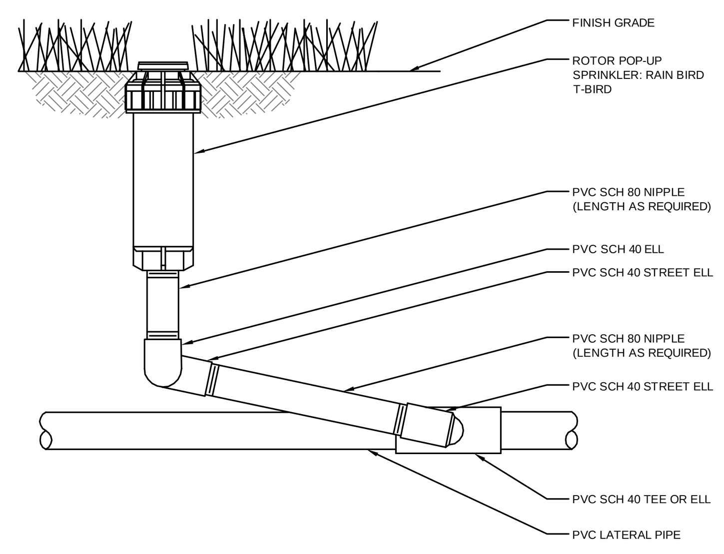
Irrigation General Notes:

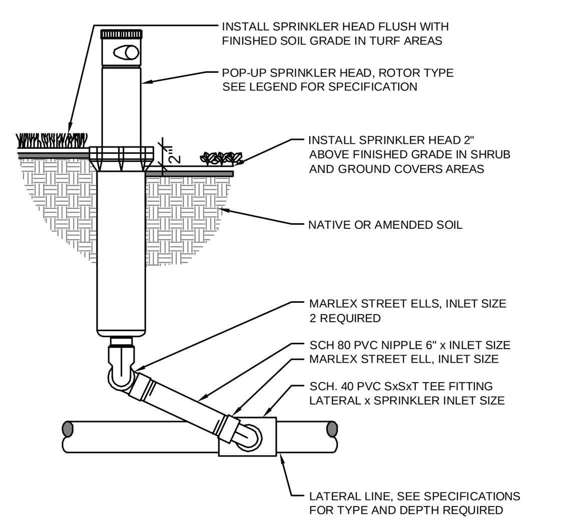
1 ALL materials and equipment shall conform to all applicable State of Texas, City and County codes.
2. The irrigation contractor shall be responsible for securing all permits prior to actual work on site.
3. The intent of the 100% coverage of all landscape areas.
4. Prior to commencement of work, the irrigation contractor shall contact the Owner to coordinate all required inspections.
5. Extreme care shall be exercised in excavating and working near existing utility easements. The irrigation contractor shall be responsible for the verification of all utility locations (telephone, TV, gas electrical, water, cable, etc.). The irrigation contractor shall be responsible for all damages inflicted on any and all utility lines.
6. The Irrigation contractor shall at all times protect his work from damage and theft and replace all damaged or stolen parts at his expense until receipt of the Certificate of Substantial Completion from the Owner.
The Irrigation contractor shall flush and adjust the system for optimum performance. This shall include regulating the pressure at each valve to obtain the optimum operating pressure for each system.
7. Use glue joints in mainline passing through sleeves under pavement. PVC sleeves shall be Schedule 40 and shall extend 24" out of the nearest existing pavement areas for easy location. The irrigation contractor shall be responsible for coordinate all sleeve locations on the project site with the Owner and/or general contractor.
8. The irrigation contractor shall also comply to these additional special requirements to the irrigation system shall include the following.
   a. All mainlines shall have a minimum of 18" of cover (Sch. 40 PVC Pipe.).
   b. All lateral and sub-main pipe to have a minimum of 12" of cover (Sch. 40 PVC Pipe.).
   c. No rocks, boulders or other extraneous materials shall be used for backfilling of trenches.
   d. All pipes to be installed as per manufacturer's specifications.
   e. All threaded joints to be coated with Teflon tape or Liquid Teflon.
   f. All lines to be thouroughly flushed before installation of any sprinkler heads.
   g. Sprinkler and related equipments shall be installed as per manufacturer's specification.
   h. No electrical connections shall be made in the field except at a valve control box or another valve box specifically for connections.
   i. All 24 volt wire shall be No. 12UF/UL for common wire and No. 14 UF/UL for control wires, direct burial shall be solid copper.
   j. The irrigation contractor shall be responsible for proper coverage of areas to be watered; i.e. adjust heads with insufficient coverage due to blockage by existing or proposed site features or sizing down sprinkler heads to avoid excessive overthrow.
   k. The irrigation contractor shall refer to landscape planting plan to keep sprinkler equipments and accessory materials from interfering with proper planting; i.e. Verify rootball size for planting; configuration of shrub/groundcover beds, etc.
   l. The irrigation contractor shall provide expansion coils at each wire connection in valve box (wrap around 3/4" pipe 12 times).
   m. The irrigation contractor shall utilize appropriate automatic drain device where low head drainage may occur.
   n. All sprinkler heads shall be mounted on swing joints unless otherwise noted.
   o. The irrigation contractor shall install a separate common for each controller.
   p. 24 Volt wire shall be color coded: Common shall be white and Control red.
   q. The irrigation contractor shall install manufacturer's recommended grounding equipment for power supply and valve output with (2) 5/8" copper clad ground rods.
   r. The irrigation contractor shall install manufacturer's recommendation on fault ground and lightning protection.
   s. The irrigation contractor shall furnish the owner with the following : 2 wrenches for disassembling and adjusting each type of sprinkler heads and valves + 2 keys for the automatic controller +2 quick coupler keys with matching hose swivels.
   t. The irrigation contractor shall add extension risers to pop up sprinklers when needed for proper coverage. Coordinate with landscape contractor as to where risers for sprinkler heads are required.
   u. The irrigation contractor shall install sprinkler equipments 12" from all buildings foundations and install sprinklers 4" from any curbs or walkways.
   v. The irrigation backflow prevention device shall be installed within areas of proposed shrub plantings. The purpose of this is to keep the device screened from view.
9. The entire irrigation system (labor and materials) shall be guaranteed and warranted for a period of one year. The warranty period shall commenced upon final acceptance by Owner of all landscape and irrigation works.
10. The irrigation contractor for the project must be licensed to do business within the State of Texas , as required by TCEQ."
11. This irrigation plan is diagrammatic only. Irrigation contractor shall provide final irrigation design layout plan complete with licensed irrigator's seal and signature. All applicable design calculations shall be shown on this irrigation plan to comply with all TCEQ requirements.

Irrigation Legend:

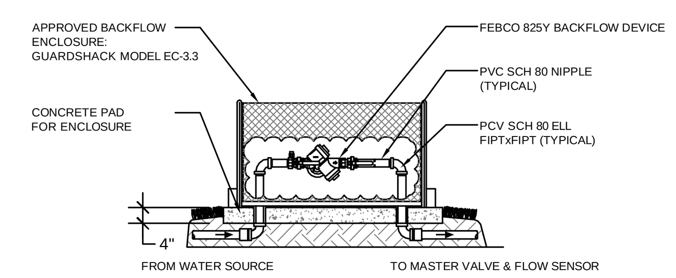
Sym	Sym	Irrigation Equipment and Manufacturer	Sprinkler Specification	GPM
		Hunter I-20 Rotary Sprinkler		
A		I-20-ADS 4"-1.0 nozzle Part Circle	30'-0" radius	2.00
		Rainbird 1806 Pop Up Sprinkler or equal.		
B		RB 1806 Full 360 degree	12'-0" radius	2.60
C		RB 1806 Half 180 degree	12'-0" radius	1.30
D		RB 1806 Qtr. 90 degree	12'-0" radius	0.65
		Rainbird 1812 Shrub Pop Up Sprinkler or equal.		
E		RB 1812 Full 360 degree mounted on 24" Sch. 40 riser	12'-0" radius	2.60
F		RB 1812 Half 180 degree	12'-0" radius	1.30
G		RB 1812 Qtr. 90 degree	12'-0" radius	0.65
H		RB 1812 Low Angle End Strip Nozzle	4'x15'	0.61
J		RB 1812 Low Angle Center Strip Nozzle	4'x30'	1.21
		Rainbird PEB series Electric Remote Control Valves with sizes as noted plan.		
		One (1) 2" water meter Supplied and installed by irrigation contractor for the irrigation system. Water meter to be installed as per city and county codes.	Verify point of connection.	
