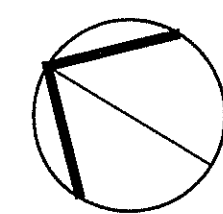
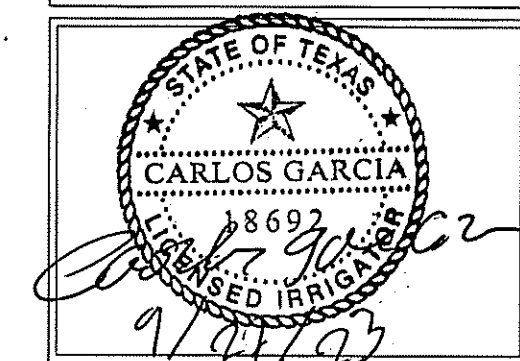
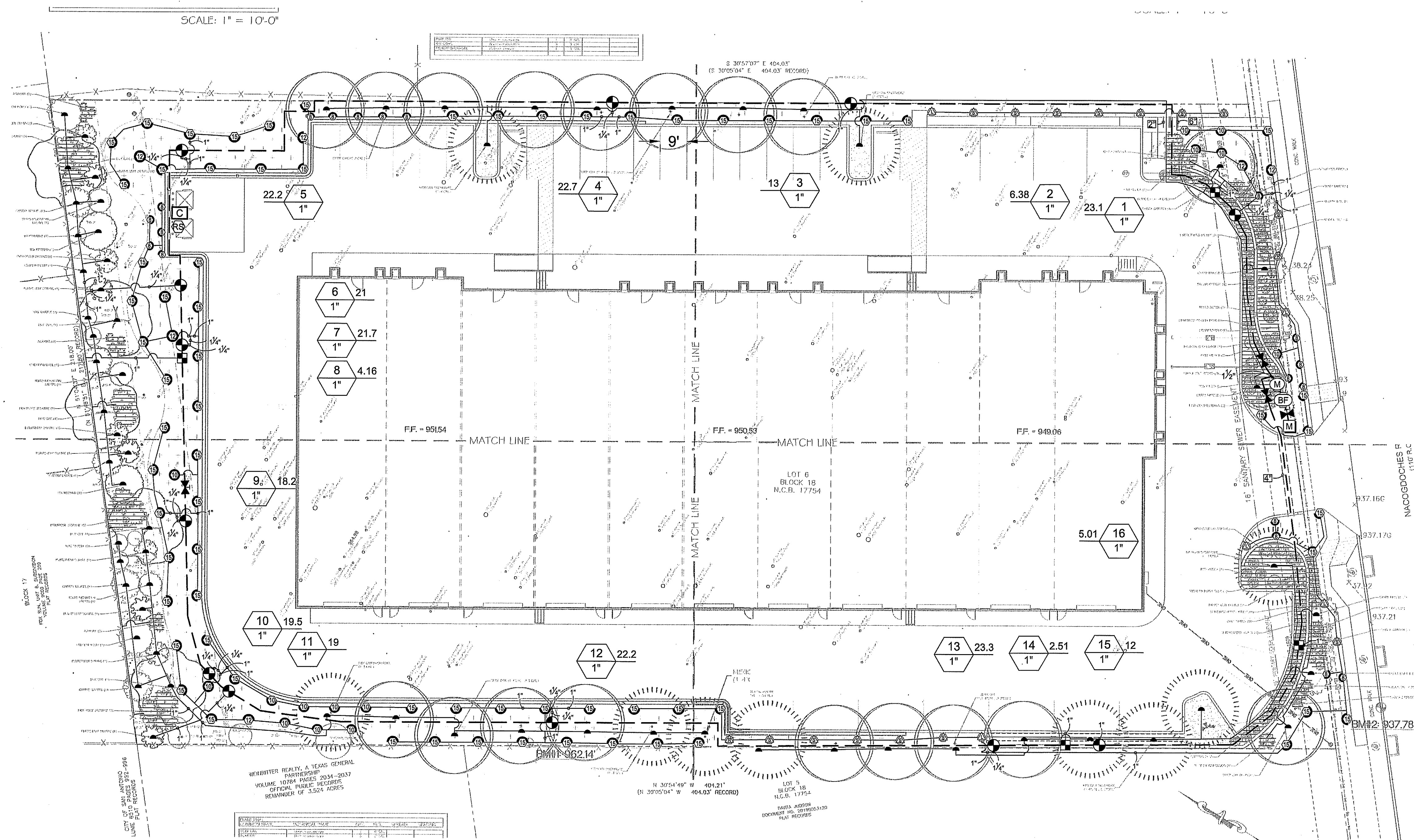


NORTH



PREVAILING
WIND



PROJECT NAME
THE NACOGDOCHES PROJECT
15711 NACOGDOCHES ROAD
SAN ANTONIO, TEXAS

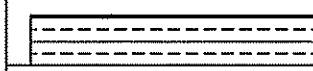
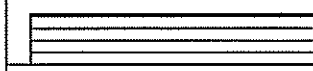
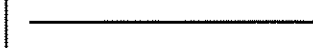
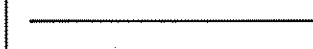
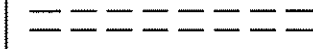
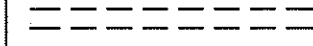
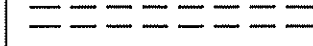
Project Title
IRRIGATION PLAN

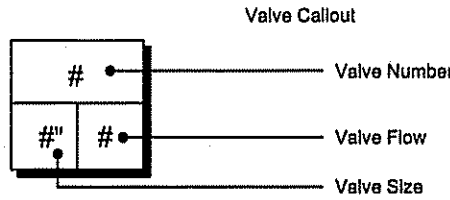
Project Number: 333338
Design Date: 08/16/2023
Drawn By: RKS
Checked By:
Drawing Scale: 20

Revisions	Date
1.	09/22/2023
2.	
3.	
4.	
5.	
6.	
7.	
8.	

