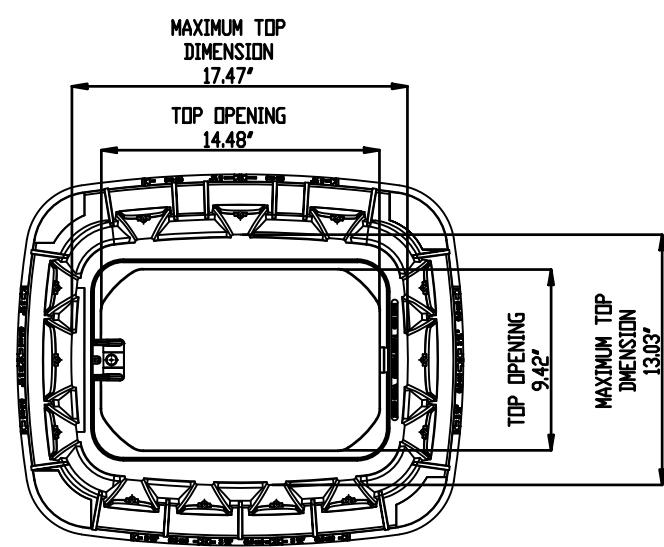
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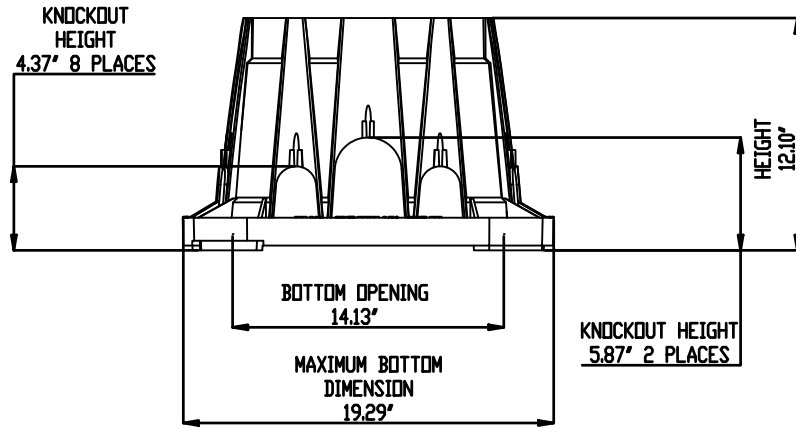
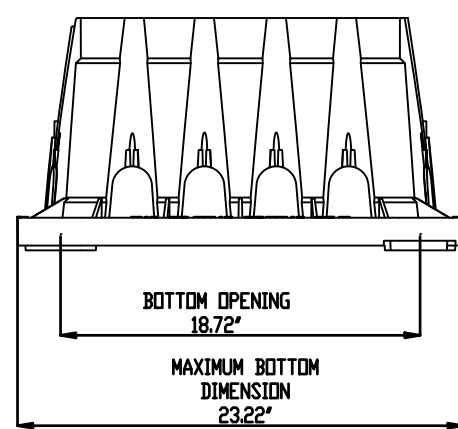
- ① FINISH GRADE
- ② ROTOR POP-UP SPRINKLER:
RAIN BIRD 5006
5006-FC/PC-SAM
- ③ PRE-FABRICATED SWING JOINT:
RAIN BIRD TSJ-075-PRS
WITH 45 PSI PRESSURE REGULATOR
- ④ PVC SCH 40 TEE OR ELL
- ⑤ LATERAL PIPE

