

DATE PLOTTED: Wednesday, May 02, 2018 @ 0:15:17 PM

**IRRIGATION NOTES:**

1. VERIFY LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES BEFORE STARTING ANY WORK.
2. EXISTING UNDERGROUND (U/G) UTILITIES AND DRAINAGE STRUCTURES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION. UTILITY LOCATIONS MUST BE CONSIDERED APPROXIMATE. NOTIFY THE UTILITY COMPANIES TO LOCATE THEIR UTILITIES BEFORE ACTUAL CONSTRUCTION.
3. THIS IRRIGATION PERFORMANCE PLAN AND IRRIGATION EQUIPMENT IS BASED ON EQUIPMENT AS LISTED, HUNTER, RAINBIRD OR APPROVED EQUAL PER CITY OF WICHITA SPECIFICATIONS.
4. IRRIGATION PLAN SHOWN IS DIAGRAMMATIC. CONTRACTOR WILL PROVIDE DELEGATED DESIGN IRRIGATION DESIGN SHOP DRAWINGS INCLUDING LOCATION OF IRRIGATION HEADS, MAINLINE, VALVES, LATERAL PIPE SIZES, PRESSURE LOSS CALCULATIONS AND OTHER REQUIRED EQUIPMENT FOR A COMPLETE

IRRIGATION SYSTEM INSTALLATION. IRRIGATION MAINLINES AND LATERAL PIPING ARE SHOWN WITHIN PAVING AREAS FOR PLAN CLARITY ONLY. LOCATE ALL IRRIGATION WITHIN LAWN AREAS OR PLANTING AREAS WHERE POSSIBLE.

5. POP-UP SPRAY HEADS IN TURF AREAS WILL BE 6" HEIGHT AND 12" POP-UP HEIGHT IN ALL SHRUB AND GRASS PLANTING BEDS PER DRAWINGS.
6. IRRIGATION SLEEVES WILL BE INSTALLED IN ALL LOCATIONS IRRIGATION MAINLINE AND LATERALS CROSS UNDER PAVEMENTS. ENSURE 24" MIN. COVER TO TOP OF PAVEMENT. EXTEND SLEEVES 2'-0" INTO LAWN AREA BEYOND PAVEMENTS OR BACK OF CURB. ONCE SLEEVE IS INSTALLED, PROVIDE REBAR IN EACH END OF THE SLEEVE TO FACILITATE LOCATION WITH METAL DETECTOR. CAP-OFF EACH END TO PREVENT SOIL CONTAMINATION IN SLEEVE. MARK "X" ON PAVEMENT DIRECTLY ABOVE END OF SLEEVE TO FACILITATE LOCATION.
7. PROVIDE A QUICK COUPLER VALVE AND SHUT OFF VALVE IN CONTROL BOX ON IRRIGATION MAINLINE TO FACILITATE

COMPLETE IRRIGATION SYSTEM BLOWOUT BY COMPRESSED AIR FOR WINTERIZATION.

8. SHRUB AND TURF ZONES WILL BE SEPARATELY CONTROLLED WHERE POSSIBLE.
9. THE IRRIGATION WATER POINT-OF-CONNECTION LOCATION AT THE PRIVATE WATER MAIN WILL BE SEPARATELY METERED PER THE LOCAL JURISDICTION. CONFIRM EXISTING STATIC PRESSURE OF 70 PSI.
10. MINIMUM LATERAL PIPE SIZES ARE SHOWN ON THE DRAWINGS. CONTRACTOR WILL PROVIDE MAINLINE PIPE SIZES AS REQUIRED TO MEET REQUIRED FLOWS, PIPE VELOCITIES, AND PRESSURE LOSSES ASSUMING UP TO TWO ZONES OPERATING SIMULTANEOUSLY WITH DELEGATED DESIGN SUBMITTAL FOR APPROVAL PER DRAWINGS.
11. LOCATE IRRIGATION SPRINKLER HEADS AND LATERAL PIPING A MINIMUM OF 12-INCHES FROM THE RIGHT-OF-WAY AND FENCES AND 6'-INCHES FROM BUILDINGS OR NEW OR EXISTING PAVEMENTS.

**CRITICAL ANALYSIS**

Generated: 2018-05-02 13:18  
 P.O.C. NUMBER: 01  
 Water Source Information: 2.5-inch Irrigation stub from 8-inch metered mainline

FLOW AVAILABLE  
 Point of Connection Size: 2-1/2"  
 Flow Available: 112.10 gpm

PRESSURE AVAILABLE  
 Static Pressure at POC: 80.00 psi  
 Booster Pump pressure provided: 70.00 psi  
 Pressure Available: 150.00 psi

DESIGN ANALYSIS  
 Maximum Multi-valve Flow: 112.10 gpm  
 Flow Available at POC: 112.10 gpm  
 Residual Flow Available: 0.00 gpm

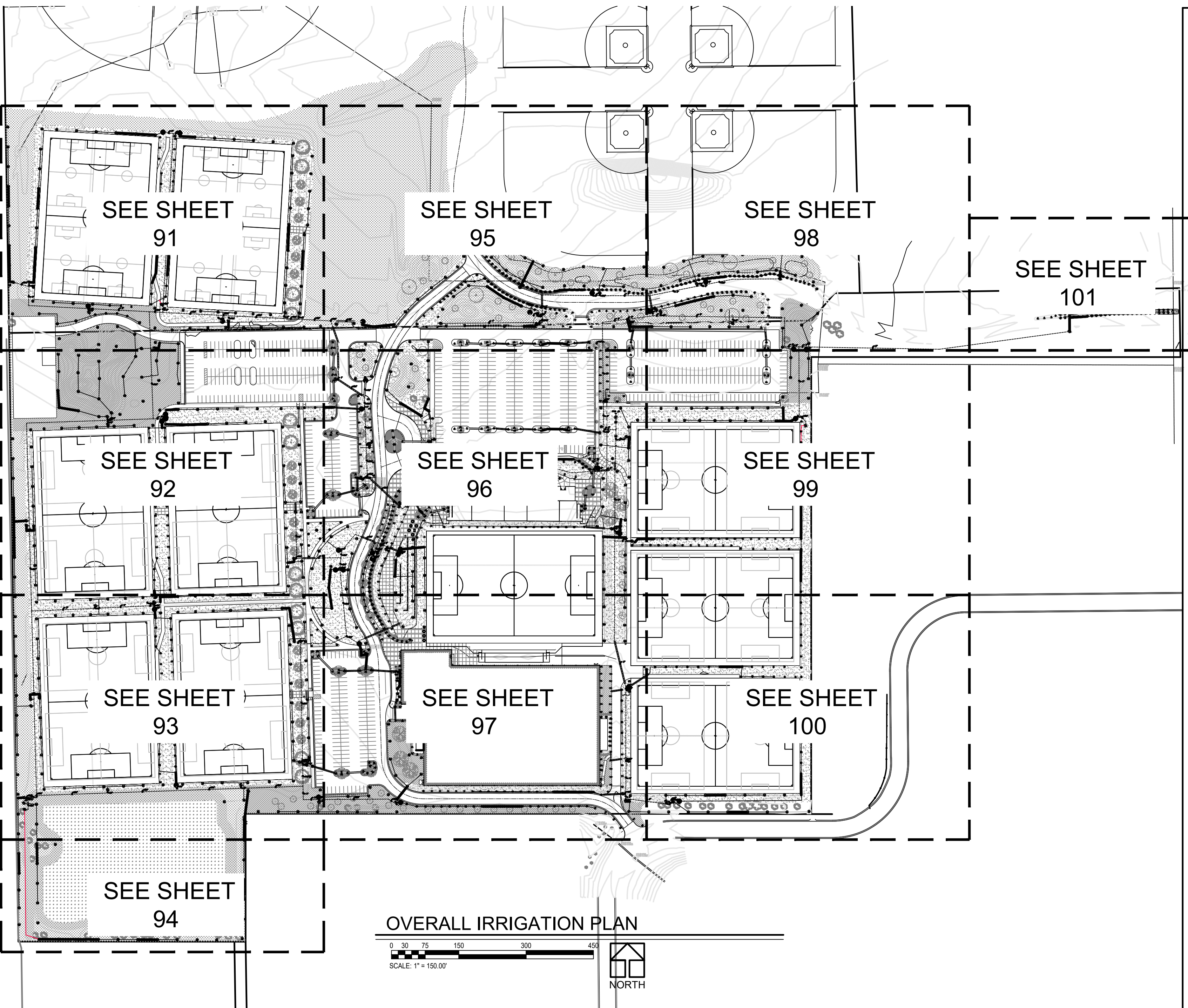
Critical Station: 47  
 Design Pressure: 55.00 psi  
 Friction Loss: 4.02 psi  
 Fittings Loss: 0.46 psi  
 Elevation Loss: 0.00 psi  
 Loss through Valve: 4.80 psi  
 Pressure Req. at Critical Station: 64.89 psi  
 Loss for Fittings: 2.79 psi  
 Loss for Main Line: 27.93 psi  
 Loss for POC to Valve Elevation: 0.00 psi  
 Loss for Backflow: 4.56 psi  
 Loss for Master Valve: 2.47 psi  
 Critical Station Pressure at POC: 102.64 psi  
 Pressure Available: 150.00 psi  
 Residual Pressure Available: 47.36 psi

**VALVE SCHEDULE**

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	Rain Bird PEB-PRS-D	2"	Shrub Spray	46.05	37.75			1.33 inH
2	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	46.90	62.14			0.68 inH
3	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	40.20	61.66			0.97 inH
4	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	44.10	64.00			0.37 inH
5	Rain Bird PEB-PRS-D	2"	Turf Rotary	56.56	53.86			0.30 inH
6	Rain Bird PEB-PRS-D	2"	Turf Rotator	60.30	63.53			0.74 inH
7	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	63.62	36.41			0.84 inH
8	Rain Bird PEB-PRS-D	2"	Turf Rotator	53.60	63.29			0.67 inH
9	Rain Bird PEB-PRS-D	2"	Turf Rotator	33.28	54.23			0.58 inH
10	Rain Bird PEB-PRS-D	2"	Shrub Spray	18.72	35.27			1.75 inH
11	Rain Bird PEB-PRS-D	2"	Turf Rotator	46.90	65.06			0.81 inH
12	Rain Bird PEB-PRS-D	1-1/2"	Turf Spray	26.74	36.52			1.25 inH
13	Rain Bird PEB-PRS-D	2"	Turf Rotator	42.64	63.70			0.73 inH
14	Rain Bird PEB-PRS-D	2"	Turf Rotator	53.60	63.46			0.67 inH
15	Rain Bird PEB-PRS-D	1-1/2"	Turf Spray	31.98	36.56			0.77 inH
16	Rain Bird PEB-PRS-D	2"	Turf Rotator	73.70	63.56			0.75 inH
17	Rain Bird PEB-PRS-D	2"	Turf Rotator	45.87	64.06			0.84 inH
18	Rain Bird PEB-PRS-D	1-1/2"	Turf Spray	26.59	36.37			0.61 inH
19	Rain Bird PEB-PRS-D	2"	Turf Rotator	42.72	64.87			0.82 inH
20	Rain Bird PEB-PRS-D	1"	Turf Rotary	10.35	45.79			0.42 inH
21	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	30.60	63.55			0.64 inH
22	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	27.20	62.41			0.61 inH
23	Rain Bird PEB-PRS-D	1"	Shrub Spray	11.70	34.58			1.89 inH
24	Rain Bird PEB-PRS-D	2"	Turf Rotator	34.00	64.90			0.51 inH
25	Rain Bird PEB-PRS-D	2"	Turf Rotator	40.70	64.63			0.51 inH
26	Rain Bird PEB-PRS-D	2"	Turf Rotator	30.60	65.28			0.55 inH
27	Rain Bird PEB-PRS-D	2"	Turf Rotator	33.60	62.24			0.51 inH
28	Rain Bird PEB-PRS-D	2"	Turf Rotary	55.47	53.71			0.43 inH
29	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	40.20	63.75			0.76 inH
30	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	40.20	63.61			0.71 inH
31	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	35.61	62.50			0.65 inH
32	Rain Bird PEB-PRS-D	2"	Turf Rotator	41.75	64.53			0.67 inH
33	Rain Bird PEB-PRS-D	2"	Turf Rotator	60.30	64.87			0.72 inH
34	Rain Bird PEB-PRS-D	2"	Turf Rotator	60.30	64.83			0.74 inH
35	Rain Bird PEB-PRS-D	2"	Turf Rotator	53.60	63.73			0.58 inH
36	Rain Bird PEB-PRS-D	2"	Turf Rotator	60.30	64.57			0.65 inH
37	Rain Bird PEB-PRS-D	2"	Turf Rotator	53.60	65.05			0.55 inH
38	Rain Bird PEB-PRS-D	2"	Turf Rotator	33.80	63.69			0.57 inH
39	Rain Bird PEB-PRS-D	2"	Turf Rotator	46.90	65.01			0.85 inH
40	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	40.20	63.69			0.74 inH
41	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	40.20	63.47			0.75 inH
42	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotary	28.77	52.84			0.44 inH
43	Rain Bird PEB-PRS-D	2"	Turf Rotator	67.00	64.51			0.66 inH
44	Rain Bird PEB-PRS-D	2"	Turf Rotator	64.90	64.50			0.64 inH
45	Rain Bird PEB-PRS-D	2"	Turf Rotator	40.80	62.61			0.43 inH
46	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotary	27.84	52.62			0.40 inH
47	Rain Bird PEB-PRS-D	2"	Turf Rotator	30.60	64.88			0.48 inH
48	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotary	27.93	52.63			0.42 inH
49	Rain Bird PEB-PRS-D	2"	Turf Rotator	60.30	64.41			0.68 inH
50	Rain Bird PEB-PRS-D	2"	Turf Rotator	53.60	64.17			0.67 inH
51	Rain Bird PEB-PRS-D	2"	Turf Rotator	46.90	63.23			0.73 inH
52	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotary	28.29	52.50			0.41 inH
53	Rain Bird PEB-PRS-D	2"	Turf Rotator	46.90	62.90			0.56 inH
54	Rain Bird PEB-PRS-D	2"	Turf Rotator	60.30	64.67			0.71 inH
55	Rain Bird PEB-PRS-D	2"	Turf Rotator	53.60	64.58			0.72 inH
56	Rain Bird PEB-PRS-D	2"	Turf Rotator	53.60	65.18			0.35 inH
57	Rain Bird PEB-PRS-D	2"	Turf Rotator	60.30	64.00			0.73 inH
58	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	30.20	62.84			0.97 inH
59	Rain Bird PEB-PRS-D	2"	Turf Rotator	50.30	63.68			0.68 inH
60	Rain Bird PEB-PRS-D	2"	Turf Rotator	40.20	64.29			0.68 inH
61	Rain Bird PEB-PRS-D	2"	Turf Rotator	40.20	64.42			0.73 inH
62	Rain Bird PEB-PRS-D	1"	Shrub Spray	7.46	34.25			0.98 inH
63	Rain Bird PEB-PRS-D	2"	Turf Rotator	55.52	62.52			0.81 inH
64	Rain Bird PEB-PRS-D	2"	Turf Rotator	23.80	65.15			0.46 inH
65	Rain Bird PEB-PRS-D	2"	Turf Rotator	67.10	63.69			0.76 inH
66	Rain Bird PEB-PRS-D	2"	Turf Rotator	47.00	63.67			0.74 inH
67	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	40.20	61.65			0.96 inH
68	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	40.20	63.43			0.53 inH
69	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	46.90	63.08			0.88 inH
70	Rain Bird PEB-PRS-D	1-1/2"	Shrub Spray	36.05	35.85			1.21 inH
71	Rain Bird PEB-PRS-D	1-1/2"	Shrub Spray	29.93	36.52			0.79 inH
72	Rain Bird PEB-PRS-D	1-1/2"	Turf Spray	26.63	36.46			1.62 inH
73	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	24.70	52.83			0.56 inH
74	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	37.40	63.61			0.51 inH
75	Rain Bird PEB-PRS-D	1"	Turf Rotator	21.14	52.32			0.34 inH
76	Rain Bird PEB-PRS-D	1"	Shrub Spray	21.71	35.81			1.39 inH
77	Rain Bird PEB-PRS-D	1"	Turf Rotary	27.36	54.20			0.47 inH
78	Rain Bird PEB-PRS-D	1"	Turf Rotary	15.29	51.33			0.43 inH
79	Rain Bird PEB-PRS-D	2"	Turf Rotator	73.80	64.56			0.78 inH
80	Rain Bird PEB-PRS-D	1"	Turf Rotator	17.82	50.66			0.35 inH
81	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotary	35.60	53.03			0.46 inH
82	Rain Bird PEB-PRS-D	1-1/2"	Shrub Spray	35.62	35.98			1.11 inH
83	Rain Bird PEB-PRS-D	1"	Turf Rotator	27.20	64.13			0.57 inH
84	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	51.27	52.29			0.30 inH
85	Rain Bird PEB-PRS-D	2"	Turf Rotator	31.65	52.89			0.64 inH
86	Rain Bird PEB-PRS-D	1"	Turf Rotary	23.25	53.11			0.30 inH
87	Rain Bird PEB-PRS-D	2"	Turf Rotator	46.90	64.63			0.67 inH
88	Rain Bird PEB-PRS-D	2"	Turf Rotator	46.90	65.20			0.75 inH
89	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotary	21.06	52.08			0.29 inH
90	Rain Bird PEB-PRS-D	1"	Turf Rotary	17.63	35.29			0.47 inH
91	Rain Bird PEB-PRS-D	1"	Turf Rotary	30.64	54.88			0.34 inH
92	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	38.43	52.92			0.38 inH
93	Rain Bird PEB-PRS-D	1"	Turf Rotary	32.79	55.93			0.47 inH
94	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	47.60	64.07			0.49 inH
95	Rain Bird PEB-PRS-D	1"	Turf Rotator	27.20	63.43			0.59 inH
96	Rain Bird PEB-PRS-D	1"	Turf Rotary	16.88	52.01			0.31 inH
97	Rain Bird PEB-PRS-D	1-1/2"	Shrub Spray	34.11	36.39			1.15 inH
98	Rain Bird PEB-PRS-D	2"	Turf Rotator	50.40	63.23			0.88 inH
99	Rain Bird PEB-PRS-D	1"	Shrub Spray	23.40	36.73			1.83 inH
100	Rain Bird PEB-PRS-D	1"	Turf Rotary	19.34	52.15			0.46 inH
101	Rain Bird PEB-PRS-D	1"	Shrub Spray	23.40	36.81			1.83 inH
102	Rain Bird PEB-PRS-D	1-1/2"	Turf Rotator	35.09	63.18			0.77 inH