Sheet Number:
IR-1
Sheet: 1 OF 3

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	ARC	PSI	GPM	RADIUS
	RAIN BIRD 1804 15LCS	LCS	30	0.49	4'x15'
	RAIN BIRD 1804 15RCS	RCS	30	0.49	4'x15'
	RAIN BIRD 1804 15SST	SST	30	1.21	4'x30'
	RAIN BIRD 1804 08H	180	30	0.52	8'
	RAIN BIRD 1804 08Q	90	30	0.26	8'
	RAIN BIRD 1804 10F	360	30	1.58	10'
	RAIN BIRD 1804 10H	180	30	0.79	10'
	RAIN BIRD 1804 10Q	90	30	0.39	10'
	RAIN BIRD 1804 10T	120	30	0.53	10'
	RAIN BIRD 1804 12F	360	30	2.37	12'
	RAIN BIRD 1804 12H	180	30	1.3	12'
	RAIN BIRD 1804 15F	360	30	3.7	15'
	RAIN BIRD 1804 15H	180	30	1.85	15'
	RAIN BIRD 1804 15Q	90	30	0.92	15'
	RAIN BIRD 1804 15T	120	30	1.23	15'
	RAIN BIRD 1804 15TQ	270	30	2.78	15'
	RAIN BIRD1400 FLOOD 1404	360	30	1	3'
SYMBOL	MANUFACTURER/MODEL		PSI		
	RAIN BIRD XCZ-100-PRF 1"				
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-06-12 12" ROW SPACING (TURF)		30		
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-06-12 16" ROW SPACING (BED)		30		
SYMBOL	MANUFACTURER/MODEL				
	RAIN BIRD PGA GLOBE 1"				
	MATCO-NORCA TBVC ISOLATION VALVE MAINLINE SIZE				
	RAIN BIRD PGA MASTER VALVE 1"				
	FEBCO 860 RPZ 1"				
	RAIN BIRD ESP-ME CONTROLLER				
	RAIN BIRD WR2-RFC RAIN SENSOR				
	WATER METER 1"				
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 1"				
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 1 1/4"				
	IRRIGATION MAINLINE: PVC SCHEDULE 40 1 1/2"				
	PIPE SLEEVE: PVC SCHEDULE 40 2"				
	PIPE SLEEVE: PVC SCHEDULE 40 4"				
	PIPE SLEEVE: PVC SCHEDULE 40 6"				



IRRIGATION NOTES

- IRRIGATION SYSTEM DESIGN BASED ON ZONING OF 25 GPM AT 70 PSI.
- IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION (POC) ONLY. THE DESIGN IS BASED ON GALLONS PER MINUTE (GPM) AND POUNDS PER SQUARE INCH (PSI) FURNISHED BY OTHERS.
- IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION.
- THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION CHANGE IN THE AREAS OF IRRIGATION.
- ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
- IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION TO BE PER LOCAL CODE.
- LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.
- ALL SPRINKLER HEADS SHALL BE INSTALLED PERPENDICULAR TO FINISH GRADES. EXCEPT AS OTHERWISE INDICATED.
- INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
- PIPE LOCATIONS ARE DIAGRAMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY.
- THE IRRIGATION CONTRACTOR SHALL COMPLY WITH PIPE SIZES AS INDICATED.
- ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
- ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED DIRECT BURY.
- THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET (AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC...). SITEONE LANDSCAPE SUPPLY BEARS NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS IN DESIGN OR INSTALLATION THAT ARISE DUE TO INACCURACIES IN THE ABOVE REFERENCED INFORMATION SUPPLIED TO SITEONE LANDSCAPE SUPPLY IN RELATION TO THIS PROJECT, UNLESS OTHERWISE NOTED.

CRITICAL ANALYSIS

P.O.C. NUMBER: 01

WATER SOURCE INFORMATION

FLOW AVAILABLE
Water Meter Size: 1"
Flow Available: 25 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 70 PSI
Elevation Change: 0.00 ft
Service Line Size: 1 1/2"
Length of Service Line: 20 ft
Design Pressure Available: 69 PSI

DESIGN ANALYSIS

FLOW
Maximum Station Flow: 23.31 GPM
Flow Available at POC: 25 GPM
Residual Flow Available: 1.69 GPM

PRESSURE
Critical Station: 13
Design Pressure: 30 PSI
Friction Loss: 2.43 PSI
Fittings Loss: 0.24 PSI
Elevation Loss: 0 PSI
Loss through Valve: 6.13 PSI
Pressure Req. at Critical Station: 38.8 PSI
Loss for Fittings: 0.24 PSI
Loss for Main Line: 2.44 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 13.8 PSI
Loss for Master Valve: 6.13 PSI
Loss for Water Meter: 3.19 PSI
Critical Station Pressure at POC: 64.6 PSI
Pressure Available: 69 PSI
Residual Pressure Available: 4.39 PSI

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
1	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	23.06	30	1.55	6.12	37.7	61.8	1.42 in/h
2	RAIN BIRD XCZ-100-PRF	1"	AREA FOR DRIPLINE	6.38	30	0.02	5.39	35.4	53.3	0.64 in/h
3	RAIN BIRD PGA GLOBE	1"	BUBBLER	13	30	0.99	5.93	36.9	57.6	3.4 in/h
4	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	22.68	30	0.87	6.11	37.0	62.8	0.77 in/h
5	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	22.17	30	0.43	6.09	36.5	62.1	1.4 in/h
6	RAIN BIRD PGA GLOBE	1"	BUBBLER	21	30	1.01	6.04	37.1	61.8	3.4 in/h
7	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	21.66	30	0.59	6.07	36.7	61.8	1.34 in/h
8	RAIN BIRD XCZ-100-PRF	1"	AREA FOR DRIPLINE	4.16	30	0.17	3.6	33.8	51	0.64 in/h
9	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	18.23	30	0.23	5.98	36.2	59.3	1.3 in/h
10	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	19.51	30	0.41	6	36.4	60.3	1.14 in/h
11	RAIN BIRD PGA GLOBE	1"	BUBBLER	19	30	0.99	5.99	37.0	60.6	3.4 in/h
12	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	22.2	30	0.76	6.09	36.8	62.5	1.14 in/h
13	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	23.31	30	2.67	6.13	38.8	64.6	1.06 in/h
14	RAIN BIRD XCZ-100-PRF	1"	AREA FOR DRIPLINE	2.51	30	0.01	2.9	32.9	49.9	0.96 in/h
15	RAIN BIRD PGA GLOBE	1"	BUBBLER	12	30	0.34	5.92	36.3	56.6	3.4 in/h
16	RAIN BIRD XCZ-100-PRF	1"	AREA FOR DRIPLINE	5.01	30	0.01	4.11	34.1	51.4	0.64 in/h

