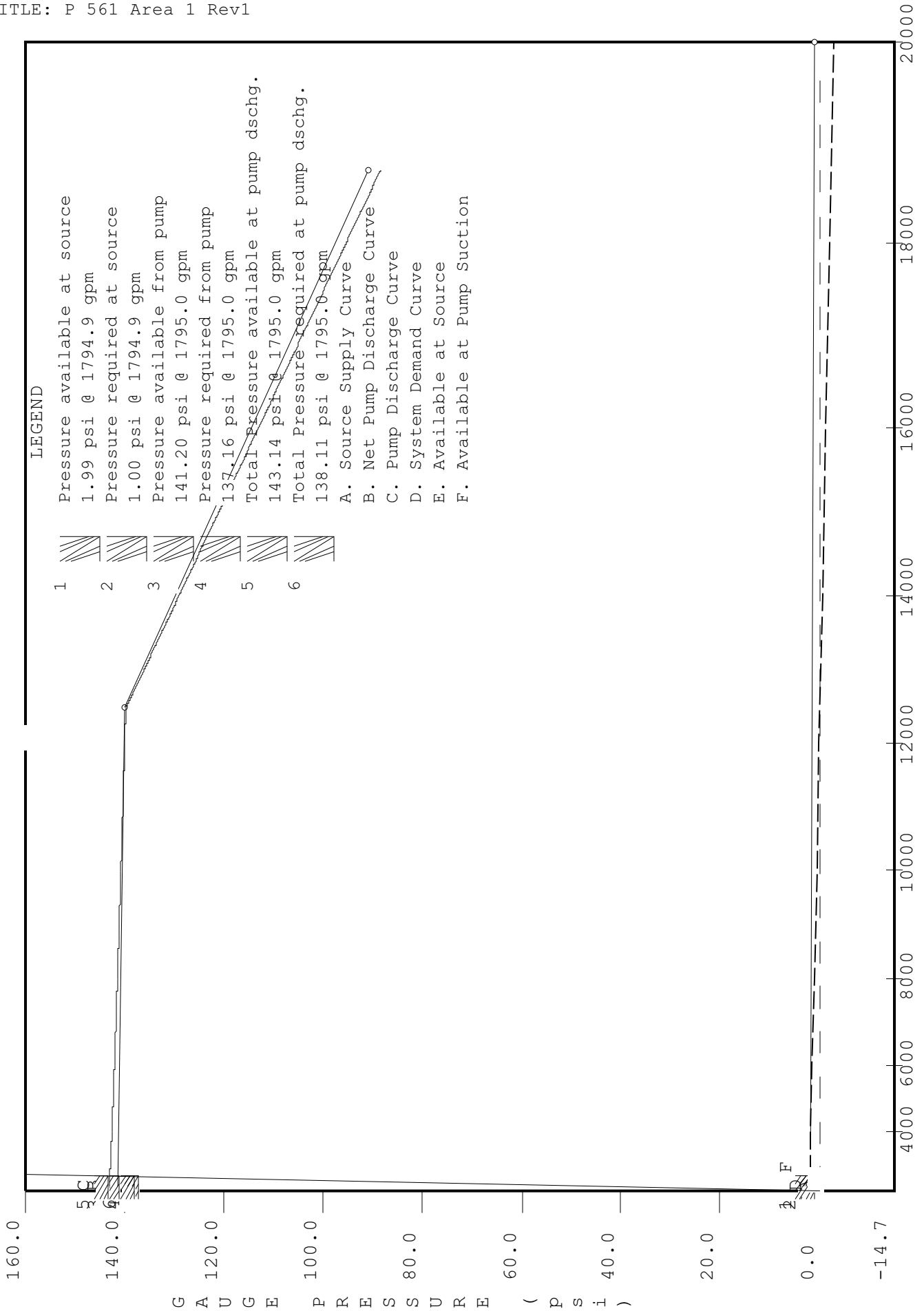


WATER SUPPLY ANALYSIS

Static: 2.00 psi Resid: 1.00 psi Flow: 20000.0 gpm



160.0

140.0

120.0

100.0

80.0

60.0

40.0

20.0

0.0

-14.7

G A U G E P R E S S U R E (p s i)

4000 6000 8000 10000 12000 14000 16000 18000 20000

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NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
TANK	2.0	1.0	20000.0	2.0	1794.9	1.0

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE 1794.9 GPM
 TOTAL HOSE STREAM ALLOWANCE AT SOURCE 0.0 GPM
 OTHER HOSE STREAM ALLOWANCES 0.0 GPM
 TOTAL DISCHARGE FROM ACTIVE SPRINKLERS 1794.9 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
1	100.0	K= 8.20	7.0	21.7	
2	100.0	K= 8.20	8.8	24.3	
3	100.0	K= 8.20	10.7	26.9	
4	100.0	K= 8.20	12.9	29.4	
5	100.0	- - - -	14.4	- - -	
6	100.0	K= 8.20	11.7	28.1	
7	100.0	K= 8.20	9.6	25.5	
8	100.0	K= 8.20	7.7	22.7	
9	100.0	K= 8.20	7.0	21.8	
10	100.0	K= 8.20	8.9	24.4	
11	100.0	K= 8.20	10.8	26.9	
12	100.0	K= 8.20	12.9	29.5	
13	100.0	- - - -	14.5	- - -	
14	100.0	K= 8.20	11.8	28.2	
15	100.0	K= 8.20	9.7	25.5	
16	100.0	K= 8.20	7.7	22.8	
17	100.0	K= 8.20	7.2	22.0	
18	100.0	K= 8.20	9.0	24.6	
19	100.0	K= 8.20	11.0	27.2	
20	100.0	K= 8.20	13.2	29.7	
21	100.0	- - - -	14.8	- - -	
22	100.0	K= 8.20	12.0	28.4	
23	100.0	K= 8.20	9.9	25.8	
24	100.0	K= 8.20	7.9	23.0	
25	100.0	K= 8.20	7.5	22.4	
26	100.0	K= 8.20	9.4	25.1	
27	100.0	K= 8.20	11.4	27.7	
28	100.0	K= 8.20	13.7	30.3	
29	100.0	- - - -	15.3	- - -	
30	100.0	K= 8.20	12.5	29.0	
31	100.0	K= 8.20	10.3	26.3	
32	100.0	K= 8.20	8.2	23.4	
33	100.0	K= 8.20	8.0	23.1	
34	100.0	K= 8.20	10.0	25.9	

