

HARVEY
CONSULTING



SANDPIPER GOLF CLUB
SANTA BARBARA, CALIFORNIA
PRELIMINARY DESIGN

SHEET
I-1

I-1	Title Sheet
I-2	Preliminary Golf Course Irrigation
I-3	Preliminary Landscape Irrigation
I-4	Irrigation Details
I-5	Irrigation Details

PROJECT INFORMATION	
Project Applicant:	
Name of Project Applicant	Phone No.
Sandpiper Golf Trust, LLC c/o Cathy Hwang	805-689-8100
Title	Email
	wemedelco@verizon.net
Company	Fax No.
Address (must include City, State and Zip Code)	
280 Chestnut Ave, Westmont, IL 60559	

Hydrozone Category ^(a)	PF- Plant Factor	Irrigation Method ^(b)	IE- Irrigation Efficiency ^(c)
Very Low Water Use	0.0 - 0.1	Filter Pipe for Pools/Spas	1.00
Low Water Use*	0.2 - 0.3	Drip/Subsurface	0.90
Moderate Water Use	0.4 - 0.6	Bubbler	0.85
High Water Use	0.7 - 1.0	Rotors	0.75
		Rotators	0.70
		Overhead Spray	0.60

*Artificial turf and temporarily irrigated areas are considered Low Water Use.

ET_o - see Appendix A in Water Efficient Landscape Design Manual.
0.62 is the conversion factor to gallons per sq. ft.
ETAF is Plant Factor/Irrigation Efficiency.
Area is the Landscaped Area for each hydrozone.

LA is the total landscape of all hydrozone areas in sq. ft.
SLA is the total special landscape area in square feet.
ETAF is 0.42 for residential and non-residential areas.

Hydrozone # / Planting Description ^(a)	Plant Factor (PF)	Irrigation Method ^(b)	Irrigation Efficiency (IE) ^(c)	ETAF (PF/IE)	Landscape Area In Square Feet	ETAF x Area	Estimated Total Water Use (ETWU) ^(d)
Regular Landscape Areas							
# Temporary Irrigation (Grassess)	0.20	Golf Rotor	0.75	0.27	2,265,120	611,582	16,228,940
# Shrubs	0.20	Drip	0.90	0.22	272,250	59,895	1,589,374
# Riparian Areas	0.50	Drip/Rotor	0.80	0.625	236,300	147,888	3,919,048
# Sand Waste Areas	0				525,700	0	0
#							
#							
# *							
#							
#							
#							
				Totals	(A) 3,259,370	(B) 819,165	819,165
Special Landscape Areas							
# Recreational Turf				1.0	2,863,180	2,863,180	75,711,984
#				1.0			
#				1.0			
#				1.0			
				Totals	(C) 2,863,180	(D) 2,863,180	
Estimated Total Water Use (ETWU) Total						97,449,346	
Maximum Water Allowance (MAWA)^(e)						112,012,711	
Irrigation Efficiency (IE) Average**						0.83	

Average ETAF for Regular Landscape Areas must be 0.42 or below for residential and non-residential areas.
Provide Totals based on information calculated in Worksheet above.

Regular Landscape Areas		Totals	All Landscape Areas		Totals
Total ETAF x Area	(B) =	819,165	Total ETAF x Area	(B+D) =	3,672,345
Total Area	(A) =	3,259,370	Total Area	(A+C) =	6,112,550
Average ETAF	(B) ÷ (A) =	0.25	Site wide ETAF	(B+D) ÷ (A+C) =	0.60

IRRIGATION SYSTEM IMPROVEMENTS

PRELIMINARY GOLF COURSE IRRIGATION

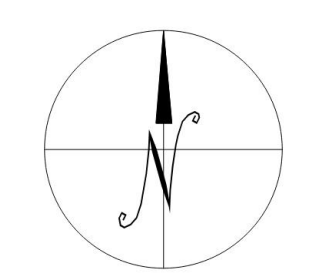
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23741 MOONGLOW COURT
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TELEPHONE 760.787.0842
BRENT HARVEY, PRINCIPAL



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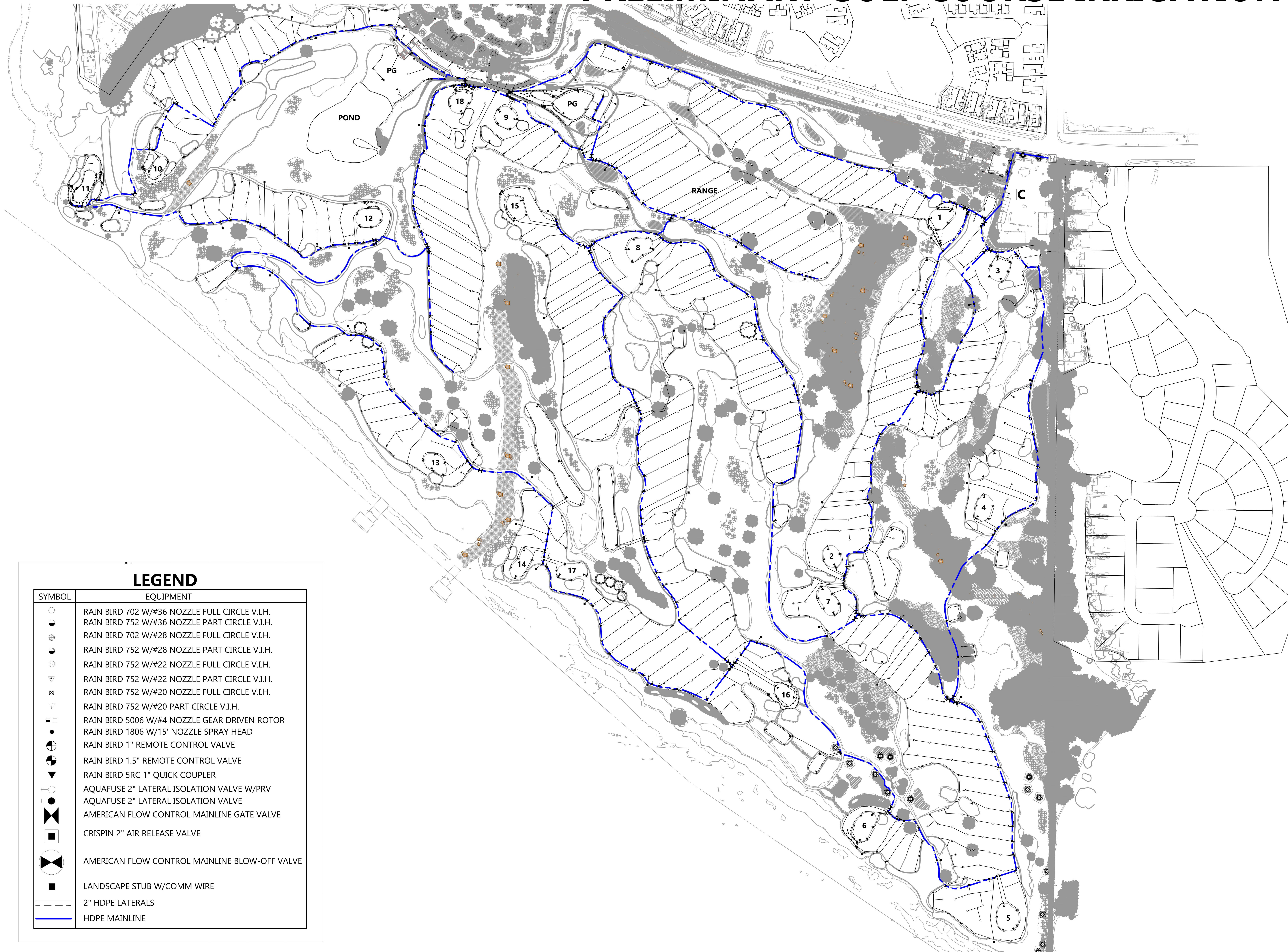
Drawn : TJH
Checked : BAH
Project # : 560
Date : 7/25/23
Scale : N.T.S.

