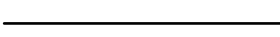
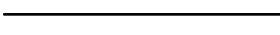


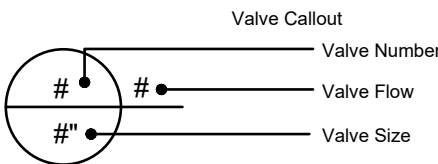
IRRIGATION SCHEDULE ELSIE STEPHENS

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER MP CORNER PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE. PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE. T=TURQUOISE ADJ ARC 45-105 ON PRS30 BODY.
	HUNTER MP1000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.
	HUNTER MP2000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE. PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.
	HUNTER MP3000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE. PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.
	HUNTER MP800SR PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. ADJ=ORANGE AND GRAY (ARC 90-210), 360=LIME GREEN AND GRAY (ARC 360)

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER I-20-04-SS 1.5 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-20-04-SS 3.0 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-20-04-SS 6.0 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G 1" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
	HUNTER ICV-G 2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
	BASELINE BL-1000X TWO-WIRE CONTROLLER IN LARGE 16 GAUGE POWDER-COATED WALL MOUNT CABINET, BASE MODEL 50 STATIONS, EXPANDABLE TO 75 OR 100 STATIONS.
	BASELINE BL-5315B INCLUDES COMMERCIAL BISENSOR WITH INSTALLATION GUIDE, 50FT. CONNECTION WIRES PLUS DBR/Y-6 CONNECTORS (TWO-WIRE SIDE ONLY) AND WIRE NUTS.
	BADGER ULTRASONIC FLOW SENSOR WITH BASELINE BICODER TWO-WIRE DECODER
	POINT OF CONNECTION ELSIE STEPHENS - EXISTING WELL

	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/4"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/2"
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 2"
	PIPE SLEEVE: PVC SCHEDULE 40 2"
	PIPE SLEEVE: PVC SCHEDULE 40 4"



CRITICAL ANALYSIS

Generated:	2024-08-21 20:01
P.O.C. NUMBER: 01	
Water Source Information:	Elsie Stephens - Existing Well
FLOW AVAILABLE	
Custom Max Flow:	30 GPM
Flow Available	30 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	60 PSI
Pressure Available:	60 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	30 GPM
Flow Available at POC:	30 GPM
Residual Flow Available:	0 GPM
Critical Station:	A5
Design Pressure:	45 PSI
Friction Loss:	1.31 PSI
Fittings Loss:	0.13 PSI
Elevation Loss:	0 PSI
Loss through Valve:	9 PSI
Pressure Req. at Critical Station:	55.4 PSI
Loss for Fittings:	0.05 PSI
Loss for Main Line:	0.54 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Loss for Master Valve:	0.8 PSI
Critical Station Pressure at POC:	56.8 PSI
Pressure Available:	60 PSI
Residual Pressure Available:	3.16 PSI

VALVE SCHEDULE ELSIE STEPHENS

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
A1	HUNTER ICV-G	1"	TURF ROTARY	21.21	30	2.12	3.73	35.9	36.8	0.28 in/h
A2	HUNTER ICV-G	1"	TURF ROTARY	22.05	30	0.77	4.23	35.0	36.1	0.22 in/h
A3	HUNTER ICV-G	1"	TURF ROTOR	25.5	45	1.18	6.3	52.5	53.7	0.63 in/h
A4	HUNTER ICV-G	1"	TURF ROTARY	26.95	30	3.86	7.17	41.0	42.3	0.41 in/h
A5	HUNTER ICV-G	1"	TURF ROTOR	30	45	1.44	9	55.4	56.8	0.63 in/h
A6	HUNTER ICV-G	1"	TURF ROTOR	28.5	45	1.4	8.1	54.5	55.8	0.64 in/h
A7	HUNTER ICV-G	1"	TURF ROTOR	28.5	45	1.43	8.1	54.5	55.6	0.69 in/h

WATERING SCHEDULE ELSIE STEPHENS

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
A1	HUNTER ICV-G	TURF ROTARY	0.28 in/h	1.5	325	6,894	1,379
A2	HUNTER ICV-G	TURF ROTARY	0.22 in/h	1.5	406	8,952	1,790
A3	HUNTER ICV-G	TURF ROTOR	0.63 in/h	1.5	144	3,672	734
A4	HUNTER ICV-G	TURF ROTARY	0.41 in/h	1.5	218	5,876	1,175
A5	HUNTER ICV-G	TURF ROTOR	0.63 in/h	1.5	143	4,290	858
A6	HUNTER ICV-G	TURF ROTOR	0.64 in/h	1.5	140	3,990	798
A7	HUNTER ICV-G	TURF ROTOR	0.69 in/h	1.5	132	3,762	752
TOTALS:					1,508	37,436	7,487

DAYTON, MN

Dayton Parks - Irrigation Projects

PROJECT

SHEET NUMBER



SHEET TITLE

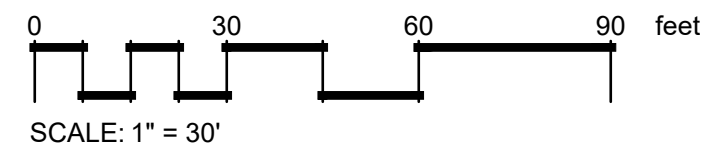
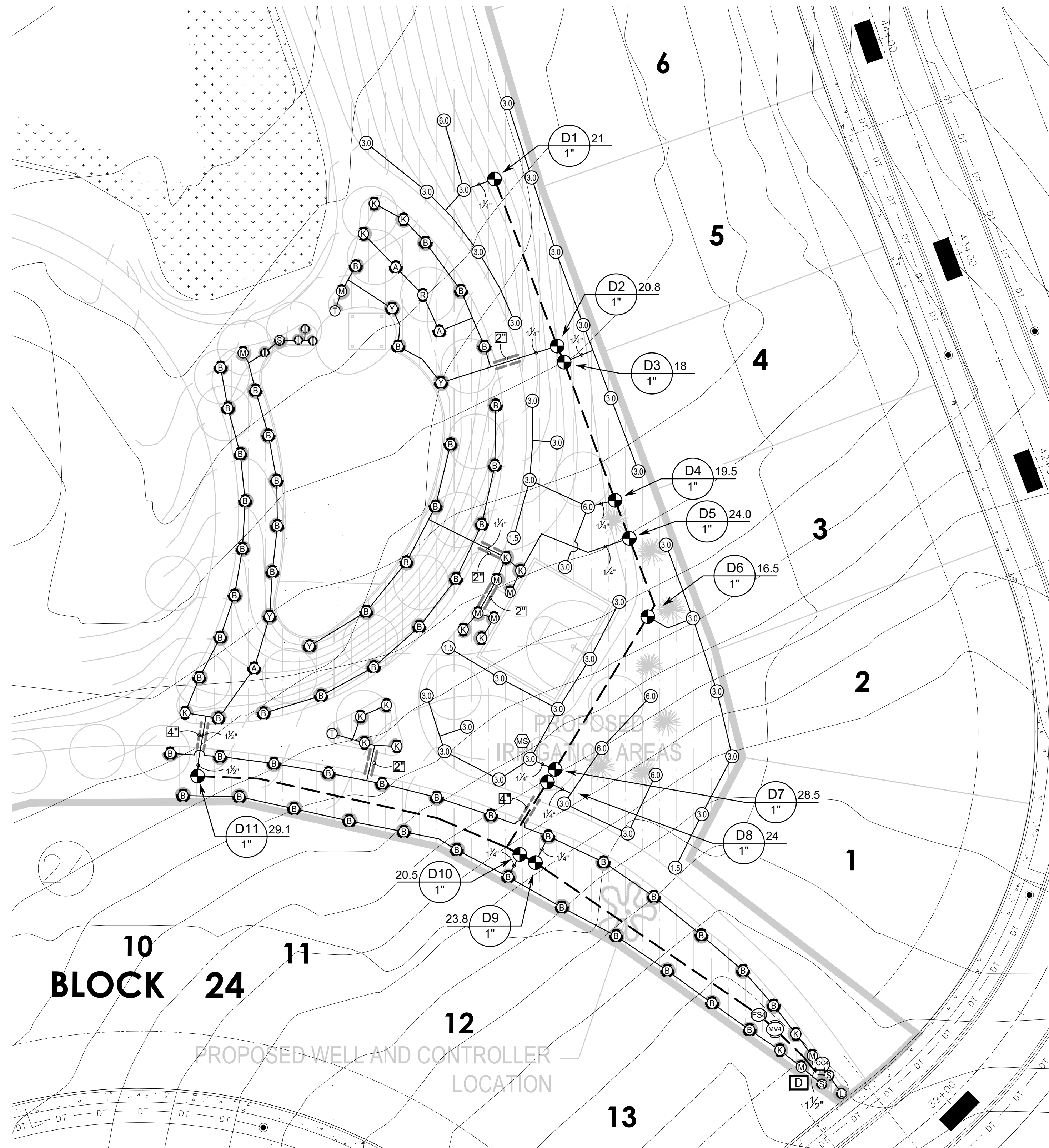
IRRIGATION LAYOUT -
Elsie Stephens

REVISIONS:

#	DATE	#	DATE

PROJECT#:	070124
DATE:	07.30.24
SCALE:	VARIES
DRAWN BY:	RBB
CHECKED BY:	JWR

IR-2



DAYTON, MN

DAYTON PARKS - IRRIGATION PROJECTS

PROJECT

MLC

IRRIGATION CONSULTANTS

7520 JENNIFER LANE
MINNEAPOLIS, MN 55372
612.447.2053
WWW.MANLINECONSULTING.NET

Water solved.

IRRIGATION LAYOUT -
River Hills

SHEET TITLE

REVISIONS:

DATE #

DATE #

DATE #

DATE #

DRAWINGS

PROJECT #: 070124

DATE: 07.30.24

SCALE: VARIES

DRAWN BY: RBB

CHECKED BY: JWR

SHEET NUMBER

IR-3

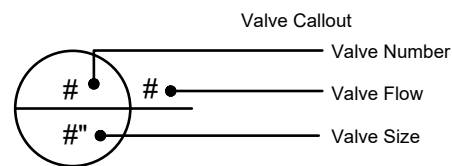
IRRIGATION SCHEDULE RIVER HILLS

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER MP CORNER PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE. T=TURQUOISE ADJ ARC 45-105 ON PRS30 BODY.
	HUNTER MP STRIP PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. LCS=IVORY LEFT STRIP, SS=BROWN SIDE STRIP, RCS=COPPER RIGHT STRIP.
	HUNTER MP1000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.
	HUNTER MP2000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.
	HUNTER MP3000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.
	HUNTER MP800SR PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. ADJ=ORANGE AND GRAY (ARC 90-210), 360=LIME GREEN AND GRAY (ARC 360)

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER I-20-04-SS 1.5 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-20-04-SS 3.0 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-20-04-SS 6.0 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G 1" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
	HUNTER ICV-G 2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
	BASELINE BL-1000X TWO-WIRE CONTROLLER IN LARGE 16 GAUGE POWDER-COATED WALL MOUNT CABINET, BASE MODEL 50 STATIONS, EXPANDABLE TO 75 OR 100 STATIONS.
	BASELINE BL-5315B INCLUDES COMMERCIAL BISENSOR WITH INSTALLATION GUIDE, 50FT. CONNECTION WIRES PLUS DBR/Y-6 CONNECTORS (TWO-WIRE SIDE ONLY) AND WIRE NUTS.
	BADGER ULTRASONIC FLOW SENSOR WITH BASELINE BICODER TWO-WIRE DECODER
	POINT OF CONNECTION RIVER HILLS - NEW WELL

	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/4"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/2"
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 1 1/2"
	PIPE SLEEVE: PVC SCHEDULE 40 2"
	PIPE SLEEVE: PVC SCHEDULE 40 4"



CRITICAL ANALYSIS

Generated:	2024-08-21 20:12
P.O.C. NUMBER: 04	
Water Source Information:	River Hills - NEW Well
FLOW AVAILABLE	
Custom Max Flow:	30 GPM
Flow Available	30 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	80 PSI
Pressure Available:	80 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	29.07 GPM
Flow Available at POC:	30 GPM
Residual Flow Available:	0.93 GPM
Critical Station:	D7
Design Pressure:	45 PSI
Friction Loss:	1.15 PSI
Fittings Loss:	0.11 PSI
Elevation Loss:	0 PSI
Loss through Valve:	8.1 PSI
Pressure Req. at Critical Station:	54.4 PSI
Loss for Fittings:	0.33 PSI
Loss for Main Line:	3.34 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Loss for Master Valve:	0.8 PSI
Critical Station Pressure at POC:	58.8 PSI
Pressure Available:	80 PSI
Residual Pressure Available:	21.2 PSI

