

IRRIGATION NOTES:

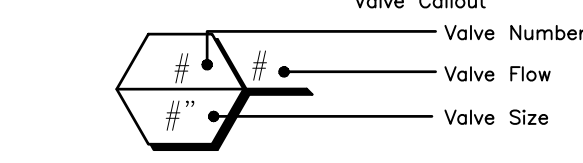
- SCH 40 class PVC pipe or better shall be used for all sections of pipe under constant pressure.
- SDR 21 Class 200 PVC or better shall be used for other main lines and laterals.
- All PVC joints shall be the cement solvent type with colored primer.
- All exposed piping shall be insulated, secured and protected from UV light deterioration.
- Irrigation components shall not be used in excess of the manufacturer's published performance limitations. Minimum and maximum on all sprinkler heads shall be within the standards recommended by the manufacturer's publication.
- Irrigation systems shall not use above-ground spray emission devices in landscapes that are bordered on two or more sides and are less than 48" in length or width (not including impervious surfaces), narrow paved walkways, jogging paths, and similar areas located in cemeteries, parks, golf courses or other public areas are exempt if the runoff drains into a landscaped area.
- All sprinkler heads shall direct flow away from a hardscape and shall not be installed closer than 4" from a hardscape.
- Irrigation zones shall be based on plant material type, microclimate, topographic features, soil conditions and hydrological requirements.
- All sprinkler heads shall be arranged such that they do not spray water on or over any impervious material.
- All irrigation systems shall be designed, installed, maintained, altered, repaired serviced and operated in a manner that promotes water conservation.
- All main line piping shall be buried 12" min. in depth. All other laterals shall be buried 6" min. in depth.
- All irrigation systems shall be equipped with a rain or moisture shut-off device or other water saving technology. Such devices or technology shall be designed and installed to inhibit or interrupt operation of the irrigation system during periods of high soil moisture or rainfall.
- All irrigation systems shall have a backflow prevention device installed that protects the public water supply system from cross contamination.
- The backflow device shall be a pressure vacuum breaker (PVB), reduced pressure zone (RPZ) or a double check valve (DC) backflow prevention device. For systems where chemicals are induces, or a health hazard exists, an RPZ is the only device allowed.
- A PVB shall be installed such that the elevation of the bottom of the device is at least 12" above the highest sprinkler head on the system. A RPZ or DC shall be installed a minimum of 12" above grade in a manner where the device cannot be submerged.
- The backflow prevention device shall be tested by a licensed certified tester upon installation prior to the system being placed in service.
- The backflow prevention device shall be secured and protected. See #4.
- Contractor shall install all equipment as per manufacturer's current specifications and recommendations.
- Contractor shall carefully verify a minimum static pressure of 60 p.s.i. at the water meter. Contractor shall notify the Owner if water pressure is less than or significantly higher than noted.
- Coordinate exact locations of water meter, backflow prevention device, controller and weather sensors with the General Contractor. General Contractor shall provide 115vac, single phase power to the controller.
- Contractor shall be responsible for damages caused to all utilities (both overhead and below ground) during the irrigation system installation. Contractor shall seek the assistance of local utility providers and the owners to locate utilities prior to commencement of any trenching activities.
- All sleeving provided for the irrigation system shall be as specified on the Site Plan, Irrigation Plan or Sleeve Plan and installed by the General Contractor. All sleeving under vehicular paving shall be buried a minimum of 18" and a maximum of 24" below the bottom of pavement. All sleeving under pedestrian paving shall be buried a maximum of 4" below the bottom of pavement or prepared base. Ends of sleeves shall extend 18" (min.) past the edges of all paving and curbs and taped closed or capped. The ends of each sleeve shall be clearly marked for future use by the Irrigation Contractor.

