APPENDIX D

CSDS MODELS

CS DRAINAGE STUDIO

Combined Hydraulics & Hydrology for Unit Peak Discharge Methods Software Package

A Civil Solutions Product

OUTPUT RESULTS FOR FILE	P:\projects\2004.21A\file_out\20070919\TOCD\csds\Complete
PROJECT DESCRIPTION	
PRINTED ON DATE	10-12-2007
PRINTED BY USER	

This Printout Report Contains :

1) Jurisdiction File Information (hydrology basis)
2) Contributing Areas Information
3) Cumulative Areas Information
4) Node Connection Outline Information
5) Conveyance Description Information
6) Conveyance Profiles Information
7) Node Results Summary
8) Convey Results Summary

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CONVERGENCE CONTROL VARIABLES :
This software requires the use of several control variables to force the system of calculations to be convergent. These need to be adjusted for each system, to meet jur. requirements, and to provide accurate results. The variables used in this analysis are described below.

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DESCRIPTION:	Variable Value	Unit
Horizontal Length Increment used for Backwater Calculations	3	Feet
Computational Time Interval for Hydrograph Calculations	5	Min.
Backwater Calculations Depth Tolerance	.001	Feet
Backwater Calculations Distance Tolerance	.01	Feet
Tolerance for Flow based Calculations	.005	cfs
Tolerance for Froud based Calculations	.005	
Maximum Travel Time Allowed Between Two Connected Nodes (Tt)	10	Min.
Minimum Flow Percentage in Parallel Conveyances to Contribute to Tt	30	%
Maximum Number of Iterations Allowed at any Iterative Calculation	200	
Convergence Tr Test Tolerance	0.05	min.
Flow Diversion Calculations were DISABLED for this calculation.		

Tr time Solved By : LAG time at merge nodes solved by largest Contributing Response Time

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Jurisdiction File Information:
(used for hydrology basis)
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Description:	Variable Value
Computer Model Analysis Type	UQDUALRC
Jurisdiction Name	Sacramento County (Nolte) Zone 3 Design Storm by Dual rating Curves Method.
Jurisdiction Title	NolteSZ3
Jurisdiction Description	Sacramento County Design Storm by (Nolte) Dual Rating Curves From figures 2-2 to 2-7, drainage manual.
Jurisdiction Date	July 7, 1997
Jurisdiction Location	Sacramento County
Jurisdiction State	California
Jurisdiction File Created By	Civil Solutions

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FLOW CALCULATION PARAMETERS AS FOLLOWS:
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DESCRIPTION	UNIT	Not Used	% Impervious	I Coef :
Highways & Parking :	Acre	2	95	90
Commercial Offices :	Acre	2	90	90
Intensive Industrial :	Acre	2	85	90
Apartments HDR :	Acre	2	80	90
Mobile Home Park :	Acre	2	75	80
Condominiums, MDR :	Acre	2	70	80
Residential: 8-10 du/acre, Ext Indust :	Acre	2	60	70
Residential: 6-8 du/acre, LDR, School :	Acre	2	50	60
Residential: 4-6 du/acre :	Acre	2	40	50
Residential 3-4 du/acre :	Acre	2	30	50
Residential: 2-3 du/acre :	Acre	2	25	45
Residential: 1-2 du/acre :	Acre	2	20	40
Residential: 0.5-1 du/acre :	Acre	2	15	40
Residential: 0.2-0.5 du/acre, Ag. Res :	Acre	2	10	35
Residential: <0.2 du/acre, Recreation :	Acre	2	5	35
Open Space, Grassland, Ag. :	Acre	2	2	35
Open Space, Woodland, Natural :	Acre	2	1	35
Dense Oak, Shrubs, Vines :	acre	2	1	35

Flow Rating Curve #1 Information:

Area (Acre)	Flow (cfs)
0	.01
5	1
10	2
15	3
20	3.9
30	6
40	8.2
50	11
60	14
70	17.5
80	22
90	25
100	30
120	40
140	52
160	67
200	90
300	135
400	180
500	223
600	265
640	285

Flow Rating Curve #2 Information:

Area (Acre)	Flow (cfs)
0	.01
5	2.5
10	5
20	10
50	25
70	33.5
90	42
100	46
110	51
120	55
130	60
140	65
150	70
160	75
200	100
300	150
400	195
500	240
640	310

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Node Contributing Areas Information:
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#	Node Name	Total Trib. Area	Trib. Area	Contrib. Area by type
1	G7	27.7	27.7	Residential: 2-3 du/acre :
2	G5-3	39.4	39.4	Residential: 2-3 du/acre :
3	G6	26.5	26.5	Residential: 0.5-1 du/acre :
4	G4-3	38.8	38.8	Residential: 0.5-1 du/acre :
5	G3-3	40.1	40.1	Residential: 0.5-1 du/acre :
6	G2-3	41.8	41.8	Residential: 0.5-1 du/acre :
7	G8	0.	26.1	Residential: 0.2-0.5 du/acre Ag. Res :
8	G3A	7.2	7.2	Residential: 4-6 du/acre :
9	G3D	157.3	157.3	Residential: 4-6 du/acre :
10	G1-3A	32.8	32.8	Residential: 4-6 du/acre :
11	G1-3B	0.	46.4	Residential: 6-8 du/acre LDR School :
12	G9	15.7	5.6	Apartments HDR :
			4.5	Residential: 4-6 du/acre :
			5.6	Apartments HDR :
13	G43	0.	0.	
14	MH9-13	30.7	30.7	Residential: 4-6 du/acre :
15	MH9-11	26.3	26.3	Residential: 6-8 du/acre, LDR, School :
16	MH9-7A	28.2	28.2	Residential: 6-8 du/acre, LDR, School :
17	MH9-7B	30.8	30.8	Residential: 6-8 du/acre, LDR, School :
18	MH9-3	17.	17.	Residential: 6-8 du/acre, LDR, School :
19	WQDETE28	0.	0.	
20	MH10-9	26.4	26.4	Apartments HDR :
21	MH10-7	29.	29.	Residential: 4-6 du/acre :
22	MH10-5	34.	34.	Residential: 4-6 du/acre :
23	MH10-1	36.9	36.9	Residential: 4-6 du/acre :
24	WQMH10	0.	0.	
25	MH11-9	30.5	30.5	Residential: 4-6 du/acre :
26	MH11-7	30.8	30.8	Residential: 4-6 du/acre :
27	MH11-5	20.2	20.2	Residential: 4-6 du/acre :
28	MH11-1	18.1	18.1	Residential: 4-6 du/acre :
29	MH11-17	30.7	30.7	Residential: 6-8 du/acre, LDR, School :
30	MH11-15	19.1	19.1	Residential: 6-8 du/acre, LDR, School :
31	MH11-13	21.3	21.3	Residential: 6-8 du/acre, LDR, School :
32	MH11-29	19.1	2.1	Highways & Parking :
			14.9	Residential: 6-8 du/acre, LDR, School :
			2.1	Highways & Parking :
33	MH11-27	29.8	29.8	Residential: 4-6 du/acre :
34	MH11-25	26.6	26.6	Residential: 6-8 du/acre, LDR, School :
35	MH11-21	36.	36.	Residential: 6-8 du/acre, LDR, School :
36	MH11-23	30.1	30.1	Residential: 6-8 du/acre, LDR, School :
37	MH11-11	37.8	37.8	Residential: 4-6 du/acre :
38	WQMH11	0.	0.	
39	MH13-9	17.	8.5	Apartments HDR :
			8.5	Apartments HDR :
40	MH13-7	56.	28.	Residential: 4-6 du/acre :
			28.	Residential: 4-6 du/acre :
41	MH13-3	36.	18.	Residential: 0.5-1 du/acre :
			18.	Residential: 0.5-1 du/acre :
42	WQUH1AN	0.	0.	
43	MH14-1	40.5	40.5	Residential: 0.5-1 du/acre :
44	WQMH14	0.	0.	
45	MH15-12	29.9	29.9	Residential: 4-6 du/acre :
46	MH15-11	24.6	24.6	Residential: 4-6 du/acre :
47	MH15-9	29.6	29.6	Residential: 4-6 du/acre :
48	MH15-5	21.9	21.9	Residential: 4-6 du/acre :
49	MH15-3	9.8	9.8	Residential: 4-6 du/acre :
50	MH15-8	28.8	28.8	Residential: 4-6 du/acre :
51	MH15-6	30.7	30.7	Residential: 4-6 du/acre :
52	WQUH2	0.	0.	
53	SC-J39	46.1	4.57	Residential: 4-6 du/acre :