VALVE SCHEDULE RIVER HILLS

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
D1	HUNTER ICV-G	1"	TURF ROTOR	21	45	0.64	3.6	49.2	55.0	0.51 in/h
D2	HUNTER ICV-G	1"	TURF ROTARY	20.79	30	1.29	3.48	34.8	39.6	0.52 in/h
D3	HUNTER ICV-G	1"	TURF ROTOR	18	45	1.03	3	49.0	52.9	0.5 in/h
D4	HUNTER ICV-G	1"	TURF ROTOR	19.5	45	0.77	3	48.8	52.5	0.61 in/h
D5	HUNTER ICV-G	1"	TURF ROTARY	24.03	30	2.18	5.42	37.6	42.6	0.34 in/h
D6	HUNTER ICV-G	1"	TURF ROTOR	16.5	45	1.75	3	49.7	52.4	0.65 in/h
D7	HUNTER ICV-G	1"	TURF ROTOR	28.5	45	1.26	8.1	54.4	58.8	0.77 in/h
D8	HUNTER ICV-G	1"	TURF ROTOR	24	45	0.92	5.4	51.3	54.7	0.59 in/h
D9	HUNTER ICV-G	1"	TURF ROTARY	23.78	30	2.06	5.27	37.3	40.1	0.26 in/h
D10	HUNTER ICV-G	1"	TURF ROTARY	20.55	30	1.09	3.33	34.4	36.8	0.25 in/h
D11	HUNTER ICV-G	1"	TURF ROTARY	29.07	30	2.63	8.44	41.1	47.5	0.59 in/h

WATERING SCHEDULE RIVER HILLS

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
D1	HUNTER ICV-G	TURF ROTOR	0.51 in/h	1.5	175	3,675	735
D2	HUNTER ICV-G	TURF ROTARY	0.52 in/h	1.5	172	3,576	715
D3	HUNTER ICV-G	TURF ROTOR	0.5 in/h	1.5	180	3,240	648
D4	HUNTER ICV-G	TURF ROTOR	0.61 in/h	1.5	148	2,886	577
D5	HUNTER ICV-G	TURF ROTARY	0.34 in/h	1.5	263	6,321	1,264
D6	HUNTER ICV-G	TURF ROTOR	0.65 in/h	1.5	139	2,294	459
D7	HUNTER ICV-G	TURF ROTOR	0.77 in/h	1.5	117	3,335	667
D8	HUNTER ICV-G	TURF ROTOR	0.59 in/h	1.5	152	3,648	730
D9	HUNTER ICV-G	TURF ROTARY	0.26 in/h	1.5	342	8,131	1,626
D10	HUNTER ICV-G	TURF ROTARY	0.25 in/h	1.5	361	7,418	1,484
D11	HUNTER ICV-G	TURF ROTARY	0.59 in/h	1.5	153	4,448	890
TOTALS:					2,202	48,971	9,794

DAYTON, MN

Dayton Parks - Irrigation Projects

PROJECT



IRRIGATION LAYOUT -
River Hills

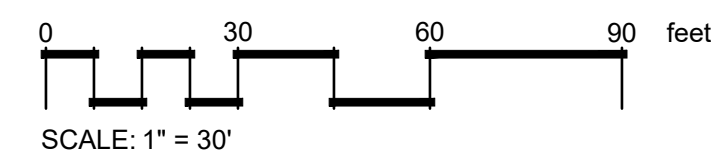
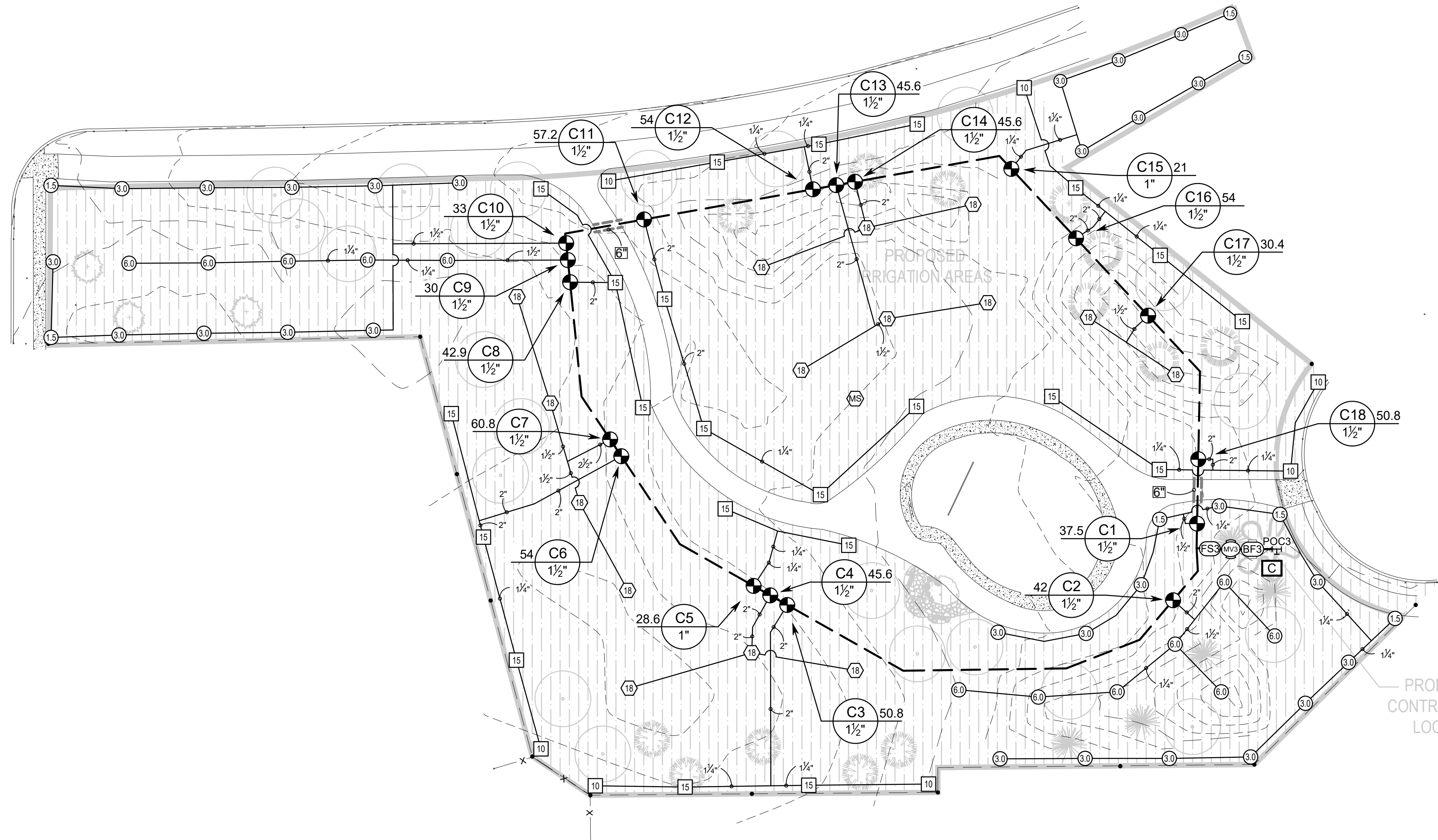
SHEET TITLE

REVISIONS:

PROJECT#: 070124
DATE: 07.30.24
SCALE: VARIES
DRAWN BY: RBB
CHECKED BY: JWR

SHEET NUMBER

IR-4



DAYTON, MN

PROJECT

Dayton Parks - Irrigation Projects

MLC

IRRIGATION CONSULTANTS

7520 JENNIFER LANE

MINNEAPOLIS, MN 55372

612.447.2053

WWW.MHLINCCONSULTING.NET

Water solved

SHEET TITLE

IRRIGATION LAYOUT -

Ione Gardens

PROJECT #

070124

DATE

07.30.24

SCALE

VARIES

DRAWN BY

RBB

CHECKED BY

JWR

REVISIONS

DATE

#

DATE

#

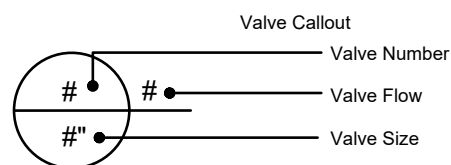
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SHEET NUMBER

IR-5

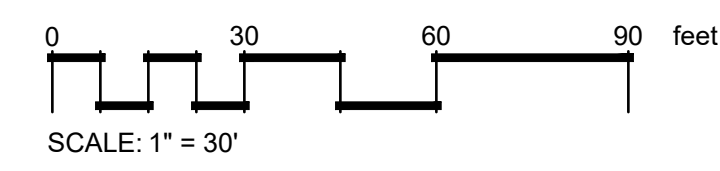
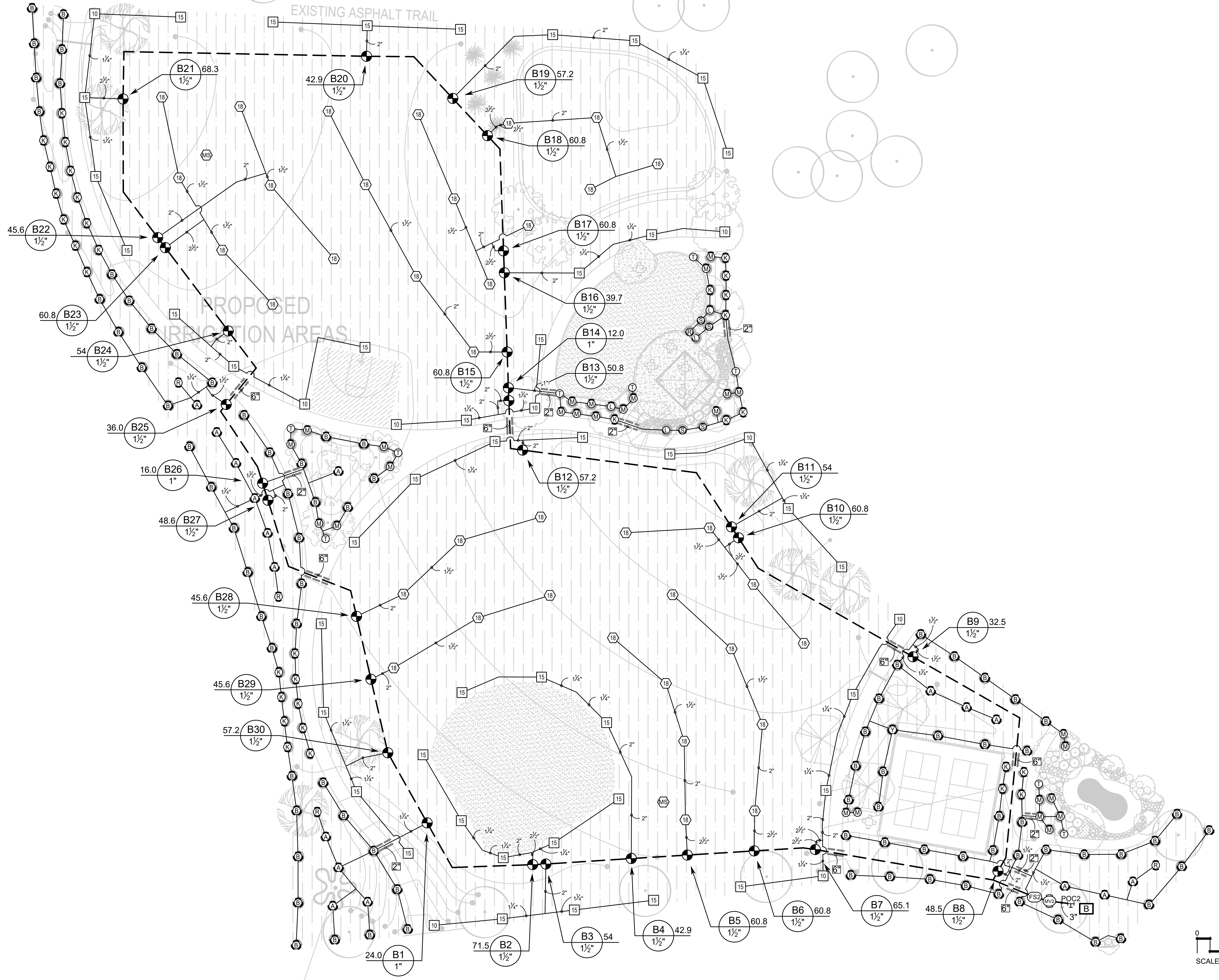
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER I-20-04-SS 1.5 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-20-04-SS 3.0 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-20-04-SS 6.0 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-25-04-SS 10 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-25-04-SS 15 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-40-04-SS-ON 18 TURF ROTOR, 4IN. POP-UP, FULL CIRCLE. DRAIN CHECK VALVE. STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, DUAL OPPOSING NOZZLE.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G 1-1/2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE. WITH BASELINE BICODER TWO-WIRE DECODER
	HUNTER ICV-G 1" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE. WITH BASELINE BICODER TWO-WIRE DECODER
	HUNTER ICV-G 2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE. WITH BASELINE BICODER TWO-WIRE DECODER
	WATTS 919QT 2" BACKFLOW REDUCED PRESSURE ZONE
	BASELINE BL-1000X TWO-WIRE CONTROLLER IN LARGE 16 GAUGE POWDER-COATED WALL MOUNT CABINET, BASE MODEL 50 STATIONS, EXPANDABLE TO 75 OR 100 STATIONS.
	BASELINE BL-5315B INCLUDES COMMERCIAL BISENSOR WITH INSTALLATION GUIDE, 50FT. CONNECTION WIRES PLUS DBRY-6 CONNECTORS (TWO-WIRE SIDE ONLY) AND WIRE NUTS.
	HUNTER HFS-300 FLOW SENSOR FOR USE WITH ACC CONTROLLER, 3IN. SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP.
	POINT OF CONNECTION IONE GARDENS - NEW MUNICIPAL CONNECTION
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/4"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/2"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 2"
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 2 1/2"
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 3"
	PIPE SLEEVE: PVC SCHEDULE 40 6"



