

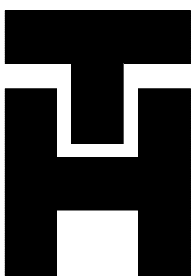
**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**APPENDIX B**

**ICPR MODEL RESULTS**

**J – 26146.0000**

Prepared by:



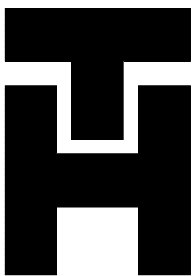
**THOMAS & HUTTON**

Savannah, GA | Charleston, SC | Myrtle Beach, SC | Brunswick, GA | Wilmington, NC

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**EXISTING CONDITIONS**

**J – 26146.0000**



Prepared by:

**THOMAS & HUTTON**

Highway 9  
Existing Conditions - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.78	26.00	0.0030	87625	188.23	186.10
A1	010-yr	27.55	26.00	0.0023	147770	330.75	321.00
A1	025-yr	28.22	26.00	0.0026	177094	443.91	442.97
A1	050-yr	28.49	26.00	0.0025	195697	617.64	616.97
A1	100-yr	28.63	26.00	0.0021	196733	791.33	791.34
A1	OCT-2015	28.72	26.00	0.0026	197404	918.56	918.72
A1	OCT-2016	28.56	26.00	0.0032	196234	709.05	708.55
A2	002-yr	25.85	26.00	0.0032	39586	189.78	188.23
A2	010-yr	27.56	26.00	0.0028	94003	338.26	330.75
A2	025-yr	28.23	26.00	0.0027	140121	445.32	443.91
A2	050-yr	28.50	26.00	0.0021	145036	618.10	617.64
A2	100-yr	28.65	26.00	0.0017	146062	791.47	791.33
A2	OCT-2015	28.74	26.00	0.0038	146727	918.72	918.56
A2	OCT-2016	28.58	26.00	0.0029	145564	709.49	709.05
A3	002-yr	25.97	26.00	0.0030	12032	190.25	189.78
A3	010-yr	27.61	26.00	0.0027	23088	341.54	338.26
A3	025-yr	28.26	26.00	0.0027	27821	442.51	445.32
A3	050-yr	28.54	26.00	0.0023	28251	620.76	618.10
A3	100-yr	28.70	26.00	0.0019	28557	792.34	791.47
A3	OCT-2015	28.80	26.00	0.0029	28635	918.01	918.72
A3	OCT-2016	28.62	26.00	0.0029	28478	710.36	709.49
A_dn	002-yr	25.06	25.60	0.0034	20977	203.89	203.85
A_dn	010-yr	25.88	25.60	0.0018	26565	332.96	332.91
A_dn	025-yr	26.41	25.60	0.0019	28389	458.85	458.73
A_dn	050-yr	27.61	25.60	-0.0031	62185	639.86	640.39
A_dn	100-yr	27.80	25.60	-0.0029	65796	820.82	820.81
A_dn	OCT-2015	27.95	25.60	0.0041	68154	942.42	942.68
A_dn	OCT-2016	27.71	25.60	0.0036	63786	733.82	734.22
A_up	002-yr	25.58	26.11	0.0031	18150	201.67	201.61
A_up	010-yr	27.48	26.11	0.0026	32582	329.35	331.79
A_up	025-yr	28.17	26.11	0.0027	42923	429.55	457.40
A_up	050-yr	28.41	26.11	0.0028	45959	608.45	637.90
A_up	100-yr	28.52	26.11	0.0026	46428	818.16	818.16
A_up	OCT-2015	28.58	26.11	0.0038	46711	940.10	940.10
A_up	OCT-2016	28.47	26.11	0.0030	46211	731.05	731.06
B_dn	002-yr	25.59	24.00	0.0031	4239	14.93	13.69
B_dn	010-yr	27.48	24.00	-0.0049	5553	18.10	38.17
B_dn	025-yr	28.16	24.00	-0.0048	6025	20.20	50.14
B_dn	050-yr	28.41	24.00	0.0049	6196	34.93	51.14
B_dn	100-yr	28.52	24.00	0.0048	6269	51.19	51.86
B_dn	OCT-2015	28.58	24.00	0.0048	6312	46.06	53.57
B_dn	OCT-2016	28.47	24.00	-0.0042	6236	27.98	44.82
B_up	002-yr	25.67	24.20	0.0031	8618	18.86	14.93
B_up	010-yr	27.49	24.20	0.0022	11691	20.31	18.10
B_up	025-yr	28.17	24.20	0.0026	12838	22.89	20.20
B_up	050-yr	28.42	24.20	0.0025	13257	36.22	34.93
B_up	100-yr	28.52	24.20	0.0023	13437	52.55	51.19
B_up	OCT-2015	28.58	24.20	0.0031	13541	46.93	46.06
B_up	OCT-2016	28.47	24.20	0.0031	13352	28.71	27.98
BNDRY	002-yr	19.11	23.00	0.0014	313214	326.31	0.00
BNDRY	010-yr	19.57	23.00	0.0028	336424	535.06	0.00
BNDRY	025-yr	19.73	23.00	0.0029	343766	632.46	0.00
BNDRY	050-yr	19.89	23.00	0.0028	353911	738.57	0.00
BNDRY	100-yr	20.13	23.00	0.0025	375854	962.95	0.00
BNDRY	OCT-2015	20.39	23.00	0.0017	396236	1066.11	0.00
BNDRY	OCT-2016	19.97	23.00	0.0014	364739	854.00	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.79	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.64	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.27	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	8.82	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	9.11	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.22	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	9.06	0.00
C_dn	002-yr	25.69	27.00	0.0027	7196	9.42	9.73
C_dn	010-yr	27.49	27.00	0.0021	10171	9.50	9.50
C_dn	025-yr	28.17	27.00	0.0026	11318	10.92	11.06
C_dn	050-yr	28.42	27.00	0.0023	11738	21.16	20.01
C_dn	100-yr	28.52	27.00	0.0022	11919	31.58	30.32
C_dn	OCT-2015	28.59	27.00	0.0028	12023	27.44	27.08
C_dn	OCT-2016	28.47	27.00	0.0016	11833	16.12	15.60
C_up	002-yr	25.71	27.00	0.0008	55653	17.85	9.42
C_up	010-yr	27.50	27.00	0.0020	99279	32.16	9.50
C_up	025-yr	28.17	27.00	0.0022	115872	38.15	10.92
C_up	050-yr	28.42	27.00	0.0019	121973	44.83	21.16
C_up	100-yr	28.53	27.00	0.0019	124628	52.19	31.58

Highway 9  
Existing Conditions - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_up	OCT-2015	28.59	27.00	0.0015	126123	41.05	27.44
C_up	OCT-2016	28.48	27.00	0.0008	123343	22.84	16.12
D	002-yr	25.99	27.00	0.0021	2635	39.97	38.73
D	010-yr	27.62	27.00	-0.0050	3404	62.61	61.50
D	025-yr	28.28	27.00	0.0049	3712	71.84	70.83
D	050-yr	28.56	27.00	-0.0050	3848	82.06	80.47
D	100-yr	28.73	27.00	-0.0050	3928	93.25	91.81
D	OCT-2015	28.84	27.00	-0.0059	3979	56.40	101.87
D	OCT-2016	28.66	27.00	-0.0053	3892	37.70	77.95
E	002-yr	25.99	27.00	0.0035	19798	220.69	190.25
E	010-yr	27.62	27.00	0.0036	43919	364.19	341.54
E	025-yr	28.27	27.00	0.0037	48869	495.25	442.51
E	050-yr	28.57	27.00	0.0036	54018	573.42	620.76
E	100-yr	28.73	27.00	0.0031	58188	759.43	792.34
E	OCT-2015	28.84	27.00	0.0038	58422	949.91	918.01
E	OCT-2016	28.66	27.00	0.0041	57006	678.60	710.36
E1	002-yr	26.15	28.00	0.0030	16424	107.34	106.81
E1	010-yr	27.66	28.00	0.0024	81147	236.59	227.83
E1	025-yr	28.30	28.00	0.0024	94031	286.23	273.89
E1	050-yr	28.63	28.00	0.0023	99244	368.28	362.31
E1	100-yr	28.82	28.00	0.0018	104936	484.53	480.31
E1	OCT-2015	28.93	28.00	0.0028	105778	497.59	497.77
E1	OCT-2016	28.72	28.00	0.0031	100321	378.18	376.65
E2	002-yr	26.42	30.00	0.0029	25836	108.15	107.34
E2	010-yr	27.73	30.00	0.0024	115044	245.77	236.59
E2	025-yr	28.34	30.00	0.0023	128130	301.69	286.23
E2	050-yr	28.67	30.00	0.0021	136160	381.21	368.28
E2	100-yr	28.88	30.00	0.0016	139990	490.79	484.53
E2	OCT-2015	28.99	30.00	0.0029	142069	498.03	497.59
E2	OCT-2016	28.76	30.00	0.0028	137303	381.57	378.18
E3	002-yr	26.98	32.00	0.0026	8945	108.39	108.15
E3	010-yr	28.46	32.00	0.0022	26363	247.49	245.77
E3	025-yr	28.93	32.00	0.0018	31476	304.24	301.69
E3	050-yr	29.90	32.00	0.0016	47707	384.11	381.21
E3	100-yr	30.20	32.00	0.0016	52058	491.64	490.79
E3	OCT-2015	30.26	32.00	0.0027	52860	498.22	498.03
E3	OCT-2016	29.95	32.00	0.0024	48214	382.34	381.57
E4	002-yr	27.46	32.00	0.0024	5649	108.57	108.39
E4	010-yr	29.24	32.00	0.0021	7848	248.13	247.49
E4	025-yr	30.02	32.00	0.0022	22645	305.21	304.24
E4	050-yr	30.80	32.00	0.0025	32398	386.13	384.11
E4	100-yr	31.25	32.00	0.0029	46582	491.97	491.64
E4	OCT-2015	31.28	32.00	0.0025	47916	498.46	498.22
E4	OCT-2016	30.83	32.00	0.0022	32882	382.97	382.34
F	002-yr	26.00	27.00	0.0049	11223	73.63	96.08
F	010-yr	27.63	27.00	-0.0050	83288	176.44	178.55
F	025-yr	28.28	27.00	0.0050	91759	227.66	232.47
F	050-yr	28.57	27.00	-0.0050	95484	286.86	287.18
F	100-yr	28.75	27.00	0.0050	101273	362.08	362.76
F	OCT-2015	28.86	27.00	0.0050	102315	398.80	401.07
F	OCT-2016	28.67	27.00	0.0050	99536	352.45	353.68
F1	002-yr	26.01	27.00	0.0030	16773	70.96	71.22
F1	010-yr	27.70	27.00	0.0024	130106	164.11	171.54
F1	025-yr	28.30	27.00	0.0026	151744	214.28	222.12
F1	050-yr	28.59	27.00	0.0028	188809	273.99	280.50
F1	100-yr	28.78	27.00	0.0030	239968	344.70	353.01
F1	OCT-2015	28.89	27.00	0.0049	249204	398.66	392.70
F1	OCT-2016	28.70	27.00	0.0048	224402	331.92	340.70
G_dn	002-yr	26.01	27.00	0.0010	2574	4.72	4.35
G_dn	010-yr	27.70	27.00	0.0021	4281	8.43	6.78
G_dn	025-yr	28.30	27.00	0.0022	4902	9.85	7.99
G_dn	050-yr	28.59	27.00	0.0026	5200	11.47	9.71
G_dn	100-yr	28.78	27.00	0.0019	5388	13.25	11.25
G_dn	OCT-2015	28.89	27.00	0.0018	5507	8.38	7.75
G_dn	OCT-2016	28.70	27.00	-0.0010	5313	5.42	4.45
G_up	002-yr	28.54	27.66	0.0049	539	4.88	4.72
G_up	010-yr	28.67	27.66	0.0050	555	8.42	8.43
G_up	025-yr	28.70	27.66	0.0050	541	9.87	9.85
G_up	050-yr	28.74	27.66	0.0050	547	11.49	11.47
G_up	100-yr	28.78	27.66	0.0050	553	13.26	13.25
G_up	OCT-2015	28.89	27.66	0.0049	569	8.38	8.38
G_up	OCT-2016	28.71	27.66	0.0031	543	5.44	5.42
H	002-yr	26.10	27.59	-0.0068	126	10.02	9.89
H	010-yr	28.08	27.59	-0.0066	126	11.04	10.99

Highway 9  
Existing Conditions - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
H	025-yr	28.49	27.59	-0.0067	126	13.31	13.25
H	050-yr	28.74	27.59	-0.0064	126	15.88	15.82
H	100-yr	29.01	27.59	0.0165	126	18.80	34.38
H	OCT-2015	29.21	27.59	-0.1386	126	13.11	74.43
H	OCT-2016	28.96	27.59	0.0121	126	7.16	31.86
HWY57_N	002-yr	28.94	32.00	0.0028	27044	68.85	68.87
HWY57_N	010-yr	29.83	32.00	0.0018	82100	164.70	163.80
HWY57_N	025-yr	30.35	32.00	-0.0025	113919	212.88	212.66
HWY57_N	050-yr	30.52	32.00	0.0023	125465	269.24	268.94
HWY57_N	100-yr	30.67	32.00	0.0020	135240	333.56	333.41
HWY57_N	OCT-2015	30.76	32.00	-0.0034	140602	387.94	386.90
HWY57_N	OCT-2016	30.63	32.00	0.0019	133177	314.36	313.86
HWY57_S	002-yr	28.57	32.00	0.0022	3722	108.69	108.57
HWY57_S	010-yr	30.71	32.00	0.0020	4702	248.77	248.13
HWY57_S	025-yr	31.81	32.00	0.0028	9447	305.48	305.21
HWY57_S	050-yr	32.35	32.00	0.0045	12016	386.46	386.13
HWY57_S	100-yr	33.09	32.00	0.0047	18979	492.06	491.97
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19436	498.61	498.46
HWY57_S	OCT-2016	32.32	32.00	0.0020	12620	383.48	382.97
I	002-yr	26.10	27.00	0.0030	4136	9.89	8.74
I	010-yr	28.09	27.00	0.0031	12476	10.99	12.27
I	025-yr	28.50	27.00	0.0027	17237	13.25	11.47
I	050-yr	28.75	27.00	0.0026	20921	15.82	23.47
I	100-yr	28.95	27.00	0.0026	22179	34.38	16.08
I	OCT-2015	29.06	27.00	0.0035	22313	74.43	11.06
I	OCT-2016	28.89	27.00	0.0050	21854	31.86	19.47
J	002-yr	26.10	27.00	0.0026	18622	75.56	70.74
J	010-yr	28.09	27.00	0.0025	176618	163.90	166.79
J	025-yr	28.50	27.00	0.0024	250537	216.69	218.91
J	050-yr	28.75	27.00	0.0024	315753	272.53	277.48
J	100-yr	28.95	27.00	0.0020	349873	331.39	348.67
J	OCT-2015	29.06	27.00	0.0024	353851	387.89	392.72
J	OCT-2016	28.89	27.00	0.0021	341400	317.46	335.18
J1	002-yr	26.82	29.00	0.0023	29604	70.25	70.33
J1	010-yr	29.06	29.00	0.0021	279835	165.26	165.05
J1	025-yr	29.19	29.00	0.0020	310349	216.11	216.16
J1	050-yr	29.35	29.00	0.0021	357797	273.79	273.84
J1	100-yr	29.48	29.00	0.0019	395328	340.36	340.61
J1	OCT-2015	29.55	29.00	0.0016	400442	394.61	389.73
J1	OCT-2016	29.45	29.00	0.0020	391682	322.16	322.52
JB	002-yr	25.00	27.21	0.0005	421	3.79	3.79
JB	010-yr	25.31	27.21	0.0007	438	6.64	6.64
JB	025-yr	25.37	27.21	0.0008	439	7.26	7.27
JB	050-yr	25.52	27.21	0.0009	439	8.82	8.82
JB	100-yr	25.54	27.21	0.0009	439	9.10	9.11
JB	OCT-2015	25.55	27.21	0.0006	439	9.22	9.22
JB	OCT-2016	25.54	27.21	0.0004	439	9.06	9.06
K	002-yr	28.08	30.00	0.0022	128001	70.41	70.25
K	010-yr	29.15	30.00	0.0016	473324	167.18	165.26
K	025-yr	29.29	30.00	0.0018	502027	217.67	216.11
K	050-yr	29.44	30.00	0.0022	525304	275.40	273.79
K	100-yr	29.58	30.00	0.0018	540791	341.38	340.36
K	OCT-2015	29.66	30.00	0.0018	550117	410.84	394.61
K	OCT-2016	29.55	30.00	0.0015	536988	323.41	322.16
Pond A	002-yr	26.08	27.00	0.0014	30510	13.73	2.42
Pond A	010-yr	27.64	27.00	0.0024	37842	23.50	6.73
Pond A	025-yr	28.29	27.00	0.0027	40907	27.51	9.95
Pond A	050-yr	28.58	27.00	0.0028	42290	31.97	13.46
Pond A	100-yr	28.76	27.00	0.0025	43116	36.86	17.75
Pond A	OCT-2015	28.86	27.00	0.0017	43603	23.92	16.48
Pond A	OCT-2016	28.69	27.00	0.0012	42793	15.12	8.76
Pond B	002-yr	25.87	29.00	0.0007	81215	25.51	4.37
Pond B	010-yr	26.93	29.00	0.0013	83214	44.34	4.96
Pond B	025-yr	27.32	29.00	0.0016	83940	52.11	5.36
Pond B	050-yr	28.71	29.00	0.0018	86564	60.74	7.50
Pond B	100-yr	28.94	29.00	0.0018	87003	70.22	7.40
Pond B	OCT-2015	29.03	29.00	0.0009	87184	43.79	7.73
Pond B	OCT-2016	28.90	29.00	0.0006	86928	29.05	7.84
Pond C	002-yr	26.00	28.00	0.0024	18625	12.54	4.83
Pond C	010-yr	27.63	28.00	0.0027	19422	19.29	15.18
Pond C	025-yr	28.28	28.00	0.0025	19740	27.84	22.62
Pond C	050-yr	28.57	28.00	0.0024	19883	38.14	30.38
Pond C	100-yr	28.75	28.00	0.0020	19968	48.76	40.32
Pond C	OCT-2015	28.86	28.00	0.0028	20022	36.65	34.86
Pond C	OCT-2016	28.67	28.00	0.0016	19932	21.49	19.03

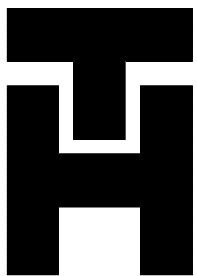
Highway 9  
Existing Conditions - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
X2	002-yr	23.59	25.00	0.0031	9818	22.75	14.62
X2	010-yr	23.89	25.00	0.0017	10253	31.21	27.88
X2	025-yr	23.99	25.00	0.0016	10405	47.29	43.74
X2	050-yr	24.23	25.00	0.0016	10763	58.84	55.32
X2	100-yr	24.43	25.00	0.0017	11072	70.07	66.56
X2	OCT-2015	24.52	25.00	0.0024	11210	48.48	47.54
X2	OCT-2016	24.34	25.00	0.0043	10931	32.35	30.96
X3	002-yr	23.59	25.00	0.0030	494122	242.56	239.35
X3	010-yr	23.88	25.00	0.0017	589574	397.57	396.52
X3	025-yr	23.99	25.00	0.0016	606187	482.54	482.74
X3	050-yr	24.23	25.00	0.0016	660732	674.10	671.74
X3	100-yr	24.43	25.00	0.0017	706138	868.06	868.40
X3	OCT-2015	24.52	25.00	0.0025	723792	974.30	969.32
X3	OCT-2016	24.34	25.00	0.0043	674841	784.32	781.38
X5	002-yr	23.60	25.00	0.0008	65503	19.67	2.96
X5	010-yr	23.91	25.00	0.0012	69296	35.48	5.22
X5	025-yr	24.00	25.00	0.0013	70439	42.08	7.07
X5	050-yr	24.23	25.00	0.0015	73311	49.41	12.50
X5	100-yr	24.44	25.00	0.0016	75895	57.49	17.15
X5	OCT-2015	24.53	25.00	0.0013	76922	30.45	17.58
X5	OCT-2016	24.37	25.00	0.0010	74958	25.30	11.51
X6	002-yr	21.56	23.00	0.0005	192069	39.42	4.93
X6	010-yr	22.04	23.00	0.0006	207706	69.68	7.70
X6	025-yr	22.18	23.00	0.0009	212327	82.22	9.74
X6	050-yr	22.32	23.00	0.0011	216985	96.16	15.32
X6	100-yr	22.47	23.00	0.0012	222140	111.46	22.03
X6	OCT-2015	22.59	23.00	0.0005	226066	61.66	23.11
X6	OCT-2016	22.33	23.00	0.0004	217480	47.60	14.72
X7	002-yr	21.39	23.00	0.0023	682015	288.40	298.89
X7	010-yr	21.68	23.00	0.0017	764375	508.15	478.34
X7	025-yr	21.81	23.00	0.0016	789820	598.88	557.99
X7	050-yr	22.07	23.00	0.0016	859522	731.14	712.88
X7	100-yr	22.34	23.00	0.0018	918402	944.02	926.84
X7	OCT-2015	22.44	23.00	0.0029	938527	1041.81	1030.06
X7	OCT-2016	22.22	23.00	0.0038	887796	835.59	821.90

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 1**

**J – 26146.0000**



Prepared by:

**THOMAS & HUTTON**

Highway 9  
Alternative 1 - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.64	26.00	0.0030	85847	191.97	190.53
A1	010-yr	27.14	26.00	0.0029	120226	358.01	351.82
A1	025-yr	27.90	26.00	0.0031	160693	433.76	428.88
A1	050-yr	28.34	26.00	0.0028	190219	611.94	610.64
A1	100-yr	28.52	26.00	0.0028	195924	781.19	781.30
A1	OCT-2015	28.63	26.00	0.0027	196730	908.52	908.43
A1	OCT-2016	28.44	26.00	0.0032	193892	695.17	694.16
A2	002-yr	25.76	26.00	0.0040	38859	192.83	191.97
A2	010-yr	27.15	26.00	0.0030	51814	361.52	358.01
A2	025-yr	27.91	26.00	0.0027	131637	438.95	433.76
A2	050-yr	28.36	26.00	0.0024	143215	613.60	611.94
A2	100-yr	28.55	26.00	0.0019	145326	781.20	781.19
A2	OCT-2015	28.66	26.00	0.0039	146129	909.00	908.52
A2	OCT-2016	28.46	26.00	0.0030	144466	696.27	695.17
A3	002-yr	25.90	26.00	0.0030	11722	193.09	192.83
A3	010-yr	27.23	26.00	0.0025	18944	363.56	361.52
A3	025-yr	27.96	26.00	0.0027	27079	442.86	438.95
A3	050-yr	28.41	26.00	0.0024	27957	611.55	613.60
A3	100-yr	28.61	26.00	0.0020	28412	781.89	781.20
A3	OCT-2015	28.72	26.00	0.0029	28568	909.79	909.00
A3	OCT-2016	28.51	26.00	0.0029	28166	695.72	696.27
A_dn	002-yr	24.76	25.60	0.0030	15040	209.94	209.94
A_dn	010-yr	25.16	25.60	-0.0028	16228	368.97	368.95
A_dn	025-yr	25.31	25.60	0.0020	16708	442.25	442.23
A_dn	050-yr	25.66	25.60	-0.0022	17930	635.87	631.89
A_dn	100-yr	25.93	25.60	-0.0021	19175	809.14	809.13
A_dn	OCT-2015	26.09	25.60	0.0031	19696	929.70	929.68
A_dn	OCT-2016	25.80	25.60	0.0035	18765	719.80	719.76
A_up	002-yr	25.39	26.11	0.0030	17746	207.53	207.50
A_up	010-yr	26.99	26.11	0.0030	28367	367.07	366.63
A_up	025-yr	27.82	26.11	0.0029	37577	427.49	440.88
A_up	050-yr	28.25	26.11	0.0030	44843	650.85	634.21
A_up	100-yr	28.40	26.11	0.0029	45955	806.65	806.65
A_up	OCT-2015	28.48	26.11	0.0028	46302	927.69	927.68
A_up	OCT-2016	28.34	26.11	0.0031	45505	716.99	716.96
Alt1	002-yr	24.61	25.00	0.0031	71526	209.94	209.92
Alt1	010-yr	24.91	25.00	0.0022	82043	368.95	368.90
Alt1	025-yr	25.02	25.00	0.0018	84828	442.23	442.23
Alt1	050-yr	25.27	25.00	0.0020	96213	631.89	631.89
Alt1	100-yr	25.46	25.00	0.0016	104192	809.13	809.15
Alt1	OCT-2015	25.58	25.00	0.0033	107932	929.68	929.57
Alt1	OCT-2016	25.37	25.00	0.0043	101480	719.76	719.67
B_dn	002-yr	25.39	24.00	0.0030	4107	16.09	14.67
B_dn	010-yr	26.99	24.00	0.0030	5210	20.74	19.91
B_dn	025-yr	27.82	24.00	0.0048	5788	21.71	28.77
B_dn	050-yr	28.25	24.00	0.0047	6086	34.30	52.44
B_dn	100-yr	28.40	24.00	-0.0040	6190	51.78	50.19
B_dn	OCT-2015	28.48	24.00	-0.0046	6244	41.00	73.63
B_dn	OCT-2016	28.34	24.00	-0.0048	6143	23.63	44.38
B_up	002-yr	25.49	24.20	0.0031	8323	19.53	16.09
B_up	010-yr	27.08	24.20	0.0026	10999	23.01	20.74
B_up	025-yr	27.83	24.20	0.0029	12262	24.16	21.71
B_up	050-yr	28.26	24.20	0.0028	12990	35.22	34.30
B_up	100-yr	28.41	24.20	0.0029	13245	52.62	51.78
B_up	OCT-2015	28.48	24.20	0.0028	13373	42.43	41.00
B_up	OCT-2016	28.34	24.20	0.0031	13127	18.41	23.63
BNDRY	002-yr	19.11	23.00	0.0014	313427	326.66	0.00
BNDRY	010-yr	19.57	23.00	0.0035	337313	549.59	0.00
BNDRY	025-yr	19.73	23.00	0.0036	344427	645.32	0.00
BNDRY	050-yr	19.89	23.00	0.0028	354882	751.91	0.00
BNDRY	100-yr	20.13	23.00	0.0025	375572	953.07	0.00
BNDRY	OCT-2015	20.39	23.00	0.0021	394940	1032.17	0.00
BNDRY	OCT-2016	19.97	23.00	0.0014	361725	837.47	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.71	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.48	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.21	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	8.35	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	9.03	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.15	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	8.95	0.00
C_dn	002-yr	25.52	27.00	0.0023	6922	9.87	10.17
C_dn	010-yr	27.08	27.00	0.0025	9482	11.30	11.58
C_dn	025-yr	27.83	27.00	0.0029	10743	14.27	13.98
C_dn	050-yr	28.26	27.00	0.0028	11471	21.58	20.82
C_dn	100-yr	28.41	27.00	0.0028	11727	33.15	32.43



Highway 9  
Alternative 1 - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_dn	OCT-2015	28.49	27.00	0.0024	11855	25.38	24.08
C_dn	OCT-2016	28.34	27.00	0.0015	11608	13.11	13.34
C_up	002-yr	25.55	27.00	0.0008	51673	17.85	9.87
C_up	010-yr	27.12	27.00	0.0024	90185	32.16	11.30
C_up	025-yr	27.83	27.00	0.0026	107541	38.14	14.27
C_up	050-yr	28.26	27.00	0.0024	118113	44.83	21.58
C_up	100-yr	28.42	27.00	0.0024	121858	52.19	33.15
C_up	OCT-2015	28.49	27.00	0.0015	123678	41.05	25.38
C_up	OCT-2016	28.34	27.00	0.0009	120096	22.84	13.11
D	002-yr	25.93	27.00	0.0022	2604	39.97	38.80
D	010-yr	27.26	27.00	-0.0050	3234	62.61	61.34
D	025-yr	27.98	27.00	0.0049	3572	71.84	70.81
D	050-yr	28.43	27.00	0.0050	3787	82.06	80.47
D	100-yr	28.64	27.00	-0.0050	3886	93.25	91.92
D	OCT-2015	28.77	27.00	0.0050	3944	56.40	78.85
D	OCT-2016	28.54	27.00	-0.0051	3839	37.70	69.40
E	002-yr	25.93	27.00	0.0038	19407	224.37	193.09
E	010-yr	27.26	27.00	0.0037	41913	385.79	363.56
E	025-yr	27.98	27.00	0.0037	46523	434.39	442.86
E	050-yr	28.43	27.00	0.0037	50291	666.92	611.55
E	100-yr	28.64	27.00	0.0029	56272	751.07	781.89
E	OCT-2015	28.77	27.00	0.0039	58274	880.09	909.79
E	OCT-2016	28.54	27.00	0.0036	52981	737.73	695.72
E1	002-yr	26.09	28.00	0.0030	16007	107.70	107.42
E1	010-yr	27.39	28.00	0.0025	73438	240.61	234.96
E1	025-yr	28.02	28.00	0.0025	90409	291.78	281.45
E1	050-yr	28.49	28.00	0.0025	96407	371.46	363.65
E1	100-yr	28.74	28.00	0.0020	100279	482.21	476.73
E1	OCT-2015	28.87	28.00	0.0029	105262	496.42	495.59
E1	OCT-2016	28.60	28.00	0.0031	98707	374.41	372.46
E2	002-yr	26.38	30.00	0.0029	25523	108.23	107.70
E2	010-yr	27.58	30.00	0.0024	106901	246.27	240.61
E2	025-yr	28.07	30.00	0.0023	121703	302.58	291.78
E2	050-yr	28.55	30.00	0.0023	131506	382.63	371.46
E2	100-yr	28.80	30.00	0.0018	138314	490.50	482.21
E2	OCT-2015	28.93	30.00	0.0029	140707	497.87	496.42
E2	OCT-2016	28.65	30.00	0.0030	135811	378.85	374.41
E3	002-yr	26.96	32.00	0.0030	8895	108.42	108.23
E3	010-yr	28.43	32.00	0.0021	25472	247.55	246.27
E3	025-yr	28.78	32.00	0.0020	29430	304.37	302.58
E3	050-yr	29.41	32.00	0.0021	34053	384.85	382.63
E3	100-yr	30.18	32.00	0.0017	51686	491.60	490.50
E3	OCT-2015	30.24	32.00	0.0027	52498	498.19	497.87
E3	OCT-2016	29.91	32.00	0.0025	47700	381.63	378.85
E4	002-yr	27.45	32.00	0.0024	5644	108.57	108.42
E4	010-yr	29.23	32.00	0.0022	7828	248.14	247.55
E4	025-yr	30.01	32.00	0.0023	22564	305.20	304.37
E4	050-yr	30.55	32.00	0.0028	28132	386.10	384.85
E4	100-yr	31.24	32.00	0.0029	46341	491.96	491.60
E4	OCT-2015	31.27	32.00	0.0024	47771	498.46	498.19
E4	OCT-2016	30.81	32.00	0.0022	32579	383.20	381.63
F	002-yr	25.93	27.00	0.0049	10233	74.16	95.20
F	010-yr	27.27	27.00	-0.0049	78268	184.60	186.63
F	025-yr	27.99	27.00	0.0049	85858	229.85	230.65
F	050-yr	28.44	27.00	0.0050	92646	291.17	296.97
F	100-yr	28.66	27.00	-0.0050	99046	363.31	364.09
F	OCT-2015	28.78	27.00	0.0050	101818	395.24	398.19
F	OCT-2016	28.56	27.00	0.0050	95401	350.86	353.88
F1	002-yr	25.95	27.00	0.0032	16322	70.83	71.04
F1	010-yr	27.33	27.00	0.0025	78674	176.04	179.83
F1	025-yr	28.03	27.00	0.0026	145102	215.27	223.86
F1	050-yr	28.46	27.00	0.0028	164592	274.79	284.01
F1	100-yr	28.69	27.00	0.0030	220697	345.77	353.88
F1	OCT-2015	28.82	27.00	0.0049	244783	382.81	391.02
F1	OCT-2016	28.59	27.00	0.0048	189557	331.00	338.91
G_dn	002-yr	25.95	27.00	0.0011	2508	4.72	4.38
G_dn	010-yr	27.33	27.00	0.0023	3907	8.43	6.86
G_dn	025-yr	28.03	27.00	0.0022	4626	9.86	7.89
G_dn	050-yr	28.46	27.00	0.0029	5069	11.47	9.63
G_dn	100-yr	28.69	27.00	0.0020	5303	13.25	11.37
G_dn	OCT-2015	28.82	27.00	0.0020	5438	8.38	12.14
G_dn	OCT-2016	28.59	27.00	-0.0010	5198	5.42	7.52
G_up	002-yr	28.54	27.66	0.0049	539	4.88	4.72
G_up	010-yr	28.67	27.66	0.0050	556	8.42	8.43

Highway 9  
Alternative 1 - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
G_up	025-yr	28.70	27.66	0.0050	541	9.87	9.86
G_up	050-yr	28.74	27.66	0.0050	547	11.49	11.47
G_up	100-yr	28.77	27.66	0.0050	552	13.27	13.25
G_up	OCT-2015	28.82	27.66	0.0049	560	8.38	8.38
G_up	OCT-2016	28.61	27.66	0.0031	528	5.44	5.42
H	002-yr	26.04	27.59	0.0068	126	10.15	10.03
H	010-yr	27.79	27.59	-0.0072	126	11.07	11.02
H	025-yr	28.34	27.59	0.0064	126	13.37	13.32
H	050-yr	28.63	27.59	-0.0065	126	15.95	15.90
H	100-yr	28.95	27.59	0.0120	126	18.90	26.63
H	OCT-2015	29.07	27.59	0.0160	126	13.27	36.02
H	OCT-2016	28.76	27.59	-0.0100	126	37.58	7.12
HWY57_N	002-yr	28.94	32.00	0.0028	27031	68.85	68.87
HWY57_N	010-yr	29.80	32.00	-0.0030	80895	164.70	163.73
HWY57_N	025-yr	30.35	32.00	0.0019	113499	212.88	212.61
HWY57_N	050-yr	30.52	32.00	0.0023	125232	269.24	268.94
HWY57_N	100-yr	30.67	32.00	0.0020	134970	333.56	333.39
HWY57_N	OCT-2015	30.76	32.00	0.0026	140409	387.94	386.90
HWY57_N	OCT-2016	30.63	32.00	0.0019	132999	314.36	313.82
HWY57_S	002-yr	28.57	32.00	0.0022	3721	108.69	108.57
HWY57_S	010-yr	30.71	32.00	0.0021	4698	248.77	248.14
HWY57_S	025-yr	31.81	32.00	0.0031	9434	305.48	305.20
HWY57_S	050-yr	32.36	32.00	0.0045	11952	386.46	386.10
HWY57_S	100-yr	33.09	32.00	0.0050	18920	492.06	491.96
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19403	498.61	498.46
HWY57_S	OCT-2016	32.33	32.00	0.0022	11939	383.48	383.20
I	002-yr	26.04	27.00	0.0030	4094	10.03	12.73
I	010-yr	27.80	27.00	0.0031	8314	11.02	12.02
I	025-yr	28.35	27.00	0.0027	15364	13.32	12.55
I	050-yr	28.67	27.00	0.0026	20359	15.90	14.24
I	100-yr	28.90	27.00	0.0036	21914	26.63	16.22
I	OCT-2015	29.02	27.00	0.0034	22259	36.02	20.66
I	OCT-2016	28.81	27.00	0.0050	21415	7.12	17.88
J	002-yr	26.04	27.00	0.0026	18338	74.99	70.62
J	010-yr	27.80	27.00	0.0025	102666	183.73	178.21
J	025-yr	28.35	27.00	0.0025	222983	215.96	219.67
J	050-yr	28.67	27.00	0.0025	301302	273.73	279.71
J	100-yr	28.90	27.00	0.0022	341856	333.46	349.38
J	OCT-2015	29.02	27.00	0.0022	352297	389.90	387.91
J	OCT-2016	28.81	27.00	0.0021	327988	341.29	333.81
J1	002-yr	26.82	29.00	0.0023	29569	70.24	70.30
J1	010-yr	29.00	29.00	0.0025	250983	168.51	172.87
J1	025-yr	29.18	29.00	0.0026	304511	215.50	215.82
J1	050-yr	29.33	29.00	0.0023	346580	273.96	275.29
J1	100-yr	29.47	29.00	0.0022	393961	340.23	340.59
J1	OCT-2015	29.54	29.00	0.0015	399620	394.62	389.06
J1	OCT-2016	29.43	29.00	0.0020	388964	321.55	321.81
JB	002-yr	24.99	27.21	0.0005	420	3.71	3.71
JB	010-yr	25.29	27.21	0.0007	438	6.48	6.48
JB	025-yr	25.37	27.21	0.0007	439	7.21	7.21
JB	050-yr	25.47	27.21	0.0009	440	8.35	8.35
JB	100-yr	25.54	27.21	0.0009	439	9.03	9.03
JB	OCT-2015	25.55	27.21	0.0005	439	9.15	9.15
JB	OCT-2016	25.53	27.21	0.0004	439	8.95	8.95
K	002-yr	28.08	30.00	0.0022	127858	70.41	70.24
K	010-yr	29.11	30.00	0.0020	465658	167.12	168.51
K	025-yr	29.28	30.00	0.0018	500042	217.64	215.50
K	050-yr	29.43	30.00	0.0022	522967	275.39	273.96
K	100-yr	29.57	30.00	0.0016	539538	341.35	340.23
K	OCT-2015	29.65	30.00	0.0018	549167	410.84	394.62
K	OCT-2016	29.54	30.00	0.0015	536171	323.37	321.55
Pond A	002-yr	26.03	27.00	0.0014	30286	13.73	2.53
Pond A	010-yr	27.28	27.00	0.0026	36164	23.50	7.57
Pond A	025-yr	28.00	27.00	0.0030	39539	27.51	10.70
Pond A	050-yr	28.45	27.00	0.0028	41675	31.97	14.17
Pond A	100-yr	28.67	27.00	0.0028	42700	36.86	18.41
Pond A	OCT-2015	28.79	27.00	0.0017	43256	23.92	13.03
Pond A	OCT-2016	28.57	27.00	0.0012	42260	15.12	8.62
Pond B	002-yr	25.85	29.00	0.0007	81169	25.52	4.43
Pond B	010-yr	26.86	29.00	0.0014	83070	44.35	4.57
Pond B	025-yr	27.27	29.00	0.0018	83845	52.11	5.16
Pond B	050-yr	28.24	29.00	0.0019	85691	60.75	7.55
Pond B	100-yr	28.88	29.00	0.0022	86890	70.22	7.76
Pond B	OCT-2015	28.97	29.00	0.0009	87073	43.79	8.06
Pond B	OCT-2016	28.81	29.00	0.0008	86764	29.06	42.67

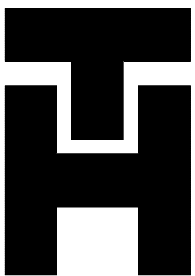
Highway 9  
Alternative 1 - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
Pond C	002-yr	25.94	28.00	0.0023	18594	12.57	5.33
Pond C	010-yr	27.27	28.00	0.0028	19246	19.60	16.21
Pond C	025-yr	27.99	28.00	0.0026	19598	28.04	23.68
Pond C	050-yr	28.44	28.00	0.0025	19819	38.29	31.53
Pond C	100-yr	28.66	28.00	0.0022	19925	49.10	41.09
Pond C	OCT-2015	28.79	28.00	0.0028	19986	35.79	29.57
Pond C	OCT-2016	28.56	28.00	0.0017	19876	21.35	18.70
X2	002-yr	23.61	25.00	0.0031	9839	23.04	14.73
X2	010-yr	23.92	25.00	0.0021	10297	31.38	28.54
X2	025-yr	23.99	25.00	0.0017	10406	47.75	44.62
X2	050-yr	24.21	25.00	0.0016	10742	59.45	55.97
X2	100-yr	24.42	25.00	0.0017	11051	70.51	66.86
X2	OCT-2015	24.51	25.00	0.0025	11192	48.61	47.58
X2	OCT-2016	24.33	25.00	0.0042	10913	32.17	30.72
X3	002-yr	23.61	25.00	0.0031	486775	249.24	244.80
X3	010-yr	23.91	25.00	0.0021	571534	414.26	415.64
X3	025-yr	23.98	25.00	0.0017	579659	475.85	471.69
X3	050-yr	24.21	25.00	0.0016	626256	664.34	662.87
X3	100-yr	24.42	25.00	0.0017	666317	856.21	856.07
X3	OCT-2015	24.51	25.00	0.0025	684210	955.86	951.44
X3	OCT-2016	24.32	25.00	0.0041	638598	767.98	766.43
X5	002-yr	23.62	25.00	0.0009	65675	19.68	3.46
X5	010-yr	23.94	25.00	0.0014	69622	35.49	5.39
X5	025-yr	24.02	25.00	0.0013	70665	42.08	7.73
X5	050-yr	24.22	25.00	0.0015	73138	49.42	13.07
X5	100-yr	24.43	25.00	0.0016	75727	57.49	17.46
X5	OCT-2015	24.51	25.00	0.0014	76725	30.45	17.64
X5	OCT-2016	24.35	25.00	0.0010	74703	25.30	11.64
X6	002-yr	21.56	23.00	0.0005	192057	39.43	4.93
X6	010-yr	22.04	23.00	0.0007	207841	69.69	7.70
X6	025-yr	22.18	23.00	0.0008	212374	82.21	9.70
X6	050-yr	22.32	23.00	0.0011	217003	96.15	15.27
X6	100-yr	22.47	23.00	0.0013	222163	111.46	21.98
X6	OCT-2015	22.60	23.00	0.0006	226368	61.66	24.19
X6	OCT-2016	22.35	23.00	0.0004	217989	47.60	15.73
X7	002-yr	21.39	23.00	0.0023	683353	290.70	299.23
X7	010-yr	21.71	23.00	0.0016	770286	526.86	493.46
X7	025-yr	21.84	23.00	0.0016	795748	611.70	574.27
X7	050-yr	22.06	23.00	0.0016	857610	721.01	708.18
X7	100-yr	22.33	23.00	0.0017	915958	932.25	917.33
X7	OCT-2015	22.41	23.00	0.0028	934966	1014.43	1000.78
X7	OCT-2016	22.20	23.00	0.0037	883988	821.46	807.29

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 1A**

**J - 26146.0000**



Prepared by:

**THOMAS & HUTTON**

Highway 9  
Alternative 1A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.67	26.00	0.0036	86742	187.86	185.64
A1	010-yr	27.51	26.00	0.0029	144889	331.34	320.14
A1	025-yr	28.20	26.00	0.0023	175212	442.86	441.48
A1	050-yr	28.47	26.00	0.0022	195592	618.69	617.88
A1	100-yr	28.60	26.00	0.0021	196518	790.48	790.54
A1	OCT-2015	28.68	26.00	0.0030	197176	921.07	921.30
A1	OCT-2016	28.54	26.00	0.0030	196057	710.51	710.01
A2	002-yr	25.76	26.00	0.0037	39754	189.38	187.86
A2	010-yr	27.52	26.00	0.0029	81418	338.39	331.34
A2	025-yr	28.21	26.00	0.0028	139672	443.86	442.86
A2	050-yr	28.48	26.00	0.0027	144906	619.00	618.69
A2	100-yr	28.62	26.00	0.0022	145836	790.55	790.48
A2	OCT-2015	28.71	26.00	0.0039	146497	921.15	921.07
A2	OCT-2016	28.56	26.00	0.0030	145378	711.02	710.51
A3	002-yr	25.85	26.00	0.0036	11673	189.88	189.38
A3	010-yr	27.56	26.00	0.0035	21765	341.68	338.39
A3	025-yr	28.24	26.00	0.0031	27798	441.14	443.86
A3	050-yr	28.52	26.00	0.0030	28172	621.47	619.00
A3	100-yr	28.66	26.00	0.0029	28531	791.37	790.55
A3	OCT-2015	28.76	26.00	0.0033	28608	920.46	921.15
A3	OCT-2016	28.60	26.00	0.0029	28384	710.28	711.02
A_dn	002-yr	25.05	25.60	0.0036	20955	203.37	203.32
A_dn	010-yr	25.87	25.60	0.0026	26555	332.51	332.47
A_dn	025-yr	26.40	25.60	0.0023	28345	457.58	457.48
A_dn	050-yr	27.61	25.60	-0.0029	62188	641.04	641.59
A_dn	100-yr	27.80	25.60	-0.0030	65839	820.22	820.20
A_dn	OCT-2015	27.95	25.60	0.0033	68231	945.49	945.77
A_dn	OCT-2016	27.71	25.60	0.0033	63795	735.07	735.47
A_up	002-yr	25.58	26.11	0.0037	18972	201.19	201.12
A_up	010-yr	27.48	26.11	0.0029	33055	329.42	331.33
A_up	025-yr	28.16	26.11	0.0024	42703	427.94	456.13
A_up	050-yr	28.41	26.11	0.0024	45950	609.37	639.08
A_up	100-yr	28.52	26.11	0.0025	46404	817.54	817.53
A_up	OCT-2015	28.58	26.11	0.0034	46691	943.11	943.12
A_up	OCT-2016	28.47	26.11	0.0030	46194	732.31	732.31
B_dn	002-yr	25.58	24.00	0.0036	4236	13.48	13.62
B_dn	010-yr	27.48	24.00	-0.0049	5548	18.25	37.08
B_dn	025-yr	28.16	24.00	-0.0049	6023	20.29	48.36
B_dn	050-yr	28.41	24.00	-0.0049	6196	35.60	49.35
B_dn	100-yr	28.52	24.00	-0.0048	6269	52.10	54.76
B_dn	OCT-2015	28.58	24.00	-0.0046	6313	45.85	52.66
B_dn	OCT-2016	28.47	24.00	-0.0045	6236	27.68	49.45
B_up	002-yr	25.66	24.20	0.0033	8609	17.25	13.48
B_up	010-yr	27.48	24.20	0.0029	11679	20.36	18.25
B_up	025-yr	28.17	24.20	0.0022	12835	24.42	20.29
B_up	050-yr	28.42	24.20	0.0023	13258	36.81	35.60
B_up	100-yr	28.52	24.20	0.0023	13436	53.31	52.10
B_up	OCT-2015	28.58	24.20	0.0033	13544	46.77	45.85
B_up	OCT-2016	28.47	24.20	0.0031	13354	28.38	27.68
BNDRY	002-yr	19.11	23.00	0.0017	313384	328.67	0.00
BNDRY	010-yr	19.57	23.00	0.0028	336567	537.77	0.00
BNDRY	025-yr	19.73	23.00	0.0029	343922	635.38	0.00
BNDRY	050-yr	19.89	23.00	0.0028	354027	739.37	0.00
BNDRY	100-yr	20.13	23.00	0.0025	375948	963.94	0.00
BNDRY	OCT-2015	20.39	23.00	0.0021	396304	1069.97	0.00
BNDRY	OCT-2016	19.97	23.00	0.0014	364816	855.20	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.63	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.60	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.24	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	8.79	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	9.08	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.20	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	9.03	0.00
C_dn	002-yr	25.68	27.00	0.0029	7187	9.37	9.67
C_dn	010-yr	27.48	27.00	0.0027	10159	9.94	9.94
C_dn	025-yr	28.17	27.00	0.0021	11315	11.41	11.57
C_dn	050-yr	28.42	27.00	0.0021	11739	21.74	20.66
C_dn	100-yr	28.52	27.00	0.0021	11918	32.45	31.32
C_dn	OCT-2015	28.59	27.00	0.0030	12026	27.58	27.26
C_dn	OCT-2016	28.47	27.00	0.0020	11834	16.04	15.67
C_up	002-yr	25.71	27.00	0.0011	55516	17.85	9.37
C_up	010-yr	27.49	27.00	0.0019	99107	32.16	9.94
C_up	025-yr	28.17	27.00	0.0020	115820	38.14	11.41
C_up	050-yr	28.42	27.00	0.0018	121992	44.83	21.74
C_up	100-yr	28.53	27.00	0.0018	124622	52.19	32.45

Highway 9  
Alternative 1A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_up	OCT-2015	28.59	27.00	0.0021	126163	41.05	27.58
C_up	OCT-2016	28.48	27.00	0.0008	123360	22.84	16.04
D	002-yr	25.88	27.00	0.0023	2582	39.97	38.93
D	010-yr	27.58	27.00	-0.0049	3383	62.61	61.34
D	025-yr	28.25	27.00	-0.0050	3702	71.84	70.46
D	050-yr	28.54	27.00	-0.0050	3837	82.06	80.23
D	100-yr	28.70	27.00	-0.0050	3913	93.25	91.40
D	OCT-2015	28.81	27.00	-0.0064	3963	56.40	103.44
D	OCT-2016	28.63	27.00	-0.0050	3879	37.71	74.05
E	002-yr	25.88	27.00	0.0035	18083	220.68	189.88
E	010-yr	27.58	27.00	0.0042	43488	340.20	341.68
E	025-yr	28.25	27.00	0.0039	48560	493.17	441.14
E	050-yr	28.54	27.00	0.0033	52885	574.68	621.47
E	100-yr	28.70	27.00	0.0030	57761	759.04	791.37
E	OCT-2015	28.81	27.00	0.0038	58352	951.81	920.46
E	OCT-2016	28.63	27.00	0.0034	55725	742.07	710.28
E1	002-yr	26.05	28.00	0.0034	15437	107.29	106.72
E1	010-yr	27.62	28.00	0.0029	79332	237.15	228.44
E1	025-yr	28.28	28.00	0.0030	93778	286.08	271.89
E1	050-yr	28.60	28.00	0.0029	98731	369.51	362.68
E1	100-yr	28.79	28.00	0.0023	103078	484.94	481.03
E1	OCT-2015	28.90	28.00	0.0029	105524	497.78	498.06
E1	OCT-2016	28.69	28.00	0.0029	99927	378.40	376.87
E2	002-yr	26.35	30.00	0.0031	25202	108.16	107.29
E2	010-yr	27.70	30.00	0.0027	114113	245.89	237.15
E2	025-yr	28.32	30.00	0.0027	127785	301.76	286.08
E2	050-yr	28.65	30.00	0.0024	135854	382.28	369.51
E2	100-yr	28.86	30.00	0.0019	139386	490.79	484.94
E2	OCT-2015	28.96	30.00	0.0029	141356	498.05	497.78
E2	OCT-2016	28.73	30.00	0.0028	136976	381.58	378.40
E3	002-yr	26.94	32.00	0.0030	8823	108.40	108.16
E3	010-yr	28.45	32.00	0.0024	26019	247.50	245.89
E3	025-yr	28.91	32.00	0.0022	31367	304.24	301.76
E3	050-yr	29.90	32.00	0.0021	47620	384.80	382.28
E3	100-yr	30.20	32.00	0.0019	51970	491.65	490.79
E3	OCT-2015	30.25	32.00	0.0031	52680	498.22	498.05
E3	OCT-2016	29.94	32.00	0.0024	48115	382.29	381.58
E4	002-yr	27.44	32.00	0.0027	5635	108.57	108.40
E4	010-yr	29.23	32.00	0.0021	7839	248.13	247.50
E4	025-yr	30.02	32.00	0.0020	22613	305.21	304.24
E4	050-yr	30.79	32.00	0.0027	32235	386.09	384.80
E4	100-yr	31.25	32.00	0.0029	46528	491.97	491.65
E4	OCT-2015	31.28	32.00	0.0025	47852	498.46	498.22
E4	OCT-2016	30.83	32.00	0.0022	32854	382.96	382.29
F	002-yr	25.88	27.00	0.0046	8838	77.37	89.30
F	010-yr	27.59	27.00	0.0050	82913	177.19	179.17
F	025-yr	28.26	27.00	0.0049	90500	227.36	232.07
F	050-yr	28.55	27.00	0.0050	95182	283.32	284.58
F	100-yr	28.71	27.00	0.0049	100947	362.17	362.85
F	OCT-2015	28.82	27.00	0.0050	102105	400.72	401.74
F	OCT-2016	28.64	27.00	0.0050	98034	352.40	354.58
F1	002-yr	25.90	27.00	0.0036	15850	72.29	73.60
F1	010-yr	27.66	27.00	0.0030	126889	165.01	172.27
F1	025-yr	28.28	27.00	0.0031	151162	214.15	221.86
F1	050-yr	28.57	27.00	0.0030	186536	271.22	277.53
F1	100-yr	28.75	27.00	0.0030	237250	345.02	353.14
F1	OCT-2015	28.86	27.00	0.0050	247329	400.19	393.84
F1	OCT-2016	28.67	27.00	0.0047	211668	332.34	340.82
G_dn	002-yr	25.90	27.00	0.0010	2474	4.72	4.42
G_dn	010-yr	27.66	27.00	0.0025	4244	8.42	7.24
G_dn	025-yr	28.28	27.00	0.0028	4881	9.87	8.08
G_dn	050-yr	28.57	27.00	0.0028	5176	11.47	9.49
G_dn	100-yr	28.75	27.00	0.0025	5357	13.25	11.20
G_dn	OCT-2015	28.86	27.00	0.0018	5475	8.38	7.71
G_dn	OCT-2016	28.67	27.00	-0.0010	5283	5.42	4.47
G_up	002-yr	28.54	27.66	0.0050	539	4.88	4.72
G_up	010-yr	28.68	27.66	0.0050	558	8.42	8.42
G_up	025-yr	28.70	27.66	0.0050	556	9.87	9.87
G_up	050-yr	28.74	27.66	0.0050	547	11.49	11.47
G_up	100-yr	28.77	27.66	0.0050	552	13.26	13.25
G_up	OCT-2015	28.86	27.66	0.0049	565	8.38	8.38
G_up	OCT-2016	28.68	27.66	0.0031	539	5.44	5.42
H	002-yr	26.00	27.59	-0.0065	126	10.41	10.29
H	010-yr	28.06	27.59	0.0064	126	11.52	11.41