			7.6	Residential: 0.2-0.5 du/acre, Ag. Res :
			13.57	Open Space, Grassland, Ag. :
			20.36	Residential: 0.5-1 du/acre :
54	SC-J1	0.	0.	
55	SC-J39a	45.54	7.21	Residential: 4-6 du/acre :
			20.45	Residential: 0.2-0.5 du/acre, Ag. Res :
			10.92	Open Space, Grassland, Ag. :
			6.96	Residential: 0.5-1 du/acre :
56	SC-J1a	0.	0.	
57	SC-K9	32.7	32.7	Residential: 6-8 du/acre, LDR, School :
58	SC-K5	14.	14.	Residential: 6-8 du/acre, LDR, School :
59	SC-K3	12.8	12.8	Residential: 6-8 du/acre, LDR, School :
60	WQSCK	0.	0.	
61	SC-F65	48.	48.	Residential: 0.5-1 du/acre :
62	SC-F63	31.	15.4	Open Space, Grassland, Ag. :
			4.9	Residential: 4-6 du/acre :
			10.7	Residential: 0.5-1 du/acre :
63	SC-F1	0.	0.	
64	E4-17	33.3	33.3	Intensive Industrial :
65	E4-15	32.4	32.4	Intensive Industrial :
66	E4-13	33.9	33.9	Intensive Industrial :
67	E4-11	28.9	28.9	Intensive Industrial :
68	E31	0.	0.	
69	E6-11	27.4	27.4	Commercial Offices :
70	E6-15	28.1	28.1	Commercial Offices :
71	MH7-5	35.4	35.4	Residential: 6-8 du/acre, LDR, School :
72	MH7-2	33.7	33.7	Residential: 6-8 du/acre, LDR, School :
73	MH7OUT	0.	0.	
74	E6-5	32.	32.	Commercial Offices :
75	E6-2	25.4	25.4	Commercial Offices :
76	MH7-3	17.	17.	Residential: 6-8 du/acre, LDR, School :
77	E6OUT	0.	0.	
78	MH6-5	33.3	6.5	Commercial Offices :
			26.8	Residential: 4-6 du/acre :
79	MH6OUT	0.	0.	
80	MH3-15	31.	31.	Residential: 6-8 du/acre, LDR, School :
81	MH3-11	18.3	12.2	Residential: 6-8 du/acre, LDR, School :
			6.1	Residential: 8-10 du/acre, Ext Indust :
82	MH1-51	0.	0.	
83	MH1-55	14.4	14.4	Residential: 8-10 du/acre, Ext Indust :
84	MH1-53	9.3	9.3	Residential: 8-10 du/acre, Ext Indust :
85	MH0-7	0.	0.	
86	MH1-37	31.3	4.8	Residential: 6-8 du/acre, LDR, School :
			8.3	Residential: 8-10 du/acre, Ext Indust :
			5.1	Apartments HDR :
			13.1	Residential: 4-6 du/acre :
87	MH1-25	18.4	18.4	Residential: 6-8 du/acre, LDR, School :
88	MH1-23	11.2	11.2	Residential: 6-8 du/acre, LDR, School :
89	MH1-7	27.6	27.6	Residential: 6-8 du/acre, LDR, School :
90	DETF4C	0.	0.	
91	E3	136.5	136.5	Open Space, Grassland, Ag. :
92	E3-10	55.6	55.6	Open Space, Grassland, Ag. :
93	E3-8	0.	33.2	Residential 3-4 du/acre :
94	E3D	54.6	54.6	Open Space, Grassland, Ag. :
95	E3-9	45.1	45.1	Commercial Offices :
96	E3-7	39.9	39.9	Intensive Industrial :
97	E3-5	38.5	38.5	Intensive Industrial :
98	E3-5CH	0.	0.	
99	E3-3CH	66.5	66.5	Intensive Industrial :
100	WQE3	0.	0.	
101	MH12-21	133.7	133.7	Residential: 4-6 du/acre :
102	MH12-21OUT	0.	0.	Residential: 4-6 du/acre :
103	MH12-17	185.3	185.3	Residential: 4-6 du/acre :
104	MH12-17OUT	0.	0.	Residential: 4-6 du/acre :
105	MH12-15	239.3	239.3	Residential: 4-6 du/acre :
106	UH-OUT	0.	0.	Residential: 4-6 du/acre :

107	E5-17	48.7	48.7	Intensive Industrial :
108	E5-15	41.9	41.9	Intensive Industrial :
109	E5-7	44.3	44.3	Intensive Industrial :
110	E5-5	49.9	49.9	Intensive Industrial :
111	E5-6	36.9	36.9	Intensive Industrial :
112	E5-3	17.5	17.5	Intensive Industrial :
113	E5-3A	45.4	45.4	Intensive Industrial :
114	E5-2	18.4	18.4	Intensive Industrial :
115	E5-1	0.	0.	
116	WQDET28	0.	0.	
117	MC80	22.37	22.37	Intensive Industrial :
118	MC65	27.32	27.32	Intensive Industrial :
119	MC60B	45.66	45.66	Intensive Industrial :
120	OffSITE	50.22	50.22	Intensive Industrial :
121	MC60A	48.14	48.14	Intensive Industrial :

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Node Cumulative Areas Information:

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#	Node Name	Total Cumulative Area	Cumulative Area by Type	Cumulative Area by type
1	G7	27.7	27.7	Residential: 2-3 du/acre :
2	G5-3	67.1	67.1	Residential: 2-3 du/acre :
3	G6	26.5	26.5	Residential: 0.5-1 du/acre :
4	G4-3	65.3	65.3	Residential: 0.5-1 du/acre :
5	G3-3	105.4	105.4	Residential: 0.5-1 du/acre :
6	G2-3	147.2	147.2	Residential: 0.5-1 du/acre :
7	G8	214.3	67.1	Residential: 2-3 du/acre :
			147.2	Residential: 0.5-1 du/acre :
8	G3A	221.5	7.2	Residential: 4-6 du/acre :
			67.1	Residential: 2-3 du/acre :
			147.2	Residential: 0.5-1 du/acre :
9	G3D	157.3	157.3	Residential: 4-6 du/acre :
10	G1-3A	190.1	190.1	Residential: 4-6 du/acre :
11	G1-3B	190.1	190.1	Residential: 4-6 du/acre :
12	G9	205.8	11.2	Apartments HDR :
			194.6	Residential: 4-6 du/acre :
13	G43	427.3	11.2	Apartments HDR :
			201.8	Residential: 4-6 du/acre :
			67.1	Residential: 2-3 du/acre :
			147.2	Residential: 0.5-1 du/acre :
14	MH9-13	30.7	30.7	Residential: 4-6 du/acre :
15	MH9-11	57.	26.3	Residential: 6-8 du/acre, LDR, School :
			30.7	Residential: 4-6 du/acre :
16	MH9-7A	85.2	54.5	Residential: 6-8 du/acre, LDR, School :
			30.7	Residential: 4-6 du/acre :
17	MH9-7B	30.8	30.8	Residential: 6-8 du/acre, LDR, School :
18	MH9-3	47.8	47.8	Residential: 6-8 du/acre, LDR, School :
19	WQDETE28	133.	102.3	Residential: 6-8 du/acre, LDR, School :
			30.7	Residential: 4-6 du/acre :
20	MH10-9	26.4	26.4	Apartments HDR :
21	MH10-7	55.4	26.4	Apartments HDR :
			29.	Residential: 4-6 du/acre :
22	MH10-5	89.4	26.4	Apartments HDR :
			63.	Residential: 4-6 du/acre :
23	MH10-1	126.3	26.4	Apartments HDR :
			99.9	Residential: 4-6 du/acre :
24	WQMH10	126.3	26.4	Apartments HDR :
			99.9	Residential: 4-6 du/acre :
25	MH11-9	30.5	30.5	Residential: 4-6 du/acre :
26	MH11-7	61.3	61.3	Residential: 4-6 du/acre :
27	MH11-5	81.5	81.5	Residential: 4-6 du/acre :
28	MH11-1	99.6	99.6	Residential: 4-6 du/acre :
29	MH11-17	30.7	30.7	Residential: 6-8 du/acre, LDR, School :
30	MH11-15	49.8	49.8	Residential: 6-8 du/acre, LDR, School :
31	MH11-13	71.1	71.1	Residential: 6-8 du/acre, LDR, School :
32	MH11-29	19.1	4.2	Highways & Parking :
			14.9	Residential: 6-8 du/acre, LDR, School :
33	MH11-27	29.8	29.8	Residential: 4-6 du/acre :
34	MH11-25	75.5	4.2	Highways & Parking :
			41.5	Residential: 6-8 du/acre, LDR, School :
			29.8	Residential: 4-6 du/acre :
35	MH11-21	111.5	4.2	Highways & Parking :
			77.5	Residential: 6-8 du/acre, LDR, School :
			29.8	Residential: 4-6 du/acre :
36	MH11-23	141.6	4.2	Highways & Parking :
			107.6	Residential: 6-8 du/acre, LDR, School :
			29.8	Residential: 4-6 du/acre :
37	MH11-11	250.5	4.2	Highways & Parking :
			178.7	Residential: 6-8 du/acre, LDR, School :