Generated:	2024-08-21 20:20
P.O.C. NUMBER: 03	
Water Source Information:	Ione Gardens - NEW Municipal connection
FLOW AVAILABLE	
Custom Max Flow:	60 GPM
Flow Available	60 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	70 PSI
Pressure Available:	70 PSI
DESIGN ANALYSIS	
Maximum Multi-valve Flow:	60 GPM
Flow Available at POC:	60 GPM
Residual Flow Available:	0 GPM
Critical Station: C11	
Design Pressure:	60 PSI
Friction Loss:	3.96 PSI
Fittings Loss:	0.4 PSI
Elevation Loss:	0 PSI
Loss through Valve:	2.78 PSI
Pressure Req. at Critical Station:	67.1 PSI
Loss for Fittings:	0.05 PSI
Loss for Main Line:	0.45 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	9.5 PSI
Loss for Master Valve:	1.7 PSI
Critical Station Pressure at POC:	78.8 PSI
Pressure Available:	70 PSI
Residual Pressure Available:	-8.83 PSI

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
C1	HUNTER ICV-G	1-1/2"	TURF ROTOR	37.5	45	4.39	1.65	51.0	62.4	0.61 in/h
C2	HUNTER ICV-G	1-1/2"	TURF ROTOR	42	45	1.51	1.8	48.3	59.7	0.57 in/h
C3	HUNTER ICV-G	1-1/2"	TURF ROTOR	50.8	60	2.56	2.26	64.8	76.5	1.63 in/h
C4	HUNTER ICV-G	1-1/2"	TURF ROTOR	45.6	60	1.87	1.98	63.8	75.5	0.62 in/h
C5	HUNTER ICV-G	1"	TURF ROTOR	28.6	60	1.54	1.8	66.7	77.2	0.97 in/h
C6	HUNTER ICV-G	1-1/2"	TURF ROTOR	60	60	2.98	2.52	65.5	77.2	1.37 in/h
C7	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	1.94	3.05	65.0	76.8	0.76 in/h
C8	HUNTER ICV-G	1-1/2"	TURF ROTOR	42.9	60	1.63	1.85	63.5	75.2	1.21 in/h
C9	HUNTER ICV-G	1-1/2"	TURF ROTOR	30	45	2.68	1.5	49.2	60.9	0.55 in/h
C10	HUNTER ICV-G	1-1/2"	TURF ROTOR	33	45	4.7	1.56	51.3	62.9	0.53 in/h
C11	HUNTER ICV-G	1-1/2"	TURF ROTOR	57.2	60	4.36	2.78	67.1	78.8	1.09 in/h
C12	HUNTER ICV-G	1-1/2"	TURF ROTOR	54	60	1.94	2.52	64.5	76.2	1.5 in/h
C13	HUNTER ICV-G	1-1/2"	TURF ROTOR	45.6	60	2.06	1.98	64.0	75.8	0.75 in/h
C14	HUNTER ICV-G	1-1/2"	TURF ROTOR	45.6	60	1.61	1.98	63.6	75.3	0.77 in/h
C15	HUNTER ICV-G	1"	TURF ROTOR	21	45	1.2	3.6	49.8		0.76 in/h
C16	HUNTER ICV-G	1-1/2"	TURF ROTOR	54	60	2.27	2.52	64.8	76.4	1.87 in/h
C17	HUNTER ICV-G	1-1/2"	TURF ROTOR	30.4	60	0.96	1.51	62.5	74.0	0.87 in/h
C18	HUNTER ICV-G	1-1/2"	TURF ROTOR	50.8	60	2.24	2.26	64.5	75.9	1.59 in/h

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
C1	HUNTER ICV-G	TURF ROTOR	0.61 in/h	1.5	149	5,588	1,118
C2	HUNTER ICV-G	TURF ROTOR	0.57 in/h	1.5	158	6,636	1,327
C3	HUNTER ICV-G	TURF ROTOR	1.63 in/h	1.5	56	2,845	569
C4	HUNTER ICV-G	TURF ROTOR	0.62 in/h	1.5	146	6,658	1,332
C5	HUNTER ICV-G	TURF ROTOR	0.97 in/h	1.5	93	2,660	532
C6	HUNTER ICV-G	TURF ROTOR	1.37 in/h	1.5	66	3,564	713
C7	HUNTER ICV-G	TURF ROTOR	0.76 in/h	1.5	119	7,235	1,447
C8	HUNTER ICV-G	TURF ROTOR	1.21 in/h	1.5	75	3,218	644
C9	HUNTER ICV-G	TURF ROTOR	0.55 in/h	1.5	164	4,920	984
C10	HUNTER ICV-G	TURF ROTOR	0.53 in/h	1.5	170	5,610	1,122
C11	HUNTER ICV-G	TURF ROTOR	1.09 in/h	1.5	83	4,748	950
C12	HUNTER ICV-G	TURF ROTOR	1.5 in/h	1.5	60	3,240	648
C13	HUNTER ICV-G	TURF ROTOR	0.75 in/h	1.5	121	5,518	1,104
C14	HUNTER ICV-G	TURF ROTOR	0.77 in/h	1.5	118	5,381	1,076
C15	HUNTER ICV-G	TURF ROTOR	0.76 in/h	1.5	119	2,499	500
C16	HUNTER ICV-G	TURF ROTOR	1.87 in/h	1.5	49	2,646	529
C17	HUNTER ICV-G	TURF ROTOR	0.87 in/h	1.5	104	3,162	632
C18	HUNTER ICV-G	TURF ROTOR	1.59 in/h	1.5	57	2,896	579
		TOTALS:			1,907	79,021	15,804



DAYTON, MN

MLC

IRRIGATION CONSULTANTS
Water solved.
7520 JENNIFER LANE
MINNEAPOLIS, MN 55372
612.447.2053
WWW.MHLINTEGRALDESIGN.NET

DAYTON PARKS - IRRIGATION PROJECTS

IRRIGATION LAYOUT -
Hayden Hills

PROJECT

DRAWINGS

PROJECT #: 070124

DATE: 07.30.24

SCALE: VARIES

DRAWN BY: RBB

CHECKED BY: JWR

REVISIONS:

SHEET TITLE

DATE

DATE

#

#

#

#

SHEET NUMBER

IR-7

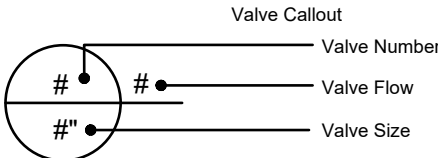
IRRIGATION SCHEDULE HAYDEN HILLS

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER MP CORNER PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE. T=TURQUOISE ADJ ARC 45-105 ON PRS30 BODY.
	HUNTER MP STRIP PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. LCS=IVORY LEFT STRIP, SS=BROWN SIDE STRIP, RCS=COPPER RIGHT STRIP.
	HUNTER MP1000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.
	HUNTER MP2000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.
	HUNTER MP3000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER I-25-04-SS 10 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-25-04-SS 15 TURF ROTOR, 4IN. POP-UP, ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
	HUNTER I-40-04-SS-ON 18 TURF ROTOR, 4IN. POP-UP, FULL CIRCLE. DRAIN CHECK VALVE, STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, DUAL OPPOSING NOZZLE.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G 1-1/2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
	HUNTER ICV-G 1" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
	HUNTER ICV-G 3" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
	BASELINE BL-1000X TWO-WIRE CONTROLLER IN LARGE 16 GAUGE POWDER-COATED WALL MOUNT CABINET, BASE MODEL 50 STATIONS, EXPANDABLE TO 75 OR 100 STATIONS.
	BASELINE BL-5315B INCLUDES COMMERCIAL BISENSOR WITH INSTALLATION GUIDE, 50FT. CONNECTION WIRES PLUS DBR/Y-6 CONNECTORS (TWO-WIRE SIDE ONLY) AND WIRE NUTS.
	HUNTER HFS-300 FLOW SENSOR FOR USE WITH ACC CONTROLLER, 3IN. SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP.
	POINT OF CONNECTION HAYDEN HILLS - NEW WELL

_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1"
_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/4"
_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/2"
_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 2"
_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 2 1/2"
_____	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 3"
=====	PIPE SLEEVE: PVC SCHEDULE 40 2"
=====	PIPE SLEEVE: PVC SCHEDULE 40 6"



CRITICAL ANALYSIS

Generated:	2024-08-21 20:33
P.O.C. NUMBER: 02	
Water Source Information:	Hayden Hills - NEW Well
FLOW AVAILABLE	
Custom Max Flow:	80 GPM
Flow Available	80 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	80 PSI
Pressure Available:	80 PSI
DESIGN ANALYSIS	
Maximum Multi-valve Flow:	70 GPM
Flow Available at POC:	80 GPM
Residual Flow Available:	10 GPM
Critical Station:	B19
Design Pressure:	60 PSI
Friction Loss:	4.2 PSI
Fittings Loss:	0.42 PSI
Elevation Loss:	0 PSI
Loss through Valve:	1.56 PSI
Pressure Req. at Critical Station:	66.2 PSI
Loss for Fittings:	0.13 PSI
Loss for Main Line:	1.33 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Loss for Master Valve:	2.5 PSI
Critical Station Pressure at POC:	70.1 PSI
Pressure Available:	80 PSI
Residual Pressure Available:	9.86 PSI

VALVE SCHEDULE HAYDEN HILLS

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
B1	HUNTER ICV-G	1"	TURF ROTARY	24.03	30	1.91	5.42	37.3	41.1	0.44 in/h
B2	HUNTER ICV-G	1-1/2"	TURF ROTOR	71.5	60	2.42	2.24	64.7	68.3	1.27 in/h
B3	HUNTER ICV-G	1-1/2"	TURF ROTOR	54	60	2.27	2.52	64.8	68.4	1.26 in/h
B4	HUNTER ICV-G	1-1/2"	TURF ROTOR	42.9	60	3.54	1.85	65.4	68.9	0.95 in/h
B5	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	2.57	1.74	64.3	67.7	0.74 in/h
B6	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	3.05	1.74	64.8	68.0	0.66 in/h
B7	HUNTER ICV-G	1-1/2"	TURF ROTOR	65.1	60	2.66	1.94	64.6	67.7	1.12 in/h
B8	HUNTER ICV-G	1-1/2"	TURF ROTARY	48.46	30	1.74	2.12	33.9	36.6	0.53 in/h
B9	HUNTER ICV-G	1-1/2"	TURF ROTARY	32.52	30	1.84	1.55	33.4	36.7	0.53 in/h
B10	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	1.93	1.74	63.7	67.3	0.56 in/h
B11	HUNTER ICV-G	1-1/2"	TURF ROTOR	54	60	2.96	2.52	65.5	69.1	1.18 in/h
B12	HUNTER ICV-G	1-1/2"	TURF ROTOR	57.2	60	3.29	1.56	64.8	68.7	1.11 in/h
B13	HUNTER ICV-G	1-1/2"	TURF ROTOR	50.8	60	1.93	2.26	64.2	68.1	1.62 in/h
B14	HUNTER ICV-G	1"	TURF ROTARY	12.04	30	2.21	3	35.2	39.1	0.55 in/h
B15	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	3.34	1.74	65.1	69.0	0.64 in/h
B16	HUNTER ICV-G	1-1/2"	TURF ROTOR	39.7	60	2.4	1.69	64.1	68.1	1.35 in/h
B17	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	2.4	1.74	64.1	68.1	0.66 in/h
B18	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	2.15	1.74	63.9	67.9	0.64 in/h
B19	HUNTER ICV-G	1-1/2"	TURF ROTOR	57.2	60	4.62	1.56	66.2	70.1	1.3 in/h
B20	HUNTER ICV-G	1-1/2"	TURF ROTOR	42.9	60	1.73	1.85	63.6	67.5	0.94 in/h
B21	HUNTER ICV-G	1-1/2"	TURF ROTOR	68.3	60	2.95	2.09	65.0	68.9	1.23 in/h
B22	HUNTER ICV-G	1-1/2"	TURF ROTOR	45.6	60	2.76	1.98	64.7	68.7	0.58 in/h
B23	HUNTER ICV-G	1-1/2"	TURF ROTOR	60.8	60	2.18	1.74	63.9	67.9	0.63 in/h
B24	HUNTER ICV-G	1-1/2"	TURF ROTOR	54	60	3.53	2.52	66.0	70.0	1.37 in/h
B25	HUNTER ICV-G	1-1/2"	TURF ROTARY	36.01	30	3.64	1.62	35.3	39.2	0.54 in/h
B26	HUNTER ICV-G	1"	TURF ROTARY	15.98	30	1.3	3	34.3	38.3	0.59 in/h
B27	HUNTER ICV-G	1-1/2"	TURF ROTARY	48.58	30	3.68	2.13	35.8	39.8	0.46 in/h
B28	HUNTER ICV-G	1-1/2"	TURF ROTOR	45.6	60	2.64	1.98	64.6	68.5	0.66 in/h
B29	HUNTER ICV-G	1-1/2"	TURF ROTOR	45.6	60	2.5	1.98	64.5	68.4	0.67 in/h
B30	HUNTER ICV-G	1-1/2"	TURF ROTOR	57.2	60	2.95	1.56	64.5	68.3	1.14 in/h