Highway 9  
Alternative 1A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
H	025-yr	28.48	27.59	0.0064	126	13.56	13.50
H	050-yr	28.70	27.59	-0.0073	126	16.03	15.97
H	100-yr	28.99	27.59	0.0133	126	18.93	31.74
H	OCT-2015	29.16	27.59	-0.0906	126	12.81	61.41
H	OCT-2016	28.94	27.59	0.0108	126	7.25	29.28
HWY57_N	002-yr	28.95	32.00	0.0030	27016	68.85	68.87
HWY57_N	010-yr	29.83	32.00	-0.0030	82029	164.70	163.77
HWY57_N	025-yr	30.35	32.00	-0.0031	113884	212.88	212.65
HWY57_N	050-yr	30.52	32.00	-0.0032	125425	269.24	268.94
HWY57_N	100-yr	30.67	32.00	0.0020	135151	333.56	333.41
HWY57_N	OCT-2015	30.76	32.00	0.0026	140569	387.94	386.90
HWY57_N	OCT-2016	30.63	32.00	0.0019	133124	314.36	313.86
HWY57_S	002-yr	28.56	32.00	0.0025	3717	108.69	108.57
HWY57_S	010-yr	30.71	32.00	0.0022	4700	248.77	248.13
HWY57_S	025-yr	31.81	32.00	0.0030	9442	305.48	305.21
HWY57_S	050-yr	32.35	32.00	0.0045	12005	386.46	386.09
HWY57_S	100-yr	33.09	32.00	0.0047	18966	492.06	491.97
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19422	498.61	498.46
HWY57_S	OCT-2016	32.32	32.00	0.0021	12612	383.48	382.96
I	002-yr	26.00	27.00	0.0031	4068	10.29	7.50
I	010-yr	28.08	27.00	-0.0049	12348	11.41	26.99
I	025-yr	28.48	27.00	0.0031	17147	13.50	25.67
I	050-yr	28.73	27.00	0.0031	20808	15.97	13.76
I	100-yr	28.93	27.00	0.0029	22158	31.74	16.11
I	OCT-2015	29.04	27.00	0.0036	22290	61.41	15.95
I	OCT-2016	28.87	27.00	0.0050	21683	29.28	17.57
J	002-yr	26.00	27.00	0.0026	18197	74.63	71.94
J	010-yr	28.08	27.00	0.0028	174114	166.35	167.55
J	025-yr	28.48	27.00	0.0028	249233	216.56	218.69
J	050-yr	28.73	27.00	0.0027	313319	271.91	274.62
J	100-yr	28.93	27.00	0.0023	348874	332.10	348.87
J	OCT-2015	29.04	27.00	0.0022	353206	388.62	394.35
J	OCT-2016	28.87	27.00	0.0021	336281	317.97	335.51
J1	002-yr	26.77	29.00	0.0023	29309	70.26	70.36
J1	010-yr	29.05	29.00	0.0029	279249	164.87	165.22
J1	025-yr	29.19	29.00	0.0029	310006	216.05	216.07
J1	050-yr	29.34	29.00	0.0021	355759	273.74	273.97
J1	100-yr	29.48	29.00	0.0018	395059	340.31	340.54
J1	OCT-2015	29.55	29.00	0.0017	400195	394.79	390.36
J1	OCT-2016	29.44	29.00	0.0020	390855	321.97	322.31
JB	002-yr	24.98	27.21	0.0005	419	3.63	3.63
JB	010-yr	25.31	27.21	0.0007	438	6.60	6.60
JB	025-yr	25.37	27.21	0.0009	439	7.24	7.24
JB	050-yr	25.51	27.21	0.0009	439	8.79	8.79
JB	100-yr	25.54	27.21	0.0009	439	9.08	9.08
JB	OCT-2015	25.55	27.21	0.0007	439	9.19	9.20
JB	OCT-2016	25.54	27.21	0.0004	439	9.03	9.03
K	002-yr	28.07	30.00	0.0030	126921	70.41	70.26
K	010-yr	29.15	30.00	0.0024	473154	167.17	164.87
K	025-yr	29.29	30.00	0.0027	501855	217.66	216.05
K	050-yr	29.44	30.00	0.0028	524874	275.40	273.74
K	100-yr	29.58	30.00	0.0020	540376	341.37	340.31
K	OCT-2015	29.66	30.00	0.0018	549885	410.86	394.79
K	OCT-2016	29.54	30.00	0.0015	536733	323.41	321.97
Pond A	002-yr	25.97	27.00	0.0014	29993	13.73	2.34
Pond A	010-yr	27.59	27.00	0.0021	37638	23.50	6.48
Pond A	025-yr	28.27	27.00	0.0025	40804	27.51	9.75
Pond A	050-yr	28.56	27.00	0.0027	42179	31.97	13.28
Pond A	100-yr	28.72	27.00	0.0026	42965	36.86	17.46
Pond A	OCT-2015	28.83	27.00	0.0021	43443	23.92	16.41
Pond A	OCT-2016	28.66	27.00	0.0012	42659	15.12	8.68
Pond B	002-yr	25.83	29.00	0.0007	81121	25.51	4.56
Pond B	010-yr	26.91	29.00	0.0013	83173	44.35	5.15
Pond B	025-yr	27.30	29.00	0.0016	83901	52.11	5.56
Pond B	050-yr	28.68	29.00	0.0018	86516	60.74	7.72
Pond B	100-yr	28.92	29.00	0.0019	86965	70.21	7.64
Pond B	OCT-2015	29.01	29.00	0.0012	87145	43.79	7.94
Pond B	OCT-2016	28.88	29.00	0.0006	86888	29.05	8.02
Pond C	002-yr	25.89	28.00	0.0027	18570	12.64	6.98
Pond C	010-yr	27.59	28.00	0.0031	19401	21.65	13.84
Pond C	025-yr	28.26	28.00	0.0031	19730	26.84	21.72
Pond C	050-yr	28.55	28.00	0.0029	19872	37.10	29.63
Pond C	100-yr	28.72	28.00	0.0026	19952	47.94	39.21
Pond C	OCT-2015	28.82	28.00	0.0030	20005	36.58	34.76
Pond C	OCT-2016	28.64	28.00	0.0015	19918	21.41	18.90

Highway 9  
Alternative 1A - Node Maximum Comparison Report

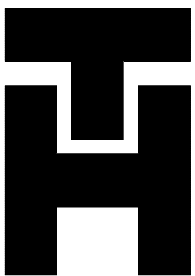
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
X2	002-yr	23.59	25.00	0.0038	9816	22.92	14.81
X2	010-yr	23.89	25.00	0.0023	10257	30.40	26.92
X2	025-yr	23.99	25.00	0.0019	10403	46.89	43.30
X2	050-yr	24.23	25.00	0.0016	10766	58.75	55.35
X2	100-yr	24.43	25.00	0.0017	11074	70.29	66.99
X2	OCT-2015	24.53	25.00	0.0026	11214	48.34	47.40
X2	OCT-2016	24.34	25.00	0.0041	10933	32.27	30.85
X3	002-yr	23.59	25.00	0.0037	494010	242.06	240.24
X3	010-yr	23.88	25.00	0.0023	589890	400.35	398.74
X3	025-yr	23.98	25.00	0.0019	605902	481.15	481.21
X3	050-yr	24.23	25.00	0.0016	660866	675.28	673.03
X3	100-yr	24.43	25.00	0.0017	706385	868.04	868.99
X3	OCT-2015	24.53	25.00	0.0026	724095	978.02	972.95
X3	OCT-2016	24.34	25.00	0.0040	674991	785.60	782.59
X5	002-yr	23.60	25.00	0.0011	65494	19.67	3.31
X5	010-yr	23.91	25.00	0.0017	69337	35.49	5.30
X5	025-yr	24.01	25.00	0.0019	70484	42.07	7.14
X5	050-yr	24.24	25.00	0.0017	73332	49.42	12.51
X5	100-yr	24.44	25.00	0.0016	75909	57.50	17.42
X5	OCT-2015	24.53	25.00	0.0018	76907	30.45	17.45
X5	OCT-2016	24.37	25.00	0.0010	74977	25.30	11.50
X6	002-yr	21.57	23.00	0.0006	192110	39.42	4.92
X6	010-yr	22.04	23.00	0.0008	207737	69.69	7.69
X6	025-yr	22.18	23.00	0.0010	212352	82.21	9.69
X6	050-yr	22.32	23.00	0.0011	217006	96.16	15.28
X6	100-yr	22.47	23.00	0.0012	222170	111.48	21.98
X6	OCT-2015	22.59	23.00	0.0006	226043	61.66	23.20
X6	OCT-2016	22.33	23.00	0.0004	217460	47.60	14.74
X7	002-yr	21.40	23.00	0.0023	684011	290.82	301.24
X7	010-yr	21.68	23.00	0.0016	765252	510.72	480.70
X7	025-yr	21.81	23.00	0.0015	790617	601.41	560.37
X7	050-yr	22.07	23.00	0.0016	859932	732.36	713.82
X7	100-yr	22.34	23.00	0.0017	918531	945.42	927.52
X7	OCT-2015	22.45	23.00	0.0029	938994	1045.92	1033.86
X7	OCT-2016	22.22	23.00	0.0038	888135	836.70	822.99



**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 1B**

**J – 26146.0000**



Prepared by:

**THOMAS & HUTTON**

Highway 9  
Alternative 1B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.51	26.00	0.0039	84290	191.04	189.74
A1	010-yr	27.07	26.00	0.0031	119601	358.90	352.46
A1	025-yr	27.86	26.00	0.0027	158341	432.82	427.20
A1	050-yr	28.32	26.00	0.0024	186801	613.37	612.65
A1	100-yr	28.49	26.00	0.0022	195721	781.26	781.15
A1	OCT-2015	28.59	26.00	0.0031	196450	910.38	910.35
A1	OCT-2016	28.41	26.00	0.0030	192556	694.12	693.17
A2	002-yr	25.66	26.00	0.0039	37535	191.89	191.04
A2	010-yr	27.09	26.00	0.0034	51694	363.47	358.90
A2	025-yr	27.87	26.00	0.0038	127549	437.37	432.82
A2	050-yr	28.34	26.00	0.0025	142432	615.85	613.37
A2	100-yr	28.52	26.00	0.0026	145112	781.74	781.26
A2	OCT-2015	28.62	26.00	0.0040	145836	910.78	910.38
A2	OCT-2016	28.43	26.00	0.0030	144028	695.65	694.12
A3	002-yr	25.76	26.00	0.0037	11229	192.18	191.89
A3	010-yr	27.15	26.00	0.0037	18922	365.42	363.47
A3	025-yr	27.92	26.00	0.0040	26668	441.07	437.37
A3	050-yr	28.38	26.00	0.0031	27932	613.90	615.85
A3	100-yr	28.57	26.00	0.0033	28329	783.83	781.74
A3	OCT-2015	28.68	26.00	0.0032	28535	911.51	910.78
A3	OCT-2016	28.48	26.00	0.0030	28041	695.22	695.65
A_dn	002-yr	24.76	25.60	0.0038	15027	209.18	209.15
A_dn	010-yr	25.17	25.60	0.0032	16234	370.28	370.26
A_dn	025-yr	25.31	25.60	0.0024	16700	440.84	440.82
A_dn	050-yr	25.66	25.60	0.0024	17939	636.01	633.37
A_dn	100-yr	25.93	25.60	0.0020	19188	812.09	812.05
A_dn	OCT-2015	26.10	25.60	0.0036	19710	931.90	931.87
A_dn	OCT-2016	25.80	25.60	0.0035	18742	718.80	718.75
A_up	002-yr	25.39	26.11	0.0039	18502	206.78	206.72
A_up	010-yr	27.00	26.11	0.0031	29174	368.40	368.04
A_up	025-yr	27.81	26.11	0.0031	37375	426.33	439.49
A_up	050-yr	28.26	26.11	0.0025	44417	667.51	634.44
A_up	100-yr	28.41	26.11	0.0026	45939	809.25	809.24
A_up	OCT-2015	28.48	26.11	0.0032	46276	929.85	929.84
A_up	OCT-2016	28.33	26.11	0.0031	45337	716.00	715.96
Alt1	002-yr	24.61	25.00	0.0037	71442	209.15	209.09
Alt1	010-yr	24.91	25.00	0.0033	82073	370.26	370.21
Alt1	025-yr	25.02	25.00	0.0024	84776	440.82	440.82
Alt1	050-yr	25.27	25.00	0.0025	96268	633.37	633.38
Alt1	100-yr	25.46	25.00	0.0020	104348	812.05	811.62
Alt1	OCT-2015	25.58	25.00	0.0038	108024	931.87	931.75
Alt1	OCT-2016	25.37	25.00	0.0050	101353	718.75	718.63
B_dn	002-yr	25.39	24.00	0.0037	4103	14.65	14.44
B_dn	010-yr	27.00	24.00	-0.0037	5220	20.39	30.52
B_dn	025-yr	27.81	24.00	-0.0047	5779	21.70	37.05
B_dn	050-yr	28.26	24.00	0.0048	6088	34.86	52.68
B_dn	100-yr	28.41	24.00	0.0038	6192	52.34	50.89
B_dn	OCT-2015	28.48	24.00	0.0050	6245	43.07	72.92
B_dn	OCT-2016	28.33	24.00	-0.0048	6143	23.89	49.23
B_up	002-yr	25.49	24.20	0.0031	8314	18.52	14.65
B_up	010-yr	27.10	24.20	0.0031	11028	22.73	20.39
B_up	025-yr	27.81	24.20	0.0028	12240	24.22	21.70
B_up	050-yr	28.26	24.20	0.0023	12992	35.77	34.86
B_up	100-yr	28.41	24.20	0.0022	13249	53.10	52.34
B_up	OCT-2015	28.49	24.20	0.0034	13376	44.20	43.07
B_up	OCT-2016	28.34	24.20	0.0031	13126	18.78	23.89
BNDRY	002-yr	19.11	23.00	0.0017	313643	329.77	0.00
BNDRY	010-yr	19.57	23.00	0.0044	337501	552.93	0.00
BNDRY	025-yr	19.73	23.00	0.0036	344623	648.78	0.00
BNDRY	050-yr	19.89	23.00	0.0028	355033	754.92	0.00
BNDRY	100-yr	20.13	23.00	0.0025	375616	955.14	0.00
BNDRY	OCT-2015	20.39	23.00	0.0021	394962	1034.72	0.00
BNDRY	OCT-2016	19.97	23.00	0.0017	361533	837.32	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.53	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.39	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.18	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	8.22	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	9.00	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.12	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	8.93	0.00
C_dn	002-yr	25.51	27.00	0.0031	6913	9.78	10.07
C_dn	010-yr	27.10	27.00	0.0028	9511	11.27	11.57
C_dn	025-yr	27.82	27.00	0.0026	10720	14.48	14.21
C_dn	050-yr	28.26	27.00	0.0022	11473	22.01	21.30
C_dn	100-yr	28.41	27.00	0.0021	11731	33.66	33.02

Highway 9  
Alternative 1B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_dn	OCT-2015	28.49	27.00	0.0029	11857	27.32	26.26
C_dn	OCT-2016	28.34	27.00	0.0020	11607	13.37	13.62
C_up	002-yr	25.55	27.00	0.0010	51545	17.85	9.78
C_up	010-yr	27.14	27.00	0.0028	90507	32.16	11.27
C_up	025-yr	27.82	27.00	0.0025	107219	38.15	14.48
C_up	050-yr	28.26	27.00	0.0020	118137	44.83	22.01
C_up	100-yr	28.42	27.00	0.0019	121921	52.19	33.66
C_up	OCT-2015	28.49	27.00	0.0018	123712	41.05	27.32
C_up	OCT-2016	28.34	27.00	0.0009	120074	22.84	13.37
D	002-yr	25.80	27.00	0.0023	2542	39.97	39.04
D	010-yr	27.19	27.00	-0.0050	3199	62.61	61.23
D	025-yr	27.93	27.00	-0.0050	3551	71.84	70.60
D	050-yr	28.41	27.00	-0.0050	3774	82.06	80.21
D	100-yr	28.61	27.00	-0.0050	3869	93.25	91.49
D	OCT-2015	28.73	27.00	-0.0060	3925	56.40	91.98
D	OCT-2016	28.51	27.00	-0.0050	3822	37.71	68.01
E	002-yr	25.80	27.00	0.0036	17737	224.42	192.18
E	010-yr	27.19	27.00	0.0033	41465	385.98	365.42
E	025-yr	27.94	27.00	0.0036	46217	444.97	441.07
E	050-yr	28.40	27.00	0.0040	50036	669.98	613.90
E	100-yr	28.61	27.00	0.0035	55243	752.90	783.83
E	OCT-2015	28.73	27.00	0.0033	58194	882.42	911.51
E	OCT-2016	28.51	27.00	0.0039	51123	739.08	695.22
E1	002-yr	25.98	28.00	0.0034	14929	107.56	107.21
E1	010-yr	27.33	28.00	0.0030	71796	241.40	235.55
E1	025-yr	27.98	28.00	0.0031	89818	292.37	282.66
E1	050-yr	28.47	28.00	0.0028	95977	371.35	363.45
E1	100-yr	28.71	28.00	0.0025	99942	481.90	476.14
E1	OCT-2015	28.83	28.00	0.0029	105030	496.61	495.92
E1	OCT-2016	28.56	28.00	0.0029	97755	373.83	372.23
E2	002-yr	26.31	30.00	0.0029	24822	108.21	107.56
E2	010-yr	27.55	30.00	0.0030	105502	246.37	241.40
E2	025-yr	28.03	30.00	0.0027	121010	302.64	292.37
E2	050-yr	28.52	30.00	0.0026	131130	382.64	371.35
E2	100-yr	28.77	30.00	0.0021	137950	490.48	481.90
E2	OCT-2015	28.90	30.00	0.0029	140281	497.89	496.61
E2	OCT-2016	28.62	30.00	0.0029	135401	380.67	373.83
E3	002-yr	26.93	32.00	0.0037	8761	108.41	108.21
E3	010-yr	28.42	32.00	0.0025	25250	247.56	246.37
E3	025-yr	28.76	32.00	0.0024	29306	304.37	302.64
E3	050-yr	29.40	32.00	0.0017	33922	384.86	382.64
E3	100-yr	30.17	32.00	0.0021	51580	491.61	490.48
E3	OCT-2015	30.23	32.00	0.0036	52372	498.19	497.89
E3	OCT-2016	29.90	32.00	0.0028	47596	382.11	380.67
E4	002-yr	27.43	32.00	0.0026	5629	108.57	108.41
E4	010-yr	29.22	32.00	0.0026	7821	248.14	247.56
E4	025-yr	30.01	32.00	0.0025	22534	305.20	304.37
E4	050-yr	30.54	32.00	0.0028	28066	386.11	384.86
E4	100-yr	31.24	32.00	0.0029	46281	491.96	491.61
E4	OCT-2015	31.27	32.00	0.0024	47707	498.46	498.19
E4	OCT-2016	30.80	32.00	0.0026	32493	383.19	382.11
F	002-yr	25.80	27.00	0.0049	8329	77.21	92.91
F	010-yr	27.20	27.00	0.0049	77326	183.14	184.66
F	025-yr	27.95	27.00	0.0049	84760	228.21	229.75
F	050-yr	28.41	27.00	-0.0050	92225	292.84	297.98
F	100-yr	28.62	27.00	0.0050	97523	363.93	364.67
F	OCT-2015	28.75	27.00	0.0050	101420	395.05	397.36
F	OCT-2016	28.52	27.00	0.0051	94921	351.72	354.20
F1	002-yr	25.81	27.00	0.0036	15473	72.47	73.56
F1	010-yr	27.27	27.00	0.0031	72176	173.22	178.35
F1	025-yr	27.99	27.00	0.0032	143674	213.22	222.02
F1	050-yr	28.44	27.00	0.0029	159918	276.19	285.52
F1	100-yr	28.65	27.00	0.0030	207582	346.83	354.83
F1	OCT-2015	28.79	27.00	0.0050	241269	383.88	390.35
F1	OCT-2016	28.56	27.00	0.0047	186099	332.35	340.09
G_dn	002-yr	25.81	27.00	0.0011	2405	4.72	4.46
G_dn	010-yr	27.27	27.00	0.0025	3843	8.42	7.33
G_dn	025-yr	27.99	27.00	0.0025	4587	9.88	8.13
G_dn	050-yr	28.44	27.00	0.0028	5040	11.46	9.43
G_dn	100-yr	28.65	27.00	0.0027	5263	13.25	11.25
G_dn	OCT-2015	28.79	27.00	0.0018	5401	8.38	7.26
G_dn	OCT-2016	28.56	27.00	-0.0010	5163	5.42	7.51
G_up	002-yr	28.54	27.66	0.0050	539	4.88	4.72
G_up	010-yr	28.68	27.66	0.0050	558	8.42	8.42

Highway 9  
Alternative 1B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
G_up	025-yr	28.70	27.66	0.0050	558	9.87	9.88
G_up	050-yr	28.73	27.66	0.0050	546	11.49	11.46
G_up	100-yr	28.77	27.66	0.0050	552	13.26	13.25
G_up	OCT-2015	28.79	27.66	0.0049	554	8.38	8.38
G_up	OCT-2016	28.60	27.66	0.0032	528	5.44	5.42
H	002-yr	25.93	27.59	-0.0069	126	10.55	10.45
H	010-yr	27.61	27.59	0.0065	126	12.09	11.97
H	025-yr	28.32	27.59	0.0071	126	13.67	13.61
H	050-yr	28.62	27.59	0.0064	126	16.14	16.09
H	100-yr	28.92	27.59	0.0138	126	19.04	23.29
H	OCT-2015	29.05	27.59	0.0133	126	12.92	33.11
H	OCT-2016	28.75	27.59	-0.0098	126	32.33	7.21
HWY57_N	002-yr	28.95	32.00	0.0030	27007	68.85	68.87
HWY57_N	010-yr	29.78	32.00	0.0024	79715	164.70	164.06
HWY57_N	025-yr	30.35	32.00	0.0024	113416	212.88	212.63
HWY57_N	050-yr	30.52	32.00	-0.0032	125160	269.24	268.94
HWY57_N	100-yr	30.67	32.00	-0.0032	134855	333.56	333.39
HWY57_N	OCT-2015	30.76	32.00	0.0026	140381	387.94	386.91
HWY57_N	OCT-2016	30.63	32.00	-0.0025	132961	314.36	313.82
HWY57_S	002-yr	28.56	32.00	0.0024	3716	108.69	108.57
HWY57_S	010-yr	30.71	32.00	0.0026	4696	248.77	248.14
HWY57_S	025-yr	31.81	32.00	0.0033	9429	305.48	305.20
HWY57_S	050-yr	32.36	32.00	0.0045	11942	386.46	386.11
HWY57_S	100-yr	33.09	32.00	0.0050	18906	492.06	491.96
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19389	498.61	498.46
HWY57_S	OCT-2016	32.33	32.00	-0.0043	11927	383.48	383.19
I	002-yr	25.92	27.00	0.0031	4021	10.45	8.67
I	010-yr	27.61	27.00	0.0031	6061	11.97	12.34
I	025-yr	28.33	27.00	0.0031	14714	13.61	13.26
I	050-yr	28.65	27.00	0.0031	19826	16.09	28.76
I	100-yr	28.87	27.00	0.0030	21685	23.29	16.46
I	OCT-2015	29.00	27.00	0.0043	22234	33.11	19.81
I	OCT-2016	28.80	27.00	0.0050	21333	7.21	18.80
J	002-yr	25.92	27.00	0.0023	17939	74.09	72.13
J	010-yr	27.61	27.00	0.0030	66838	179.85	174.34
J	025-yr	28.33	27.00	0.0029	213298	216.13	217.54
J	050-yr	28.65	27.00	0.0027	292381	275.14	281.03
J	100-yr	28.87	27.00	0.0025	335944	334.03	350.28
J	OCT-2015	29.00	27.00	0.0022	351278	391.74	388.81
J	OCT-2016	28.79	27.00	0.0021	326133	340.86	335.04
J1	002-yr	26.76	29.00	0.0023	29232	70.25	70.39
J1	010-yr	28.95	29.00	0.0030	236404	166.71	167.09
J1	025-yr	29.17	29.00	0.0030	302724	215.72	215.58
J1	050-yr	29.32	29.00	0.0024	343075	273.98	276.14
J1	100-yr	29.46	29.00	0.0023	393282	340.07	340.32
J1	OCT-2015	29.54	29.00	0.0018	399388	395.20	389.53
J1	OCT-2016	29.43	29.00	0.0020	388343	321.51	321.88
JB	002-yr	24.97	27.21	0.0005	418	3.53	3.53
JB	010-yr	25.29	27.21	0.0007	438	6.39	6.39
JB	025-yr	25.36	27.21	0.0008	439	7.17	7.18
JB	050-yr	25.46	27.21	0.0009	440	8.22	8.22
JB	100-yr	25.53	27.21	0.0009	439	9.00	9.00
JB	OCT-2015	25.54	27.21	0.0006	439	9.12	9.12
JB	OCT-2016	25.53	27.21	0.0004	439	8.93	8.93
K	002-yr	28.07	30.00	0.0030	126623	70.41	70.25
K	010-yr	29.08	30.00	0.0024	458686	167.47	166.71
K	025-yr	29.28	30.00	0.0028	499553	217.65	215.72
K	050-yr	29.43	30.00	0.0028	522279	275.39	273.98
K	100-yr	29.57	30.00	0.0020	539008	341.35	340.07
K	OCT-2015	29.65	30.00	0.0018	548955	410.83	395.20
K	OCT-2016	29.53	30.00	0.0016	536010	323.36	321.51
Pond A	002-yr	25.91	27.00	0.0014	29698	13.73	2.40
Pond A	010-yr	27.21	27.00	0.0027	35827	23.50	7.44
Pond A	025-yr	27.95	27.00	0.0029	39332	27.51	10.47
Pond A	050-yr	28.42	27.00	0.0026	41542	31.97	13.98
Pond A	100-yr	28.63	27.00	0.0027	42525	36.86	18.08
Pond A	OCT-2015	28.75	27.00	0.0017	43072	23.92	12.74
Pond A	OCT-2016	28.54	27.00	0.0013	42094	15.12	8.25
Pond B	002-yr	25.79	29.00	0.0007	81058	25.51	4.65
Pond B	010-yr	26.81	29.00	0.0016	82990	44.34	4.96
Pond B	025-yr	27.24	29.00	0.0019	83797	52.12	5.97
Pond B	050-yr	28.11	29.00	0.0019	85433	60.75	7.64
Pond B	100-yr	28.85	29.00	0.0020	86837	70.22	7.98
Pond B	OCT-2015	28.95	29.00	0.0010	87032	43.79	8.30
Pond B	OCT-2016	28.79	29.00	0.0008	86722	29.05	37.49

Highway 9  
Alternative 1B - Node Maximum Comparison Report

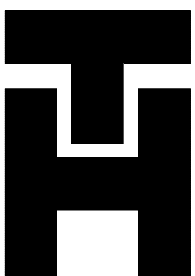
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
Pond C	002-yr	25.81	28.00	0.0024	18530	12.68	8.25
Pond C	010-yr	27.20	28.00	0.0031	19211	22.22	15.15
Pond C	025-yr	27.95	28.00	0.0031	19577	26.97	22.85
Pond C	050-yr	28.42	28.00	0.0031	19806	37.24	30.75
Pond C	100-yr	28.62	28.00	0.0028	19906	48.25	39.69
Pond C	OCT-2015	28.75	28.00	0.0027	19967	35.94	29.14
Pond C	OCT-2016	28.53	28.00	0.0019	19859	20.94	18.16
X2	002-yr	23.61	25.00	0.0038	9836	23.25	14.93
X2	010-yr	23.92	25.00	0.0027	10304	30.87	27.87
X2	025-yr	23.99	25.00	0.0021	10411	47.52	44.04
X2	050-yr	24.21	25.00	0.0022	10744	59.19	55.76
X2	100-yr	24.42	25.00	0.0019	11057	70.54	67.03
X2	OCT-2015	24.51	25.00	0.0027	11196	48.37	47.34
X2	OCT-2016	24.32	25.00	0.0042	10912	32.09	30.62
X3	002-yr	23.61	25.00	0.0037	486238	248.16	245.01
X3	010-yr	23.92	25.00	0.0027	571797	418.64	418.09
X3	025-yr	23.99	25.00	0.0021	580150	479.41	474.28
X3	050-yr	24.21	25.00	0.0019	626364	665.63	663.90
X3	100-yr	24.42	25.00	0.0018	667192	859.91	858.42
X3	OCT-2015	24.51	25.00	0.0027	684383	958.34	954.00
X3	OCT-2016	24.32	25.00	0.0042	638513	767.25	765.84
X5	002-yr	23.61	25.00	0.0011	65652	19.67	3.40
X5	010-yr	23.94	25.00	0.0018	69674	35.49	5.44
X5	025-yr	24.02	25.00	0.0019	70712	42.08	7.29
X5	050-yr	24.22	25.00	0.0017	73157	49.41	12.89
X5	100-yr	24.43	25.00	0.0016	75765	57.50	17.55
X5	OCT-2015	24.51	25.00	0.0015	76752	30.45	17.43
X5	OCT-2016	24.35	25.00	0.0010	74713	25.30	11.65
X6	002-yr	21.57	23.00	0.0006	192109	39.42	4.92
X6	010-yr	22.04	23.00	0.0008	207884	69.68	7.69
X6	025-yr	22.18	23.00	0.0010	212404	82.22	9.64
X6	050-yr	22.32	23.00	0.0011	217027	96.15	15.22
X6	100-yr	22.47	23.00	0.0013	222197	111.48	21.91
X6	OCT-2015	22.60	23.00	0.0006	226365	61.66	24.27
X6	OCT-2016	22.35	23.00	0.0004	217988	47.60	15.76
X7	002-yr	21.40	23.00	0.0024	685540	292.66	302.34
X7	010-yr	21.72	23.00	0.0016	771382	529.94	496.49
X7	025-yr	21.84	23.00	0.0016	796731	614.59	577.18
X7	050-yr	22.06	23.00	0.0017	857735	721.81	708.41
X7	100-yr	22.33	23.00	0.0017	916361	935.68	919.07
X7	OCT-2015	22.42	23.00	0.0028	935268	1017.18	1003.24
X7	OCT-2016	22.20	23.00	0.0037	883925	820.81	807.11

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 2**

**J – 26146.0000**

Prepared by:



**THOMAS & HUTTON**

Savannah, GA | Charleston, SC | Myrtle Beach, SC | Brunswick, GA | Wilmington, NC