			67.6	Residential: 4-6 du/acre :
38	WQMH11	350.1	4.2	Highways & Parking :
			178.7	Residential: 6-8 du/acre, LDR, School :
			167.2	Residential: 4-6 du/acre :
39	MH13-9	17.	17.	Apartments HDR :
40	MH13-7	73.	17.	Apartments HDR :
			56.	Residential: 4-6 du/acre :
41	MH13-3	109.	17.	Apartments HDR :
			56.	Residential: 4-6 du/acre :
			36.	Residential: 0.5-1 du/acre :
42	WQUH1AN	109.	17.	Apartments HDR :
			56.	Residential: 4-6 du/acre :
			36.	Residential: 0.5-1 du/acre :
43	MH14-1	40.5	40.5	Residential: 0.5-1 du/acre :
44	WQMH14	40.5	40.5	Residential: 0.5-1 du/acre :
45	MH15-12	29.9	29.9	Residential: 4-6 du/acre :
46	MH15-11	54.5	54.5	Residential: 4-6 du/acre :
47	MH15-9	84.1	84.1	Residential: 4-6 du/acre :
48	MH15-5	106.	106.	Residential: 4-6 du/acre :
49	MH15-3	115.8	115.8	Residential: 4-6 du/acre :
50	MH15-8	28.8	28.8	Residential: 4-6 du/acre :
51	MH15-6	59.5	59.5	Residential: 4-6 du/acre :
52	WQUH2	175.3	175.3	Residential: 4-6 du/acre :
53	SC-J39	46.1	4.57	Residential: 4-6 du/acre :
			20.36	Residential: 0.5-1 du/acre :
			7.6	Residential: 0.2-0.5 du/acre, Ag. Res :
			13.57	Open Space, Grassland, Ag. :
54	SC-J1	46.1	4.57	Residential: 4-6 du/acre :
			20.36	Residential: 0.5-1 du/acre :
			7.6	Residential: 0.2-0.5 du/acre, Ag. Res :
			13.57	Open Space, Grassland, Ag. :
55	SC-J39a	45.54	7.21	Residential: 4-6 du/acre :
			6.96	Residential: 0.5-1 du/acre :
			20.45	Residential: 0.2-0.5 du/acre, Ag. Res :
			10.92	Open Space, Grassland, Ag. :
56	SC-J1a	45.54	7.21	Residential: 4-6 du/acre :
			6.96	Residential: 0.5-1 du/acre :
			20.45	Residential: 0.2-0.5 du/acre, Ag. Res :
			10.92	Open Space, Grassland, Ag. :
57	SC-K9	32.7	32.7	Residential: 6-8 du/acre, LDR, School :
58	SC-K5	46.7	46.7	Residential: 6-8 du/acre, LDR, School :
59	SC-K3	59.5	59.5	Residential: 6-8 du/acre, LDR, School :
60	WQSCK	59.5	59.5	Residential: 6-8 du/acre, LDR, School :
61	SC-F65	48.	48.	Residential: 0.5-1 du/acre :
62	SC-F63	79.	4.9	Residential: 4-6 du/acre :
			58.7	Residential: 0.5-1 du/acre :
			15.4	Open Space, Grassland, Ag. :
63	SC-F1	79.	4.9	Residential: 4-6 du/acre :
			58.7	Residential: 0.5-1 du/acre :
			15.4	Open Space, Grassland, Ag. :
64	E4-17	33.3	33.3	Intensive Industrial :
65	E4-15	65.7	65.7	Intensive Industrial :
66	E4-13	99.6	99.6	Intensive Industrial :
67	E4-11	128.5	128.5	Intensive Industrial :
68	E31	128.5	128.5	Intensive Industrial :
69	E6-11	27.4	27.4	Commercial Offices :
70	E6-15	55.5	55.5	Commercial Offices :
71	MH7-5	90.9	55.5	Commercial Offices :
			35.4	Residential: 6-8 du/acre, LDR, School :
72	MH7-2	124.6	55.5	Commercial Offices :
			69.1	Residential: 6-8 du/acre, LDR, School :
73	MH7OUT	124.6	55.5	Commercial Offices :
			69.1	Residential: 6-8 du/acre, LDR, School :
74	E6-5	32.	32.	Commercial Offices :
75	E6-2	57.4	57.4	Commercial Offices :
76	MH7-3	74.4	57.4	Commercial Offices :

			17.	Residential: 6-8 du/acre, LDR, School :
77	E6OUT	74.4	57.4	Commercial Offices :
			17.	Residential: 6-8 du/acre, LDR, School :
78	MH6-5	33.3	6.5	Commercial Offices :
			26.8	Residential: 4-6 du/acre :
79	MH6OUT	33.3	6.5	Commercial Offices :
			26.8	Residential: 4-6 du/acre :
80	MH3-15	31.	31.	Residential: 6-8 du/acre, LDR, School :
81	MH3-11	49.3	6.1	Residential: 8-10 du/acre, Ext Indust :
			43.2	Residential: 6-8 du/acre, LDR, School :
82	MH1-51	49.3	6.1	Residential: 8-10 du/acre, Ext Indust :
			43.2	Residential: 6-8 du/acre, LDR, School :
83	MH1-55	63.7	20.5	Residential: 8-10 du/acre, Ext Indust :
			43.2	Residential: 6-8 du/acre, LDR, School :
84	MH1-53	73.	29.8	Residential: 8-10 du/acre, Ext Indust :
			43.2	Residential: 6-8 du/acre, LDR, School :
85	MH0-7	73.	29.8	Residential: 8-10 du/acre, Ext Indust :
			43.2	Residential: 6-8 du/acre, LDR, School :
86	MH1-37	31.3	5.1	Apartments HDR :
			8.3	Residential: 8-10 du/acre, Ext Indust :
			4.8	Residential: 6-8 du/acre, LDR, School :
			13.1	Residential: 4-6 du/acre :
87	MH1-25	49.7	5.1	Apartments HDR :
			8.3	Residential: 8-10 du/acre, Ext Indust :
			23.2	Residential: 6-8 du/acre, LDR, School :
			13.1	Residential: 4-6 du/acre :
88	MH1-23	60.9	5.1	Apartments HDR :
			8.3	Residential: 8-10 du/acre, Ext Indust :
			34.4	Residential: 6-8 du/acre, LDR, School :
			13.1	Residential: 4-6 du/acre :
89	MH1-7	88.5	5.1	Apartments HDR :
			8.3	Residential: 8-10 du/acre, Ext Indust :
			62.	Residential: 6-8 du/acre, LDR, School :
			13.1	Residential: 4-6 du/acre :
90	DETF4C	88.5	5.1	Apartments HDR :
			8.3	Residential: 8-10 du/acre, Ext Indust :
			62.	Residential: 6-8 du/acre, LDR, School :
			13.1	Residential: 4-6 du/acre :
91	E3	136.5	136.5	Open Space, Grassland, Ag. :
92	E3-10	55.6	55.6	Open Space, Grassland, Ag. :
93	E3-8	192.1	192.1	Open Space, Grassland, Ag. :
94	E3D	54.6	54.6	Open Space, Grassland, Ag. :
95	E3-9	291.8	45.1	Commercial Offices :
			246.7	Open Space, Grassland, Ag. :
96	E3-7	39.9	39.9	Intensive Industrial :
97	E3-5	78.4	78.4	Intensive Industrial :
98	E3-5CH	370.2	45.1	Commercial Offices :
			78.4	Intensive Industrial :
			246.7	Open Space, Grassland, Ag. :
99	E3-3CH	436.7	45.1	Commercial Offices :
			144.9	Intensive Industrial :
			246.7	Open Space, Grassland, Ag. :
100	WQE3	436.7	45.1	Commercial Offices :
			144.9	Intensive Industrial :
			246.7	Open Space, Grassland, Ag. :
101	MH12-21	133.7	133.7	Residential: 4-6 du/acre :
102	MH12-21OUT	133.7	133.7	Residential: 4-6 du/acre :
103	MH12-17	185.3	185.3	Residential: 4-6 du/acre :
104	MH12-17OUT	185.3	185.3	Residential: 4-6 du/acre :
105	MH12-15	239.3	239.3	Residential: 4-6 du/acre :
106	UH-OUT	239.3	239.3	Residential: 4-6 du/acre :
107	E5-17	48.7	48.7	Intensive Industrial :
108	E5-15	90.6	90.6	Intensive Industrial :
109	E5-7	134.9	134.9	Intensive Industrial :
110	E5-5	49.9	49.9	Intensive Industrial :
111	E5-6	221.7	221.7	Intensive Industrial :

112	E5-3	17.5	17.5	Intensive Industrial :
113	E5-3A	284.6	284.6	Intensive Industrial :
114	E5-2	18.4	18.4	Intensive Industrial :
115	E5-1	303.	303.	Intensive Industrial :
116	WQDET28	303.	303.	Intensive Industrial :
117	MC80	22.37	22.37	Intensive Industrial :
118	MC65	95.35	95.35	Intensive Industrial :
119	MC60B	45.66	45.66	Intensive Industrial :
120	OffSITE	50.22	50.22	Intensive Industrial :
121	MC60A	48.14	48.14	Intensive Industrial :
122	Node A	145.57	145.57	Intensive Industrial :
123	creek1	145.57	145.57	Intensive Industrial :
124	creek2	48.14	48.14	Intensive Industrial :