WATERING SCHEDULE HAYDEN HILLS

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
B1	HUNTER ICV-G	TURF ROTARY	0.44 in/h	1.5	204	4,902	980
B2	HUNTER ICV-G	TURF ROTOR	1.27 in/h	1.5	71	5,077	1,015
B3	HUNTER ICV-G	TURF ROTOR	1.26 in/h	1.5	72	3,888	778
B4	HUNTER ICV-G	TURF ROTOR	0.95 in/h	1.5	95	4,076	815
B5	HUNTER ICV-G	TURF ROTOR	0.74 in/h	1.5	122	7,418	1,484
B6	HUNTER ICV-G	TURF ROTOR	0.66 in/h	1.5	137	8,330	1,666
B7	HUNTER ICV-G	TURF ROTOR	1.12 in/h	1.5	81	5,273	1,055
B8	HUNTER ICV-G	TURF ROTARY	0.53 in/h	1.5	170	8,239	1,648
B9	HUNTER ICV-G	TURF ROTARY	0.53 in/h	1.5	172	5,593	1,119
B10	HUNTER ICV-G	TURF ROTOR	0.56 in/h	1.5	162	9,850	1,970
B11	HUNTER ICV-G	TURF ROTOR	1.18 in/h	1.5	77	4,158	832
B12	HUNTER ICV-G	TURF ROTOR	1.11 in/h	1.5	82	4,690	938
B13	HUNTER ICV-G	TURF ROTOR	1.62 in/h	1.5	56	2,845	569
B14	HUNTER ICV-G	TURF ROTARY	0.55 in/h	1.5	164	1,975	395
B15	HUNTER ICV-G	TURF ROTOR	0.64 in/h	1.5	140	8,512	1,702
B16	HUNTER ICV-G	TURF ROTOR	1.35 in/h	1.5	67	2,660	532
B17	HUNTER ICV-G	TURF ROTOR	0.66 in/h	1.5	138	8,390	1,678
B18	HUNTER ICV-G	TURF ROTOR	0.64 in/h	1.5	142	8,634	1,727
B19	HUNTER ICV-G	TURF ROTOR	1.3 in/h	1.5	70	4,004	801
B20	HUNTER ICV-G	TURF ROTOR	0.94 in/h	1.5	96	4,118	824
B21	HUNTER ICV-G	TURF ROTOR	1.23 in/h	1.5	74	5,054	1,011
B22	HUNTER ICV-G	TURF ROTOR	0.58 in/h	1.5	155	7,068	1,414
B23	HUNTER ICV-G	TURF ROTOR	0.63 in/h	1.5	143	8,694	1,739
B24	HUNTER ICV-G	TURF ROTOR	1.37 in/h	1.5	66	3,564	713
B25	HUNTER ICV-G	TURF ROTARY	0.54 in/h	1.5	168	6,050	1,210
B26	HUNTER ICV-G	TURF ROTARY	0.59 in/h	1.5	153	2,445	489
B27	HUNTER ICV-G	TURF ROTARY	0.46 in/h	1.5	195	9,473	1,895
B28	HUNTER ICV-G	TURF ROTOR	0.66 in/h	1.5	137	6,247	1,249
B29	HUNTER ICV-G	TURF ROTOR	0.67 in/h	1.5	135	6,156	1,231
B30	HUNTER ICV-G	TURF ROTOR	1.14 in/h	1.5	80	4,576	915
TOTALS:					3,624	171,958	34,392

DAYTON, MN

Dayton Parks - Irrigation Projects

PROJECT

SHEET NUMBER



IRRIGATION LAYOUT -
Hayden Hills

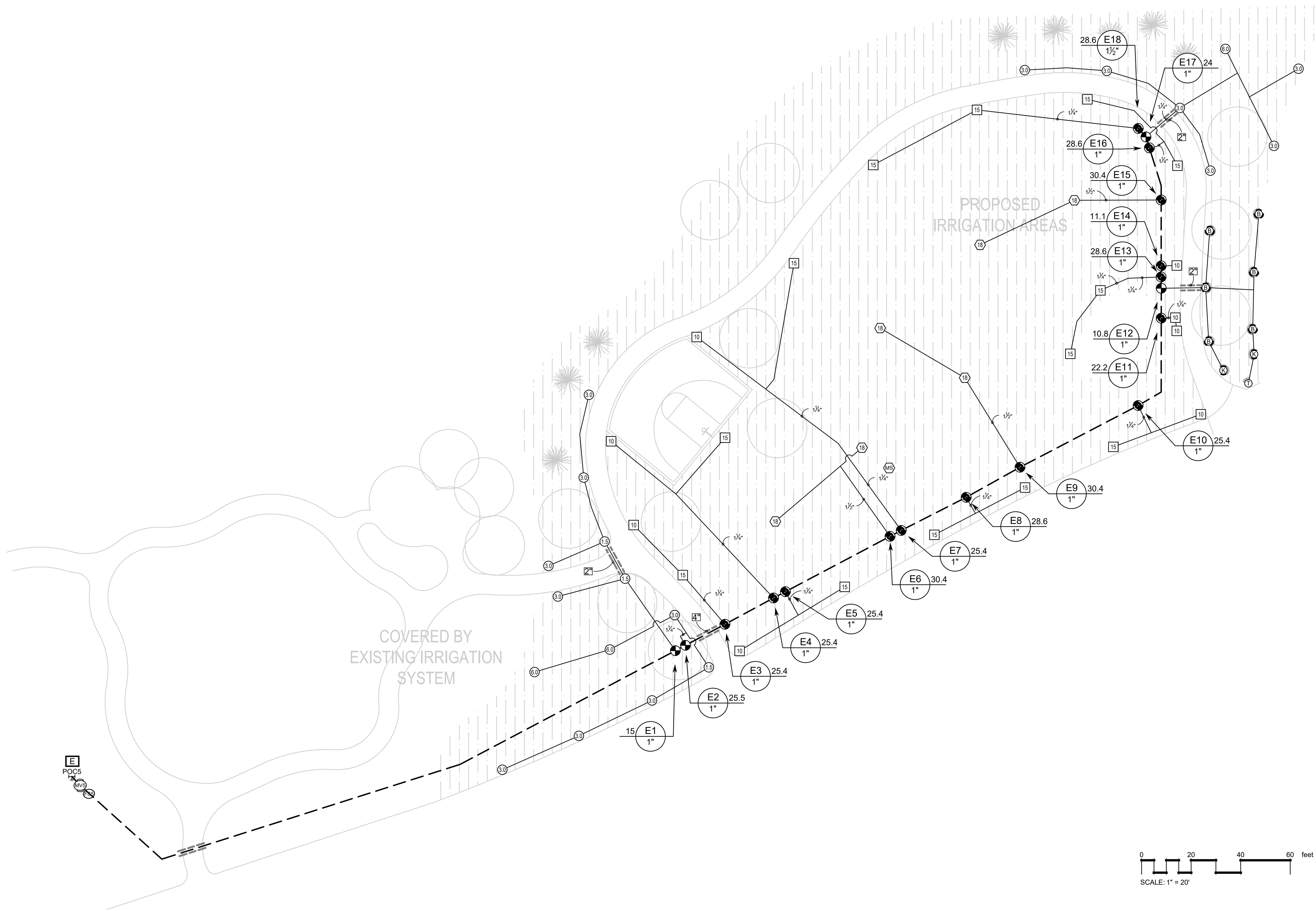
SHEET TITLE

PROJECT # 070124
DATE: 07.30.24
SCALE: VARIES
DRAWN BY: RBB
CHECKED BY: JWR

REVISIONS:

DATE # DATE # DATE #

IR-8



DAYTON, MN

Dayton Parks - Irrigation Projects

PROJECT

MLC
IRRIGATION CONSULTANTS
Water solved.
7520 JENNIFER LANE
MINNEAPOLIS, MN 55372
612.447.2053
WWW.MANLINECONSULTING.NET

SHEET TITLE

IRRIGATION LAYOUT - Sundance Woods

REVISIONS:

#	DATE	#	DATE

DRAWINGS

PROJECT#: 070124
DATE: 07.30.24
SCALE: VARIES
DRAWN BY: RBB
CHECKED BY: JWR

SHEET NUMBER

IR-9

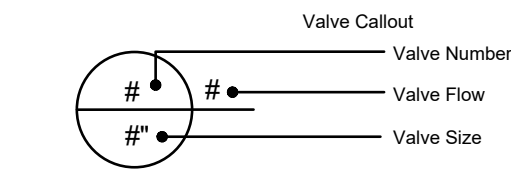
IRRIGATION SCHEDULE SUNDANCE WOODS

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
①	HUNTER MP CORNER PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE. T=TURQUOISE ADJ ARC 45-105 ON PRS30 BODY.
K G G	HUNTER MP2000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.
B Y A	HUNTER MP3000 PROS-04-PRS30-CV TURF ROTATOR, 4IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
1.5	HUNTER I-20-04-SS 1.5 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
3.0	HUNTER I-20-04-SS 3.0 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
6.0	HUNTER I-20-04-SS 6.0 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
10	HUNTER I-25-04-SS 10 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
15	HUNTER I-25-04-SS 15 TURF ROTOR, 4IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. STANDARD NOZZLE.
18	HUNTER I-40-04-SS-ON 18 TURF ROTOR, 4IN. POP-UP. FULL CIRCLE. DRAIN CHECK VALVE. STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, DUAL OPPOSING NOZZLE.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
⦿	HUNTER ICV-G 1-1/2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
⦿	HUNTER ICV-G 1" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
MV3	HUNTER ICV-G 2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.WITH BASELINE BICODER TWO-WIRE DECODER
E	BASELINE BL-1000X TWO-WIRE CONTROLLER IN LARGE 16 GAUGE POWDER-COATED WALL MOUNT CABINET, BASE MODEL 50 STATIONS, EXPANDABLE TO 75 OR 100 STATIONS.
MS	BASELINE BL-5315B INCLUDES COMMERCIAL BISENSOR WITH INSTALLATION GUIDE, 50FT. CONNECTION WIRES PLUS DBRY-6 CONNECTORS (TWO-WIRE SIDE ONLY) AND WIRE NUTS.
FS	BADGER ULTRASONIC FLOW SENSOR WITH BASELINE BICODER TWO-WIRE DECODER
POCS	POINT OF CONNECTION SUNDANCE WOODS - CONNECT TO EXISTING IRRIGATION

_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1"
_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/4"
_____	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 1 1/2"
-----	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 2"
=====	PIPE SLEEVE: PVC SCHEDULE 40 2"
=====	PIPE SLEEVE: PVC SCHEDULE 40 4"



CRITICAL ANALYSIS

Generated:	2024-08-21 21:03
P.O.C. NUMBER: 05	
Water Source Information:	Sundance Woods - connect to existing irrigation
FLOW AVAILABLE	
Custom Max Flow:	30 GPM
Flow Available	30 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	60 PSI
Pressure Available:	60 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	30.4 GPM
Flow Available at POC:	30 GPM
Residual Flow Available:	-0.4 GPM
Critical Station:	E15
Design Pressure:	60 PSI
Friction Loss:	1.7 PSI
Fittings Loss:	0.17 PSI
Elevation Loss:	0 PSI
Loss through Valve:	9.44 PSI
Pressure Req. at Critical Station:	71.3 PSI
Loss for Fittings:	0.31 PSI
Loss for Main Line:	3.07 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Loss for Master Valve:	0.8 PSI
Critical Station Pressure at POC:	75.5 PSI
Pressure Available:	60 PSI
Residual Pressure Available:	-15.49 PSI

VALVE SCHEDULE SUNDANCE WOODS

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
E1	HUNTER ICV-G	1"	TURF ROTOR	15	45	1.52	3	49.5	50.7	0.65 in/h
E2	HUNTER ICV-G	1"	TURF ROTOR	25.5	45	1.22	6.3	52.5	54.4	0.63 in/h
E3	HUNTER ICV-G	1"	TURF ROTOR	25.4	60	1.12	6.24	67.4	69.3	1.9 in/h
E4	HUNTER ICV-G	1"	TURF ROTOR	25.4	60	2.17	6.24	68.4	70.4	2.96 in/h
E5	HUNTER ICV-G	1"	TURF ROTOR	25.4	60	0.86	6.24	67.1	69.1	1.34 in/h
E6	HUNTER ICV-G	1"	TURF ROTOR	30.4	60	1.64	9.44	71.1	73.9	0.7 in/h
E7	HUNTER ICV-G	1"	TURF ROTOR	25.4	60	3.35	6.24	69.6	71.9	1.44 in/h
E8	HUNTER ICV-G	1"	TURF ROTOR	28.6	60	0.84	8.16	69.0	71.8	1.55 in/h
E9	HUNTER ICV-G	1"	TURF ROTOR	30.4	60	1.92	9.44	71.4	74.6	0.6 in/h
E10	HUNTER ICV-G	1"	TURF ROTOR	25.4	60	0.74	6.24	67.0	69.8	2.38 in/h
E11	HUNTER ICV-G	1"	TURF ROTOR	22.2	60	0.14	4.32	64.5	67.0	4.31 in/h
E12	HUNTER ICV-G	1"	TURF ROTARY	10.85	30	0.4	3	33.4	34.7	0.5 in/h
E13	HUNTER ICV-G	1"	TURF ROTOR	28.6	60	1.51	8.16	69.7	73.3	1.61 in/h
E14	HUNTER ICV-G	1"	TURF ROTOR	11.1	60	0.14	3	63.1	64.4	1.8 in/h
E15	HUNTER ICV-G	1"	TURF ROTOR	30.4	60	1.87	9.44	71.3	75.5	0.66 in/h
E16	HUNTER ICV-G	1"	TURF ROTOR	28.6	60	1.19	8.16	69.4	73.3	1.82 in/h
E17	HUNTER ICV-G	1"	TURF ROTOR	24	45	1	5.4	51.4	54.5	0.57 in/h