Revisions



**PRELIMINARY
DESIGN**

**SHEET
I-2**



LEGEND

SYMBOL	EQUIPMENT
	RAIN BIRD 702 W/#36 NOZZLE FULL CIRCLE V.I.H.
	RAIN BIRD 752 W/#36 NOZZLE PART CIRCLE V.I.H.
	RAIN BIRD 702 W/#28 NOZZLE FULL CIRCLE V.I.H.
	RAIN BIRD 752 W/#28 NOZZLE PART CIRCLE V.I.H.
	RAIN BIRD 752 W/#22 NOZZLE FULL CIRCLE V.I.H.
	RAIN BIRD 752 W/#22 NOZZLE PART CIRCLE V.I.H.
	RAIN BIRD 752 W/#20 NOZZLE FULL CIRCLE V.I.H.
	RAIN BIRD 752 W/#20 PART CIRCLE V.I.H.
	RAIN BIRD 5006 W/#4 NOZZLE GEAR DRIVEN ROTOR
	RAIN BIRD 1806 W/15' NOZZLE SPRAY HEAD
	RAIN BIRD 1" REMOTE CONTROL VALVE
	RAIN BIRD 1.5" REMOTE CONTROL VALVE
	RAIN BIRD 5RC 1" QUICK COUPLER
	AQUAFUSE 2" LATERAL ISOLATION VALVE W/PRV
	AQUAFUSE 2" LATERAL ISOLATION VALVE
	AMERICAN FLOW CONTROL MAINLINE GATE VALVE
	CRISPIN 2" AIR RELEASE VALVE
	AMERICAN FLOW CONTROL MAINLINE BLOW-OFF VALVE
	LANDSCAPE STUB W/COMM WIRE
	2" HDPE LATERALS
	HDPE MAINLINE

PRELIMINARY LANDSCAPE IRRIGATION

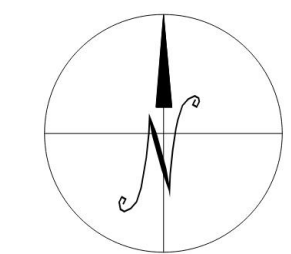
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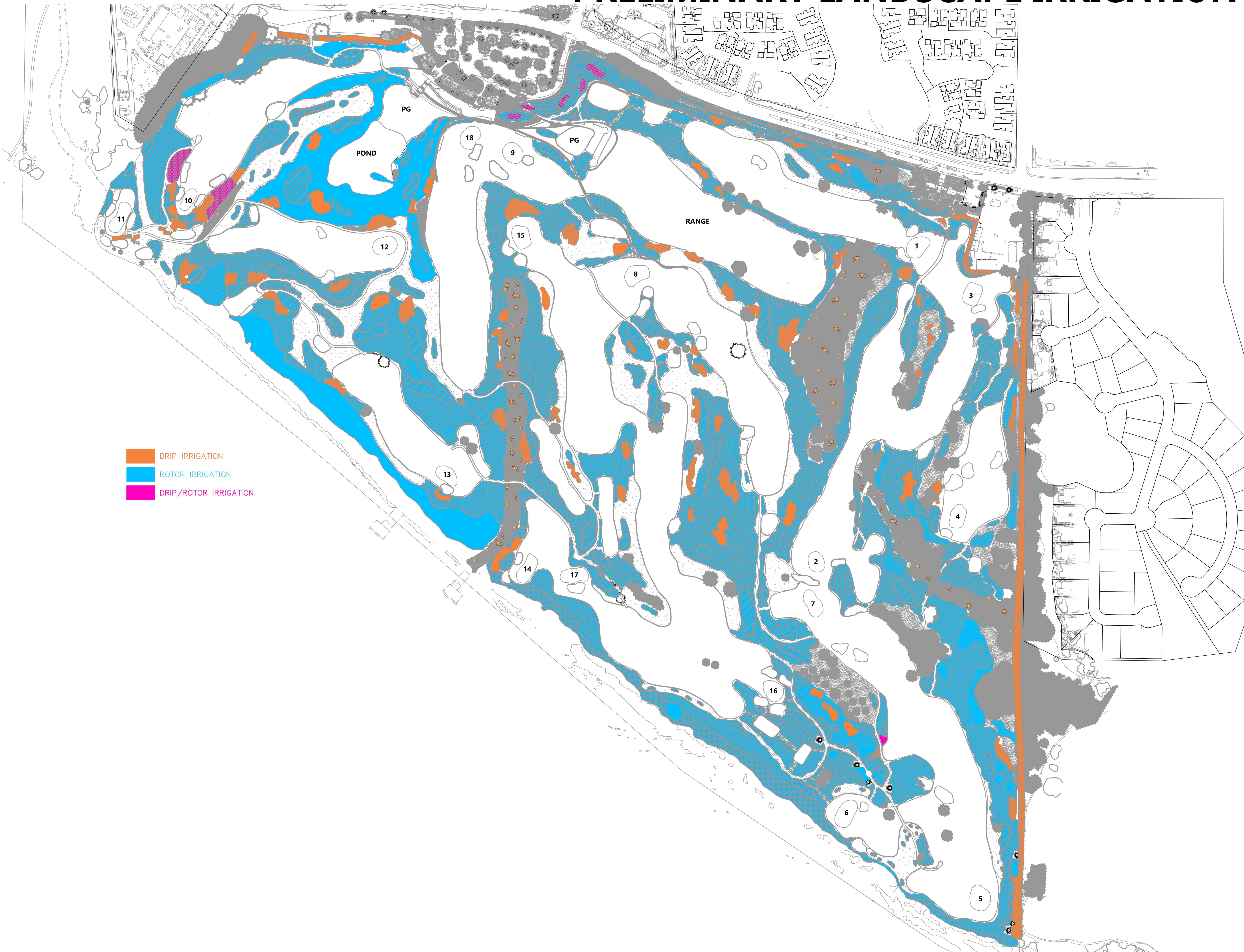
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Revisions



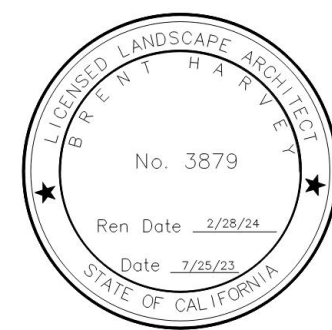
**PRELIMINARY
DESIGN**

**SHEET
I-3**



DRIP IRRIGATION
ROTOR IRRIGATION
DRIP/ROTOR IRRIGATION

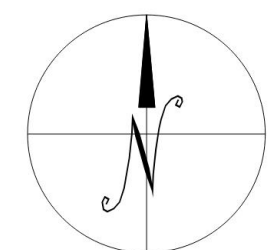
IRRIGATION DETAILS



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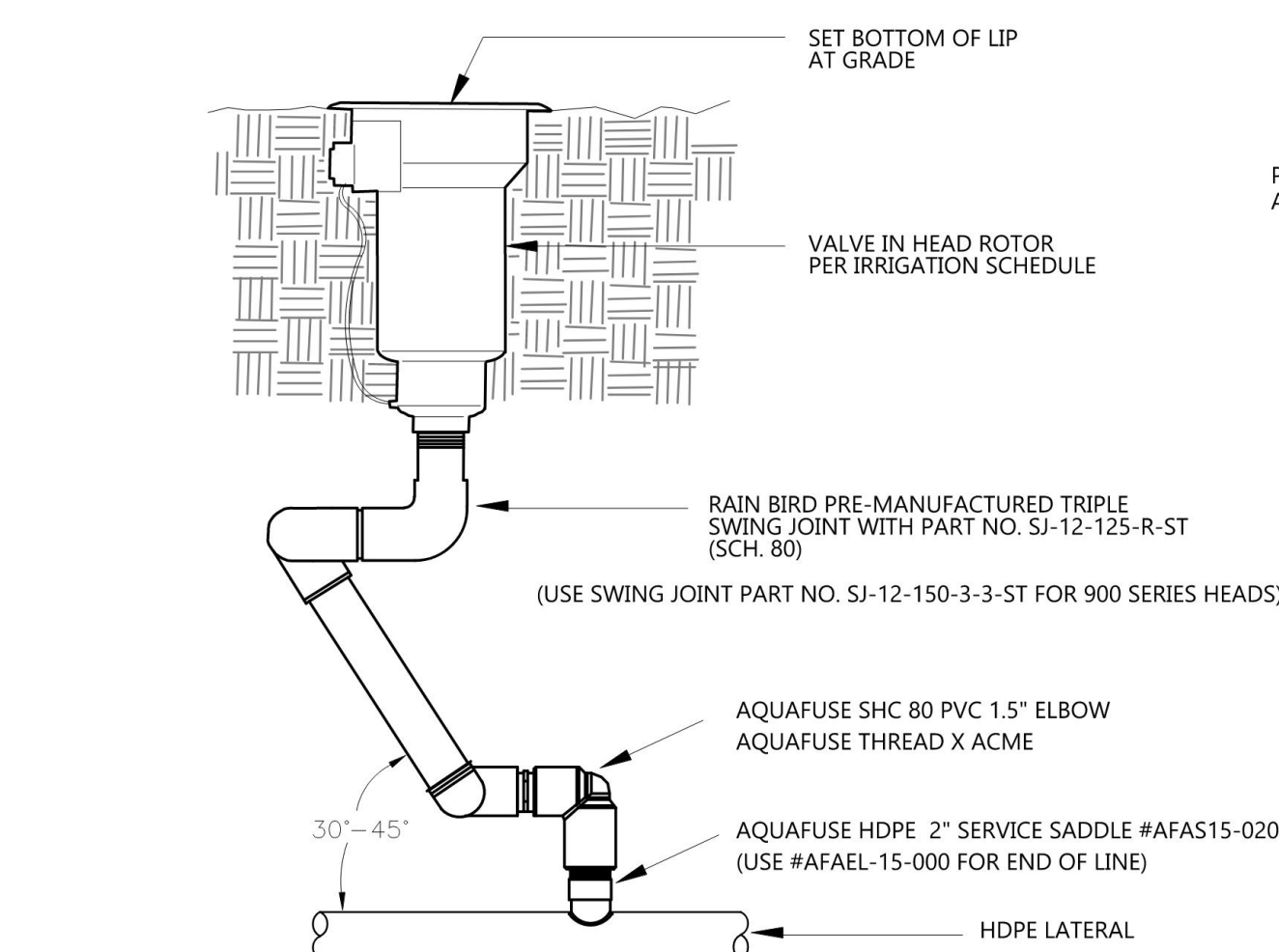
Revisions