		One (1) 2" FEBCO & 2" ISOLATION VALVE to be installed as per city and county code by irrigation contractor. Install **BPDI Guardshack Enclosure GS-3.3** to protect backflow devices. Verify location on site.		
		Rainbird 33 DRC quick coupling valve (valves to be installed below grade inside valve box)	Total **(5)** field located on site.	
		One (1) Rainbird ESP 12 LX Irrigation controllers. Verify location and coordinate electrical requirements for controller with General contractor and / or owner. Install **Rainbird Rain Sensors** within close proximity of controller location. Verify location with Owner.		
		Pressure Line shall be **2"** sch. 40 PVC pipe. Install "Thrust Blocks" as required. Install appropriate Gate Valves where noted.		
		6" Sch. 40 PVC irrigation sleeves unless noted as 4" on plan. Verify location of all sleeves on project site.		
		1/2" Sch. 40 PVC non pressure line. 3/4" Sch. 40 PVC non pressure line. 1" Sch. 40 PVC non pressure line. 1-1/2" Sch. 40 PVC non pressure line.		
		Sequence of Irrigation Valve Size of Irrigation Valve		



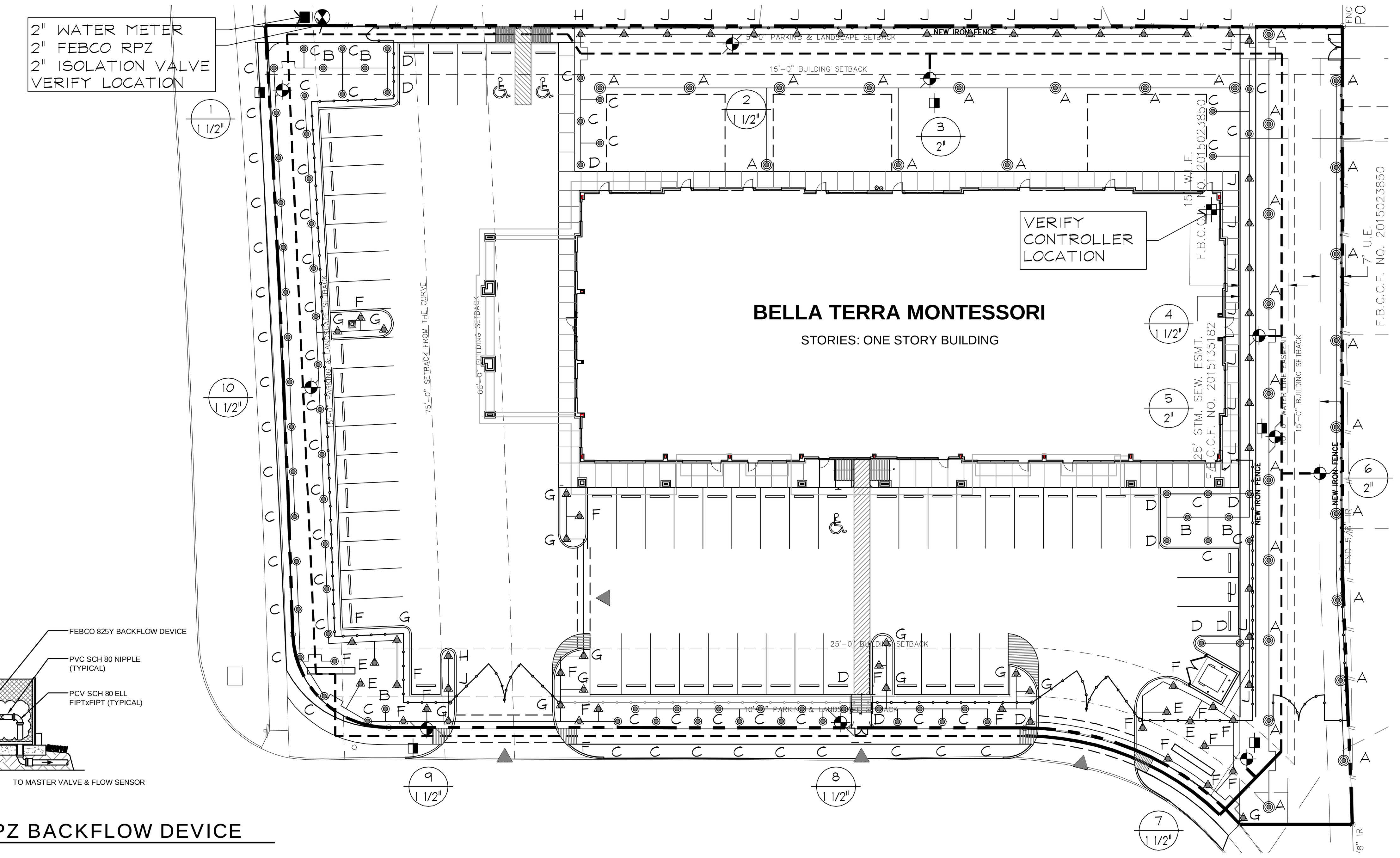
A L2.1 ROTARY SPRINKLER
SCALE: NOT TO SCALE