**IRRIGATION SCHEDULE**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
EST LCS RCS CST SST	Rain Bird 1806-U-PRS 15 Strip Series Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. Pressure Regulating.	40	30
O T H P	Rain Bird 1806-U-PRS U10 Series Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. Pressure Regulating.	135	30
EST LCS RCS CST SST	Rain Bird 1812-PRS-U 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. With Pressure Regulating Device.	79	30
SST	Rain Bird 1812-PRS-U 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. With Pressure Regulating Device.	46	30
O T H P	Rain Bird 1812-PRS-U U10 Series Shrub Spray, 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device.	156	30
O T H P T T T T	Rain Bird 1812-PRS-U U12 Series Shrub Spray, 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device.	4	30
O T H P T T T T	Rain Bird 1812-PRS-U U15 Series Shrub Spray, 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device.	8	30
ORH-WN 12H-WN 10H-WN 15H-WN	Rain Bird 1812-PRS-U ADJ Shrub Spray, 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device.	12	30
O H	Rain Bird 1812-PRS-U 8 FLT Series MPR Shrub Spray, 12.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet. With Pressure Regulating Device.	1	30
F	Rain Bird R-1318 1806-SAM-P45 Turf Rotator, 13'-18" Rotary Stream, w/1800 turf spray body on 6.0" pop-up, with check valve and 45 psi in-stem pressure regulator. 1/2" NPT Female Threaded Inlet.	3	45
R-WN 14 R-WN 12 R-WN 1274	Rain Bird RVAN18 1800-SAM-P45 Turf Rotator, 13'-18" Hand Adjustable Rotary Stream, w/1800 turf spray body, 6.0" Pop-Up. With Seal-A-Matic Check Valve and 45 psi in-stem pressure regulation.	461	45
2 1/2"	Hunter I-20-06	30	55 2.10 34'
3"	Hunter I-20-06	152	55 3.40 39'
4"	Hunter I-20-06	346	55 6.70 44'
6	Rain Bird PEB-PRS-D 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulator Module.	102	
3	Rain Bird 3-RC 3/4" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Thermoplastic Rubber Cover, and 1-Piece Body.	3	
M	Rain Bird 300-BPE-NP-HAN Angle 3" 3" Brass Master Valve, with Angle Configuration. With Purple Flow Control Handle for Non-Potable Water Applications.	1	
M2	Rain Bird 300-BPE-NP-HAN Angle 3" 2" Brass Master Valve, with Angle Configuration. With Purple Flow Control Handle for Non-Potable Water Applications.	1	
BF	Febco 850 Master Series 2-1/2" Double Check Backflow prevention, 2-1/2" to 10".	1	
BP	Watertronics WaterMax 5000 - 05 HP Efficient compact pumping system, 5 horsepower, 3-Phase, Variable Frequency Drive.	1	
---	Irrigation Lateral Line: PVC Class 200 SDR 21	37,634 I.F.	
---	Irrigation Mainline: HDPE PE4710 DR 17	10,640 I.F.	
---	Pipe Sleeve: PVC Class 200 SDR 21	2,487 I.F.	
○	Valve Callout		
○	Valve Number		
○	Valve Size		



**OVERALL IRRIGATION PLAN**

SCALE: 1" = 150.00'



PAVING, LANDSCAPE, AND UTILITIES DRAWINGS FOR  
**STRYKER SPORTS**  
 WICHITA, KANSAS

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