904 RAINBIRD ROTOR POP-UP SPRINKLER DETAIL

Not to Scale

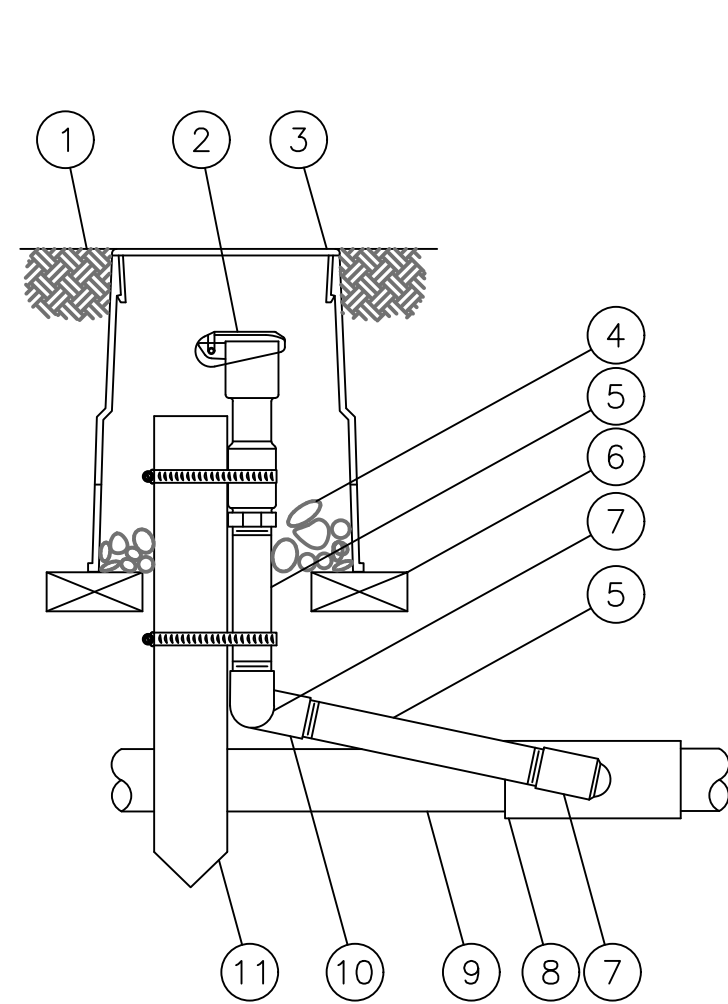


STANDARD VALVE BOX DIMENSIONS



905 STANDARD VALVE BOX DETAIL

Not to Scale



- ① FINISH GRADE/TOP OF MULCH
- ② QUICK-COUPLING VALVE:
RAIN BIRD MODEL 5NP
- ③ VALVE BOX WITH COVER:
RAIN BIRD VB-6RND
- ④ 3-INCH MINIMUM DEPTH OF
3/4-INCH WASHED GRAVEL
- ⑤ PVC SCH 80 NIPPLE
(LENGTH AS REQUIRED)
- ⑥ BRICK (1 OF 2)
- ⑦ PVC SCH 40 STREET ELL
- ⑧ PVC SCH 40 TEE OR ELL
- ⑨ PVC MAINLINE PIPE
- ⑩ PVC SCH 40 ELL
- ⑪ 2" x 2" REDWOOD STAKE WITH
STAINLESS STEEL GEAR
CLAMPS OR EQUIVALENT
SUPPORT SYSTEM

NOTE:

FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO
NOMINAL QUICK COUPLER VALVE INLET SIZE.

