APPENDIX C: JORDAN LAKE MODEL OUTPUTS

	Pre-Development Conditions
Percent Impervious (%)	66.9%
Annual Runoff Volume (c.f.)	27,886,593
Peak Flow Rate (cfs)	361.75
Total Nitrogen EMC (mg/L)	1.42
Total Nitrogen Loading (lb/ac/yr)	9.70
Total Phosphorus EMC (mg/L)	0.35
Total Phosphorus Loading (lb/ac/yr)	2.38

Figure 1. Existing Land Use for the Downtown Catchment

	CATCHMENT 1			CATCHMENT 2	
	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2
	Bioretention	Sand Filter	Sand Filter	Sand Filter	--
Total Area Treated (ac)	0.43	0.45	0.46	0.635	--
Total Inflow Volume (c.f.)	68,928	58,509	57,267	78,859	--
Percent Volume Reduced (%)	20%	5%	5%	5%	--
Inflow Nitrogen EMC (mg/L)	1.08	0.95	0.94	1.46	--
Total Inflow Nitrogen (lb/ac/yr)	10.81	7.18	6.95	11.23	--
Inflow Phosphorus EMC (mg/L)	0.150	0.142	0.141	0.399	--
Total Inflow Phosphorus (lb/ac/yr)	1.50	1.08	1.06	3.08	--
BMP Outflow Nitrogen (lbs/ac/yr)	7.51	7.10	6.79	7.18	--
BMP Outflow Phosphorus (lbs/ac/yr)	1.13	1.08	1.03	1.23	--
Catchment Outflow Nitrogen EMC (mg/L)	0.92			0.98	
Catchment Outflow Total Nitrogen (lb/ac/yr)	6.79			7.18	
Percent Reduction in Nitrogen Load (%)	18%			30%	
Catchment Outflow Phosphorus EMC (mg/L)	0.140			0.167	
Catchment Outflow Total Phosphorus (lb/ac/yr)	1.033			1.229	
Percent Reduction in Phosphorus Load (%)	14%			16%	

Figure 2. Existing BMPs in Downtown Catchment

	Pre-Development Conditions
Percent Impervious (%)	67.8%
Annual Runoff Volume (c.f.)	28,328,946
Peak Flow Rate (cfs)	367.71
Total Nitrogen EMC (mg/L)	1.41
Total Nitrogen Loading (lb/ac/yr)	9.76
Total Phosphorus EMC (mg/L)	0.34
Total Phosphorus Loading (lb/ac/yr)	2.38

Figure 3. Wet Pond BMP with the downtown catchment

	CATCHMENT 1			CATCHMENT 2			CATCHMENT 3	
	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2
	Bioretention	Sand Filter	Sand Filter	Sand Filter	--	--	Wet Detention Pond	--
Total Area Treated (ac)	0.43	0.45	0.46	0.635	--	--	255.07	--
Total Inflow Volume (c.f.)	68,928	58,509	57,267	78,859	--	--	28,335,264	--
Percent Volume Reduced (%)	20%	5%	5%	5%	--	--	5%	--
Inflow Nitrogen EMC (mg/L)	1.08	0.95	0.94	1.46	--	--	1.41	--
Total Inflow Nitrogen (lb/ac/yr)	10.81	7.18	6.95	11.23	--	--	9.60	--
Inflow Phosphorus EMC (mg/L)	0.150	0.142	0.141	0.399	--	--	0.343	--
Total Inflow Phosphorus (lb/ac/yr)	1.50	1.08	1.06	3.08	--	--	2.36	--
BMP Outflow Nitrogen (lbs/ac/yr)	7.51	7.10	6.79	7.18	--	--	6.91	--
BMP Outflow Phosphorus (lbs/ac/yr)	1.13	1.08	1.03	1.23	--	--	0.90	--
Catchment Outflow Nitrogen EMC (mg/L)	0.92			0.98			1.05	
Catchment Outflow Total Nitrogen (lb/ac/yr)	6.79			7.18			6.91	
Percent Reduction in Nitrogen Load (%)	18%			30%			18%	
Catchment Outflow Phosphorus EMC (mg/L)	0.140			0.167			0.137	
Catchment Outflow Total Phosphorus (lb/ac/yr)	1.033			1.229			0.902	
Percent Reduction in Phosphorus Load (%)	14%			16%			62%	