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN/WEEK	MIN/WEEK	GAL/WEEK	GAL/DAY
1	RAIN BIRD PGA GLOBE	TURF SPRAY	1.42 in/h	1.01	43	992	992
2	RAIN BIRD XCZ-100-PRF	AREA FOR DRIPLINE	0.64 in/h	0.75	70	447	447
3	RAIN BIRD PGA GLOBE	BUBBLER	3.4 in/h	0.75	14	182	182
4	RAIN BIRD PGA GLOBE	TURF SPRAY	0.77 in/h	1.01	79	1,792	1,792
5	RAIN BIRD PGA GLOBE	TURF SPRAY	1.4 in/h	1.01	44	975	975
6	RAIN BIRD PGA GLOBE	BUBBLER	3.4 in/h	0.75	14	294	294
7	RAIN BIRD PGA GLOBE	TURF SPRAY	1.34 in/h	1.01	46	996	996
8	RAIN BIRD XCZ-100-PRF	AREA FOR DRIPLINE	0.64 in/h	0.75	71	295	295
9	RAIN BIRD PGA GLOBE	TURF SPRAY	1.3 in/h	1.01	47	857	857
10	RAIN BIRD PGA GLOBE	TURF SPRAY	1.14 in/h	1.01	54	1,054	1,054
11	RAIN BIRD PGA GLOBE	BUBBLER	3.4 in/h	0.75	14	266	266
12	RAIN BIRD PGA GLOBE	TURF SPRAY	1.14 in/h	1.01	54	1,199	1,199
13	RAIN BIRD PGA GLOBE	TURF SPRAY	1.06 in/h	1.01	58	1,352	1,352
14	RAIN BIRD XCZ-100-PRF	AREA FOR DRIPLINE	0.96 in/h	0.75	47	118	118
15	RAIN BIRD PGA GLOBE	BUBBLER	3.4 in/h	0.75	14	168	168
16	RAIN BIRD XCZ-100-PRF	AREA FOR DRIPLINE	0.64 in/h	0.75	70	351	351
		TOTALS:			739	11,337	11,337

Contact Name and Address:

City of San Antonio
Development Services
114 W. Commerce St. Suite 1113
PO BOX 839966
San Antonio, TX 78283-3966

September 22, 2023

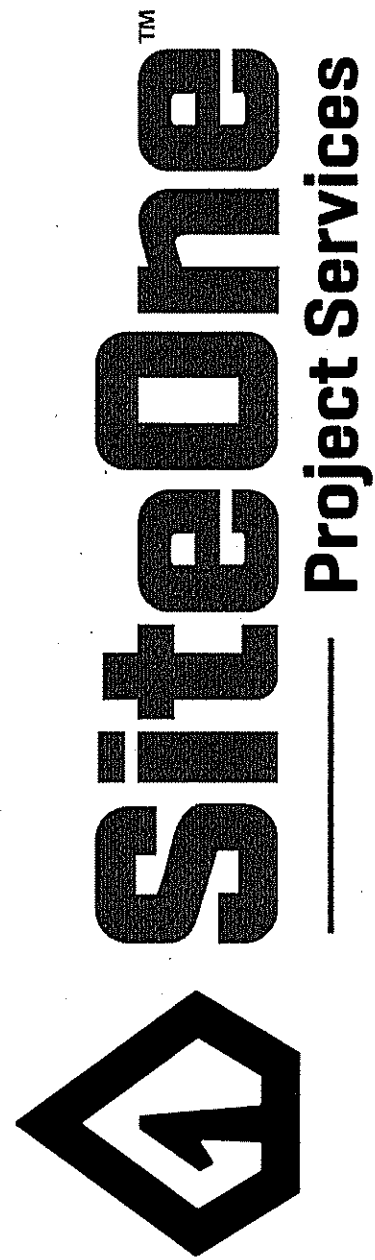
To Whom It May Concern:

I, _____, a licensed irrigator in the State of Texas do certify that the irrigation plan submitted conforms to the irrigation design and equipment standards set out in 35-510(j) and 35-511(c)(6) of the City of San Antonio Unified Development Code and also complies with the requirements of Chapter 344, 344.72-344.77 of the Texas Administrative Code.

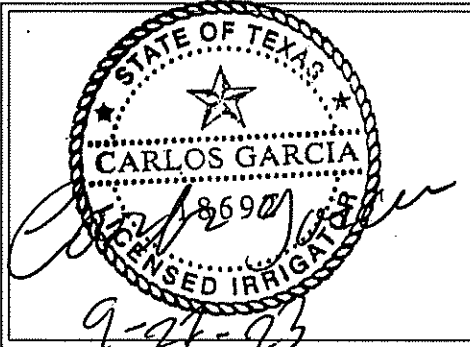
If further information is needed please feel free to contact me at _____

Yours Truly,

Licensed Irrigator # _____



www.projects-services.siteone.com



PROJECT NAME

THE NACOGDOCHES PROJECT
15711 NACOGDOCHES ROAD
SAN ANTONIO, TEXAS

Project Title

LEGEND & NOTES

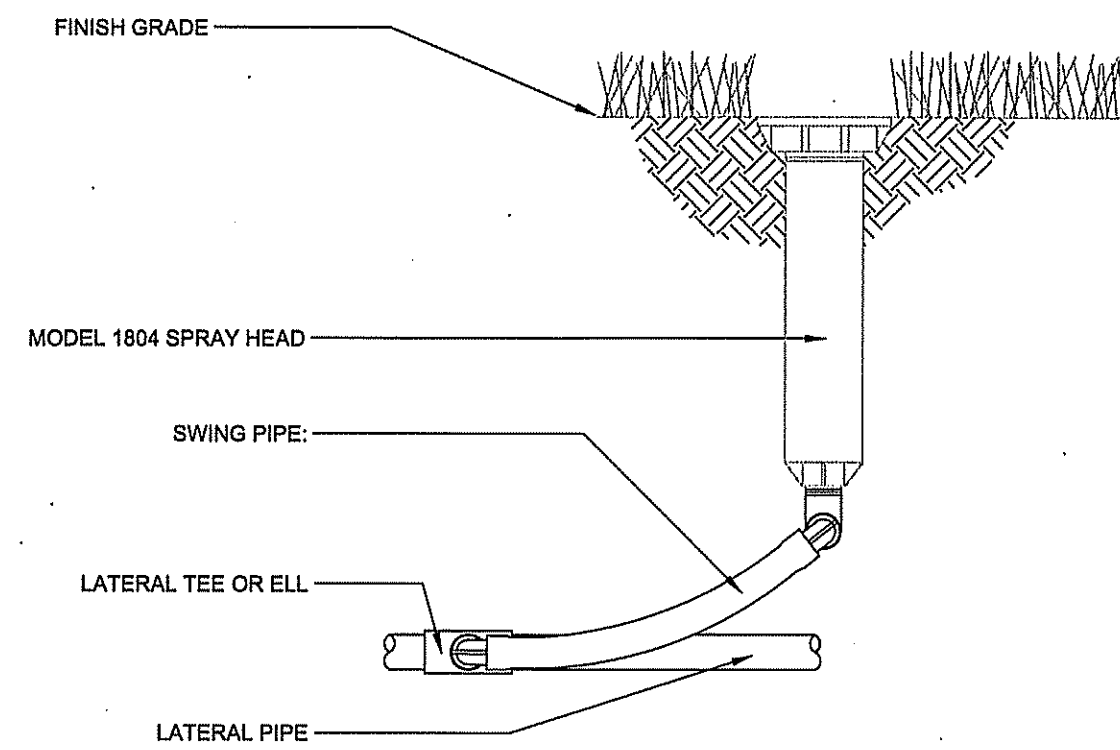
Project Number: 333338
Design Date: 08/16/2023
Drawn By: RKS
Checked By:
Drawing Scale: N.T.S.