906 RAIN BIRD QUICK COUPLER VALVE DETAIL

Not to Scale

IRRIGATION NOTES

- The system design assumes a minimum available static pressure for the irrigation system of 75 psi at the 1 inch meter. Contractor to verify pressure and flow on site prior to construction and report and discrepancies between these assumptions and actual field conditions in writing to the owner's representative.
- Read thoroughly and become familiar with the specifications and instillation details for this and related work prior to construction.
- Coordinate location and marking of underground utilities prior to construction. Notify the owner's representative of any conflict with any underground utility.
- Do not proceed with the instillation of the irrigation system when it is obvious in the field that obstructions or grade differences existing that might not have been considered in the engineering, or if discrepancies in construction details, legend, notes, or specifications are discovered. Bring all such obstructions or discrepancies to the attention of the owner's representative in writing prior to construction.
- These drawings are diagrammatic, therefore, the following should be noted:
 - Avoid conflicts between the irrigation system, planting materials and architectural features. Instill irrigation pipe and wiring in landscaped areas whenever possible.
 - Use only standard tees and elbow fittings. use of cross type fittings is not permitted.
 - Irrigation pipe and valves may be shown outside of the planting area, in the hardscape, or outside of property lines for graphic clarity only. Install all irrigation components within landscapes areas or through sleeving and within the property boundary.
- Provide the following components to the owner's representative prior to the completion of the project.
 - Two operating keys for each type of manually operated valves.
 - Two of each servicing wrench or tool needed for complete access, adjustment, and repair of all sprinklers and emitters.
- Select nozzles for spray and rotary sprinklers with arcs that provide complete and uniform coverage with minimum overspray for the site conditions. To minimize overspray, install pressure compensating nozzles or pressure compensating screens if uniform lateral pressure cannot be attained with pressure adjustment at the remote control valve. Carefully adjust the radius of the throw and arc of coverage of each spray and rotary sprinkler to provide the best performance.
- The irrigation contractor is responsible for coordinating with the general contractor for the instillation of irrigation sleeving. All sleeving will be schedule 40 PVC. All pipe and wire will be installed in separate sleeves at all paved surfaces, sidewalks, driveways, walls, footings, and hardscape areas. All sleeves may not be shown and/or sized in the plans. The general contractor is responsible for coordinating with the irrigation contractor for the instillation of all required sleeving, proper sizing, and coordinating instillation of sleeving with other trades. Any pipe or wire which passes beneath existing hardscape where sleeving was not installed, requires horizontal boring by the irrigation contractor. Sleeve and conduit sizes shall be a minimum of twice the aggregate diameter of all pipe and wire contained within sleeve or conduit pipe. Minimum sleeve size is 2-inch. Indicate all sleeve locations on "as-built" record drawings.
- Coordinate and install all electrical power to the irrigation control system in accordance with the national electric code and all applicable local electric utility codes.
- Gate valves shall be ported to provide for full flow. Labeled and nominal size of valve opening shall be the same.
- All materials and workmanship shall be true to type, form, finish and of the highest standards of the trade. Damaged or inferior materials shall be removed from the site without delay.
- Install pressure regulating module for all drip valve assemblies, set discharge pressure to 35 psi.
- Install irrigation pipe and components a minimum of 8 feet from tree root balls. Pipe routings shown on drawings are diagrammatic.
- Provide #12-1 AWG bare copper tracing wire along the entire mainline routing. Provide 24 inch coil of tracing wire in each valve box along mainline routing.
- Contractor shall furnish and install material and equipment pertaining to the irrigation system herein specified or shown on the drawings. This shall include all items necessary to complete installation.
- Irrigation contractor to cap all flush ends hand tight prior to backfill.
- Irrigation contractor shall coordinate work with planting plans to avoid conflicting locations between piping and plant pits.
- All materials shall be installed as detailed in the plans. If the contract drawings and/or specifications do not thoroughly describe the method or techniques to be used, then the contractor shall install as per manufacturers specifications. If a contradiction occurs, notify the landscape architect immediately.
- Irrigation contractor to use Teflon tape on all threaded joints.
- No pipes shall be installed parallel and directly over another line.
- Brand each valve box with 1" lettering showing zone number and controller letter. This stamp is to match the zone and controller associates with the valve's operation.
- Contractor shall perform the following:
 - Visit site and verify existing grades, construction and conditions.
 - Notify landscape architect of discrepancies between plan and field conditions.
 - Restore contractor damaged existing work to the satisfaction of the engineer or landscape architect without cost to the owner.
 - Be satisfied that the plan can be constructed, functional and complete.
- All equipment shall be maintained while under construction. Maintenance includes: water scheduling, replacement of defective or damaged equipment, adjustment and re-adjustment of heads and other equipment.
- Contractor to ensure the following:
 - Lines and valves are to be placed within planting beds and project limits. These plans are schematic. contractor shall size all pipe.
 - 100% coverage of irrigation system to all plants regardless of size or type and shall confirm all non-irrigated areas prior to submitting a bid.
- Install two (2) spare #14-1 AWG control wires for each unused station and one spare #12-1 AWG common wire from the respective controller to this location for use as a spare wires in each remote control valve box along the entire wire routing for this controller. Seal wire ends water tight and contain within valve box at this location.
- Should field adjustments be made to the site plan, irrigation contractor shall make all necessary adjustments to the irrigation system to ensure proper functionality. Landscape architect is to be notified of any and all changes made to the irrigation system, prior to instillation of said changes.