IRRIGATION SCHEDULE

| SYMBOL | MANUFACTURER/MODEL/DESCRIPTION | QTY | PSI | DETAIL |
|--------|---|-----|-----|--------|
| | Rain Bird 1812 15 Strip Series Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. | 21 | 30 | 3/L401 |
| | Rain Bird 1812 ADJ Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. | 1 | 30 | 3/L401 |
| | Rain Bird 1812 ADJ Shrub Spray 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. | 7 | 30 | 3/L401 |
| | Rain Bird 1800-1400 Flood Fixed flow rate (0.25-2.0GPM), full circle bubbler, 1/2" FIPT. | 12 | 30 | 1/L401 |

| SYMBOL | MANUFACTURER/MODEL/DESCRIPTION | QTY | DETAIL |
|--------|--|-----|--------|
| | Rain Bird PGA Globe 1" 1", 1-1/2", 2" Electric Remote Control Valve, Globe. | 3 | 4/L401 |
| | Shut Off Valve 1", 1-1/2", 2", and 3" Plastic Full Block True Union Ball Valve. Shut Off/Isolation Valve to Eliminate Water Hammer. Install same size as mainline. | 1 | 5/L401 |
| | Rain Bird ESP4ME 4 Station, Hybrid Modular Outdoor Controller. For Residential or Light Commercial Applications. | 1 | 3/L400 |
| | Rain Bird WR2-RC Wireless Rain Sensor Combo, includes 1 receiver and 1 rain sensor transmitter. | 1 | |
| | Water Meter 1" | 1 | |

| | | | |
|--|--|------------|--------|
| | Irrigation Lateral Line: PVC Class 200 SDR 21 3/4" | 806.9 l.f. | 6/L401 |
| | Irrigation Lateral Line: PVC Class 200 SDR 21 1" | 169.0 l.f. | 6/L401 |
| | Irrigation Mainline: PVC Schedule 40 1 1/4" | 194.7 l.f. | 6/L401 |
| | Pipe Sleeve: 6" PVC Class 200 SDR 21 | 201.2 l.f. | 2/L400 |



VALVE SCHEDULE

| NUMBER | MODEL | SIZE | TYPE | GPM | HEADS | DESIGN PSI | FRICTION LOSS | VALVE LOSS | PSI | PSI @ POC | PRECIP |
|--------|---------------------|------|-------------|-------|-------|------------|---------------|------------|-------|-----------|-----------|
| 1 | Rain Bird PGA Globe | 1" | Shrub Spray | 13.01 | 17 | 30 | 5.19 | 5.93 | 41.13 | 44.37 | 1.73 in/h |
| 2 | Rain Bird PGA Globe | 1" | Bubbler | 12.00 | 12 | 30 | 3.60 | 5.92 | 39.51 | 42.38 | 3.40 in/h |
| 3 | Rain Bird PGA Globe | 1" | Shrub Spray | 11.46 | 12 | 30 | 1.52 | 5.91 | 37.43 | 40.12 | 2.48 in/h |

CRITICAL ANALYSIS

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P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Water Meter Size: 1"
Flow Available: 19.46 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Elevation Change: 5.00 ft
Service Line Size: 1"
Length of Service Line: 20.00 ft
Pressure Available: 56.00 psi