Revisions	Date
1.	
2.	09/22/2023
3.	
4.	
5.	
6.	
7.	
8.	

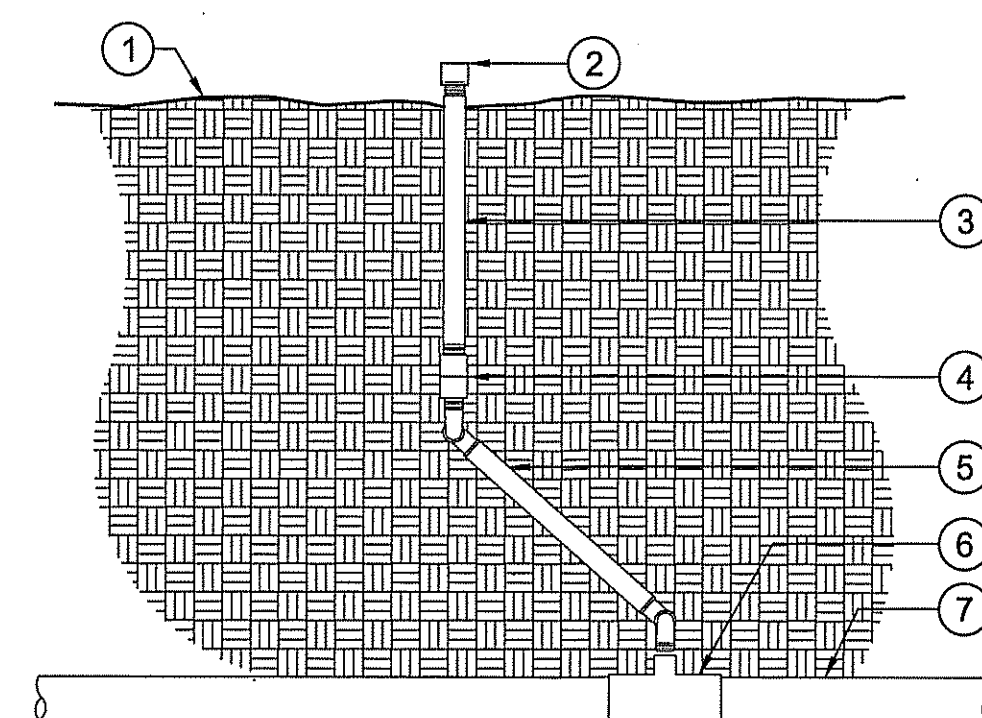
Sheet Number:

IR-2

Sheet: 20F 3



1 1804 SPRAY HEAD WITH SWING PIPE

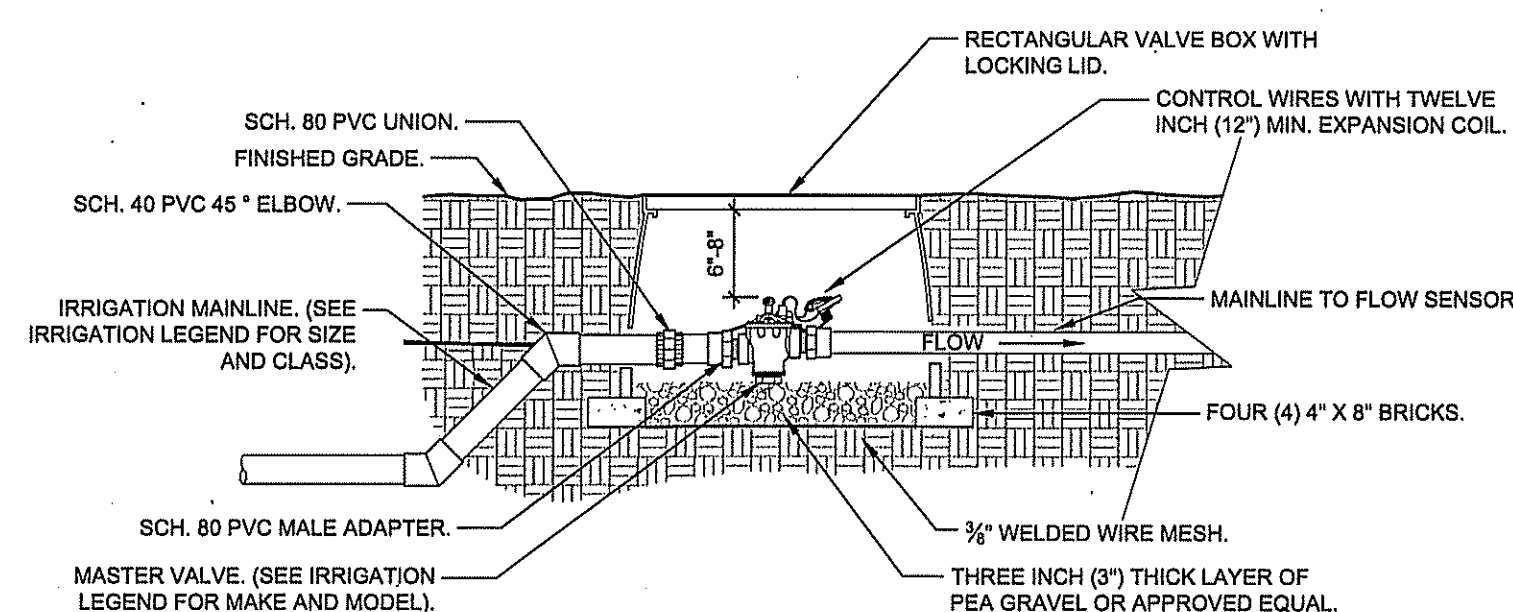


NOTES:

- SEE IRRIGATION LEGEND FOR LATERAL LINE SIZE AND TYPE.
- ALL IRRIGATION FITTINGS SHALL BE SCH. 40 PVC UNLESS SPECIFIED OTHERWISE.
- ALL THREADED CONNECTIONS FROM SCH. 80 TO SCH. 40 PVC SHALL BE MADE USING TEFLON TAPE.
- CONTRACTOR SHALL SETTLE THE AREA AROUND THE BUBBLER AFTER INSTALLATION.

- FINISHED GRADE
- BUBBLER TO BE 1" ABOVE FINISHED GRADE
- ONE, 1/2" SCH. 80 PVC THREADED NIPPLE
- ONE, 1/2" SCH. 80 PVC THREADED COUPLING
- SWING JOINT (SEE DETAIL)
- SCH. 40 PVC THREADED TEE OR ELBOW.
- LATERAL LINE

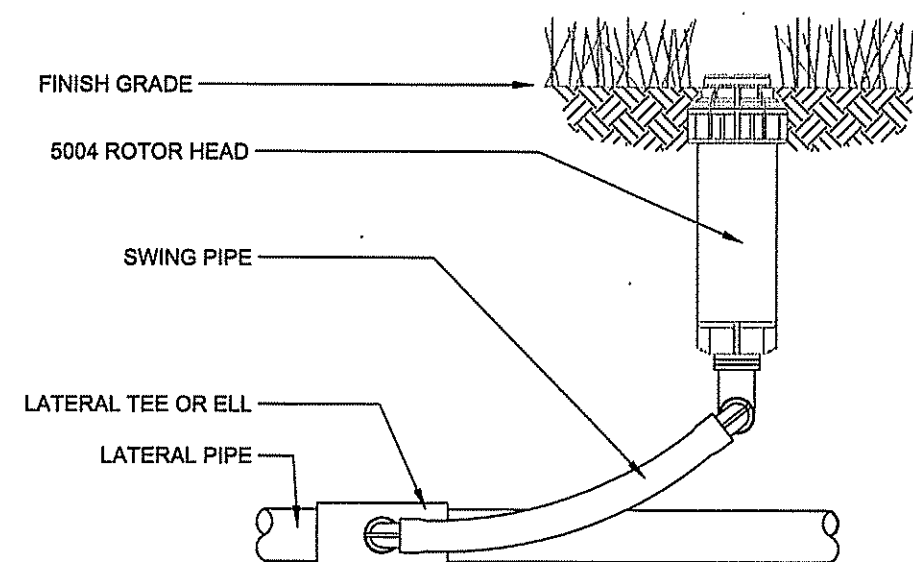
5 BUBBLER ON RISER



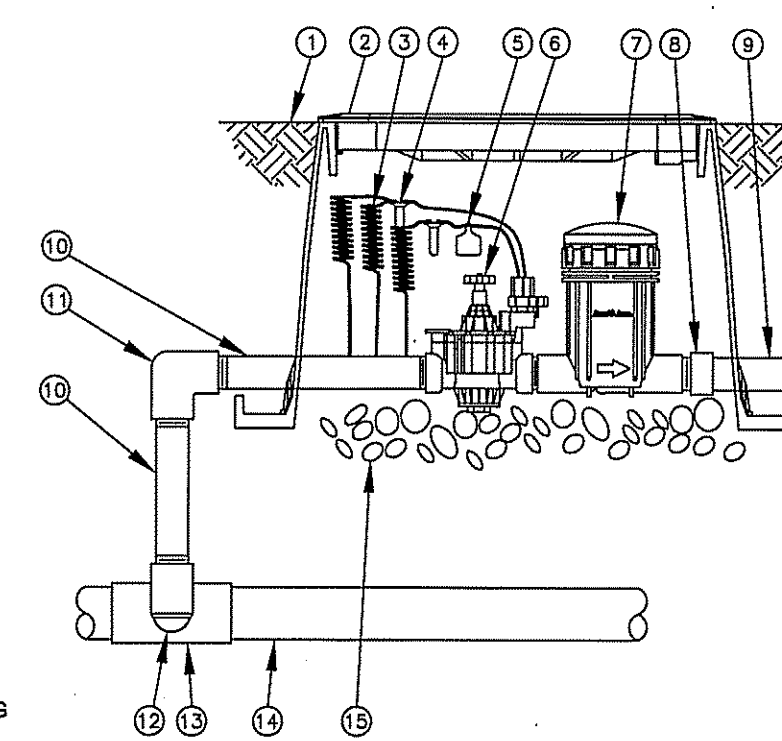
NOTES:

- MASTER VALVE SHALL BE MAKE AND MODEL NUMBER AS PRESCRIBED PER THE CONTROLLER MANUFACTURER'S SPECIFICATIONS.
- INSTALL MASTER VALVE PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- MASTER VALVE WIRE SHALL BE 14 AWG OR LARGER, COLOR: BLACK.
- ALL WIRE RUNS SHALL BE CONTINUOUS WITHOUT ANY SPLICES. WIRE CONNECTIONS SHALL BE MADE USING DBR-YE CONNECTORS OR APPROVED EQUAL.
- WRAP VALVE BOX WITH MIN. 3 MIL. THICK PLASTIC AND SECURE IT TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
- SEE MASTER VALVE/ FLOW SENSOR DETAIL FOR LINEAR DIMENSIONS.
- VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS.