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REVISIONS:

ISSUE DATE:

1ST	SITE PLAN REVIEW	02-16-21
2ND	PERMIT/BID SET	04-09-21

DRAWN BY:

PANDA PROJECT #: S8-22-D8193

PANDA STORE #: -

ARCH PROJECT #: 20044.021



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IRRIGATION DETAILS 1

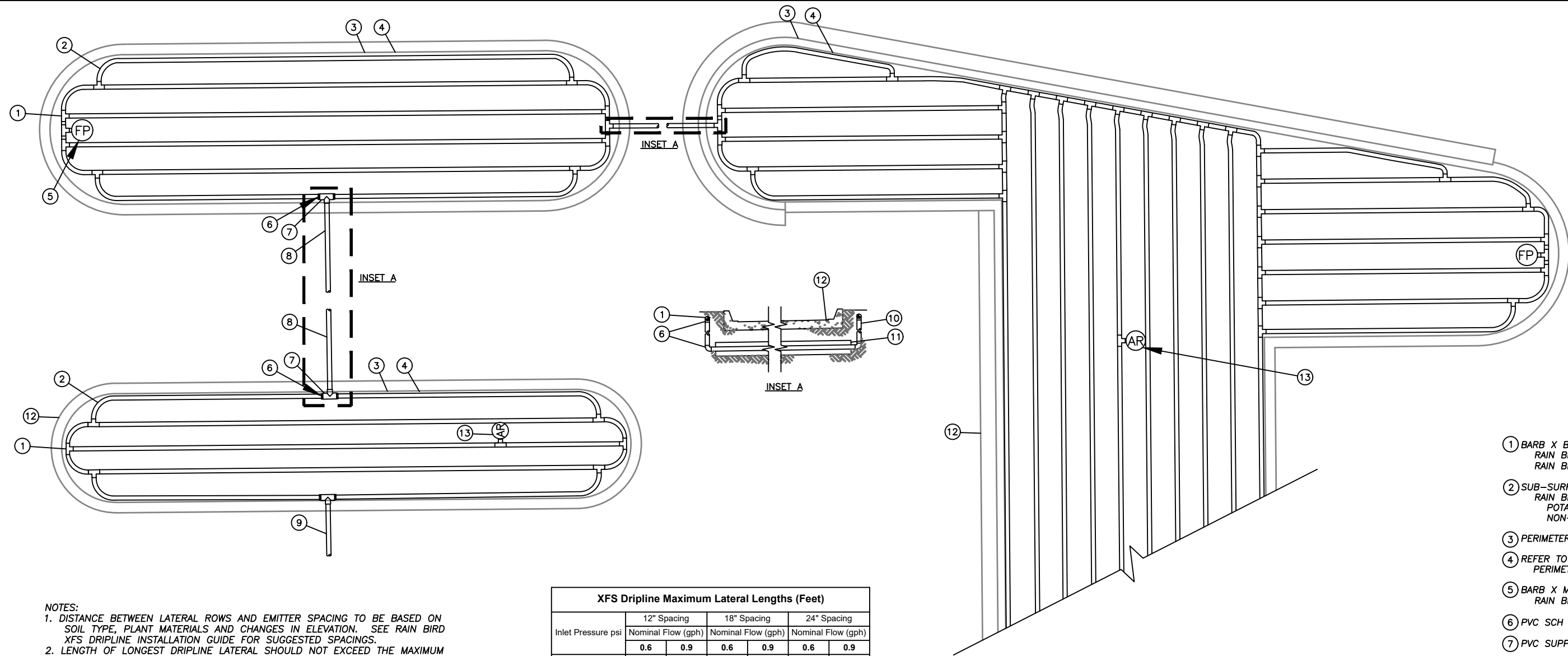
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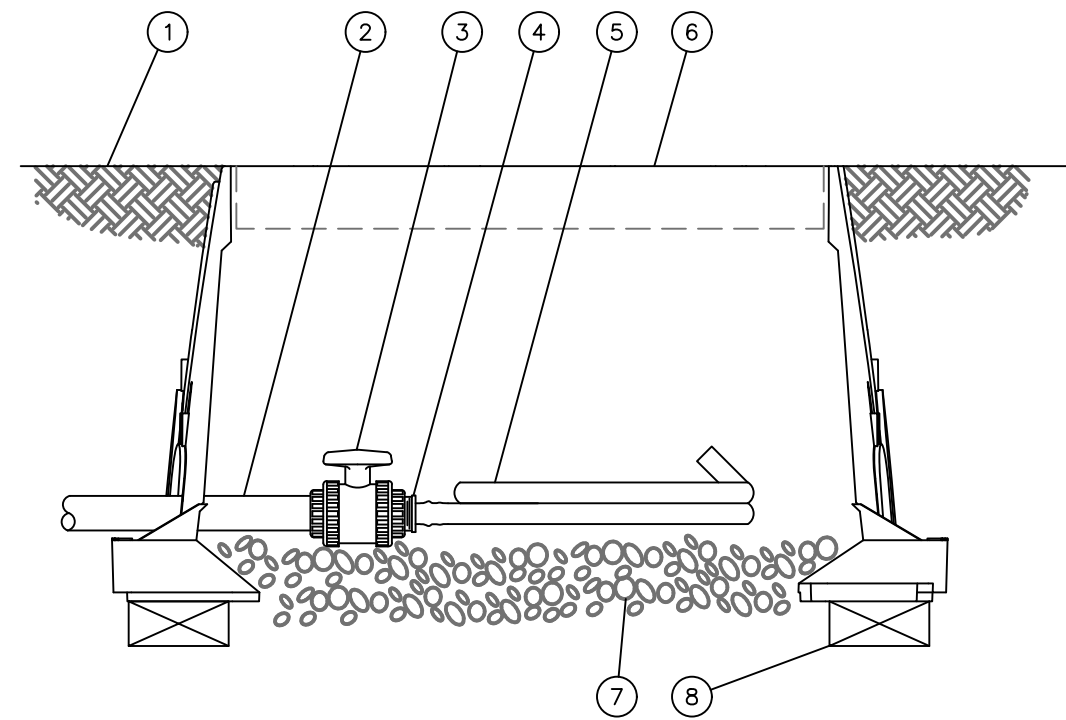
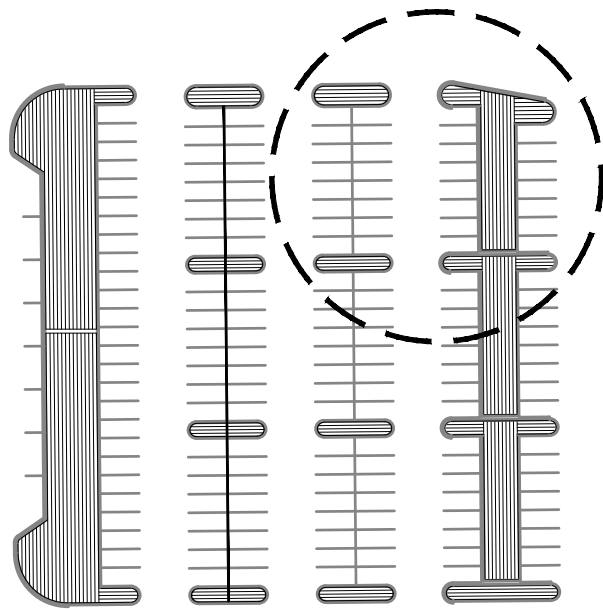
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NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE RAIN BIRD XFS DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACINGS.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
3. AIR RELIEF VALVE TO BE INSTALLED AT ALL HIGH POINTS.
4. DISTANCE FROM CURB TO ADJACENT DRIP LINE TO BE SPECIFIED BY DESIGN CONSULTANT (SEE DRAWINGS AND SPECIFICATIONS).
5. WHEN USING 1/2" MIP INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)
15	273	195	314	250	434	352
20	318	189	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	471
50	417	265	529	420	720	483
60	450	290	566	455	760	514