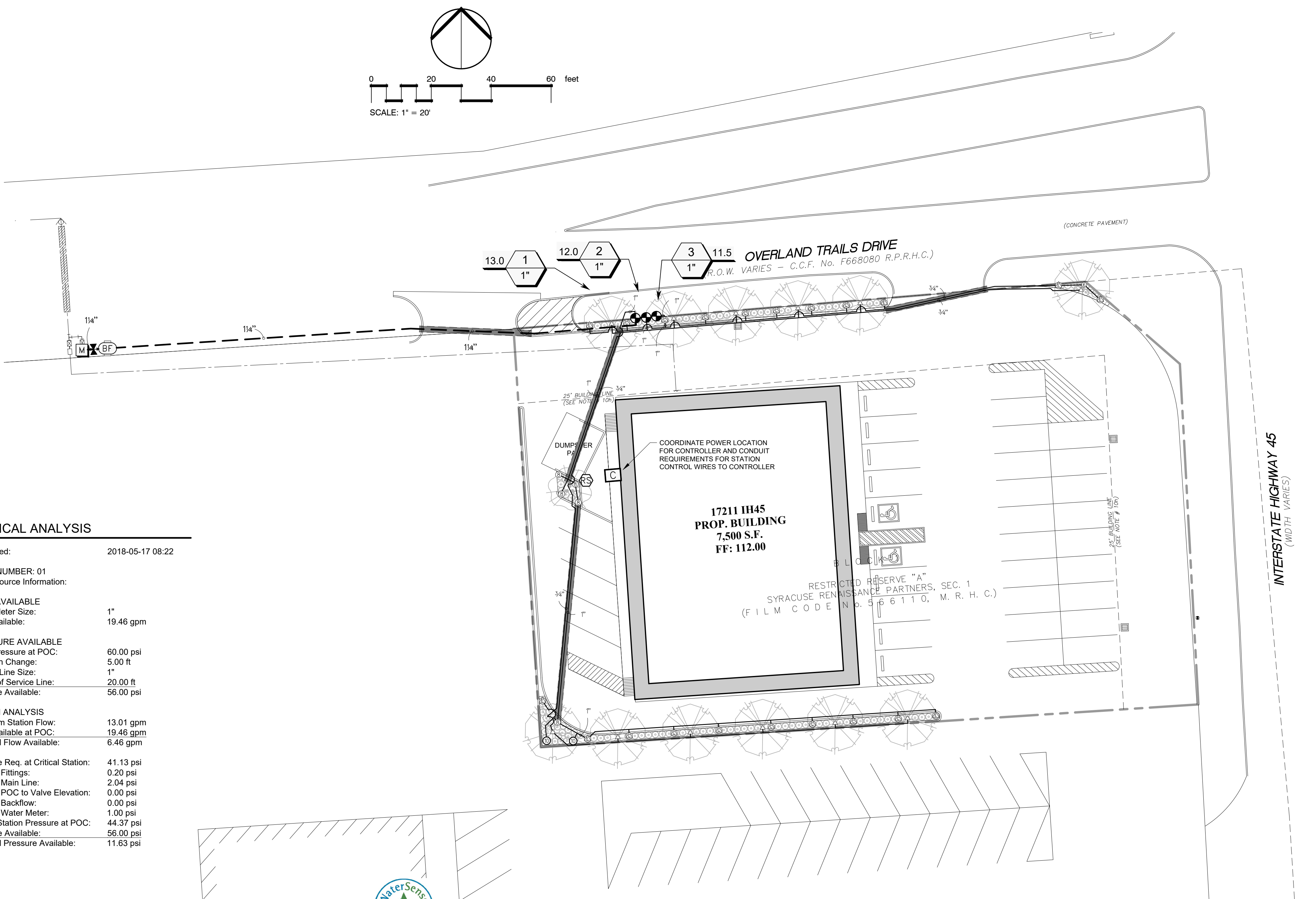
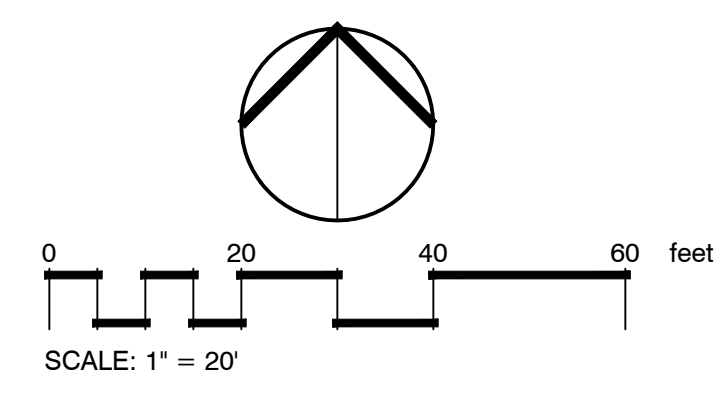
DESIGN ANALYSIS
Maximum Station Flow: 13.01 gpm
Flow Available at POC: 19.46 gpm
Residual Flow Available: 6.46 gpm

Pressure Req. at Critical Station: 41.13 psi
Loss for Fittings: 0.20 psi
Loss for Main Line: 2.04 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 0.00 psi
Loss for Water Meter: 1.00 psi
Critical Station Pressure at POC: 44.37 psi
Pressure Available: 56.00 psi
Residual Pressure Available: 11.63 psi