9 MASTER VALVE



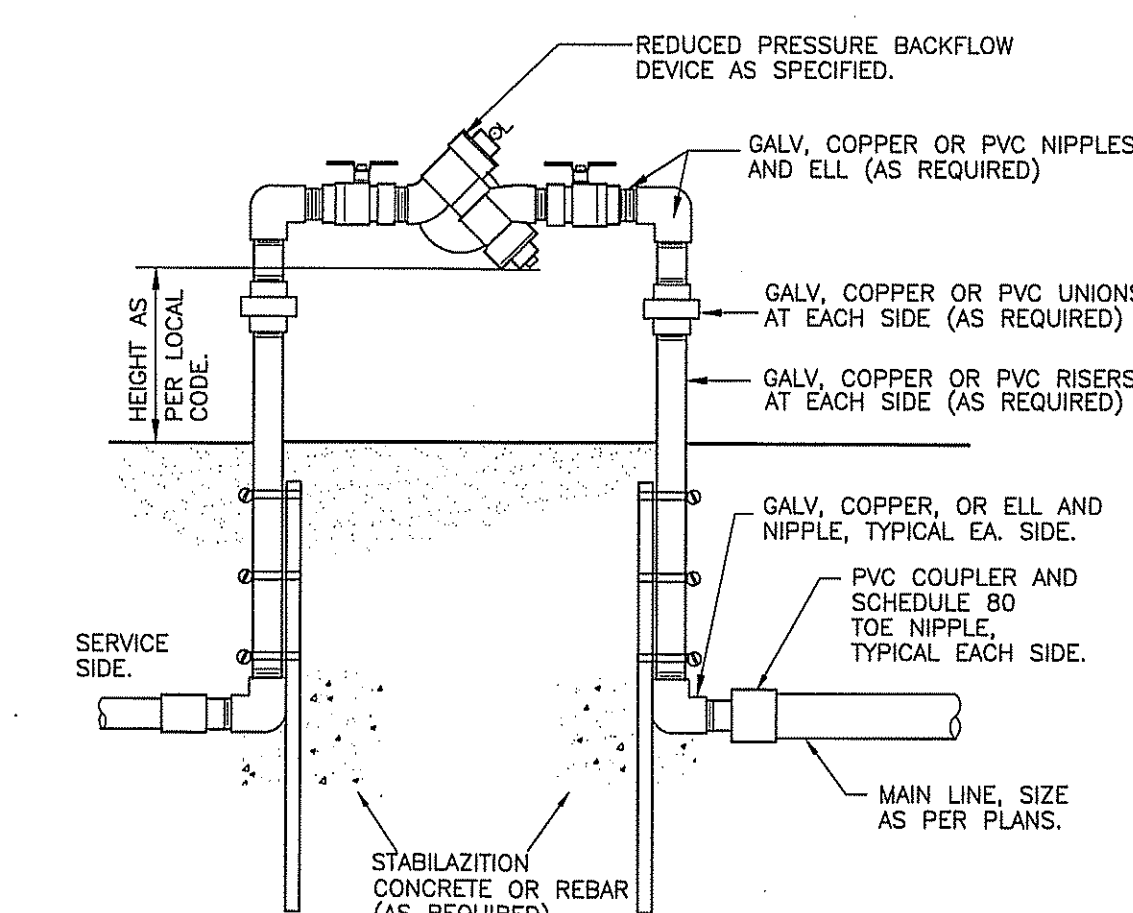
2 5004 ROTOR HEAD WITH SWING PIPE



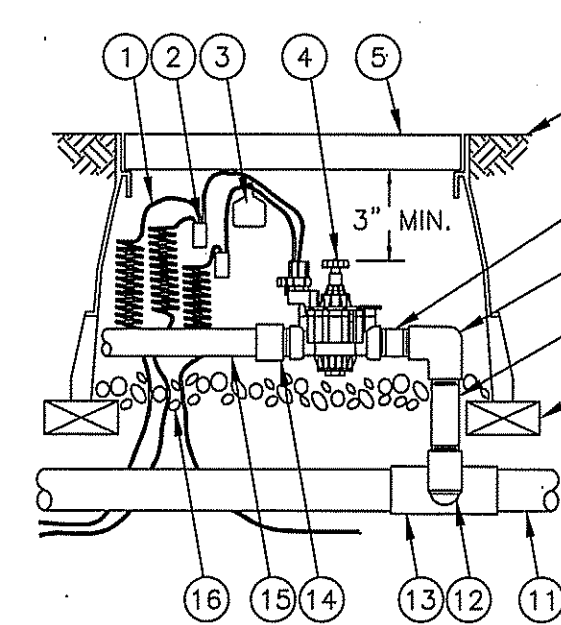
- FINISH GRADE/TOP OF MULCH
- VALVE BOX WITH COVER: RAIN BIRD VB-STD
- 30-INCH LINEAR LENGTH OF WIRE, COILED
- WATERPROOF CONNECTION: RAIN BIRD DB SERIES
- ID TAG
- REMOTE CONTROL VALVE: RAIN BIRD 100-PGA (INCLUDED IN CXZ-100-PRB-LC KIT)
- PRESSURE REGULATING BASKET FILTER: RAIN BIRD PRB-100 (INCLUDED IN CXZ-100-PRB-LC KIT)
- PVC SCH 40 FEMALE ADAPTOR
- LATERAL PIPE
- PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- PVC SCH 40 ELL
- PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
- PVC SCH 40 TEE OR ELL
- MAINLINE PIPE
- 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