- 1 BARB X BARB INSERT TEE OR CROSS: RAIN BIRD XFF-TEE OR RAIN BIRD XFD-CROSS (TYPICAL)
- 2 SUB-SURFACE DRIPLINE PIPE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFS DRIPLINE NON-POTABLE: XFSP DRIPLINE
- 3 PERIMETER OF AREA
- 4 REFER TO DRAWINGS AND SPECIFICATIONS FOR PERIMETER DRIPLINE PIPE DISTANCE TO EDGE.
- 5 BARB X MALE THREAD FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
- 6 PVC SCH 40 TEE OR EL (TYPICAL)
- 7 PVC SUPPLY MANIFOLD
- 8 FLUSH POINT (TYPICAL) SEE RAIN BIRD DETAIL "XFS FLUSH POINT"
- 9 PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- 10 PVC SCH 40 RISER PIPE
- 11 PVC SCH 40 SLEEVE PIPE SIZED TWICE SIZE OF MANIFOLD PIPE SIZE.
- 12 PAVEMENT AND CURB
- 13 1/2" AIR RELIEF VALVE: RAIN BIRD MODEL: ARV050 SEE RAIN BIRD XFS DETAILS FOR AIR RELIEF INSTALLATION



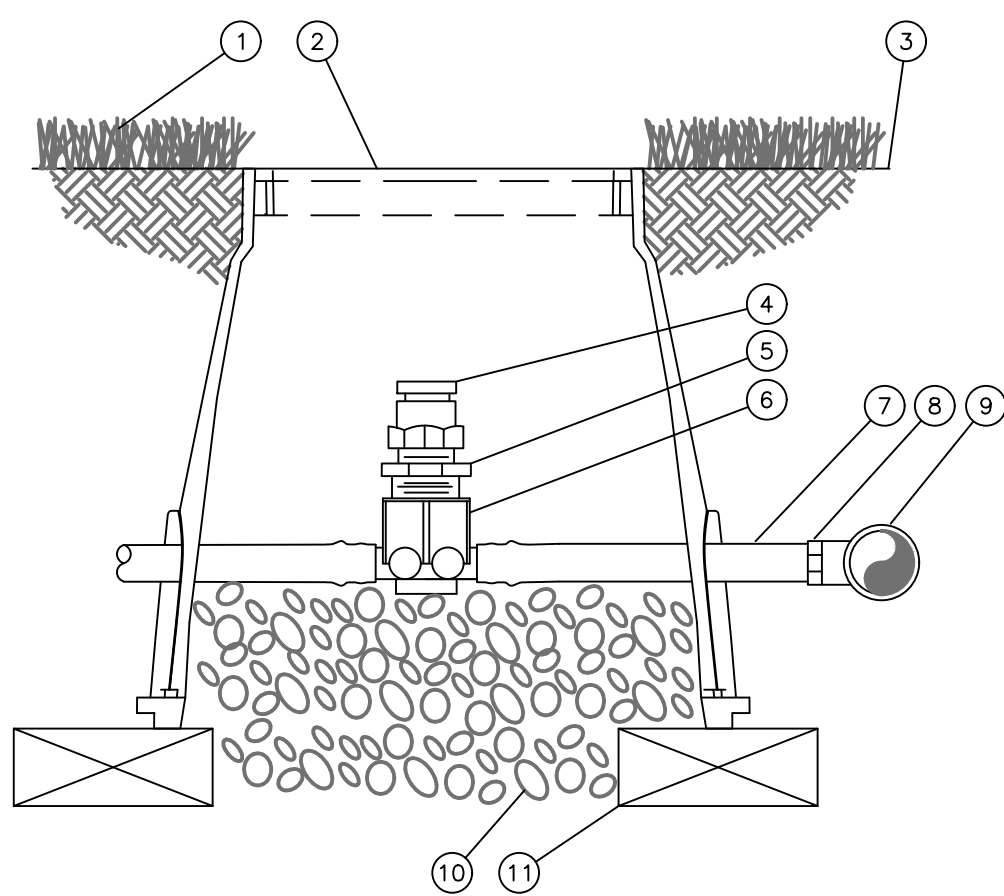
- 1 FINISH GRADE
- 2 PVC DRIP MANIFOLD PIPE
- 3 PVC 1" X 3/4" TRUE UNION BALL VALVE
- 4 EASY FIT MALE X BARB ADAPTER: RAIN BIRD XFF-MA-075
- 5 SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES BLANK TUBING
- 6 12-INCH VALVE BOX WITH COVER: RAIN BIRD VB-STD
- 7 3-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 8 BRICK (1 OF 2)