Highway 9  
Alternative 2 - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.56	26.00	0.0030	84774	193.67	192.37
A1	010-yr	26.96	26.00	0.0031	116890	366.60	363.19
A1	025-yr	27.53	26.00	0.0030	146533	446.09	444.06
A1	050-yr	28.35	26.00	0.0026	190401	587.24	587.02
A1	100-yr	28.53	26.00	0.0026	195977	769.91	769.96
A1	OCT-2015	28.64	26.00	0.0028	196798	895.99	896.16
A1	OCT-2016	28.45	26.00	0.0032	194607	682.01	679.73
A2	002-yr	25.72	26.00	0.0032	38298	194.31	193.67
A2	010-yr	26.98	26.00	0.0029	50636	369.89	366.60
A2	025-yr	27.54	26.00	0.0024	89679	447.49	446.09
A2	050-yr	28.37	26.00	0.0024	143276	587.74	587.24
A2	100-yr	28.56	26.00	0.0018	145367	769.91	769.91
A2	OCT-2015	28.67	26.00	0.0039	146182	896.33	895.99
A2	OCT-2016	28.47	26.00	0.0030	144639	684.55	682.01
A3	002-yr	25.87	26.00	0.0030	11598	194.51	194.31
A3	010-yr	27.09	26.00	0.0027	18810	371.36	369.89
A3	025-yr	27.63	26.00	0.0025	22649	449.49	447.49
A3	050-yr	28.41	26.00	0.0024	27960	590.65	587.74
A3	100-yr	28.61	26.00	0.0019	28423	770.60	769.91
A3	OCT-2015	28.72	26.00	0.0030	28574	897.12	896.33
A3	OCT-2016	28.51	26.00	0.0030	28181	684.30	684.55
A_dn	002-yr	25.11	25.60	0.0034	21877	212.61	212.55
A_dn	010-yr	26.08	25.60	0.0027	27264	382.52	382.45
A_dn	025-yr	26.43	25.60	0.0026	28273	459.67	459.60
A_dn	050-yr	27.59	25.60	-0.0024	61366	607.45	608.61
A_dn	100-yr	27.78	25.60	0.0026	64294	795.67	796.35
A_dn	OCT-2015	27.92	25.60	0.0034	67428	915.61	916.55
A_dn	OCT-2016	27.67	25.60	0.0035	63399	704.59	705.06
A_up	002-yr	25.27	26.11	0.0032	18038	210.11	210.02
A_up	010-yr	26.72	26.11	0.0032	25813	380.54	380.26
A_up	025-yr	27.38	26.11	0.0036	32118	457.64	458.17
A_up	050-yr	28.27	26.11	0.0030	44928	578.44	605.69
A_up	100-yr	28.42	26.11	0.0029	46027	793.38	793.38
A_up	OCT-2015	28.50	26.11	0.0031	46385	913.76	913.84
A_up	OCT-2016	28.35	26.11	0.0032	45656	728.11	701.74
B_dn	002-yr	25.27	24.00	0.0032	4025	16.97	15.90
B_dn	010-yr	26.72	24.00	0.0050	5027	24.14	27.29
B_dn	025-yr	27.38	24.00	0.0049	5480	25.45	36.91
B_dn	050-yr	28.27	24.00	0.0048	6097	32.22	31.87
B_dn	100-yr	28.42	24.00	-0.0048	6199	49.66	48.30
B_dn	OCT-2015	28.50	24.00	-0.0050	6254	40.28	69.68
B_dn	OCT-2016	28.35	24.00	-0.0046	6152	20.59	49.29
B_up	002-yr	25.38	24.20	0.0031	8137	19.62	16.97
B_up	010-yr	26.83	24.20	0.0029	10571	25.51	24.14
B_up	025-yr	27.40	24.20	0.0028	11535	27.71	25.45
B_up	050-yr	28.27	24.20	0.0025	13014	32.51	32.22
B_up	100-yr	28.42	24.20	0.0027	13265	50.26	49.66
B_up	OCT-2015	28.50	24.20	0.0031	13397	41.07	40.28
B_up	OCT-2016	28.35	24.20	0.0031	13149	19.63	20.59
BNDRY	002-yr	19.11	23.00	0.0014	314189	334.65	0.00
BNDRY	010-yr	19.57	23.00	0.0044	338554	570.28	0.00
BNDRY	025-yr	19.73	23.00	0.0036	346567	671.49	0.00
BNDRY	050-yr	19.89	23.00	0.0028	356697	789.91	0.00
BNDRY	100-yr	20.13	23.00	0.0025	373044	928.38	0.00
BNDRY	OCT-2015	20.39	23.00	0.0021	392367	992.19	0.00
BNDRY	OCT-2016	19.97	23.00	0.0014	361316	818.19	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.68	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.37	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.16	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	8.35	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	9.03	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.14	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	8.95	0.00
C_dn	002-yr	25.41	27.00	0.0024	6747	10.09	10.40
C_dn	010-yr	26.83	27.00	0.0029	9055	13.32	12.62
C_dn	025-yr	27.40	27.00	0.0028	10016	13.61	12.72
C_dn	050-yr	28.27	27.00	0.0026	11495	21.56	21.38
C_dn	100-yr	28.42	27.00	0.0027	11747	32.34	31.95
C_dn	OCT-2015	28.50	27.00	0.0027	11878	26.97	26.38
C_dn	OCT-2016	28.35	27.00	0.0016	11630	16.59	18.39
C_up	002-yr	25.45	27.00	0.0008	49195	17.85	10.09
C_up	010-yr	26.89	27.00	0.0028	84504	32.16	13.32
C_up	025-yr	27.41	27.00	0.0026	97133	38.15	13.61
C_up	050-yr	28.28	27.00	0.0027	118454	44.83	21.56
C_up	100-yr	28.43	27.00	0.0028	122147	52.19	32.34

Highway 9  
Alternative 2 - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_up	OCT-2015	28.50	27.00	0.0014	124010	41.05	26.97
C_up	OCT-2016	28.36	27.00	0.0009	120408	22.84	16.59
D	002-yr	25.90	27.00	0.0022	2591	39.97	38.77
D	010-yr	27.13	27.00	-0.0050	3170	62.61	61.50
D	025-yr	27.66	27.00	-0.0050	3421	71.84	70.73
D	050-yr	28.43	27.00	-0.0050	3785	82.06	80.50
D	100-yr	28.65	27.00	-0.0050	3887	93.25	92.02
D	OCT-2015	28.77	27.00	0.0049	3946	56.40	69.14
D	OCT-2016	28.55	27.00	-0.0053	3840	37.71	70.11
E	002-yr	25.90	27.00	0.0038	18224	226.48	194.51
E	010-yr	27.13	27.00	0.0041	41006	391.68	371.36
E	025-yr	27.66	27.00	0.0033	44740	459.97	449.49
E	050-yr	28.43	27.00	0.0042	50263	549.77	590.65
E	100-yr	28.65	27.00	0.0028	56400	739.64	770.60
E	OCT-2015	28.77	27.00	0.0031	58279	867.76	897.12
E	OCT-2016	28.54	27.00	0.0038	53183	726.80	684.30
E1	002-yr	26.07	28.00	0.0030	15607	107.87	107.69
E1	010-yr	27.29	28.00	0.0025	71425	242.01	237.42
E1	025-yr	27.74	28.00	0.0023	85813	294.71	287.22
E1	050-yr	28.48	28.00	0.0024	96236	370.45	359.97
E1	100-yr	28.73	28.00	0.0020	100279	474.10	465.85
E1	OCT-2015	28.87	28.00	0.0030	105270	494.82	493.13
E1	OCT-2016	28.60	28.00	0.0031	98770	368.54	363.16
E2	002-yr	26.37	30.00	0.0029	25394	108.27	107.87
E2	010-yr	27.54	30.00	0.0024	105025	246.43	242.01
E2	025-yr	27.86	30.00	0.0023	117700	302.86	294.71
E2	050-yr	28.53	30.00	0.0022	131208	382.73	370.45
E2	100-yr	28.79	30.00	0.0017	138191	489.68	474.10
E2	OCT-2015	28.93	30.00	0.0029	140708	497.65	494.82
E2	OCT-2016	28.65	30.00	0.0030	135801	378.72	368.54
E3	002-yr	26.96	32.00	0.0030	8873	108.44	108.27
E3	010-yr	28.41	32.00	0.0023	25183	247.57	246.43
E3	025-yr	28.75	32.00	0.0020	29195	304.39	302.86
E3	050-yr	29.36	32.00	0.0016	33652	384.91	382.73
E3	100-yr	30.17	32.00	0.0019	51487	491.46	489.68
E3	OCT-2015	30.23	32.00	0.0027	52481	498.15	497.65
E3	OCT-2016	29.89	32.00	0.0025	47597	381.73	378.72
E4	002-yr	27.45	32.00	0.0024	5642	108.57	108.44
E4	010-yr	29.22	32.00	0.0025	7819	248.14	247.57
E4	025-yr	30.01	32.00	0.0023	22513	305.20	304.39
E4	050-yr	30.52	32.00	0.0028	27780	386.10	384.91
E4	100-yr	31.24	32.00	0.0029	46171	491.95	491.46
E4	OCT-2015	31.27	32.00	0.0024	47755	498.45	498.15
E4	OCT-2016	30.79	32.00	0.0022	32222	383.24	381.73
F	002-yr	25.90	27.00	0.0050	9629	74.39	96.54
F	010-yr	27.14	27.00	0.0050	75335	182.08	183.09
F	025-yr	27.67	27.00	-0.0049	83856	228.34	231.29
F	050-yr	28.44	27.00	0.0050	92646	283.62	283.63
F	100-yr	28.66	27.00	-0.0050	99196	362.82	363.93
F	OCT-2015	28.79	27.00	0.0050	101823	392.59	395.55
F	OCT-2016	28.56	27.00	0.0050	95432	347.97	350.51
F1	002-yr	25.92	27.00	0.0031	16099	70.78	70.97
F1	010-yr	27.21	27.00	0.0024	62193	172.86	177.26
F1	025-yr	27.77	27.00	0.0026	138794	213.67	221.59
F1	050-yr	28.46	27.00	0.0028	164735	268.27	276.94
F1	100-yr	28.70	27.00	0.0030	221955	345.31	353.63
F1	OCT-2015	28.83	27.00	0.0049	244815	377.07	388.59
F1	OCT-2016	28.59	27.00	0.0048	189816	329.22	336.34
G_dn	002-yr	25.92	27.00	0.0011	2486	4.72	4.37
G_dn	010-yr	27.21	27.00	0.0023	3783	8.43	6.84
G_dn	025-yr	27.77	27.00	0.0022	4353	9.85	7.92
G_dn	050-yr	28.46	27.00	0.0028	5069	11.47	9.67
G_dn	100-yr	28.70	27.00	0.0020	5306	13.25	11.45
G_dn	OCT-2015	28.83	27.00	0.0017	5439	8.38	7.87
G_dn	OCT-2016	28.59	27.00	-0.0010	5200	5.42	7.61
G_up	002-yr	28.54	27.66	0.0049	539	4.88	4.72
G_up	010-yr	28.67	27.66	0.0050	556	8.42	8.43
G_up	025-yr	28.70	27.66	0.0050	541	9.87	9.85
G_up	050-yr	28.74	27.66	0.0050	547	11.49	11.47
G_up	100-yr	28.77	27.66	0.0050	552	13.26	13.25
G_up	OCT-2015	28.83	27.66	0.0047	560	8.38	8.38
G_up	OCT-2016	28.60	27.66	0.0031	528	5.44	5.42
H	002-yr	26.02	27.59	0.0065	126	10.09	9.97
H	010-yr	27.51	27.59	-0.0069	126	11.06	11.01



Highway 9  
Alternative 2 - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
H	025-yr	28.25	27.59	0.0064	126	13.39	13.34
H	050-yr	28.63	27.59	0.0064	126	16.00	15.95
H	100-yr	28.95	27.59	0.0158	126	19.00	26.46
H	OCT-2015	29.06	27.59	0.0155	126	13.50	33.46
H	OCT-2016	28.77	27.59	-0.0121	126	35.34	7.10
HWY57_N	002-yr	28.94	32.00	0.0028	27026	68.85	68.87
HWY57_N	010-yr	29.77	32.00	0.0019	79427	164.70	164.02
HWY57_N	025-yr	30.35	32.00	-0.0031	113332	212.88	212.63
HWY57_N	050-yr	30.52	32.00	-0.0025	125207	269.24	268.88
HWY57_N	100-yr	30.67	32.00	0.0029	134962	333.56	333.36
HWY57_N	OCT-2015	30.76	32.00	0.0025	140326	387.94	386.93
HWY57_N	OCT-2016	30.63	32.00	0.0019	132978	314.36	313.79
HWY57_S	002-yr	28.56	32.00	0.0022	3720	108.69	108.57
HWY57_S	010-yr	30.71	32.00	0.0025	4695	248.76	248.14
HWY57_S	025-yr	31.81	32.00	0.0032	9426	305.48	305.20
HWY57_S	050-yr	32.36	32.00	0.0050	11896	386.46	386.10
HWY57_S	100-yr	33.09	32.00	0.0050	18877	492.06	491.95
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19399	498.61	498.45
HWY57_S	OCT-2016	32.34	32.00	0.0026	11879	383.48	383.24
I	002-yr	26.01	27.00	0.0030	4077	9.97	7.21
I	010-yr	27.52	27.00	0.0031	5943	11.01	12.27
I	025-yr	28.25	27.00	0.0027	13952	13.34	13.20
I	050-yr	28.67	27.00	-0.0036	20416	15.95	31.22
I	100-yr	28.90	27.00	0.0035	21948	26.46	16.59
I	OCT-2015	29.01	27.00	0.0035	22255	33.46	38.02
I	OCT-2016	28.82	27.00	0.0050	21428	7.10	17.65
J	002-yr	26.01	27.00	0.0026	18244	75.20	70.57
J	010-yr	27.52	27.00	0.0025	63833	181.26	174.02
J	025-yr	28.25	27.00	0.0024	201289	216.16	216.79
J	050-yr	28.67	27.00	0.0025	302356	270.06	273.50
J	100-yr	28.90	27.00	0.0022	342603	332.51	348.98
J	OCT-2015	29.02	27.00	0.0023	352236	396.23	382.29
J	OCT-2016	28.82	27.00	0.0021	328288	340.36	332.14
J1	002-yr	26.81	29.00	0.0023	29544	70.24	70.29
J1	010-yr	28.94	29.00	0.0025	234155	166.48	167.76
J1	025-yr	29.17	29.00	0.0026	300804	215.70	215.45
J1	050-yr	29.33	29.00	0.0023	347550	273.16	273.73
J1	100-yr	29.47	29.00	0.0022	394131	339.82	340.09
J1	OCT-2015	29.54	29.00	0.0016	399346	396.08	390.24
J1	OCT-2016	29.43	29.00	0.0020	388990	321.19	321.33
JB	002-yr	24.98	27.21	0.0005	420	3.68	3.68
JB	010-yr	25.28	27.21	0.0007	438	6.37	6.37
JB	025-yr	25.36	27.21	0.0007	439	7.16	7.16
JB	050-yr	25.47	27.21	0.0009	440	8.35	8.35
JB	100-yr	25.54	27.21	0.0009	439	9.03	9.03
JB	OCT-2015	25.55	27.21	0.0005	439	9.14	9.14
JB	OCT-2016	25.53	27.21	0.0004	439	8.95	8.95
K	002-yr	28.08	30.00	0.0022	127762	70.41	70.24
K	010-yr	29.07	30.00	0.0020	457207	167.56	166.48
K	025-yr	29.27	30.00	0.0018	499140	217.65	215.70
K	050-yr	29.43	30.00	0.0022	523038	275.33	273.16
K	100-yr	29.57	30.00	0.0017	539582	341.32	339.82
K	OCT-2015	29.65	30.00	0.0018	548719	410.79	396.08
K	OCT-2016	29.54	30.00	0.0015	536149	323.34	321.19
Pond A	002-yr	26.01	27.00	0.0014	30205	13.73	2.59
Pond A	010-yr	27.15	27.00	0.0029	35543	23.50	8.27
Pond A	025-yr	27.68	27.00	0.0031	38049	27.51	11.43
Pond A	050-yr	28.45	27.00	0.0028	41670	31.97	15.15
Pond A	100-yr	28.67	27.00	0.0028	42710	36.86	19.56
Pond A	OCT-2015	28.79	27.00	0.0016	43264	23.92	13.92
Pond A	OCT-2016	28.58	27.00	0.0012	42262	15.12	9.15
Pond B	002-yr	25.84	29.00	0.0007	81154	25.51	4.40
Pond B	010-yr	26.81	29.00	0.0015	82975	44.34	4.52
Pond B	025-yr	27.23	29.00	0.0019	83780	52.12	4.82
Pond B	050-yr	28.24	29.00	0.0019	85686	60.75	7.84
Pond B	100-yr	28.88	29.00	0.0022	86893	70.22	8.21
Pond B	OCT-2015	28.97	29.00	0.0014	87056	43.79	8.59
Pond B	OCT-2016	28.81	29.00	0.0008	86753	29.05	41.19
Pond C	002-yr	25.91	28.00	0.0023	18580	12.56	5.52
Pond C	010-yr	27.14	28.00	0.0028	19181	19.62	17.04
Pond C	025-yr	27.67	28.00	0.0025	19443	28.49	24.86
Pond C	050-yr	28.44	28.00	0.0025	19819	38.81	32.82
Pond C	100-yr	28.66	28.00	0.0021	19926	49.78	42.93
Pond C	OCT-2015	28.79	28.00	0.0028	19987	37.23	31.31
Pond C	OCT-2016	28.56	28.00	0.0015	19877	21.90	19.41

Highway 9  
Alternative 2 - Node Maximum Comparison Report

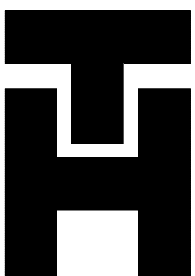
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
X2	002-yr	23.62	25.00	0.0031	9853	22.70	14.53
X2	010-yr	23.94	25.00	0.0018	10338	30.83	27.46
X2	025-yr	24.03	25.00	0.0016	10468	47.15	43.54
X2	050-yr	24.18	25.00	0.0016	10701	58.75	55.14
X2	100-yr	24.40	25.00	0.0017	11030	69.91	66.20
X2	OCT-2015	24.50	25.00	0.0026	11174	48.05	46.77
X2	OCT-2016	24.31	25.00	0.0042	10897	32.19	30.74
X3	002-yr	23.62	25.00	0.0031	504694	254.35	251.82
X3	010-yr	23.94	25.00	0.0018	596493	436.72	439.33
X3	025-yr	24.02	25.00	0.0016	609235	503.67	504.09
X3	050-yr	24.18	25.00	0.0016	655198	635.78	631.36
X3	100-yr	24.40	25.00	0.0017	697464	840.16	839.02
X3	OCT-2015	24.50	25.00	0.0027	720500	937.60	931.55
X3	OCT-2016	24.31	25.00	0.0042	670663	751.97	750.15
X5	002-yr	23.63	25.00	0.0009	65805	19.67	3.17
X5	010-yr	23.96	25.00	0.0014	69971	35.49	5.61
X5	025-yr	24.06	25.00	0.0013	71150	42.08	6.90
X5	050-yr	24.19	25.00	0.0015	72780	49.42	12.36
X5	100-yr	24.42	25.00	0.0016	75545	57.49	16.90
X5	OCT-2015	24.53	25.00	0.0013	76980	30.45	17.00
X5	OCT-2016	24.33	25.00	0.0010	74452	25.30	11.18
X6	002-yr	21.57	23.00	0.0005	192166	39.42	4.92
X6	010-yr	22.05	23.00	0.0007	208044	69.69	7.68
X6	025-yr	22.18	23.00	0.0008	212514	82.22	9.56
X6	050-yr	22.32	23.00	0.0011	217092	96.15	15.09
X6	100-yr	22.48	23.00	0.0013	222281	111.48	21.71
X6	OCT-2015	22.61	23.00	0.0006	226751	61.66	23.62
X6	OCT-2016	22.35	23.00	0.0004	218208	47.60	15.47
X7	002-yr	21.41	23.00	0.0023	690280	300.21	307.23
X7	010-yr	21.75	23.00	0.0017	778169	548.06	514.06
X7	025-yr	21.89	23.00	0.0016	811033	643.68	600.36
X7	050-yr	22.03	23.00	0.0016	844054	750.77	701.20
X7	100-yr	22.30	23.00	0.0017	910979	911.12	895.59
X7	OCT-2015	22.38	23.00	0.0029	929551	986.19	966.91
X7	OCT-2016	22.17	23.00	0.0038	879382	806.03	789.40

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 2A**

**J – 26146.0000**

Prepared by:



**THOMAS & HUTTON**

Savannah, GA | Charleston, SC | Myrtle Beach, SC | Brunswick, GA | Wilmington, NC

Highway 9  
Alternative 2A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.59	26.00	0.0030	85172	192.99	191.51
A1	010-yr	27.02	26.00	0.0027	118020	364.55	360.31
A1	025-yr	27.63	26.00	0.0030	150089	444.52	441.29
A1	050-yr	28.37	26.00	0.0027	191167	591.39	591.90
A1	100-yr	28.55	26.00	0.0027	196105	772.30	772.42
A1	OCT-2015	28.65	26.00	0.0027	196909	900.20	900.33
A1	OCT-2016	28.47	26.00	0.0032	195572	685.27	684.74
A2	002-yr	25.74	26.00	0.0031	38576	193.75	192.99
A2	010-yr	27.04	26.00	0.0028	51000	368.16	364.55
A2	025-yr	27.64	26.00	0.0026	102501	446.69	444.52
A2	050-yr	28.39	26.00	0.0025	143553	591.76	591.39
A2	100-yr	28.57	26.00	0.0019	145484	772.34	772.30
A2	OCT-2015	28.68	26.00	0.0039	146284	900.52	900.20
A2	OCT-2016	28.49	26.00	0.0030	144945	686.33	685.27
A3	002-yr	25.88	26.00	0.0030	11647	193.99	193.75
A3	010-yr	27.13	26.00	0.0026	18857	369.77	368.16
A3	025-yr	27.72	26.00	0.0026	24011	449.09	446.69
A3	050-yr	28.43	26.00	0.0024	27985	594.68	591.76
A3	100-yr	28.62	26.00	0.0020	28490	773.02	772.34
A3	OCT-2015	28.74	26.00	0.0030	28585	901.31	900.52
A3	OCT-2016	28.54	26.00	0.0030	28243	685.98	686.33
A_dn	002-yr	25.10	25.60	0.0034	21314	211.23	211.17
A_dn	010-yr	26.07	25.60	0.0022	27238	378.88	378.82
A_dn	025-yr	26.41	25.60	0.0024	28141	455.30	455.26
A_dn	050-yr	27.60	25.60	-0.0025	61437	611.43	612.89
A_dn	100-yr	27.78	25.60	-0.0025	64320	798.87	798.91
A_dn	OCT-2015	27.93	25.60	0.0034	67547	920.47	921.30
A_dn	OCT-2016	27.68	25.60	0.0035	63505	710.64	711.00
A_up	002-yr	25.32	26.11	0.0032	17620	208.77	208.69
A_up	010-yr	26.81	26.11	0.0039	26794	376.95	376.58
A_up	025-yr	27.51	26.11	0.0034	32787	446.93	453.85
A_up	050-yr	28.29	26.11	0.0034	45089	637.24	609.64
A_up	100-yr	28.43	26.11	0.0033	46103	796.54	796.54
A_up	OCT-2015	28.51	26.11	0.0031	46451	918.55	918.61
A_up	OCT-2016	28.37	26.11	0.0032	45839	707.77	707.79
B_dn	002-yr	25.32	24.00	0.0032	4055	16.92	15.82
B_dn	010-yr	26.81	24.00	0.0050	5091	23.00	24.79
B_dn	025-yr	27.51	24.00	0.0050	5570	24.56	31.12
B_dn	050-yr	28.30	24.00	-0.0049	6115	32.29	52.05
B_dn	100-yr	28.43	24.00	-0.0040	6211	50.41	48.97
B_dn	OCT-2015	28.51	24.00	-0.0047	6264	41.99	63.07
B_dn	OCT-2016	28.37	24.00	-0.0047	6168	24.21	48.53
B_up	002-yr	25.42	24.20	0.0031	8202	19.62	16.92
B_up	010-yr	26.91	24.20	0.0025	10715	24.59	23.00
B_up	025-yr	27.52	24.20	0.0028	11736	26.86	24.56
B_up	050-yr	28.30	24.20	0.0027	13058	32.90	32.29
B_up	100-yr	28.44	24.20	0.0028	13294	51.05	50.41
B_up	OCT-2015	28.51	24.20	0.0030	13423	42.74	41.99
B_up	OCT-2016	28.37	24.20	0.0031	13187	21.76	24.21
BNDRY	002-yr	19.11	23.00	0.0014	314059	333.63	0.00
BNDRY	010-yr	19.57	23.00	0.0035	338184	564.14	0.00
BNDRY	025-yr	19.73	23.00	0.0036	345990	665.64	0.00
BNDRY	050-yr	19.89	23.00	0.0028	356331	782.27	0.00
BNDRY	100-yr	20.13	23.00	0.0025	373431	933.27	0.00
BNDRY	OCT-2015	20.39	23.00	0.0021	393000	1002.36	0.00
BNDRY	OCT-2016	19.97	23.00	0.0014	360832	823.60	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.69	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.40	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.18	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	8.46	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	9.05	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.15	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	8.96	0.00
C_dn	002-yr	25.45	27.00	0.0024	6807	9.98	10.31
C_dn	010-yr	26.92	27.00	0.0024	9198	12.74	12.25
C_dn	025-yr	27.52	27.00	0.0028	10217	13.62	13.43
C_dn	050-yr	28.30	27.00	0.0026	11539	21.23	21.48
C_dn	100-yr	28.44	27.00	0.0027	11776	32.75	32.32
C_dn	OCT-2015	28.52	27.00	0.0027	11904	28.02	27.44
C_dn	OCT-2016	28.38	27.00	0.0017	11668	19.66	21.76
C_up	002-yr	25.48	27.00	0.0008	50022	17.85	9.98
C_up	010-yr	26.98	27.00	0.0023	86531	32.16	12.74
C_up	025-yr	27.52	27.00	0.0025	99990	38.15	13.62
C_up	050-yr	28.30	27.00	0.0024	119088	44.83	21.23
C_up	100-yr	28.44	27.00	0.0025	122565	52.19	32.75

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Alternative 2A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_up	OCT-2015	28.52	27.00	0.0015	124386	41.05	28.02
C_up	OCT-2016	28.38	27.00	0.0009	120965	22.84	19.66
D	002-yr	25.91	27.00	0.0022	2595	39.97	38.77
D	010-yr	27.17	27.00	-0.0050	3191	62.61	61.32
D	025-yr	27.75	27.00	-0.0050	3463	71.84	70.65
D	050-yr	28.45	27.00	0.0049	3796	82.06	80.50
D	100-yr	28.66	27.00	-0.0050	3895	93.25	91.98
D	OCT-2015	28.78	27.00	-0.0050	3952	56.40	75.66
D	OCT-2016	28.57	27.00	-0.0054	3850	37.71	71.40
E	002-yr	25.91	27.00	0.0038	18267	249.02	193.99
E	010-yr	27.17	27.00	0.0039	41322	390.91	369.77
E	025-yr	27.75	27.00	0.0037	45293	430.11	449.09
E	050-yr	28.45	27.00	0.0036	50479	552.03	594.68
E	100-yr	28.66	27.00	0.0029	57350	741.77	773.02
E	OCT-2015	28.78	27.00	0.0033	58304	871.58	901.31
E	OCT-2016	28.57	27.00	0.0039	54042	731.48	685.98
E1	002-yr	26.07	28.00	0.0030	15656	107.80	107.58
E1	010-yr	27.32	28.00	0.0024	71613	241.58	236.13
E1	025-yr	27.82	28.00	0.0025	87549	294.01	285.88
E1	050-yr	28.51	28.00	0.0024	96662	369.78	358.85
E1	100-yr	28.75	28.00	0.0020	100667	476.48	469.11
E1	OCT-2015	28.88	28.00	0.0030	105348	495.44	494.11
E1	OCT-2016	28.62	28.00	0.0031	99217	370.12	367.12
E2	002-yr	26.37	30.00	0.0029	25429	108.26	107.80
E2	010-yr	27.55	30.00	0.0024	105516	246.39	241.58
E2	025-yr	27.91	30.00	0.0023	118802	302.81	294.01
E2	050-yr	28.55	30.00	0.0022	131566	382.60	369.78
E2	100-yr	28.81	30.00	0.0017	138423	489.73	476.48
E2	OCT-2015	28.94	30.00	0.0029	140858	497.73	495.44
E2	OCT-2016	28.67	30.00	0.0030	136120	379.17	370.12
E3	002-yr	26.96	32.00	0.0030	8879	108.43	108.26
E3	010-yr	28.42	32.00	0.0023	25264	247.56	246.39
E3	025-yr	28.76	32.00	0.0019	29252	304.39	302.81
E3	050-yr	29.38	32.00	0.0017	33849	384.88	382.60
E3	100-yr	30.17	32.00	0.0019	51600	491.48	489.73
E3	OCT-2015	30.24	32.00	0.0027	52534	498.17	497.73
E3	OCT-2016	29.91	32.00	0.0025	47719	381.76	379.17
E4	002-yr	27.45	32.00	0.0024	5642	108.57	108.43
E4	010-yr	29.22	32.00	0.0022	7822	248.14	247.56
E4	025-yr	30.01	32.00	0.0023	22526	305.20	304.39
E4	050-yr	30.52	32.00	0.0028	27873	386.10	384.88
E4	100-yr	31.24	32.00	0.0029	46245	491.95	491.48
E4	OCT-2015	31.27	32.00	0.0024	47785	498.45	498.17
E4	OCT-2016	30.80	32.00	0.0022	32466	383.24	381.76
F	002-yr	25.91	27.00	0.0049	9784	74.43	117.90
F	010-yr	27.18	27.00	0.0050	76628	181.89	183.03
F	025-yr	27.76	27.00	-0.0050	84246	228.87	231.87
F	050-yr	28.46	27.00	-0.0050	92985	283.00	282.93
F	100-yr	28.68	27.00	-0.0050	99896	363.28	363.58
F	OCT-2015	28.80	27.00	0.0050	101883	393.11	396.09
F	OCT-2016	28.58	27.00	-0.0050	95681	349.17	351.88
F1	002-yr	25.92	27.00	0.0033	16163	70.79	70.98
F1	010-yr	27.25	27.00	0.0026	68114	172.60	177.40
F1	025-yr	27.84	27.00	0.0026	141538	213.58	222.21
F1	050-yr	28.49	27.00	0.0028	168146	267.31	276.18
F1	100-yr	28.71	27.00	0.0030	227802	346.29	354.51
F1	OCT-2015	28.84	27.00	0.0049	245355	378.45	389.08
F1	OCT-2016	28.61	27.00	0.0048	191588	329.86	337.44
G_dn	002-yr	25.92	27.00	0.0011	2487	4.72	4.37
G_dn	010-yr	27.25	27.00	0.0023	3827	8.43	6.84
G_dn	025-yr	27.84	27.00	0.0022	4425	9.85	7.92
G_dn	050-yr	28.49	27.00	0.0028	5091	11.47	9.66
G_dn	100-yr	28.71	27.00	0.0020	5322	13.25	11.42
G_dn	OCT-2015	28.84	27.00	0.0020	5451	8.38	7.37
G_dn	OCT-2016	28.61	27.00	-0.0010	5219	5.42	7.65
G_up	002-yr	28.54	27.66	0.0049	539	4.88	4.72
G_up	010-yr	28.67	27.66	0.0050	556	8.42	8.43
G_up	025-yr	28.70	27.66	0.0050	541	9.87	9.85
G_up	050-yr	28.74	27.66	0.0050	547	11.49	11.47
G_up	100-yr	28.77	27.66	0.0050	552	13.26	13.25
G_up	OCT-2015	28.84	27.66	0.0048	562	8.38	8.38
G_up	OCT-2016	28.62	27.66	0.0031	530	5.44	5.42
H	002-yr	26.02	27.59	0.0065	126	10.10	9.98
H	010-yr	27.56	27.59	0.0069	126	11.06	11.01

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Alternative 2A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
H	025-yr	28.26	27.59	0.0064	126	13.38	13.33
H	050-yr	28.64	27.59	0.0064	126	15.98	15.93
H	100-yr	28.96	27.59	0.0162	126	18.97	27.98
H	OCT-2015	29.07	27.59	0.0161	126	13.40	35.12
H	OCT-2016	28.77	27.59	-0.0130	126	38.41	7.10
HWY57_N	002-yr	28.94	32.00	0.0028	27027	68.85	68.87
HWY57_N	010-yr	29.77	32.00	0.0019	79585	164.70	164.06
HWY57_N	025-yr	30.35	32.00	-0.0025	113346	212.88	212.63
HWY57_N	050-yr	30.52	32.00	-0.0025	125253	269.24	268.90
HWY57_N	100-yr	30.67	32.00	0.0024	135019	333.56	333.37
HWY57_N	OCT-2015	30.76	32.00	-0.0028	140344	387.94	386.92
HWY57_N	OCT-2016	30.63	32.00	-0.0025	133010	314.36	313.80
HWY57_S	002-yr	28.56	32.00	0.0022	3720	108.69	108.57
HWY57_S	010-yr	30.71	32.00	0.0023	4696	248.77	248.14
HWY57_S	025-yr	31.81	32.00	0.0031	9428	305.48	305.20
HWY57_S	050-yr	32.36	32.00	0.0047	11911	386.46	386.10
HWY57_S	100-yr	33.09	32.00	0.0050	18895	492.06	491.95
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19406	498.61	498.45
HWY57_S	OCT-2016	32.34	32.00	-0.0043	11902	383.48	383.24
I	002-yr	26.02	27.00	0.0030	4082	9.98	6.98
I	010-yr	27.57	27.00	0.0031	6001	11.01	12.54
I	025-yr	28.27	27.00	0.0027	14109	13.33	13.22
I	050-yr	28.68	27.00	0.0026	20581	15.93	22.49
I	100-yr	28.91	27.00	0.0038	22060	27.98	33.64
I	OCT-2015	29.02	27.00	0.0040	22265	35.12	23.33
I	OCT-2016	28.83	27.00	0.0050	21481	7.10	15.30
J	002-yr	26.02	27.00	0.0026	18272	75.25	70.58
J	010-yr	27.57	27.00	0.0026	65009	179.99	173.81
J	025-yr	28.27	27.00	0.0024	204410	216.21	217.01
J	050-yr	28.68	27.00	0.0025	305402	269.11	272.63
J	100-yr	28.91	27.00	0.0022	345382	332.27	350.03
J	OCT-2015	29.02	27.00	0.0023	352462	393.90	383.71
J	OCT-2016	28.83	27.00	0.0021	329396	341.11	332.83
J1	002-yr	26.81	29.00	0.0023	29545	70.24	70.29
J1	010-yr	28.95	29.00	0.0025	235520	166.43	166.75
J1	025-yr	29.17	29.00	0.0025	301166	215.73	215.51
J1	050-yr	29.33	29.00	0.0023	349660	273.16	273.44
J1	100-yr	29.47	29.00	0.0022	394485	339.93	340.16
J1	OCT-2015	29.54	29.00	0.0016	399514	395.52	388.34
J1	OCT-2016	29.44	29.00	0.0020	389385	321.31	321.53
JB	002-yr	24.99	27.21	0.0005	420	3.69	3.69
JB	010-yr	25.29	27.21	0.0007	438	6.40	6.40
JB	025-yr	25.36	27.21	0.0007	439	7.18	7.18
JB	050-yr	25.48	27.21	0.0009	440	8.46	8.46
JB	100-yr	25.54	27.21	0.0009	439	9.05	9.05
JB	OCT-2015	25.55	27.21	0.0006	439	9.15	9.15
JB	OCT-2016	25.53	27.21	0.0004	439	8.96	8.96
K	002-yr	28.08	30.00	0.0021	127766	70.41	70.24
K	010-yr	29.08	30.00	0.0020	458070	167.47	166.43
K	025-yr	29.27	30.00	0.0018	499198	217.66	215.73
K	050-yr	29.43	30.00	0.0022	523467	275.35	273.16
K	100-yr	29.57	30.00	0.0017	539834	341.32	339.93
K	OCT-2015	29.65	30.00	0.0018	548924	410.81	395.52
K	OCT-2016	29.54	30.00	0.0015	536268	323.35	321.31
Pond A	002-yr	26.02	27.00	0.0014	30227	13.73	2.56
Pond A	010-yr	27.19	27.00	0.0027	35748	23.50	7.98
Pond A	025-yr	27.77	27.00	0.0030	38458	27.51	11.21
Pond A	050-yr	28.47	27.00	0.0028	41775	31.97	14.86
Pond A	100-yr	28.69	27.00	0.0028	42781	36.86	19.26
Pond A	OCT-2015	28.80	27.00	0.0017	43324	23.92	13.52
Pond A	OCT-2016	28.60	27.00	0.0012	42366	15.12	8.74
Pond B	002-yr	25.85	29.00	0.0007	81160	25.51	4.40
Pond B	010-yr	26.82	29.00	0.0014	83003	44.34	4.52
Pond B	025-yr	27.24	29.00	0.0018	83798	52.11	4.82
Pond B	050-yr	28.35	29.00	0.0019	85890	60.75	7.89
Pond B	100-yr	28.89	29.00	0.0022	86915	70.22	8.10
Pond B	OCT-2015	28.98	29.00	0.0009	87075	43.79	8.51
Pond B	OCT-2016	28.82	29.00	0.0008	86777	29.06	44.14
Pond C	002-yr	25.92	28.00	0.0023	18584	12.56	5.42
Pond C	010-yr	27.18	28.00	0.0028	19202	19.54	16.79
Pond C	025-yr	27.76	28.00	0.0025	19485	28.35	24.46
Pond C	050-yr	28.47	28.00	0.0025	19830	38.66	32.47
Pond C	100-yr	28.68	28.00	0.0021	19934	49.59	42.49
Pond C	OCT-2015	28.80	28.00	0.0028	19994	36.80	30.86
Pond C	OCT-2016	28.58	28.00	0.0018	19888	21.47	18.81

Highway 9  
Alternative 2A - Node Maximum Comparison Report

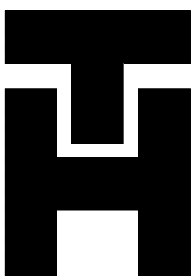
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
X2	002-yr	23.61	25.00	0.0032	9848	22.69	14.52
X2	010-yr	23.93	25.00	0.0020	10324	30.83	27.47
X2	025-yr	24.02	25.00	0.0016	10451	47.16	43.56
X2	050-yr	24.19	25.00	0.0016	10708	58.78	55.21
X2	100-yr	24.41	25.00	0.0017	11035	69.98	66.33
X2	OCT-2015	24.50	25.00	0.0025	11181	48.07	46.81
X2	OCT-2016	24.32	25.00	0.0042	10906	32.22	30.78
X3	002-yr	23.61	25.00	0.0032	503176	252.48	250.00
X3	010-yr	23.93	25.00	0.0020	595517	428.29	432.13
X3	025-yr	24.01	25.00	0.0016	608114	497.01	496.52
X3	050-yr	24.19	25.00	0.0016	655926	640.72	636.32
X3	100-yr	24.41	25.00	0.0017	698602	843.70	843.00
X3	OCT-2015	24.50	25.00	0.0026	721088	943.86	937.99
X3	OCT-2016	24.32	25.00	0.0043	671555	757.97	756.39
X5	002-yr	23.62	25.00	0.0009	65758	19.67	3.15
X5	010-yr	23.95	25.00	0.0014	69857	35.49	5.50
X5	025-yr	24.05	25.00	0.0013	71025	42.08	6.92
X5	050-yr	24.20	25.00	0.0015	72840	49.42	12.41
X5	100-yr	24.42	25.00	0.0016	75595	57.48	16.99
X5	OCT-2015	24.52	25.00	0.0014	76901	30.45	17.03
X5	OCT-2016	24.33	25.00	0.0010	74529	25.30	11.26
X6	002-yr	21.57	23.00	0.0005	192154	39.42	4.92
X6	010-yr	22.05	23.00	0.0007	207989	69.69	7.68
X6	025-yr	22.18	23.00	0.0008	212482	82.22	9.58
X6	050-yr	22.32	23.00	0.0011	217070	96.17	15.12
X6	100-yr	22.48	23.00	0.0013	222256	111.47	21.76
X6	OCT-2015	22.61	23.00	0.0006	226656	61.66	23.74
X6	OCT-2016	22.35	23.00	0.0004	218156	47.59	15.49
X7	002-yr	21.41	23.00	0.0023	689256	298.57	306.20
X7	010-yr	21.74	23.00	0.0017	775830	541.69	507.97
X7	025-yr	21.87	23.00	0.0016	807305	635.92	594.40
X7	050-yr	22.02	23.00	0.0016	841318	742.57	693.47
X7	100-yr	22.30	23.00	0.0017	911994	915.68	900.00
X7	OCT-2015	22.39	23.00	0.0029	931279	994.51	975.90
X7	OCT-2016	22.18	23.00	0.0038	880682	811.91	794.45

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 2B**

**J – 26146.0000**

Prepared by:



**THOMAS & HUTTON**

Savannah, GA | Charleston, SC | Myrtle Beach, SC | Brunswick, GA | Wilmington, NC



Highway 9  
Alternative 2B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.42	26.00	0.0030	82584	195.24	194.24
A1	010-yr	26.51	26.00	0.0031	110700	390.42	388.17
A1	025-yr	26.95	26.00	0.0030	115854	457.86	457.76
A1	050-yr	27.72	26.00	0.0031	153206	601.19	595.24
A1	100-yr	28.31	26.00	0.0026	186631	756.93	756.23
A1	OCT-2015	28.45	26.00	0.0027	195211	868.04	867.13
A1	OCT-2016	28.09	26.00	0.0032	166544	662.46	654.72
A2	002-yr	25.68	26.00	0.0039	36918	195.46	195.24
A2	010-yr	26.58	26.00	0.0041	47686	392.36	390.42
A2	025-yr	26.98	26.00	0.0030	50633	458.02	457.86
A2	050-yr	27.74	26.00	0.0026	114568	609.96	601.19
A2	100-yr	28.34	26.00	0.0019	142437	757.77	756.93
A2	OCT-2015	28.49	26.00	0.0037	144865	869.86	868.04
A2	OCT-2016	28.12	26.00	0.0030	137427	671.95	662.46
A3	002-yr	25.83	26.00	0.0030	11398	195.53	195.46
A3	010-yr	26.75	26.00	0.0030	15313	393.12	392.36
A3	025-yr	27.14	26.00	0.0028	18849	458.81	458.02
A3	050-yr	27.86	26.00	0.0025	25313	612.40	609.96
A3	100-yr	28.42	26.00	0.0022	27959	759.93	757.77
A3	OCT-2015	28.56	26.00	0.0030	28312	869.73	869.86
A3	OCT-2016	28.20	26.00	0.0029	27714	672.24	671.95
A_dn	002-yr	24.78	25.60	0.0033	15158	220.95	216.89
A_dn	010-yr	25.25	25.60	0.0031	16732	414.46	414.44
A_dn	025-yr	25.38	25.60	0.0024	17005	480.63	480.62
A_dn	050-yr	25.62	25.60	0.0027	17754	630.46	610.88
A_dn	100-yr	25.89	25.60	-0.0025	19060	781.04	781.03
A_dn	OCT-2015	26.03	25.60	0.0035	19538	882.35	882.32
A_dn	OCT-2016	25.73	25.60	0.0035	18235	675.54	675.52
A_up	002-yr	25.02	26.11	0.0033	17031	214.28	218.73
A_up	010-yr	26.02	26.11	0.0032	21632	411.96	411.90
A_up	025-yr	26.47	26.11	0.0036	23022	478.89	478.88
A_up	050-yr	27.50	26.11	0.0033	32768	626.08	628.44
A_up	100-yr	28.16	26.11	0.0031	44186	778.87	778.84
A_up	OCT-2015	28.28	26.11	0.0033	45568	881.04	881.01
A_up	OCT-2016	27.94	26.11	0.0031	40069	701.66	673.01
Alt1	002-yr	24.63	25.00	0.0032	72185	216.89	216.33
Alt1	010-yr	24.98	25.00	0.0032	83675	414.44	414.39
Alt1	025-yr	25.07	25.00	0.0024	86878	480.62	480.57
Alt1	050-yr	25.24	25.00	0.0017	94894	610.88	610.84
Alt1	100-yr	25.43	25.00	0.0017	103038	781.03	781.04
Alt1	OCT-2015	25.53	25.00	0.0037	106659	882.32	882.23
Alt1	OCT-2016	25.32	25.00	0.0043	98010	675.52	675.48
B_dn	002-yr	25.02	24.00	0.0030	3848	18.18	17.15
B_dn	010-yr	26.02	24.00	0.0034	4542	28.33	28.10
B_dn	025-yr	26.48	24.00	0.0038	4856	30.54	30.00
B_dn	050-yr	27.50	24.00	0.0050	5562	32.54	32.18
B_dn	100-yr	28.16	24.00	0.0046	6023	45.77	44.70
B_dn	OCT-2015	28.28	24.00	-0.0050	6104	31.07	48.63
B_dn	OCT-2016	27.94	24.00	0.0031	5871	21.32	41.57
B_up	002-yr	25.15	24.20	0.0030	7755	20.48	18.18
B_up	010-yr	26.23	24.20	0.0030	9569	28.96	28.33
B_up	025-yr	26.72	24.20	0.0030	10398	32.02	30.54
B_up	050-yr	27.51	24.20	0.0029	11721	34.69	32.54
B_up	100-yr	28.17	24.20	0.0029	12836	46.25	45.77
B_up	OCT-2015	28.28	24.20	0.0032	13030	33.33	31.07
B_up	OCT-2016	27.95	24.20	0.0030	12466	21.92	21.32
BNDRY	002-yr	19.11	23.00	0.0017	314381	335.36	0.00
BNDRY	010-yr	19.57	23.00	0.0044	339786	590.34	0.00
BNDRY	025-yr	19.73	23.00	0.0036	348341	697.05	0.00
BNDRY	050-yr	19.89	23.00	0.0036	358298	816.65	0.00
BNDRY	100-yr	20.13	23.00	0.0025	373826	943.42	0.00
BNDRY	OCT-2015	20.39	23.00	0.0021	392077	964.55	0.00
BNDRY	OCT-2016	19.97	23.00	0.0017	362887	792.81	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.64	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.20	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.07	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	7.64	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	8.87	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.01	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	8.53	0.00
C_dn	002-yr	25.20	27.00	0.0023	6396	11.05	10.97
C_dn	010-yr	26.25	27.00	0.0026	8078	18.18	18.08
C_dn	025-yr	26.74	27.00	0.0030	8890	18.26	17.55
C_dn	050-yr	27.51	27.00	0.0029	10202	21.28	21.20
C_dn	100-yr	28.17	27.00	0.0029	11317	30.19	29.97

Highway 9  
Alternative 2B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_dn	OCT-2015	28.28	27.00	0.0023	11511	20.43	19.55
C_dn	OCT-2016	27.95	27.00	0.0016	10948	15.78	17.38
C_up	002-yr	25.26	27.00	0.0010	44479	17.85	11.05
C_up	010-yr	26.36	27.00	0.0026	71399	32.16	18.18
C_up	025-yr	26.90	27.00	0.0030	84616	38.15	18.26
C_up	050-yr	27.52	27.00	0.0031	99826	44.83	21.28
C_up	100-yr	28.17	27.00	0.0031	115919	52.19	30.19
C_up	OCT-2015	28.29	27.00	0.0013	118676	41.05	20.43
C_up	OCT-2016	27.96	27.00	0.0010	110564	22.84	15.78
D	002-yr	25.87	27.00	0.0020	2576	39.97	38.86
D	010-yr	26.81	27.00	-0.0049	3019	62.61	61.19
D	025-yr	27.21	27.00	-0.0049	3207	71.84	70.74
D	050-yr	27.90	27.00	-0.0050	3535	82.06	80.48
D	100-yr	28.45	27.00	0.0050	3795	93.25	92.11
D	OCT-2015	28.61	27.00	0.0050	3870	56.40	55.90
D	OCT-2016	28.23	27.00	-0.0050	3692	37.71	56.21
E	002-yr	25.87	27.00	0.0037	18014	237.71	195.53
E	010-yr	26.81	27.00	0.0038	35086	415.28	393.12
E	025-yr	27.20	27.00	0.0039	41804	486.37	458.81
E	050-yr	27.90	27.00	0.0038	46136	606.02	612.40
E	100-yr	28.45	27.00	0.0032	50547	720.58	759.93
E	OCT-2015	28.61	27.00	0.0037	55271	897.29	869.73
E	OCT-2016	28.23	27.00	0.0037	48381	722.51	672.24
E1	002-yr	26.04	28.00	0.0029	15413	107.98	107.90
E1	010-yr	27.12	28.00	0.0027	69576	243.78	241.28
E1	025-yr	27.41	28.00	0.0025	74148	296.68	292.09
E1	050-yr	28.00	28.00	0.0026	90250	376.12	368.53
E1	100-yr	28.54	28.00	0.0022	97238	473.94	460.59
E1	OCT-2015	28.71	28.00	0.0030	100009	489.70	485.57
E1	OCT-2016	28.29	28.00	0.0031	93923	370.46	362.85
E2	002-yr	26.35	30.00	0.0030	25243	108.29	107.98
E2	010-yr	27.48	30.00	0.0026	103117	246.56	243.78
E2	025-yr	27.67	30.00	0.0024	110577	303.24	296.68
E2	050-yr	28.11	30.00	0.0023	122830	383.81	376.12
E2	100-yr	28.61	30.00	0.0019	135380	489.94	473.94
E2	OCT-2015	28.79	30.00	0.0029	138119	496.86	489.70
E2	OCT-2016	28.36	30.00	0.0029	128616	380.28	370.46
E3	002-yr	26.95	32.00	0.0029	8846	108.44	108.29
E3	010-yr	28.40	32.00	0.0027	24864	247.55	246.56
E3	025-yr	28.72	32.00	0.0021	28232	304.47	303.24
E3	050-yr	29.19	32.00	0.0019	31524	385.15	383.81
E3	100-yr	30.11	32.00	0.0021	50602	491.42	489.94
E3	OCT-2015	30.19	32.00	0.0033	51810	497.97	496.86
E3	OCT-2016	29.29	32.00	0.0027	33029	382.11	380.28
E4	002-yr	27.45	32.00	0.0028	5639	108.58	108.44
E4	010-yr	29.21	32.00	0.0025	7809	248.14	247.55
E4	025-yr	30.00	32.00	0.0024	22456	305.20	304.47
E4	050-yr	30.48	32.00	0.0028	27353	386.07	385.15
E4	100-yr	31.23	32.00	0.0029	45732	491.93	491.42
E4	OCT-2015	31.26	32.00	0.0031	47378	498.42	497.97
E4	OCT-2016	30.49	32.00	0.0027	27435	383.21	382.11
F	002-yr	25.87	27.00	-0.0050	8534	75.44	107.05
F	010-yr	26.82	27.00	-0.0050	63778	173.79	173.86
F	025-yr	27.22	27.00	-0.0050	78354	231.67	234.77
F	050-yr	27.92	27.00	-0.0050	84552	293.12	299.07
F	100-yr	28.47	27.00	-0.0049	93368	359.08	362.02
F	OCT-2015	28.63	27.00	0.0050	97954	392.08	396.70
F	OCT-2016	28.25	27.00	0.0050	90147	337.47	341.40
F1	002-yr	25.88	27.00	0.0032	15730	70.73	71.06
F1	010-yr	26.89	27.00	0.0029	36684	168.22	168.74
F1	025-yr	27.38	27.00	0.0026	90235	222.16	225.61
F1	050-yr	28.00	27.00	0.0028	147611	273.34	283.66
F1	100-yr	28.50	27.00	0.0030	172298	343.37	350.04
F1	OCT-2015	28.67	27.00	0.0049	211954	379.99	388.55
F1	OCT-2016	28.30	27.00	0.0048	155390	331.36	329.84
G_dn	002-yr	25.88	27.00	0.0010	2463	4.72	4.40
G_dn	010-yr	26.89	27.00	0.0026	3454	8.43	6.89
G_dn	025-yr	27.38	27.00	0.0028	3955	9.86	7.77
G_dn	050-yr	28.00	27.00	0.0029	4589	11.47	9.58
G_dn	100-yr	28.50	27.00	0.0022	5108	13.25	11.51
G_dn	OCT-2015	28.67	27.00	0.0022	5281	8.38	8.48
G_dn	OCT-2016	28.30	27.00	-0.0014	4897	5.42	9.74
G_up	002-yr	28.54	27.66	0.0050	539	4.88	4.72
G_up	010-yr	28.67	27.66	0.0050	557	8.42	8.43

Highway 9  
Alternative 2B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
G_up	025-yr	28.70	27.66	0.0050	541	9.87	9.86
G_up	050-yr	28.74	27.66	0.0048	547	11.49	11.47
G_up	100-yr	28.77	27.66	0.0050	552	13.26	13.25
G_up	OCT-2015	28.69	27.66	0.0048	541	8.38	8.38
G_up	OCT-2016	28.58	27.66	0.0031	524	5.44	5.42
H	002-yr	25.99	27.59	-0.0063	126	10.23	10.11
H	010-yr	27.17	27.59	0.0068	126	11.08	10.98
H	025-yr	28.16	27.59	0.0069	126	13.43	13.37
H	050-yr	28.45	27.59	0.0064	126	16.06	16.00
H	100-yr	28.79	27.59	0.0087	126	19.09	19.04
H	OCT-2015	28.94	27.59	0.0073	126	13.71	18.34
H	OCT-2016	28.62	27.59	-0.0065	126	7.22	7.15
HWY57_N	002-yr	28.94	32.00	-0.0032	27024	68.85	68.88
HWY57_N	010-yr	29.74	32.00	-0.0030	78045	164.70	164.14
HWY57_N	025-yr	30.35	32.00	0.0024	113296	212.88	212.56
HWY57_N	050-yr	30.51	32.00	0.0029	124830	269.24	268.94
HWY57_N	100-yr	30.66	32.00	0.0031	134647	333.56	333.35
HWY57_N	OCT-2015	30.76	32.00	-0.0028	140321	387.94	386.83
HWY57_N	OCT-2016	30.63	32.00	0.0021	132673	314.36	313.71
HWY57_S	002-yr	28.56	32.00	0.0025	3719	108.69	108.58
HWY57_S	010-yr	30.70	32.00	0.0025	4692	248.76	248.14
HWY57_S	025-yr	31.81	32.00	0.0034	9417	305.48	305.20
HWY57_S	050-yr	32.37	32.00	0.0050	11830	386.46	386.07
HWY57_S	100-yr	33.08	32.00	0.0050	18772	492.06	491.93
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19309	498.61	498.42
HWY57_S	OCT-2016	32.35	32.00	0.0033	11781	383.48	383.21
I	002-yr	25.98	27.00	0.0030	4057	10.11	11.01
I	010-yr	27.17	27.00	-0.0037	5464	10.98	23.85
I	025-yr	28.17	27.00	-0.0036	13146	13.37	26.91
I	050-yr	28.45	27.00	0.0047	16886	16.00	35.49
I	100-yr	28.77	27.00	-0.0037	21114	19.04	36.10
I	OCT-2015	28.91	27.00	0.0045	22107	18.34	18.87
I	OCT-2016	28.64	27.00	0.0050	19632	7.15	26.53
J	002-yr	25.98	27.00	0.0027	18138	74.67	70.52
J	010-yr	27.17	27.00	0.0030	32851	176.66	167.45
J	025-yr	28.17	27.00	0.0026	180129	226.84	224.04
J	050-yr	28.45	27.00	0.0026	248518	274.15	277.30
J	100-yr	28.77	27.00	0.0023	320134	336.22	346.33
J	OCT-2015	28.91	27.00	0.0022	343380	404.50	383.01
J	OCT-2016	28.64	27.00	0.0023	295569	326.99	324.62
J1	002-yr	26.81	29.00	0.0023	29543	70.23	70.28
J1	010-yr	28.90	29.00	0.0030	221058	165.13	165.39
J1	025-yr	29.17	29.00	0.0029	299300	215.14	214.85
J1	050-yr	29.30	29.00	0.0024	332582	273.35	272.91
J1	100-yr	29.45	29.00	0.0023	391396	339.23	338.92
J1	OCT-2015	29.52	29.00	0.0017	396555	397.02	395.86
J1	OCT-2016	29.42	29.00	0.0020	382348	320.23	320.03
JB	002-yr	24.98	27.21	0.0005	419	3.64	3.64
JB	010-yr	25.27	27.21	0.0007	437	6.20	6.20
JB	025-yr	25.35	27.21	0.0007	439	7.07	7.07
JB	050-yr	25.41	27.21	0.0009	440	7.64	7.64
JB	100-yr	25.52	27.21	0.0009	439	8.87	8.87
JB	OCT-2015	25.53	27.21	0.0006	439	9.01	9.01
JB	OCT-2016	25.49	27.21	0.0004	440	8.53	8.53
K	002-yr	28.08	30.00	0.0024	127756	70.41	70.23
K	010-yr	29.05	30.00	0.0024	449674	167.67	165.13
K	025-yr	29.27	30.00	0.0027	499161	217.54	215.14
K	050-yr	29.41	30.00	0.0022	520335	275.39	273.35
K	100-yr	29.56	30.00	0.0016	538137	341.31	339.23
K	OCT-2015	29.64	30.00	0.0018	548163	410.84	397.02
K	OCT-2016	29.52	30.00	0.0015	534956	323.25	320.23
Pond A	002-yr	25.99	27.00	0.0015	30093	13.73	2.67
Pond A	010-yr	26.84	27.00	0.0027	34080	23.50	8.86
Pond A	025-yr	27.23	27.00	0.0031	35935	27.51	12.08
Pond A	050-yr	27.93	27.00	0.0028	39215	31.97	15.89
Pond A	100-yr	28.48	27.00	0.0029	41804	36.86	20.40
Pond A	OCT-2015	28.63	27.00	0.0017	42504	23.92	15.96
Pond A	OCT-2016	28.26	27.00	0.0014	40793	15.12	9.26
Pond B	002-yr	25.83	29.00	0.0007	81125	25.51	4.47
Pond B	010-yr	26.73	29.00	0.0015	82838	44.35	4.66
Pond B	025-yr	27.17	29.00	0.0019	83659	52.11	4.63
Pond B	050-yr	27.61	29.00	0.0021	84486	60.74	5.57
Pond B	100-yr	28.75	29.00	0.0022	86642	70.22	8.22
Pond B	OCT-2015	28.86	29.00	0.0014	86849	43.79	9.18
Pond B	OCT-2016	28.43	29.00	0.0008	86034	29.06	8.52

Highway 9  
Alternative 2B - Node Maximum Comparison Report

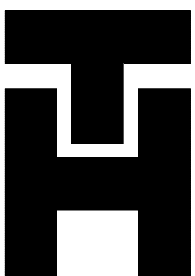
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
Pond C	002-yr	25.88	28.00	0.0027	18564	12.59	5.72
Pond C	010-yr	26.82	28.00	0.0029	19027	20.22	18.39
Pond C	025-yr	27.22	28.00	0.0027	19222	28.69	25.90
Pond C	050-yr	27.92	28.00	0.0027	19564	38.94	33.94
Pond C	100-yr	28.47	28.00	0.0023	19832	50.06	44.04
Pond C	OCT-2015	28.63	28.00	0.0028	19909	39.38	34.46
Pond C	OCT-2016	28.25	28.00	0.0016	19725	21.98	19.64
X2	002-yr	23.63	25.00	0.0031	9868	22.91	14.54
X2	010-yr	23.97	25.00	0.0021	10383	31.29	28.46
X2	025-yr	24.06	25.00	0.0016	10517	47.78	44.48
X2	050-yr	24.18	25.00	0.0016	10689	59.36	55.83
X2	100-yr	24.37	25.00	0.0017	10986	70.33	66.39
X2	OCT-2015	24.46	25.00	0.0026	11122	47.71	46.40
X2	OCT-2016	24.27	25.00	0.0042	10837	32.05	30.52
X3	002-yr	23.63	25.00	0.0031	495110	260.27	255.94
X3	010-yr	23.97	25.00	0.0021	578831	456.76	462.44
X3	025-yr	24.06	25.00	0.0017	590252	532.51	533.03
X3	050-yr	24.18	25.00	0.0016	623283	641.31	638.77
X3	100-yr	24.37	25.00	0.0017	655738	819.92	816.69
X3	OCT-2015	24.46	25.00	0.0027	679049	898.43	892.03
X3	OCT-2016	24.27	25.00	0.0041	632728	718.21	718.12
X5	002-yr	23.64	25.00	0.0010	65923	19.67	3.58
X5	010-yr	23.99	25.00	0.0018	70328	35.49	5.09
X5	025-yr	24.09	25.00	0.0019	71543	42.08	7.62
X5	050-yr	24.21	25.00	0.0015	72998	49.41	12.95
X5	100-yr	24.39	25.00	0.0016	75179	57.50	17.20
X5	OCT-2015	24.54	25.00	0.0014	77120	30.45	16.67
X5	OCT-2016	24.29	25.00	0.0010	73985	25.30	11.10
X6	002-yr	21.57	23.00	0.0005	192163	39.42	4.92
X6	010-yr	22.05	23.00	0.0008	208294	69.68	7.69
X6	025-yr	22.19	23.00	0.0009	212639	82.21	9.51
X6	050-yr	22.32	23.00	0.0011	217177	96.15	15.01
X6	100-yr	22.48	23.00	0.0013	222360	111.48	21.60
X6	OCT-2015	22.63	23.00	0.0007	227193	61.66	23.61
X6	OCT-2016	22.36	23.00	0.0004	218504	47.59	15.79
X7	002-yr	21.41	23.00	0.0023	691786	303.53	307.94
X7	010-yr	21.80	23.00	0.0016	787209	568.92	536.12
X7	025-yr	21.94	23.00	0.0016	824996	670.74	629.96
X7	050-yr	22.08	23.00	0.0016	858102	781.61	731.17
X7	100-yr	22.27	23.00	0.0017	904240	896.63	876.78
X7	OCT-2015	22.33	23.00	0.0028	919611	940.25	925.13
X7	OCT-2016	22.13	23.00	0.0037	872836	775.06	764.28

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 2C**

**J – 26146.0000**

Prepared by:



**THOMAS & HUTTON**

Savannah, GA | Charleston, SC | Myrtle Beach, SC | Brunswick, GA | Wilmington, NC

Highway 9  
Alternative 2C - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.23	26.00	0.0038	72374	194.42	194.04
A1	010-yr	26.27	26.00	0.0032	106845	396.27	394.16
A1	025-yr	26.73	26.00	0.0030	113363	467.12	466.48
A1	050-yr	27.57	26.00	0.0027	148946	598.77	589.79
A1	100-yr	28.26	26.00	0.0029	181211	754.99	754.13
A1	OCT-2015	28.39	26.00	0.0031	191958	865.27	864.40
A1	OCT-2016	28.01	26.00	0.0031	165156	657.84	648.29
A2	002-yr	25.50	26.00	0.0040	31492	194.69	194.42
A2	010-yr	26.38	26.00	0.0036	46572	397.66	396.27
A2	025-yr	26.78	26.00	0.0043	49546	467.70	467.12
A2	050-yr	27.60	26.00	0.0030	98146	605.77	598.77
A2	100-yr	28.29	26.00	0.0027	141154	756.31	754.99
A2	OCT-2015	28.43	26.00	0.0042	143909	867.05	865.27
A2	OCT-2016	28.03	26.00	0.0030	136103	669.82	657.84
A3	002-yr	25.63	26.00	0.0037	10460	194.81	194.69
A3	010-yr	26.55	26.00	0.0037	14269	398.30	397.66
A3	025-yr	26.93	26.00	0.0036	16622	468.10	467.70
A3	050-yr	27.73	26.00	0.0033	23567	608.32	605.77
A3	100-yr	28.36	26.00	0.0033	27910	758.42	756.31
A3	OCT-2015	28.50	26.00	0.0032	28177	866.87	867.05
A3	OCT-2016	28.12	26.00	0.0029	27546	670.69	669.82
A_dn	002-yr	24.78	25.60	0.0038	15166	216.68	216.64
A_dn	010-yr	25.27	25.60	0.0036	16778	420.74	420.71
A_dn	025-yr	25.40	25.60	0.0029	17067	489.94	489.93
A_dn	050-yr	25.61	25.60	-0.0027	17601	630.51	605.94
A_dn	100-yr	25.89	25.60	-0.0023	19047	778.48	778.47
A_dn	OCT-2015	26.03	25.60	0.0036	19523	878.89	878.84
A_dn	OCT-2016	25.72	25.60	0.0034	18178	668.82	668.82
A_up	002-yr	25.03	26.11	0.0038	16703	213.96	213.91
A_up	010-yr	26.05	26.11	0.0033	22061	418.21	418.10
A_up	025-yr	26.53	26.11	0.0030	23674	488.23	488.16
A_up	050-yr	27.45	26.11	0.0032	33003	619.68	628.99
A_up	100-yr	28.16	26.11	0.0031	43499	776.33	776.31
A_up	OCT-2015	28.27	26.11	0.0032	45153	877.66	877.61
A_up	OCT-2016	27.91	26.11	0.0031	39719	694.00	666.51
Alt1	002-yr	24.63	25.00	0.0037	72210	216.64	216.54
Alt1	010-yr	24.99	25.00	0.0031	83960	420.71	420.65
Alt1	025-yr	25.09	25.00	0.0028	87249	489.93	489.88
Alt1	050-yr	25.24	25.00	0.0025	93956	605.94	605.91
Alt1	100-yr	25.43	25.00	0.0022	102959	778.47	778.49
Alt1	OCT-2015	25.53	25.00	0.0035	106546	878.84	878.68
Alt1	OCT-2016	25.31	25.00	0.0050	97647	668.82	668.76
B_dn	002-yr	25.03	24.00	0.0035	3855	17.95	17.54
B_dn	010-yr	26.05	24.00	0.0033	4563	28.44	28.13
B_dn	025-yr	26.53	24.00	0.0030	4892	30.47	29.96
B_dn	050-yr	27.45	24.00	0.0050	5527	31.97	31.77
B_dn	100-yr	28.16	24.00	0.0049	6020	47.31	46.28
B_dn	OCT-2015	28.27	24.00	-0.0048	6101	33.78	48.42
B_dn	OCT-2016	27.91	24.00	0.0046	5852	20.85	43.83
B_up	002-yr	25.17	24.20	0.0035	7784	19.47	17.95
B_up	010-yr	26.26	24.20	0.0033	9623	29.15	28.44
B_up	025-yr	26.78	24.20	0.0034	10497	31.65	30.47
B_up	050-yr	27.46	24.20	0.0029	11641	34.12	31.97
B_up	100-yr	28.16	24.20	0.0029	12827	47.76	47.31
B_up	OCT-2015	28.28	24.20	0.0034	13023	35.17	33.78
B_up	OCT-2016	27.92	24.20	0.0031	12419	21.64	20.85
BNDRY	002-yr	19.11	23.00	0.0021	314726	339.88	0.00
BNDRY	010-yr	19.57	23.00	0.0055	340222	597.45	0.00
BNDRY	025-yr	19.73	23.00	0.0036	349023	706.51	0.00
BNDRY	050-yr	19.89	23.00	0.0036	358840	826.76	0.00
BNDRY	100-yr	20.13	23.00	0.0025	373630	955.47	0.00
BNDRY	OCT-2015	20.39	23.00	0.0021	391678	960.96	0.00
BNDRY	OCT-2016	19.97	23.00	0.0018	362900	786.26	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.36	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.06	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	6.93	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	7.55	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	8.83	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	8.96	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	8.30	0.00
C_dn	002-yr	25.22	27.00	0.0029	6425	10.86	10.96
C_dn	010-yr	26.28	27.00	0.0029	8128	18.04	17.98
C_dn	025-yr	26.79	27.00	0.0028	8988	18.07	17.32
C_dn	050-yr	27.46	27.00	0.0029	10122	21.64	21.65
C_dn	100-yr	28.16	27.00	0.0029	11309	31.19	30.98

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Alternative 2C - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_dn	OCT-2015	28.28	27.00	0.0029	11503	20.71	19.70
C_dn	OCT-2016	27.92	27.00	0.0020	10900	16.38	16.69
C_up	002-yr	25.28	27.00	0.0010	44966	17.85	10.86
C_up	010-yr	26.39	27.00	0.0030	72100	32.16	18.04
C_up	025-yr	26.95	27.00	0.0028	85899	38.14	18.07
C_up	050-yr	27.47	27.00	0.0031	98689	44.83	21.64
C_up	100-yr	28.17	27.00	0.0031	115796	52.19	31.19
C_up	OCT-2015	28.28	27.00	0.0015	118566	41.05	20.71
C_up	OCT-2016	27.93	27.00	0.0010	109871	22.84	16.38
D	002-yr	25.67	27.00	0.0022	2483	39.97	39.11
D	010-yr	26.62	27.00	-0.0049	2929	62.61	60.71
D	025-yr	27.01	27.00	-0.0050	3113	71.84	70.44
D	050-yr	27.77	27.00	-0.0050	3474	82.06	80.16
D	100-yr	28.40	27.00	-0.0050	3769	93.25	91.61
D	OCT-2015	28.55	27.00	-0.0048	3843	56.40	55.60
D	OCT-2016	28.15	27.00	-0.0050	3655	37.70	53.62
E	002-yr	25.67	27.00	0.0036	17263	248.83	194.81
E	010-yr	26.62	27.00	0.0039	32864	421.52	398.30
E	025-yr	27.01	27.00	0.0033	39938	493.68	468.10
E	050-yr	27.77	27.00	0.0033	45517	591.80	608.32
E	100-yr	28.40	27.00	0.0037	50029	773.57	758.42
E	OCT-2015	28.55	27.00	0.0036	53587	893.28	866.87
E	OCT-2016	28.15	27.00	0.0039	47536	718.23	670.69
E1	002-yr	25.87	28.00	0.0034	14173	107.90	107.79
E1	010-yr	27.04	28.00	0.0030	68837	243.88	242.20
E1	025-yr	27.28	28.00	0.0032	71612	298.57	294.19
E1	050-yr	27.89	28.00	0.0028	88679	377.65	370.81
E1	100-yr	28.49	28.00	0.0027	96270	473.76	459.88
E1	OCT-2015	28.66	28.00	0.0029	99380	488.10	482.99
E1	OCT-2016	28.22	28.00	0.0029	92991	369.57	360.80
E2	002-yr	26.25	30.00	0.0027	24262	108.29	107.90
E2	010-yr	27.45	30.00	0.0030	102264	246.59	243.88
E2	025-yr	27.62	30.00	0.0028	108207	303.46	298.57
E2	050-yr	28.03	30.00	0.0024	120938	384.13	377.65
E2	100-yr	28.56	30.00	0.0022	134636	489.71	473.76
E2	OCT-2015	28.74	30.00	0.0028	137458	496.87	488.10
E2	OCT-2016	28.29	30.00	0.0028	127394	380.27	369.57
E3	002-yr	26.90	32.00	0.0036	8665	108.44	108.29
E3	010-yr	28.39	32.00	0.0026	24614	247.57	246.59
E3	025-yr	28.71	32.00	0.0026	27924	304.50	303.46
E3	050-yr	29.15	32.00	0.0020	31161	385.22	384.13
E3	100-yr	30.09	32.00	0.0026	50353	491.19	489.71
E3	OCT-2015	30.17	32.00	0.0035	51575	497.97	496.87
E3	OCT-2016	29.25	32.00	0.0030	32637	382.15	380.27
E4	002-yr	27.42	32.00	0.0025	5621	108.58	108.44
E4	010-yr	29.21	32.00	0.0029	7802	248.14	247.57
E4	025-yr	30.00	32.00	0.0026	22433	305.19	304.50
E4	050-yr	30.47	32.00	0.0029	27250	386.07	385.22
E4	100-yr	31.23	32.00	0.0030	45598	491.87	491.19
E4	OCT-2015	31.26	32.00	0.0032	47244	498.42	497.97
E4	OCT-2016	30.47	32.00	0.0030	27257	383.20	382.15
F	002-yr	25.67	27.00	0.0047	7990	75.48	108.25
F	010-yr	26.63	27.00	0.0050	51998	171.95	172.08
F	025-yr	27.03	27.00	0.0045	73142	241.17	241.52
F	050-yr	27.79	27.00	-0.0049	84303	292.94	299.87
F	100-yr	28.41	27.00	-0.0049	92454	356.61	362.01
F	OCT-2015	28.57	27.00	0.0050	95695	386.99	392.91
F	OCT-2016	28.17	27.00	-0.0050	88434	338.50	341.93
F1	002-yr	25.69	27.00	0.0036	15019	71.69	72.06
F1	010-yr	26.72	27.00	0.0031	30312	166.53	167.31
F1	025-yr	27.19	27.00	0.0033	61289	235.48	237.19
F1	050-yr	27.90	27.00	0.0029	146681	272.59	282.87
F1	100-yr	28.45	27.00	0.0030	164021	341.77	347.74
F1	OCT-2015	28.61	27.00	0.0050	192385	387.19	382.99
F1	OCT-2016	28.23	27.00	0.0047	152318	320.73	328.38
G_dn	002-yr	25.69	27.00	0.0010	2292	4.72	4.49
G_dn	010-yr	26.72	27.00	0.0025	3280	8.42	7.41
G_dn	025-yr	27.19	27.00	0.0026	3759	9.88	8.30
G_dn	050-yr	27.90	27.00	0.0027	4488	11.46	9.34
G_dn	100-yr	28.45	27.00	0.0028	5055	13.25	11.27
G_dn	OCT-2015	28.62	27.00	0.0018	5223	8.38	8.09
G_dn	OCT-2016	28.23	27.00	0.0020	4829	5.38	9.49
G_up	002-yr	28.54	27.66	0.0050	539	4.88	4.72
G_up	010-yr	28.68	27.66	0.0050	559	8.42	8.42

Highway 9  
Alternative 2C - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
G_up	025-yr	28.70	27.66	0.0050	559	9.87	9.88
G_up	050-yr	28.73	27.66	0.0050	546	11.49	11.46
G_up	100-yr	28.77	27.66	0.0050	552	13.26	13.25
G_up	OCT-2015	28.69	27.66	0.0050	540	8.38	8.38
G_up	OCT-2016	28.57	27.66	0.0034	522	5.44	5.38
H	002-yr	25.82	27.59	-0.0066	126	10.67	10.56
H	010-yr	27.02	27.59	0.0064	126	12.56	12.44
H	025-yr	27.97	27.59	0.0070	126	13.79	13.74
H	050-yr	28.43	27.59	-0.0068	126	16.33	16.28
H	100-yr	28.75	27.59	0.0068	126	19.27	19.23
H	OCT-2015	28.77	27.59	-0.0100	126	34.13	13.61
H	OCT-2016	28.59	27.59	0.0064	126	7.27	7.21
HWY57_N	002-yr	28.95	32.00	0.0030	27007	68.85	68.88
HWY57_N	010-yr	29.74	32.00	-0.0030	77491	164.70	163.97
HWY57_N	025-yr	30.35	32.00	-0.0031	112745	212.88	212.45
HWY57_N	050-yr	30.51	32.00	0.0030	124831	269.24	268.92
HWY57_N	100-yr	30.66	32.00	-0.0032	134616	333.56	333.35
HWY57_N	OCT-2015	30.76	32.00	-0.0034	140317	387.94	386.78
HWY57_N	OCT-2016	30.62	32.00	0.0021	132605	314.36	313.77
HWY57_S	002-yr	28.55	32.00	0.0024	3713	108.69	108.58
HWY57_S	010-yr	30.70	32.00	0.0030	4691	248.77	248.14
HWY57_S	025-yr	31.81	32.00	0.0043	9413	305.48	305.19
HWY57_S	050-yr	32.38	32.00	0.0050	11814	386.46	386.07
HWY57_S	100-yr	33.08	32.00	0.0050	18735	492.06	491.87
HWY57_S	OCT-2015	33.12	32.00	0.0050	19277	498.61	498.42
HWY57_S	OCT-2016	32.36	32.00	0.0031	11753	383.48	383.20
I	002-yr	25.81	27.00	0.0032	3953	10.56	8.33
I	010-yr	27.02	27.00	-0.0049	5223	12.44	26.90
I	025-yr	27.98	27.00	0.0049	10367	13.74	28.84
I	050-yr	28.43	27.00	-0.0036	16723	16.28	29.51
I	100-yr	28.73	27.00	0.0039	20797	19.23	33.85
I	OCT-2015	28.88	27.00	0.0043	21716	13.61	37.76
I	OCT-2016	28.60	27.00	0.0050	18234	7.21	20.06
J	002-yr	25.81	27.00	0.0022	17564	74.46	71.47
J	010-yr	27.02	27.00	0.0031	29840	173.52	166.11
J	025-yr	27.98	27.00	0.0030	134295	239.66	237.28
J	050-yr	28.43	27.00	0.0027	246211	273.71	276.12
J	100-yr	28.73	27.00	0.0027	313680	339.55	344.56
J	OCT-2015	28.88	27.00	0.0022	333640	411.39	385.44
J	OCT-2016	28.60	27.00	0.0021	274651	325.97	324.49
J1	002-yr	26.72	29.00	0.0023	28946	70.25	70.29
J1	010-yr	28.88	29.00	0.0030	212181	164.30	164.19
J1	025-yr	29.16	29.00	0.0030	291630	213.67	223.60
J1	050-yr	29.30	29.00	0.0026	332454	273.20	272.78
J1	100-yr	29.45	29.00	0.0028	390265	339.38	339.05
J1	OCT-2015	29.52	29.00	0.0022	395742	396.31	396.28
J1	OCT-2016	29.41	29.00	0.0020	378257	320.75	320.46
JB	002-yr	24.94	27.21	0.0005	416	3.36	3.36
JB	010-yr	25.25	27.21	0.0007	437	6.06	6.06
JB	025-yr	25.34	27.21	0.0008	439	6.93	6.93
JB	050-yr	25.40	27.21	0.0008	440	7.55	7.55
JB	100-yr	25.52	27.21	0.0009	439	8.83	8.83
JB	OCT-2015	25.53	27.21	0.0006	439	8.96	8.96
JB	OCT-2016	25.47	27.21	0.0004	440	8.30	8.30
K	002-yr	28.07	30.00	0.0030	125643	70.41	70.25
K	010-yr	29.03	30.00	0.0024	445373	167.48	164.30
K	025-yr	29.26	30.00	0.0029	497083	217.44	213.67
K	050-yr	29.41	30.00	0.0028	520384	275.37	273.20
K	100-yr	29.56	30.00	0.0020	537963	341.31	339.38
K	OCT-2015	29.64	30.00	0.0018	548207	410.80	396.31
K	OCT-2016	29.52	30.00	0.0016	534491	323.32	320.75
Pond A	002-yr	25.84	27.00	0.0014	29399	13.73	2.48
Pond A	010-yr	26.65	27.00	0.0025	33211	23.50	7.84
Pond A	025-yr	27.04	27.00	0.0030	35041	27.51	12.19
Pond A	050-yr	27.80	27.00	0.0030	38617	31.97	16.10
Pond A	100-yr	28.42	27.00	0.0030	41551	36.86	20.47
Pond A	OCT-2015	28.57	27.00	0.0016	42238	23.92	16.67
Pond A	OCT-2016	28.18	27.00	0.0014	40423	15.12	9.40
Pond B	002-yr	25.75	29.00	0.0007	80973	25.51	4.72
Pond B	010-yr	26.67	29.00	0.0016	82721	44.34	5.09
Pond B	025-yr	27.09	29.00	0.0020	83503	52.11	4.99
Pond B	050-yr	27.57	29.00	0.0022	84410	60.75	5.79
Pond B	100-yr	28.71	29.00	0.0025	86574	70.22	10.19
Pond B	OCT-2015	28.82	29.00	0.0014	86780	43.79	41.01
Pond B	OCT-2016	28.19	29.00	0.0008	85586	29.05	8.19



Highway 9  
Alternative 2C - Node Maximum Comparison Report

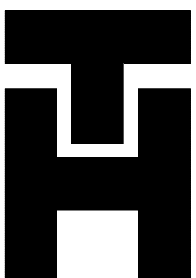
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
Pond C	002-yr	25.73	28.00	0.0022	18490	12.71	6.11
Pond C	010-yr	26.64	28.00	0.0031	18934	22.57	18.16
Pond C	025-yr	27.03	28.00	0.0032	19128	27.13	25.90
Pond C	050-yr	27.79	28.00	0.0031	19501	37.98	34.26
Pond C	100-yr	28.42	28.00	0.0030	19806	49.27	43.71
Pond C	OCT-2015	28.57	28.00	0.0027	19881	40.06	34.78
Pond C	OCT-2016	28.17	28.00	0.0019	19688	21.91	19.82
X2	002-yr	23.63	25.00	0.0038	9869	23.12	14.71
X2	010-yr	23.98	25.00	0.0028	10397	30.59	27.34
X2	025-yr	24.07	25.00	0.0021	10535	47.28	43.58
X2	050-yr	24.18	25.00	0.0020	10691	58.96	55.45
X2	100-yr	24.37	25.00	0.0019	10980	70.20	66.44
X2	OCT-2015	24.46	25.00	0.0027	11115	47.22	46.00
X2	OCT-2016	24.27	25.00	0.0043	10824	31.88	30.33
X3	002-yr	23.63	25.00	0.0037	495742	259.32	257.50
X3	010-yr	23.98	25.00	0.0027	580564	463.85	469.61
X3	025-yr	24.07	25.00	0.0022	591614	546.63	542.94
X3	050-yr	24.17	25.00	0.0020	616752	640.59	636.37
X3	100-yr	24.37	25.00	0.0018	653632	816.58	813.32
X3	OCT-2015	24.46	25.00	0.0028	677433	893.71	886.95
X3	OCT-2016	24.27	25.00	0.0043	631835	709.78	710.62
X5	002-yr	23.64	25.00	0.0011	65934	19.67	3.39
X5	010-yr	24.00	25.00	0.0018	70438	35.49	5.18
X5	025-yr	24.10	25.00	0.0019	71688	42.07	6.93
X5	050-yr	24.22	25.00	0.0017	73152	49.42	12.59
X5	100-yr	24.39	25.00	0.0016	75297	57.48	17.14
X5	OCT-2015	24.55	25.00	0.0015	77175	30.45	16.34
X5	OCT-2016	24.28	25.00	0.0012	73890	25.30	10.81
X6	002-yr	21.57	23.00	0.0006	192260	39.42	4.91
X6	010-yr	22.06	23.00	0.0008	208394	69.68	7.66
X6	025-yr	22.19	23.00	0.0010	212714	82.22	9.41
X6	050-yr	22.33	23.00	0.0011	217253	96.16	14.92
X6	100-yr	22.48	23.00	0.0013	222440	111.47	21.46
X6	OCT-2015	22.63	23.00	0.0006	227343	61.66	23.62
X6	OCT-2016	22.37	23.00	0.0004	218567	47.60	15.77
X7	002-yr	21.43	23.00	0.0023	694739	306.25	312.46
X7	010-yr	21.81	23.00	0.0016	789898	576.89	542.91
X7	025-yr	21.96	23.00	0.0016	828613	680.45	638.86
X7	050-yr	22.10	23.00	0.0017	862706	790.64	741.58
X7	100-yr	22.27	23.00	0.0018	901947	908.70	872.77
X7	OCT-2015	22.32	23.00	0.0029	917519	933.72	917.37
X7	OCT-2016	22.12	23.00	0.0038	870886	767.44	758.10

**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**ALTERNATIVE 3**

**J – 26146.0000**

Prepared by:



**THOMAS & HUTTON**

Savannah, GA | Charleston, SC | Myrtle Beach, SC | Brunswick, GA | Wilmington, NC