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          |<--G7
        |<--G5-3
        |       |<--G6
        |    |<--G4-3
        |  |<--G3-3
        |<--G2-3
    |<--G8
  |<--G3A
  |       |<--G3D
  |    |<--G1-3A
  |  |<--G1-3B
  |<--G9
--G43
        |<--MH9-13
    |<--MH9-11
  |<--MH9-7A
  |  |<--MH9-7B
  |<--MH9-3
--WQDETE28
          |<--MH10-9
        |<--MH10-7
    |<--MH10-5
  |<--MH10-1
--WQMH10
          |<--MH11-9
        |<--MH11-7
    |<--MH11-5
  |<--MH11-1
  |       |<--MH11-17
  |    |<--MH11-15
  |  |<--MH11-13
  |  |       |<--MH11-29
  |  |       |<--MH11-27
  |  |    |<--MH11-25
  |  |  |<--MH11-21
  |  |<--MH11-23
  |<--MH11-11
--WQMH11
        |<--MH13-9
    |<--MH13-7
  |<--MH13-3
--WQUH1AN
  |<--MH14-1
--WQMH14
            |<--MH15-12
          |<--MH15-11
        |<--MH15-9
    |<--MH15-5
  |<--MH15-3
  |  |<--MH15-8
  |<--MH15-6
--WQUH2
  |<--SC-J39
--SC-J1
  |<--SC-J39a
--SC-J1a
        |<--SC-K9
    |<--SC-K5
  |<--SC-K3
--WQSCK
    |<--SC-F65
  |<--SC-F63
--SC-F1
          |<--E4-17
        |<--E4-15
    |<--E4-13
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  |<--E4-11
--E31
          |<--E6-11
        |<--E6-15
      |<--MH7-5
  |<--MH7-2
--MH7OUT
        |<--E6-5
      |<--E6-2
  |<--MH7-3
--E6OUT
  |<--MH6-5
--MH6OUT
              |<--MH3-15
            |<--MH3-11
          |<--MH1-51
      |<--MH1-55
  |<--MH1-53
--MH0-7
          |<--MH1-37
        |<--MH1-25
      |<--MH1-23
  |<--MH1-7
--DETF4C
              |<--E3
              |<--E3-10
            |<--E3-8
            |<--E3D
          |<--E3-9
          |  |<--E3-7
          |<--E3-5
      |<--E3-5CH
  |<--E3-3CH
--WQE3
  |<--MH12-21
--MH12-21OUT
  |<--MH12-17
--MH12-17OUT
  |<--MH12-15
--UH-OUT
                |<--E5-17
              |<--E5-15
            |<--E5-7
            |<--E5-5
          |<--E5-6
          |<--E5-3
      |<--E5-3A
      |<--E5-2
  |<--E5-1
--WQDET28
        |<--MC80
        |<--MC60B
      |<--MC65
      |<--OffSITE
  |<--Node A
--creek1
  |<--MC60A
--creek2
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****
Conveyance Description Information:
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1	G7 to G5-3	G7	G5-3	PIPE	24		'n'= .015	'Z'= 0		
2	G5-3 to G8	G5-3	G8	PIPE	36	Inch	'n'= .015	'Z'= 0		
3	G6 to G4-3	G6	G4-3	PIPE	30		'n'= .015	'Z'= 0		
4	G4-3 to G3-3	G4-3	G3-3	PIPE	36		'n'= .015	'Z'= 0		
5	G3-3 to G2-3	G3-3	G2-3	PIPE	42		'n'= .015	'Z'= 0		
6	G2-3 to G8	G2-3	G8	TRAPEZOIDAL	8		'n'= .06	'Z'= 4		
7	G8 to G3A	G8	G3A	TRAPEZOIDAL	8		'n'= .06	'Z'= 4		
8	G3A to G43	G3A	G43	TRAPEZOIDAL	8		'n'= .06	'Z'= 4		
9	G3D to G1-3A	G3D	G1-3A	PIPE	54		'n'= .015	'Z'= 0		
10	G1-3A to G1-3B	G1-3A	G1-3B	PIPE	60		'n'= .015	'Z'= 0		
11	G1-3B to G9	G1-3B	G9	PIPE	66		'n'= .015	'Z'= 0		
12	G9 to G43 G9	G43	PIPE	66		'n'= .015	'Z'= 0			
13	MH9-13 to MH9-11	MH9-13	MH9-11	PIPE	24		'n'= .015	'Z'= 0		
14	MH9-11 to MH9-7A	MH9-11	MH9-7A	PIPE	30		'n'= .015	'Z'= 0		
15	MH9-7A to WQDETE28		MH9-7A	WQDETE28			PIPE	36	'n'= .015	'Z'= 0
16	MH9-7B to MH9-3	MH9-7B	MH9-3	PIPE	24		'n'= .015	'Z'= 0		
17	MH9-3 to WQDETE28		MH9-3	WQDETE28			PIPE	30	'n'= .015	'Z'= 0
18	MH10-9 to MH10-7	MH10-9	MH10-7	PIPE	24		'n'= .015	'Z'= 0		
19	MH10-7 to MH10-5	MH10-7	MH10-5	PIPE	30		'n'= .015	'Z'= 0		
20	MH10-5 to MH10-1	MH10-5	MH10-1	PIPE	36		'n'= .015	'Z'= 0		
21	MH10-1 to WQMH10		MH10-1	WQMH10	PIPE		42	'n'= .015	'Z'= 0	
22	MH11-9 to MH11-7	MH11-9	MH11-7	PIPE	24		'n'= .015	'Z'= 0		
23	MH11-7 to MH11-5	MH11-7	MH11-5	PIPE	30		'n'= .015	'Z'= 0		
24	MH11-5 to MH11-1	MH11-5	MH11-1	PIPE	36		'n'= .015	'Z'= 0		
25	MH11-1 to WQMH11		MH11-1	WQMH11	PIPE		42	'n'= .015	'Z'= 0	
26	MH11-17 to MH11-15		MH11-17	MH11-15	PIPE		24	'n'= .015	'Z'= 0	
27	MH11-15 to MH11-13		MH11-15	MH11-13	PIPE		30	'n'= .015	'Z'= 0	
28	MH11-13 to MH11-11		MH11-13	MH11-11	PIPE		36	'n'= .015	'Z'= 0	
29	MH11-29 to MH11-25		MH11-29	MH11-25	PIPE		36	'n'= .015	'Z'= 0	
30	MH11-27 to MH11-25		MH11-27	MH11-25	PIPE		36	'n'= .015	'Z'= 0	
31	MH11-25 to MH11-21		MH11-25	MH11-21	PIPE		42	'n'= .015	'Z'= 0	
32	MH11-21 to MH11-23		MH11-21	MH11-23	PIPE		48	'n'= .015	'Z'= 0	
33	MH11-23 to MH11-11		MH11-23	MH11-11	PIPE		54	'n'= .015	'Z'= 0	
34	MH11-11 to WQMH11		MH11-11	WQMH11	PIPE		60	'n'= .015	'Z'= 0	
35	MH13-9 to MH13-7	MH13-9	MH13-7	PIPE	42		'n'= .015	'Z'= 0		
36	MH13-7 to MH13-3	MH13-7	MH13-3	PIPE	48		'n'= .015	'Z'= 0		
37	MH13-3 to WQUH1AN		MH13-3	WQUH1AN			PIPE	48	'n'= .015	'Z'= 0
38	MH14-1 to WQMH14		MH14-1	WQMH14	PIPE		24	'n'= .015	'Z'= 0	
39	MH15-12 to MH15-11		MH15-12	MH15-11	PIPE		30	Inch	'n'= .015	'Z'= 0
40	MH15-11 to MH15-9		MH15-11	MH15-9	PIPE		30	Inch	'n'= .015	'Z'= 0
41	MH15-9 to MH15-5	MH15-9	MH15-5	PIPE	36		'n'= .015	'Z'= 0		
42	MH15-5 to MH15-3	MH15-5	MH15-3	PIPE	54	Inch	'n'= .015	'Z'= 0		
43	MH15-3 to WQUH2	MH15-3	WQUH2	PIPE	54	Inch	'n'= .015	'Z'= 0		
44	MH15-8 to MH15-6	MH15-8	MH15-6	PIPE	24		'n'= .015	'Z'= 0		
45	MH15-6 to WQUH2	MH15-6	WQUH2	PIPE	30		'n'= .015	'Z'= 0		
46	SC-J39 to SC-J1	SC-J39	SC-J1	PIPE	24		'n'= .015	'Z'= 0		
47	SC-J39a to SC-J1a	SC-J39a	SC-J1a	PIPE	24		'n'= .015	'Z'= 0		
48	SC-K9 to SC-K5	SC-K9	SC-K5	PIPE	30	Inch	'n'= .015	'Z'= 0		
49	SC-K5 to SC-K3	SC-K5	SC-K3	PIPE	30	Inch	'n'= .015	'Z'= 0		
50	SC-K3 to WQSCK	SC-K3	WQSCK	PIPE	30	Inch	'n'= .015	'Z'= 0		
51	SC-F65 to SC-F63	SC-F65	SC-F63	PIPE	24		'n'= .015	'Z'= 0		
52	SC-F63 to SC-F1	SC-F63	SC-F1	PIPE	24		'n'= .015	'Z'= 0		
53	E4-17 to E4-15	E4-17	E4-15	PIPE	30		'n'= .015	'Z'= 0		
54	E4-15 to E4-13	E4-15	E4-13	PIPE	36		'n'= .015	'Z'= 0		
55	E4-13 to E4-11	E4-13	E4-11	PIPE	48		'n'= .015	'Z'= 0		
56	E4-11 to E31	E4-11	E31	PIPE	54		'n'= .015	'Z'= 0		
57	E6-11 to E6-15	E6-11	E6-15	PIPE	24		'n'= .015	'Z'= 0		
58	E6-15 to MH7-5	E6-15	MH7-5	PIPE	36		'n'= .015	'Z'= 0		
59	MH7-5 to MH7-2	MH7-5	MH7-2	PIPE	48		'n'= .015	'Z'= 0		
60	MH7-2 to MH7OUT	MH7-2	MH7OUT	PIPE	48		'n'= .015	'Z'= 0		
61	E6-5 to E6-2	E6-5	E6-2	PIPE	30		'n'= .015	'Z'= 0		
62	E6-2 to MH7-3	E6-2	MH7-3	PIPE	36		'n'= .015	'Z'= 0		