6 XCZ-100-PRB-LC 1" CONTROL ZONE KIT

INSTALLATION MAY DIFFER PER LOCAL CODE

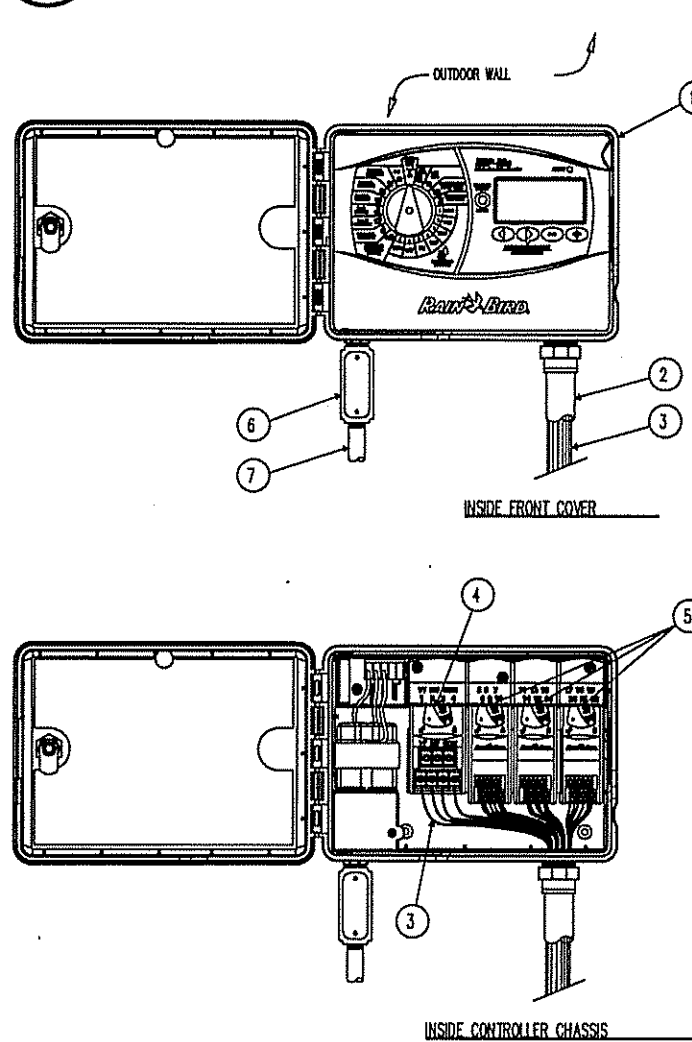


10 REDUCED PRESSURE BACKFLOW DEVICE STANDARD



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

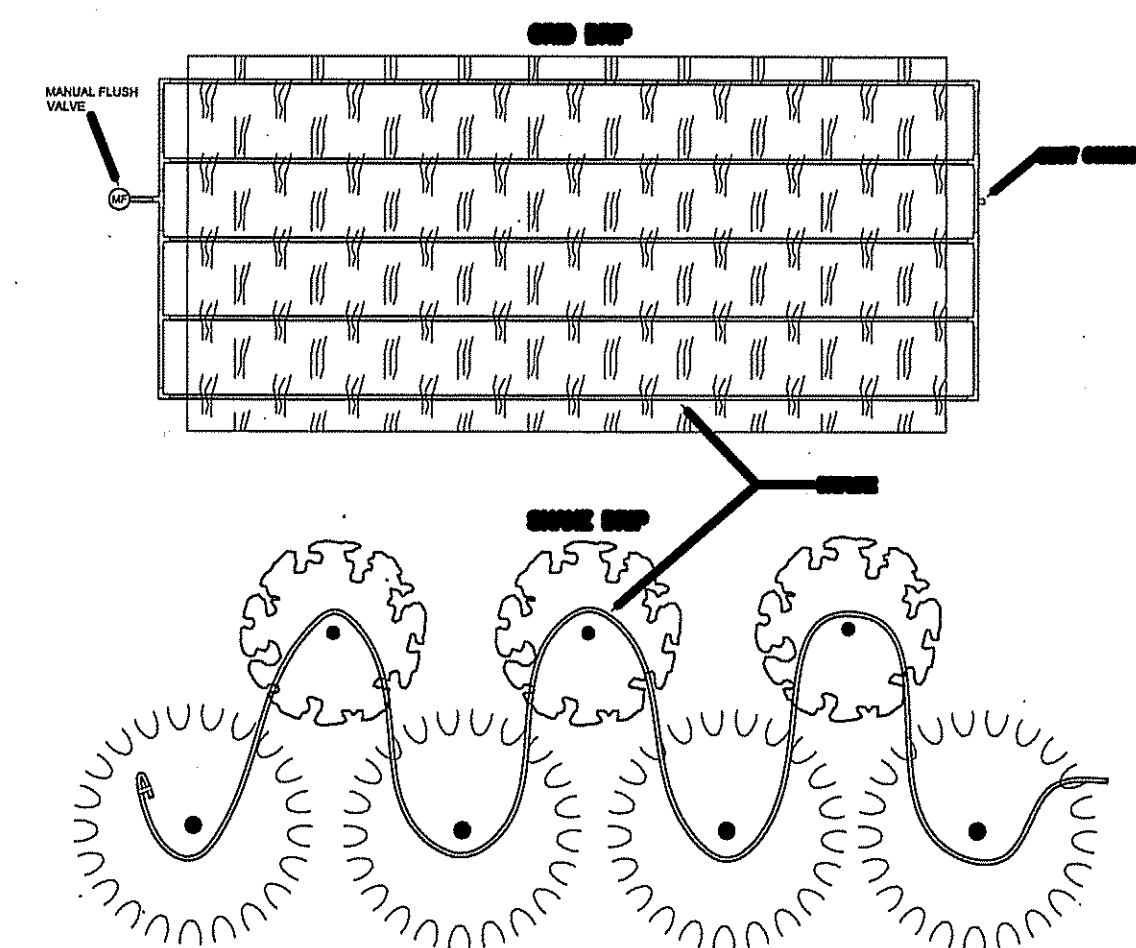
3 PGA SERIES ELECTRIC VALVE



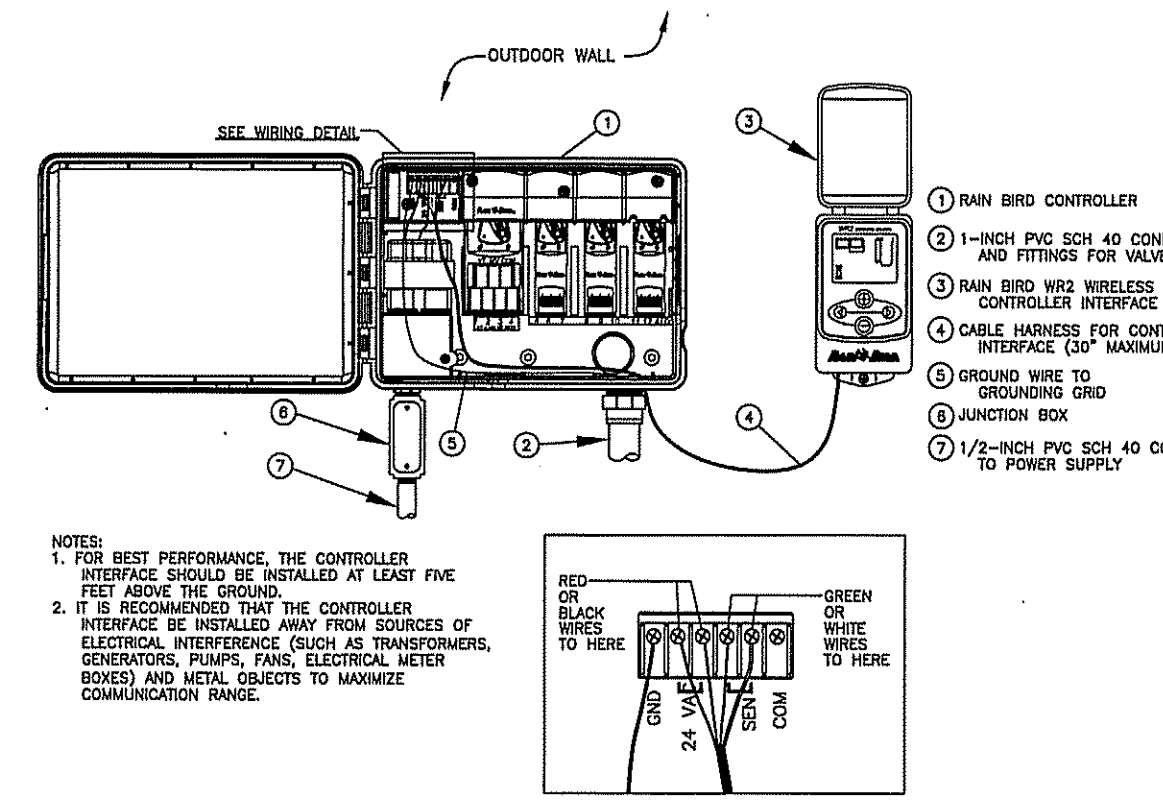
- GENERAL NOTES:
- MODULAR HYBRID CONTROLLER: RAIN BIRD ESP4ME OUTSIDE WALL MOUNT
 - 1-INCH PVC SCH 40 CONDUIT AND FITTINGS
 - WIRES TO REMOTE CONTROL VALVES
 - STANDARD MODULE FOR 1-STATION CONTROLLER
 - OPTIONAL MODULES FOR 22-STATION CONTROLLER
 - JUNCTION BOX
 - 1/2-INCH PVC SCH 40 CONDUIT TO POWER SUPPLY

- CHOOSING CONTROLLER FEATURES
- SELECTING THE MODEL TO SELECT THE DESIRED MODEL TURN ON ONE OF THE FOLLOWING LAYERS:
- OPTION-4-STATION