**IRRIGATION
DETAILS**

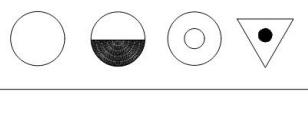
SHEET

I-4



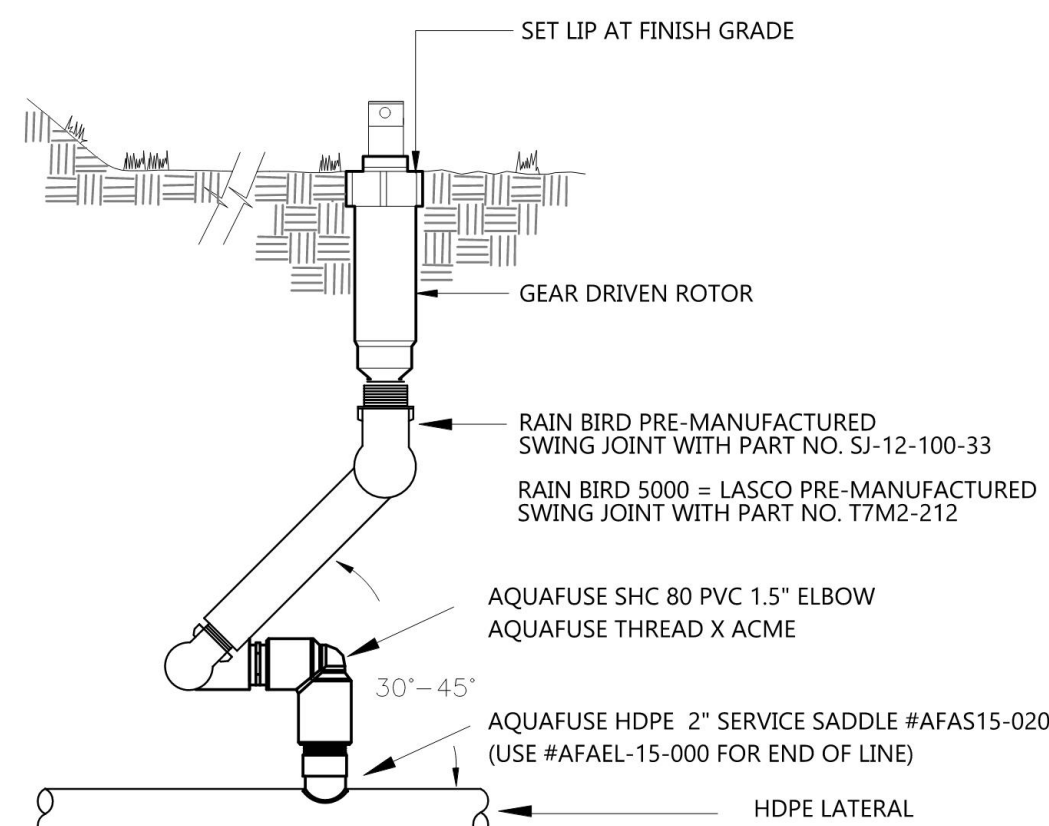
VALVE IN HEAD ROTOR (HDPE)

NTS



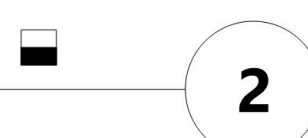
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PT# 75-353886 (USE HARCO PT# 75-32386 ELBOW
AT ENDS OF LATERAL LINES IN PLACE OF TEE).

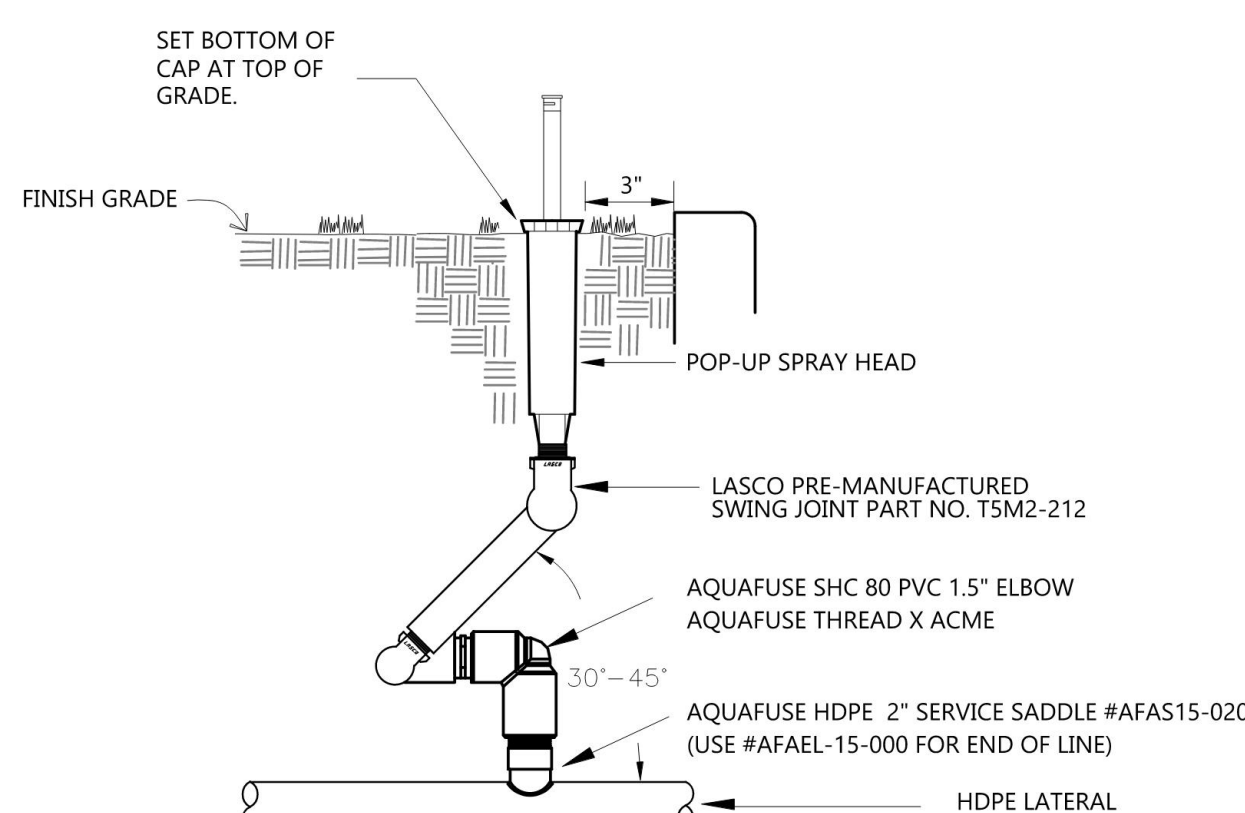


GEAR DRIVEN ROTOR (HDPE)

NTS



2

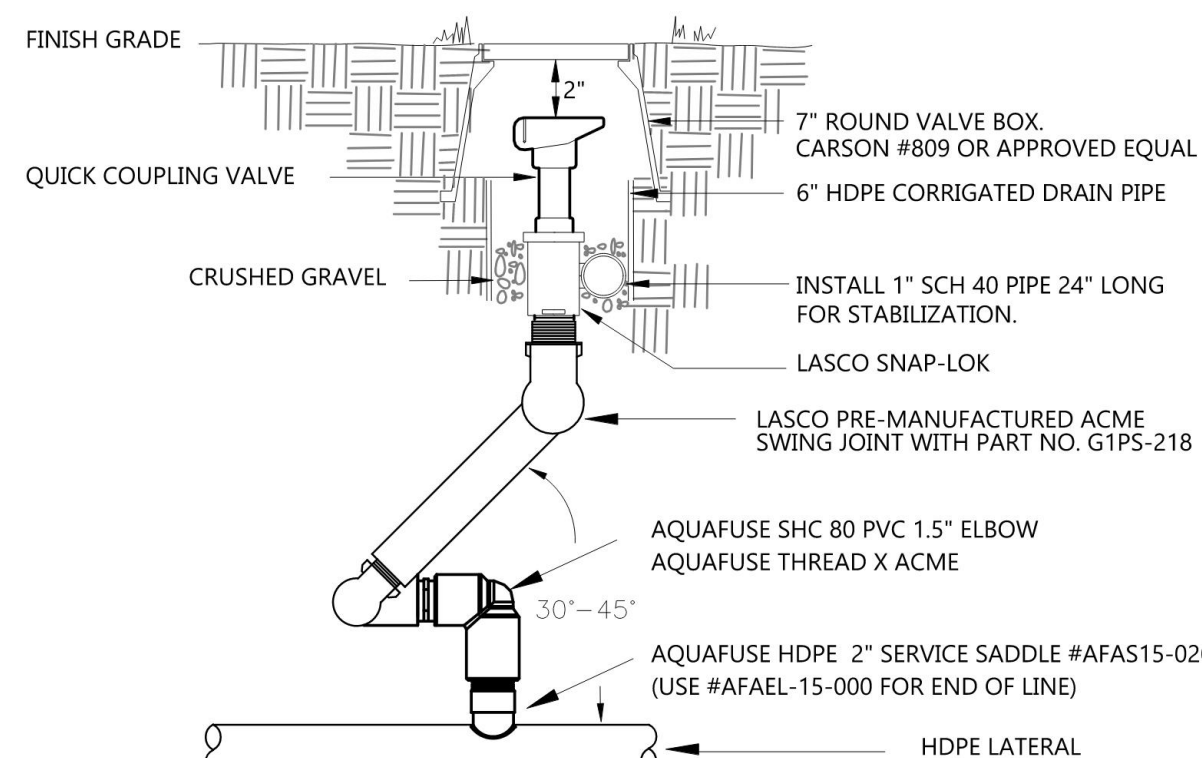


POP-UP SPRAY (HDPE)

NTS

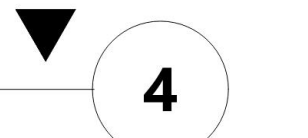


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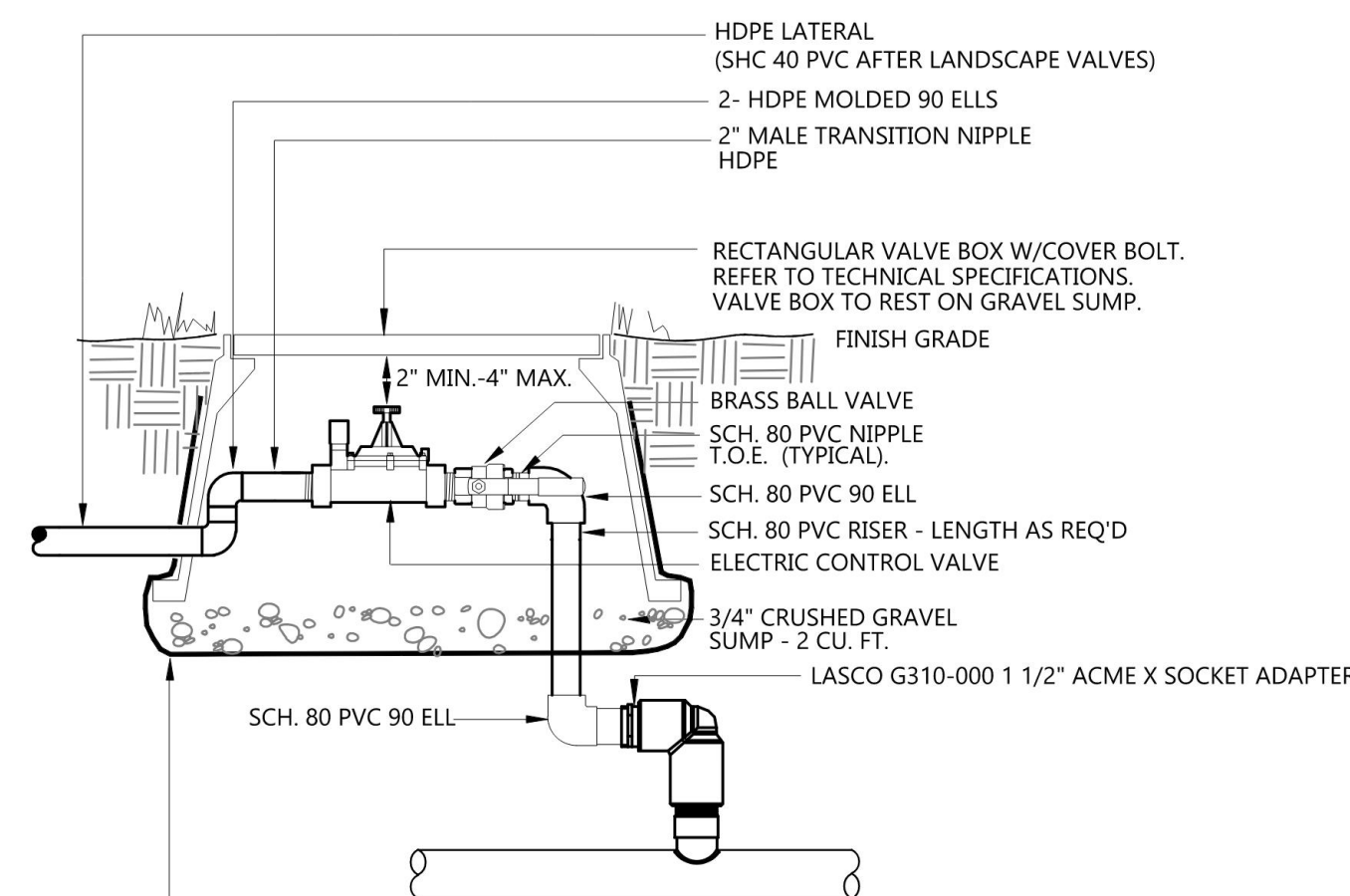


QUICK COUPLING VALVE (HDPE)

NTS

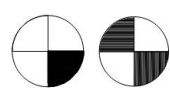


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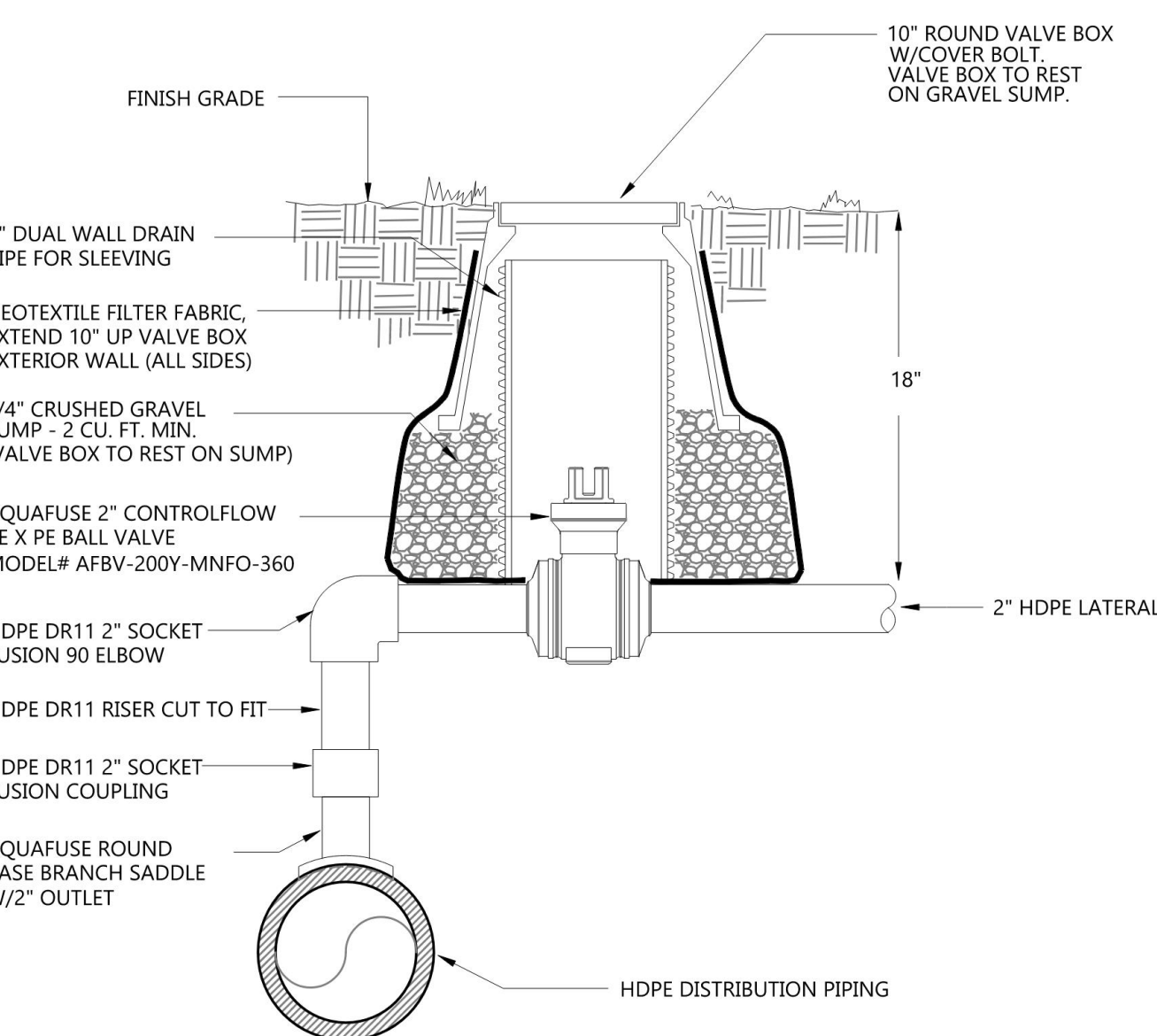


ELECTRIC CONTROL VALVE (HDPE)

NTS



5

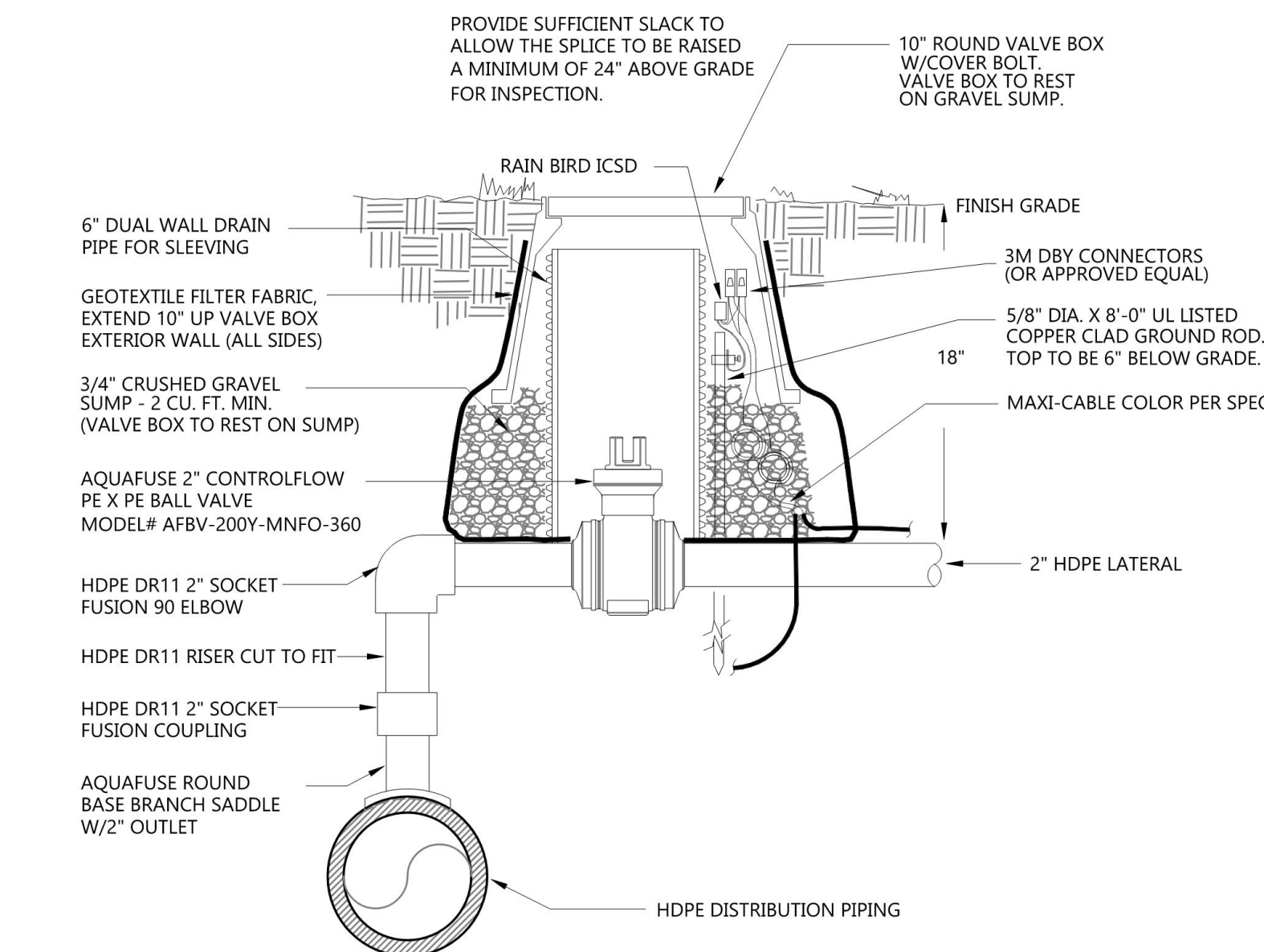


LATERAL ISOLATION VALVE (HDPE)

NTS

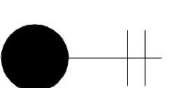


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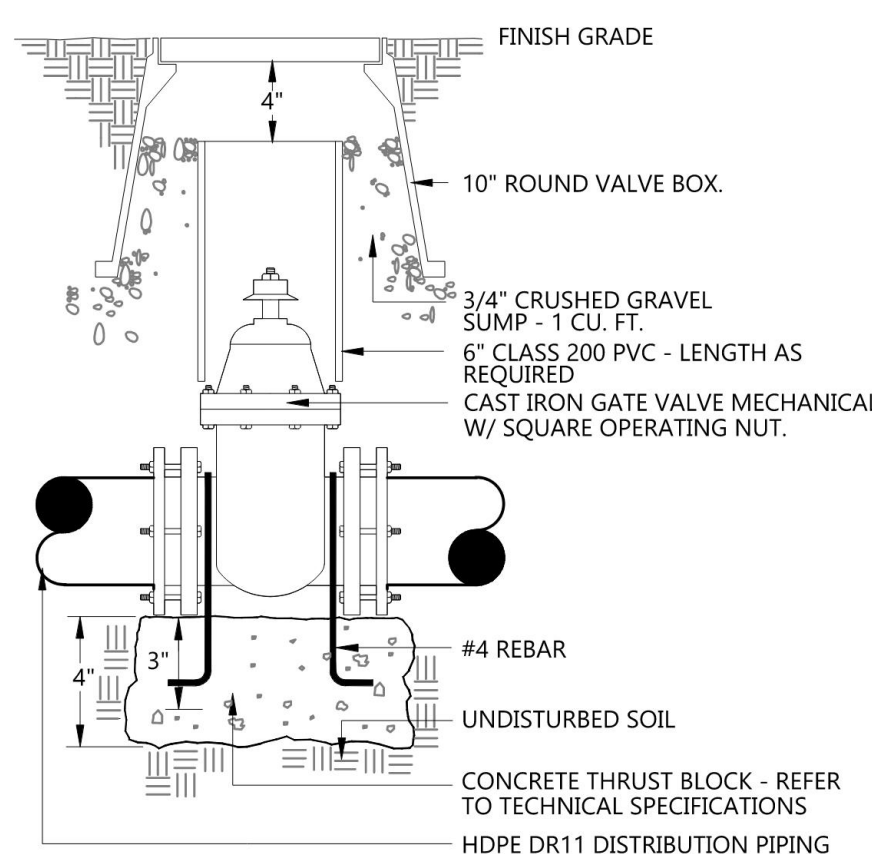


LATERAL ISOLATION VALVE W/GROUND ROD (HDPE)

NTS



7

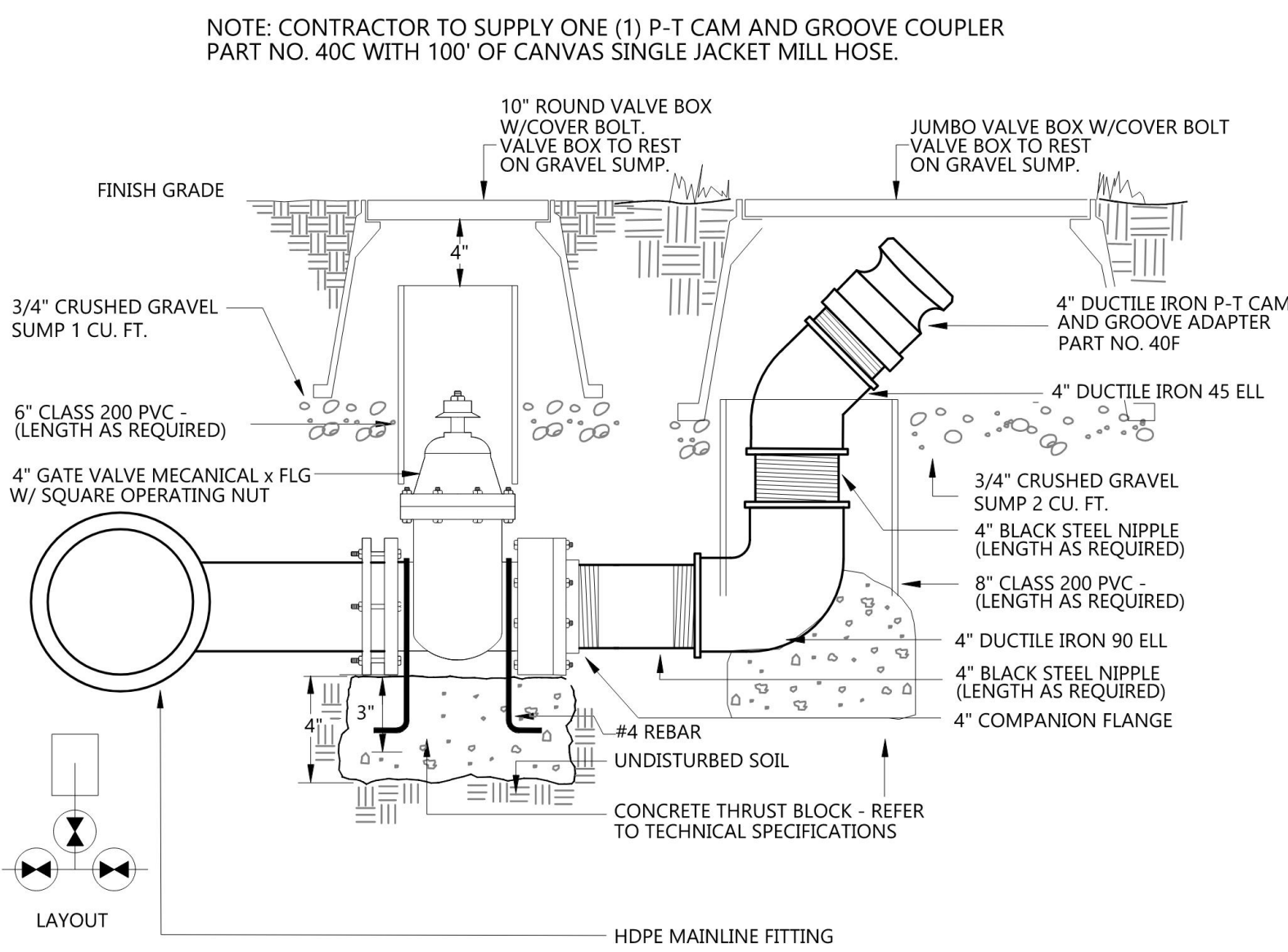


GATE VALVE (HDPE)

NTS



8

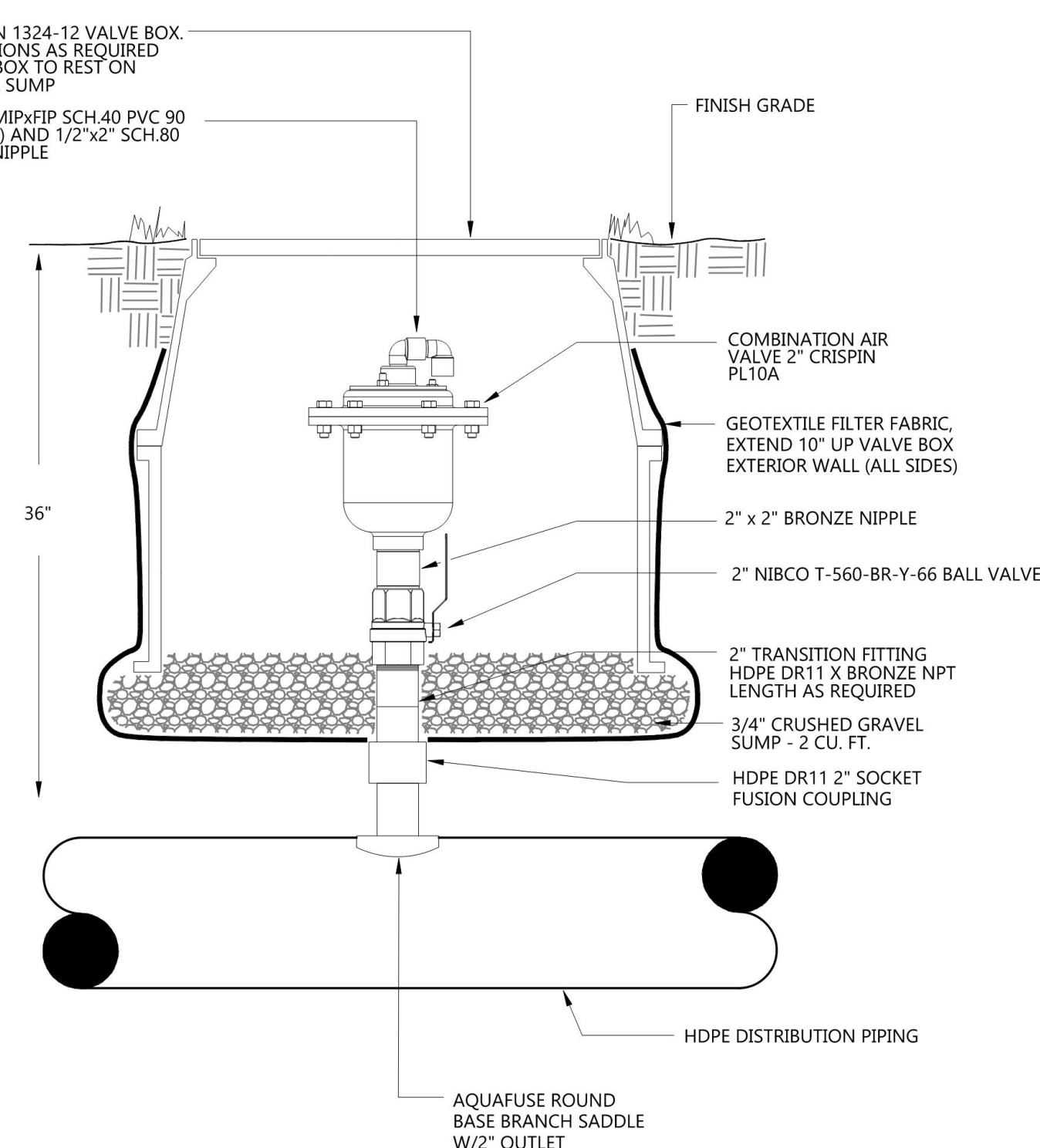


BLOW-OFF VALVE (HDPE)

NTS



9

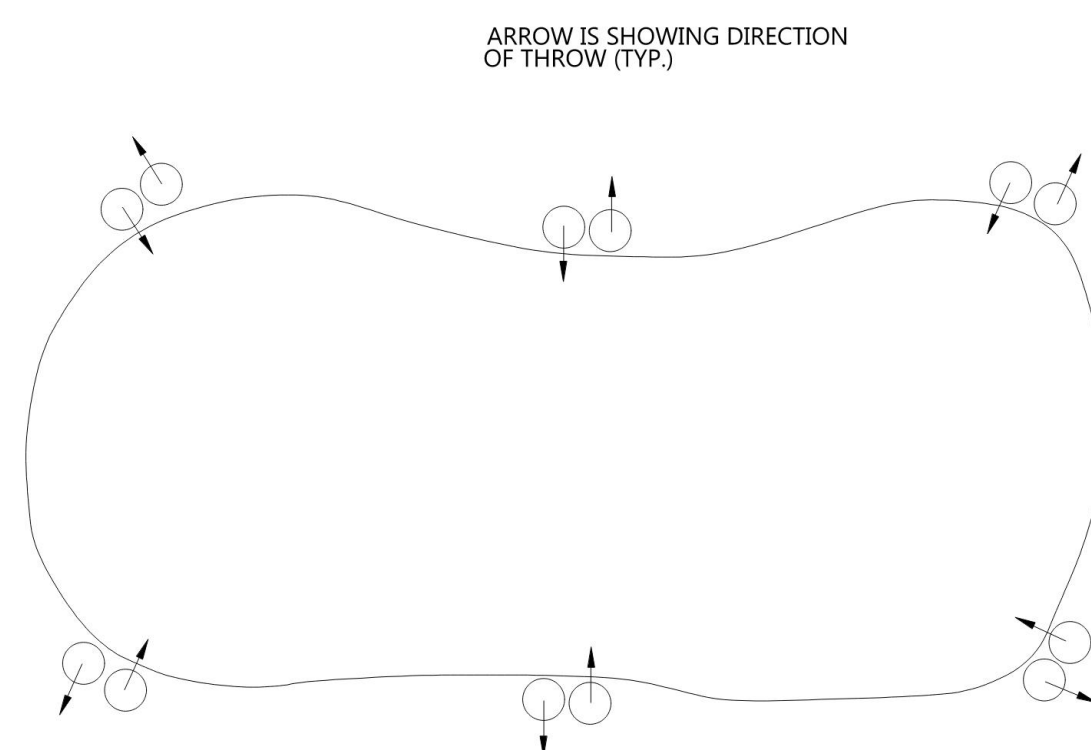


AIR RELEASE VALVE (HDPE)

NTS



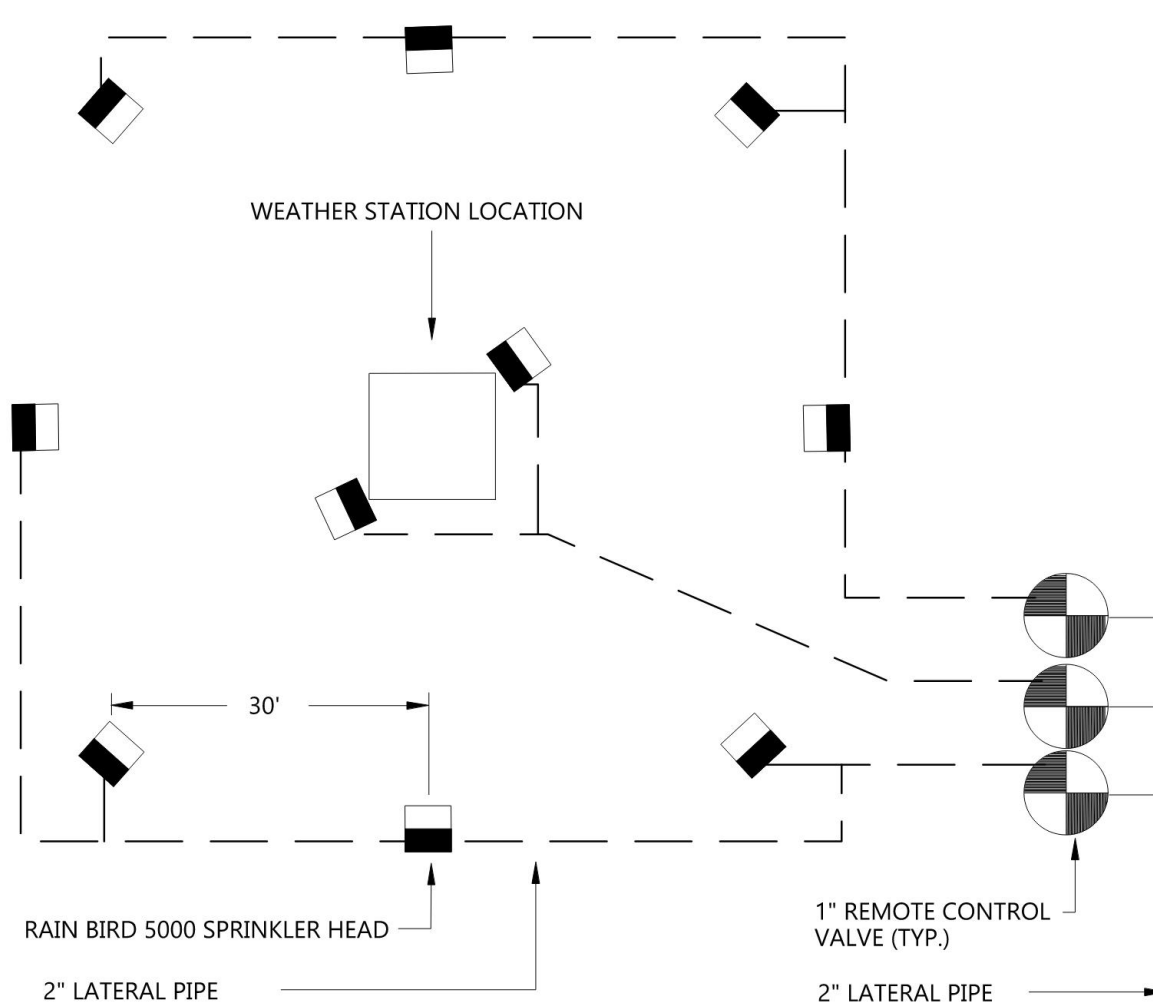
10



GREENS HEAD LAYOUT

NTS

11



WEATHER STATION HEAD LAYOUT

NTS

12

IRRIGATION DETAILS



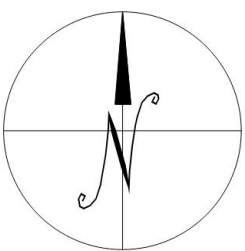
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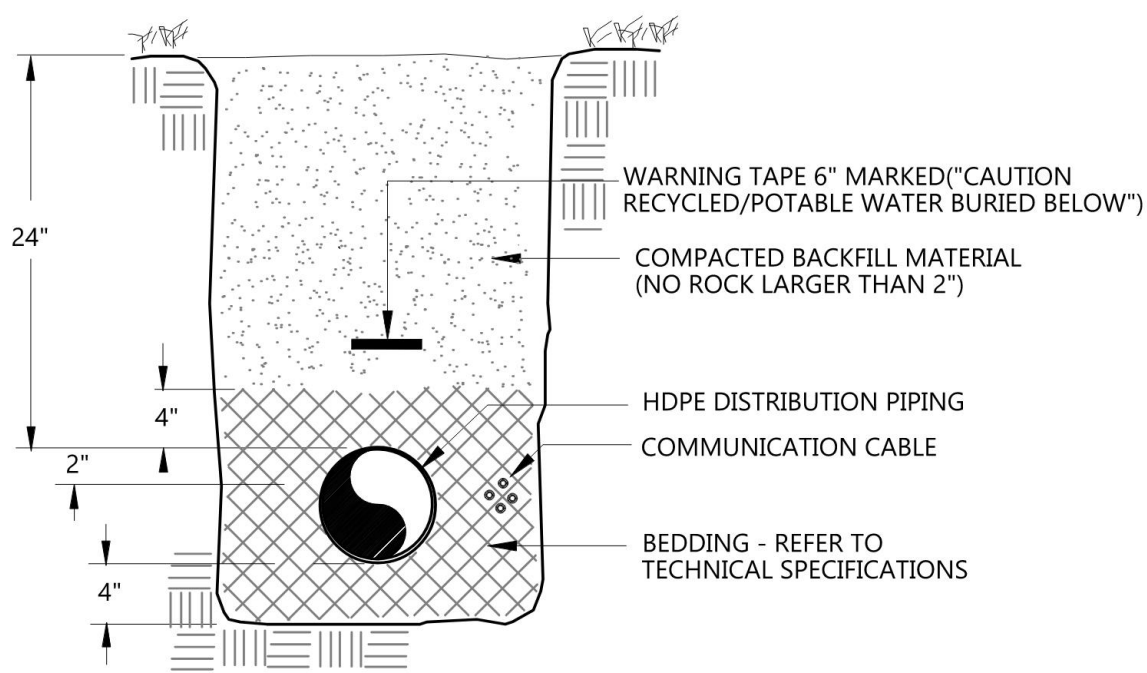
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IRRIGATION
DETAILS

SHEET
I-5

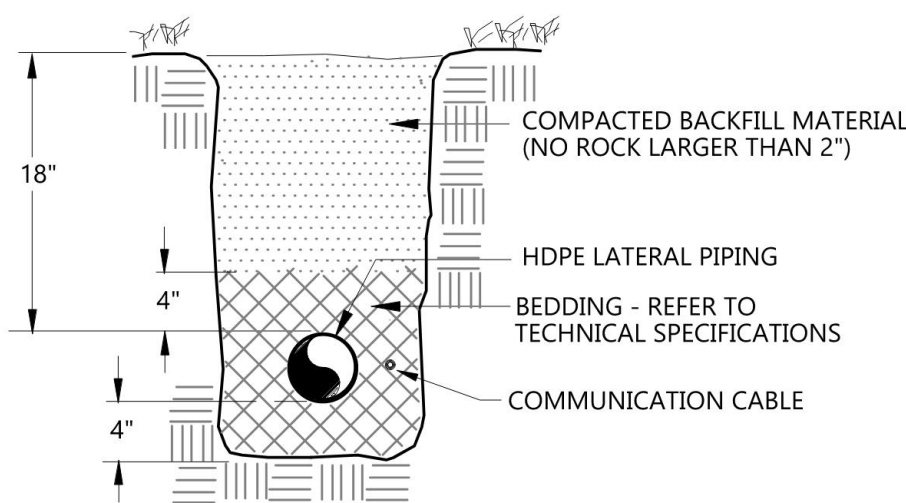


NOTE: REFER TO TECHNICAL SPECIFICATIONS FOR MINIMUM TRENCH WIDTHS AND IRRIGATION PROCEDURES.