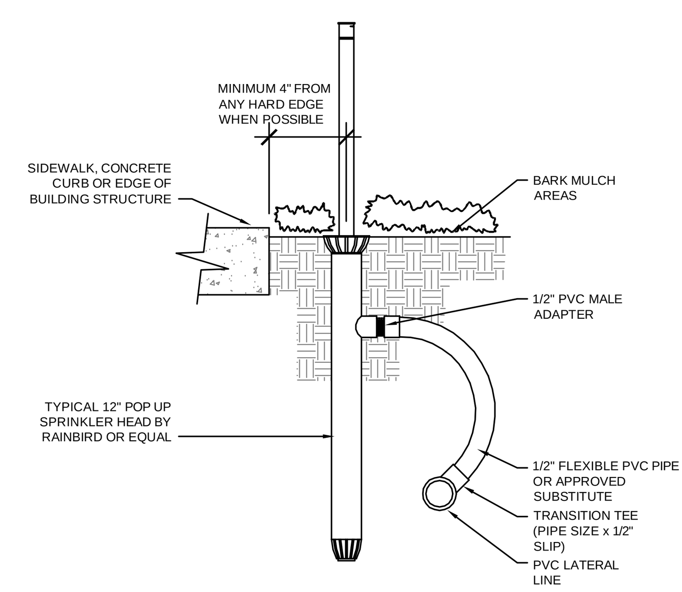
B L2.1 POP-UP SPRINKLER ROTOR TYPE (6")
SCALE: NOT TO SCALE



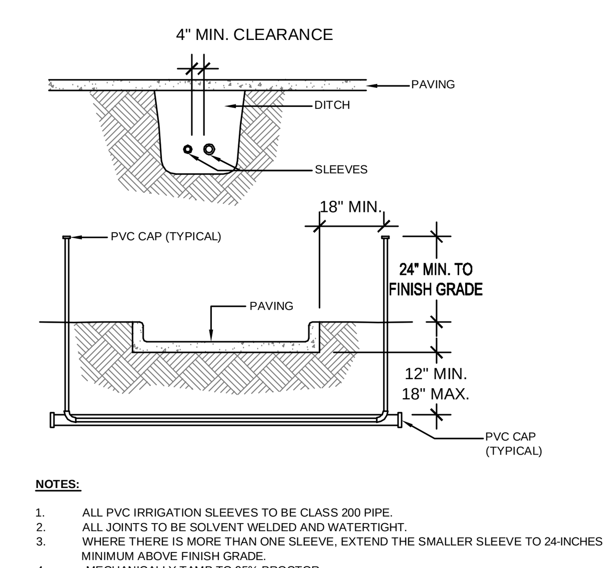
C L2.1 FEBCO 825Y RPZ BACKFLOW DEVICE
SCALE: NOT TO SCALE



1 L2.1 IRRIGATION PLAN
SCALE: 1" = 30'-0"

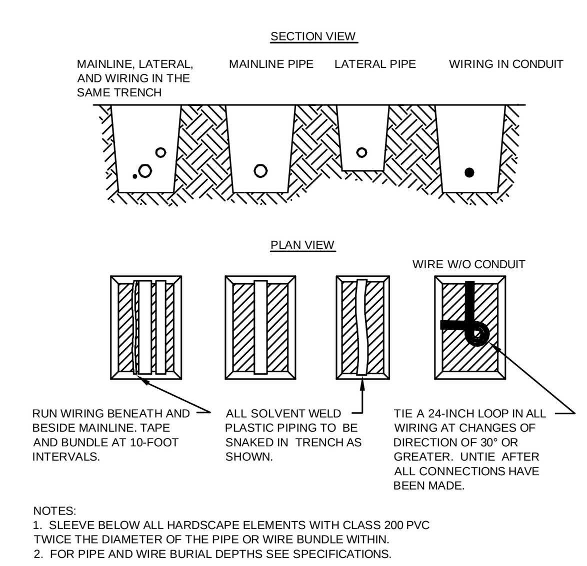


D L2.1 POP UP SPRAY HEAD (12")
SCALE: NOT TO SCALE



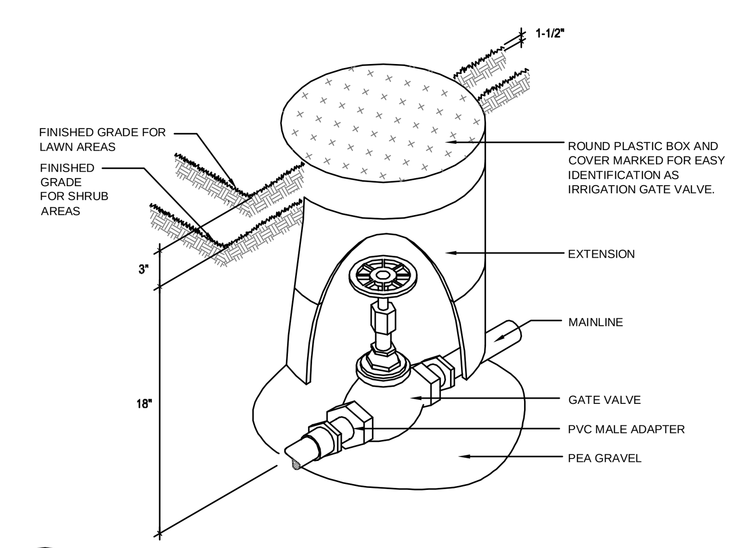
NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE CLASS 200 PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

E L2.1 SLEEVING
SCALE: NOT TO SCALE

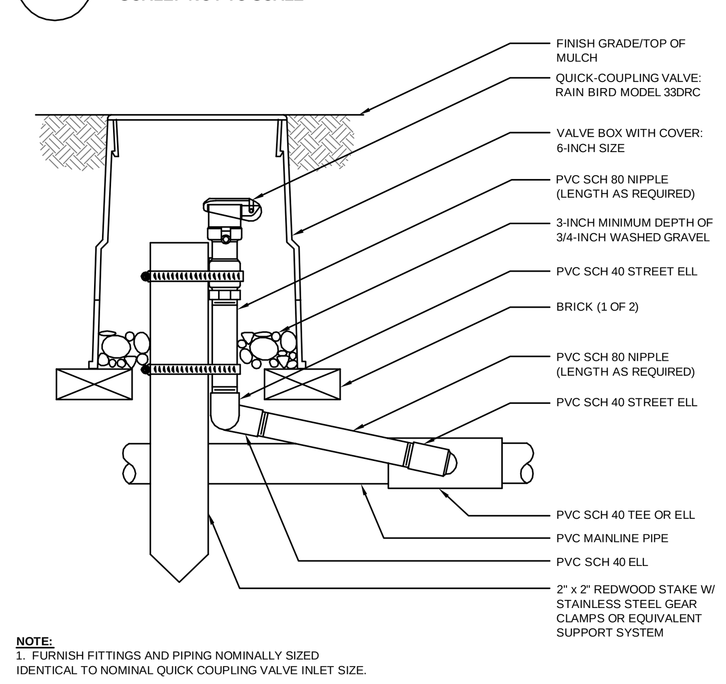


NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH CLASS 200 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.

