Hydraulic Calculations by HydraCALC

Hydratec Incorporated
64 Haverhill Road
Route 111
Windham, NH 03087
603-434-0502

Job Name	:	LINCOLN EQUITIES SOUTHEAST
Drawing	:	HIGH PILED STORAGE
Location	:	NY312 & PUGSLEY RD, BREWSTER, NY 10509
Remote Area	:	SYSTEM 8
Contract	:	5031092
Data File	:	Lincoln Equities - BLDG A SYS 8 K22 8.23.23.WXF

Computer Programs by Hydratec Inc. Revision: 50.54.2

Hydraulic Design Information Sheet

Name - LINCOLN EQUITIES SOUTHEAST — Date - 8.23.23
Location - NY312 & PUGSLEY RD, BREWSTER, NY 10509
Building - HIGH PILED STORAGE — System No. - SYSTEM 8
Contractor - SA COMUNALE — Contract No. - 5031092
Calculated By - JUSTIN BEOUGHER — Drawing No. - PG.9
Construction: ( ) Combustible (X) Non-Combustible — Ceiling Height - 44'-6
Occupancy - ESFR

SYSTEM DESIGN

(X) NFPA 13 ( ) Lt. Haz. Ord.Haz.Gp. ( ) 1 ( ) 2 ( ) 3 ( ) Ex.Haz.
( ) Figure Curve
Other
Specific Ruling — Made By — Date

Number of ESFR Sprinklers	- 12	System Type	Sprinkler/Nozzle
End Head Pressure (PSI)	- 40	(X) Wet	Make RELIABLE
ESFR K-Factor	- 22.4	( ) Dry	Model P22
Elevation at Highest Outlet	- 43'-10½	( ) Deluge	Size 1"
Hose Allowance - Inside	- 100	( ) Preaction	K-Factor 22.4
Rack Sprinkler Allowance	- NA	( ) Other	Temp.Rat.165
Hose Allowance - Outside	- 150		

Note

Calculation Summary — Flow Required - 1967.74 Press Required - 142.007
C-Factor Used: 120 Overhead 150 Underground

WATER SUPPLY

Water Flow Test:	Pump Data:	Tank or Reservoir:
Date of Test -		Cap. -
Time of Test -	Rated Cap.- 2000	Elev.-
Static Press -	@ Press - 149	
Residual Press -	Elev. - 2	Well
Flow -		Proof Flow
Elevation -		

Location - PUMP
WATER STORAGE TANK
Source of Information -

COMMODITY STORAGE

Commodity GROUP A CARTONED UNEXP. Class 1-4 Location
Storage Ht. 40 FT Area Aisle W.
Storage Method: Solid Piled % Palletized % Rack

( ) Single Row	( ) Conven. Pallet	( ) Auto. Storage	( ) Encap.
( ) Double Row	( ) Slave Pallet	( ) Solid Shelf	( ) Non
( ) Mult. Row		( ) Open Shelf	

RACKAGE

Flue Spacing — Clearance:Storage to Ceiling
Longitudinal — Transverse

Horizontal Barriers Provided:

Water Supply Curve C

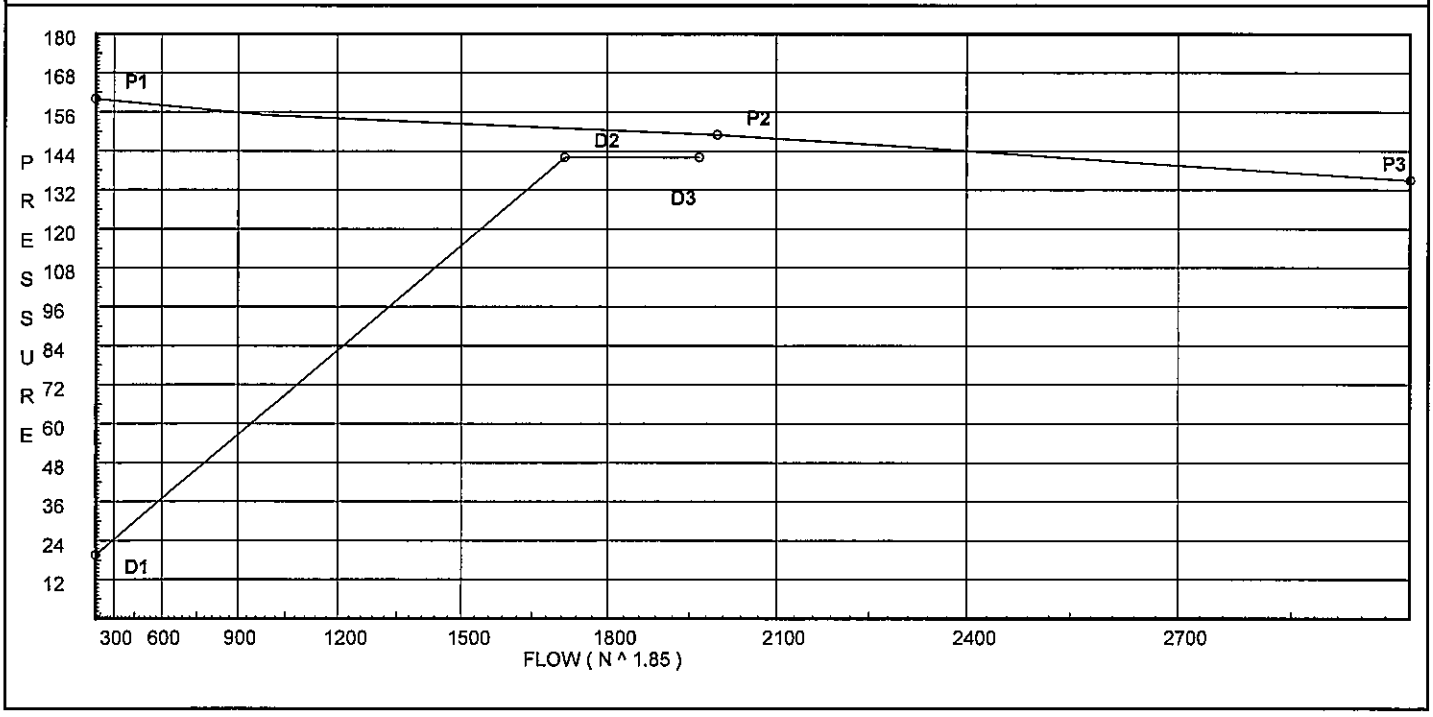
Hydratec Incorporated
LINCOLN EQUITIES SOUTHEAST

Pump Data:

P1 - Pump Churn Pressure	: 160
P2 - Pump Rated Pressure	: 149
P2 - Pump Rated Flow	: 2000
P3 - Pump Pressure @ Max Flow	: 135
P3 - Pump Max Flow	: 3000

Demand:

D1 - Elevation	: 19.490
D2 - System Flow	: 1717.74
D2 - System Pressure	: 142.007
Hose (Demand)	: 250
D3 - System Demand	: 1967.74
Safety Margin	: 7.239



Fittings Used Summary

Fitting Legend Abbrev.	Name	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12	14	16	18	20	24
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
F	NFPA 13 45' Elbow	1	1	1	1	2	2	3	3	3	4	5	7	9	11	13	17	19	21	24	28
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
L	NFPA 13 Long Turn Elbow	0.5	1	2	2	2	3	4	5	5	6	8	9	13	16	18	24	27	30	34	40
S	NFPA 13 Swing Check	0	0	5	7	9	11	14	16	19	22	27	32	45	55	65					
T	NFPA 13 90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
V	90' Ell Firelock #001	0	0	0	0	0	3.5	4.3	5	0	6.8	8.5	10	13	4.5	5.1	0	0	0	0	0
X	90'Tee-BranchFirelock002	0	0	0	0	0	8.5	10.8	13	0	16	21	25	33	9.3	11	0	0	0	0	0

Units Summary

Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

SUPPLY ANALYSIS

Node at Source	Static Pressure	Residual Pressure	Flow	Available Pressure	Total Demand	Required Pressure
PO	See Information on Pump Curve			149.246	1967.74	142.007

NODE ANALYSIS

Node Tag	Elevation	Node Type	Pressure at Node	Discharge at Node	Notes
R13	47.0		65.06		
1	47.0	22.4	41.41	144.15	
2	47.0	22.4	40.0	141.67	
3	47.0	22.4	40.0	141.67	
4	47.0	22.4	41.5	144.3	
R14	47.0		65.21		
5	47.0	22.4	41.48	144.26	
6	47.0	22.4	40.06	141.78	
7	47.0	22.4	40.06	141.78	
8	47.0	22.4	41.56	144.4	
R15	47.0		65.75		
9	47.0	22.4	41.72	144.68	
10	47.0	22.4	40.27	142.16	
11	47.0	22.4	40.27	142.16	
12	47.0	22.4	41.76	144.75	
R16	47.0		80.47		
R17	47.0		81.62		
R18	47.0		82.63		
R19	47.0		83.5		
R20	47.0		84.24		
R21	47.0		84.91		
R22	47.0		85.53		
R23	47.0		86.1		
R24	47.0		86.63		
R25	47.0		87.13		
R26	47.0		87.6		
R27	47.0		88.06		
H1	47.0		88.15		
H2	47.0		88.16		
H3	47.0		88.18		
H4	47.0		88.2		
R28	47.0		88.47		
H5	47.0		88.55		
H6	47.0		88.57		
H7	47.0		88.59		
H8	47.0		88.6		
R29	47.0		88.86		
H9	47.0		88.94		
H10	47.0		88.96		

NODE ANALYSIS (cont.)

Node Tag	Elevation	Node Type	Pressure at Node	Discharge at Node	Notes
H11	47.0		88.98		
H12	47.0		88.99		
R30	47.0		89.22		
R31	47.0		89.55		
R32	47.0		89.85		
R33	47.0		90.11		
R34	47.0		90.35		
R35	47.0		90.54		
R36	47.0		90.71		
R37	47.0		90.84		
R38	47.0		90.96		
R39	47.0		71.8		
R40	47.0		71.84		
R41	47.0		71.97		
R42	47.0		84.25		
R43	47.0		84.63		
R44	47.0		85.01		
R45	47.0		85.37		
R46	47.0		85.73		
R47	47.0		86.08		
R48	47.0		86.44		
R49	47.0		86.81		
R50	47.0		87.18		
R51	47.0		87.56		
R52	47.0		87.94		
R53	47.0		88.31		
R54	47.0		88.7		
R55	47.0		89.09		
R56	47.0		89.49		
R57	47.0		89.9		
R58	47.0		90.31		
R59	47.0		90.74		
R60	47.0		91.17		
R61	47.0		91.62		
R62	47.0		92.09		
R63	47.0		92.59		
R64	47.0		93.12		
13	47.0		77.45		
14	47.0		77.64		
15	47.0		78.33		
16	47.0		79.79		
17	47.0		81.07		
18	47.0		82.21		
19	47.0		83.16		
20	47.0		83.97		
21	47.0		84.7		
22	47.0		85.36		
23	47.0		85.97		
24	47.0		86.53		

NODE ANALYSIS (cont.)

Node Tag	Elevation	Node Type	Pressure at Node	Discharge at Node	Notes
25	47.0		87.05		
26	47.0		87.54		
27	47.0		88.0		
28	47.0		88.42		
29	47.0		88.8		
30	47.0		89.15		
31	47.0		89.46		
32	47.0		89.73		
33	47.0		89.96		
34	47.0		90.14		
35	47.0		90.28		
36	47.0		90.37		
37	47.0		90.41		
39	47.0		84.58		
40	47.0		84.61		
41	47.0		84.71		
42	47.0		84.93		
43	47.0		85.17		
44	47.0		85.44		
45	47.0		85.71		
46	47.0		85.99		
47	47.0		86.29		
48	47.0		86.61		
49	47.0		86.94		
50	47.0		87.28		
51	47.0		87.63		
52	47.0		88.0		
53	47.0		88.37		
54	47.0		88.75		
55	47.0		89.15		
56	47.0		89.56		
57	47.0		89.99		
58	47.0		90.43		
59	47.0		90.89		
60	47.0		91.38		
61	47.0		91.89		
62	47.0		92.43		
63	47.0		93.02		
64	47.0		93.65		
FMJ	47.0		94.79		
TR3	47.0		99.11		
BR3	2.0		128.45	100.0	
FLG	2.0		128.85		
UG1	-5.0		136.49		
UG2	-5.0		134.2	150.0	
UG3	-5.0		140.58		
UG4	-5.0		140.04		
UG5	-5.0		140.02		
UG6	-5.0		143.7		

NODE ANALYSIS (cont.)

Node Tag	*Elevation*	*Node Type*	*Pressure at Node*	*Discharge at Node*	*Notes*
PUMP	2.0		140.99		
PO	2.0		142.01		

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
R13	47		-283.45	2		0.0	45.083	120	65.064	
to						0.0	0.0		0.0	
1	47		-283.45	2.157		0.0	45.083	-0.5247	-23.654	Vel = 24.89
1	47	22.40	144.14	2		0.0	10.000	120	41.410	
to						0.0	0.0		0.0	
2	47		-139.31	2.157		0.0	10.000	-0.1410	-1.410	Vel = 12.23
2	47	22.40	141.67	2		0.0	10.000	120	40.000	
to						0.0	0.0		0.0	
3	47		2.36	2.157		0.0	10.000	0.0001	0.001	Vel = 0.21
3	47	22.40	141.68	2		0.0	10.000	120	40.001	
to						0.0	0.0		0.0	
4	47		144.04	2.157		0.0	10.000	0.1499	1.499	Vel = 12.65
4	47	22.40	144.30	2		0.0	55.958	120	41.500	
to						0.0	0.0		0.0	
R39	47		288.34	2.157		0.0	55.958	0.5415	30.303	Vel = 25.32
			0.0							
R39			288.34						71.803	K Factor = 34.03
R14	47		-283.98	2		0.0	45.083	120	65.212	
to						0.0	0.0		0.0	
5	47		-283.98	2.157		0.0	45.083	-0.5265	-23.735	Vel = 24.93
5	47	22.40	144.27	2		0.0	10.000	120	41.477	
to						0.0	0.0		0.0	
6	47		-139.71	2.157		0.0	10.000	-0.1417	-1.417	Vel = 12.27
6	47	22.40	141.77	2		0.0	10.000	120	40.060	
to						0.0	0.0		0.0	
7	47		2.06	2.157		0.0	10.000	0	0.0	Vel = 0.18
7	47	22.40	141.78	2		0.0	10.000	120	40.060	
to						0.0	0.0		0.0	
8	47		143.84	2.157		0.0	10.000	0.1496	1.496	Vel = 12.63
8	47	22.40	144.40	2		0.0	55.958	120	41.556	
to						0.0	0.0		0.0	
R40	47		288.24	2.157		0.0	55.958	0.5412	30.284	Vel = 25.31
			0.0							
R40			288.24						71.840	K Factor = 34.01
R15	47		-285.86	2		0.0	45.083	120	65.747	
to						0.0	0.0		0.0	
9	47		-285.86	2.157		0.0	45.083	-0.5330	-24.027	Vel = 25.10
9	47	22.40	144.68	2		0.0	10.000	120	41.720	
to						0.0	0.0		0.0	
10	47		-141.18	2.157		0.0	10.000	-0.1446	-1.446	Vel = 12.40
10	47	22.40	142.15	2		0.0	10.000	120	40.274	
to						0.0	0.0		0.0	
11	47		0.97	2.157		0.0	10.000	0.0001	0.001	Vel = 0.09
11	47	22.40	142.16	2		0.0	10.000	120	40.275	
to						0.0	0.0		0.0	
12	47		143.13	2.157		0.0	10.000	0.1482	1.482	Vel = 12.57
12	47	22.40	144.75	2		0.0	55.958	120	41.757	
to						0.0	0.0		0.0	
R41	47		287.88	2.157		0.0	55.958	0.5399	30.213	Vel = 25.28

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
			0.0									
R41			287.88						71.970	K Factor = 33.93		
R16	47		59.05	2		0.0	131.041	120	80.471			
to						0.0	0.0		0.0			
R42	47		59.05	2.157		0.0	131.041	0.0288	3.776	Vel = 5.18		
			0.0									
R42			59.05						84.247	K Factor = 6.43		
R17	47		52.24	2		0.0	131.041	120	81.617			
to						0.0	0.0		0.0			
R43	47		52.24	2.157		0.0	131.041	0.0230	3.009	Vel = 4.59		
			0.0									
R43			52.24						84.626	K Factor = 5.68		
R18	47		45.95	2		0.0	131.041	120	82.634			
to						0.0	0.0		0.0			
R44	47		45.95	2.157		0.0	131.041	0.0181	2.374	Vel = 4.03		
			0.0									
R44			45.95						85.008	K Factor = 4.98		
R19	47		40.45	2		0.0	131.041	120	83.499			
to						0.0	0.0		0.0			
R45	47		40.45	2.157		0.0	131.041	0.0143	1.875	Vel = 3.55		
			0.0									
R45			40.45						85.374	K Factor = 4.38		
R20	47		35.68	2		0.0	131.041	120	84.239			
to						0.0	0.0		0.0			
R46	47		35.68	2.157		0.0	131.041	0.0113	1.487	Vel = 3.13		
			0.0									
R46			35.68						85.726	K Factor = 3.85		
R21	47		31.35	2		0.0	131.041	120	84.912			
to						0.0	0.0		0.0			
R47	47		31.35	2.157		0.0	131.041	0.0089	1.170	Vel = 2.75		
			0.0									
R47			31.35						86.082	K Factor = 3.38		
R22	47		27.43	2		0.0	131.041	120	85.530			
to						0.0	0.0		0.0			
R48	47		27.43	2.157		0.0	131.041	0.0070	0.913	Vel = 2.41		
			0.0									
R48			27.43						86.443	K Factor = 2.95		
R23	47		23.92	2		0.0	131.041	120	86.100			
to						0.0	0.0		0.0			
R49	47		23.92	2.157		0.0	131.041	0.0054	0.710	Vel = 2.10		
			0.0									
R49			23.92						86.810	K Factor = 2.57		
R24	47		20.83	2		0.0	131.041	120	86.632			
to						0.0	0.0		0.0			
R50	47		20.83	2.157		0.0	131.041	0.0042	0.549	Vel = 1.83		
			0.0									

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
R50			20.83						87.181	K Factor = 2.23
R25	47		18.17	2	0.0	131.041	120	87.130		
to					0.0	0.0		0.0		
R51	47		18.17	2.157	0.0	131.041	0.0033	0.427		Vel = 1.60
			0.0							
R51			18.17						87.557	K Factor = 1.94
R26	47		15.95	2	0.0	131.041	120	87.601		
to					0.0	0.0		0.0		
R52	47		15.95	2.157	0.0	131.041	0.0026	0.336		Vel = 1.40
			0.0							
R52			15.95						87.937	K Factor = 1.70
R27	47		22.95	2.5	0.0	45.083	120	88.060		
to					0.0	0.0		0.0		
H1	47		22.95	2.635	0.0	45.083	0.0019	0.086		Vel = 1.35
H1	47		0.0	2.5	0.0	10.000	120	88.146		
to					0.0	0.0		0.0		
H2	47		22.95	2.635	0.0	10.000	0.0019	0.019		Vel = 1.35
H2	47		0.0	2.5	0.0	10.000	120	88.165		
to					0.0	0.0		0.0		
H3	47		22.95	2.635	0.0	10.000	0.0019	0.019		Vel = 1.35
H3	47		0.0	2.5	0.0	10.000	120	88.184		
to					0.0	0.0		0.0		
H4	47		22.95	2.635	0.0	10.000	0.0019	0.019		Vel = 1.35
H4	47		0.0	2.5	0.0	55.958	120	88.203		
to					0.0	0.0		0.0		
R53	47		22.95	2.635	0.0	55.958	0.0019	0.105		Vel = 1.35
			0.0							
R53			22.95						88.308	K Factor = 2.44
R28	47		21.78	2.5	0.0	45.083	120	88.474		
to					0.0	0.0		0.0		
H5	47		21.78	2.635	0.0	45.083	0.0017	0.078		Vel = 1.28
H5	47		0.0	2.5	0.0	10.000	120	88.552		
to					0.0	0.0		0.0		
H6	47		21.78	2.635	0.0	10.000	0.0017	0.017		Vel = 1.28
H6	47		0.0	2.5	0.0	10.000	120	88.569		
to					0.0	0.0		0.0		
H7	47		21.78	2.635	0.0	10.000	0.0017	0.017		Vel = 1.28
H7	47		0.0	2.5	0.0	10.000	120	88.586		
to					0.0	0.0		0.0		
H8	47		21.78	2.635	0.0	10.000	0.0017	0.017		Vel = 1.28
H8	47		0.0	2.5	0.0	55.958	120	88.603		
to					0.0	0.0		0.0		
R54	47		21.78	2.635	0.0	55.958	0.0017	0.096		Vel = 1.28
			0.0							
R54			21.78						88.699	K Factor = 2.31
R29	47		22.29	2.5	0.0	45.083	120	88.860		
to					0.0	0.0		0.0		
H9	47		22.29	2.635	0.0	45.083	0.0018	0.081		Vel = 1.31

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
H9	47		0.0	2.5		0.0	10.000	120	88.941	
to						0.0	0.0		0.0	
H10	47		22.29	2.635		0.0	10.000	0.0018	0.018	Vel = 1.31
H10	47		0.0	2.5		0.0	10.000	120	88.959	
to						0.0	0.0		0.0	
H11	47		22.29	2.635		0.0	10.000	0.0017	0.017	Vel = 1.31
H11	47		0.0	2.5		0.0	10.000	120	88.976	
to						0.0	0.0		0.0	
H12	47		22.29	2.635		0.0	10.000	0.0018	0.018	Vel = 1.31
H12	47		0.0	2.5		0.0	55.958	120	88.994	
to						0.0	0.0		0.0	
R55	47		22.29	2.635		0.0	55.958	0.0018	0.101	Vel = 1.31
			0.0							
R55			22.29						89.095	K Factor = 2.36
R30	47		24.36	2.5		0.0	131.041	120	89.218	
to						0.0	0.0		0.0	
R56	47		24.36	2.635		0.0	131.041	0.0021	0.277	Vel = 1.43
			0.0							
R56			24.36						89.495	K Factor = 2.58
R31	47		27.79	2.5		0.0	131.041	120	89.548	
to						0.0	0.0		0.0	
R57	47		27.79	2.635		0.0	131.041	0.0027	0.353	Vel = 1.63
			0.0							
R57			27.79						89.901	K Factor = 2.93
R32	47		32.33	2.5		0.0	131.041	120	89.847	
to						0.0	0.0		0.0	
R58	47		32.33	2.635		0.0	131.041	0.0036	0.468	Vel = 1.90
			0.0							
R58			32.33						90.315	K Factor = 3.40
R33	47		37.78	2.5		0.0	131.041	120	90.114	
to						0.0	0.0		0.0	
R59	47		37.78	2.635		0.0	131.041	0.0048	0.624	Vel = 2.22
			0.0							
R59			37.78						90.738	K Factor = 3.97
R34	47		43.99	2.5		0.0	131.041	120	90.346	
to						0.0	0.0		0.0	
R60	47		43.99	2.635		0.0	131.041	0.0063	0.827	Vel = 2.59
			0.0							
R60			43.99						91.173	K Factor = 4.61
R35	47		50.83	2.5		0.0	131.041	120	90.544	
to						0.0	0.0		0.0	
R61	47		50.83	2.635		0.0	131.041	0.0082	1.079	Vel = 2.99
			0.0							
R61			50.83						91.623	K Factor = 5.31
R36	47		58.20	2.5		0.0	131.041	120	90.707	
to						0.0	0.0		0.0	
R62	47		58.2	2.635		0.0	131.041	0.0106	1.387	Vel = 3.42

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
			0.0									
R62			58.20						92.094	K Factor = 6.06		
R37	47		65.96	2.5		0.0	131.041	120	90.843			
to						0.0	0.0		0.0			
R63	47		65.96	2.635		0.0	131.041	0.0133	1.748	Vel = 3.88		
			0.0									
R63			65.96						92.591	K Factor = 6.85		
R38	47		74.00	2.5		0.0	131.041	120	90.958			
to						0.0	0.0		0.0			
R64	47		74.0	2.635		0.0	131.041	0.0165	2.163	Vel = 4.35		
			0.0									
R64			74.00						93.121	K Factor = 7.67		
R13	47		283.45	2	X	10.461	0.833	120	65.064			
to					T	12.307	22.768		0.0			
13	47		283.45	2.157		0.0	23.601	0.5246	12.382	Vel = 24.89		
			0.0									
13			283.45						77.446	K Factor = 32.21		
R14	47		283.98	2	X	10.461	0.833	120	65.212			
to					T	12.307	22.768		0.0			
14	47		283.98	2.157		0.0	23.601	0.5265	12.425	Vel = 24.93		
			0.0									
14			283.98						77.637	K Factor = 32.23		
R15	47		285.86	2	X	10.461	0.833	120	65.747			
to					T	12.307	22.768		0.0			
15	47		285.86	2.157		0.0	23.601	0.5330	12.579	Vel = 25.10		
			0.0									
15			285.86						78.326	K Factor = 32.30		
R16	47		-59.05	2	X	10.461	0.833	120	80.471			
to					T	12.307	22.768		0.0			
16	47		-59.05	2.157		0.0	23.601	-0.0288	-0.680	Vel = 5.18		
			0.0									
16			-59.05						79.791	K Factor = -6.61		
R17	47		-52.24	2	X	10.461	0.833	120	81.617			
to					T	12.307	22.768		0.0			
17	47		-52.24	2.157		0.0	23.601	-0.0230	-0.542	Vel = 4.59		
			0.0									
17			-52.24						81.075	K Factor = -5.80		
R18	47		-45.95	2	X	10.461	0.833	120	82.634			
to					T	12.307	22.768		0.0			
18	47		-45.95	2.157		0.0	23.601	-0.0181	-0.428	Vel = 4.03		
			0.0									
18			-45.95						82.206	K Factor = -5.07		
R19	47		-40.45	2	X	10.461	0.833	120	83.499			
to					T	12.307	22.768		0.0			
19	47		-40.45	2.157		0.0	23.601	-0.0143	-0.338	Vel = 3.55		
			0.0									

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
19			-40.45						83.161	K Factor = -4.44
R20	47		-35.68	2	X	10.461	0.833	120	84.239	
to					T	12.307	22.768		0.0	
20	47		-35.68	2.157		0.0	23.601	-0.0114	-0.268	Vel = 3.13
			0.0							
20			-35.68						83.971	K Factor = -3.89
R21	47		-31.35	2	X	10.461	0.833	120	84.912	
to					T	12.307	22.768		0.0	
21	47		-31.35	2.157		0.0	23.601	-0.0089	-0.211	Vel = 2.75
			0.0							
21			-31.35						84.701	K Factor = -3.41
R22	47		-27.43	2	X	10.461	0.833	120	85.530	
to					T	12.307	22.768		0.0	
22	47		-27.43	2.157		0.0	23.601	-0.0070	-0.165	Vel = 2.41
			0.0							
22			-27.43						85.365	K Factor = -2.97
R23	47		-23.92	2	X	10.461	0.833	120	86.100	
to					T	12.307	22.768		0.0	
23	47		-23.92	2.157		0.0	23.601	-0.0054	-0.128	Vel = 2.10
			0.0							
23			-23.92						85.972	K Factor = -2.58
R24	47		-20.83	2	X	10.461	0.833	120	86.632	
to					T	12.307	22.768		0.0	
24	47		-20.83	2.157		0.0	23.601	-0.0042	-0.099	Vel = 1.83
			0.0							
24			-20.83						86.533	K Factor = -2.24
R25	47		-18.17	2	X	10.461	0.833	120	87.130	
to					T	12.307	22.768		0.0	
25	47		-18.17	2.157		0.0	23.601	-0.0033	-0.077	Vel = 1.60
			0.0							
25			-18.17						87.053	K Factor = -1.95
R26	47		-15.95	2	X	10.461	0.833	120	87.601	
to					T	12.307	22.768		0.0	
26	47		-15.95	2.157		0.0	23.601	-0.0025	-0.060	Vel = 1.40
			0.0							
26			-15.95						87.541	K Factor = -1.70
R27	47		-22.95	2.5	X	14.827	0.833	120	88.060	
to					T	16.474	31.301		0.0	
27	47		-22.95	2.635		0.0	32.134	-0.0019	-0.060	Vel = 1.35
			0.0							
27			-22.95						88.000	K Factor = -2.45
R28	47		-21.78	2.5	X	14.827	0.833	120	88.474	
to					T	16.474	31.301		0.0	
28	47		-21.78	2.635		0.0	32.134	-0.0017	-0.055	Vel = 1.28
			0.0							
28			-21.78						88.419	K Factor = -2.32

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
R29	47		-22.29	2.5	X	14.827	0.833	120	88.860	
to					T	16.474	31.301		0.0	
29	47		-22.29	2.635		0.0	32.134	-0.0018	-0.058	Vel = 1.31
			0.0							
29			-22.29						88.802	K Factor = -2.37
R30	47		-24.36	2.5	X	14.827	0.833	120	89.218	
to					T	16.474	31.301		0.0	
30	47		-24.36	2.635		0.0	32.134	-0.0021	-0.068	Vel = 1.43
			0.0							
30			-24.36						89.150	K Factor = -2.58
R31	47		-27.79	2.5	X	14.827	0.833	120	89.548	
to					T	16.474	31.301		0.0	
31	47		-27.79	2.635		0.0	32.134	-0.0027	-0.087	Vel = 1.63
			0.0							
31			-27.79						89.461	K Factor = -2.94
R32	47		-32.33	2.5	X	14.827	0.833	120	89.847	
to					T	16.474	31.301		0.0	
32	47		-32.33	2.635		0.0	32.134	-0.0035	-0.114	Vel = 1.90
			0.0							
32			-32.33						89.733	K Factor = -3.41
R33	47		-37.78	2.5	X	14.827	0.833	120	90.114	
to					T	16.474	31.301		0.0	
33	47		-37.78	2.635		0.0	32.134	-0.0048	-0.153	Vel = 2.22
			0.0							
33			-37.78						89.961	K Factor = -3.98
R34	47		-43.99	2.5	X	14.827	0.833	120	90.346	
to					T	16.474	31.301		0.0	
34	47		-43.99	2.635		0.0	32.134	-0.0063	-0.202	Vel = 2.59
			0.0							
34			-43.99						90.144	K Factor = -4.63
R35	47		-50.83	2.5	X	14.827	0.833	120	90.544	
to					T	16.474	31.301		0.0	
35	47		-50.83	2.635		0.0	32.134	-0.0082	-0.265	Vel = 2.99
			0.0							
35			-50.83						90.279	K Factor = -5.35
R36	47		-58.20	2.5	X	14.827	0.833	120	90.707	
to					T	16.474	31.301		0.0	
36	47		-58.2	2.635		0.0	32.134	-0.0106	-0.340	Vel = 3.42
			0.0							
36			-58.20						90.367	K Factor = -6.12
R37	47		-65.96	2.5	X	14.827	0.833	120	90.843	
to					T	16.474	31.301		0.0	
37	47		-65.96	2.635		0.0	32.134	-0.0134	-0.429	Vel = 3.88
			0.0							
37			-65.96						90.414	K Factor = -6.94
R38	47		-74.00	2.5	X	14.827	0.833	120	90.958	
to					T	16.474	31.301		0.0	
38	47		-74.0	2.635		0.0	32.134	-0.0165	-0.530	Vel = 4.35

Node1 / to / Node2	Elev1 / Elev2	K / Fact	Qa / Qt	Nom / Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact / Pf/Ft	Pt / Pe / Pf	******* Notes ******
			0.0							
38			-74.00						90.428	K Factor = -7.78
R39	47		288.34	2	X	10.461	0.833	120	71.803	
to					T	12.307	22.768		0.0	
39	47		288.34	2.157		0.0	23.601	0.5415	12.781	Vel = 25.32
			0.0							
39			288.34						84.584	K Factor = 31.35
R40	47		288.24	2	X	10.461	0.833	120	71.840	
to					T	12.307	22.768		0.0	
40	47		288.24	2.157		0.0	23.601	0.5412	12.772	Vel = 25.31
			0.0							
40			288.24						84.612	K Factor = 31.34
R41	47		287.88	2	X	10.461	0.833	120	71.970	
to					T	12.307	22.768		0.0	
41	47		287.88	2.157		0.0	23.601	0.5399	12.743	Vel = 25.28
			0.0							
41			287.88						84.713	K Factor = 31.28
R42	47		59.05	2	X	10.461	0.833	120	84.247	
to					T	12.307	22.768		0.0	
42	47		59.05	2.157		0.0	23.601	0.0288	0.680	Vel = 5.18
			0.0							
42			59.05						84.927	K Factor = 6.41
R43	47		52.24	2	X	10.461	0.833	120	84.626	
to					T	12.307	22.768		0.0	
43	47		52.24	2.157		0.0	23.601	0.0230	0.542	Vel = 4.59
			0.0							
43			52.24						85.168	K Factor = 5.66
R44	47		45.95	2	X	10.461	0.833	120	85.008	
to					T	12.307	22.768		0.0	
44	47		45.95	2.157		0.0	23.601	0.0181	0.427	Vel = 4.03
			0.0							
44			45.95						85.435	K Factor = 4.97
R45	47		40.45	2	X	10.461	0.833	120	85.374	
to					T	12.307	22.768		0.0	
45	47		40.45	2.157		0.0	23.601	0.0143	0.338	Vel = 3.55
			0.0							
45			40.45						85.712	K Factor = 4.37
R46	47		35.68	2	X	10.461	0.833	120	85.726	
to					T	12.307	22.768		0.0	
46	47		35.68	2.157		0.0	23.601	0.0114	0.268	Vel = 3.13
			0.0							
46			35.68						85.994	K Factor = 3.85
R47	47		31.35	2	X	10.461	0.833	120	86.082	
to					T	12.307	22.768		0.0	
47	47		31.35	2.157		0.0	23.601	0.0089	0.211	Vel = 2.75
			0.0							

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
47			31.35						86.293	K Factor = 3.37		
R48	47		27.43	2	X	10.461	0.833	120	86.443			
to					T	12.307	22.768		0.0			
48	47		27.43	2.157		0.0	23.601	0.0070	0.165	Vel = 2.41		
			0.0									
48			27.43						86.608	K Factor = 2.95		
R49	47		23.92	2	X	10.461	0.833	120	86.810			
to					T	12.307	22.768		0.0			
49	47		23.92	2.157		0.0	23.601	0.0054	0.128	Vel = 2.10		
			0.0									
49			23.92						86.938	K Factor = 2.57		
R50	47		20.83	2	X	10.461	0.833	120	87.181			
to					T	12.307	22.768		0.0			
50	47		20.83	2.157		0.0	23.601	0.0042	0.099	Vel = 1.83		
			0.0									
50			20.83						87.280	K Factor = 2.23		
R51	47		18.17	2	X	10.461	0.833	120	87.557			
to					T	12.307	22.768		0.0			
51	47		18.17	2.157		0.0	23.601	0.0032	0.076	Vel = 1.60		
			0.0									
51			18.17						87.633	K Factor = 1.94		
R52	47		15.95	2	X	10.461	0.833	120	87.937			
to					T	12.307	22.768		0.0			
52	47		15.95	2.157		0.0	23.601	0.0025	0.060	Vel = 1.40		
			0.0									
52			15.95						87.997	K Factor = 1.70		
R53	47		22.95	2.5	X	14.827	0.833	120	88.308			
to					T	16.474	31.301		0.0			
53	47		22.95	2.635		0.0	32.134	0.0019	0.061	Vel = 1.35		
			0.0									
53			22.95						88.369	K Factor = 2.44		
R54	47		21.78	2.5	X	14.827	0.833	120	88.699			
to					T	16.474	31.301		0.0			
54	47		21.78	2.635		0.0	32.134	0.0017	0.056	Vel = 1.28		
			0.0									
54			21.78						88.755	K Factor = 2.31		
R55	47		22.29	2.5	X	14.827	0.833	120	89.095			
to					T	16.474	31.301		0.0			
55	47		22.29	2.635		0.0	32.134	0.0018	0.057	Vel = 1.31		
			0.0									
55			22.29						89.152	K Factor = 2.36		
R56	47		24.36	2.5	X	14.827	0.833	120	89.495			
to					T	16.474	31.301		0.0			
56	47		24.36	2.635		0.0	32.134	0.0021	0.068	Vel = 1.43		
			0.0									
56			24.36						89.563	K Factor = 2.57		

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
R57	47		27.79	2.5	X	14.827	0.833	120	89.901			
to					T	16.474	31.301		0.0			
57	47		27.79	2.635		0.0	32.134	0.0027	0.087	Vel = 1.63		
			0.0									
57			27.79						89.988	K Factor = 2.93		
R58	47		32.33	2.5	X	14.827	0.833	120	90.315			
to					T	16.474	31.301		0.0			
58	47		32.33	2.635		0.0	32.134	0.0035	0.114	Vel = 1.90		
			0.0									
58			32.33						90.429	K Factor = 3.40		
R59	47		37.78	2.5	X	14.827	0.833	120	90.738			
to					T	16.474	31.301		0.0			
59	47		37.78	2.635		0.0	32.134	0.0047	0.152	Vel = 2.22		
			0.0									
59			37.78						90.890	K Factor = 3.96		
R60	47		43.99	2.5	X	14.827	0.833	120	91.173			
to					T	16.474	31.301		0.0			
60	47		43.99	2.635		0.0	32.134	0.0063	0.202	Vel = 2.59		
			0.0									
60			43.99						91.375	K Factor = 4.60		
R61	47		50.83	2.5	X	14.827	0.833	120	91.623			
to					T	16.474	31.301		0.0			
61	47		50.83	2.635		0.0	32.134	0.0082	0.265	Vel = 2.99		
			0.0									
61			50.83						91.888	K Factor = 5.30		
R62	47		58.20	2.5	X	14.827	0.833	120	92.094			
to					T	16.474	31.301		0.0			
62	47		58.2	2.635		0.0	32.134	0.0106	0.340	Vel = 3.42		
			0.0									
62			58.20						92.434	K Factor = 6.05		
R63	47		65.96	2.5	X	14.827	0.833	120	92.591			
to					T	16.474	31.301		0.0			
63	47		65.96	2.635		0.0	32.134	0.0133	0.428	Vel = 3.88		
			0.0									
63			65.96						93.019	K Factor = 6.84		
R64	47		74.00	2.5	X	14.827	0.833	120	93.121			
to					T	16.474	31.301		0.0			
64	47		74.0	2.635		0.0	32.134	0.0165	0.530	Vel = 4.35		
			0.0									
64			74.00						93.651	K Factor = 7.65		
13	47		283.45	4		0.0	10.000	120	77.446			
to						0.0	0.0		0.0			
14	47		283.45	4.26		0.0	10.000	0.0191	0.191	Vel = 6.38		
14	47		283.98	4		0.0	10.000	120	77.637			
to						0.0	0.0		0.0			
15	47		567.43	4.26		0.0	10.000	0.0689	0.689	Vel = 12.77		

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
15	47		285.86	4		0.0	10.000	120	78.326	
to						0.0	0.0		0.0	
16	47		853.29	4.26		0.0	10.000	0.1465	1.465	Vel = 19.21
16	47		-59.05	4		0.0	10.000	120	79.791	
to						0.0	0.0		0.0	
17	47		794.24	4.26		0.0	10.000	0.1284	1.284	Vel = 17.88
17	47		-52.24	4		0.0	10.000	120	81.075	
to						0.0	0.0		0.0	
18	47		742.0	4.26		0.0	10.000	0.1131	1.131	Vel = 16.70
18	47		-45.95	4		0.0	9.500	120	82.206	
to						0.0	0.0		0.0	
19	47		696.05	4.26		0.0	9.500	0.1005	0.955	Vel = 15.67
19	47		-40.45	4		0.0	9.000	120	83.161	
to						0.0	0.0		0.0	
20	47		655.6	4.26		0.0	9.000	0.0900	0.810	Vel = 14.76
20	47		-35.69	4		0.0	9.000	120	83.971	
to						0.0	0.0		0.0	
21	47		619.91	4.26		0.0	9.000	0.0811	0.730	Vel = 13.95
21	47		-31.34	4		0.0	9.000	120	84.701	
to						0.0	0.0		0.0	
22	47		588.57	4.26		0.0	9.000	0.0738	0.664	Vel = 13.25
22	47		-27.43	4		0.0	9.000	120	85.365	
to						0.0	0.0		0.0	
23	47		561.14	4.26		0.0	9.000	0.0674	0.607	Vel = 12.63
23	47		-23.93	4		0.0	9.000	120	85.972	
to						0.0	0.0		0.0	
24	47		537.21	4.26		0.0	9.000	0.0623	0.561	Vel = 12.09
24	47		-20.83	4		0.0	9.000	120	86.533	
to						0.0	0.0		0.0	
25	47		516.38	4.26		0.0	9.000	0.0578	0.520	Vel = 11.62
25	47		-18.17	4		0.0	9.000	120	87.053	
to						0.0	0.0		0.0	
26	47		498.21	4.26		0.0	9.000	0.0542	0.488	Vel = 11.21
26	47		-15.95	4		0.0	9.000	120	87.541	
to						0.0	0.0		0.0	
27	47		482.26	4.26		0.0	9.000	0.0510	0.459	Vel = 10.86
27	47		-22.96	4		0.0	9.000	120	88.000	
to						0.0	0.0		0.0	
28	47		459.3	4.26		0.0	9.000	0.0466	0.419	Vel = 10.34
28	47		-21.78	4		0.0	9.000	120	88.419	
to						0.0	0.0		0.0	
29	47		437.52	4.26		0.0	9.000	0.0426	0.383	Vel = 9.85
29	47		-22.28	4		0.0	9.000	120	88.802	
to						0.0	0.0		0.0	
30	47		415.24	4.26		0.0	9.000	0.0387	0.348	Vel = 9.35
30	47		-24.36	4		0.0	9.000	120	89.150	
to						0.0	0.0		0.0	
31	47		390.88	4.26		0.0	9.000	0.0346	0.311	Vel = 8.80

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
31	47		-27.79	4		0.0	9.000	120	89.461	
to						0.0	0.0		0.0	
32	47		363.09	4.26		0.0	9.000	0.0302	0.272	Vel = 8.17
32	47		-32.33	4		0.0	9.000	120	89.733	
to						0.0	0.0		0.0	
33	47		330.76	4.26		0.0	9.000	0.0253	0.228	Vel = 7.45
33	47		-37.78	4		0.0	9.000	120	89.961	
to						0.0	0.0		0.0	
34	47		292.98	4.26		0.0	9.000	0.0203	0.183	Vel = 6.59
34	47		-43.99	4		0.0	9.000	120	90.144	
to						0.0	0.0		0.0	
35	47		248.99	4.26		0.0	9.000	0.0150	0.135	Vel = 5.60
35	47		-50.83	4		0.0	9.000	120	90.279	
to						0.0	0.0		0.0	
36	47		198.16	4.26		0.0	9.000	0.0098	0.088	Vel = 4.46
36	47		-58.20	4		0.0	9.000	120	90.367	
to						0.0	0.0		0.0	
37	47		139.96	4.26		0.0	9.000	0.0052	0.047	Vel = 3.15
37	47		-65.96	4		0.0	9.000	120	90.414	
to						0.0	0.0		0.0	
38	47		74.0	4.26		0.0	9.000	0.0016	0.014	Vel = 1.67
			0.0							
38			74.00						90.428	K Factor = 7.78
39	47		288.34	6		0.0	10.000	120	84.584	
to						0.0	0.0		0.0	
40	47		288.34	6.357		0.0	10.000	0.0028	0.028	Vel = 2.91
40	47		288.24	6		0.0	10.000	120	84.612	
to						0.0	0.0		0.0	
41	47		576.58	6.357		0.0	10.000	0.0101	0.101	Vel = 5.83
41	47		287.87	6		0.0	10.000	120	84.713	
to						0.0	0.0		0.0	
42	47		864.45	6.357		0.0	10.000	0.0214	0.214	Vel = 8.74
42	47		59.05	6		0.0	10.000	120	84.927	
to						0.0	0.0		0.0	
43	47		923.5	6.357		0.0	10.000	0.0241	0.241	Vel = 9.34
43	47		52.24	6		0.0	10.000	120	85.168	
to						0.0	0.0		0.0	
44	47		975.74	6.357		0.0	10.000	0.0267	0.267	Vel = 9.86
44	47		45.95	6		0.0	9.500	120	85.435	
to						0.0	0.0		0.0	
45	47		1021.69	6.357		0.0	9.500	0.0292	0.277	Vel = 10.33
45	47		40.46	6		0.0	9.000	120	85.712	
to						0.0	0.0		0.0	
46	47		1062.15	6.357		0.0	9.000	0.0313	0.282	Vel = 10.74
46	47		35.68	6		0.0	9.000	120	85.994	
to						0.0	0.0		0.0	
47	47		1097.83	6.357		0.0	9.000	0.0332	0.299	Vel = 11.10

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
47	47		31.35	6		0.0	9.000	120	86.293			
to						0.0	0.0		0.0			
48	47		1129.18	6.357		0.0	9.000	0.0350	0.315	Vel = 11.41		
48	47		27.43	6		0.0	9.000	120	86.608			
to						0.0	0.0		0.0			
49	47		1156.61	6.357		0.0	9.000	0.0367	0.330	Vel = 11.69		
49	47		23.92	6		0.0	9.000	120	86.938			
to						0.0	0.0		0.0			
50	47		1180.53	6.357		0.0	9.000	0.0380	0.342	Vel = 11.93		
50	47		20.83	6		0.0	9.000	120	87.280			
to						0.0	0.0		0.0			
51	47		1201.36	6.357		0.0	9.000	0.0392	0.353	Vel = 12.14		
51	47		18.17	6		0.0	9.000	120	87.633			
to						0.0	0.0		0.0			
52	47		1219.53	6.357		0.0	9.000	0.0404	0.364	Vel = 12.33		
52	47		15.96	6		0.0	9.000	120	87.997			
to						0.0	0.0		0.0			
53	47		1235.49	6.357		0.0	9.000	0.0413	0.372	Vel = 12.49		
53	47		22.95	6		0.0	9.000	120	88.369			
to						0.0	0.0		0.0			
54	47		1258.44	6.357		0.0	9.000	0.0429	0.386	Vel = 12.72		
54	47		21.78	6		0.0	9.000	120	88.755			
to						0.0	0.0		0.0			
55	47		1280.22	6.357		0.0	9.000	0.0441	0.397	Vel = 12.94		
55	47		22.29	6		0.0	9.000	120	89.152			
to						0.0	0.0		0.0			
56	47		1302.51	6.357		0.0	9.000	0.0457	0.411	Vel = 13.17		
56	47		24.36	6		0.0	9.000	120	89.563			
to						0.0	0.0		0.0			
57	47		1326.87	6.357		0.0	9.000	0.0472	0.425	Vel = 13.41		
57	47		27.79	6		0.0	9.000	120	89.988			
to						0.0	0.0		0.0			
58	47		1354.66	6.357		0.0	9.000	0.0490	0.441	Vel = 13.69		
58	47		32.32	6		0.0	9.000	120	90.429			
to						0.0	0.0		0.0			
59	47		1386.98	6.357		0.0	9.000	0.0512	0.461	Vel = 14.02		
59	47		37.78	6		0.0	9.000	120	90.890			
to						0.0	0.0		0.0			
60	47		1424.76	6.357		0.0	9.000	0.0539	0.485	Vel = 14.40		
60	47		43.99	6		0.0	9.000	120	91.375			
to						0.0	0.0		0.0			
61	47		1468.75	6.357		0.0	9.000	0.0570	0.513	Vel = 14.85		
61	47		50.84	6		0.0	9.000	120	91.888			
to						0.0	0.0		0.0			
62	47		1519.59	6.357		0.0	9.000	0.0607	0.546	Vel = 15.36		
62	47		58.20	6		0.0	9.000	120	92.434			
to						0.0	0.0		0.0			
63	47		1577.79	6.357		0.0	9.000	0.0650	0.585	Vel = 15.95		

Node1 / to / Node2	Elev1 / Elev2	K / Fact	Qa / Qt	Nom / Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact / Pf/Ft	Pt / Pe / Pf	******* Notes ******
63	47		65.96	6		0.0	9.000	120	93.019	
to						0.0	0.0		0.0	
64	47		1643.75	6.357		0.0	9.000	0.0702	0.632	Vel = 16.62
64	47		73.99	6	V	12.573	2.333	120	93.651	
to						0.0	12.573		0.0	
FMJ	47		1717.74	6.357		0.0	14.906	0.0761	1.135	Vel = 17.36
			0.0							
FMJ			1717.74						94.786	K Factor = 176.44
FMJ	47		1717.74	6	V	12.573	44.208	120	94.786	
to						0.0	12.573		0.0	
TR3	47		1717.74	6.357		0.0	56.781	0.0761	4.322	Vel = 17.36
TR3	47		0.0	6	S	40.235	38.875	120	99.108	
to					B	12.573	90.528		19.490	
BR3	2		1717.74	6.357	T	37.72	129.403	0.0761	9.849	Vel = 17.36
BR3	2	H100	100.00	8	L	19.632	2.000	150	128.447	
to						0.0	19.632		0.0	
FLG	2		1817.74	7.98		0.0	21.632	0.0185	0.400	Vel = 11.66
FLG	2		0.0	8	L	19.632	53.167	150	128.847	
to					T	52.855	72.487		3.032	
UG2	-5		1817.74	7.98		0.0	125.654	0.0185	2.322	Vel = 11.66
			0.0							
UG2			1817.74						134.201	K Factor = 156.91
UG1	-5		-733.85	8	3F	40.774	614.875	150	136.485	
to					G	6.041	46.814		0.0	
UG2	-5		-733.85	7.98		0.0	661.689	-0.0035	-2.284	Vel = 4.71
UG2	-5	H150	1967.74	8	3F	40.774	580.958	150	134.201	
to					L	19.632	125.343		0.0	
UG3	-5		1233.89	7.98	T	52.855	706.301	0.0090	6.375	Vel = 7.92
					2G	12.081				
UG3	-5		-1967.74	12	F	17.441	958.917	150	140.576	
to					G	8.05	25.490		0.0	
UG4	-5		-733.85	11.65		0.0	984.407	-0.0005	-0.539	Vel = 2.21
UG4	-5		0.0	12	G	8.05	16.167	150	140.037	
to						0.0	8.049		0.0	
UG5	-5		-733.85	11.65		0.0	24.216	-0.0005	-0.013	Vel = 2.21
UG5	-5		0.0	8	5F	67.957	945.542	150	140.024	
to					2G	12.081	80.039		0.0	
UG1	-5		-733.85	7.98		0.0	1025.581	-0.0035	-3.539	Vel = 4.71
			0.0							
UG1			-733.85						136.485	K Factor = -62.82
UG3	-5		1967.74	12	6F	104.647	801.750	150	140.576	
to					2G	16.1	120.747		0.0	
UG6	-5		1967.74	11.65		0.0	922.497	0.0034	3.127	Vel = 5.92
UG6	-5		0.0	12	2L	48.299	45.500	150	143.703	
to						0.0	48.298		-3.032	
PUMP	2		1967.74	11.65		0.0	93.798	0.0034	0.318	Vel = 5.92

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
PUMP	2		0.0	10	2V	10.89	15.000	120	140.989			
to					S	66.551	100.431		0.0			
PO	2		1967.74	10.42	B	22.99	115.431	0.0088	1.018	Vel = 7.40		
			0.0									
PO			1967.74						142.007	K Factor = 165.13		