Highway 9  
Alternative 3A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.57	26.00	0.0029	84670	166.38	163.99
A1	010-yr	27.30	26.00	0.0028	130005	310.43	304.92
A1	025-yr	28.13	26.00	0.0025	169513	403.21	402.57
A1	050-yr	28.45	26.00	0.0025	195328	578.11	577.57
A1	100-yr	28.59	26.00	0.0028	196458	746.95	746.86
A1	OCT-2015	28.70	26.00	0.0026	197334	904.46	904.55
A1	OCT-2016	28.56	26.00	0.0031	196197	702.72	702.23
A2	002-yr	25.68	26.00	0.0030	37420	167.70	166.38
A2	010-yr	27.31	26.00	0.0025	54422	313.03	310.43
A2	025-yr	28.14	26.00	0.0020	138289	403.96	403.21
A2	050-yr	28.47	26.00	0.0018	144777	578.22	578.11
A2	100-yr	28.61	26.00	0.0020	145789	747.16	746.95
A2	OCT-2015	28.73	26.00	0.0042	146656	904.74	904.46
A2	OCT-2016	28.58	26.00	0.0032	145528	703.24	702.72
A3	002-yr	25.80	26.00	0.0028	11295	174.09	167.70
A3	010-yr	27.36	26.00	0.0025	19062	315.32	313.03
A3	025-yr	28.17	26.00	0.0023	27726	400.96	403.96
A3	050-yr	28.50	26.00	0.0022	28085	581.36	578.22
A3	100-yr	28.66	26.00	0.0020	28525	748.02	747.16
A3	OCT-2015	28.78	26.00	0.0029	28626	904.07	904.74
A3	OCT-2016	28.62	26.00	0.0029	28452	702.55	703.24
A_dn	002-yr	24.91	25.60	0.0029	20175	183.64	183.56
A_dn	010-yr	25.79	25.60	0.0019	26301	316.96	316.89
A_dn	025-yr	26.22	25.60	0.0017	27499	414.94	414.84
A_dn	050-yr	27.57	25.60	-0.0031	61184	598.56	599.26
A_dn	100-yr	27.75	25.60	-0.0030	64092	771.47	771.21
A_dn	OCT-2015	27.93	25.60	-0.0033	67744	926.26	926.64
A_dn	OCT-2016	27.70	25.60	0.0036	63733	727.85	728.27
A_up	002-yr	25.37	26.11	0.0031	17606	181.17	181.06
A_up	010-yr	27.22	26.11	0.0030	30320	339.36	315.57
A_up	025-yr	28.08	26.11	0.0028	41732	386.14	413.79
A_up	050-yr	28.38	26.11	0.0028	45821	566.16	596.73
A_up	100-yr	28.49	26.11	0.0029	46307	769.31	769.29
A_up	OCT-2015	28.57	26.11	0.0032	46677	924.18	924.19
A_up	OCT-2016	28.47	26.11	0.0030	46195	725.05	725.06
B_dn	002-yr	25.37	24.00	0.0031	4092	15.43	14.76
B_dn	010-yr	27.22	24.00	0.0048	5371	21.44	37.01
B_dn	025-yr	28.08	24.00	-0.0047	5968	23.48	39.08
B_dn	050-yr	28.38	24.00	0.0037	6176	34.06	34.14
B_dn	100-yr	28.49	24.00	0.0040	6251	51.61	49.87
B_dn	OCT-2015	28.57	24.00	-0.0049	6307	44.56	67.84
B_dn	OCT-2016	28.47	24.00	-0.0039	6233	26.77	48.57
B_up	002-yr	25.47	24.20	0.0030	8288	19.15	15.43
B_up	010-yr	27.27	24.20	0.0026	11318	22.99	21.44
B_up	025-yr	28.09	24.20	0.0024	12699	25.69	23.48
B_up	050-yr	28.39	24.20	0.0025	13208	35.21	34.06
B_up	100-yr	28.49	24.20	0.0028	13390	52.53	51.61
B_up	OCT-2015	28.58	24.20	0.0028	13528	45.67	44.56
B_up	OCT-2016	28.47	24.20	0.0031	13346	27.54	26.77
BNDRY	002-yr	19.11	23.00	0.0011	312168	318.57	0.00
BNDRY	010-yr	19.57	23.00	0.0035	335775	525.71	0.00
BNDRY	025-yr	19.73	23.00	0.0029	343278	623.27	0.00
BNDRY	050-yr	19.89	23.00	0.0028	353404	728.16	0.00
BNDRY	100-yr	20.13	23.00	0.0025	372365	907.11	0.00
BNDRY	OCT-2015	20.39	23.00	0.0018	395093	1033.71	0.00
BNDRY	OCT-2016	19.97	23.00	0.0014	363640	845.99	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.47	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.38	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	7.16	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	8.73	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	9.07	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	9.19	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	9.05	0.00
C_dn	002-yr	25.50	27.00	0.0027	6889	9.99	10.28
C_dn	010-yr	27.27	27.00	0.0025	9799	12.49	11.82
C_dn	025-yr	28.09	27.00	0.0023	11179	12.92	11.05
C_dn	050-yr	28.39	27.00	0.0023	11689	21.05	20.11
C_dn	100-yr	28.50	27.00	0.0028	11872	32.86	32.05
C_dn	OCT-2015	28.58	27.00	0.0025	12009	26.45	26.05
C_dn	OCT-2016	28.47	27.00	0.0017	11827	15.35	14.98
C_up	002-yr	25.53	27.00	0.0008	51211	17.85	9.99
C_up	010-yr	27.28	27.00	0.0023	94023	32.16	12.49
C_up	025-yr	28.09	27.00	0.0020	113835	38.14	12.92
C_up	050-yr	28.39	27.00	0.0019	121261	44.83	21.05
C_up	100-yr	28.50	27.00	0.0024	123953	52.19	32.86

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Alternative 3A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_up	OCT-2015	28.58	27.00	0.0013	125913	41.05	26.45
C_up	OCT-2016	28.47	27.00	0.0010	123258	22.84	15.35
D	002-yr	25.82	27.00	-0.0025	2555	39.97	38.76
D	010-yr	27.38	27.00	0.0050	3290	62.61	61.59
D	025-yr	28.19	27.00	0.0049	3670	71.84	70.68
D	050-yr	28.52	27.00	-0.0050	3828	82.06	80.46
D	100-yr	28.69	27.00	-0.0050	3909	93.25	91.77
D	OCT-2015	28.83	27.00	-0.0060	3974	56.40	100.60
D	OCT-2016	28.65	27.00	-0.0055	3890	37.70	79.62
E	002-yr	25.82	27.00	0.0036	17841	235.01	174.09
E	010-yr	27.38	27.00	0.0034	42316	346.06	315.32
E	025-yr	28.18	27.00	0.0029	47784	450.24	400.96
E	050-yr	28.52	27.00	0.0032	51490	534.02	581.36
E	100-yr	28.69	27.00	0.0025	57519	716.18	748.02
E	OCT-2015	28.83	27.00	0.0035	58397	935.40	904.07
E	OCT-2016	28.65	27.00	0.0035	56622	734.95	702.55
E1	002-yr	26.00	28.00	0.0028	15111	107.78	107.72
E1	010-yr	27.46	28.00	0.0023	74432	241.34	235.10
E1	025-yr	28.21	28.00	0.0023	92872	290.42	277.90
E1	050-yr	28.57	28.00	0.0023	97977	369.82	360.11
E1	100-yr	28.78	28.00	0.0020	101910	479.77	472.62
E1	OCT-2015	28.92	28.00	0.0026	105682	496.74	496.37
E1	OCT-2016	28.71	28.00	0.0031	100191	378.14	376.26
E2	002-yr	26.33	30.00	0.0028	24985	108.26	107.78
E2	010-yr	27.58	30.00	0.0023	107048	246.40	241.34
E2	025-yr	28.23	30.00	0.0023	126351	302.57	290.42
E2	050-yr	28.62	30.00	0.0021	132547	382.37	369.82
E2	100-yr	28.84	30.00	0.0018	138945	490.16	479.77
E2	OCT-2015	28.98	30.00	0.0026	141792	497.92	496.74
E2	OCT-2016	28.75	30.00	0.0028	137193	381.54	378.14
E3	002-yr	26.94	32.00	0.0025	8795	108.43	108.26
E3	010-yr	28.41	32.00	0.0021	25219	247.57	246.40
E3	025-yr	28.81	32.00	0.0018	30184	304.37	302.57
E3	050-yr	29.45	32.00	0.0017	34307	384.80	382.37
E3	100-yr	30.18	32.00	0.0017	51757	491.54	490.16
E3	OCT-2015	30.25	32.00	0.0026	52782	498.20	497.92
E3	OCT-2016	29.94	32.00	0.0024	48150	382.28	381.54
E4	002-yr	27.44	32.00	0.0024	5633	108.57	108.43
E4	010-yr	29.22	32.00	0.0022	7820	248.14	247.57
E4	025-yr	30.01	32.00	0.0024	22530	305.20	304.37
E4	050-yr	30.55	32.00	0.0028	28180	386.11	384.80
E4	100-yr	31.24	32.00	0.0029	46363	491.96	491.54
E4	OCT-2015	31.28	32.00	-0.0023	47884	498.46	498.20
E4	OCT-2016	30.83	32.00	0.0022	32862	382.95	382.28
F	002-yr	25.83	27.00	0.0058	8404	73.16	92.15
F	010-yr	27.38	27.00	-0.0050	78982	172.42	175.16
F	025-yr	28.19	27.00	-0.0050	88791	220.95	225.44
F	050-yr	28.53	27.00	-0.0050	94851	274.57	275.08
F	100-yr	28.70	27.00	0.0050	100695	355.76	357.37
F	OCT-2015	28.84	27.00	-0.0050	102265	393.94	398.13
F	OCT-2016	28.66	27.00	0.0050	99211	349.39	352.15
F1	002-yr	25.83	27.00	0.0031	15498	68.46	69.42
F1	010-yr	27.44	27.00	0.0026	87947	164.65	168.70
F1	025-yr	28.22	27.00	0.0026	149908	208.88	216.08
F1	050-yr	28.55	27.00	0.0028	184188	259.97	268.71
F1	100-yr	28.74	27.00	0.0030	234917	338.74	348.20
F1	OCT-2015	28.88	27.00	0.0041	248736	389.09	389.98
F1	OCT-2016	28.70	27.00	0.0043	221621	329.53	337.69
G_dn	002-yr	25.83	27.00	0.0009	2416	4.72	4.37
G_dn	010-yr	27.44	27.00	0.0019	4021	8.43	6.92
G_dn	025-yr	28.22	27.00	0.0021	4815	9.86	7.94
G_dn	050-yr	28.55	27.00	0.0021	5155	11.47	9.71
G_dn	100-yr	28.74	27.00	0.0020	5348	13.25	11.36
G_dn	OCT-2015	28.88	27.00	0.0017	5493	8.38	8.26
G_dn	OCT-2016	28.70	27.00	0.0010	5306	5.42	4.44
G_up	002-yr	28.54	27.66	0.0050	539	4.88	4.72
G_up	010-yr	28.67	27.66	0.0050	556	8.42	8.43
G_up	025-yr	28.70	27.66	0.0050	541	9.87	9.86
G_up	050-yr	28.74	27.66	0.0043	547	11.49	11.47
G_up	100-yr	28.77	27.66	0.0041	552	13.26	13.25
G_up	OCT-2015	28.88	27.66	0.0049	567	8.38	8.38
G_up	OCT-2016	28.70	27.66	0.0032	542	5.44	5.42
H	002-yr	25.86	27.59	-0.0071	126	10.31	10.20
H	010-yr	27.87	27.59	0.0063	126	11.42	11.39

Highway 9  
Alternative 3A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
H	025-yr	28.43	27.59	0.0061	126	13.74	13.70
H	050-yr	28.66	27.59	-0.0064	126	16.38	16.33
H	100-yr	28.98	27.59	0.0159	126	19.41	28.76
H	OCT-2015	29.16	27.59	-0.1025	126	13.38	62.70
H	OCT-2016	28.95	27.59	0.0112	126	7.23	30.56
HWY57_N	002-yr	29.03	32.00	0.0040	9921	68.85	68.86
HWY57_N	010-yr	29.70	32.00	0.0023	33966	164.70	164.38
HWY57_N	025-yr	29.94	32.00	0.0040	37555	212.88	212.64
HWY57_N	050-yr	30.42	32.00	0.0035	47428	269.24	269.00
HWY57_N	100-yr	30.70	32.00	0.0047	59790	333.56	333.43
HWY57_N	OCT-2015	30.78	32.00	0.0026	61708	387.94	387.35
HWY57_N	OCT-2016	30.66	32.00	0.0043	58903	314.36	313.97
HWY57_S	002-yr	28.56	32.00	0.0022	3717	108.69	108.57
HWY57_S	010-yr	30.71	32.00	0.0022	4695	248.77	248.14
HWY57_S	025-yr	31.81	32.00	0.0031	9429	305.48	305.20
HWY57_S	050-yr	32.36	32.00	0.0045	11960	386.46	386.11
HWY57_S	100-yr	33.09	32.00	0.0050	18924	492.06	491.96
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19429	498.61	498.46
HWY57_S	OCT-2016	32.32	32.00	0.0021	12613	383.48	382.95
I	002-yr	25.85	27.00	0.0029	3976	10.20	7.81
I	010-yr	27.88	27.00	-0.0037	9151	11.39	23.01
I	025-yr	28.45	27.00	0.0029	16853	13.70	12.56
I	050-yr	28.71	27.00	0.0027	20696	16.33	14.83
I	100-yr	28.92	27.00	0.0029	22150	28.76	17.46
I	OCT-2015	29.05	27.00	0.0033	22295	62.70	19.62
I	OCT-2016	28.88	27.00	0.0050	21769	30.56	16.80
J	002-yr	25.85	27.00	0.0024	17644	72.91	68.26
J	010-yr	27.88	27.00	0.0022	117547	170.05	167.06
J	025-yr	28.45	27.00	0.0025	244908	211.72	213.26
J	050-yr	28.71	27.00	0.0025	310082	262.95	265.51
J	100-yr	28.93	27.00	0.0023	348310	327.26	342.74
J	OCT-2015	29.05	27.00	0.0019	353514	370.46	383.45
J	OCT-2016	28.88	27.00	0.0019	339521	316.13	332.82
J1	002-yr	26.75	29.00	0.0014	28653	68.25	68.32
J1	010-yr	29.00	29.00	0.0018	254981	159.93	160.52
J1	025-yr	29.18	29.00	0.0022	308126	212.22	212.08
J1	050-yr	29.33	29.00	0.0025	348676	269.94	269.90
J1	100-yr	29.47	29.00	0.0025	394672	336.47	336.53
J1	OCT-2015	29.54	29.00	0.0013	399734	383.01	381.08
J1	OCT-2016	29.44	29.00	0.0020	390981	320.72	321.22
JB	002-yr	24.96	27.21	0.0005	417	3.47	3.47
JB	010-yr	25.28	27.21	0.0006	438	6.38	6.38
JB	025-yr	25.36	27.21	0.0007	439	7.16	7.16
JB	050-yr	25.51	27.21	0.0008	439	8.73	8.73
JB	100-yr	25.54	27.21	0.0008	439	9.06	9.07
JB	OCT-2015	25.55	27.21	0.0005	439	9.19	9.19
JB	OCT-2016	25.54	27.21	0.0004	439	9.05	9.05
K	002-yr	28.06	30.00	0.0019	101473	68.49	68.25
K	010-yr	29.11	30.00	0.0014	387178	161.65	159.93
K	025-yr	29.28	30.00	0.0018	410255	213.46	212.22
K	050-yr	29.43	30.00	0.0023	428577	271.50	269.94
K	100-yr	29.57	30.00	0.0033	441919	337.56	336.47
K	OCT-2015	29.65	30.00	0.0012	449058	390.47	383.01
K	OCT-2016	29.54	30.00	0.0015	439907	321.28	320.72
K1	002-yr	28.44	30.00	0.0016	68727	68.86	67.90
K1	010-yr	29.15	30.00	0.0011	212114	164.38	160.63
K1	025-yr	29.32	30.00	0.0020	231043	212.64	210.63
K1	050-yr	29.47	30.00	0.0023	247520	269.00	266.77
K1	100-yr	29.61	30.00	0.0021	258947	333.43	331.17
K1	OCT-2015	29.69	30.00	0.0010	265009	387.35	380.32
K1	OCT-2016	29.58	30.00	0.0015	257395	313.97	312.66
Pond A	002-yr	25.95	27.00	0.0014	29886	13.73	2.51
Pond A	010-yr	27.39	27.00	0.0026	36688	23.50	8.20
Pond A	025-yr	28.20	27.00	0.0026	40475	27.51	11.07
Pond A	050-yr	28.54	27.00	0.0028	42083	31.97	14.51
Pond A	100-yr	28.71	27.00	0.0027	42914	36.86	18.61
Pond A	OCT-2015	28.85	27.00	0.0016	43537	23.92	15.54
Pond A	OCT-2016	28.68	27.00	0.0012	42764	15.12	8.53
Pond B	002-yr	25.77	29.00	0.0007	81024	25.51	4.50
Pond B	010-yr	26.81	29.00	0.0014	82985	44.35	4.65
Pond B	025-yr	27.23	29.00	0.0016	83778	52.12	4.94
Pond B	050-yr	28.63	29.00	0.0019	86421	60.74	7.35
Pond B	100-yr	28.90	29.00	0.0022	86937	70.22	7.26
Pond B	OCT-2015	29.01	29.00	0.0009	87137	43.79	7.61
Pond B	OCT-2016	28.89	29.00	0.0008	86910	29.05	7.66

Highway 9  
Alternative 3A - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
Pond C	002-yr	25.83	28.00	0.0022	18542	12.55	8.94
Pond C	010-yr	27.39	28.00	0.0024	19301	19.75	16.47
Pond C	025-yr	28.19	28.00	0.0024	19696	28.19	24.13
Pond C	050-yr	28.53	28.00	0.0024	19862	38.28	31.75
Pond C	100-yr	28.71	28.00	0.0022	19948	49.07	41.20
Pond C	OCT-2015	28.84	28.00	0.0025	20016	35.63	33.43
Pond C	OCT-2016	28.67	28.00	0.0017	19929	21.27	18.68
Reg_Pond	002-yr	28.44	30.00	0.0003	204239	31.53	0.00
Reg_Pond	010-yr	29.15	30.00	0.0011	210434	86.72	0.00
Reg_Pond	025-yr	29.32	30.00	0.0020	211891	117.91	0.00
Reg_Pond	050-yr	29.47	30.00	0.0023	213169	155.56	0.00
Reg_Pond	100-yr	29.61	30.00	0.0022	214405	175.85	0.00
Reg_Pond	OCT-2015	29.69	30.00	0.0009	215093	66.88	0.00
Reg_Pond	OCT-2016	29.58	30.00	0.0004	214141	24.42	0.00
X2	002-yr	23.54	25.00	0.0032	9742	22.76	14.62
X2	010-yr	23.88	25.00	0.0017	10240	31.35	28.01
X2	025-yr	23.96	25.00	0.0016	10361	47.33	43.80
X2	050-yr	24.18	25.00	0.0016	10695	58.88	55.38
X2	100-yr	24.38	25.00	0.0017	10993	70.12	66.63
X2	OCT-2015	24.51	25.00	0.0023	11189	48.37	47.38
X2	OCT-2016	24.33	25.00	0.0042	10924	32.13	30.61
X3	002-yr	23.54	25.00	0.0031	455747	226.88	226.64
X3	010-yr	23.87	25.00	0.0017	588334	389.06	387.08
X3	025-yr	23.95	25.00	0.0016	597839	454.99	448.28
X3	050-yr	24.18	25.00	0.0016	654263	628.77	625.97
X3	100-yr	24.38	25.00	0.0017	691406	816.28	815.39
X3	OCT-2015	24.51	25.00	0.0023	722168	954.26	949.29
X3	OCT-2016	24.33	25.00	0.0042	674023	778.03	774.82
X5	002-yr	23.55	25.00	0.0008	64917	19.68	2.96
X5	010-yr	23.90	25.00	0.0012	69170	35.49	5.65
X5	025-yr	23.99	25.00	0.0010	70318	42.08	7.12
X5	050-yr	24.19	25.00	0.0014	72739	49.42	12.54
X5	100-yr	24.39	25.00	0.0016	75244	57.49	17.21
X5	OCT-2015	24.51	25.00	0.0012	76696	30.45	17.46
X5	OCT-2016	24.36	25.00	0.0010	74851	25.30	11.47
X6	002-yr	21.56	23.00	0.0005	192006	39.42	4.93
X6	010-yr	22.03	23.00	0.0006	207623	69.69	7.71
X6	025-yr	22.18	23.00	0.0008	212292	82.22	9.78
X6	050-yr	22.32	23.00	0.0011	216964	96.16	15.37
X6	100-yr	22.47	23.00	0.0013	222102	111.47	22.13
X6	OCT-2015	22.58	23.00	0.0006	225723	61.66	24.06
X6	OCT-2016	22.33	23.00	0.0004	217234	47.60	14.69
X7	002-yr	21.37	23.00	0.0023	666355	279.79	291.14
X7	010-yr	21.66	23.00	0.0017	759864	500.41	467.29
X7	025-yr	21.79	23.00	0.0016	786466	590.09	548.38
X7	050-yr	21.99	23.00	0.0017	842493	690.19	664.76
X7	100-yr	22.27	23.00	0.0018	902202	888.35	874.18
X7	OCT-2015	22.41	23.00	0.0029	935020	1013.89	1001.13
X7	OCT-2016	22.21	23.00	0.0038	885681	829.15	814.25

Highway 9  
Alternative 3B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
A1	002-yr	25.54	26.00	0.0029	84150	163.31	160.33
A1	010-yr	26.82	26.00	0.0022	114997	272.65	264.10
A1	025-yr	27.43	26.00	0.0030	137202	307.91	307.20
A1	050-yr	28.07	26.00	0.0028	166104	378.91	379.40
A1	100-yr	28.43	26.00	0.0028	193493	562.57	558.00
A1	OCT-2015	28.59	26.00	0.0029	196440	748.30	747.64
A1	OCT-2016	28.51	26.00	0.0031	195872	650.08	649.91
A2	002-yr	25.66	26.00	0.0030	36799	164.81	163.31
A2	010-yr	26.84	26.00	0.0025	49336	276.66	272.65
A2	025-yr	27.44	26.00	0.0020	67234	315.68	307.91
A2	050-yr	28.08	26.00	0.0019	136772	381.53	378.91
A2	100-yr	28.44	26.00	0.0020	144290	567.22	562.57
A2	OCT-2015	28.61	26.00	0.0028	145773	748.90	748.30
A2	OCT-2016	28.53	26.00	0.0029	145215	651.05	650.08
A3	002-yr	25.77	26.00	0.0028	11170	170.37	164.81
A3	010-yr	26.90	26.00	0.0025	16318	281.15	276.66
A3	025-yr	27.48	26.00	0.0023	20349	314.82	315.68
A3	050-yr	28.11	26.00	0.0023	27598	388.90	381.53
A3	100-yr	28.48	26.00	0.0019	28037	565.08	567.22
A3	OCT-2015	28.66	26.00	0.0028	28523	747.16	748.90
A3	OCT-2016	28.57	26.00	0.0029	28326	648.77	651.05
A_dn	002-yr	24.89	25.60	0.0029	20134	180.82	180.72
A_dn	010-yr	25.60	25.60	0.0018	25880	306.31	287.47
A_dn	025-yr	25.83	25.60	0.0021	26578	326.41	326.34
A_dn	050-yr	26.14	25.60	0.0022	27324	394.03	394.14
A_dn	100-yr	27.54	25.60	-0.0031	60979	569.84	570.55
A_dn	OCT-2015	27.76	25.60	-0.0032	63293	762.58	763.20
A_dn	OCT-2016	27.64	25.60	0.0036	62861	675.10	675.90
A_up	002-yr	25.34	26.11	0.0031	17523	178.21	178.06
A_up	010-yr	26.69	26.11	0.0025	25457	289.09	303.86
A_up	025-yr	27.36	26.11	0.0027	31436	324.93	324.71
A_up	050-yr	28.03	26.11	0.0029	40637	423.86	392.27
A_up	100-yr	28.36	26.11	0.0029	45526	537.72	568.56
A_up	OCT-2015	28.49	26.11	0.0030	46296	777.20	761.41
A_up	OCT-2016	28.43	26.11	0.0030	46050	702.76	672.26
B_dn	002-yr	25.34	24.00	0.0031	4069	15.54	15.75
B_dn	010-yr	26.69	24.00	-0.0048	5007	22.40	38.11
B_dn	025-yr	27.36	24.00	0.0047	5466	24.28	38.03
B_dn	050-yr	28.03	24.00	-0.0048	5931	35.92	47.60
B_dn	100-yr	28.36	24.00	-0.0040	6163	52.94	51.62
B_dn	OCT-2015	28.49	24.00	0.0050	6248	42.57	63.47
B_dn	OCT-2016	28.44	24.00	0.0031	6212	21.15	53.15
B_up	002-yr	25.45	24.20	0.0030	8247	19.15	15.54
B_up	010-yr	26.84	24.20	0.0021	10596	23.35	22.40
B_up	025-yr	27.40	24.20	0.0030	11543	26.13	24.28
B_up	050-yr	28.03	24.20	0.0029	12608	36.75	35.92
B_up	100-yr	28.37	24.20	0.0028	13174	53.62	52.94
B_up	OCT-2015	28.49	24.20	0.0030	13384	43.76	42.57
B_up	OCT-2016	28.44	24.20	0.0031	13293	19.16	21.15
BNDRY	002-yr	19.11	23.00	0.0011	312095	318.29	0.00
BNDRY	010-yr	19.57	23.00	0.0028	335733	525.38	0.00
BNDRY	025-yr	19.73	23.00	0.0036	343257	622.87	0.00
BNDRY	050-yr	19.89	23.00	0.0028	353389	728.04	0.00
BNDRY	100-yr	20.13	23.00	0.0025	364742	841.81	0.00
BNDRY	OCT-2015	20.39	23.00	0.0018	384271	822.22	0.00
BNDRY	OCT-2016	19.97	23.00	0.0011	354593	785.37	0.00
BNDRY_Off	002-yr	23.28	27.21	0.0000	16	3.40	0.00
BNDRY_Off	010-yr	23.28	27.21	0.0000	16	6.05	0.00
BNDRY_Off	025-yr	23.28	27.21	0.0000	16	6.89	0.00
BNDRY_Off	050-yr	23.28	27.21	0.0000	16	7.47	0.00
BNDRY_Off	100-yr	23.28	27.21	0.0000	16	8.76	0.00
BNDRY_Off	OCT-2015	23.28	27.21	0.0000	16	8.98	0.00
BNDRY_Off	OCT-2016	23.28	27.21	0.0000	16	8.95	0.00
C_dn	002-yr	25.48	27.00	0.0027	6851	10.73	11.17
C_dn	010-yr	26.85	27.00	0.0021	9081	14.66	14.30
C_dn	025-yr	27.41	27.00	0.0029	10027	15.02	14.92
C_dn	050-yr	28.03	27.00	0.0028	11089	22.89	22.32
C_dn	100-yr	28.37	27.00	0.0028	11654	34.27	33.78
C_dn	OCT-2015	28.49	27.00	0.0020	11864	26.91	25.83
C_dn	OCT-2016	28.44	27.00	0.0015	11774	13.29	13.52
C_up	002-yr	25.51	27.00	0.0008	50721	17.85	10.73
C_up	010-yr	26.93	27.00	0.0019	85396	32.16	14.66
C_up	025-yr	27.42	27.00	0.0026	97537	38.15	15.02
C_up	050-yr	28.04	27.00	0.0024	112576	44.83	22.89
C_up	100-yr	28.37	27.00	0.0024	120707	52.19	34.27