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NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
35	100.0	K= 8.20	12.2	28.6	
36	100.0	K= 8.20	14.5	31.3	
37	100.0	- - - -	16.3	- - -	
38	100.0	K= 8.20	13.3	29.9	
39	100.0	K= 8.20	10.9	27.1	
40	100.0	K= 8.20	8.7	24.2	
41	100.0	K= 8.20	8.7	24.2	
42	100.0	K= 8.20	10.9	27.1	
43	100.0	K= 8.20	13.3	29.9	
44	100.0	K= 8.20	15.9	32.7	
45	100.0	- - - -	17.8	- - -	
46	100.0	K= 8.20	14.5	31.2	
47	100.0	K= 8.20	12.0	28.4	
48	100.0	K= 8.20	9.5	25.3	
49	100.0	K= 8.20	9.8	25.7	
50	100.0	K= 8.20	12.3	28.8	
51	100.0	K= 8.20	14.9	31.7	
52	100.0	K= 8.20	17.8	34.6	
53	100.0	- - - -	20.0	- - -	
54	100.0	K= 8.20	16.3	33.1	
55	100.0	K= 8.20	13.5	30.1	
56	100.0	K= 8.20	10.8	26.9	
57	100.0	K= 8.20	11.4	27.7	
58	100.0	K= 8.20	14.2	30.9	
59	100.0	K= 8.20	17.2	34.0	
60	100.0	K= 8.20	20.5	37.1	
61	100.0	- - - -	23.0	- - -	
62	100.0	K= 8.20	18.8	35.5	
63	100.0	K= 8.20	15.5	32.3	
64	100.0	K= 8.20	12.4	28.9	
65	100.0	K= 8.20	13.5	30.1	
66	100.0	K= 8.20	16.8	33.6	
67	100.0	K= 8.20	20.3	36.9	
68	100.0	K= 8.20	24.1	40.3	
69	100.0	- - - -	27.0	- - -	
70	100.0	K= 8.20	22.1	38.5	
71	100.0	K= 8.20	18.3	35.1	
72	100.0	K= 8.20	14.7	31.4	
73	98.0	- - - -	16.9	- - -	
74	98.0	- - - -	17.0	- - -	
75	98.0	- - - -	17.3	- - -	
76	98.0	- - - -	17.9	- - -	
77	98.0	- - - -	19.0	- - -	
78	98.0	- - - -	20.6	- - -	
79	98.0	- - - -	23.0	- - -	
80	98.0	- - - -	26.3	- - -	
81	98.0	- - - -	30.7	- - -	
82	98.0	- - - -	36.5	- - -	
83	98.0	- - - -	42.3	- - -	
84	98.0	- - - -	48.1	- - -	
85	98.0	- - - -	53.9	- - -	
CM1	98.0	- - - -	71.9	- - -	

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NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
TOR	98.0	- - - -	77.7	- - -	
BOR	4.0	- - - -	129.5	- - -	
FLG	1.0	- - - -	135.1	- - -	
P561	0.0	- - - -	137.8	- - -	
CONN	0.0	- - - -	138.1	- - -	
PS	0.0	- - - -	1.0	- - -	
PD	0.0	- - - -	138.1	- - -	
TANK	0.0	SOURCE	1.0	1794.9	

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NFPA PIPE DATA

Pipe Tag	K-fac	Add Fl	Add Fl To	Fit:	L	C	(Pt)	Notes
Frm Node	PT	(q)	Node/	Eq.Ln.	F		(Pe)	
To Node	PT	Tot.(Q)	Disch	(ft.)	T	Pf/ft.	(Pf)	
El (ft)	El (ft)	Nom ID	Act ID					
Pipe: 1	8.20	21.7	Disch		12.00	120	1.8	
2	100.0	8.8	0.0	1.000	----	0.00	0.0	
1	100.0	7.0	21.7	1.049	12.00	0.151	1.8	
Pipe: 2	8.20	24.3	Disch		12.00	120	1.9	
3	100.0	10.7	21.7	1	1.250	----	0.00	0.0
2	100.0	8.8	46.0	1.380	12.00	0.160	1.9	
Pipe: 3	8.20	26.9	Disch		12.00	120	2.1	
4	100.0	12.9	46.0	2	1.500	----	0.00	0.0
3	100.0	10.7	72.9	1.610	12.00	0.177	2.1	
Pipe: 4	8.20	29.4	Disch		6.00	120	1.6	
5	100.0	14.4	72.9	3	2.000	T:10.0	10.00	0.0
4	100.0	12.9	102.3	2.067	16.00	0.098	1.6	
Pipe: 5	8.20	28.1	Disch		6.00	120	2.7	
5	100.0	14.4	48.2	7	1.500	T: 8.0	8.00	0.0
6	100.0	11.7	76.3	1.610	14.00	0.192	2.7	
Pipe: 6	8.20	25.5	Disch		12.00	120	2.1	
6	100.0	11.7	22.7	8	1.250	----	0.00	0.0
7	100.0	9.6	48.2	1.380	12.00	0.174	2.1	
Pipe: 7	8.20	22.7	Disch		12.00	120	2.0	
7	100.0	9.6	0.0	1.000	----	0.00	0.0	
8	100.0	7.7	22.7	1.049	12.00	0.165	2.0	
Pipe: 8	8.20	21.8	Disch		12.00	120	1.8	
10	100.0	8.9	0.0	1.000	----	0.00	0.0	
9	100.0	7.0	21.8	1.049	12.00	0.152	1.8	
Pipe: 9	8.20	24.4	Disch		12.00	120	1.9	
11	100.0	10.8	21.8	9	1.250	----	0.00	0.0
10	100.0	8.9	46.2	1.380	12.00	0.161	1.9	
Pipe: 10	8.20	26.9	Disch		12.00	120	2.1	
12	100.0	12.9	46.2	10	1.500	----	0.00	0.0
11	100.0	10.8	73.1	1.610	12.00	0.178	2.1	
Pipe: 11	8.20	29.5	Disch		6.00	120	1.6	
13	100.0	14.5	73.1	11	2.000	T:10.0	10.00	0.0
12	100.0	12.9	102.6	2.067	16.00	0.098	1.6	
Pipe: 12	8.20	28.2	Disch		6.00	120	2.7	
13	100.0	14.5	48.3	15	1.500	T: 8.0	8.00	0.0
14	100.0	11.8	76.5	1.610	14.00	0.193	2.7	

