Appendix B

Irrigation Drawings

SANDPIPER GOLF CLUB



INDEX OF SHEETS

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

CITY OF GOLETA WELO

PROJECT INFORMATION

Project Applicant:	
Name of Project Applicant: Sandpiper Golf Trust, LLC c/o Cathy Hwang	*Phone No.*: 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	

Project:	
Project's Name: Sandpiper Golf Course Renovation	
Assessor's Parcel No.: 079-210-059	*County Landscape Plan No.*:
Address (must include City, State and Zip Code): 7925 Hollister Ave., Goleta, CA 93117	

Use the information and formulas below to fill out the worksheet and calculations on page 2.

Hydrozone Category[a]	PF- Plant Factor
Very Low Water Use	0.0 - 0.1
Low Water Use*	0.2 - 0.3
Moderate Water Use	0.4 - 0.6
High Water Use	0.7 - 1.0

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

Irrigation Method[b]	IE- Irrigation Efficiency[c]
Filler Pipe for Pools/Spas	1.00
Drip/Subsurface	0.90
Bubblers	0.85
Rotors	0.75
Rotators	0.70
Overhead Spray	0.60

ETWU[d] (Annual Gallons Required) = ***Eto x 0.62 x ETAF x Area***

MAWA[e] (Annual Gallons Allowed) = ***(ETo)(0.62)[(ETAF x LA) + ((1- ETAF) x SLA)]***

ETo - 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.

REFERENCE EVAPOTRANSPIRATION (ETo) 42.8 (Goleta)

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 (Grasses)	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	147,688	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	[redacted]			1.0	2,853,180	2,853,180	75,711,984
#				1.0			
#				1.0			
#				1.0			
				Totals	**(C)** 2,853,180	**(D)** 2,853,180	
						Estimated Total Water Use **(ETWU) Total**	97,449,346
						Maximum Water Allowance **(MAWA)[e]**	112,012,711
						Irrigation Efficiency **(IE) Average****	0.83

****Average Irrigation Efficiency for overall irrigation system shall meet or exceed 0.75 (total of all efficiency ratings divided by number of hydrozones).**

ETAF CALCULATIONS

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*
Total ETAF x Area	(B) =	819,165
Total Area	(A) =	3,259,370
Average ETAF	**(B) ÷ (A) =**	0.25

All Landscape Areas		*Totals*
Total ETAF x Area	(B+D) =	3,672,345
Total Area	(A+C) =	6,112,550
Site wide ETAF	**(B+D) ÷ (A+C) =**	0.60

IRRIGATION SYSTEM IMPROVEMENTS

BRENT HARVEY CONSULTING
23741 MOONGLOW COURT
RAMONA, CALIFORNIA 92065
TELEPHONE: 760.787.0842
BRENT HARVEY, PRINCIPAL

BRENT HARVEY No. 3879 Exp. Date 6/30/24 Date 7/25/23

SANDPIPER GOLF CLUB
SANTA BARBARA, CALIFORNIA
PRELIMINARY DESIGN

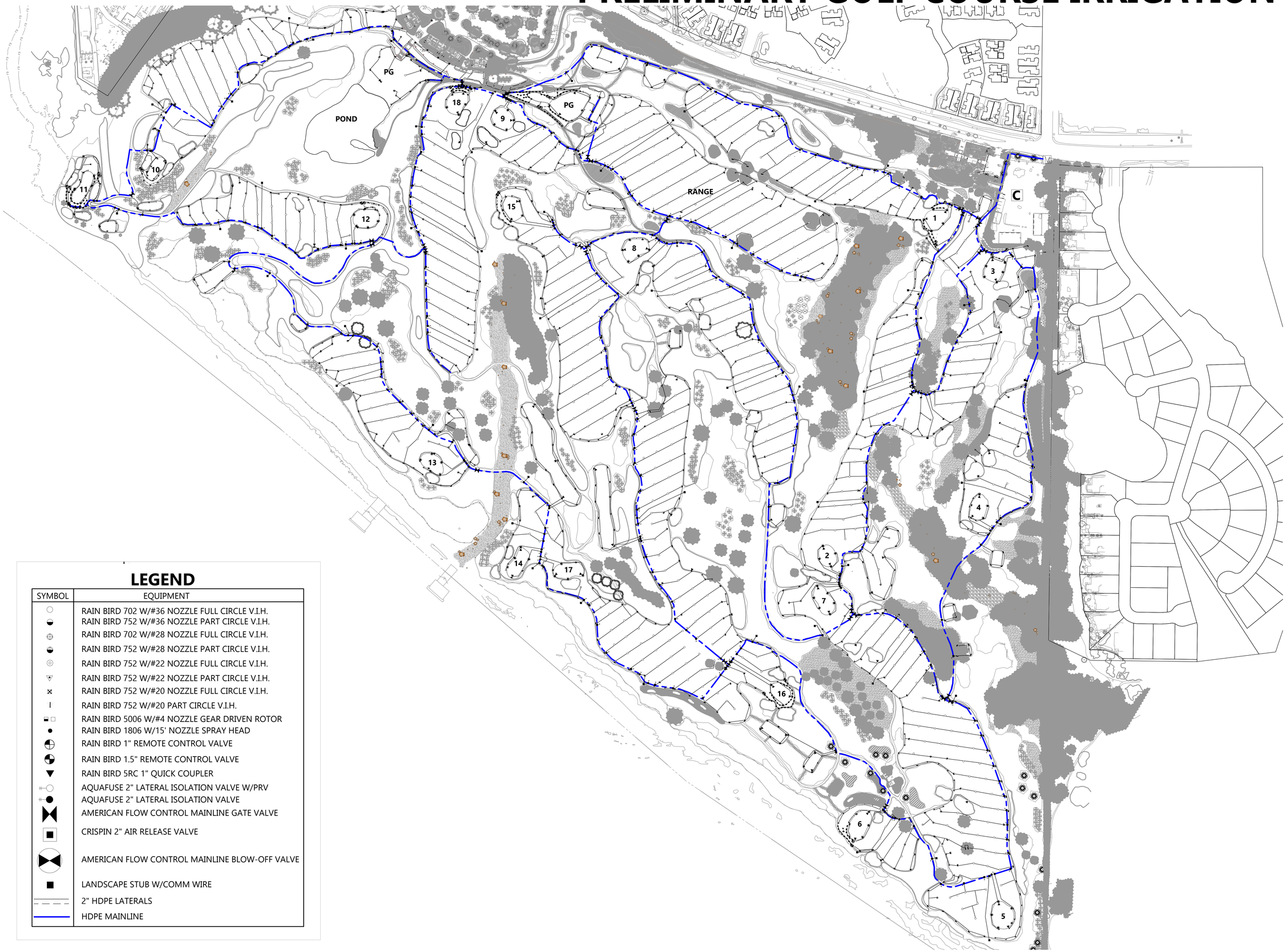
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Checked	:	BAH
Project #	:	560
Date	:	7/25/23
Scale	:	N.T.S

Revisions

TITLE

SHEET
I-1

PRELIMINARY GOLF COURSE IRRIGATION



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.
I	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

BRENT HARVEY CONSULTING

23741 MOONGLOW COURT
RAMONA, CALIFORNIA 92065
TELEPHONE 760.787.0842
BRENT HARVEY, PRINCIPAL

REGISTERED LANDSCAPE ARCHITECT
No. 3879
Exp. Date 8/28/24
STATE OF CALIFORNIA

SANDPIPER GOLF CLUB
SANTA BARBARA, CALIFORNIA
PRELIMINARY DESIGN

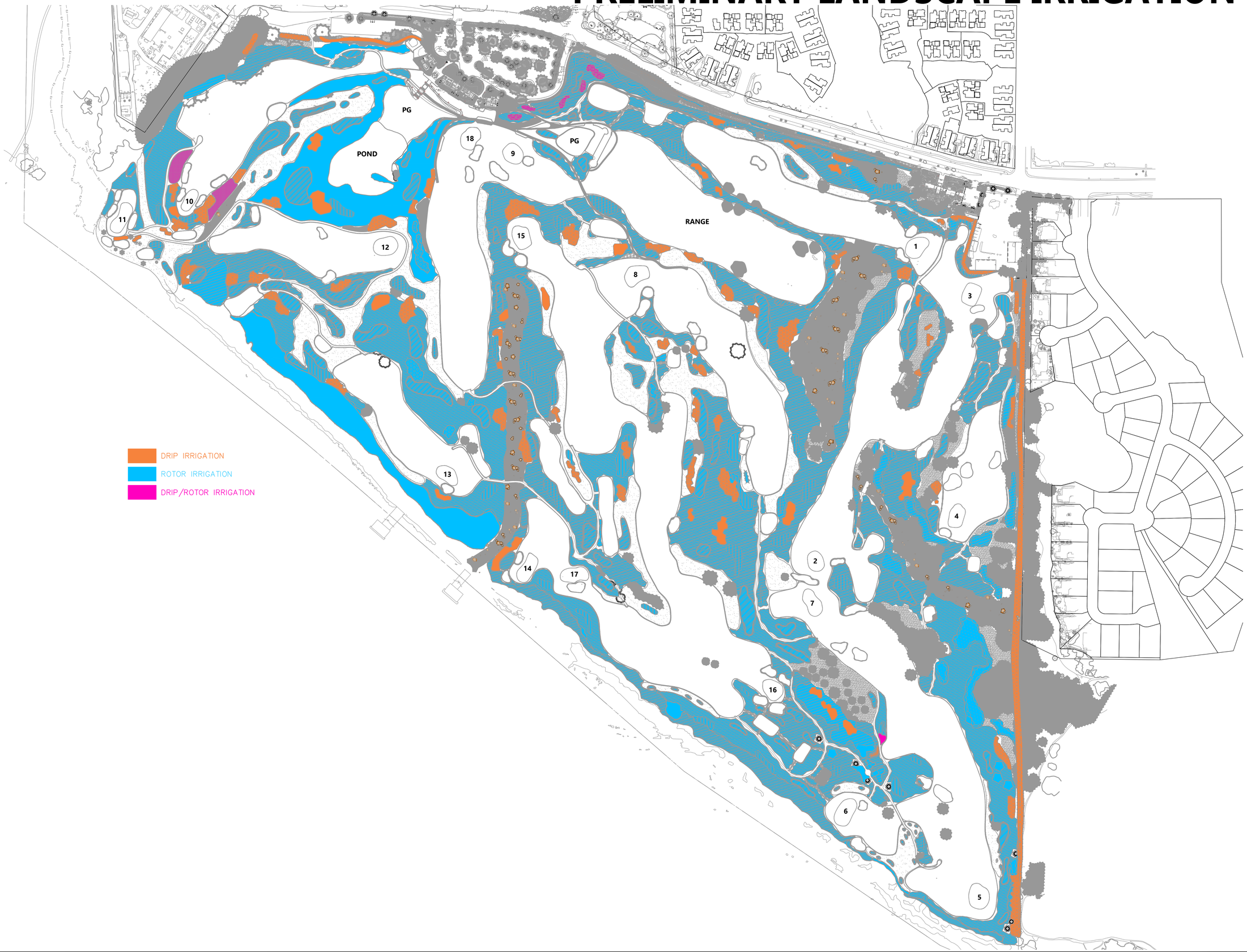
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Revisions

PRELIMINARY DESIGN

SHEET
I-2

PRELIMINARY LANDSCAPE IRRIGATION



BRENT HARVEY CONSULTING
23741 MOONGLOW COURT
RAMONA, CALIFORNIA 92065
TELEPHONE 760.787.0842
BRENT HARVEY, PRINCIPAL

CALIFORNIA LANDSCAPE ARCHITECT No. 3879 Exp. Date 8/28/24 STATE OF CALIFORNIA

SANDPIPER GOLF CLUB
SANTA BARBARA, CALIFORNIA
PRELIMINARY DESIGN

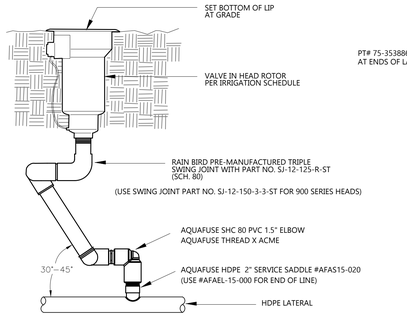
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Revisions

PRELIMINARY DESIGN

SHEET
I-3

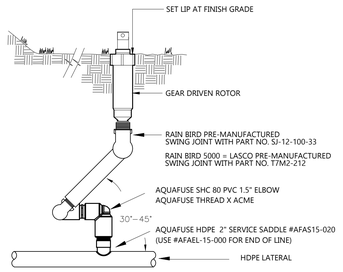
IRRIGATION DETAILS



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

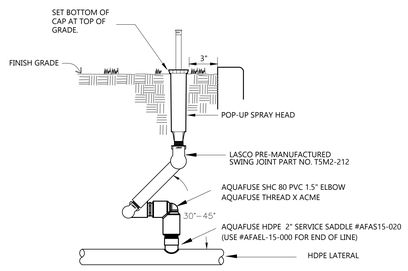
VALVE IN HEAD ROTOR (HDPE) 1

NTS



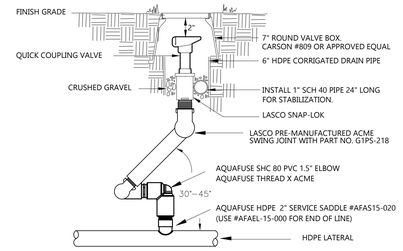
GEAR DRIVEN ROTOR (HDPE) 2

NTS



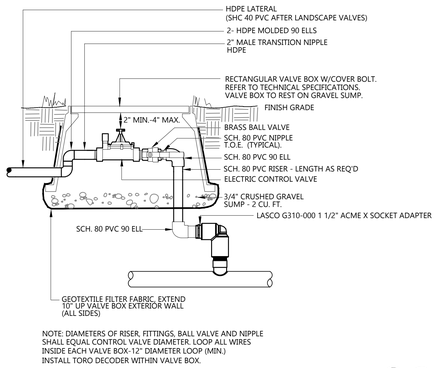
POP-UP SPRAY (HDPE) 3

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QUICK COUPLING VALVE (HDPE) 4

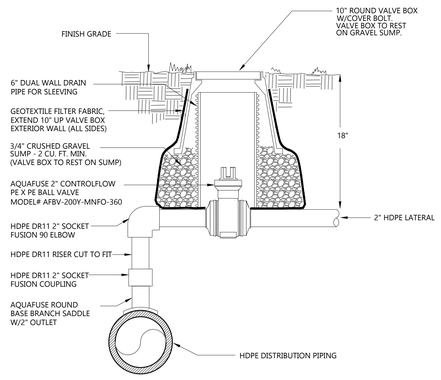
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NOTE: DIAMETERS OF RISER, FITTINGS, BALL VALVE AND NIPPLE SHALL EQUAL CONTROL VALVE DIAMETER. LOOP ALL WIRES INSIDE EACH VALVE BOX-12" DIAMETER LOOP (MIN.) INSTALL TORO DECODER WITHIN VALVE BOX.

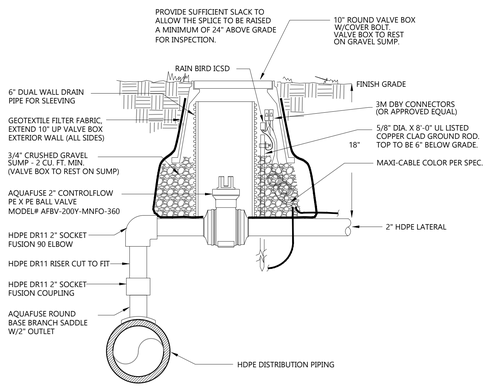
ELECTRIC CONTROL VALVE (HDPE) 5

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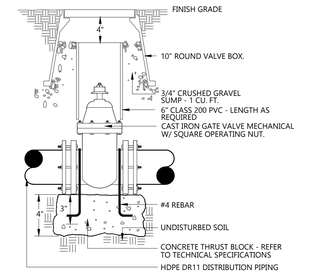
LATERAL ISOLATION VALVE (HDPE) 6

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LATERAL ISOLATION VALVE W/GROUND ROD (HDPE) 7

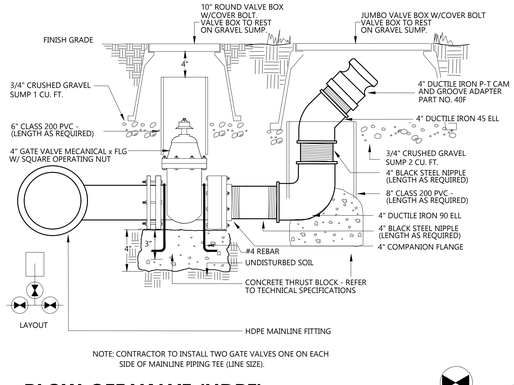
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GATE VALVE (HDPE) 8

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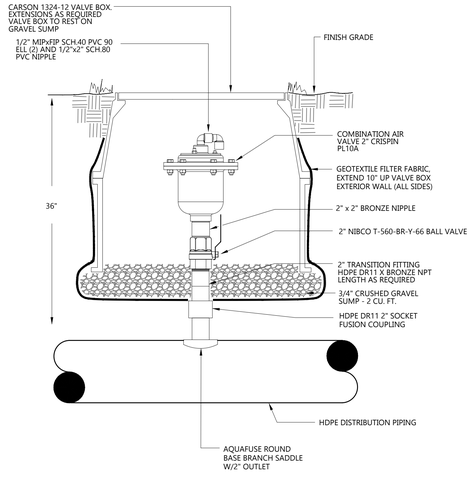
NOTE: CONTRACTOR TO SUPPLY ONE (1) P-T CAM AND GROOVE COUPLER PART NO. 40C WITH 100' OF CANVAS SINGLE JACKET MILL HOSE.



NOTE: CONTRACTOR TO INSTALL TWO GATE VALVES ONE ON EACH SIDE OF MAINLINE PIPING TEE (LINE SIZE).

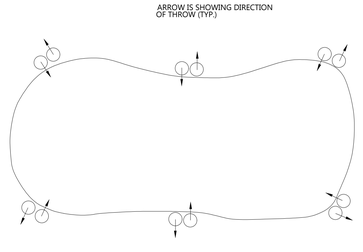
BLOW-OFF VALVE (HDPE) 9

NTS



AIR RELEASE VALVE (HDPE) 10

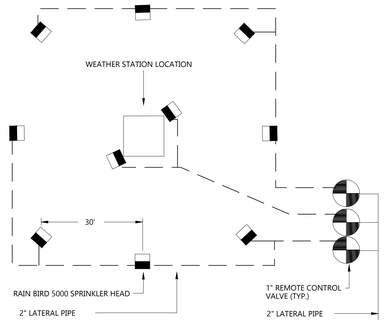
NTS



NOTE: WHEN FACING THE GREEN THE SPRINKLER ON YOUR RIGHT TO THROW TOWARD GREEN.

GREENS HEAD LAYOUT 11

NTS



WEATHER STATION HEAD LAYOUT 12

NTS

BRENT HARVEY CONSULTING
23741 MOONGLOW COURT
RAMONA, CALIFORNIA 92065
TELEPHONE 760.787.0842
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LICENSED LANDSCAPE ARCHITECT No. 3879 Ren Date 10/31/24 STATE OF CALIFORNIA

SANDPIPER GOLF CLUB
SANTA BARBARA, CALIFORNIA
PRELIMINARY DESIGN

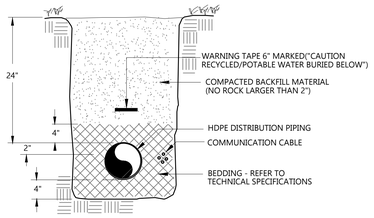
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Revisions

IRRIGATION DETAILS

SHEET
I-4

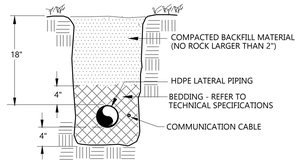
IRRIGATION DETAILS



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

DISTRIBUTION PIPING TRENCH 13

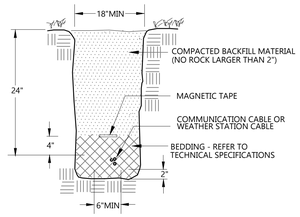
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NOTE: REFER TO TECHNICAL SPECIFICATIONS FOR MINIMUM TRENCH WIDTHS AND IRRIGATION PROCEDURES.

LATERAL PIPING TRENCH 14

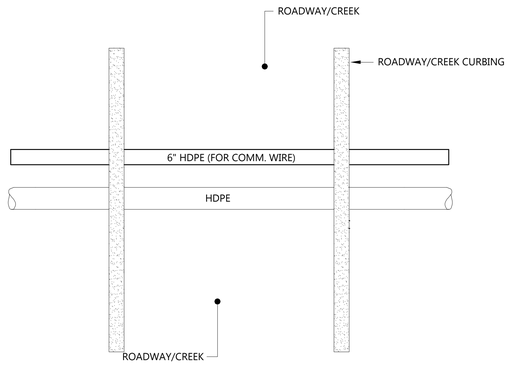
NTS



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

COMMUNICATION AND WEATHER STATION CABLE 15

NTS



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) 16

NTS

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	
	RAIN BIRD	A-702-IC-70-28	V.I.H. GEAR DRIVEN ROTOR FULL CIRCLE W/#28 NOZZLE @ 70PSI	
	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	
	RAIN BIRD	A-752-IC-50-20	V.I.H. GEAR DRIVEN ROTOR FULL CIRCLE W/#20 NOZZLE @ 50PSI	
	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
C	RAIN BIRD IC SYSTEM	CIRRUS 1500 W/1 ICI INCLUDING 5 YEAR GSP	CENTRAL CONTROL COMPUTER INCLUDING FREEDOM SYSTEM AND 4 IPAD PROS WITH ENVIRONMENTAL CASES.	
W/S	RAIN BIRD	H59915	WEATHER STATION (SOLAR/RADIO)	12
G	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

1. ALL BASE INFORMATION HAS BEEN MADE AVAILABLE BY OWNER.
2. REFER TO PROJECT MANUAL AND CONSTRUCTION DETAILS FOR INSTALLATION PROCEDURES.
3. 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.
4. ALL VALVE-IN-HEAD SPRINKLERS TO BE FACTORY SET PER PRESSURE SPECIFIED ON THE IRRIGATION LEGEND.
5. QUICK COUPLERS TO BE INSTALLED WITH A MAXIMUM DISTANCE OF 18" FROM VALVE-IN-HEAD SPRINKLER OR REMOTE CONTROL VALVE.
6. COMMUNICATION CABLE TO BE INSTALLED IN CONDUIT ACROSS ALL BRIDGES, ROADWAYS AND PARKING LOTS .
7. 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).
8. 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.

BRENT HARVEY CONSULTING
23741 MOONGLOW COURT
RAMONA, CALIFORNIA 92065
TELEPHONE 760.787.0842
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SANTA BARBARA, CALIFORNIA
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Revisions

IRRIGATION DETAILS

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I-5