OPTION-7-STATION
OPTION-10-STATION
OPTION-13-STATION
OPTION-16-STATION
OPTION-19-STATION
OPTION-22-STATION
- TO SELECT "INDOOR" OR "OUTDOOR" OPTION, TURN ON ONE OF THE FOLLOWING LAYERS:
- OPTION-INDOOR
OPTION-OUTDOOR
- TO TURN OFF THIS INSTRUCTION BOX, TURN OFF LAYER "INSTRUCTION-BOX".

7 ESP4ME MODULAR CONTROLLER



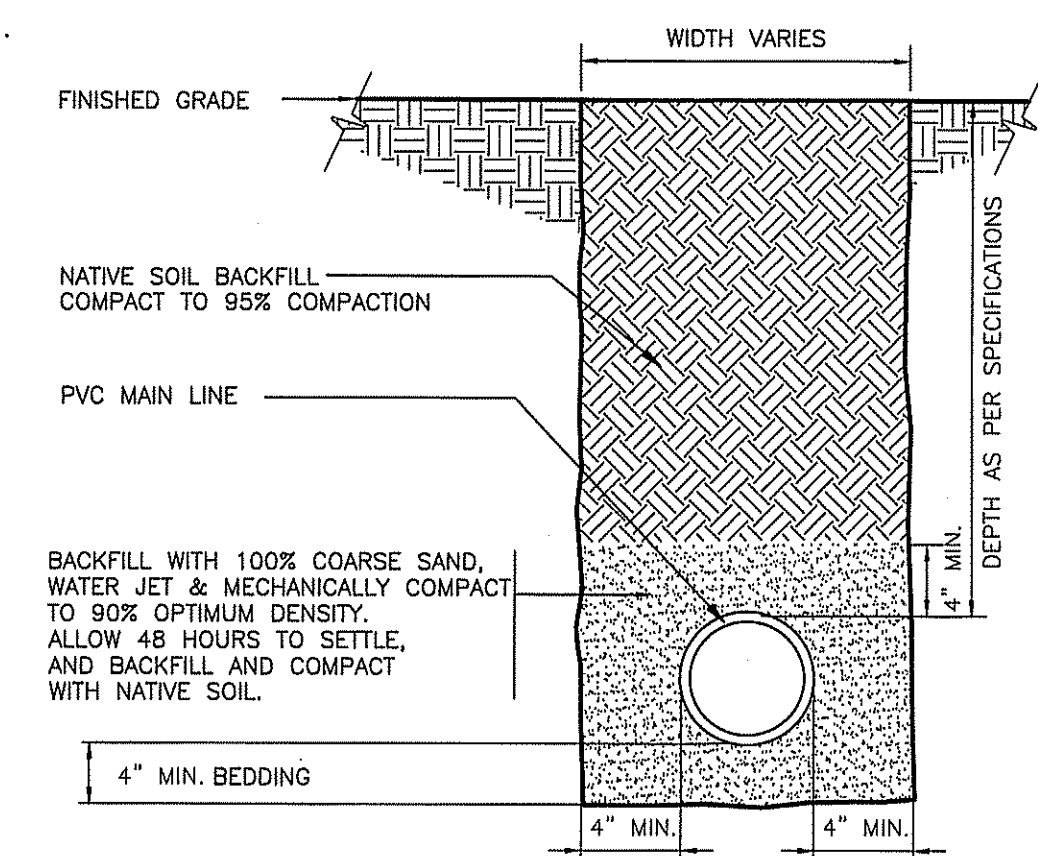
4 TYPICAL DRIP TUBING LAYOUT



NOTES:

- FOR BEST PERFORMANCE, THE CONTROLLER INTERFACE SHOULD BE INSTALLED AT LEAST FIVE FEET ABOVE THE GROUND.
- IT IS RECOMMENDED THAT THE CONTROLLER INTERFACE BE INSTALLED AWAY FROM SOURCES OF ELECTRICAL INTERFERENCE (MULCH AS TRANSFORMERS, GENERATORS, PUMPS, FANS, ELECTRICAL METER BOXES) AND METAL OBJECTS TO MAXIMIZE COMMUNICATION RANGE.

8 WR2 WIRELESS RAIN SENSOR



12 SLEEVE AT ROAD