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Pipe Tag	K-fac	Add Fl	Add Fl	To	Fit:	L	C	(Pt)	Notes
Frm Node	El (ft)	PT	(q)	Node/	Eq.Ln.	F		(Pe)	
To Node	El (ft)	PT	Tot.(Q)	Disch	(ft.)	T	Pf/ft.	(Pf)	
				Nom ID					
Pipe: 13	8.20	25.5	Disch			12.00	120	2.1	
14	100.0	11.8	22.8	16	1.250	----	0.00	0.0	
15	100.0	9.7	48.3		1.380		0.175	2.1	
Pipe: 14	8.20	22.8	Disch			12.00	120	2.0	
15	100.0	9.7	0.0		1.000	----	0.00	0.0	
16	100.0	7.7	22.8		1.049		0.165	2.0	
Pipe: 15	8.20	22.0	Disch			12.00	120	1.9	
18	100.0	9.0	0.0		1.000	----	0.00	0.0	
17	100.0	7.2	22.0		1.049		0.155	1.9	
Pipe: 16	8.20	24.6	Disch			12.00	120	2.0	
19	100.0	11.0	22.0	17	1.250	----	0.00	0.0	
18	100.0	9.0	46.6		1.380		0.164	2.0	
Pipe: 17	8.20	27.2	Disch			12.00	120	2.2	
20	100.0	13.2	46.6	18	1.500	----	0.00	0.0	
19	100.0	11.0	73.8		1.610		0.181	2.2	
Pipe: 18	8.20	29.7	Disch			6.00	120	1.6	
21	100.0	14.8	73.8	19	2.000	T:10.0	10.00	0.0	
20	100.0	13.2	103.5		2.067		0.100	1.6	
Pipe: 19	8.20	28.4	Disch			6.00	120	2.8	
21	100.0	14.8	48.8	23	1.500	T: 8.0	8.00	0.0	
22	100.0	12.0	77.2		1.610		0.196	2.8	
Pipe: 20	8.20	25.8	Disch			12.00	120	2.1	
22	100.0	12.0	23.0	24	1.250	----	0.00	0.0	
23	100.0	9.9	48.8		1.380		0.178	2.1	
Pipe: 21	8.20	23.0	Disch			12.00	120	2.0	
23	100.0	9.9	0.0		1.000	----	0.00	0.0	
24	100.0	7.9	23.0		1.049		0.168	2.0	
Pipe: 22	8.20	22.4	Disch			12.00	120	1.9	
26	100.0	9.4	0.0		1.000	----	0.00	0.0	
25	100.0	7.5	22.4		1.049		0.160	1.9	
Pipe: 23	8.20	25.1	Disch			12.00	120	2.0	
27	100.0	11.4	22.4	25	1.250	----	0.00	0.0	
26	100.0	9.4	47.5		1.380		0.170	2.0	
Pipe: 24	8.20	27.7	Disch			12.00	120	2.2	
28	100.0	13.7	47.5	26	1.500	----	0.00	0.0	
27	100.0	11.4	75.2		1.610		0.187	2.2	
Pipe: 25	8.20	30.3	Disch			6.00	120	1.7	
29	100.0	15.3	75.2	27	2.000	T:10.0	10.00	0.0	
28	100.0	13.7	105.5		2.067		0.104	1.7	

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Pipe Tag	K-fac	Add Fl	Add Fl	To	Fit:	L	C	(Pt)	Notes
Frm Node	El (ft)	PT	(q)	Node/	Eq.Ln.	F		(Pe)	
To Node	El (ft)	PT	Tot.(Q)	Disch	(ft.)	T	Pf/ft.	(Pf)	
				Nom ID					
Pipe: 26	8.20	29.0	Disch			6.00	120	2.8	
29	100.0	15.3	49.7	31	1.500	T: 8.0	8.00	0.0	
30	100.0	12.5	78.7		1.610		14.00	0.204	2.8
Pipe: 27	8.20	26.3	Disch			12.00	120	2.2	
30	100.0	12.5	23.4	32	1.250	----	0.00	0.0	
31	100.0	10.3	49.7		1.380		12.00	0.184	2.2
Pipe: 28	8.20	23.4	Disch			12.00	120	2.1	
31	100.0	10.3	0.0		1.000	----	0.00	0.0	
32	100.0	8.2	23.4		1.049		12.00	0.175	2.1
Pipe: 29	8.20	23.1	Disch			12.00	120	2.0	
34	100.0	10.0	0.0		1.000	----	0.00	0.0	
33	100.0	8.0	23.1		1.049		12.00	0.170	2.0
Pipe: 30	8.20	25.9	Disch			12.00	120	2.2	
35	100.0	12.2	23.1	33	1.250	----	0.00	0.0	
34	100.0	10.0	49.1		1.380		12.00	0.180	2.2
Pipe: 31	8.20	28.6	Disch			12.00	120	2.4	
36	100.0	14.5	49.1	34	1.500	----	0.00	0.0	
35	100.0	12.2	77.6		1.610		12.00	0.199	2.4
Pipe: 32	8.20	31.3	Disch			6.00	120	1.8	
37	100.0	16.3	77.6	35	2.000	T:10.0	10.00	0.0	
36	100.0	14.5	108.9		2.067		16.00	0.110	1.8
Pipe: 33	8.20	29.9	Disch			6.00	120	3.0	
37	100.0	16.3	51.3	39	1.500	T: 8.0	8.00	0.0	
38	100.0	13.3	81.2		1.610		14.00	0.216	3.0
Pipe: 34	8.20	27.1	Disch			12.00	120	2.3	
38	100.0	13.3	24.2	40	1.250	----	0.00	0.0	
39	100.0	10.9	51.3		1.380		12.00	0.196	2.3
Pipe: 35	8.20	24.2	Disch			12.00	120	2.2	
39	100.0	10.9	0.0		1.000	----	0.00	0.0	
40	100.0	8.7	24.2		1.049		12.00	0.185	2.2
Pipe: 36	8.20	24.2	Disch			12.00	120	2.2	
42	100.0	10.9	0.0		1.000	----	0.00	0.0	
41	100.0	8.7	24.2		1.049		12.00	0.185	2.2
Pipe: 37	8.20	27.1	Disch			12.00	120	2.3	
43	100.0	13.3	24.2	41	1.250	----	0.00	0.0	
42	100.0	10.9	51.4		1.380		12.00	0.196	2.3
Pipe: 38	8.20	29.9	Disch			12.00	120	2.6	
44	100.0	15.9	51.4	42	1.500	----	0.00	0.0	
43	100.0	13.3	81.3		1.610		12.00	0.216	2.6

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Pipe Tag	K-fac	Add Fl	Add Fl	To	Fit:	L	C	(Pt)	Notes
Frm Node	El (ft)	PT	(q)	Node/	Eq.Ln.	F		(Pe)	
To Node	El (ft)	PT	Tot.(Q)	Disch	(ft.)	T	Pf/ft.	(Pf)	
				Nom ID					
Pipe: 39	8.20	32.7	Disch			6.00	120	1.9	
45	100.0	17.8	81.3	43	2.000	T:10.0	10.00	0.0	
44	100.0	15.9	113.9		2.067		16.00	0.120	1.9
Pipe: 40	8.20	31.2	Disch			6.00	120	3.3	
45	100.0	17.8	53.7	47	1.500	T: 8.0	8.00	0.0	
46	100.0	14.5	84.9		1.610		14.00	0.235	3.3
Pipe: 41	8.20	28.4	Disch			12.00	120	2.6	
46	100.0	14.5	25.3	48	1.250	----	0.00	0.0	
47	100.0	12.0	53.7		1.380		12.00	0.213	2.6
Pipe: 42	8.20	25.3	Disch			12.00	120	2.4	
47	100.0	12.0	0.0		1.000	----	0.00	0.0	
48	100.0	9.5	25.3		1.049		12.00	0.202	2.4
Pipe: 43	8.20	25.7	Disch			12.00	120	2.5	
50	100.0	12.3	0.0		1.000	----	0.00	0.0	
49	100.0	9.8	25.7		1.049		12.00	0.207	2.5
Pipe: 44	8.20	28.8	Disch			12.00	120	2.6	
51	100.0	14.9	25.7	49	1.250	----	0.00	0.0	
50	100.0	12.3	54.5		1.380		12.00	0.219	2.6
Pipe: 45	8.20	31.7	Disch			12.00	120	2.9	
52	100.0	17.8	54.5	50	1.500	----	0.00	0.0	
51	100.0	14.9	86.2		1.610		12.00	0.241	2.9
Pipe: 46	8.20	34.6	Disch			6.00	120	2.1	
53	100.0	20.0	86.2	51	2.000	T:10.0	10.00	0.0	
52	100.0	17.8	120.8		2.067		16.00	0.133	2.1
Pipe: 47	8.20	33.1	Disch			6.00	120	3.7	
53	100.0	20.0	57.0	55	1.500	T: 8.0	8.00	0.0	
54	100.0	16.3	90.1		1.610		14.00	0.261	3.7
Pipe: 48	8.20	30.1	Disch			12.00	120	2.8	
54	100.0	16.3	26.9	56	1.250	----	0.00	0.0	
55	100.0	13.5	57.0		1.380		12.00	0.237	2.8
Pipe: 49	8.20	26.9	Disch			12.00	120	2.7	
55	100.0	13.5	0.0		1.000	----	0.00	0.0	
56	100.0	10.8	26.9		1.049		12.00	0.225	2.7
Pipe: 50	8.20	27.7	Disch			12.00	120	2.8	
58	100.0	14.2	0.0		1.000	----	0.00	0.0	
57	100.0	11.4	27.7		1.049		12.00	0.237	2.8
Pipe: 51	8.20	30.9	Disch			12.00	120	3.0	
59	100.0	17.2	27.7	57	1.250	----	0.00	0.0	
58	100.0	14.2	58.6		1.380		12.00	0.250	3.0

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JOB TITLE: P 561 Area 1 Rev1

Pipe Tag	K-fac	Add Fl	Add Fl	To	Fit:	L	C	(Pt)	Notes
Frm Node	El (ft)	PT	(q)	Node/	Nom ID	Eq.Ln.	F	(Pe)	
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	
								(Pf)	
Pipe: 52	8.20	34.0	Disch				12.00	120	3.3
60	100.0	20.5	58.6	58	1.500	----	0.00		0.0
59	100.0	17.2	92.6		1.610		12.00	0.275	3.3
Pipe: 53	8.20	37.1	Disch				6.00	120	2.4
61	100.0	23.0	92.6	59	2.000	T:10.0	10.00		0.0
60	100.0	20.5	129.7		2.067		16.00	0.152	2.4
Pipe: 54	8.20	35.5	Disch				6.00	120	4.2
61	100.0	23.0	61.2	63	1.500	T: 8.0	8.00		0.0
62	100.0	18.8	96.7		1.610		14.00	0.298	4.2
Pipe: 55	8.20	32.3	Disch				12.00	120	3.3
62	100.0	18.8	28.9	64	1.250	----	0.00		0.0
63	100.0	15.5	61.2		1.380		12.00	0.271	3.3
Pipe: 56	8.20	28.9	Disch				12.00	120	3.1
63	100.0	15.5	0.0		1.000	----	0.00		0.0
64	100.0	12.4	28.9		1.049		12.00	0.257	3.1
Pipe: 57	8.20	30.1	Disch				12.00	120	3.3
66	100.0	16.8	0.0		1.000	----	0.00		0.0
65	100.0	13.5	30.1		1.049		12.00	0.277	3.3
Pipe: 58	8.20	33.6	Disch				12.00	120	3.5
67	100.0	20.3	30.1	65	1.250	----	0.00		0.0
66	100.0	16.8	63.7		1.380		12.00	0.291	3.5
Pipe: 59	8.20	36.9	Disch				12.00	120	3.8
68	100.0	24.1	0.0		1.500	----	0.00		0.0
67	100.0	20.3	100.6	66	1.610		12.00	0.321	3.8
Pipe: 60	8.20	40.3	Disch				6.00	120	2.8
69	100.0	27.0	0.0		2.000	T:10.0	10.00		0.0
68	100.0	24.1	140.9	67	2.067		16.00	0.177	2.8
Pipe: 61	8.20	38.5	Disch				6.00	120	4.9
69	100.0	27.0	0.0		1.500	T: 8.0	8.00		0.0
70	100.0	22.1	105.0	71	1.610		14.00	0.347	4.9
Pipe: 62	8.20	35.1	Disch				12.00	120	3.8
70	100.0	22.1	0.0		1.250	----	0.00		0.0
71	100.0	18.3	31.4	72	1.380		12.00	0.316	3.8
Pipe: 63	8.20	31.4	Disch				12.00	120	3.6
71	100.0	18.3	0.0		1.000	----	0.00		0.0
72	100.0	14.7	31.4		1.049		12.00	0.300	3.6

DATE: 6/29/2011\BEALS\PROJECTS\PAX RIVER NAS HANGER\P-561 AREA 1 REV 1.SDF

JOB TITLE: P 561 Area 1 Rev1

Pipe Tag	K-fac	Add Fl	Add Fl To	Fit:	L	C	(Pt)		
Frm Node	El (ft)	PT	(q)	Node/	Nom ID	Eq.Ln.	F	(Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	(Pf)
Pipe: 64	0.0	76.3	6				2.00	120	2.5
73	98.0	16.9	102.3	4	2.500	T:12.0	12.00		-0.9
5	100.0	14.4	178.6		2.469		14.00	0.116	1.6
Pipe: 65	0.0	0.0					10.00	120	0.1
74	98.0	17.0	178.6	5	B4.000	----	0.00		0.0
73	98.0	16.9	178.6		4.260		10.00	0.008	0.1
Pipe: 66	0.0	76.5	14				2.00	120	2.5
74	98.0	17.0	102.6	12	2.500	N:12.0	12.00		-0.9
13	100.0	14.5	179.0		2.469		14.00	0.116	1.6
Pipe: 67	0.0	179.0	13				10.00	120	0.3
75	98.0	17.3	178.6	73	B4.000	----	0.00		0.0
74	98.0	17.0	357.6		4.260		10.00	0.029	0.3
Pipe: 68	0.0	77.2	22				2.00	120	2.5
75	98.0	17.3	103.5	20	2.500	N:12.0	12.00		-0.9
21	100.0	14.8	180.7		2.469		14.00	0.118	1.7
Pipe: 69	0.0	180.7	21				10.00	120	0.6
76	98.0	17.9	357.6	74	B4.000	----	0.00		0.0
75	98.0	17.3	538.3		4.260		10.00	0.062	0.6
Pipe: 70	0.0	78.7	30				2.00	120	2.6
76	98.0	17.9	105.5	28	2.500	N:12.0	12.00		-0.9
29	100.0	15.3	184.2		2.469		14.00	0.122	1.7
Pipe: 71	0.0	184.2	29				10.00	120	1.1
77	98.0	19.0	538.3	75	B4.000	----	0.00		0.0
76	98.0	17.9	722.5		4.260		10.00	0.108	1.1
Pipe: 72	0.0	81.2	38				2.00	120	2.7
77	98.0	19.0	108.9	36	2.500	N:12.0	12.00		-0.9
37	100.0	16.3	190.1		2.469		14.00	0.130	1.8
Pipe: 73	0.0	190.1	37				10.00	120	1.7
78	98.0	20.6	722.5	76	B4.000	----	0.00		0.0
77	98.0	19.0	912.7		4.260		10.00	0.166	1.7
Pipe: 74	0.0	84.9	46				2.00	120	2.8
78	98.0	20.6	113.9	44	2.500	N:12.0	12.00		-0.9
45	100.0	17.8	198.9		2.469		14.00	0.141	2.0
Pipe: 75	0.0	198.9	45				10.00	120	2.4
79	98.0	23.0	912.7	77	B4.000	----	0.00		0.0
78	98.0	20.6	1111.6		4.260		10.00	0.239	2.4
Pipe: 76	0.0	90.1	54				2.00	120	3.1
79	98.0	23.0	120.8	52	2.500	N:12.0	12.00		-0.9
53	100.0	20.0	210.9		2.469		14.00	0.157	2.2

DATE: 6/29/2011\BEALS\PROJECTS\PAX RIVER NAS HANGER\P-561 AREA 1 REV 1.SDF

JOB TITLE: P 561 Area 1 Rev1

Pipe Tag	K-fac	Add Fl	Add Fl	To	Fit:	L	C	(Pt)	Notes
Frm Node	El (ft)	PT	(q)	Node/	Nom ID	Eq.Ln.	F	(Pe)	
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	
								(Pf)	
Pipe: 77	0.0	210.9	53				10.00	120	3.3
80	98.0	26.3	1111.6	78	B4.000	----	0.00		0.0
79	98.0	23.0	1322.5		4.260		10.00	0.330	3.3
Pipe: 78	0.0	96.7	62				2.00	120	3.4
80	98.0	26.3	129.7	60	2.500	N:12.0	12.00		-0.9
61	100.0	23.0	226.5		2.469		14.00	0.179	2.5
Pipe: 79	0.0	226.5	61				10.00	120	4.4
81	98.0	30.7	1322.5	79	B4.000	----	0.00		0.0
80	98.0	26.3	1549.0		4.260		10.00	0.442	4.4
Pipe: 80	0.0	105.0	70				2.00	120	3.8
81	98.0	30.7	140.9	68	2.500	N:12.0	12.00		-0.9
69	100.0	27.0	245.9		2.469		14.00	0.209	2.9
Pipe: 81	0.0	245.9	69				10.00	120	5.8
82	98.0	36.5	1549.0	80	B4.000	----	0.00		0.0
81	98.0	30.7	1794.9		4.260		10.00	0.580	5.8
Pipe: 82	0.0	0.0					10.00	120	5.8
83	98.0	42.3	1794.9	81	B4.000	----	0.00		0.0
82	98.0	36.5	1794.9		4.260		10.00	0.580	5.8
Pipe: 83	0.0	0.0					10.00	120	5.8
84	98.0	48.1	1794.9	82	B4.000	----	0.00		0.0
83	98.0	42.3	1794.9		4.260		10.00	0.580	5.8
Pipe: 84	0.0	0.0					10.00	120	5.8
85	98.0	53.9	1794.9	83	B4.000	----	0.00		0.0
84	98.0	48.1	1794.9		4.260		10.00	0.580	5.8
Pipe: 85	0.0	0.0					5.00	120	18.0
CM1	98.0	71.9	1794.9	84	B4.000	T:26.0	26.00		0.0
85	98.0	53.9	1794.9		4.260		31.00	0.580	18.0
Pipe: 86	0.0	0.0					34.00	120	5.8
TOR	98.0	77.7	1794.9	85	B6.000	2E:36.0	36.00		0.0
CM1	98.0	71.9	1794.9		6.357		70.00	0.083	5.8
Pipe: 87	0.0	0.0					95.00	120	51.8
BOR	4.0	129.5	1794.9	CM1	B6.000	G: 4.0	39.00		-40.7
TOR	98.0	77.7	1794.9		6.357	D:35.0	134.00	0.083	11.1
Pipe: 88	0.0	0.0					12.00	120	5.6
FLG	1.0	135.1	1794.9	TOR	B6.000	2E:36.0	40.00		-1.3
BOR	4.0	129.5	1794.9		6.357	G: 4.0	52.00	0.083	4.3
Pipe: 89	0.0	0.0				2E:70.0	250.00	140	2.7
P561	0.0	137.8	1794.9	BOR	D10.00	T:80.0	158.00		-0.4
FLG	1.0	135.1	1794.9		10.400	G: 8.0	408.00	0.006	2.3

DATE: 6/29/2011\BEALS\PROJECTS\PAX RIVER NAS HANGER\P-561 AREA 1 REV 1.SDF

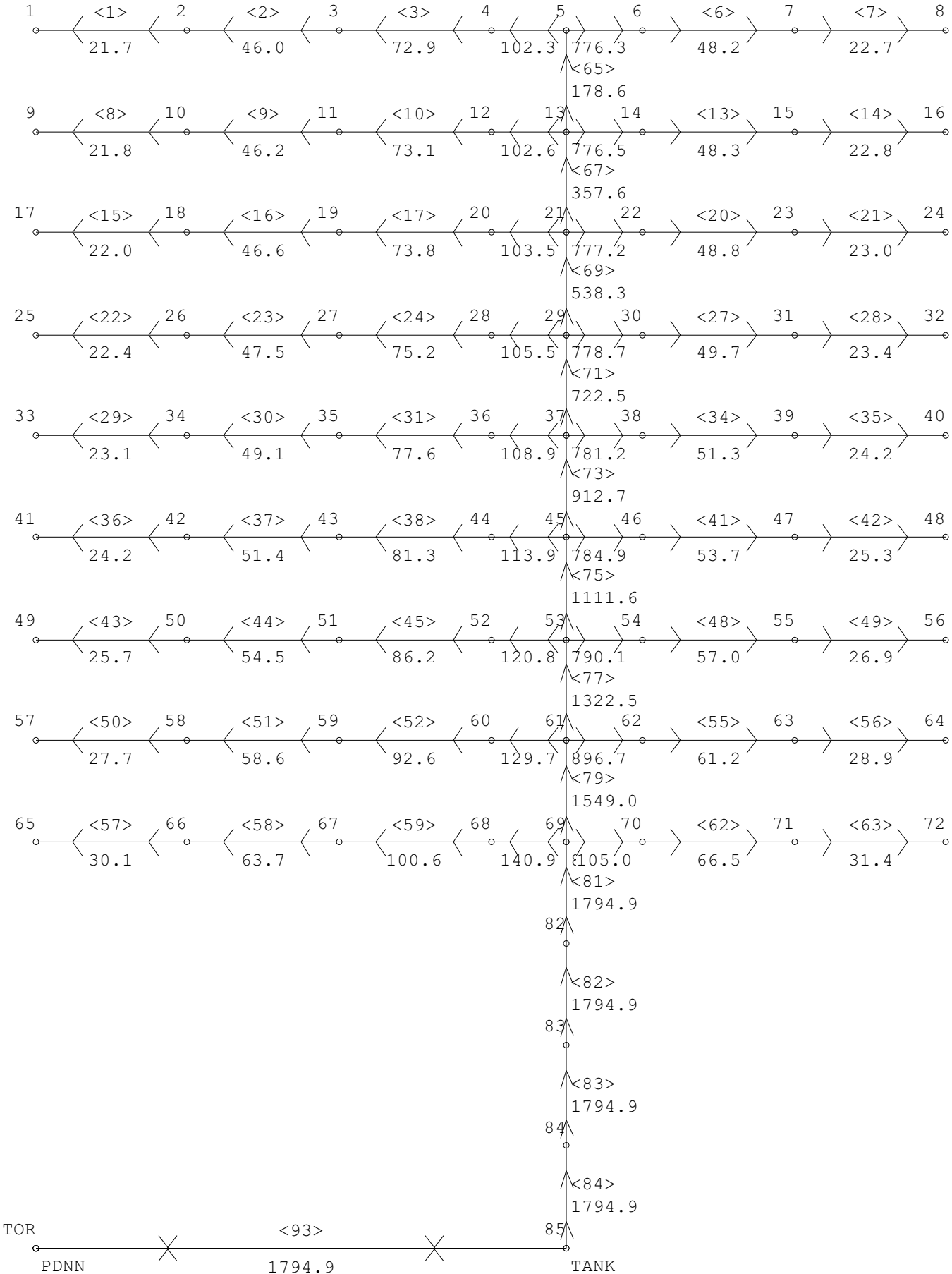
JOB TITLE: P 561 Area 1 Rev1

Pipe Tag	K-fac	Add Fl	Add Fl To	Fit:	L	C	(Pt)		
Frm Node	El (ft)	PT	(q)	Node/	Nom ID	Eq.Ln.	F	(Pe)	Notes
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	(ft.)	T	Pf/ft.	(Pf)
Pipe: 90	0.0	0.0				5E530.0	2165.00	140	0.2
CONN	0.0	138.1	1794.9	FLG	D24.00	T:241.0	815.00		0.0
P561	0.0	137.8	1794.9		24.980	2G:44.0	2980.00	0.000	0.2
Pipe: 91	0.0	0.0				4E424.0	65.00	140	0.1
PD	0.0	138.1	1794.9	P561	D24.00	T:241.0	709.00		0.0
CONN	0.0	138.1	1794.9		24.980	2G:44.0	774.00	0.000	0.1
Pipe: 92	0.0	0.0				Fire Pump Rating Avail.	Req'd.		
PS	0.0	1.0	1794.9	CONN		gpm: 12500.0	1795.0	1795.0	
PD	0.0	138.1	1795.0			psi: 140.0	140.0	137.2	
Pipe: 93	Source	0.0				2E212.0	85.00	140	0.0
TANK	0.0	1.0	1794.9	PD	D24.00	T:241.0	497.00		0.0
PS	0.0	1.0	1794.9		24.980	2G:44.0	582.00	0.000	0.0

NOTES (HASS):

- (1) Calculations were performed by the HASS 8.1 computer program under license no. 5002031120 granted by
 HRS Systems, Inc.
 208 South Public Square
 Petersburg, TN 37144
 (931) 659-9760
- (2) The system has been calculated to provide an average imbalance at each node of 0.003 gpm and a maximum imbalance at any node of 0.149 gpm.
- (3) Total pressure at each node is used in balancing the system. Maximum water velocity is 40.4 ft/sec at pipe 82.
- (4) The Minimum pump suction pressure under maximum calculated demand is 0.95 (psi)

SPRINKLER SYSTEM DIAGRAM WITH FLOWPLOT

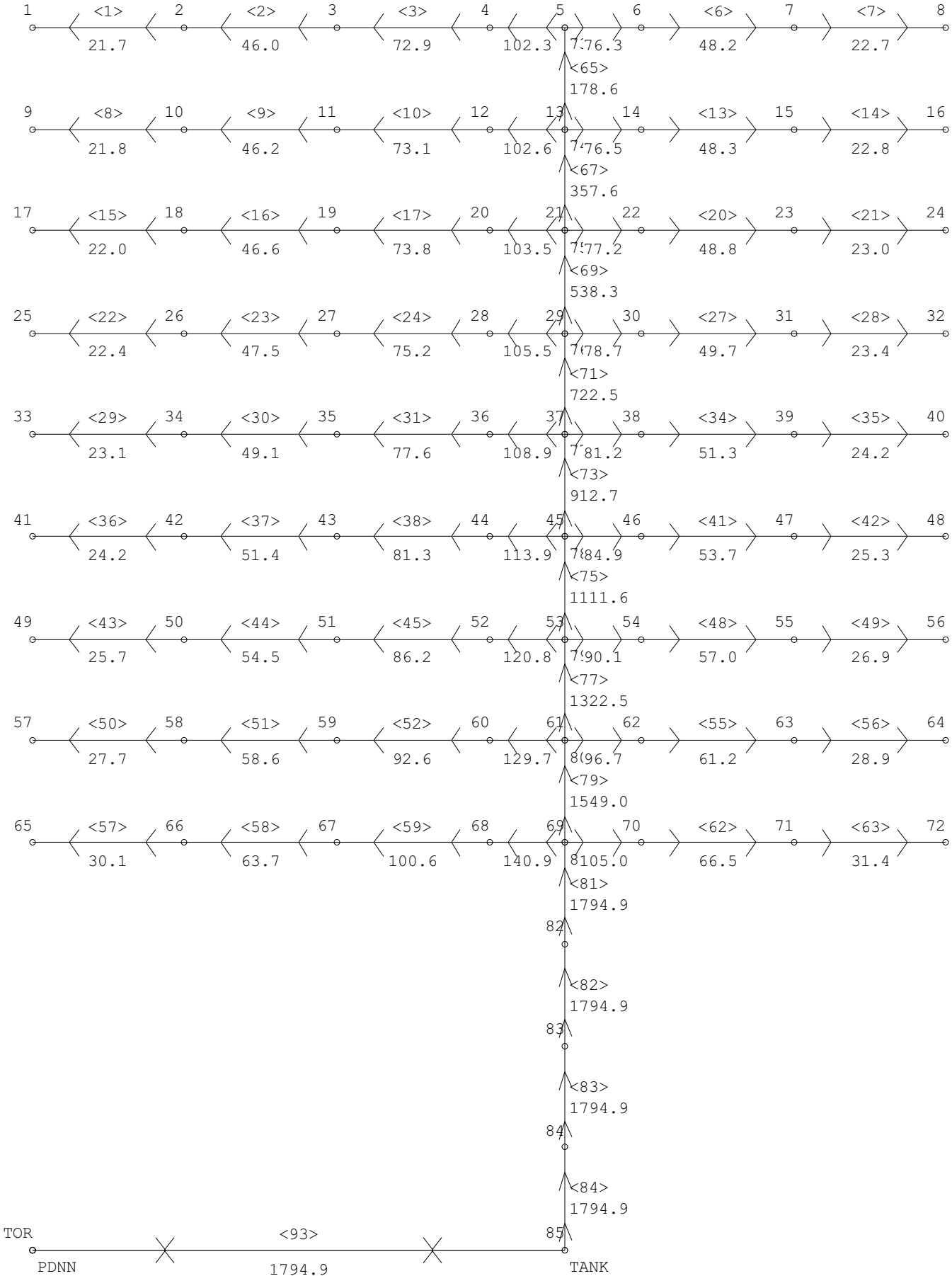


DATE: 6/29/2011BEALS\PROJECTS\PAX RIVER NAS HANGER\P-561 AREA 1 REV 1.SDF

JOB TITLE: P 561 Area 1 Rev1

DATE: 6/29/2011 BEALS\PROJECTS\PAX RIVER NAS HANGER\P-561 AREA 1 REV 1.SDF

JOB TITLE: P 561 Area 1 Rev1



DATE: 6/29/2011EALS\PROJECTS\PAX RIVER NAS HANGER\NAS PAX FOAM CALC 1.SDF
 JOB TITLE: P 561 Foam calc 1

PIPE DATA

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q (GPM)	DIA (IN)	LENGTH	PRESS.
NODES	(FT)	(K)	(PSI)	(GPM)	VEL (FPS)	HW (C)	FL/FT	(FT)	SUM.
									(PSI)
Pipe: 89						-152.2	4.026	PL 26.00	PF 0.2
9	0.0	23.4	42.3	152.2	3.8	120	FTG	----	PE 0.0
10	0.0	23.4	42.5	152.6		0.008	TL	26.00	PV
Pipe: 90						-304.8	4.026	PL 26.00	PF 0.7
10	0.0	23.4	42.5	152.6	7.7	120	FTG	----	PE 0.0
11	0.0	23.4	43.3	153.9		0.029	TL	26.00	PV
Pipe: 91						-458.8	4.026	PL 26.00	PF 1.6
11	0.0	23.4	43.3	153.9	11.6	120	FTG	----	PE 0.0
12	0.0	23.4	44.9	156.7		0.061	TL	26.00	PV
Pipe: 92						-615.5	4.026	PL 10.00	PF 3.2
12	0.0	23.4	44.9	156.7	15.5	120	FTG	T	PE 0.0
24	0.0	0.0	48.0	0.0		0.105	TL	30.00	PV
Pipe: 93						-615.5	6.065	PL 15.00	PF 0.6
24	0.0	0.0	48.0	0.0	6.8	120	FTG	T	PE 0.0
23	0.0	0.0	48.7	0.0		0.014	TL	45.00	PV
Pipe: 94						-148.9	4.026	PL 26.00	PF 0.2
5	0.0	23.4	40.5	148.9	3.8	120	FTG	----	PE 0.0
6	0.0	23.4	40.7	149.3		0.008	TL	26.00	PV
Pipe: 95						-298.1	4.026	PL 26.00	PF 0.7
6	0.0	23.4	40.7	149.3	7.5	120	FTG	----	PE 0.0
7	0.0	23.4	41.4	150.6		0.028	TL	26.00	PV
Pipe: 96						-448.7	4.026	PL 26.00	PF 1.5
7	0.0	23.4	41.4	150.6	11.3	120	FTG	----	PE 0.0
8	0.0	23.4	42.9	153.3		0.059	TL	26.00	PV
Pipe: 97						-602.0	4.026	PL 10.00	PF 3.0
8	0.0	23.4	42.9	153.3	15.2	120	FTG	T	PE 0.0
22	0.0	0.0	46.0	0.0		0.101	TL	30.00	PV
Pipe: 97A						-148.0	4.026	PL 26.00	PF 0.2
1	0.0	23.4	40.0	148.0	3.7	120	FTG	----	PE 0.0
2	0.0	23.4	40.2	148.4		0.008	TL	26.00	PV
Pipe: 97B						-296.4	4.026	PL 26.00	PF 0.7
2	0.0	23.4	40.2	148.4	7.5	120	FTG	----	PE 0.0
3	0.0	23.4	40.9	149.7		0.027	TL	26.00	PV
Pipe: 97C						-446.0	4.026	PL 26.00	PF 1.5
3	0.0	23.4	40.9	149.7	11.2	120	FTG	----	PE 0.0
4	0.0	23.4	42.4	152.4		0.058	TL	26.00	PV

DATE: 6/29/2011EALS\PROJECTS\PAX RIVER NAS HANGER\NAS PAX FOAM CALC 1.SDF
 JOB TITLE: P 561 Foam calc 1

PIPE TAG	Q (GPM)	DIA (IN)	LENGTH	PRESS.
END ELEV. NOZ. PT DISC. VEL (FPS) HW (C) (FT)				SUM.
NODES (FT) (K) (PSI) (GPM) FL/FT				(PSI)
Pipe: 97D	-598.4	4.026 PL	10.00	PF 3.0
4 0.0 23.4 42.4 152.4 15.1 120 FTG T				PE 0.0
21 0.0 0.0 45.4 0.0 0.100 TL 30.00				PV
Pipe: 97E	-598.4	6.065 PL	40.00	PF 0.5
21 0.0 0.0 45.4 0.0 6.6 120 FTG ----				PE 0.0
22 0.0 0.0 46.0 0.0 0.014 TL 40.00				PV
Pipe: 97F	-1200.4	6.065 PL	25.00	PF 2.7
22 0.0 0.0 46.0 0.0 13.3 120 FTG T				PE 0.0
23 0.0 0.0 48.7 0.0 0.049 TL 55.00				PV
Pipe: 97G	-1815.9	6.065 PL	17.00	PF 3.3
23 0.0 0.0 48.7 0.0 20.2 120 FTG E				PE -0.4
FLG2 1.0 0.0 51.5 0.0 0.106 TL 31.00				PV
Pipe: 97H	-1815.9	6.065 PL	6.00	PF 3.6
FLG2 1.0 0.0 51.5 0.0 20.2 120 FTG 2E				PE -2.2
TOR 6.0 0.0 53.0 0.0 0.106 TL 34.00				PV
Pipe: 97I	-1815.9	6.065 PL	4.00	PF 4.9
TOR 6.0 0.0 53.0 0.0 20.2 120 FTG ED				PE 1.7
BOR 2.0 0.0 59.6 0.0 0.106 TL 46.00				PV
Pipe: 97J	-1815.9	6.065 PL	10.00	PF 5.8
BOR 2.0 0.0 59.6 0.0 20.2 120 FTG 3EG				PE -1.7
INDD 6.0 0.0 63.7 0.0 0.106 TL 55.00				PV
Pipe: 97K				FIXED PRESSURE LOSS DEVICE
INDS 6.0 0.0 107.7 0.0 44.0 psi, 1815.9 gpm				
INDD 6.0 0.0 63.7 0.0				
Pipe: 97L	-1815.9	6.065 PL	10.00	PF 4.3
INDS 6.0 0.0 107.7 0.0 20.2 120 FTG 2EG				PE 1.7
FLG1 2.0 0.0 113.8 0.0 0.106 TL 41.00				PV
Pipe: 98	-1815.9	10.400 PL	50.00	PF 1.2
FLG1 2.0 0.0 113.8 0.0 6.9 140 FTG 2ETG				PE 0.9
UG1 0.0 0.0 115.8 0.0 0.006 TL 208.00				PV
Pipe: 89A	-1815.9	10.400 PL	130.00	PF 0.8
UG1 0.0 0.0 115.8 0.0 6.9 140 FTG G				PE 0.0
UG2 0.0 H.S. 116.6 2070.0 0.006 TL 138.00				PV
Pipe: 89B	-3885.9	10.400 PL	130.00	PF 5.1
UG2 0.0 H.S. 116.6 2070.0 14.7 140 FTG TG				PE 0.0
P561 0.0 H.S. 121.8 4140.0 0.024 TL 218.00				PV
Pipe: 100	-8025.9	24.980 PL	2165.00	PF 3.8
P561 0.0 H.S. 121.8 4140.0 5.3 140 FTG 5ET2G				PE 0.0
CONN 0.0 0.0 125.5 0.0 0.001 TL 2980.00				PV

DATE: 6/29/2011EALS\PROJECTS\PAX RIVER NAS HANGER\NAS PAX FOAM CALC 1.SDF
 JOB TITLE: P 561 Foam calc 1

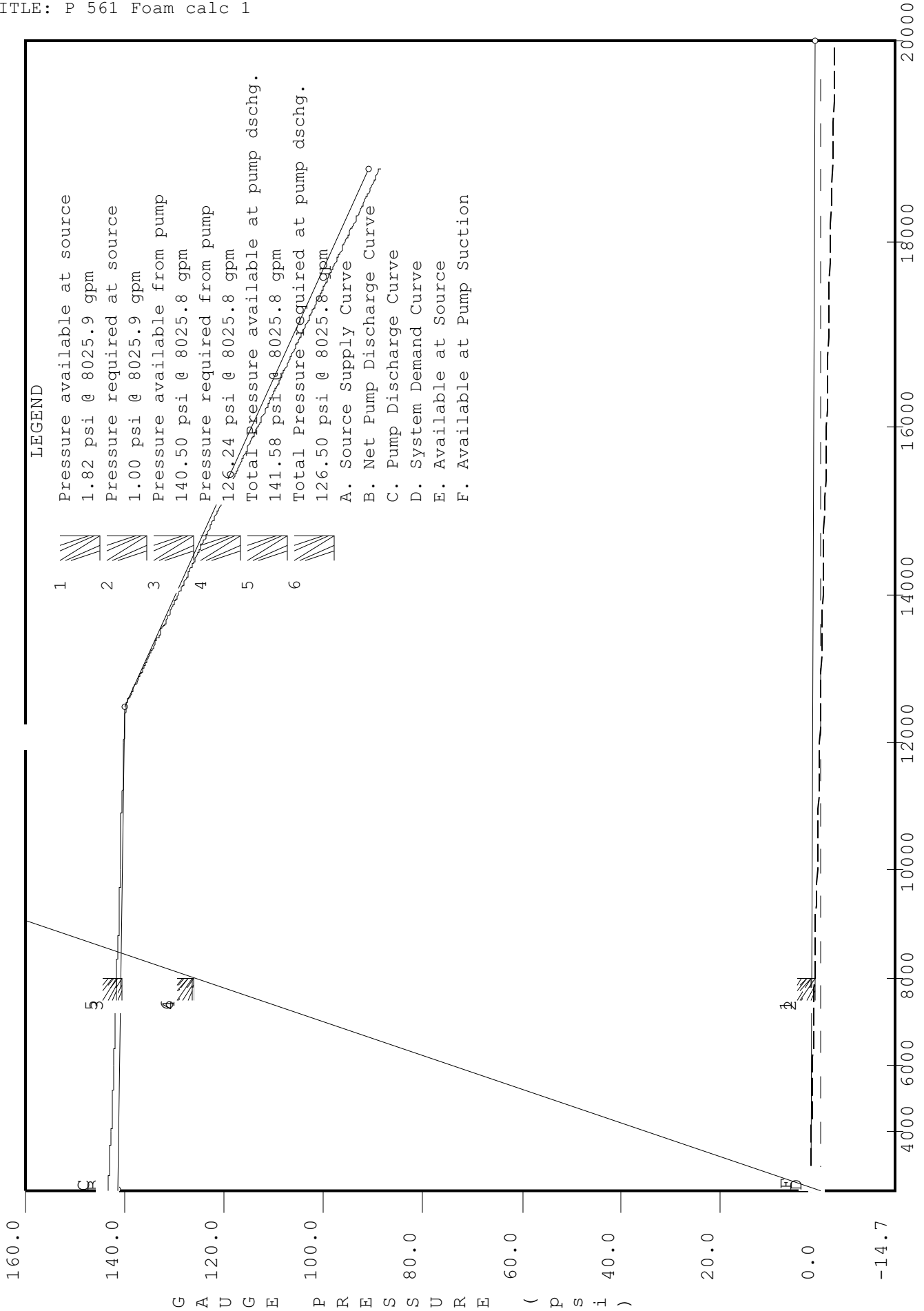
PIPE TAG	Q (GPM)	DIA (IN)	LENGTH	PRESS.
END ELEV. NOZ. PT DISC. VEL (FPS) HW (C) (FT) SUM.				
NODES (FT) (K) (PSI) (GPM) FL/FT (PSI)				
Pipe: 101	-8025.9	24.980	PL 65.00	PF 1.0
CONN 0.0 0.0 125.5 0.0 5.3 140 FTG 4ET2G PE 0.0				
PD 0.0 0.0 126.5 0.0 0.001 TL 774.00 PV				
Pipe: 102	FIRE PUMP	Rating: 12500.0 gpm @ 140.0 psi		
PS 0.0 0.0 0.3 0.0 Avail.: 8025.8 gpm @ 140.0 psi				
PD 0.0 0.0 126.5 0.0 Req'd.: 8025.8 gpm @ 126.2 psi				
Pipe: 103	-8025.9	24.980	PL 85.00	PF 0.7
PS 0.0 0.0 0.3 0.0 5.3 140 FTG 2ET2G PE 0.0				
TANK 0.0 SRCE 1.0 (N/A) 0.001 TL 582.00 PV				

NOTES (HASS):

- (1) Calculations were performed by the HASS 8.1 computer program under license no. 5002031120 granted by
 HRS Systems, Inc.
 208 South Public Square
 Petersburg, TN 37144
 (931) 659-9760
- (2) The system has been calculated to provide an average imbalance at each node of 0.008 gpm and a maximum imbalance at any node of 0.109 gpm.
- (3) Total pressure at each node is used in balancing the system. Maximum water velocity is 20.2 ft/sec at pipe 97I.
- (4) The Minimum pump suction pressure under maximum calculated demand is 0.26 (psi)

WATER SUPPLY ANALYSIS

Static: 2.00 psi Resid: 1.00 psi Flow: 20000.0 gpm



LEGEND

- 1 Pressure available at source
- 2 1.82 psi @ 8025.9 gpm
- 3 Pressure required at source
- 4 1.00 psi @ 8025.9 gpm
- 5 Pressure available from pump
- 6 140.50 psi @ 8025.8 gpm
- 7 Pressure required from pump
- 8 126.24 psi @ 8025.8 gpm
- 9 Total Pressure available at pump dschg.
- 10 141.58 psi @ 8025.8 gpm
- 11 Total Pressure required at pump dschg.
- 12 126.50 psi @ 8025.8 gpm
- A. Source Supply Curve
- B. Net Pump Discharge Curve
- C. Pump Discharge Curve
- D. System Demand Curve
- E. Available at Source
- F. Available at Pump Suction

160.0

140.0

G A U G E P R E S S U R E (p s i)

120.0

100.0

80.0

60.0

40.0

20.0

0.0

-14.7

4000 6000 8000 10000 12000 14000 16000 18000 20000

DATE: 6/29/2011EALS\PROJECTS\PAX RIVER NAS HANGER\NAS PAX FOAM CALC 1.SDF

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SPRINKLER SYSTEM DIAGRAM WITH FLOWPLOT

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WATER SUPPLY CURVE