Highway 9  
Alternative 3B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
C_up	OCT-2015	28.49	27.00	0.0012	123783	41.05	26.91
C_up	OCT-2016	28.44	27.00	0.0010	122485	22.84	13.29
D	002-yr	25.80	27.00	-0.0026	2542	39.97	38.76
D	010-yr	26.92	27.00	-0.0050	3074	62.61	61.73
D	025-yr	27.50	27.00	-0.0050	3347	71.84	70.78
D	050-yr	28.12	27.00	-0.0049	3640	82.06	80.46
D	100-yr	28.50	27.00	0.0050	3817	93.25	91.76
D	OCT-2015	28.69	27.00	-0.0052	3909	56.40	79.90
D	OCT-2016	28.60	27.00	-0.0050	3866	37.71	63.87
E	002-yr	25.80	27.00	0.0036	17746	190.32	170.37
E	010-yr	26.92	27.00	0.0036	37379	297.84	281.15
E	025-yr	27.50	27.00	0.0036	43237	399.94	314.82
E	050-yr	28.12	27.00	0.0032	47356	442.20	388.90
E	100-yr	28.50	27.00	0.0027	50876	623.97	565.08
E	OCT-2015	28.69	27.00	0.0037	57750	792.54	747.16
E	OCT-2016	28.60	27.00	0.0033	54988	699.52	648.77
E1	002-yr	25.98	28.00	0.0028	14963	107.98	108.02
E1	010-yr	27.18	28.00	0.0023	70322	243.77	240.91
E1	025-yr	27.62	28.00	0.0024	79505	295.17	288.31
E1	050-yr	28.19	28.00	0.0024	92775	376.57	369.52
E1	100-yr	28.55	28.00	0.0020	97480	482.61	477.07
E1	OCT-2015	28.79	28.00	0.0027	102712	489.09	485.01
E1	OCT-2016	28.66	28.00	0.0031	99598	370.33	367.09
E2	002-yr	26.31	30.00	0.0028	24882	108.30	107.98
E2	010-yr	27.50	30.00	0.0022	103773	246.60	243.77
E2	025-yr	27.79	30.00	0.0023	115687	302.88	295.17
E2	050-yr	28.27	30.00	0.0022	127198	383.67	376.57
E2	100-yr	28.60	30.00	0.0018	132253	490.73	482.61
E2	OCT-2015	28.85	30.00	0.0022	139290	496.98	489.09
E2	OCT-2016	28.70	30.00	0.0028	136509	379.45	370.33
E3	002-yr	26.93	32.00	0.0025	8779	108.44	108.30
E3	010-yr	28.40	32.00	0.0019	24991	247.59	246.60
E3	025-yr	28.74	32.00	0.0020	29119	304.38	302.88
E3	050-yr	29.27	32.00	0.0016	32629	385.10	383.67
E3	100-yr	30.12	32.00	-0.0016	50841	491.63	490.73
E3	OCT-2015	30.20	32.00	0.0022	52056	498.02	496.98
E3	OCT-2016	29.92	32.00	0.0024	47846	381.87	379.45
E4	002-yr	27.43	32.00	0.0024	5632	108.58	108.44
E4	010-yr	29.22	32.00	0.0019	7814	248.15	247.59
E4	025-yr	30.01	32.00	0.0024	22497	305.20	304.38
E4	050-yr	30.50	32.00	0.0028	27638	386.08	385.10
E4	100-yr	31.23	32.00	0.0029	45895	491.96	491.63
E4	OCT-2015	31.27	32.00	0.0024	47515	498.43	498.02
E4	OCT-2016	30.81	32.00	0.0022	32545	383.22	381.87
F	002-yr	25.80	27.00	0.0057	8320	51.28	91.16
F	010-yr	26.92	27.00	-0.0049	67254	124.91	124.44
F	025-yr	27.50	27.00	-0.0050	80406	165.87	167.08
F	050-yr	28.12	27.00	-0.0050	87665	227.97	231.48
F	100-yr	28.50	27.00	-0.0050	93954	288.04	292.44
F	OCT-2015	28.70	27.00	0.0050	100192	353.24	358.39
F	OCT-2016	28.61	27.00	-0.0050	96732	326.79	328.62
F1	002-yr	25.80	27.00	0.0031	15394	36.50	41.46
F1	010-yr	26.92	27.00	0.0026	38498	121.83	122.70
F1	025-yr	27.50	27.00	0.0026	95461	159.04	162.60
F1	050-yr	28.14	27.00	0.0028	148700	218.43	224.31
F1	100-yr	28.52	27.00	0.0030	176624	278.11	283.37
F1	OCT-2015	28.72	27.00	0.0041	229927	344.10	350.18
F1	OCT-2016	28.63	27.00	0.0043	200163	320.30	318.18
G_dn	002-yr	25.80	27.00	0.0009	2392	4.72	4.37
G_dn	010-yr	26.92	27.00	0.0018	3490	8.43	6.92
G_dn	025-yr	27.50	27.00	0.0021	4085	9.86	7.94
G_dn	050-yr	28.14	27.00	0.0022	4738	11.47	9.71
G_dn	100-yr	28.52	27.00	0.0020	5129	13.25	11.36
G_dn	OCT-2015	28.72	27.00	0.0012	5334	8.38	9.53
G_dn	OCT-2016	28.63	27.00	-0.0010	5241	5.17	8.65
G_up	002-yr	28.54	27.66	0.0050	539	4.88	4.72
G_up	010-yr	28.67	27.66	0.0050	556	8.42	8.43
G_up	025-yr	28.70	27.66	0.0050	541	9.87	9.86
G_up	050-yr	28.74	27.66	0.0043	547	11.49	11.47
G_up	100-yr	28.77	27.66	0.0041	552	13.26	13.25
G_up	OCT-2015	28.72	27.66	0.0049	545	8.38	8.38
G_up	OCT-2016	28.64	27.66	-0.0031	533	5.44	5.17
H	002-yr	25.82	27.59	-0.0050	126	10.31	10.20
H	010-yr	26.93	27.59	-0.0067	126	11.42	11.39



Highway 9  
Alternative 3B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
H	025-yr	27.51	27.59	-0.0067	126	13.74	13.70
H	050-yr	28.41	27.59	-0.0060	126	16.37	16.33
H	100-yr	28.67	27.59	0.0064	126	19.41	19.36
H	OCT-2015	28.92	27.59	0.0114	126	13.79	13.90
H	OCT-2016	28.86	27.59	0.0104	126	7.47	18.99
HWY57_N	002-yr	28.93	32.00	0.0040	4149	68.85	68.85
HWY57_N	010-yr	29.88	32.00	0.0023	6141	164.70	167.05
HWY57_N	025-yr	30.55	32.00	0.0037	23756	212.88	230.39
HWY57_N	050-yr	30.73	32.00	-0.0040	31137	269.24	280.83
HWY57_N	100-yr	30.85	32.00	0.0047	36075	333.56	339.40
HWY57_N	OCT-2015	30.73	32.00	-0.0042	59632	387.94	387.51
HWY57_N	OCT-2016	30.65	32.00	0.0043	57756	314.36	313.83
HWY57_S	002-yr	28.56	32.00	0.0022	3717	108.69	108.58
HWY57_S	010-yr	30.71	32.00	0.0022	4694	248.77	248.15
HWY57_S	025-yr	31.81	32.00	0.0031	9423	305.48	305.20
HWY57_S	050-yr	32.37	32.00	0.0045	11875	386.46	386.08
HWY57_S	100-yr	33.08	32.00	0.0050	18814	492.06	491.96
HWY57_S	OCT-2015	33.12	32.00	-0.0050	19342	498.61	498.43
HWY57_S	OCT-2016	32.34	32.00	-0.0043	11919	383.48	383.22
I	002-yr	25.81	27.00	0.0029	3952	10.20	7.49
I	010-yr	26.92	27.00	0.0030	5072	11.39	15.48
I	025-yr	27.51	27.00	0.0029	5933	13.70	20.02
I	050-yr	28.42	27.00	0.0027	16626	16.33	14.84
I	100-yr	28.70	27.00	0.0029	20658	19.36	17.49
I	OCT-2015	28.90	27.00	-0.0041	21932	13.90	21.35
I	OCT-2016	28.82	27.00	0.0050	21446	18.99	17.80
J	002-yr	25.81	27.00	0.0024	17503	38.31	36.50
J	010-yr	26.92	27.00	0.0022	28703	131.69	122.29
J	025-yr	27.51	27.00	0.0025	49614	171.07	160.56
J	050-yr	28.42	27.00	0.0026	241953	222.27	222.67
J	100-yr	28.70	27.00	0.0023	309454	279.30	280.89
J	OCT-2015	28.90	27.00	0.0020	344051	322.19	339.27
J	OCT-2016	28.82	27.00	0.0018	329282	303.07	315.25
J1	002-yr	25.85	29.00	0.0014	7960	36.12	36.07
J1	010-yr	27.76	29.00	0.0018	57463	123.46	123.41
J1	025-yr	28.91	29.00	0.0022	225870	160.13	160.33
J1	050-yr	29.20	29.00	0.0025	310474	225.61	223.56
J1	100-yr	29.36	29.00	0.0025	363429	285.97	285.74
J1	OCT-2015	29.46	29.00	0.0012	393434	332.96	333.85
J1	OCT-2016	29.42	29.00	0.0020	386506	309.17	309.32
JB	002-yr	24.95	27.21	0.0005	416	3.40	3.40
JB	010-yr	25.25	27.21	0.0006	437	6.05	6.05
JB	025-yr	25.33	27.21	0.0008	439	6.89	6.89
JB	050-yr	25.39	27.21	0.0008	440	7.47	7.47
JB	100-yr	25.51	27.21	0.0009	439	8.76	8.76
JB	OCT-2015	25.53	27.21	0.0005	439	8.98	8.98
JB	OCT-2016	25.53	27.21	0.0004	439	8.95	8.95
K	002-yr	27.23	30.00	0.0019	8946	36.27	36.12
K	010-yr	28.52	30.00	0.0014	224994	124.54	123.46
K	025-yr	29.05	30.00	0.0012	373884	160.94	160.13
K	050-yr	29.30	30.00	-0.0030	413375	232.12	225.61
K	100-yr	29.46	30.00	0.0033	432616	287.41	285.97
K	OCT-2015	29.56	30.00	0.0014	441014	334.45	332.96
K	OCT-2016	29.52	30.00	0.0015	438282	310.39	309.17
K1	002-yr	27.78	30.00	0.0016	11459	68.85	68.59
K1	010-yr	28.74	30.00	0.0009	118355	167.05	164.57
K1	025-yr	29.11	30.00	0.0008	204034	230.39	219.24
K1	050-yr	29.35	30.00	0.0010	233428	280.83	262.16
K1	100-yr	29.50	30.00	-0.0015	251938	339.40	312.43
K1	OCT-2015	29.60	30.00	0.0010	258511	387.51	364.27
K1	OCT-2016	29.56	30.00	0.0015	255884	313.83	310.41
Pond A	002-yr	25.93	27.00	0.0014	29829	13.73	2.71
Pond A	010-yr	26.94	27.00	0.0022	34551	23.50	8.28
Pond A	025-yr	27.51	27.00	0.0030	37250	27.51	11.10
Pond A	050-yr	28.13	27.00	0.0028	40166	31.97	14.51
Pond A	100-yr	28.51	27.00	0.0027	41946	36.86	18.61
Pond A	OCT-2015	28.70	27.00	0.0013	42845	23.92	14.02
Pond A	OCT-2016	28.63	27.00	0.0012	42506	15.12	7.10
Pond B	002-yr	25.76	29.00	0.0007	80989	25.51	4.50
Pond B	010-yr	26.67	29.00	0.0012	82717	44.35	6.57
Pond B	025-yr	27.06	29.00	0.0019	83460	52.11	5.18
Pond B	050-yr	27.51	29.00	0.0019	84304	60.75	6.15
Pond B	100-yr	28.65	29.00	0.0022	86468	70.22	7.60
Pond B	OCT-2015	28.84	29.00	0.0009	86813	43.79	6.80
Pond B	OCT-2016	28.81	29.00	0.0007	86754	29.05	7.19

Highway 9  
Alternative 3B - Node Maximum Comparison Report

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
Pond C	002-yr	25.81	28.00	0.0022	18530	12.55	9.18
Pond C	010-yr	26.93	28.00	0.0024	19077	19.75	16.64
Pond C	025-yr	27.50	28.00	0.0024	19359	28.20	24.17
Pond C	050-yr	28.12	28.00	0.0024	19663	38.28	31.75
Pond C	100-yr	28.51	28.00	0.0022	19849	49.06	41.19
Pond C	OCT-2015	28.70	28.00	0.0020	19944	34.59	30.94
Pond C	OCT-2016	28.61	28.00	0.0014	19902	19.47	16.23
Reg_Pond	002-yr	27.78	30.00	0.0002	1069620	58.48	0.00
Reg_Pond	010-yr	28.74	30.00	0.0003	1078055	147.96	0.00
Reg_Pond	025-yr	29.11	30.00	0.0004	1081229	201.92	0.00
Reg_Pond	050-yr	29.35	30.00	0.0006	1083305	258.58	0.00
Reg_Pond	100-yr	29.50	30.00	0.0006	1084661	318.16	0.00
Reg_Pond	OCT-2015	29.60	30.00	0.0004	1085537	184.11	0.00
Reg_Pond	OCT-2016	29.56	30.00	0.0004	1085137	151.88	0.00
X2	002-yr	23.54	25.00	0.0032	9741	22.76	14.62
X2	010-yr	23.88	25.00	0.0017	10240	31.35	28.01
X2	025-yr	23.96	25.00	0.0016	10361	47.33	43.80
X2	050-yr	24.05	25.00	0.0016	10495	58.89	55.38
X2	100-yr	24.14	25.00	0.0017	10631	70.12	66.63
X2	OCT-2015	24.34	25.00	0.0024	10929	48.36	47.22
X2	OCT-2016	24.29	25.00	0.0042	10858	32.28	30.74
X3	002-yr	23.54	25.00	0.0031	454858	226.22	226.26
X3	010-yr	23.87	25.00	0.0017	588372	389.03	386.92
X3	025-yr	23.95	25.00	0.0016	597820	454.99	448.08
X3	050-yr	24.04	25.00	0.0016	610866	518.57	515.56
X3	100-yr	24.13	25.00	0.0017	643284	589.14	584.36
X3	OCT-2015	24.34	25.00	0.0024	673721	776.55	771.95
X3	OCT-2016	24.29	25.00	0.0042	666453	723.63	720.27
X5	002-yr	23.55	25.00	0.0008	64904	19.68	3.41
X5	010-yr	23.90	25.00	0.0012	69170	35.49	5.73
X5	025-yr	23.99	25.00	0.0010	70317	42.08	7.13
X5	050-yr	24.12	25.00	0.0015	71861	49.42	12.54
X5	100-yr	24.33	25.00	0.0016	74450	57.49	17.21
X5	OCT-2015	24.38	25.00	0.0010	75084	30.45	17.37
X5	OCT-2016	24.30	25.00	0.0010	74130	25.30	11.22
X6	002-yr	21.56	23.00	0.0005	192005	39.42	4.93
X6	010-yr	22.03	23.00	0.0006	207615	69.69	7.71
X6	025-yr	22.18	23.00	0.0008	212291	82.22	9.78
X6	050-yr	22.32	23.00	0.0011	216964	96.15	15.37
X6	100-yr	22.47	23.00	0.0013	222101	111.48	22.13
X6	OCT-2015	22.56	23.00	0.0005	225086	61.66	25.66
X6	OCT-2016	22.29	23.00	0.0003	215967	47.60	14.04
X7	002-yr	21.37	23.00	0.0023	665872	279.68	290.87
X7	010-yr	21.66	23.00	0.0017	759587	500.37	466.62
X7	025-yr	21.79	23.00	0.0016	786256	589.96	547.79
X7	050-yr	21.92	23.00	0.0017	821315	690.11	634.99
X7	100-yr	22.06	23.00	0.0018	852604	793.15	727.24
X7	OCT-2015	22.16	23.00	0.0029	883220	819.26	804.37
X7	OCT-2016	22.12	23.00	0.0038	870072	775.65	756.28

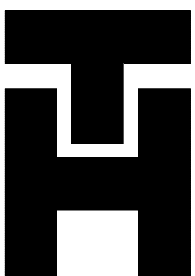
**HIGHWAY 9 & 57  
DRAINAGE STUDY**

**APPENDIX C**

**PRELIMINARY COST ESTIAMTES**

**J – 26146.0000**

Prepared by:



**THOMAS & HUTTON**

Savannah, GA | Charleston, SC | Myrtle Beach, SC | Brunswick, GA | Wilmington, NC

PROJECT : **ALTERNATIVE 1 - DOWNSTREAM CHANNEL IMPROVEMENTS**  
 LOCATION : **HIGHWAY 9 & 57 DRAINAGE STUDY**  
 ESTIMATOR : **HEH**



OPINION OF PROBABLE CONSTRUCTION COST	
DATE PREPARED : 03/27/17	REVISED:
<b>BASIS FOR ESTIMATE</b>	
<input checked="" type="checkbox"/>	(No design completed-Master Plan)
<input type="checkbox"/>	(Preliminary design)
<input type="checkbox"/>	(Final design)
<input type="checkbox"/>	(Other)

**OPINION OF PROBABLE CONSTRUCTION COST**  
 Since the Engineer has no control over the cost of labor, materials, equipment, over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the Opinions of Probable Construction Costs provided for herein are made on the basis of his experience and qualifications. These opinions represent his best judgment as a design professional familiar with the construction industry. However, the Engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from Opinions of Probable Construction Costs prepared by him.

ITEM	DESCRIPTION	QUANTITY		COST	
		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
1	Mobilization	5	%	-	\$ 3,750.55
2	Clearing and Grubbing	0.55	AC	\$ 8,000.00	\$ 4,400.00
3	Erosion and Sediment Control	1	LS	\$ 2,500.00	\$ 2,500.00
4	Excavation	1,425	CY	\$ 35.00	\$ 49,875.00
5	Grading	2,662	SY	\$ 3.00	\$ 7,986.00
6	Grassing	0.55	AC	\$ 5,000.00	\$ 2,750.00
7	Rip-Rap	50	TON	\$ 150.00	\$ 7,500.00
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				<b>SUBTOTAL</b>	<b>\$ 78,761.55</b>
	Contingency	20.0	%	\$ 15,752.31	\$ 15,752.31
	Survey, Engineering & Const. Serv.	15.0	%	\$ 11,814.23	\$ 11,814.23
<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>					<b>\$106,400</b>

**Notes:**  
 1. No property costs (drainage easement, temporary const. easements, etc.) are included.  
 2. No wetland delineation or mitigation fees included.  
 3. Estimate does not include costs associated with utility adjustments (if any).





PROJECT : **ALTERNATIVE 2 - UPSIZE HIGHWAY 9 BOX CULVERT**  
 LOCATION : **HIGHWAY 9 & 57 DRAINAGE STUDY**  
 ESTIMATOR : **HEH**



**OPINION OF PROBABLE CONSTRUCTION COST**

DATE PREPARED : 03/27/17		REVISED:
<b>BASIS FOR ESTIMATE</b>		
<input checked="" type="checkbox"/>	(No design completed-Master Plan)	
<input type="checkbox"/>	(Preliminary design)	
<input type="checkbox"/>	(Final design)	
<input type="checkbox"/>	(Other)	

**OPINION OF PROBABLE CONSTRUCTION COST**

Since the Engineer has no control over the cost of labor, materials, equipment, over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the Opinions of Probable Construction Costs provided for herein are made on the basis of his experience and qualifications. These opinions represent his best judgment as a design professional familiar with the construction industry. However, the Engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from Opinions of Probable Construction Costs prepared by him.

ITEM	DESCRIPTION	QUANTITY		COST	
		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
1	Mobilization	5	%	-	\$ 14,757.10
2	Traffic Control	1.00	LS	\$ 8,000.00	\$ 8,000.00
3	Clearing and Grubbing	0.10	AC	\$ 3,000.00	\$ 300.00
4	Erosion and Sediment Control	1	LS	\$ 2,500.00	\$ 2,500.00
5	Excavation	600	CY	\$ 35.00	\$ 21,000.00
6	Grading	484	SY	\$ 3.00	\$ 1,452.00
7	Grassing	0.10	AC	\$ 5,000.00	\$ 500.00
8	Removal and Disposal of Existing Culvert	260	LF	\$ 50.00	\$ 13,000.00
9	10'x6' PC Box Culvert	260	LF	\$ 800.00	\$ 208,000.00
10	Head and Wing Wall Structures	2	EA	\$ 5,000.00	\$ 10,000.00
11	Removal and Disposal of Existing Pavement	165	SY	\$ 6.00	\$ 990.00
12	Hot Mix Asphalt Surface Course	120	TON	\$ 100.00	\$ 12,000.00
13	Rip-Rap	100	TON	\$ 150.00	\$ 15,000.00
14	Remove and Reset Existing Guardrail	260	LF	\$ 40.00	\$ 10,400.00
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				<b>SUBTOTAL</b>	<b>\$ 317,899.10</b>
	Contingency	20.0	%	\$ 63,579.82	\$ 63,579.82
	Survey, Engineering & Const. Serv.	15.0	%	\$ 47,684.87	\$ 47,684.87
<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>					<b>\$429,200</b>

**Notes:**

- No property costs (drainage easement, temporary const. easements, etc.) are included.
- No wetland delineation or mitigation fees included.
- Estimate does not include costs associated with utility adjustments (if any).





PROJECT : **ALTERNATIVE 2B - RELIEF PIPES & DOWNSTREAM CHANNEL**  
 LOCATION : **HIGHWAY 9 & 57 DRAINAGE STUDY**  
 ESTIMATOR : **HEH**



**OPINION OF PROBABLE CONSTRUCTION COST**

DATE PREPARED : 03/27/17		REVISED:
<b>BASIS FOR ESTIMATE</b>		
<input checked="checked" type="checkbox"/>	(No design completed-Master Plan)	
<input type="checkbox"/>	(Preliminary design)	
<input type="checkbox"/>	(Final design)	
<input type="checkbox"/>	(Other)	

**OPINION OF PROBABLE CONSTRUCTION COST**

Since the Engineer has no control over the cost of labor, materials, equipment, over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the Opinions of Probable Construction Costs provided for herein are made on the basis of his experience and qualifications. These opinions represent his best judgment as a design professional familiar with the construction industry. However, the Engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from Opinions of Probable Construction Costs prepared by him.

ITEM	DESCRIPTION	QUANTITY		COST	
		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
1	Mobilization	5	%	-	\$ 46,169.06
2	Clearing and Grubbing	0.60	AC	\$ 8,000.00	\$ 4,800.00
3	Erosion and Sediment Control	1	LS	\$ 2,500.00	\$ 2,500.00
4	Excavation	1,667	CY	\$ 35.00	\$ 58,345.00
5	Grading	2,662	SY	\$ 3.00	\$ 7,986.15
6	Grassing	130.55	AC	\$ 5,000.00	\$ 652,750.00
7	54" RCP Culvert (Jack and Bore)	260	LF	\$ 700.00	\$ 182,000.00
8	Rip-Rap	100	TON	\$ 150.00	\$ 15,000.00
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				<b>SUBTOTAL</b>	<b>\$ 969,550.21</b>
	Contingency	20.0	%	\$ 193,910.04	\$ 193,910.04
	Survey, Engineering & Const. Serv.	15.0	%	\$ 145,432.53	\$ 145,432.53
<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>					<b>\$1,308,900</b>

- Notes:**
1. No property costs (drainage easement, temporary const. easements, etc.) are included.
  2. No wetland delineation or mitigation fees included.
  3. Estimate does not include costs associated with utility adjustments (if any).

PROJECT : **ALTERNATIVE 2C - RELIEF PIPES AND CHANNEL WIDENING**  
 LOCATION : **HIGHWAY 9 & 57 DRAINAGE STUDY**  
 ESTIMATOR : **HEH**



**OPINION OF PROBABLE CONSTRUCTION COST**

DATE PREPARED : 03/27/17	REVISED:
<b>BASIS FOR ESTIMATE</b>	
<input checked="" type="checkbox"/>	(No design completed-Master Plan)
<input type="checkbox"/>	(Preliminary design)
<input type="checkbox"/>	(Final design)
<input type="checkbox"/>	(Other)

**OPINION OF PROBABLE CONSTRUCTION COST**

Since the Engineer has no control over the cost of labor, materials, equipment, over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the Opinions of Probable Construction Costs provided for herein are made on the basis of his experience and qualifications. These opinions represent his best judgment as a design professional familiar with the construction industry. However, the Engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from Opinions of Probable Construction Costs prepared by him.

ITEM	DESCRIPTION	QUANTITY		COST	
		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
1	Mobilization	5	%	-	\$ 18,308.00
2	Clearing and Grubbing	1.75	AC	\$ 8,000.00	\$ 14,000.00
3	Erosion and Sediment Control	1	LS	\$ 5,500.00	\$ 5,500.00
4	Excavation	3,300	CY	\$ 35.00	\$ 115,500.00
5	Grading	8,470	SY	\$ 3.00	\$ 25,410.00
6	Grassing	1.75	AC	\$ 5,000.00	\$ 8,750.00
7	54" RCP Culvert (Jack and Bore)	260	LF	\$ 700.00	\$ 182,000.00
8	Rip-Rap	100	TON	\$ 150.00	\$ 15,000.00
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				<b>SUBTOTAL</b>	<b>\$ 384,468.00</b>
	Contingency	20.0	%	\$ 76,893.60	\$ 76,893.60
	Survey, Engineering & Const. Serv.	15.0	%	\$ 57,670.20	\$ 57,670.20
	<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>				<b>\$519,100</b>

**Notes:**

1. No property costs (drainage easement, temporary const. easements, etc.) are included.
2. No wetland delineation or mitigation fees included.
3. Estimate does not include costs associated with utility adjustments (if any).

PROJECT : **ALTERNATIVE 3A - REGIONAL STORMWATER POND (SMALL)**  
 LOCATION : **HIGHWAY 9 & 57 DRAINAGE STUDY**  
 ESTIMATOR : **HEH**



**OPINION OF PROBABLE CONSTRUCTION COST**

DATE PREPARED : 03/27/17	REVISED:
<b>BASIS FOR ESTIMATE</b>	
<input checked="" type="checkbox"/>	(No design completed-Master Plan)
<input type="checkbox"/>	(Preliminary design)
<input type="checkbox"/>	(Final design)
<input type="checkbox"/>	(Other)

**OPINION OF PROBABLE CONSTRUCTION COST**

Since the Engineer has no control over the cost of labor, materials, equipment, over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the Opinions of Probable Construction Costs provided for herein are made on the basis of his experience and qualifications. These opinions represent his best judgment as a design professional familiar with the construction industry. However, the Engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from Opinions of Probable Construction Costs prepared by him.

ITEM	DESCRIPTION	QUANTITY		COST	
		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
1	Mobilization	5	%	-	\$ 71,284.00
2	Clearing and Grubbing	5.25	AC	\$ 8,000.00	\$ 42,000.00
3	Erosion and Sediment Control	1	LS	\$ 5,000.00	\$ 5,000.00
4	Excavation	49,000	CY	\$ 25.00	\$ 1,225,000.00
5	Grading	25,410	SY	\$ 3.00	\$ 76,230.00
6	Grassing	5.25	AC	\$ 5,000.00	\$ 26,250.00
7	Fencing	2,080	LF	\$ 15.00	\$ 31,200.00
8	Control Structure/Outfall	1	LS	\$ 20,000.00	\$ 20,000.00
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				<b>SUBTOTAL</b>	<b>\$ 1,496,964.00</b>
	Contingency	20.0	%	\$ 299,392.80	\$ 299,392.80
	Survey, Engineering & Const. Serv.	15.0	%	\$ 224,544.60	\$ 224,544.60
	<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>				<b>\$2,021,000</b>

**Notes:**

- No property costs (drainage easement, temporary const. easements, etc.) are included.
- No wetland delineation or mitigation fees included.
- Estimate does not include costs associated with utility adjustments (if any).

PROJECT : **ALTERNATIVE 3B - REGIONAL STORMWATER POND (LARGE)**  
LOCATION : **HIGHWAY 9 & 57 DRAINAGE STUDY**  
ESTIMATOR : **HEH**



**OPINION OF PROBABLE CONSTRUCTION COST**

DATE PREPARED : 03/27/17		REVISED:
<b>BASIS FOR ESTIMATE</b>		
<input checked="" type="checkbox"/>	(No design completed-Master Plan)	
<input type="checkbox"/>	(Preliminary design)	
<input type="checkbox"/>	(Final design)	
<input type="checkbox"/>	(Other)	

**OPINION OF PROBABLE CONSTRUCTION COST**

Since the Engineer has no control over the cost of labor, materials, equipment, over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the Opinions of Probable Construction Costs provided for herein are made on the basis of his experience and qualifications. These opinions represent his best judgment as a design professional familiar with the construction industry. However, the Engineer cannot and does not guarantee that proposals, bids, or the construction cost will not vary from Opinions of Probable Construction Costs prepared by him.

ITEM	DESCRIPTION	QUANTITY		COST	
		NUMBER OF UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
1	Mobilization	5	%	-	\$ 384,101.00
2	Clearing and Grubbing	26.00	AC	\$ 8,000.00	\$ 208,000.00
3	Erosion and Sediment Control	1	LS	\$ 2,500.00	\$ 2,500.00
4	Excavation	275,000	CY	\$ 25.00	\$ 6,875,000.00
5	Grading	125,840	SY	\$ 3.00	\$ 377,520.00
6	Grassing	26.00	AC	\$ 5,000.00	\$ 130,000.00
7	Fencing	4,600	LF	\$ 15.00	\$ 69,000.00
8	Control Structure/Outfall	1	LS	\$ 20,000.00	\$ 20,000.00
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				<b>SUBTOTAL</b>	<b>\$ 8,066,121.00</b>
	Contingency	20.0	%	\$ 1,613,224.20	\$ 1,613,224.20
	Survey, Engineering & Const. Serv.	15.0	%	\$ 1,209,918.15	\$ 1,209,918.15
<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>					<b>\$10,889,300</b>

- Notes:**
1. No property costs (drainage easement, temporary const. easements, etc.) are included.
  2. No wetland delineation or mitigation fees included.
  3. Estimate does not include costs associated with utility adjustments (if any).

PROJECT : HIGHWAY 9 & 57 DRAINAGE STUDY  
LOCATION : Horry County, South Carolina  
ESTIMATOR : HEH



**COST COMPARISON SUMMARY TABLE**

<b>ALTERNATIVE</b>	<b>COST</b>
1 - Downstream Channel Improvements	\$ 106,400
1A - Upstream Channel Improvements	\$ 154,800
1B - Channel Improvements	\$ 261,100
2 - Upsize Highway 9 Box Culvert	\$ 429,200
2A - Relief Culverts	\$ 286,700
2B - Relief Culverts and Downstream Channel	\$ 1,308,900
2C - Relief Culverts and Channel Improvements	\$ 519,100
3A - 5-Acre Regional Stormwater Pond	\$ 2,021,000
3B - 25-Acre Regional Stormwater Pond	\$ 10,889,300