63	MH7-3 to E6OUT	MH7-3	E6OUT	PIPE	42	'n'= .015	'Z'= 0		
64	MH6-5 to MH6OUT	MH6-5	MH6OUT	PIPE	24	'n'= .015	'Z'= 0		
65	MH3-15 to MH3-11	MH3-15	MH3-11	PIPE	30	'n'= .015	'Z'= 0		
66	MH3-11 to MH1-51	MH3-11	MH1-51	PIPE	36	'n'= .015	'Z'= 0		
67	MH1-51 to MH1-55	MH1-51	MH1-55	PIPE	48	'n'= .015	'Z'= 0		
68	MH1-55 to MH1-53	MH1-55	MH1-53	PIPE	48	'n'= .015	'Z'= 0		
69	MH1-53 to MH0-7	MH1-53	MH0-7	PIPE	54	'n'= .015	'Z'= 0		
70	MH1-37 to MH1-25	MH1-37	MH1-25	PIPE	36	'n'= .015	'Z'= 0		
71	MH1-25 to MH1-23	MH1-25	MH1-23	PIPE	36	'n'= .015	'Z'= 0		
72	MH1-23 to MH1-7	MH1-23	MH1-7	PIPE	48	'n'= .015	'Z'= 0		
73	MH1-7 to DETF4C	MH1-7	DETF4C	PIPE	48	'n'= .015	'Z'= 0		
74	E3 to E3-8E3	E3-8	TRAPEZOIDAL		10	'n'= .06	'Z'= 4		
75	E3-10 to E3-8	E3-10	E3-8	PIPE	30	'n'= .015	'Z'= 0		
76	E3-8 to E3-9	E3-8	E3-9	TRAPEZOIDAL	10	'n'= .06	'Z'= 4		
77	E3D to E3-9	E3D	E3-9	PIPE	30	'n'= .015	'Z'= 0		
78	E3-9 to E3-5CH	E3-9	E3-5CH	TRAPEZOIDAL	10	'n'= .06	'Z'= 4		
79	E3-7 to E3-5	E3-7	E3-5	PIPE	30	'n'= .015	'Z'= 0		
80	E3-5 to E3-5CH	E3-5	E3-5CH	PIPE	36	'n'= .015	'Z'= 0		
81	E3-5CH to E3-3CH	E3-5CH	E3-3CH	TRAPEZOIDAL	10	'n'= .06	'Z'= 4		
82	E3-3CH to WQE3	E3-3CH	WQE3	TRAPEZOIDAL	10	'n'= .06	'Z'= 4		
83	MH12-21 to MH12-21OUT		MH12-21	MH12-21OUT	PIPE	36	'n'= .015	'Z'= 0	
84	MH12-17 to MH12-17OUT		MH12-17	MH12-17OUT	PIPE	48	'n'= .015	'Z'= 0	
85	MH12-15 to UH-OUT		MH12-15	UH-OUT	PIPE	72 Inch	'n'= .04	'Z'= 3	
P- 85	MH12-15 to UH-OUT		MH12-15	UH-OUT	PIPE	60 Inch	'n'= .015	'Z'= 2	
86	E5-17 to E5-15	E5-17	E5-15	PIPE	42	'n'= .015	'Z'= 0		
87	E5-15 to E5-7	E5-15	E5-7	PIPE	48	'n'= .015	'Z'= 0		
88	E5-7 to E5-6	E5-7	E5-6	PIPE	66	'n'= .015	'Z'= 0		
89	E5-5 to E5-6	E5-5	E5-6	PIPE	36	'n'= .015	'Z'= 0		
90	E5-6 to E5-3A	E5-6	E5-3A	PIPE	72	'n'= .015	'Z'= 0		
91	E5-3 to E5-3A	E5-3	E5-3A	PIPE	24	'n'= .015	'Z'= 0		
92	E5-3A to E5-1	E5-3A	E5-1	PIPE	72	'n'= .015	'Z'= 0		
93	E5-2 to E5-1	E5-2	E5-1	PIPE	24	'n'= .015	'Z'= 0		
94	E5-1 to WQDET28	E5-1	WQDET28		PIPE	72	'n'= .015	'Z'= 0	
95	MC80 to MC65	MC80	MC65	PIPE	48	'n'= .015	'Z'= 2		
96	MC60B to MC65	MC60B	MC65	PIPE	48	'n'= .015	'Z'= 2		
97	MC65 to Node A	MC65	Node A	PIPE	54	'n'= .015	'Z'= 2		
98	OffSITE to Node A	OffSITE	Node A	PIPE	60	'n'= .015	'Z'= 2		
99	Node A to creek1	Node A	creek1	PIPE	66	'n'= .015	'Z'= 2		
100	MC60A to creek2	MC60A	creek2	PIPE	42	'n'= .015	'Z'= 2		

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Conveyance Profile Information:

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#	Convey Name	Distance	Invert Elevation
1	G7 to G5-3	0.	53.82
1		2260.	51.5
2	G5-3 to G8	0.	50.5
2		1475.	49.12
3	G6 to G4-3	0.	52.91
3		540.	52.27
4	G4-3 to G3-3	0.	51.77
4		1300.	50.56
5	G3-3 to G2-3	0.	50.06
5		1230.	49.12
6	G2-3 to G8	0.	49.12
6		60.	49.
7	G8 to G3A	0.	49.
7		350.	48.3
8	G3A to G43	0.	48.3
8		250.	47.8
9	G3D to G1-3A	0.	49.28
9		930.	47.98
10	G1-3A to G1-3B	0.	47.48
10		1200.	46.03
11	G1-3B to G9	0.	45.53
11		1220.	44.23
12	G9 to G43	0.	44.23
12		214.	44.
13	MH9-13 to MH9-11	0.	48.48
13		920.	46.35
14	MH9-11 to MH9-7A	0.	45.85
14		870.	44.36
15	MH9-7A to WQDETE28	0.	43.86
15		470.	43.
16	MH9-7B to MH9-3	0.	45.57
16		430.	44.58
17	MH9-3 to WQDETE28	0.	44.08
17		630.	43.
18	MH10-9 to MH10-7	0.	46.44
18		650.	43.77
19	MH10-7 to MH10-5	0.	43.27
19		650.	41.28
20	MH10-5 to MH10-1	0.	40.78
20		1210.	37.89
21	MH10-1 to WQMH10	0.	37.39
21		200.	37.
22	MH11-9 to MH11-7	0.	37.93
22		1120.	36.13
23	MH11-7 to MH11-5	0.	35.63
23		470.	35.07
24	MH11-5 to MH11-1	0.	34.57
24		720.	33.9
25	MH11-1 to WQMH11	0.	33.4
25		520.	33.
26	MH11-17 to MH11-15	0.	40.55
26		650.	39.51
27	MH11-15 to MH11-13	0.	39.01
27		790.	37.65
28	MH11-13 to MH11-11	0.	37.15
28		720.	35.83
29	MH11-29 to MH11-25	0.	39.94
29		730.	38.6
30	MH11-27 to MH11-25	0.	40.28
30		1790.	38.6
31	MH11-25 to MH11-21	0.	38.1

31		780.	36.94
32	MH11-21 to MH11-23	0.	36.44
32		620.	35.67
33	MH11-23 to MH11-11	0.	35.17
33		780.	34.33
34	MH11-11 to WQMH11	0.	33.83
34		900.	33.
35	MH13-9 to MH13-7	0.	37.49
35		260.	37.29
36	MH13-7 to MH13-3	0.	36.79
36		500.	36.47
37	MH13-3 to WQUH1AN	0.	36.47
37		740.	36.
38	MH14-1 to WQMH14	0.	39.29
38		410.	38.
39	MH15-12 to MH15-11	0.	35.21
39		690.	33.62
40	MH15-11 to MH15-9	0.	33.12
40		1020.	31.37
41	MH15-9 to MH15-5	0.	30.87
41		790.	29.42
42	MH15-5 to MH15-3	0.	28.92
42		1000.	27.43
43	MH15-3 to WQUH2	0.	27.43
43		220.	27.
44	MH15-8 to MH15-6	0.	33.53
44		1370.	30.37
45	MH15-6 to WQUH2	0.	29.87
45		940.	27.
46	SC-J39 to SC-J1	0.	53.71
46		660.	51.
47	SC-J39a to SC-J1a	0.	52.53
47		660.	51.
48	SC-K9 to SC-K5	0.	36.73
48		560.	35.81
49	SC-K5 to SC-K3	0.	35.81
49		250.	34.45
50	SC-K3 to WQSCK	0.	34.45
50		800.	34.
51	SC-F65 to SC-F63	0.	52.4
51		970.	48.41
52	SC-F63 to SC-F1	0.	48.41
52		100.	48.
53	E4-17 to E4-15	0.	50.84
53		1035.	47.68
54	E4-15 to E4-13	0.	47.18
54		630.	45.67
55	E4-13 to E4-11	0.	44.67
55		680.	43.56
56	E4-11 to E31	0.	43.06
56		80.	43.
57	E6-11 to E6-15	0.	49.71
57		390.	48.11
58	E6-15 to MH7-5	0.	47.11
58		1690.	43.07
59	MH7-5 to MH7-2	0.	42.07
59		660.	40.78
60	MH7-2 to MH7OUT	0.	40.78
60		440.	40.06
61	E6-5 to E6-2	0.	46.49
61		640.	44.57
62	E6-2 to MH7-3	0.	44.07
62		1150.	41.31
63	MH7-3 to E6OUT	0.	40.81
63		310.	40.06
64	MH6-5 to MH6OUT	0.	42.41