Figure 4. BMPs including Wet Pond for the Downtown Catchment

	CATCHMENT 1			CATCHMENT 2			CATCHMENT 3	
	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2
	Green Roof	--	--	Sand Filter	--	--	Wet Detention Pond	--
Total Area Treated (ac)	46.95	--	--	0.635	--	--	255.07	--
Total Inflow Volume (c.f.)	7,902,770	--	--	78,859	--	--	24,798,171	--
Percent Volume Reduced (%)	50%	--	--	5%	--	--	5%	--
Inflow Nitrogen EMC (mg/L)	1.08	--	--	1.46	--	--	1.45	--
Total Inflow Nitrogen (lb/ac/yr)	11.35	--	--	11.23	--	--	8.66	--
Inflow Phosphorus EMC (mg/L)	0.150	--	--	0.399	--	--	0.370	--
Total Inflow Phosphorus (lb/ac/yr)	1.58	--	--	3.08	--	--	2.23	--
BMP Outflow Nitrogen (lbs/ac/yr)	5.66	--	--	7.18	--	--	6.08	--
BMP Outflow Phosphorus (lbs/ac/yr)	0.79	--	--	1.23	--	--	0.81	--

Catchment Outflow Nitrogen EMC (mg/L)	1.08	0.98	1.06
Catchment Outflow Total Nitrogen (lb/ac/yr)	5.66	7.18	6.08
Percent Reduction in Nitrogen Load (%)	50%	30%	18%
Catchment Outflow Phosphorus EMC (mg/L)	0.150	0.167	0.140
Catchment Outflow Total Phosphorus (lb/ac/yr)	0.786	1.229	0.806
Percent Reduction in Phosphorus Load (%)	50%	16%	64%

Figure 5. BMPs including Wet Ponds and Greenroofs for the Downtown Catchment

	CATCHMENT 1			CATCHMENT 2			CATCHMENT 3	
	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2
	Green Roof	–	–	Sand Filter	--	--	Wetland	--
Total Area Treated (ac)	46.95	–	–	0.635	--	--	255.07	--
Total Inflow Volume (c.f.)	7,902,770	–	–	78,859	--	--	24,798,171	--
Percent Volume Reduced (%)	50%	–	–	5%	--	--	15%	--
Inflow Nitrogen EMC (mg/L)	1.08	–	–	1.46	--	--	1.45	--
Total Inflow Nitrogen (lb/ac/yr)	11.35	–	–	11.23	--	--	8.66	--
Inflow Phosphorus EMC (mg/L)	0.150	–	–	0.399	--	--	0.370	--
Total Inflow Phosphorus (lb/ac/yr)	1.58	–	–	3.08	--	--	2.23	--
BMP Outflow Nitrogen (lbs/ac/yr)	5.66	–	–	7.18	--	--	5.79	--
BMP Outflow Phosphorus (lbs/ac/yr)	0.79	–	–	1.23	--	--	0.76	--
Catchment Outflow Nitrogen EMC (mg/L)	1.08			0.98			1.12	
Catchment Outflow Total Nitrogen (lb/ac/yr)	5.66			7.18			5.79	
Percent Reduction in Nitrogen Load (%)	50%			30%			40%	
Catchment Outflow Phosphorus EMC (mg/L)	0.150			0.167			0.147	
Catchment Outflow Total Phosphorus (lb/ac/yr)	0.786			1.229			0.756	
Percent Reduction in Phosphorus Load (%)	50%			16%			66%	

Figure 6. Downtown Catchment with Stormwater Wetland and Greenroofs

	Pre-Development Conditions
Percent Impervious (%)	54.4%
Annual Runoff Volume (c.f.)	19,948,476
Peak Flow Rate (cfs)	169.31
Total Nitrogen EMC (mg/L)	1.48
Total Nitrogen Loading (lb/ac/yr)	8.38
Total Phosphorus EMC (mg/L)	0.34
Total Phosphorus Loading (lb/ac/yr)	1.92

Figure 7. Existing Land Use for Trinity Catchment

	CATCHMENT 1		
	BMP 1	BMP 2	BMP 3
	Bioretention	Sand Filter	--
Total Area Treated (ac)	1.06	1.09	--
Total Inflow Volume (c.f.)	170,006	141,055	--
Percent Volume Reduced (%)	20%	5%	--
Inflow Nitrogen EMC (mg/L)	1.29	0.97	--
Total Inflow Nitrogen (lb/ac/yr)	12.88	7.51	--
Inflow Phosphorus EMC (mg/L)	0.156	0.142	--
Total Inflow Phosphorus (lb/ac/yr)	1.56	1.10	--
BMP Outflow Nitrogen (lbs/ac/yr)	7.72	7.09	--
BMP Outflow Phosphorus (lbs/ac/yr)	1.13	1.07	--

Catchment Outflow Nitrogen EMC (mg/L)	0.93
Catchment Outflow Total Nitrogen (lb/ac/yr)	7.09
Percent Reduction in Nitrogen Load (%)	30%
Catchment Outflow Phosphorus EMC (mg/L)	0.140
Catchment Outflow Total Phosphorus (lb/ac/yr)	1.074

Figure 8. Existing BMPs in the Trinity Catchment

	Pre-Development Conditions
Percent Impervious (%)	55.3%
Annual Runoff Volume (c.f.)	20,486,857
Peak Flow Rate (cfs)	173.87
Total Nitrogen EMC (mg/L)	1.47
Total Nitrogen Loading (lb/ac/yr)	8.44
Total Phosphorus EMC (mg/L)	0.33
Total Phosphorus Loading (lb/ac/yr)	1.92