907 TYPICAL ISLAND DRIPLINE LAYOUT DETAIL

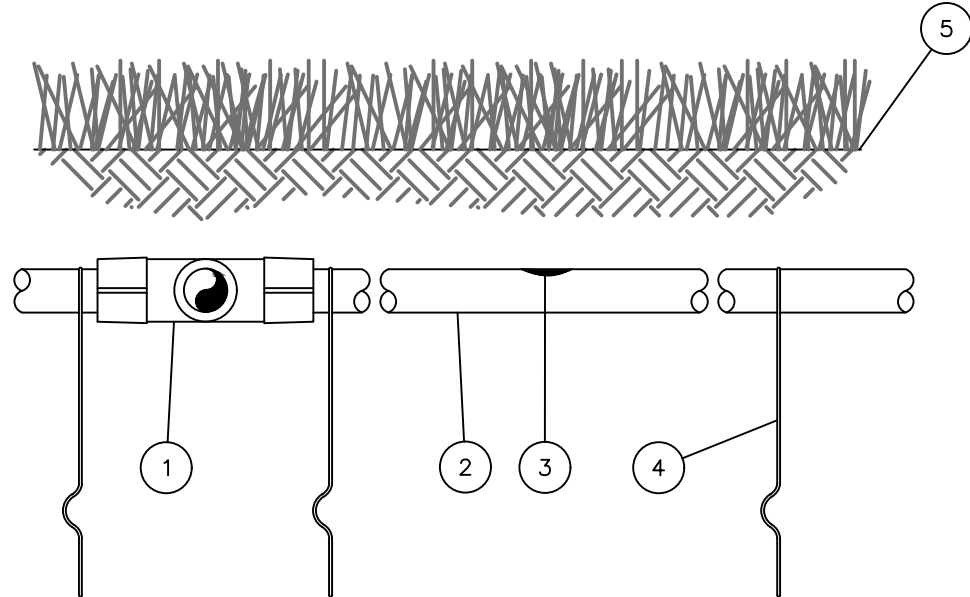
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908 DRIPLINE FLUSH POINT W/BALL VALVE DETAIL