1 IRRIGATION PLAN

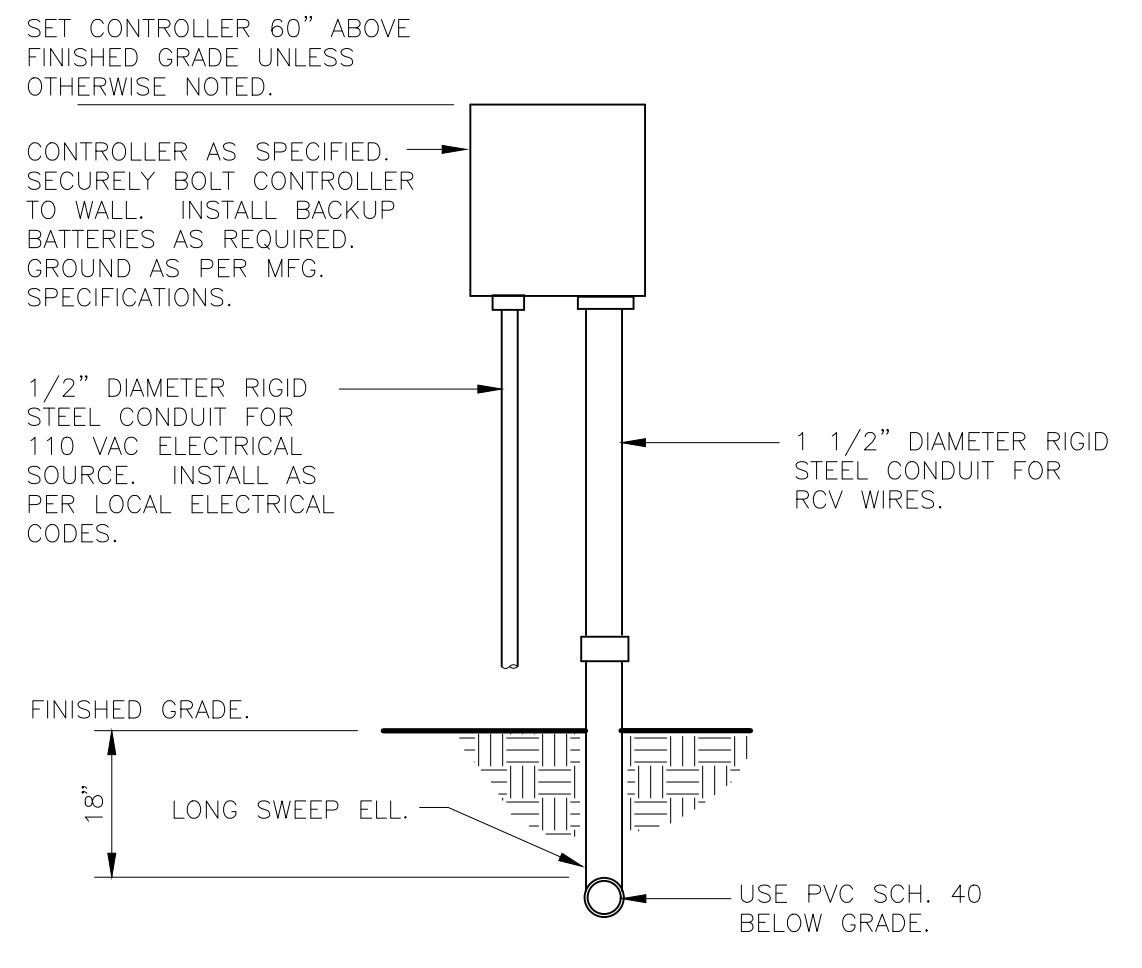
1" = 20'

The irrigation system is diagrammatic in nature. The intent of the drawings is to show the general layout and logic of the system. Scaled measurements may not be accurate. Actual locations and quantities of pipe and fittings may vary due to field adjustments for existing conditions and other obstructions to provide the proper and intended coverage.