WATERING SCHEDULE SUNDANCE WOODS

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
E1	HUNTER ICV-G	TURF ROTOR	0.65 in/h	1.5	139	2,085	417
E2	HUNTER ICV-G	TURF ROTOR	0.63 in/h	1.5	144	3,672	734
E3	HUNTER ICV-G	TURF ROTOR	1.9 in/h	1.5	48	1,219	244
E4	HUNTER ICV-G	TURF ROTOR	2.96 in/h	1.5	31	787	157
E5	HUNTER ICV-G	TURF ROTOR	1.34 in/h	1.5	67	1,702	340
E6	HUNTER ICV-G	TURF ROTOR	0.7 in/h	1.5	130	3,952	790
E7	HUNTER ICV-G	TURF ROTOR	1.44 in/h	1.5	63	1,600	320
E8	HUNTER ICV-G	TURF ROTOR	1.55 in/h	1.5	59	1,687	337
E9	HUNTER ICV-G	TURF ROTOR	0.6 in/h	1.5	151	4,590	918
E10	HUNTER ICV-G	TURF ROTOR	2.38 in/h	1.5	38	965	193
E11	HUNTER ICV-G	TURF ROTOR	4.31 in/h	1.5	21	466	93.2
E12	HUNTER ICV-G	TURF ROTARY	0.5 in/h	1.5	181	1,963	393
E13	HUNTER ICV-G	TURF ROTOR	1.61 in/h	1.5	56	1,602	320
E14	HUNTER ICV-G	TURF ROTOR	1.8 in/h	1.5	51	566	113
E15	HUNTER ICV-G	TURF ROTOR	0.66 in/h	1.5	137	4,165	833
E16	HUNTER ICV-G	TURF ROTOR	1.82 in/h	1.5	50	1,430	286
E17	HUNTER ICV-G	TURF ROTOR	0.57 in/h	1.5	150	2,250	450

DAYTON, MN

Dayton Parks - Irrigation Projects

PROJECT

SHEET NUMBER



SHEET TITLE

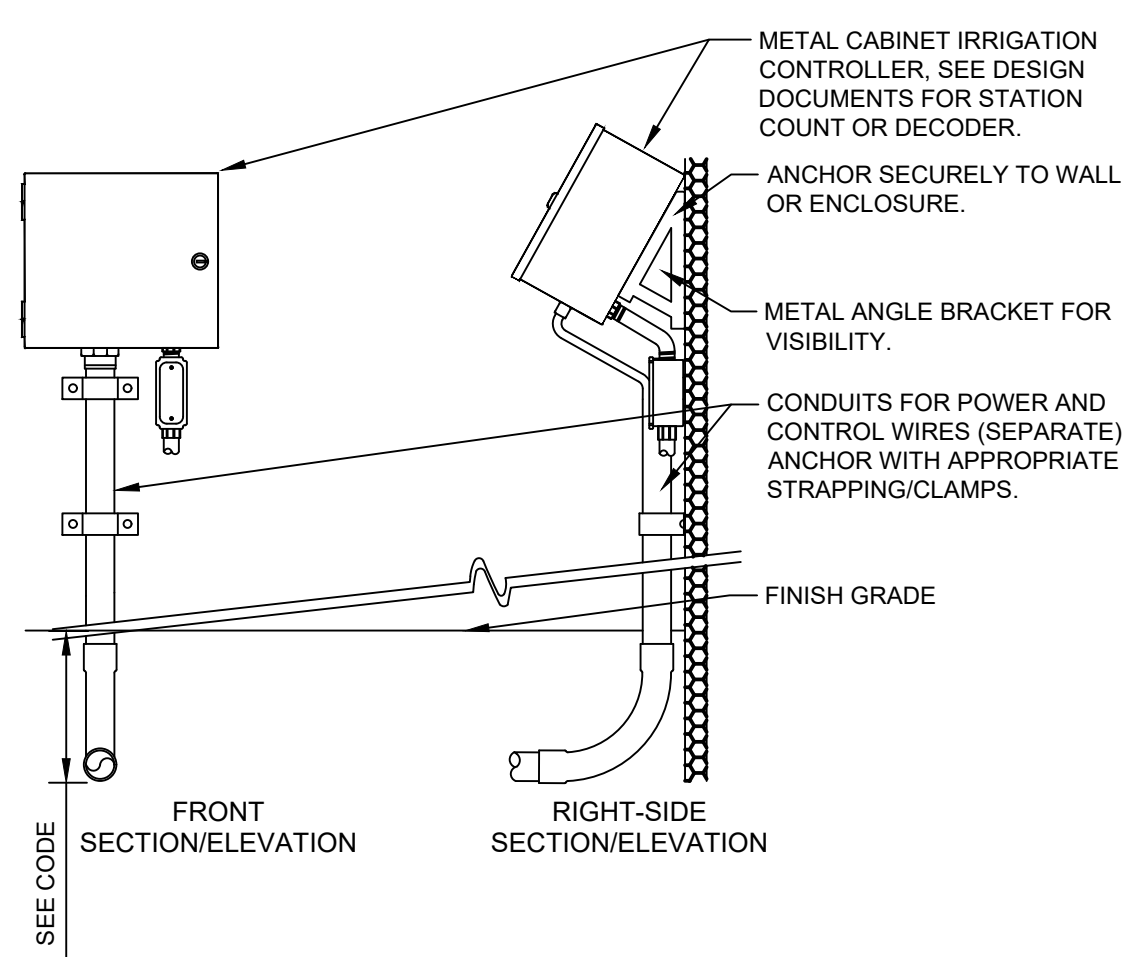
IRRIGATION LAYOUT -
Sundance Woods

REVISIONS:

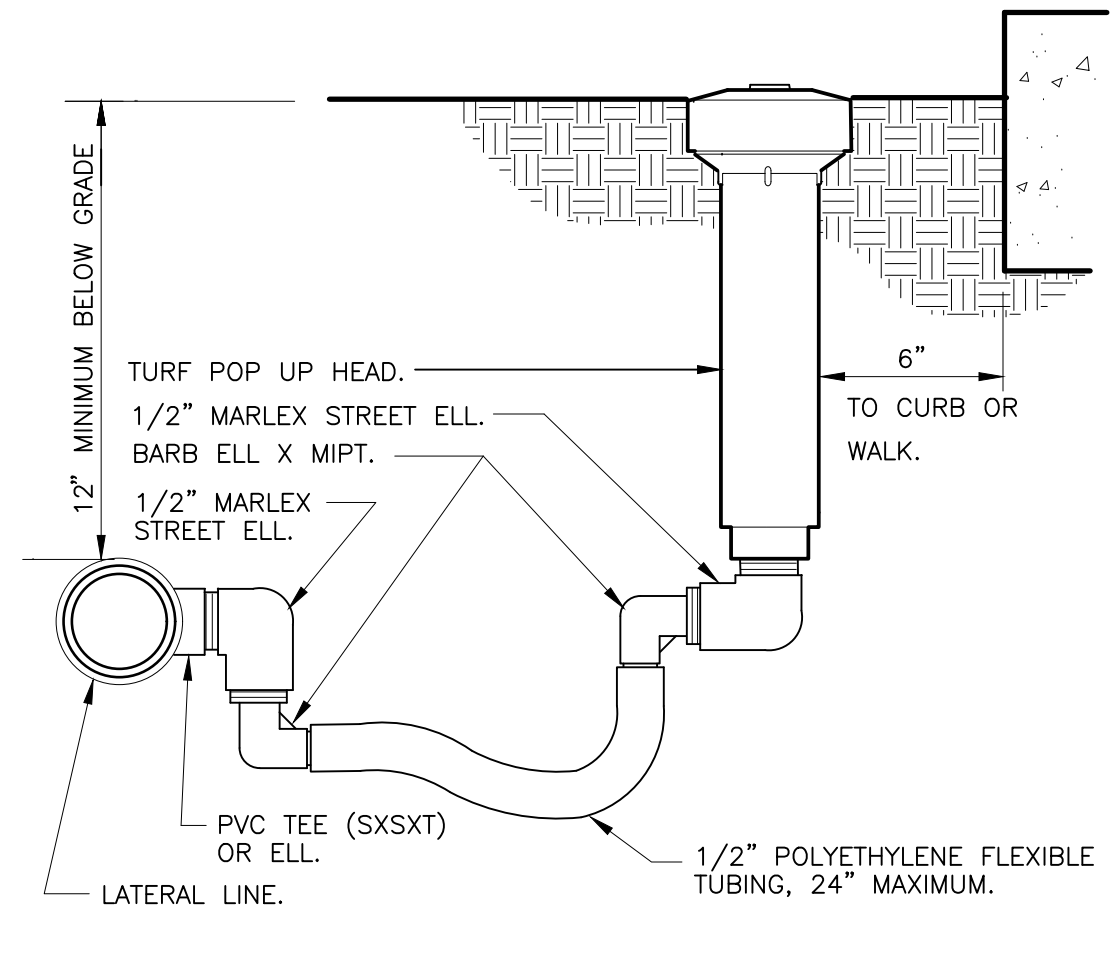
DATE	#	DATE	#

PROJECT #:	070124
DATE:	07.30.24
SCALE:	VARIES
DRAWN BY:	RBB
CHECKED BY:	JWR

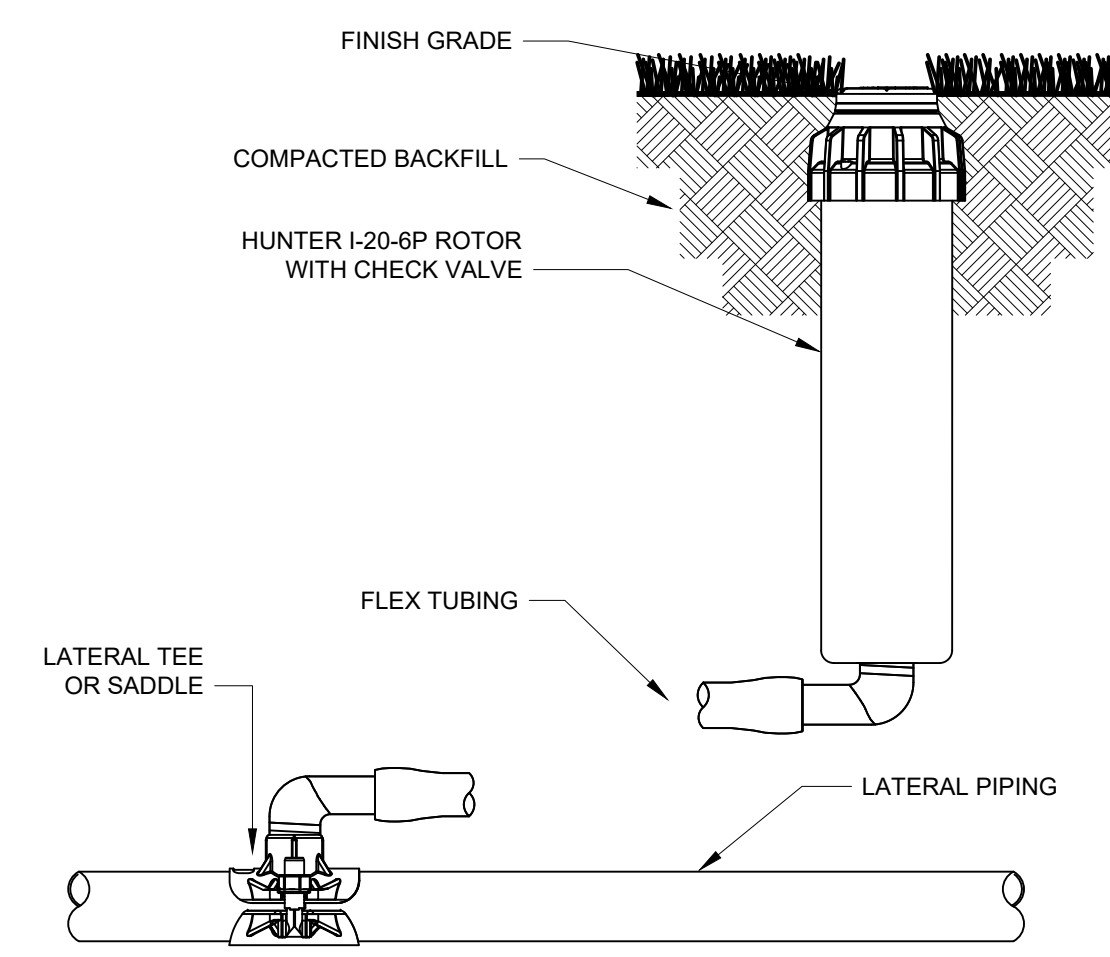
IR-10



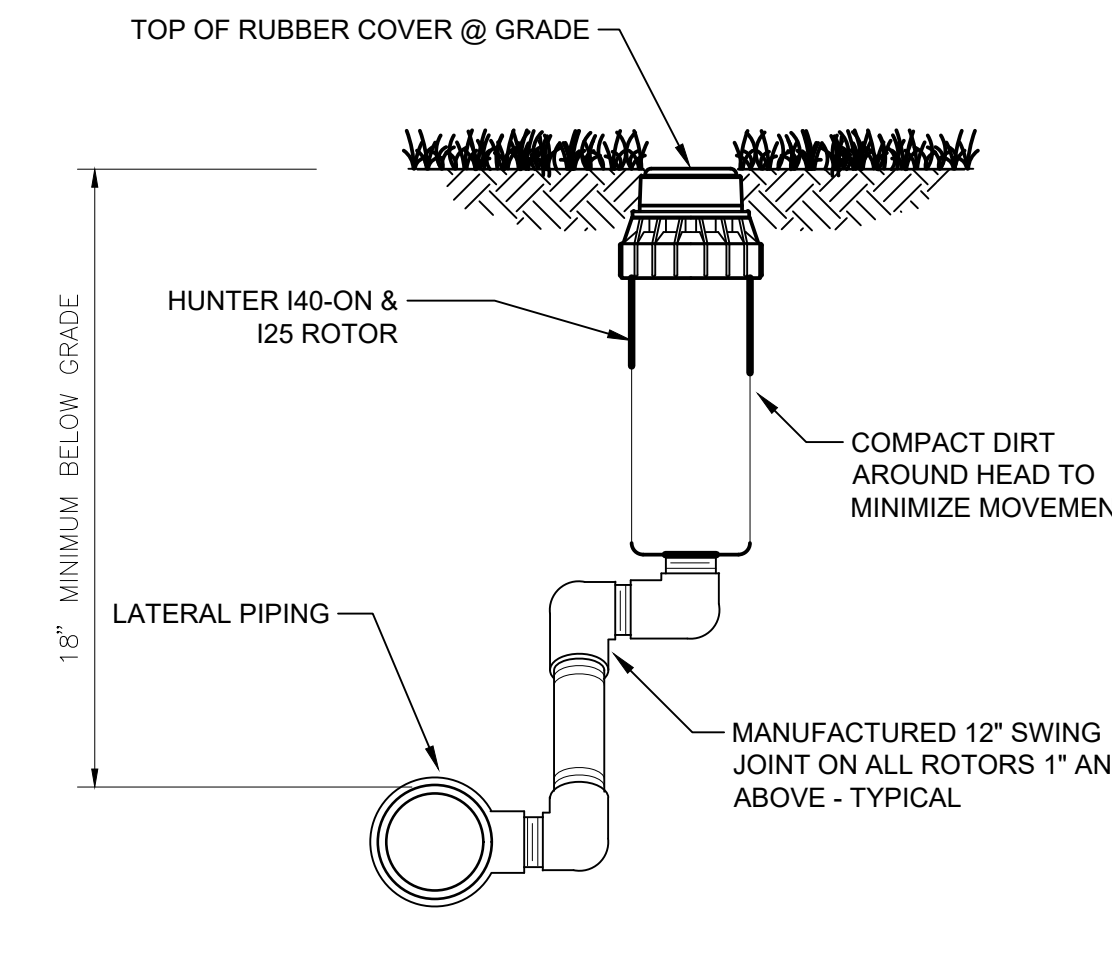
1 CONTROLLER - ENCLOSURE MOUNT
1" = 1'-0" 328409.13-10



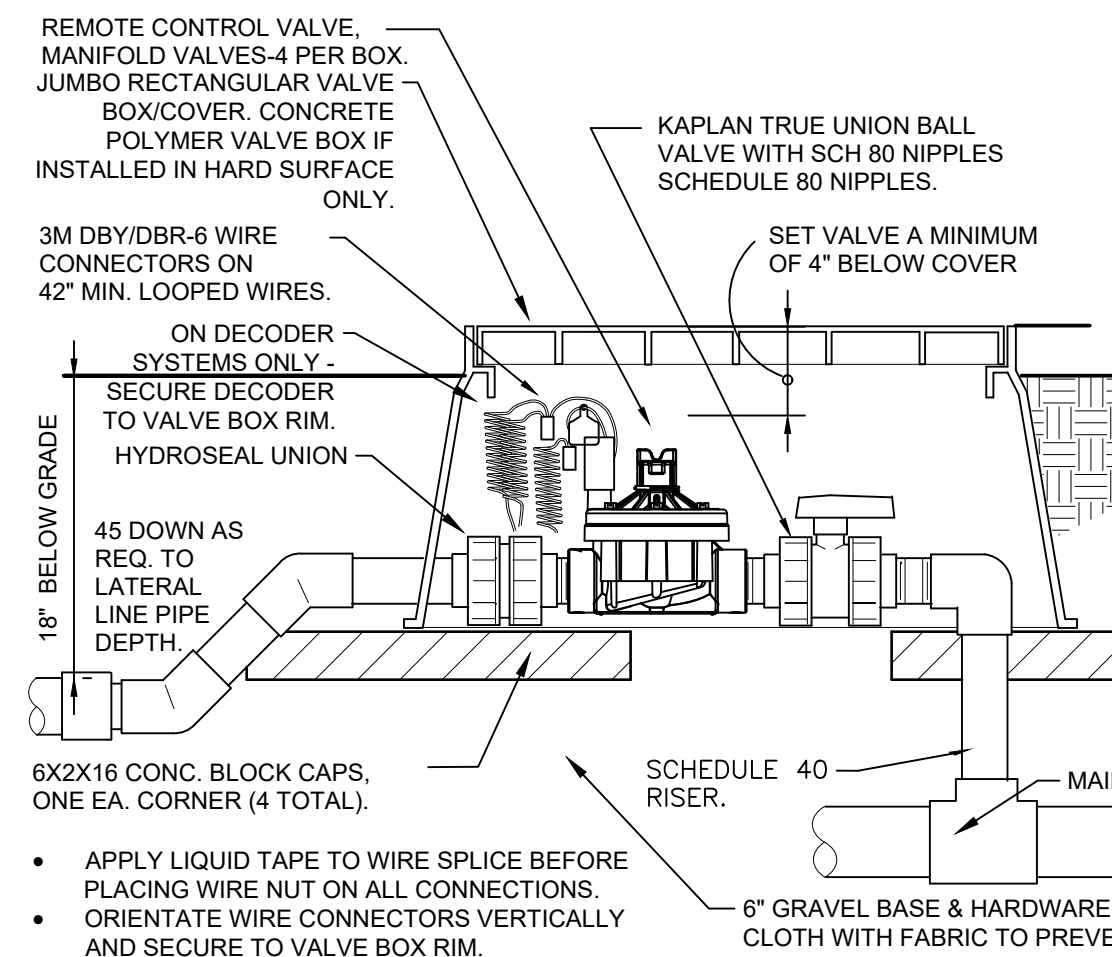
2 TURF SPRAY FLEX ASSEMBLY
3" = 1'-0" 328403.13-02



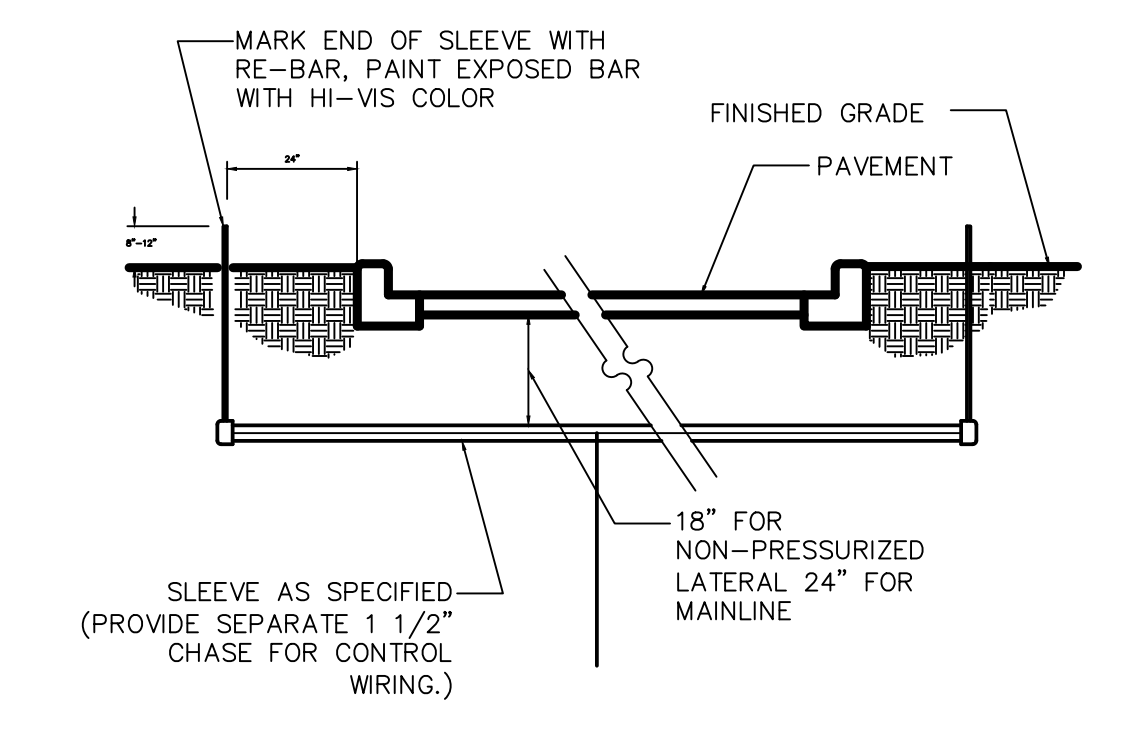
3 HUNTER I-20
6" = 1'-0" 328403.16-09



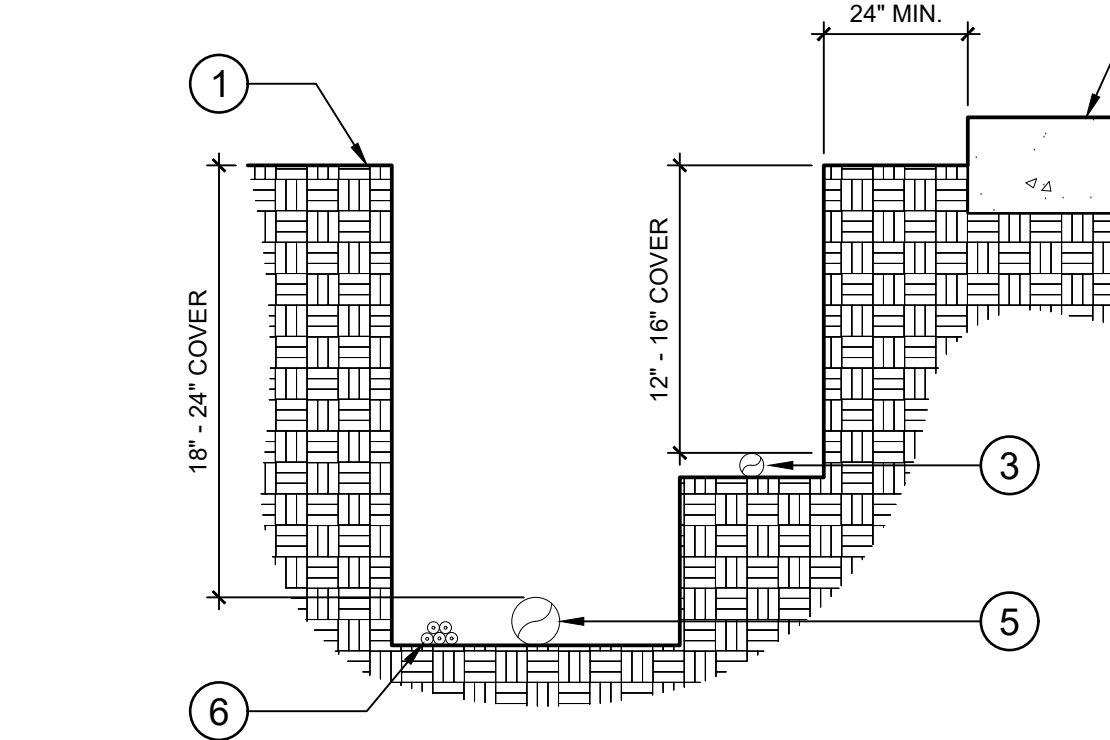
4 HUNTER I-40-ON & I25
3" = 1'-0" 328403.16-23