Not to Scale

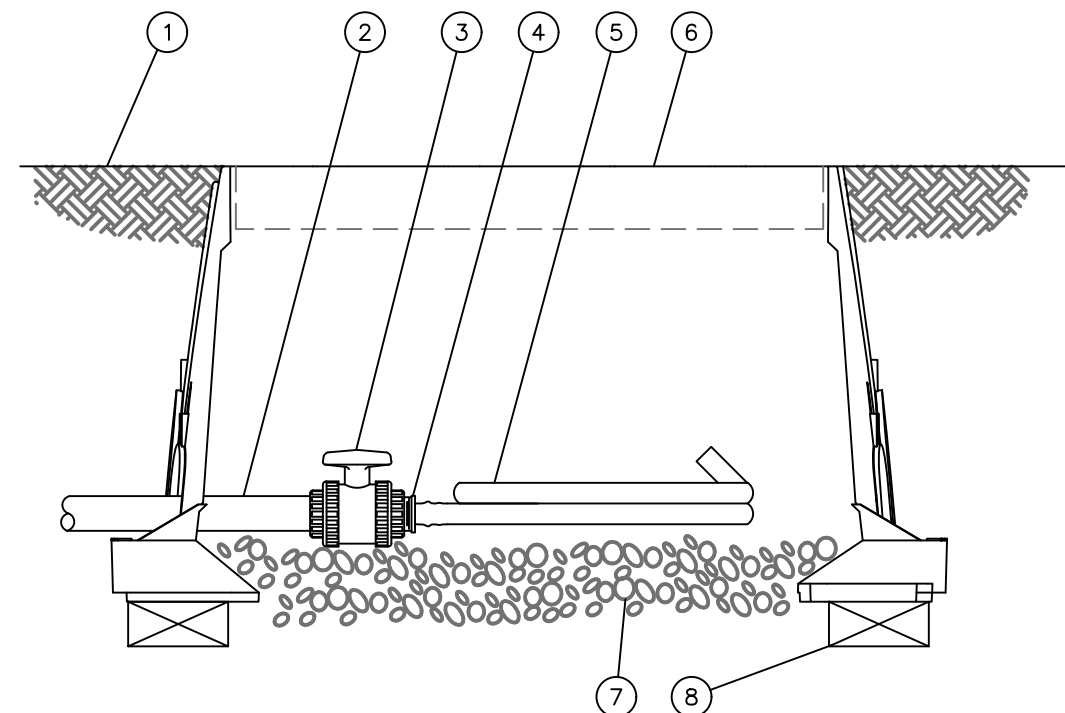


- 1 TURF GRASS
- 2 SUBTERRANEAN EMITTER BOX: RAIN BIRD SEB 7XB
- 3 FINISH GRADE
- 4 1/2" AIR RELIEF VALVE: RAIN BIRD ARV050 TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
- 5 1/2" X 3/4" PVC REDUCER BUSHING
- 6 BARB X FEMALE THREAD CONNECTOR: RAIN BIRD XFD-TFA FITTING
- 7 1/2" BLANK DRIPLINE TUBING: RAIN BIRD XF SERIES
- 8 BARB X MALE THREAD CONNECTOR: RAIN BIRD XFF-MA FITTING
- 9 PVC TEE CONNECTED TO PVC HEADER PIPE
- 10 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 11 BRICK (1 OF 2)



NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.
3. INSERTION FLOW AND TRENCHED INSTALLATIONS DO NOT REQUIRE TIE DOWN STAKES.

- 1 EASY FIT COMPRESSION TEE: RAIN BIRD MDCFTTEE
- 2 SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFS DRIPLINE NON-POTABLE: XFSP DRIPLINE
- 3 INLINE DRIP EMITTER
- 4 TIE DOWN STAKE: RAIN BIRD TDS-050 WITH BEND (TYPICAL)
- 5 TURF/FINISH GRADE OR SHRUB BED WITH MULCH



- 1 FINISH GRADE
- 2 PVC DRIP MANIFOLD PIPE
- 3 PVC 1" X 3/4" TRUE UNION BALL VALVE
- 4 EASY FIT MALE X BARB ADAPTER: RAIN BIRD XFF-MA-075
- 5 SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES BLANK TUBING
- 6 12-INCH VALVE BOX WITH COVER: RAIN BIRD VB-STD
- 7 3-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 8 BRICK (1 OF 2)

908 DRIPLINE AIR RELIEF VALVE DETAIL

Not to Scale

909 XFS SUB-SURFACE DRIPLINE BURIAL DETAIL

Not to Scale

910 XFS DRIPLINE FLUSH POINT W/BALL VALVE

Not to Scale



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REVISIONS:

NO.	DESCRIPTION	DATE

ISSUE DATE:

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2ND PERMIT/BID SET 04-09-21

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PANDA STORE #: -
ARCH PROJECT #: 20044.021



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IRRIGATION DETAILS 2

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