DISTRIBUTION PIPING TRENCH

NTS

13

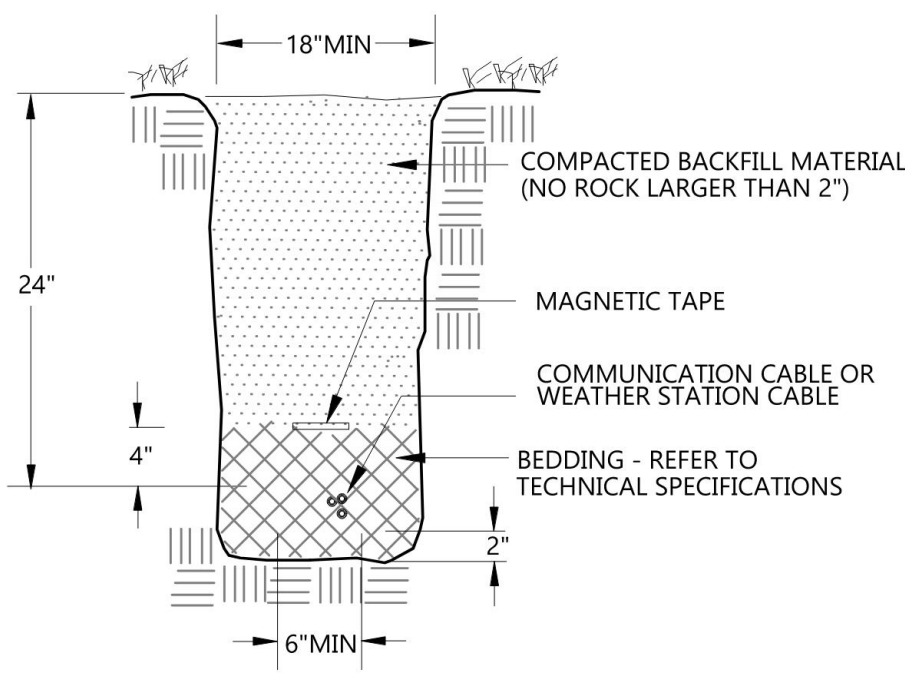


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LATERAL PIPING TRENCH

NTS

14

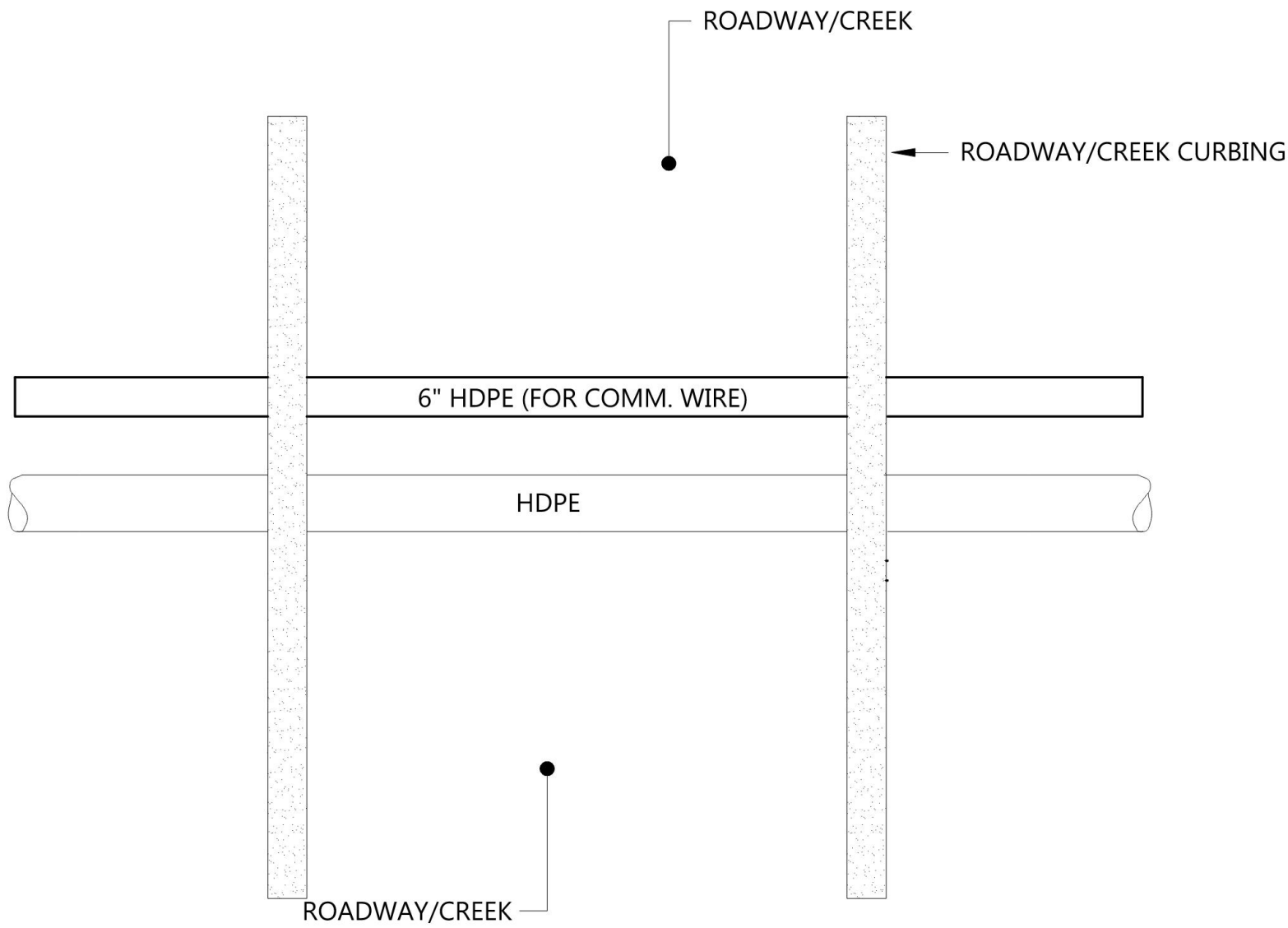


NOTE: REFER TO TECHNICAL SPECIFICATIONS FOR MINIMUM TRENCH WIDTHS AND IRRIGATION PROCEDURES.

COMMUNICATION AND
WEATHER STATION CABLE

NTS

15



NOTE:
ALL SLEEVES AND PIPING TO BE PLACED AT A MINIMUM DEPTH OF 10" OR AS DIRECTED BY OWNER.
ALL SLEEVES AND PIPING TO BE PLACED AT A MINIMUM 10' BACK OF PAVEMENT EDGE.

ROAD CROSSING (BORE)

NTS

16

LEGEND

SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION	DETAIL NUMBER
	RAIN BIRD	A-950-IC-80-22	V.I.H. GEAR DRIVEN ROTOR PART CIRCLE W/#22 NOZZLE @ 80PSI	1
	RAIN BIRD	A-702-IC-70-36	V.I.H. GEAR DRIVEN ROTOR FULL CIRCLE W/#36 NOZZLE & RED BLACK NOZZLE @ 70PSI	1
	RAIN BIRD	A-752-IC-70-36	V.I.H. GEAR DRIVEN ROTOR PART CIRCLE W/#36 NOZZLE @ 70PSI	1
	RAIN BIRD	A-752-IC-70-28	V.I.H. GEAR DRIVEN ROTOR PART CIRCLE W/#28 NOZZLE @ 70PSI	1
	RAIN BIRD	A-702-IC-70-28	V.I.H. GEAR DRIVEN ROTOR FULL CIRCLE W/#28 NOZZLE @ 70PSI	1
	RAIN BIRD	A-752-IC-70-22	V.I.H. GEAR DRIVEN ROTOR FULL CIRCLE W/#22 NOZZLE @ 70PSI	1
	RAIN BIRD	A-752-IC-70-22	V.I.H. GEAR DRIVEN ROTOR PART CIRCLE W/#22 NOZZLE @ 70PSI	1
	RAIN BIRD	A-752-IC-50-20	V.I.H. GEAR DRIVEN ROTOR PART CIRCLE W/#20 NOZZLE @ 50PSI	1
	RAIN BIRD	A-752-IC-50-20	V.I.H. GEAR DRIVEN ROTOR FULL CIRCLE W/#20 NOZZLE @ 50PSI	1
	RAIN BIRD	5006-+-PC-SAM-SS	GEAR DRIVEN ROTOR #35 NOZZLE @ 35 PSI	2
	RAIN BIRD	1806-SAMNP-15VAN-MPR	6" POP-UP SPRAY HEAD	3
	RAIN BIRD	#5RC	1" QUICK COUPLING VALVE	4
	RAIN BIRD	100-PESB-R-IC-PRSD	1" ELECTRIC CONTROL VALVE W/ PRSD PRESSURE REGULATOR	5
	RAIN BIRD	150-PESB-R-IC-PRSD	1-1/2" ELECTRIC CONTROL VALVE W/ PRSD PRESSURE REGULATOR	5
	AQUAFUSE OR APPROVED EQUAL	#AFBV-200Y-MNFO-360	2" LATERAL ISOLATION VALVE	6&7
	AMERICAN FLOW CONTROL	SERIES #2500	BLOW OFF ASSEMBLY	9
	CRISPIN	PL10A	AIR RELEASE VALVE - 2"	10
	AMERICAN FLOW CONTROL	SERIES #2500	GATE VALVE (LINE SIZE)	8
	RAIN BIRD IC SYSTEM	CIRRUS 1500 W/1 ICI INCLUDING 5 YEAR OSP	CENTRAL CONTROL COMPUTER INCLUDING FREEDOM SYSTEM AND 4 IPAD PROS WITH ENVIRONMENTAL CASES.	
	RAIN BIRD	H59915	WEATHER STATION (SOLAR/RADIO)	12
	RAIN BIRD	ISCD	GROUND ROD WITH ISCD	7
	APPROVED	SDR 11	HDPE DISTRIBUTION PIPING	13
	APPROVED	SDR 11	2" HDPE LATERAL PIPING	14
	RAINBIRD	12-2	COMMUNICATION WIRE	13,14,15
	PAIGE	7171D	PUMP STATION COMMUNICATION	13,14,15

GENERAL NOTES

- ALL BASE INFORMATION HAS BEEN MADE AVAILABLE BY OWNER.
- REFER TO PROJECT MANUAL AND CONSTRUCTION DETAILS FOR INSTALLATION PROCEDURES.
- CONSULTANT TO FIELD SURVEY ALL IRRIGATION HEADS AND FIELD SATELLITE UNIT LOCATIONS. CONTRACTOR TO MAINTAIN STAKING ACCORDANCE WITH SECTION 1.0 OF TECHNICAL SPECIFICATIONS 02815, AND INSTALL EQUIPMENT WITHIN ± 6" FOLLOWING COMPLETION OF ALL STAKING.
- ALL VALVE-IN-HEAD SPRINKLERS TO BE FACTORY SET PER PRESSURE SPECIFIED ON THE IRRIGATION LEGEND.
- QUICK COUPLERS TO BE INSTALLED WITH A MAXIMUM DISTANCE OF 18" FROM VALVE-IN-HEAD SPRINKLER OR REMOTE CONTROL VALVE.
- COMMUNICATION CABLE TO BE INSTALLED IN CONDUIT ACROSS ALL BRIDGES, ROADWAYS AND PARKING LOTS.
- ALL ELECTRICAL VALVE BOXES TO BE SET ON 3/4" GRAVEL SUMP WITH GEOTEXTILE FILTER FABRIC EXTENDED 10" UP VALVE BOX EXTERIOR WALL (ALL SIDES).
- CONTRACTOR TO BE RESPONSIBLE FOR REMOVAL OF ALL EXISTING IRRIGATION EQUIPMENT, INCLUDING BUT NOT LIMITED TO HEADS, QUICK COUPLERS, SATELLITES, CLEAN EXISTING EQUIPMENT AND TURN OVER TO GOLF COURSE SUPERINTENDENT.