Figure 9. Trinity Catchment with Wet Pond

	CATCHMENT 1			CATCHMENT 2	
	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2
	Bioretention	Sand Filter	--	Wet Detention Pond	--
Total Area Treated (ac)	1.06	1.09	--	222.21	--
Total Inflow Volume (c.f.)	170,006	141,055	--	20,476,101	--
Percent Volume Reduced (%)	20%	5%	--	5%	--
Inflow Nitrogen EMC (mg/L)	1.29	0.97	--	1.46	--
Total Inflow Nitrogen (lb/ac/yr)	12.88	7.51	--	8.25	--
Inflow Phosphorus EMC (mg/L)	0.156	0.142	--	0.333	--
Total Inflow Phosphorus (lb/ac/yr)	1.56	1.10	--	1.89	--
BMP Outflow Nitrogen (lbs/ac/yr)	7.72	7.09	--	5.77	--
BMP Outflow Phosphorus (lbs/ac/yr)	1.13	1.07	--	0.74	--
Catchment Outflow Nitrogen EMC (mg/L)	0.93			1.06	
Catchment Outflow Total Nitrogen (lb/ac/yr)	7.09			5.77	
Percent Reduction in Nitrogen Load (%)	30%			18%	
Catchment Outflow Phosphorus EMC (mg/L)	0.140			0.136	
Catchment Outflow Total Phosphorus (lb/ac/yr)	1.074			0.743	
Percent Reduction in Phosphorus Load (%)	19%			14%	

Figure 10. Trinity Catchment with Wet Pond

	CATCHMENT 1			CATCHMENT 2		
	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2	BMP 3
	Green Roof	--	--	Wet Detention Pond	--	--
Total Area Treated (ac)	26.15	--	--	222.21	--	--
Total Inflow Volume (c.f.)	4,401,649	--	--	18,535,656	--	--
Percent Volume Reduced (%)	50%	--	--	5%	--	--
Inflow Nitrogen EMC (mg/L)	1.08	--	--	1.51	--	--
Total Inflow Nitrogen (lb/ac/yr)	11.35	--	--	7.67	--	--
Inflow Phosphorus EMC (mg/L)	0.150	--	--	0.353	--	--
Total Inflow Phosphorus (lb/ac/yr)	1.58	--	--	1.81	--	--
BMP Outflow Nitrogen (lbs/ac/yr)	5.66	--	--	5.24	--	--
BMP Outflow Phosphorus (lbs/ac/yr)	0.79	--	--	0.68	--	--
Catchment Outflow Nitrogen EMC (mg/L)	1.08			1.06		
Catchment Outflow Total Nitrogen (lb/ac/yr)	5.66			5.24		
Percent Reduction in Nitrogen Load (%)	50%			18%		
Catchment Outflow Phosphorus EMC (mg/L)	0.150			0.138		
Catchment Outflow Total Phosphorus (lb/ac/yr)	0.786			0.682		
Percent Reduction in Phosphorus Load (%)	50%			15%		

Figure 11. Trinity Catchment with Wet Pond and Greenroofs

	CATCHMENT 1			CATCHMENT 2		
	BMP 1	BMP 2	BMP 3	BMP 1	BMP 2	BMP 3
	Green Roof	–	–	Wetland	–	–
Total Area Treated (ac)	26.15	–	–	222.21	–	–
Total Inflow Volume (c.f.)	4,401,649	–	–	18,535,656	–	–
Percent Volume Reduced (%)	50%	–	–	15%	–	–
Inflow Nitrogen EMC (mg/L)	1.08	–	–	1.51	–	–
Total Inflow Nitrogen (lb/ac/yr)	11.35	–	–	7.67	–	–
Inflow Phosphorus EMC (mg/L)	0.150	–	–	0.353	–	–
Total Inflow Phosphorus (lb/ac/yr)	1.58	–	–	1.81	–	–
BMP Outflow Nitrogen (lbs/ac/yr)	5.66	–	–	4.99	–	–
BMP Outflow Phosphorus (lbs/ac/yr)	0.79	–	–	0.64	–	–
Catchment Outflow Nitrogen EMC (mg/L)	1.08			1.13		
Catchment Outflow Total Nitrogen (lb/ac/yr)	5.66			4.99		
Percent Reduction in Nitrogen Load (%)	50%			40%		
Catchment Outflow Phosphorus EMC (mg/L)	0.150			0.145		
Catchment Outflow Total Phosphorus (lb/ac/yr)	0.786			0.639		
Percent Reduction in Phosphorus Load (%)	50%			15%		

Figure 12. Trinity Catchment with Stormwater Wetland and Greenroofs