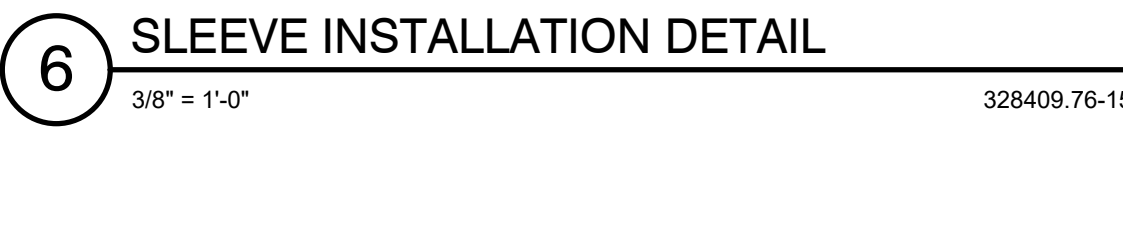
5 REMOTE CONTROL VALVE WITH SHUT OFF
1 1/2" = 1'-0" 328406.13-27



6 SLEEVE INSTALLATION DETAIL
3/8" = 1'-0" 328409.76-15



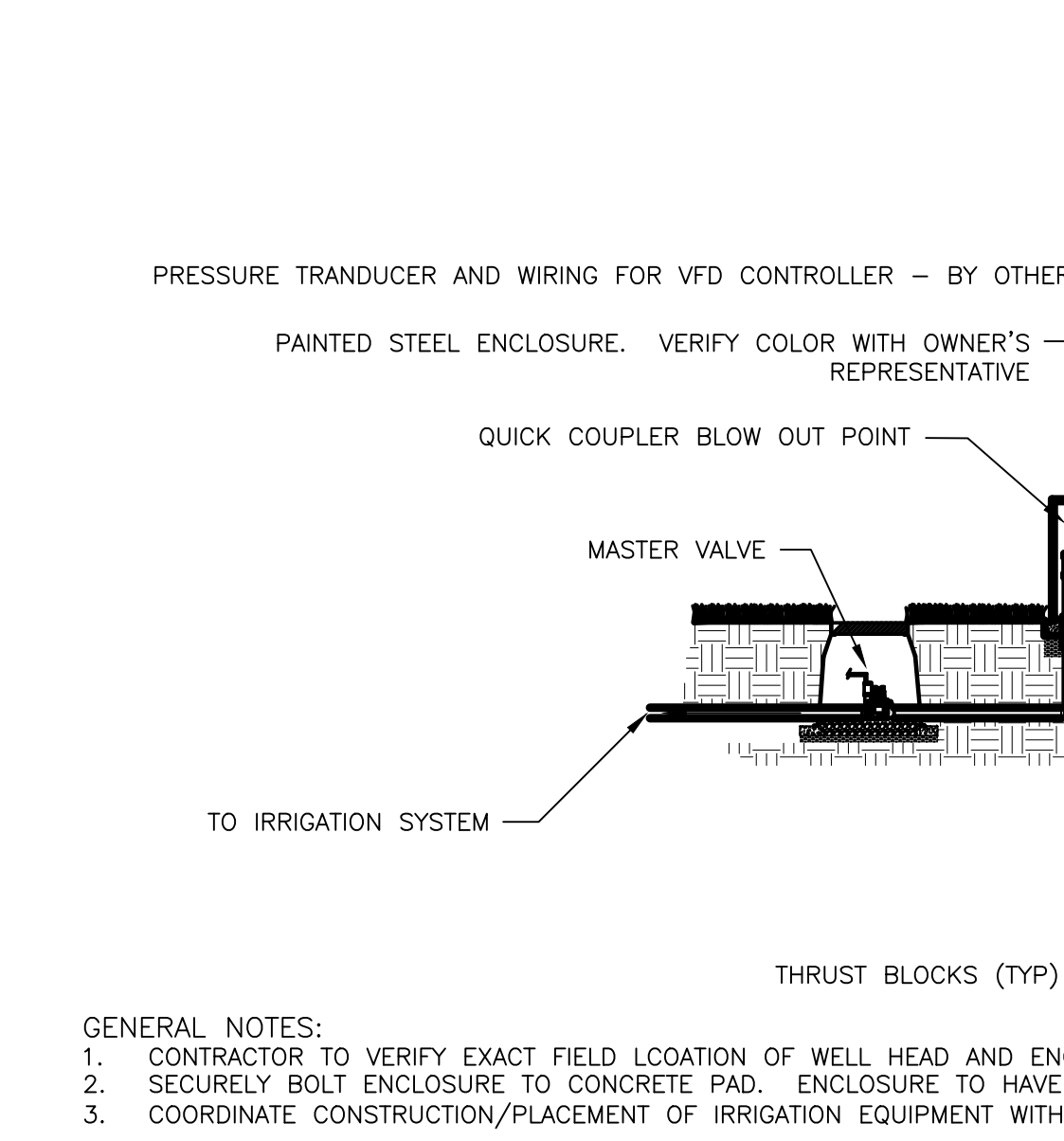
7 IRRIGATION TRENCHING
1 1/2" = 1'-0" 328409.76-22



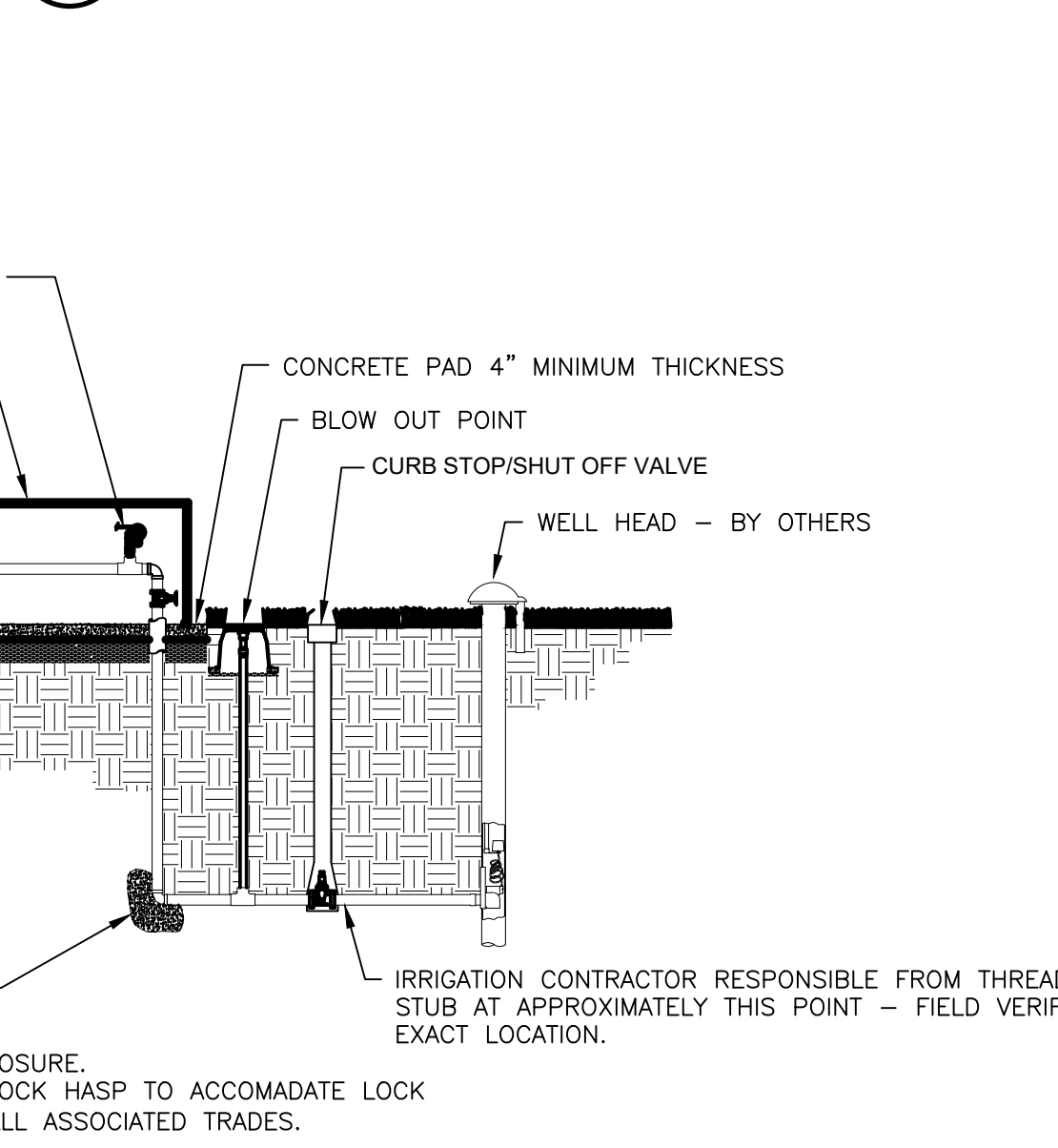
10 WELL HEAD - POINT OF CONNECTION
1/4" = 1'-0" 328409.73-143



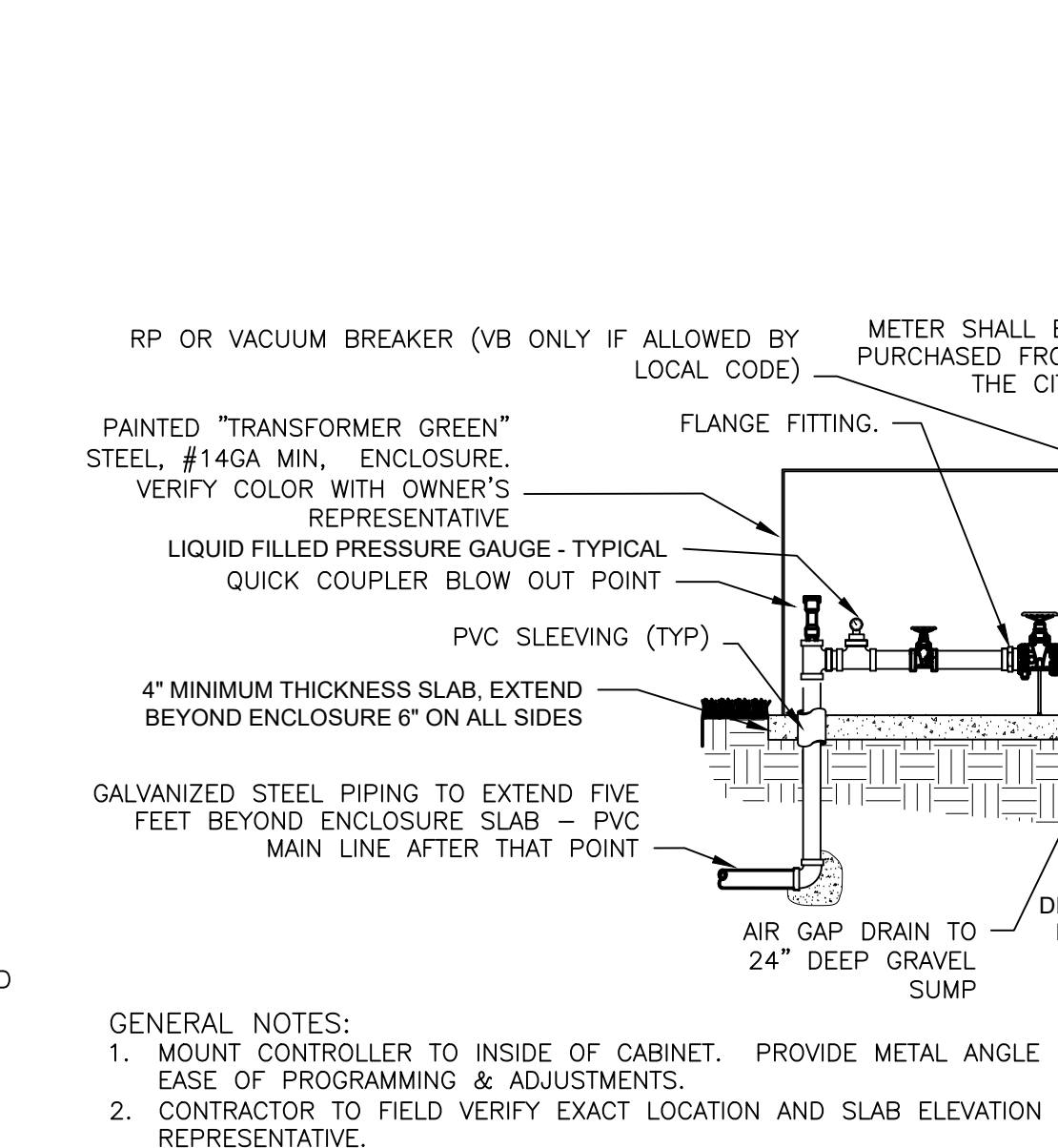
11 POINT OF CONNECTION DETAIL
1/4" = 1'-0" 328409.73-144