64		570.	40.06
65	MH3-15 to MH3-11	0.	41.67
65		920.	40.58
66	MH3-11 to MH1-51	0.	40.08
66		170.	39.85
67	MH1-51 to MH1-55	0.	38.85
67		450.	38.43
68	MH1-55 to MH1-53	0.	38.43
68		460.	38.01
69	MH1-53 to MH0-7	0.	37.51
69		690.	36.88
70	MH1-37 to MH1-25	0.	38.69
70		700.	37.48
71	MH1-25 to MH1-23	0.	37.48
71		490.	36.64
72	MH1-23 to MH1-7	0.	35.64
72		740.	35.28
73	MH1-7 to DETF4C	0.	35.28
73		580.	35.
74	E3 to E3-8	0.	60.32
74		460.	59.4
75	E3-10 to E3-8	0.	60.8
75		460.	59.4
76	E3-8 to E3-9	0.	59.4
76		2018.	55.36
77	E3D to E3-9	0.	56.65
77		750.	55.36
78	E3-9 to E3-5CH	0.	55.36
78		1095.	54.27
79	E3-7 to E3-5	0.	59.28
79		1300.	55.32
80	E3-5 to E3-5CH	0.	54.82
80		230.	54.27
81	E3-5CH to E3-3CH	0.	54.27
81		1115.	53.15
82	E3-3CH to WQE3	0.	53.15
82		2150.	51.
83	MH12-21 to MH12-21OUT	0.	48.54
83		100.	48.
84	MH12-17 to MH12-17OUT	0.	47.26
84		60.	47.
85	MH12-15 to UH-OUT	0.	39.56
85		1850.	39.
P - 85		0.	39.56
P - 85		1850.	39.
86	E5-17 to E5-15	0.	51.37
86		1400.	50.31
87	E5-15 to E5-7	0.	49.81
87		1940.	48.03
88	E5-7 to E5-6	0.	46.53
88		650.	46.
89	E5-5 to E5-6	0.	49.73
89		515.	48.5
90	E5-6 to E5-3A	0.	45.5
90		870.	44.67
91	E5-3 to E5-3A	0.	50.72
91		500.	48.67
92	E5-3A to E5-1	0.	44.67
92		900.	43.59
93	E5-2 to E5-1	0.	49.77
93		530.	47.59
94	E5-1 to WQDET28	0.	43.59
94		490.	43.
95	MC80 to MC65	0.	48.
95		400.	46.
96	MC60B to MC65	0.	52.

96		800.	46.
97	MC65 to Node A	0.	45.5
97		800.	43.5
98	OffSITE to Node A	0.	47.
98		400.	43.
99	Node A to creek1	0.	43.
99		400.	36.
100	MC60A to creek2	0.	50.5
100		800.	40.

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Node Results Information:

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#	Node Name	Trib. Area	Cumul. Area	Unit Peak Flow (cfs/ac)	Trib. Qp (cfs)	Cumul. Qp (cfs)	Known WS Elevation	RIM or GRATE Elev.	Node HGL	Node EGL	Tr (min)
1	G7	27.70	27.70	0.16	4.48	4.48	N/A	58.00	55.25	55.31	0.00
2	G5-3	39.40	67.10	0.22	8.52	14.51	N/A	58.00	53.02	53.11	10.00
3	G6	26.50	26.50	0.12	3.27	3.27	N/A	58.00	54.73	54.74	0.00
4	G4-3	38.80	65.30	0.18	7.10	11.94	N/A	58.00	54.61	54.66	10.00
5	G3-3	40.10	105.40	0.27	10.92	28.70	N/A	56.00	53.95	54.11	20.00
6	G2-3	41.80	147.20	0.37	15.50	54.60	N/A	54.00	51.91	51.92	26.87
7	G8	0.00	214.30	0.44	0.00	94.18	N/A	56.00	51.82	51.87	27.87
8	G3A	7.20	221.50	0.44	3.17	97.42	N/A	54.00	50.99	51.05	31.17
9	G3D	157.30	157.30	0.41	64.98	64.98	N/A	58.00	53.86	54.15	0.00
10	G1-3A	32.80	190.10	0.44	14.55	84.31	N/A	60.00	52.48	52.80	3.79
11	G1-3B	0.00	190.10	0.44	0.00	84.31	N/A	58.00	49.29	49.70	8.44
12	G9	15.70	205.80	0.45	7.11	93.17	N/A	56.00	47.85	48.40	12.61
13	G43	0.00	427.30	0.45	0.00	190.50	48.00	54.00	48.00	48.00	33.03
14	MH9-13	30.70	30.70	0.20	6.15	6.15	N/A	54.00	49.77	49.91	0.00
15	MH9-11	26.30	57.00	0.26	6.84	14.82	N/A	55.00	48.76	48.91	7.13
16	MH9-7A	28.20	85.20	0.31	8.67	26.18	N/A	52.00	47.16	47.40	11.94
17	MH9-7B	30.80	30.80	0.28	8.48	8.48	N/A	51.00	47.83	47.95	0.00
18	MH9-3	17.00	47.80	0.29	4.89	13.76	N/A	52.00	47.01	47.15	2.65
19	WQDETE28	0.00	133.00	0.38	0.00	50.43	46.20	N/A	46.20	46.20	14.05
20	MH10-9	26.40	26.40	0.50	13.20	13.20	N/A	52.00	50.42	50.72	0.00
21	MH10-7	29.00	55.40	0.35	10.27	19.61	N/A	52.00	47.50	47.78	2.58
22	MH10-5	34.00	89.40	0.33	11.34	29.82	N/A	53.00	45.49	45.80	5.29
23	MH10-1	36.90	126.30	0.37	13.67	46.78	N/A	46.00	42.17	42.58	10.07
24	WQMH10	0.00	126.30	0.37	0.00	46.78	42.00	N/A	42.00	42.00	10.76
25	MH11-9	30.50	30.50	0.20	6.11	6.11	N/A	42.00	41.00	41.06	0.00
26	MH11-7	30.80	61.30	0.24	7.26	14.46	N/A	42.00	39.82	39.97	9.60
27	MH11-5	20.20	81.50	0.28	5.56	22.45	N/A	42.00	39.02	39.20	12.26
28	MH11-1	18.10	99.60	0.30	5.42	29.80	N/A	41.00	37.94	38.11	16.04
29	MH11-17	30.70	30.70	0.28	8.45	8.45	N/A	46.00	44.37	44.49	0.00
30	MH11-15	19.10	49.80	0.29	5.54	14.43	N/A	44.00	43.13	43.28	4.03
31	MH11-13	21.30	71.10	0.31	6.59	21.99	N/A	43.00	41.81	41.98	8.50
32	MH11-29	19.10	19.10	0.32	6.15	6.15	N/A	46.00	43.01	43.02	0.00
33	MH11-27	29.80	29.80	0.20	5.96	5.96	N/A	46.00	43.07	43.09	0.00
34	MH11-25	26.60	75.50	0.31	8.12	23.04	N/A	45.00	42.84	42.93	10.00
35	MH11-21	36.00	111.50	0.35	12.62	39.10	N/A	44.00	42.22	42.39	15.43
36	MH11-23	30.10	141.60	0.40	11.90	55.97	N/A	43.00	41.56	41.78	18.75
37	MH11-11	37.80	250.50	0.46	17.38	115.17	N/A	42.00	40.34	40.94	22.44
38	WQMH11	0.00	350.10	0.46	0.00	159.64	37.50	N/A	37.50	37.50	25.00
39	MH13-9	17.00	17.00	0.50	8.50	8.50	N/A	44.00	41.89	41.90	0.00
40	MH13-7	56.00	73.00	0.31	17.31	22.56	N/A	44.00	41.82	41.87	4.90
41	MH13-3	36.00	109.00	0.33	11.78	35.67	N/A	44.00	41.57	41.71	9.55
42	WQUH1AN	0.00	109.00	0.33	0.00	35.67	41.10	N/A	41.10	41.10	13.89
43	MH14-1	40.50	40.50	0.13	5.36	5.36	N/A	44.00	41.86	41.91	0.00
44	WQMH14	0.00	40.50	0.13	0.00	5.36	41.60	N/A	41.60	41.60	4.00
45	MH15-12	29.90	29.90	0.20	5.98	5.98	N/A	40.00	36.27	36.43	0.00
46	MH15-11	24.60	54.50	0.23	5.57	12.35	N/A	40.00	35.31	35.43	4.73
47	MH15-9	29.60	84.10	0.28	8.18	23.23	N/A	39.00	34.12	34.30	11.42
48	MH15-5	21.90	106.00	0.31	6.82	33.00	N/A	36.00	32.94	33.03	15.43
49	MH15-3	9.80	115.80	0.33	3.21	37.90	N/A	36.00	32.51	32.61	23.38
50	MH15-8	28.80	28.80	0.20	5.75	5.75	N/A	40.00	35.01	35.10	0.00
51	MH15-6	30.70	59.50	0.23	7.15	13.85	N/A	38.00	33.79	33.93	10.00
52	WQUH2	0.00	175.30	0.43	0.00	75.80	32.50	N/A	32.50	32.50	24.92
53	SC-J39	46.10	46.10	0.13	6.19	6.19	N/A	66.00	54.68	54.97	0.00
54	SC-J1	0.00	46.10	0.13	0.00	6.19	N/A	56.00	0.00	0.00	2.69
55	SC-J39a	45.54	45.54	0.13	5.89	5.89	N/A	60.00	53.67	53.85	0.00
56	SC-J1a	0.00	45.54	0.13	0.00	5.89	N/A	56.00	0.00	0.00	3.46
57	SC-K9	32.70	32.70	0.28	9.03	9.03	N/A	42.00	41.53	41.59	0.00
58	SC-K5	14.00	46.70	0.29	4.02	13.39	N/A	42.00	41.10	41.23	5.07