F L2.1 TRENCH DETAIL
SCALE: NOT TO SCALE

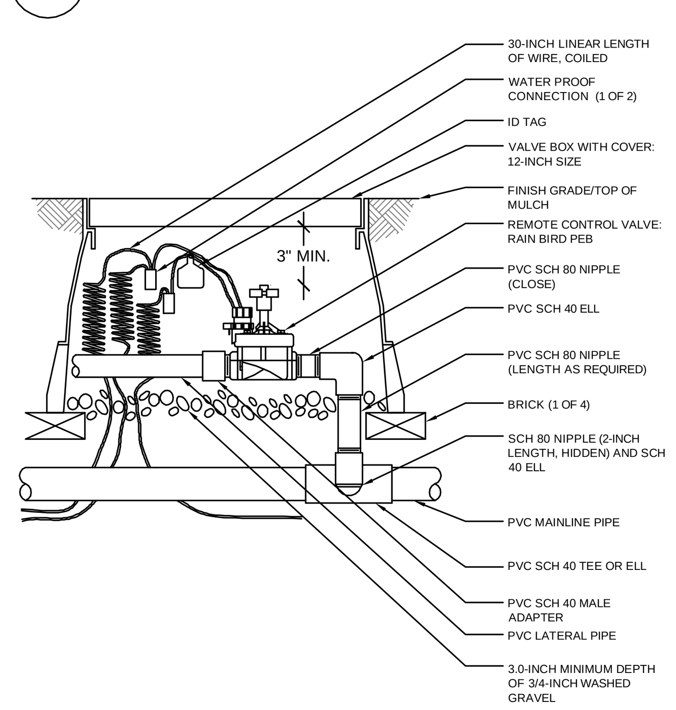


G L2.1 GATE VALVE
SCALE: NOT TO SCALE

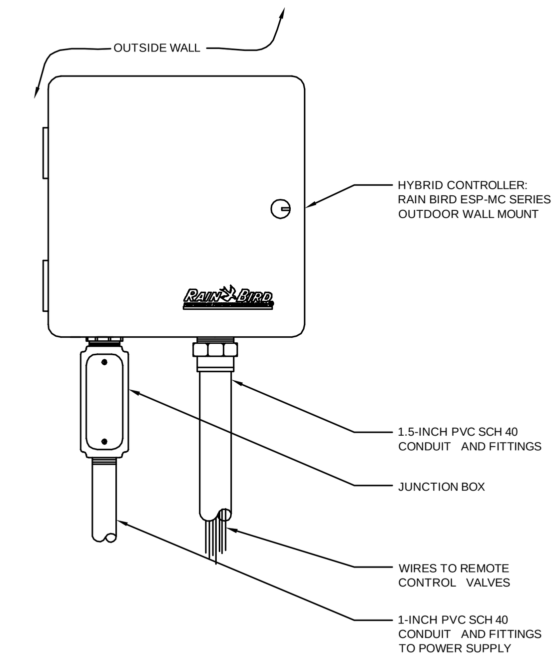


NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

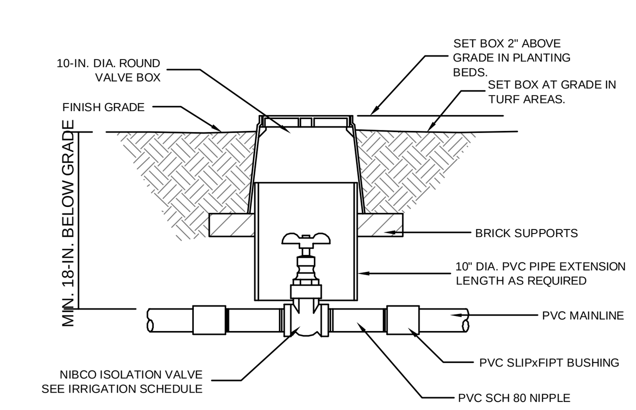
H L2.1 QUICK COUPLING VALVE
SCALE: NOT TO SCALE



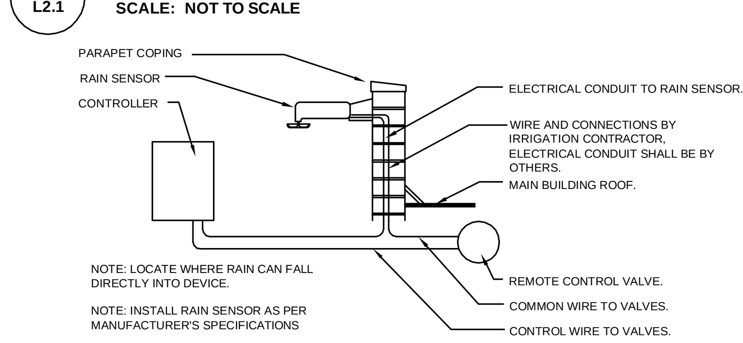
I L2.1 REMOTE CONTROL VALVE
SCALE: NOT TO SCALE



J L2.1 IRRIGATION CONTROLLER
SCALE: NOT TO SCALE



K L2.1 ISOLATION/SHUT-OFF VALVE
SCALE: NOT TO SCALE



L L2.1 RAIN SENSOR INSTALLATION DETAIL
SCALE: NOT TO SCALE

DESIGN DISCLAIMER:

This irrigation drawing is a preliminary layout. It is a diagrammatic representation for purpose of providing a basic depiction of the scope of coverage, initial valve zoning, with head type and placement. The Irrigation drawing does not provide necessary zone flow, hydraulic calculations to determine Design Pressure. These are defined in Texas Administrative Code ***§§344.61 Minimum Standards for Design of the Irrigation Plan***, and required by the T.C.E.Q for a complete Irrigation Plan and for Permit and Construction. It will be the responsibility of the installing licensed irrigator or irrigator-in-charge, to use information provided on this Preliminary Irrigation drawing, to provide a final Irrigation Plan meeting all standards as required by T.C.E.Q, Signed and Sealed.

Wong & Associates, Inc. shall not be responsible and accepts no liability for design failure, inaccurate head layout, incorrect hydro-zoning, pipe sizing, zone flow or hydraulic calculations, irrigation equipment, or aspects of the preliminary design drawing not in compliance with local irrigation regulations. The irrigation contractor shall be ultimately responsible for the final design, installation and proper operation of the irrigation system.

Disclaimer

Wong & Associates, Inc. shall not be responsible for the operation and/or maintenance of this irrigation system, once the date of final acceptance by the owner is established. All grades and elevations on the project shall be set by the project civil engineer. The Owner shall be responsible for the monitoring and the maintaining of the irrigation system. Monthly moisture sensor tests of all sprinkler zones around all building pads and on entire property, shall be performed by the Owner to ensure that no over-watering and/or any irrigation system leaks are present. The irrigation contractor shall be responsible for providing all guarantee and warranties for the irrigation system. The irrigation contractor shall be ultimately responsible for the installation and proper operation of the irrigation system.

Wong & Associates, Inc.
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Member: American Society of Landscape Architects

DATE	ISSUE

IRRIGATION PLAN

DATE: 05.27.19
JOB NO.
DRAWN BY: EW/SR
CHECKED BY: EW

L2.1