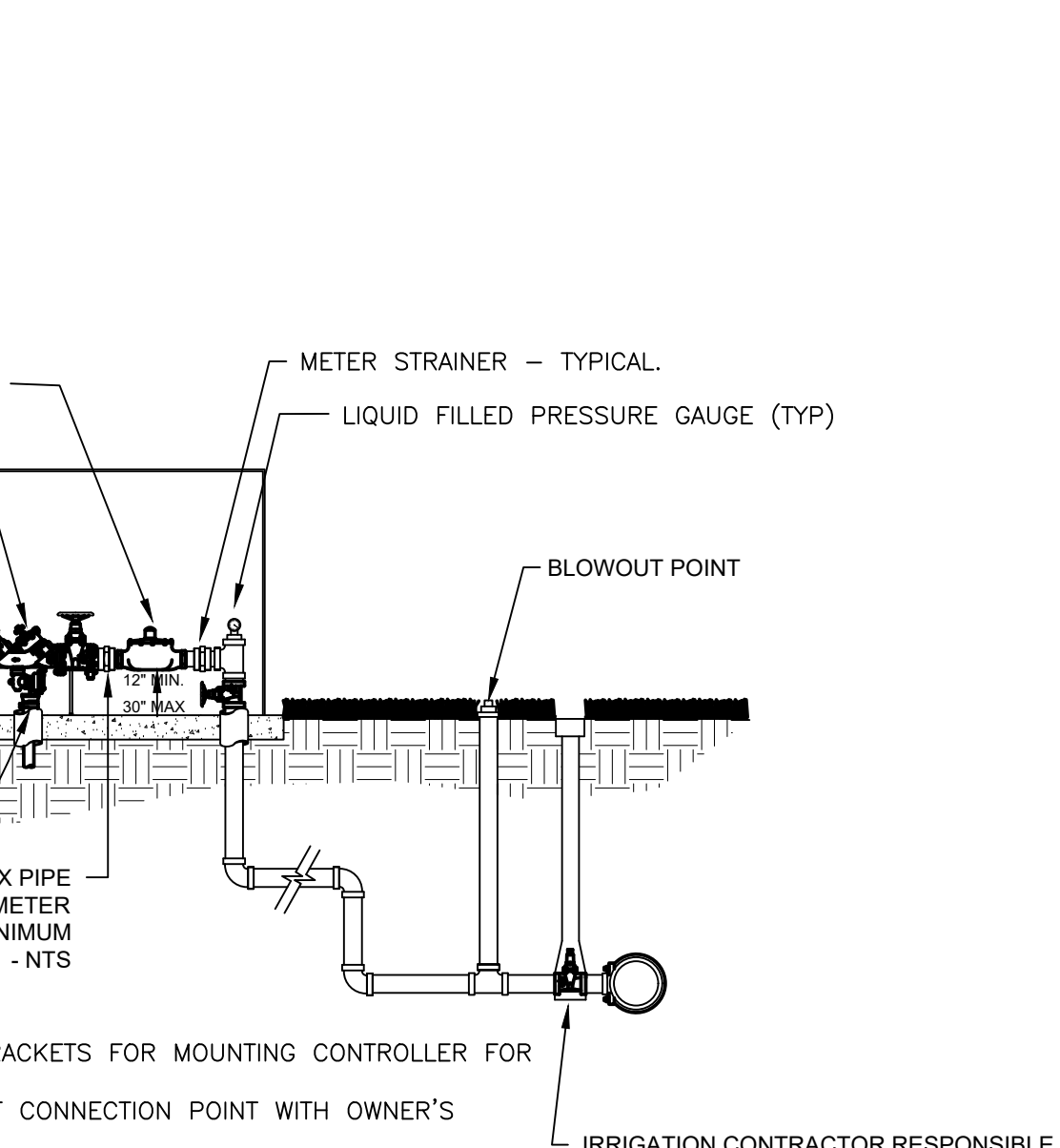
10 WELL HEAD - POINT OF CONNECTION
1/4" = 1'-0" 328409.73-143



11 POINT OF CONNECTION DETAIL
1/4" = 1'-0" 328409.73-144



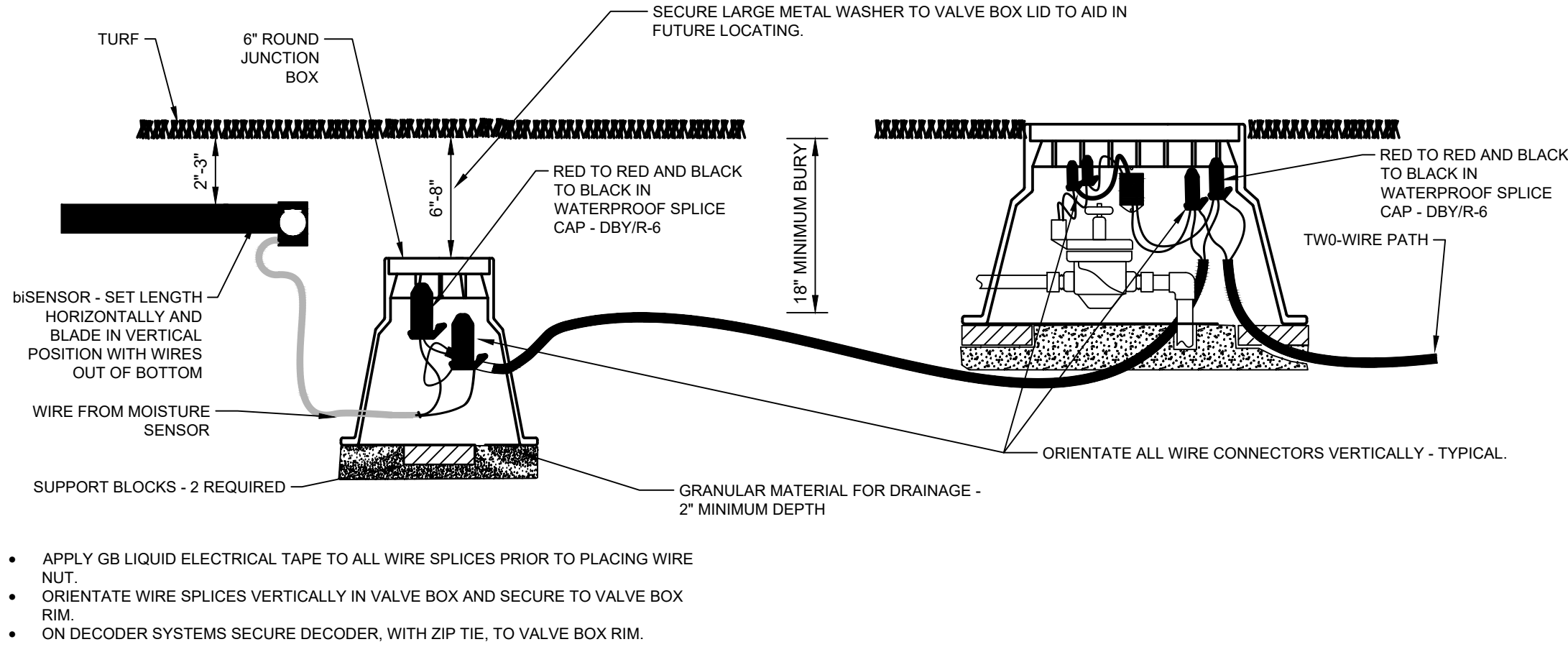
11 POINT OF CONNECTION DETAIL
1/4" = 1'-0" 328409.73-144



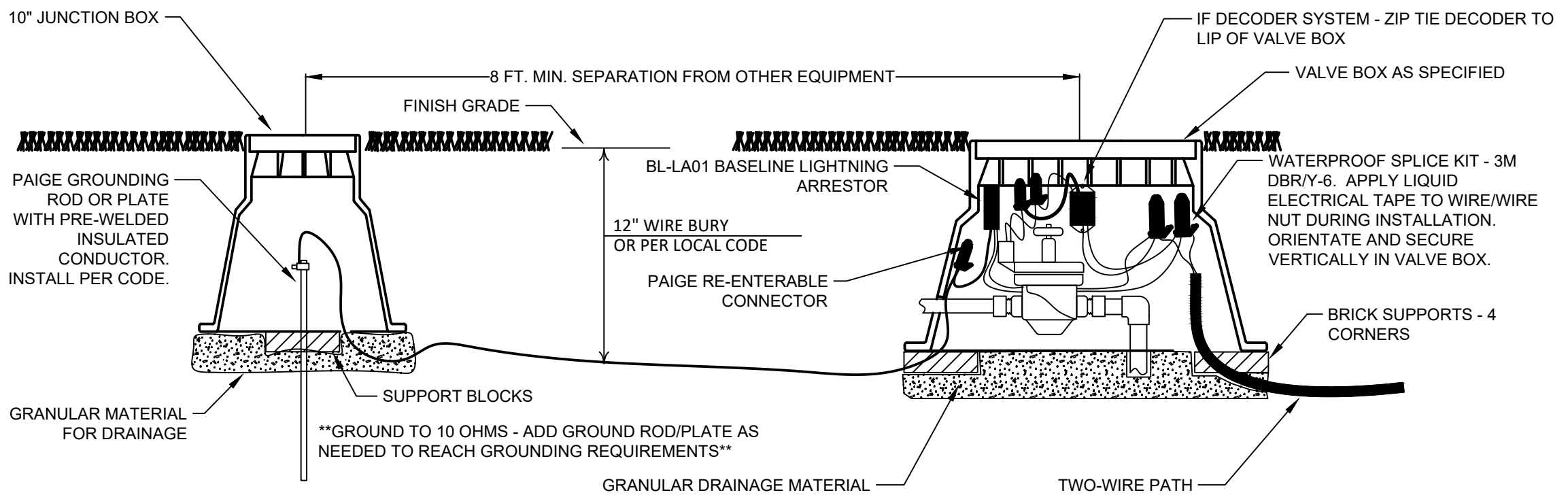
11 POINT OF CONNECTION DETAIL
1/4" = 1'-0" 328409.73-144



11 POINT OF CONNECTION DETAIL
1/4" = 1'-0" 328409.73-144



- APPLY GB LIQUID ELECTRICAL TAPE TO ALL WIRE SPLICES PRIOR TO PLACING WIRE NUT.
- ORIENTATE WIRE SPLICES VERTICALLY IN VALVE BOX AND SECURE TO VALVE BOX RIM.
- ON DECODER SYSTEMS SECURE DECODER, WITH ZIP TIE, TO VALVE BOX RIM.



GROUND TO 10 OHMS - ADD GROUND ROD/PLATE AS NEEDED TO REACH GROUNDING REQUIREMENTS

1 BASELINE SOIL MOISTURE SENSOR - SPORTS TURF

1 1/2" = 1'-0"

328409.66-07

2 BL-LA01 LIGHTNING ARRESTOR

1 1/2" = 1'-0"

328409.79-04

1. DESIGN BASED ON POC ANALYSIS (downstream of meter).
2. This irrigation design is from the point of connection only. This design is based on the pressure and volume indicated in item #1, which is furnished and verified by others. Booster station may be required.
3. Contractor shall be responsible to field verify the information in the POC Analysis.
4. This irrigation design is diagrammatic. Adjustments to pipe, valve and/or head placement may be required of contractor.
5. FULL and COMPLETE coverage is required. The irrigation contractor shall make any necessary minor adjustments to the irrigation layout required to achieve FULL and COMPLETE coverage of irrigated areas at no additional cost to owner.
6. Bidding contractors shall become thoroughly familiar with all facets of the proposed irrigation system and the control requirements & specifications. Failure to clarify misunderstandings or the intent of this drawing and/or specifications before submittal of bid shall be the sole responsibility of the contractor.
7. This irrigation system shall be installed as per manufactures specifications.
8. This irrigation design shows necessary materials, but certain other materials may have to be supplied and installed by the irrigation contractor in order to have, upon completion, a fully operational irrigation system.
9. The irrigation contractor shall locate ALL underground utilities, and they shall take every precaution not to damage or disturb such improvements. Coordinate with General Contractor as necessary.
10. The irrigation contractor shall arrange for and pay for any necessary permits and/or inspections required by local agencies or ordinances during the course of construction.
11. ALL PVC piping under continuous pressure shall be CL200.
12. ALL backflow devices shall be installed as per local code. ALL connection equipment shall be housed in painted steel enclosures.
13. ALL wiring as per local code.
14. Electrical power shall be provided to within five (5) feet of controller and/or pump location. Coordinate with Owners Representative as to the final location of controller. Coordinate with Electrical Contractor as required.
15. Control wire shall be solid copper wire U.L. approved for direct burial in ground. Minimum gauge - #14 (#12 for runs over 2000') or as otherwise specified. Decoder wire shall be jacketed. Ground Wire (where applicable) shall be white.
16. 24VAC wire splicing material will be direct burial splice kit as manufactured by 3M, specifically DBY-6 & DBR-6. Add GB liquid electrical tape to all splices before applying wire nuts.
17. Install rain sensors on vertical surfaces. Coordinate with Owners Representative as to final location of rain sensor, moisture sensors, weather stations and any additional sensors.
18. ALL valves, quick-couplers and wire splices shall be located in valve boxes with labeled covers and buried flush with grade.
19. Winterization of the irrigation system shall be as per the manufacturers specifications.
20. Wire shall be contained in a separate, 1 1/2" min., sleeve.

3 IRRIGATION GENERAL NOTES:

328409-93

Dayton Parks - Irrigation Projects

DAYTON, MN

PROJECT

DRAWINGS

PROJECT #: 070124
DATE: 07.30.24
SCALE: VARIES
DRAWN BY: RBB
CHECKED BY: JWR

REVISIONS:

#	DATE	#	DATE

SHEET TITLE

IRRIGATION DETAILS

DAYTON, MN

MLC
IRRIGATION CONSULTANTS
Water solved.
7520 JENNIFER LANE
MINNEAPOLIS, MN 55372
612.447.2053
WWW.MANLINECONSULTING.NET

SHEET NUMBER

IR-12