59	SC-K3	12.80	59.50	0.30	3.80	17.65	N/A	42.00	40.65	40.87	6.60
60	WQSCK	0.00	59.50	0.30	0.00	17.65	38.90	40.00	38.90	38.90	10.31
61	SC-F65	48.00	48.00	0.15	7.05	7.05	N/A	72.00	53.50	53.77	0.00
62	SC-F63	31.00	79.00	0.22	6.85	17.47	N/A	56.00	50.79	51.33	5.55
63	SC-F1	0.00	79.00	0.22	0.00	17.47	N/A	54.00	0.00	0.00	5.85
64	E4-17	33.30	33.30	0.50	16.65	16.65	N/A	56.00	52.90	53.16	0.00
65	E4-15	32.40	65.70	0.48	15.62	31.67	N/A	54.00	50.56	50.91	4.99
66	E4-13	33.90	99.60	0.46	15.60	45.84	N/A	52.00	48.67	48.90	7.33
67	E4-11	28.90	128.50	0.46	13.33	59.25	N/A	51.00	47.60	47.84	10.44
68	E31	0.00	128.50	0.46	0.00	59.25	45.90	N/A	45.90	45.90	10.80
69	E6-11	27.40	27.40	0.50	13.70	13.70	N/A	56.00	52.01	52.34	0.00
70	E6-15	28.10	55.50	0.49	13.84	27.34	N/A	54.00	49.34	49.75	1.49
71	MH7-5	35.40	90.90	0.41	14.57	37.42	N/A	52.00	45.52	45.70	7.31
72	MH7-2	33.70	124.60	0.41	13.86	51.25	N/A	52.00	44.78	45.07	10.90
73	MH7OUT	0.00	124.60	0.41	0.00	51.25	N/A	N/A	0.00	0.00	12.69
74	E6-5	32.00	32.00	0.50	16.00	16.00	N/A	56.00	48.29	48.60	0.00
75	E6-2	25.40	57.40	0.49	12.45	28.15	N/A	52.00	46.36	46.77	2.54
76	MH7-3	17.00	74.40	0.44	7.46	32.65	N/A	50.00	43.09	43.51	6.43
77	E6OUT	0.00	74.40	0.44	0.00	32.65	N/A	N/A	0.00	0.00	7.48
78	MH6-5	33.30	33.30	0.26	8.66	8.66	N/A	52.00	43.63	43.95	0.00
79	MH6OUT	0.00	33.30	0.26	0.00	8.66	N/A	N/A	0.00	0.00	2.20
80	MH3-15	31.00	31.00	0.28	8.54	8.54	N/A	47.00	43.09	43.24	0.00
81	MH3-11	18.30	49.30	0.30	5.45	14.69	N/A	47.00	41.91	42.09	5.14
82	MH1-51	0.00	49.30	0.30	0.00	14.69	N/A	47.00	40.80	40.90	6.01
83	MH1-55	14.40	63.70	0.32	4.62	20.43	N/A	46.00	40.34	40.55	9.15
84	MH1-53	9.30	73.00	0.34	3.12	24.46	N/A	45.00	39.69	39.87	11.31
85	MH0-7	0.00	73.00	0.34	0.00	24.46	N/A	46.00	0.00	0.00	14.90
86	MH1-37	31.30	31.30	0.30	9.41	9.41	N/A	44.00	40.31	40.41	0.00
87	MH1-25	18.40	49.70	0.30	5.60	15.14	N/A	44.00	39.93	40.03	6.24
88	MH1-23	11.20	60.90	0.31	3.46	18.80	N/A	42.00	39.64	39.68	9.84
89	MH1-7	27.60	88.50	0.33	9.12	29.25	N/A	42.00	39.32	39.41	18.08
90	DETF4C	0.00	88.50	0.33	0.00	29.25	N/A	N/A	0.00	0.00	22.23
91	E3	136.50	136.50	0.33	44.89	44.89	N/A	N/A	62.49	62.51	0.00
92	E3-10	55.60	55.60	0.13	7.17	7.17	N/A	67.00	62.29	62.38	0.00
93	E3-8	0.00	192.10	0.43	0.00	81.86	N/A	N/A	62.09	62.12	8.14
94	E3D	54.60	54.60	0.13	6.91	6.91	N/A	62.00	59.77	59.80	0.00
95	E3-9	45.10	291.80	0.44	19.93	128.94	N/A	N/A	59.50	59.52	18.14
96	E3-7	39.90	39.90	0.50	19.95	19.95	N/A	65.00	63.37	63.66	0.00
97	E3-5	38.50	78.40	0.47	18.20	37.07	N/A	61.00	59.09	59.56	5.33
98	E3-5CH	0.00	370.20	0.45	0.00	167.85	N/A	N/A	58.58	58.62	28.14
99	E3-3CH	66.50	436.70	0.46	30.35	199.29	N/A	N/A	57.45	57.50	38.14
100	WQE3	0.00	436.70	0.46	0.00	199.29	N/A	N/A	0.00	0.00	48.14
101	MH12-21	133.70	133.70	0.36	48.22	48.22	N/A	N/A	51.70	52.50	0.00
102	MH12-21OUT	0.00	133.70	0.36	0.00	48.22	N/A	N/A	0.00	0.00	0.24
103	MH12-17	185.30	185.30	0.44	81.55	81.55	N/A	N/A	50.36	51.41	0.00
104	MH12-17OUT	0.00	185.30	0.44	0.00	81.55	N/A	N/A	0.00	0.00	0.13
105	MH12-15	239.30	239.30	0.45	107.69	107.69	N/A	48.00	46.27	46.30	0.00
106	UH-OUT	0.00	239.30	0.45	0.00	107.69	44.44	N/A	44.44	44.44	8.98
107	E5-17	48.70	48.70	0.50	24.35	24.35	N/A	58.00	55.99	56.10	0.00
108	E5-15	41.90	90.60	0.47	19.53	42.24	N/A	58.00	54.81	55.01	9.22
109	E5-7	44.30	134.90	0.46	20.51	62.45	N/A	56.00	52.65	52.77	18.84
110	E5-5	49.90	49.90	0.50	24.95	24.95	N/A	56.00	53.22	53.43	0.00
111	E5-6	36.90	221.70	0.50	18.45	110.85	N/A	56.00	52.21	52.47	22.96
112	E5-3	17.50	17.50	0.50	8.75	8.75	N/A	54.00	52.51	52.66	0.00
113	E5-3A	45.40	284.60	0.50	22.70	142.30	N/A	54.00	51.24	51.68	26.66
114	E5-2	18.40	18.40	0.50	9.20	9.20	N/A	53.00	51.27	51.50	0.00
115	E5-1	0.00	303.00	0.50	0.00	151.35	N/A	53.00	49.83	50.33	29.64
116	WQDET28	0.00	303.00	0.50	0.00	151.35	46.20	N/A	46.20	46.20	31.16
117	MC80	22.37	22.37	0.50	11.19	11.19	N/A	54.00	48.97	49.36	15.00
118	MC65	27.32	95.35	0.46	12.65	44.14	N/A	52.00	47.80	48.30	17.34
119	MC60B	45.66	45.66	0.50	22.83	22.83	N/A	54.00	53.41	53.98	15.00
120	OffSITE	50.22	50.22	0.50	25.09	25.09	N/A	54.00	48.38	48.94	15.00
121	MC60A	48.14	48.14	0.50	24.07	24.07	N/A	56.00	52.01	52.64	15.00
122	Node A	0.00	145.57	0.47	0.00	67.79	N/A	50.00	45.25	46.20	19.81

123	creek1	0.00	145.57	0.47	0.00	67.79	45.00	N/A	45.00	45.00	21.66
124	creek2	0.00	48.14	0.50	0.00	24.07	47.00	N/A	47.00	47.00	18.23

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Convey Results Information:

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#	Convey Name	Upstream Critical Elevation	Upstream HGL	Downstream HGL	Upstream EGL	Downstream EGL	Exit Velocity (fps)	Travel Time (min)	Flow (cfs)
1	G7 to G5-3	54.56	55.25	53.06	55.31	53.11	1.7	20.39	4.48
2	G5-3 to G8	51.71	53.02	51.79	53.11	51.87	2.19	10.78	14.51
3	G6 to G4-3	53.5	54.73	54.65	54.74	54.66	0.68	12.05	3.27
4	G4-3 to G3-3	52.87	54.61	54.06	54.66	54.11	1.69	12.8	11.94
5	G3-3 to G2-3	51.71	53.95	52.62	54.11	52.77	2.98	6.87	28.7
6	G2-3 to G8	50.08	51.91	51.85	51.92	51.87	0.99	0.99	54.6
7	G8 to G3A	50.3	51.82	50.99	51.87	51.05	1.86	3.31	94.18
8	G3A to G43	49.63	50.99	49.13	51.05	49.62	5.51	1.85	97.42
9	G3D to G1-3A	53.78	53.86	52.51	54.15	52.8	4.09	3.79	64.98
10	G1-3A to G1-3B	52.48	52.48	51.03	52.8	51.35	4.29	4.65	84.31
11	G1-3B to G9	48.06	49.29	47.99	49.7	48.4	4.87	4.17	84.31
12	G9 to G43	46.89	47.85	47.35	48.4	48.	6.15	0.61	93.17
13	MH9-13 to MH9-11	49.36	49.77	48.85	49.91	48.91	1.96	7.13	6.15
14	MH9-11 to MH9-7A	47.15	48.76	47.25	48.91	47.4	3.02	4.8	14.82
15	MH9-7A to WQDETE28	45.51	47.16	46.2	47.4	46.44	3.7	2.11	26.18
16	MH9-7B to MH9-3	46.61	47.83	47.02	47.95	47.15	2.7	2.65	8.48
17	MH9-3 to WQDETE28	46.58	47.01	46.07	47.15	46.2	2.8	3.74	13.76
18	MH10-9 to MH10-7	48.44	50.42	47.47	50.72	47.78	4.2	2.58	13.2
19	MH10-7 to MH10-5	45.77	47.5	45.52	47.78	45.8	4.	2.71	19.61
20	MH10-5 to MH10-1	43.78	45.49	42.27	45.8	42.58	4.22	4.78	29.82
21	MH10-1 to WQMH10	40.89	42.17	41.59	42.58	42.	4.86	0.69	46.78
22	MH11-9 to MH11-7	38.8	41.	39.91	41.06	39.97	1.94	9.6	6.11
23	MH11-7 to MH11-5	38.13	39.82	39.05	39.97	39.2	2.94	2.66	14.46
24	MH11-5 to MH11-1	37.57	39.02	37.94	39.2	38.11	3.18	3.78	22.45
25	MH11-1 to WQMH11	35.08	37.94	37.34	38.11	37.5	3.1	2.8	29.8
26	MH11-17 to MH11-15	41.58	44.37	43.16	44.49	43.28	2.69	4.03	8.45
27	MH11-15 to MH11-13	40.29	43.13	41.83	43.28	41.98	2.94	4.48	14.43
28	MH11-13 to MH11-11	38.66	41.81	40.77	41.98	40.94	3.11	3.86	21.99
29	MH11-29 to MH11-25	40.72	43.01	42.92	43.02	42.94	0.87	13.99	6.15
30	MH11-27 to MH11-25	41.05	43.07	42.92	43.09	42.94	0.84	35.35	5.96
31	MH11-25 to MH11-21	39.57	42.84	42.29	42.93	42.39	2.39	5.43	23.04
32	MH11-21 to MH11-23	38.3	42.22	41.61	42.39	41.78	3.11	3.32	39.1
33	MH11-23 to MH11-11	39.67	41.56	40.72	41.78	40.94	3.52	3.69	55.97
34	MH11-11 to WQMH11	36.89	40.34	38.	40.94	38.59	5.87	2.56	115.17
35	MH13-9 to MH13-7	38.37	41.89	41.86	41.9	41.87	0.88	4.9	8.5
36	MH13-7 to MH13-3	38.19	41.82	41.65	41.87	41.71	1.8	4.64	22.56
37	MH13-3 to WQUH1AN	38.25	41.57	40.96	41.71	41.1	2.84	4.34	35.67
38	MH14-1 to WQMH14	40.11	41.86	41.55	41.91	41.6	1.71	4.	5.36
39	MH15-12 to MH15-11	36.02	36.27	35.39	36.43	35.44	1.61	4.73	5.98
40	MH15-11 to MH15-9	34.3	35.31	34.2	35.43	34.31	2.52	6.7	12.35
41	MH15-9 to MH15-5	32.42	34.12	32.84	34.3	33.03	3.29	4.01	23.23
42	MH15-5 to MH15-3	30.57	32.94	32.54	33.03	32.61	2.07	7.95	33.
43	MH15-3 to WQUH2	29.2	32.51	32.4	32.61	32.5	2.38	1.54	37.9
44	MH15-8 to MH15-6	34.38	35.01	33.87	35.1	33.93	1.83	12.22	5.75
45	MH15-6 to WQUH2	31.12	33.79	32.36	33.93	32.5	2.82	5.55	13.85
46	SC-J39 to SC-J1	54.59	54.68	51.88	54.97	52.25	4.66	2.69	6.19
47	SC-J39a to SC-J1a	53.39	53.67	51.86	53.85	52.22	4.57	3.46	5.89
48	SC-K9 to SC-K5	37.73	41.53	41.17	41.59	41.23	1.84	5.07	9.03
49	SC-K5 to SC-K3	38.31	41.1	40.74	41.23	40.87	2.73	1.53	13.39
50	SC-K3 to WQSCK	35.87	40.65	38.68	40.87	38.9	3.59	3.71	17.65
51	SC-F65 to SC-F63	53.34	53.5	51.24	53.77	51.33	2.24	5.55	7.05
52	SC-F63 to SC-F1	50.41	50.79	50.	51.33	50.53	5.56	0.3	17.47
53	E4-17 to E4-15	52.22	52.9	50.71	53.16	50.91	3.39	4.99	16.65
54	E4-15 to E4-13	50.18	50.56	48.67	50.91	49.02	4.48	2.34	31.67
55	E4-13 to E4-11	48.67	48.67	47.61	48.9	47.84	3.65	3.11	45.84
56	E4-11 to E31	45.3	47.6	47.5	47.84	47.74	3.73	0.36	59.25
57	E6-11 to E6-15	51.71	52.01	50.11	52.34	50.44	4.36	1.49	13.7
58	E6-15 to MH7-5	48.8	49.34	45.29	49.75	45.7	4.88	5.82	27.34
59	MH7-5 to MH7-2	43.89	45.52	44.91	45.7	45.07	2.98	3.59	37.42

60	MH7-2 to MH7OUT	42.93	44.78	44.06	45.07	44.35	4.08	1.79	51.25
61	E6-5 to E6-2	47.84	48.29	46.5	48.6	46.77	3.94	2.54	16.
62	E6-2 to MH7-3	45.79	46.36	43.03	46.77	43.81	6.73	3.89	28.15
63	MH7-3 to E6OUT	42.58	43.09	41.93	43.51	42.6	6.23	1.05	32.65
64	MH6-5 to MH6OUT	43.46	43.63	41.11	43.95	41.57	5.19	2.2	8.66
65	MH3-15 to MH3-11	42.64	43.09	41.92	43.24	42.1	3.18	5.14	8.54
66	MH3-11 to MH1-51	41.3	41.91	41.07	42.09	41.58	5.44	0.87	14.69
67	MH1-51 to MH1-55	39.97	40.8	40.46	40.9	40.55	2.3	3.14	14.69
68	MH1-55 to MH1-53	39.76	40.34	39.7	40.55	39.98	4.06	2.16	20.43
69	MH1-53 to MH0-7	38.92	39.69	38.29	39.87	38.86	5.73	3.59	24.46
70	MH1-37 to MH1-25	39.66	40.31	39.99	40.41	40.03	1.49	6.24	9.41
71	MH1-25 to MH1-23	40.48	39.93	39.6	40.03	39.68	2.15	3.6	15.14
72	MH1-23 to MH1-7	36.91	39.64	39.38	39.68	39.41	1.5	8.24	18.8
73	MH1-7 to DETF4C	36.89	39.32	39.	39.41	39.09	2.33	4.15	29.25
74	E3 to E3-8	61.09	62.49	62.11	62.51	62.12	0.79	8.14	44.89
75	E3-10 to E3-8	61.69	62.29	62.09	62.38	62.12	1.46	4.54	7.17
76	E3-8 to E3-9	60.49	62.09	59.51	62.12	59.52	0.74	28.39	81.86
77	E3D to E3-9	57.52	59.77	59.48	59.8	59.52	1.41	8.87	6.91
78	E3-9 to E3-5CH	56.78	59.5	58.6	59.52	58.62	1.09	15.74	128.94
79	E3-7 to E3-5	61.78	63.37	59.28	63.66	59.56	4.06	5.33	19.95
80	E3-5 to E3-5CH	57.82	59.09	58.14	59.56	58.62	5.24	0.73	37.07
81	E3-5CH to E3-3CH	55.91	58.58	57.46	58.62	57.5	1.43	13.02	167.85
82	E3-3CH to WQE3	54.96	57.45	52.81	57.5	53.47	6.4	19.42	199.29
83	MH12-21 to MH12-21OUT	51.54	51.7	51.	52.5	51.8	6.82	0.24	48.22
84	MH12-17 to MH12-17OUT	50.	50.36	49.74	51.41	51.1	8.91	0.13	81.55
85	MH12-15 to UH-OUT	45.56	46.27	45.	46.3	45.03	1.28	10.	36.11
P - 85		44.56	46.07	44.21	46.3	44.44	3.65	8.46	71.57
86	E5-17 to E5-15	52.88	55.99	54.9	56.1	55.01	2.53	9.22	24.35
87	E5-15 to E5-7	53.81	54.81	52.58	55.01	52.77	3.36	9.62	42.24
88	E5-7 to E5-6	48.7	52.65	52.36	52.77	52.47	2.63	4.12	62.45
89	E5-5 to E5-6	52.73	53.22	52.26	53.43	52.47	3.53	2.43	24.95
90	E5-6 to E5-3A	48.34	52.21	51.42	52.47	51.68	3.92	3.7	110.85
91	E5-3 to E5-3A	52.72	52.51	51.55	52.66	51.68	2.79	2.98	8.75
92	E5-3A to E5-1	47.9	51.24	49.89	51.68	50.33	5.03	2.98	142.3
93	E5-2 to E5-1	51.77	51.27	50.18	51.5	50.33	2.93	2.91	9.2
94	E5-1 to WQDET28	49.59	49.83	49.	50.33	49.49	5.35	1.53	151.35
95	MC80 to MC65	48.97	48.97	48.26	49.36	48.3	1.53	2.27	11.19
96	MC60B to MC65	53.41	53.41	48.1	53.98	48.3	3.41	2.34	22.83
97	MC65 to Node A	47.41	47.8	45.41	48.3	46.22	6.86	2.47	44.14
98	OffSITE to Node A	48.38	48.38	46.13	48.94	46.2	1.94	1.39	25.09
99	Node A to creek1	45.25	45.25	44.86	46.2	45.	2.85	1.85	67.79
100	MC60A to creek2	52.01	52.01	46.89	52.64	47.	2.5	3.23	24.07