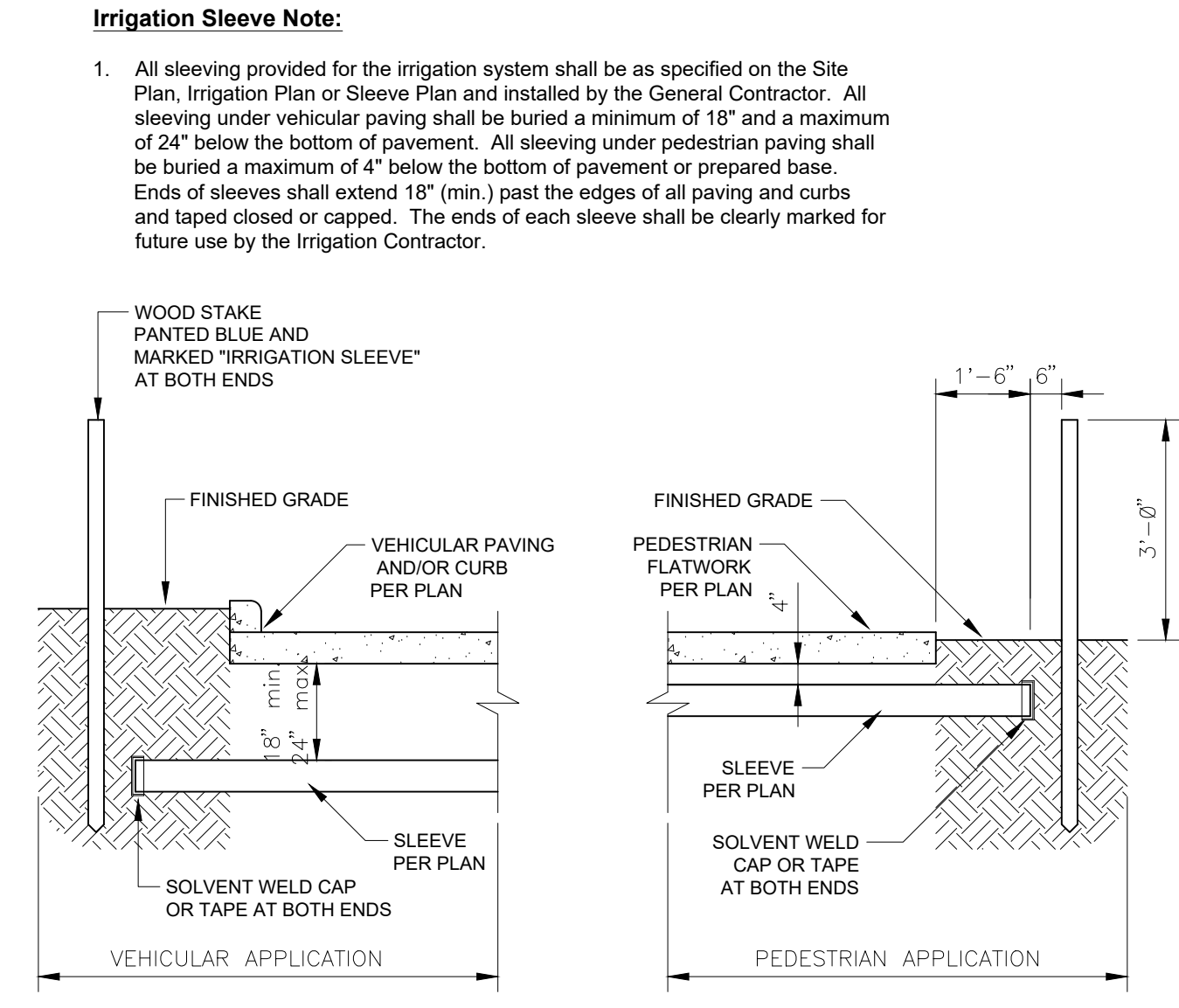
3 WALL MOUNT CONTROLLER

1" = 1'-0" FX-IR-FX-CONT-07



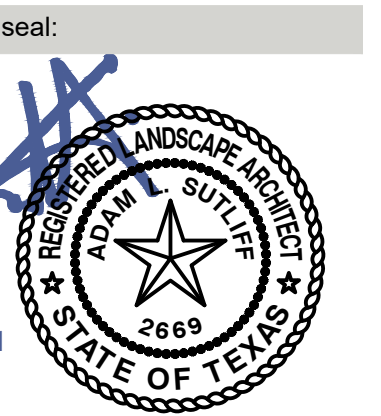
2 TYPICAL IRRIGATION SLEEVE

3/8" = 1'-0" P-RE-33



Irrigation Sleeve Note:

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issue/revision:
2018-05-21 Issued for Permit
Harris County

project name:

17211 PAD SITE
LANDSCAPE DEVELOPMENT PACKAGE

project address:

physical:
17211 IH-45
Houston, TX 77090

project number:

180118
Floor & Decor

sheet name:

IRRIGATION PLAN

sheet number: