APPENDIX A

Maps of the Study Area

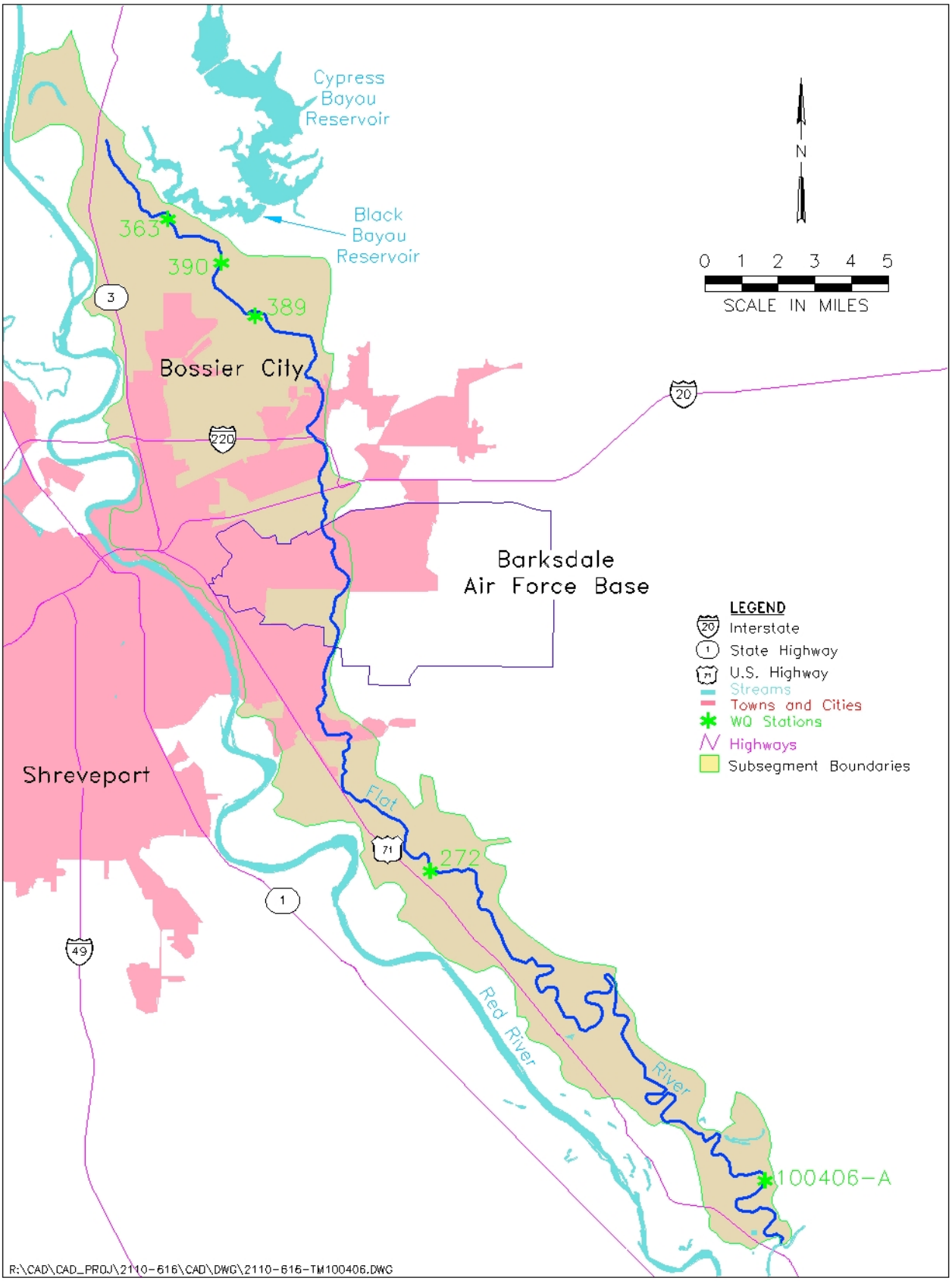

Figure A.1. General Watershed map 100406.

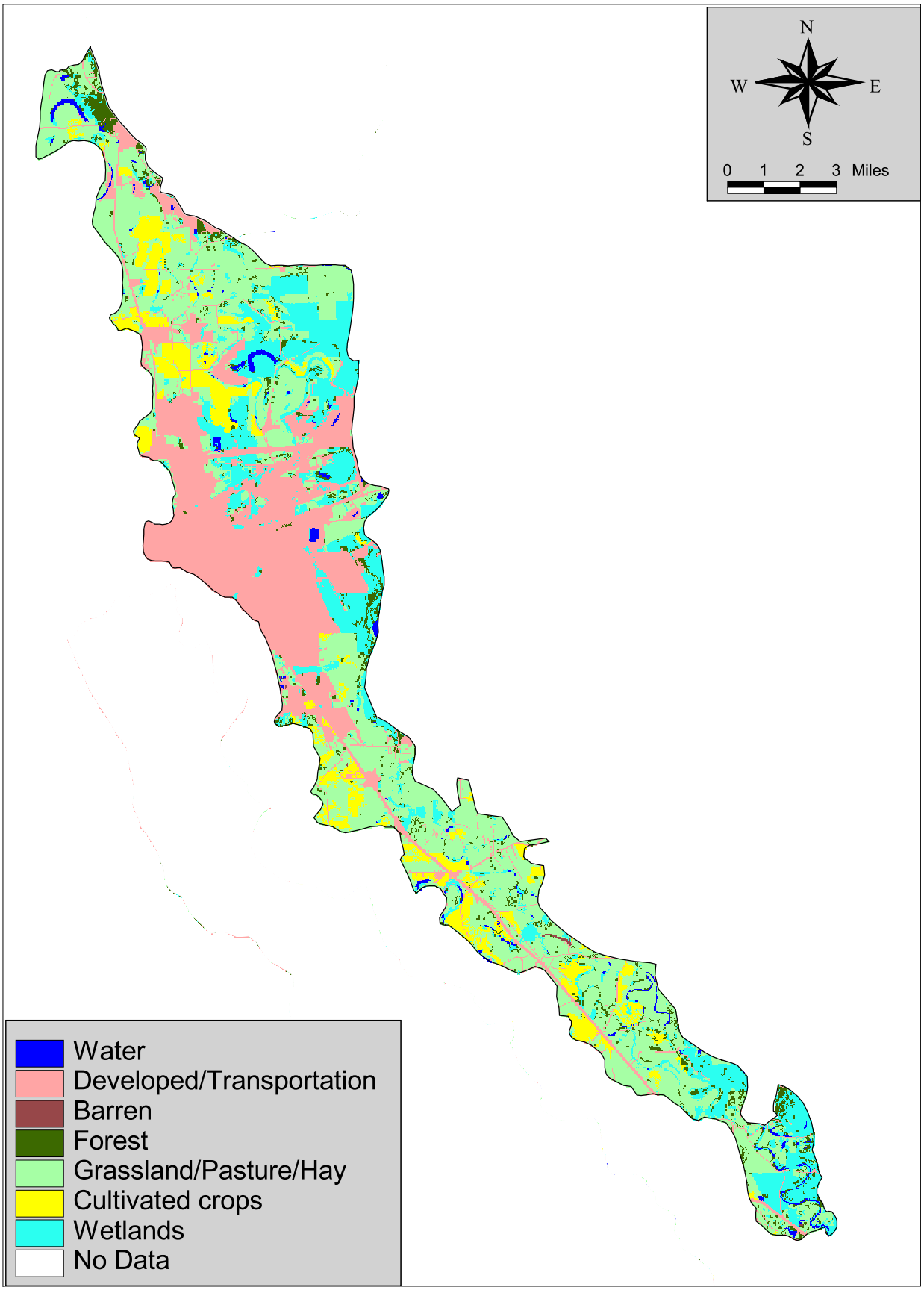

Figure A.2. Land use / land cover for subsegment 100406.

APPENDIX B

List of NPDES Point Source Dischargers in Subsegment 100406

Table B.1. NPDES Permits in Subsegment 100406.

NPDES No.	Facility Name	Company name	Facility Type	Receiving Stream	Outfall	flow (gpd)	CBOD	NH3	Included in Model?	Included in TMDL?
LAG670050	USAF Barksdale AFB - 334 Davis Ave W Ste 208		United States Air Force Base	MACK'S BAYOU	001	536,000	NA	NA	No	No
LA0007293	USAF Barksdale AFB - 334 Davis Ave W Ste 208				002	18700	NA	NA	No	No
				MACK'S BAYOU	005	Report	45 weekly avg	NA	No	DO
				MACK'S BAYOU	006	18100	NA	NA	No	No
				MACK'S BAYOU	007	115300	NA	NA	No	No
				MACK'S BAYOU	008	Intermittent 63200	NA	NA	No	No
				MACK'S BAYOU	009	Intermittent 290100	NA	NA	No	No
				MACK'S BAYOU	010	Intermittent 387600	NA	NA	No	No
				COOPER'S BAYOU	011	Intermittent 3600	NA	NA	No	No
				FLAT RIVER	012	Intermittent	NA	NA	No	No
				FIFI BAYOU	013	400	NA		No	No
				WEST COOPER'S BAYOU	014	Intermittent 8900	NA	NA	No	No
				WEST COOPER'S BAYOU	015	Intermittent 7600	NA	NA	No	No
				WEST COOPER'S BAYOU	016	Intermittent 9800	NA	NA	No	No
				MACK'S BAYOU	017	Report	NA	NA	No	No
LA0102890	PALMETTO PARK OXIDATION POND	BENTON TOWN OF	7 ACRE OXIDATION POND	FLAT RIVER			10-15 (Monthly	Report	Yes	DO, P, N
LA0103446	BOSSIER BRANCH	LA MACHINERY CO INC	HEAVY EQUIP SALES & SRV	COOPER BAYOU	001				No	No
					002	100000			No	No
LA0103667	HYDRAULIC SHOP	LA MACHINERY CO INC	HYDRAULIC COMPONENT REPAIR	COOPER BAYOU					No	No
LA0104485		NAVARRE SVC GROUP J	RX OF PETRO. CONTAMINATED H2O	DITCH-MACKS B-COOPER B-FLAT RIVER					No	No
LAG110003	LI READY MIX 25 SHED RD	LA INDUSTRIES DIV OF TXI OPERATIONS LP	READY MIX CONCRETE	MACK'S BAYOU					No	No
					001	Report			No	No
					002	Report			No	No
					102	5000			No	No
					202	5000			No	No
LAG110085	American Block Co - Bossier City Operation OR FKA LA IND A DIV OF	TXI & HYDRO CONDUIT	READY MIX CONCRETE	RED RIVER	001A				No	No
					001B				No	No
					004A				No	No
					004B				No	No
LAG110088	INDUSTRIAL DRIVE PLANT	BUILDERS SUPPLY CO INC	READY MIX CONCRETE	MACK'S BAYOU	001	Report			No	No
					002	Report			No	No

NPDES No.	Facility Name	Company name	Facility Type	Receiving Stream	Outfall	flow (gpd)	CBOD	NH3	Included in Model?	Included in TMDL?
LAG110096	BENTON & BROWN HOT MIX PLT	BENTON & BROWN INC	HOT-MIX ASPHALT PLT	MACKS BAYOU	001	Report			No	No
					002	Report			No	No
					003	Report			No	No
					004	Report			No	No
					005	Report			No	No
LAG110099		GFRC SHELTERS	MFG CONCRETE SHELTERS	MACKS B-FLAT RIVER-RED RIVER	001	Report			No	No
					002	Report			No	No
LAG110144	REMCO Ready Mix	REMCO Enterprises, LLC	READY MIX CONCRETE	Macks Bayou	001				No	No
					002				No	No
					003				No	No
					004				No	No
					005		45 daily max		No	DO
					006			300	No	DO, N
LAG480035	OMS #14	STATE OF LA MILITARY D	auto wash shop	Macks Bayou to Flat River	001	45600, 91200		200, 300	No	DO, N
LAG480223	LA Machinery Co Inc, Bossier City Store	La Machinery Co. Inc.	heavy equipment dealer	ditch to Cooper Bayou	001	800		200, 300	No	DO, N
					002	800			No	
LAG540038	THE WINNING WAY COMPLEX, Jeff Hall Ministries	JEFF HALL MINISTRIES	REST/AUDITORIUM/ICE CREAM SHOP	WILLOW CHUTE BAYOU	001	9700	30, 45		No	DO, N, P
LAG540188	ELM GROVE JR HIGH SCH	BOSSIER PAR SCH BD	School - 'OXIDATION POND (2,500 GPD)	FLAT RIVER-LOGGY BAYOU-RED RIVER	001	11420	30, 45		Yes	DO, N, P
LAG540494	Maplewood Park	MAPLEWOOD PARK, INC	3 CELLED OX POND FOR MHP	BENOIT BAYOU-ALLIGATOR BAYOU-FLAT R	001	25000	30, 45		No	DO, N, P
LAG541141	Magnolia Chase Subdivision Sewage Treatment Facilities	SMT Properties, LLC	Residential Subdivison	WILLOW CHUTE BAYOU-FLAT RIVER	001	20800	NA	NA	No	DO, N, P
LAG541272	Haymeadow Subdivision	EAGLE WTR INC	Residential Subdivison	WILLIAMS BAYOU-WILLOW CHUTE BAYOU	001	8796	30, 45	NA	No	DO, N, P
LAG541293	St Charles Court Sewer System - Construction	EAGLE WTR INC	Residential Subdivison	WILLOW CHUTE BAYOU	001	23200	30, 45	NA	No	DO, N, P
LAG560047	HAYMEADOW UTILITY CORP	EAGLE WTR INC	TRAILER PARK	WILLIAMS BAYOU-WILLOW CHUTE BAYOU	001	20160	NA	NA	No	No
LAG560063	OAK CREEK DEVELOPMENT INC	EAGLE WTR INC	RESIDENTIAL STP (ASEA)	WILLOW CHUTE BAYOU	001	Report	NA	NA	No	DO, N, P
LAG560083	River Ridge Subdivision	EAGLE WTR INC	RESIDENTIAL STP	FLAT RIVER - LOGGY BAYOU	001	Report	20, 30	NA	Yes	DO, N, P
LAG570255	Kingston Plantation Unit 2 - Construction	EAGLE WTR INC	RESIDENTIAL SUBDIVISION	WILLOW CHUTE	001	96000	NA	NA	No	No

NPDES No.	Facility Name	Company name	Facility Type	Receiving Stream	Outfall	flow (gpd)	CBOD	NH3	Included in Model?	Included in TMDL?
LAG750208	NORTH AIRLINE CAR WASH -- NORTH AIRLINE SELF STORAGE, LLC	BOSSIER CITY, 5216 AIR	CARWASH	WILLOW CHUTE BAYOU		Variable	NA	NA	No	No
LAG750238	HEAD & ENGQUIST EQUIPMENT LLC	BOSSIER CITY, 5908 IND	CONST EQUIP SALES & REPAIR	ALLIGATOR BAYOU		Variable	NA	NA	No	No
LAG750512	Pro Car Wash								No	No
LAG830070	FORMER MOBIL STA #12 LFD	EXXONMOBIL OIL CORP	PETROLEUM UST CLEANUP	FLAT RIVER					No	No
LAG830122	FORMER 7 ELEVEN STORE #23350	7 ELEVEN INC	ICAPC PETRO UST	MACKS BAYOU					No	No
LAG830152	GRANDY'S RESTAURANT	SMITHSON HURLEY & M	USTGWR	TRIBUTARY-MACK'S BAYOU-FLAT RIVER		Report			No	No
LAG830156	TOTAL RETAIL GAS STATION #2847, Total Petroleum, Inc. - Former Road Runner Station 80	TRUMAN ARNOLD CO	USTGWR	RED RIVER		Report			No	No
LAG830169	Chevron Usa Inc - Service Station #60109925								No	No
LAG830172	RaceTrac Petroleum Inc Store #217								No	No
WP4674	HARVEY LEXUS TOYOTA	TRAVIS EXPL INC	AUTO DEALERSHIP	DITCH-BENOIT B-ALLIGATOR B-FLAT RV					No	No
LAG470050	RED RIVER MOTOR CO	BOSSIER CITY 1940 AIRLINE HWY	car dealership	unnamed canal to Mack's Bayou to Red River	001	828			No	No
					002	828			No	No
					003	828			No	No
					004	828			No	No
					005	828	45		No	DO, N, P
					006	828	45		No	DO, N, P

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APPENDIX C

LDEQ Routine Monitoring Data and FTN Synoptic Survey Data

Table C.1. Field data collection sites for FTN Field survey for Red and Sabine basins.

SUBSEG. NUMBER	SITE NO.	SITE NAME	DIRECTIONS	TYPE OF DATA COLLECTED
Red River basin				
100404	100404-A	Cypress Bayou Reservoir at upper end	At LA Hwy 162 bridge east of Benton	In situ
100404	1181	Cypress Bayou Reservoir southeast of Benton, LA	At spillway on Parks Road, 3.1 miles southeast of Benton, 3.5 miles southwest of Bellevue, 9.1 miles north of Bossier	In situ, sample
100405	100405-A	Black Bayou near Benton, LA	At LA Hwy 162 on east edge of Benton	In situ, sample
100405	1182	Black Bayou Reservoir at Linton Road, southeast of Benton, LA	4.4 miles southeast of Benton, 3.2 miles northeast of Dukedale, 4.3 miles southwest of Linton	In situ, sample
100406	363	Flat River Drainage Canal north of Bossier City, LA	At Airline Drive bridge, 4.0 miles south-southeast of Benton, LA	In situ, sample, flow, width
100406	389	Flat River Drainage Canal northeast of Bossier City, LA	At Swan Lake Road bridge 7.5 miles north-northeast of City Hall in Bossier City, LA	In situ, width, flow
100406	390	Flat River Drainage Canal NE of Shreveport	At Deer Point Road bridge 5.75 miles southeast of Benton, LA	In situ, width
100406	272	Flat River east of Taylortown, LA	At State Highway 527 bridge, 13 miles southeast of Shreveport, LA	In situ, flow, width, contin.
100406	100406-A	Flat River east of Poole, LA	At Poole Rd, 3 miles southeast of intersection of Poole Rd and US Hwy 71	In situ, flow, width
100501	100501-A	Bayou Dorcheat south of AR state line	At LA Hwy 157 several miles south of AR state line, east of Springhill, LA	In situ, sample, flow, width
100501	100501-B	Bayou Dorcheat NE of Cotton Valley	At LA Hwy 160 about 4-5 miles northeast of Cotton Valley, LA	In situ, sample, flow, width
100501	61	Bayou Dorcheat west of Minden, LA	At bridge on US Hwy 80, 3.0 miles west of Minden	In situ, flow, width
100501	274	Bayou Dorcheat west of Sibley, LA	At State Highway 164 bridge, 2.0 miles west of Sibley, LA, 6.0 miles southwest of Minden, LA	In situ, flow, width,
100601	100601-A	Wallace Bayou upstream of Bayou Pierre	At White Springs Rd, about 4 miles southwest of Gayles, LA, about 2 miles downstream of Wallace Lake	In situ, sample, flow, width
100601	278	Bayou Pierre near Shreveport, LA	At State Highway 526 bridge, 0.75 mile northeast of Forbing, LA, 8.0 miles south of Shreveport, LA	In situ, sample, flow, width
100601	1183	Bayou Pierre at Ellerbee Road, S of Gayles	3.2 miles south of Gayles, 2.4 miles southwest of Cecile, 5 miles northeast of Frierson	In situ, sample, flow, width
100601	100601-B	Bayou Pierre southwest of Williams, LA	At highway 509, about 4 miles southwest of Williams, LA, about 9 miles south of Caddo/Red River Parish line	In situ, flow, width
100602	100602-A	Boggy Bayou SE of Hicks Crossing, LA	At LA Hwy 169, about 2-3 miles southeast of Hicks Crossing	In situ, sample, flow, width
100602	1207	Boggy Bayou southwest of Shreveport, LA	6.4 miles southwest of Shreveport, 3.1 miles north of Keithville, 2.9 miles southeast of Reservoir	In situ, sample, flow, width
100702	100702-A	Black Lake Bayou west of Mt. Lebanon	At LA Hwy 793 about 5-6 miles west of Mt. Lebanon (in 100701)	In situ, flow, width
100702	100702-B	Leatherman Creek west of Mt. Lebanon	At LA Hwy 793 about 4 miles west of Mt. Lebanon	In situ, sample, flow, width

SUBSEG. NUMBER	SITE NO.	SITE NAME	DIRECTIONS	TYPE OF DATA COLLECTED
100702	282	Black Lake Bayou west of Castor, LA	At LA Highway 4, 2.5 miles west of Castor, LA, 18.5 miles northeast of Coushatta, LA	In situ, sample, flow, width
100702	1187	Black Lake Bayou at Hwy 155, E of Martin	At bridge on State Hwy 155, 3.5 miles east of Martin, 6.2 miles west of Skidder, 5 miles SW of Ashland	In situ, sample, flow, width
100703	100703-A	Black Lake northeast of Campti, LA	On LA Hwy 9 bridge about 6 miles northeast of Campti, LA	In situ, sample
100703	100703-B	Clear Lake outlet northeast of Clarence, LA	At LA Hwy 1226, just downstream of Chivery Dam at outlet of Clear Lake, about 5 miles northeast of Clarence	In situ, sample, flow, width
100803	100803-A	Saline Bayou northeast of Clarence, LA	Access point at end of LA Hwy 1227 at Allen Dam, about 5.5 miles NE of Clarence	In situ, sample, flow, width
100803	1214	Saline Bayou southeast of Clarence, LA	At US Hwy 71, 7 miles east of Natchitoches, 5.1 miles southeast of Clarence, 3.4 miles south of Trichell	In situ, sample, flow, width, contin.
101301	556	Cress Creek west of Oak Grove, LA	At bridge on LA Hwy 8, 2.8 miles W of Oak Grove, 4 miles S of Fairfield, 3.7 miles N of Bagdad	In situ, sample
101301	101301-A	Rigolette Bayou WNW of Bagdad, LA	At LA Hwy 492, about 1 mile WNW of Bagdad, about 7 miles southeast of Colfax	In situ, sample, flow, width
101301	1220	Rigolette Bayou northwest of Pineville, LA	Bridge on Rigolette Rd., 4.8 miles NW of Pineville, 1.6 miles NE of Barrett, 3.9 miles SW of Tio	In situ, sample, flow, width, contin.
101302	101302-A	Iatt Creek near upstream end of Iatt Lake	At LA Hwy 122 about 10 miles east of Montgomery, LA	In situ, sample
101302	570	Beaver Creek south of Faircloth, LA	0.35 miles west of Faircloth, 2 miles northwest of Fairfield, 4.5 miles southwest of Wilhana	In situ, sample
101302	1221	Iatt Lake southwest of Fairfield, LA	Public boat launch near spillway, 4.4 miles southwest Fairfield, 7.1 miles northwest of Oak Grove, 3.7 miles northeast	In situ, sample
101503	371	Saline Bayou east of Alexandria, LA	9.0 miles east of Buckeye, LA, 1.5 mile northeast of Saline Lake, 0.5 mile south of entrance to Bushyhead Bayou	In situ
101503	101503-A	Saline Bayou southeast of Saline Lake	At local road about 1-2 miles southeast of east end of Saline Lake	In situ, sample
101604	1231	Lake Concordia at Ferriday, LA	Sportsman's Marina, 1.7 miles NW of Ridgecrest, 6.8 miles S of Clayton, 16 miles E of Jonesville	In situ, sample
101604	101604-A	Bayou Cocodrie at Ferriday, LA	At US Hwy 65 bridge, about 0.5 miles SW of Lake Concordia	In situ, width, xcs
Sabine River basin				
110401	110401-A	Toro Creek southeast of Florien, LA	At Plainview Road, about 3-4 miles southeast of Florien, LA	In situ, sample, flow, width
110401	1160	Bayou Toro northeast of Toro, LA	At LA Hwy 473, about 2 miles northeast of Toro, LA	In situ, sample, flow, width

Note: “contin.” = continuous in situ monitoring

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Table C.2. In situ data for FTN field survey in Red River and Sabine River basins.

Subsegment Number	Site No.	Site Name	Date	Time	Water Temp. (C)	DO (mg/L)	Conductivity (umhos/cm)	pH (su)
100404	1181	Cypress Bayou Reservoir southeast of Benton	09/01/05	10:44	30.8	7.3	54	7.3
	100404-A	Cypress Bayou Reservoir @ Hwy 162	09/01/05	11:20	30.4	6.1	51	7.0
100405	1182	Black Bayou Reservoir @ Linton Rd	09/01/05	10:20	29.8	5.5	75	7.2
	100405-A	Black Bayou @ Hwy 162	09/01/05	11:45	24.9	1.0	440	6.9
100406	272	Flat River @ Hwy 527	09/02/05	08:15	25.5	2.9	811	7.1
	363	Flat River Airline Dr. bridge	09/01/05	09:30	29.3	5.2	90	7.1
	389	Flat River Dr. Canal Swan L. Rd.	09/01/05	07:54	26.9	1.4	336	7.6
	390	Flat River @ Deer Pt. Road	09/01/05	08:40	27.1	0.4	179	7.2
	100406-A	Flat River @ Swan Lake Bridge	08/31/05	19:00	30.6	5.3	888	7.3
100501	61	Bayou Dorcheat @ Hwy 80	09/01/05	18:45	32.6	7.1	127	6.7
	274	Bayou Dorcheat @ Hwy 164	09/02/05	09:40	29.1	6.2	193	7.6
	100501-A	Bayou Dorcheat	09/01/05	14:35	27.1	3.2	418	7.1
	100501-B	Bayou Dorcheat @ Hwy 160	09/01/05	15:55	31.8	5.9	76	7.2
100601	278	Bayou Pierre nr Shreveport	08/31/05	12:20	31.0	6.8	498	7.0
	1183	Bayou Pierre @ Ellerbee Rd	08/31/05	10:10	25.0	3.7	476	7.2
	100601-A	Wallace Bayou	08/31/05	11:10	29.5	5.9	214	7.6
	100601-B	Bayou Pierre	08/31/05	08:45	26.6	4.9	338	7.4
100602	1207	Boggy Bayou Hwy 171	08/31/05	14:40	31.5	5.2	156	7.1
	100602-A	Boggy Bayou @ Hwy 169	08/31/05	13:45	27.2	4.4	208	7.1
100702	282	Black Lake Bayou Hwy 4	09/07/05	09:20	24.7	5.3	35	6.1
	1187	Black Lake Bayou Hwy 155	09/07/05	10:25	24.9	5.3	40	6.3
	100702-A	Black Lake Bayou Hwy 793	09/07/05	07:20	23.4	2.9	167	6.3
	100702-B	Leatherman Creek	09/07/05	08:05	23.3	3.4	54	6.3
100703	100703-A	Black Lake @ Hwy 9	09/07/05	11:20	27.6	5.3	71	6.4
	100703-B	Clear Lake outlet	09/07/05	12:40	29.8	6.9	96	6.9
100803	1214	Saline Bayou @ Hwy 71	09/07/05	14:40	30.2	5.4	105	6.8
	100803-A	Saline Bayou @ Allen Dam	09/07/05	13:40	30.6	8.3	82	7.8
101301	556	Cress Creek @ Hwy 8	09/08/05	11:30	21.7	7.5	22	6.5
	1220	Rigolette Bayou @ Rig. Road	09/08/05	09:35	27.4	4.3	108	6.8
	101301-A	Rigolette Bayou @ hwy 492	09/08/05	10:20	24.2	5.0	54	6.6
101302	570	Beaver Creek	09/08/05	12:30	20.3	8.3	29	6.5
	1221	Iatt Lake	09/08/05	11:05	26.5	3.2	6	6.3
	101302-A	Iatt Creek @ Hwy 122	09/08/05	12:05	24.2	1.2	129	6.4
101503	101503-A	Saline Bayou on Farm Rd.	09/09/05	07:05	24.0	3.3	179	6.9
101504	371	Saline Bayou @ WMA boatramp	09/08/05	15:30	30.6	8.3	47	8.0
101604	1231	Lake Concordia @ Sportmans Lodge	09/09/05	08:45	28.9	7.5	251	8.3
	101604-A	Bayou Cocodrie @ Hwy 65	09/09/05	08:30	27.2	2.2	282	6.9
110401	1160	Bayou Toro @ Hwy 473	09/08/05	07:30	24.4	4.8	99	6.4
	110401-A	Toro Creek @ Plainview Rd.	09/08/05	06:40	21.8	1.3	81	6.3

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Table C.3 Analytical laboratory results from samples collected in FTN field survey for Red River and Sabine River basins.

Subsegment Number	Site Number	Site Name	Sampling Date	TSS (mg/L	TKN (mg/L)	Total Phos. (mg/L)	TOC (mg/L)	Chlorophyll a (mg/L)	Ammonia as N (mg/L)	NO3 + NO2 N (mg/L)
100404	1181	Cypress Bayou Reservoir nr Benton	09/01/05	7.7	1.8	0.045	9.1	0.035	0.24	<0.05
100405	1182	Black Bayou Reservoir nr Linden Rd	09/01/05	8	1.9	0.061	10	0.051	0.14	<0.05
	100405-A	Black Bayou nr Benton	09/01/05	8.4	2.4	0.082	12	<0.02	0.56	<0.05
100406	363-1	Flat River Dr. Canal nr Bossier City	09/01/05	26	2.5	0.093	10	0.027	0.39	<0.05
	363-2	Flat River Dr. Canal nr Bossier City	09/01/05	26	2.2	0.074	11	0.03	0.36	<0.05
100501	100501-A	Bayou Dorcheat nr AR line	09/01/05	11	1.6	0.15	5.7	<0.02	0.2	0.26
	100501-B	Bayou Dorcheat NE Cotton Valley	09/01/05	4.4	1.7	0.048	8.3	0.021	0.18	<0.05
100601	278	Bayou Pierre nr Shreveport	08/31/05	9.8	1.4	0.25	7.6	<0.02	0.13	<0.05
	1183	Bayou Pierre at Ellerbee Rd.	08/31/05	16	2.3	0.22	2.6	<0.02	0.22	0.39
	100601-A-1	Wallace Bayou u/s B. Pierre	08/31/05	19	1.6	0.085	6.8	<0.02	<0.1	<0.05
	100601-A-2	Wallace Bayou u/s B. Pierre	08/31/05	18	1.8	0.085	6.7	<0.02	<0.1	0.06
100602	1207	Boggy Bayou SW of Shreveport	08/31/05	19	1.5	0.14	6.1	<0.02	<0.1	<0.05
	100602-A	Boggy Bayou SE of Hicks Crossing	08/31/05	78	1.8	0.15	8.1	<0.02	<0.1	<0.05
100702	100702-B	Leatherman Creek	09/07/05	18	2.4	0.11	7.5	0.076	0.32	<0.05
	282	Black Lake Bayou w of Castor	09/07/05	4.8	1.6	0.048	5.9	<0.02	0.22	0.064
	1187	Black Lake Bayou @ Hwy 155	09/07/05	5.2	1.7	0.064	6	<0.02	0.17	0.096
100703	100703-A-1	Black Lake NE Campti	09/07/05	73	1.7	0.048	7.7	<0.02	0.17	<0.05
	100703-A-2	Black Lake NE Campti	09/07/05	4.4	1.9	0.05	7.8	<0.02	0.17	<0.05
	100703-B	Clear Lake outlet	09/07/05	16	1.9	0.12	9.2	0.1	0.25	<0.05
100803	1214	Saline Bayou SE of Clarence	09/07/05	22	1.9	0.08	8.6	0.034	0.23	<0.05
	100803-A	Saline Bayou NE of Clarence	09/07/05	16	3	0.098	8.7	0.05	0.21	<0.05
101301	556	Cress Creek	09/08/05	<4	<1	<0.02	3.1	<0.02	0.16	<0.05
	1220	Rigolette Bayou NE of Pineville	09/08/05	13	1.1	0.082	4.9	<0.02	0.12	<0.05
	570	Beaver Creek	09/08/05	6.2	<1	<0.02	1.5	<0.02	<0.1	0.1
	101301-A	Rigolette Bayou WNW of Bagdad	09/08/05	41	1.3	0.08	3.2	<0.02	0.19	<0.05
101302	1221	Iatt Lake	09/08/05	<4	<1	<0.02	9	<0.02	0.19	<0.05
	101302-A-1	Iatt Creek	09/08/05	5.4	1.4	0.048	11	<0.02	0.22	0.059
	101302-A-2	Iatt Creek	09/08/05	5.2	<1	0.048	11	<0.02	0.14	<0.05
101503	101503-A	Saline Bayou SE of Saline L.	09/09/05	280	2.2	0.15	6.8	0.026	0.58	0.068
101604	1231	Lake Concordia	09/09/05	12	1.9	0.15	7.9	0.049	0.23	<0.05
110401	1160	Bayou Toro NE of Toro	09/08/05	16	1.7	0.1	6.4	<0.02	0.14	<0.05
	110401-A	Toro Creek	09/08/05	6.8	1.4	0.11	7.3	<0.02	0.16	<0.05

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Table C.4. Summary of CBOD time series data from FTN field survey of Red River and Sabine River basins..

Subsegment Number	Sample No.	CBOD 1, 2-day	CBOD 2, 5-day	CBOD 3, 9-day	CBOD 4, 14-Day	CBOD 5, 20-day	k rate (1/day)	CBODu (mg/l)
100404	1181	<2	3.3	5	5.3	5.2	0.22	5.49
100405	1182	2.9	4.8	6.7	8.1	12	0.06	15.61
	100405-A	<2	<2	3.3	5.1	6.9	0.05	12.47
100406	363-1	<2	<2	4.3	5.7	6.6	0.12	7.50
	363-2	<2	<2	4.2	5.8	6.8	0.12	7.69
100501	100501-A	2.4	3.2	3.9	4.2	4.8	0.30	4.43
	100501-B	5.2	6.5	7.6	7.9	12	0.21	10.13
100601	278	<2	<2	2.3	4.6	6.8	0.04	13.85
	1183	<2	<2	<2	5.1	3.9	0.60	4.50
	100601-A-1	<2	<2	<2	2.8	4.4	0.16	5.38
	100601-A-2	<2	2.1	2.3	4.1	5.4	0.04	9.83
100602	1207	<2	<2	2.1	3.4	6	0.04	13.05
	100602-A	2.7	3.9	5	7.8	9.4	0.07	11.99
100702	282	<2	<2	<2	<2	2.2	--	--
	1187	<2	<2	<2	<2	<2	--	--
	100702-B	<2	2.1	3.7	4.6	6.2	0.05	9.62
100703	100703-A-1	<2	<2	<2	2.5	4	0.05	8.69
	100703-A-2	<2	<2	<2	2.3	3.1	0.05	5.60
	100703-B	2.4	5.9	8.9	9.6	14	0.08	16.99
100803	1214	<2	2.7	7.1	7.3	8.9	0.31	8.42
	100803-A	<2	<2	3.9	4.8	6.6	0.05	10.75
101301	556	<2	<2	<2	<2	<2	--	--
	1220	<2	<2	<2	3.1	3.9	0.15	4.43
	101301-A	<2	<2	<2	<2	<2	--	--
101302	570	<2	<2	<2	<2	<2	--	--
	1221	<2	<2	<2	<2	2.2	--	--
	101302-A-1	<2	<2	2.7	3.6	4.3	0.10	5.04
	101302-A-2	<2	<2	<2	2.5	3.4	0.05	5.75
101503	101503-A	<2	<2	3.6	6.2	6.9	0.22	7.29
101604	1231	<2	3.6	7.3	9.9	12	0.06	18.50
110401	1160	<2	<2	<2	<2	2	--	--
	110401-A	<2	<2	<2	<2	2.3	--	--

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Table C.5. LDEQ Historical Qwater Quality Data for Flat River Drainage Canal north of Bossier City, Louisiana (363)

Collection Date	Collection Time	NO_2+NO_3 (mg/L)[A]	TP (mg/L)	TKN (mg/L)	TOC (mg/L)
14-Nov-90	11:00	0.07	0.54	0.78	7.20
11-Dec-90	10:25	0.26	0.24	0.74	7.40
14-Jan-91	01:45	0.49	0.35	0.76	6.90
5-Feb-91	11:30	0.38	0.20	0.78	6.70
12-Mar-91	12:00	0.29	0.19	0.23	6.10
16-Apr-91	10:40	0.14	0.54	1.11	8.50
13-May-91	02:10	0.23	0.37	1.01	8.80
11-Jun-91	09:35	0.06	0.20	0.76	6.40
15-Jul-91	04:20	0.12	0.27	0.88	8.80
12-Aug-91	04:15	< 0.02	0.16	1.04	10.80
9-Sep-91	03:50	0.06	0.28	1.22	8.50
15-Oct-91	02:30	< 0.02	0.09	0.60	5.90
19-Nov-91	09:40	0.02	0.46	0.85	9.50
10-Dec-91	09:20	0.16	0.39	1.02	7.00
6-Jan-92	01:30	0.17	0.17	0.68	5.70
10-Feb-92	02:30	0.25	0.00	0.00	6.00
9-Mar-92	02:00	0.18	0.57	1.44	12.80
6-Apr-92	02:55	0.28	0.08	0.54	5.40
11-May-92	04:30	0.00	0.21	0.77	4.70
15-Jun-92	03:15	0.02	0.28	0.93	6.10
13-Jul-92	03:05	< 0.02	0.15	0.69	11.10
15-Sep-92	11:25	0.06	0.26	1.15	10.20
13-Oct-92	10:20	< 0.02	0.23	0.52	10.60
17-Nov-92	09:05	< 0.02	0.19	0.50	6.60
14-Dec-92	12:20	< 0.02	0.16	0.67	8.40
11-Jan-93	01:20	0.23	0.27	0.87	8.00
9-Feb-93	10:00	0.08	0.12	0.76	10.40
8-Mar-93	01:50	0.13	0.14	0.79	8.40
13-Apr-93	10:35	0.19	0.28	1.28	6.40
11-May-93	11:20	0.21	0.32	1.35	11.00
15-Jun-93	03:40	0.06	0.43	0.88	6.30
13-Jul-93	02:25	< 0.02	0.33	0.94	12.20
9-Aug-93	duplc	0.07	0.55	0.65	7.55
14-Sep-93	02:40	0.02	0.28	1.05	9.90
11-Oct-93	03:10	0.09	0.68	0.93	9.00
16-Nov-93	02:15	0.29	1.01	1.92	17.70
13-Dec-93	02:55	0.24	0.37	0.85	9.30
10-Jan-94	03:40	0.08	0.11	0.77	4.70
8-Feb-94	01:20	0.23	0.20	0.87	4.60
15-Mar-94	02:25	0.08	0.20	0.74	5.60
11-Apr-94	04:15	0.16	0.22	0.97	5.40
9-May-94	05:00	0.10	0.37	1.14	8.80
13-Jun-94	03:45	0.04	0.48	1.14	8.60
11-Jul-94	04:00	< 0.02	0.40	1.04	8.20
9-Aug-94	10:45	< 0.02	0.87	1.15	11.40
12-Sep-94	02:45	< 0.02	0.40	1.32	8.50

Collection Date	Collection Time	NO_2+NO_3 (mg/L)[A]	TP (mg/L)	TKN (mg/L)	TOC (mg/L)
10-Oct-94	02:50	< 0.02	1.37	1.06	8.60
14-Nov-94	03:10	< 0.02	0.55	0.96	7.30
12-Dec-94	03:00	1.15	0.35	1.34	8.90
	Count	49	49	49	49
	Minimum	0.00	0.00	0.00	4.60
	Average	0.14	0.34	0.91	8.22
	Median	0.08	0.28	0.88	8.40
	Maximum	1.15	1.37	1.92	17.70

Notes: A. Values below the detetction limit of 0.02 mg/L were set equal to half the detection limit (0.01 mg/L) for statistical analysis.
B. LDEQ collected no ammonia data prior to 1999.
C. The DO data for this station was unavailable.
D. For duplicate samples the two values have been averaged as one value.

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Table C.6. LDEQ Historical Water Quality Data for Flat River Drainage Canal northeast of Shreveport, Louisiana (390)

Collection Date	Collection Time	NO_2+NO_3 (mg/L)[A]	TP (mg/L)	TKN (mg/L)	TOC (mg/L)
14-NOV-1990	10:30	0.08	0.97	1.30	8.70
11-DEC-1990	09:50	0.39	0.56	1.12	7.90
14-JAN-1991	01:15	0.34	0.50	0.87	7.60
05-FEB-1991	11:00	0.36	0.46	1.10	6.60
12-MAR-1991	11:45	0.20	0.46	1.41	8.64
16-APR-1991	10:05	0.10	0.68	1.18	8.90
13-MAY-1991	01:45	0.29	0.49	1.37	10.60
11-JUN-1991	09:05	0.31	0.56	1.78	10.60
15-JUL-1991	03:50	< 0.02	0.45	1.28	14.50
12-AUG-1991	04:45	< 0.02	0.45	1.15	13.30
09-SEP-1991	03:15	< 0.02	0.38	1.26	9.40
15-OCT-1991	02:50	< 0.02	0.29	1.04	8.50
19-NOV-1991	09:10	0.35	0.80	1.05	9.10
10-DEC-1991	08:30	0.16	0.57	1.04	7.90
06-JAN-1992	01:50	0.17	0.30	1.02	7.70
10-FEB-1992	02:15	0.08	0.00	0.00	7.40
09-MAR-1992	01:30	0.17	0.84	2.11	15.70
06-APR-1992	03:15	0.08	0.19	0.80	7.20
11-MAY-1992	04:05	0.00	0.31	1.10	7.80
15-JUN-1992	02:35	< 0.02	0.40	1.19	8.70
13-JUL-1992	02:40	< 0.02	0.20	1.03	16.10
15-SEP-1992	11:00	0.03	0.67	1.20	11.30
13-OCT-1992	10:00	< 0.02	0.28	0.85	18.10
17-NOV-1992	08:40	0.02	0.20	0.63	7.70
14-DEC-1992	12:00	0.08	0.32	0.68	9.70
11-JAN-1993	01:40	0.28	0.43	1.00	8.10
09-FEB-1993	09:40	0.04	0.40	1.22	14.40
08-MAR-1993	01:35	0.08	0.23	0.82	9.00
13-APR-1993	10:05	0.09	0.32	0.98	1.10
11-MAY-1993	10:40	0.18	0.46	1.35	13.00
15-JUN-1993	03:10	0.05	0.88	1.54	10.90
13-JUL-1993	02:05	< 0.02	0.62	1.24	14.70
14-SEP-1993	02:25	< 0.02	0.37	0.91	11.20
11-OCT-1993	02:50	0.02	0.85	0.93	9.20
16-NOV-1993	01:55	0.33	0.85	1.92	17.90
13-DEC-1993	02:40	0.57	0.30	0.64	7.20
10-JAN-1994	03:20	0.64	0.22	0.99	6.40
08-FEB-1994	01:00	0.32	0.49	1.32	6.60
15-MAR-1994	02:50	0.30	0.32	1.37	8.10
11-APR-1994	03:55	0.27	0.59	2.61	10.40
09-MAY-1994	04:35	< 0.02	0.63	1.93	9.80
13-JUN-1994	03:15	0.04	0.59	1.27	10.30
11-JUL-1994	03:40	< 0.02	1.01	1.46	16.90
09-AUG-1994	10:10	< 0.02	0.80	1.04	11.80
12-SEP-1994	02:20	< 0.02	0.98	1.58	12.90
10-OCT-1994	02:15	< 0.02	0.00	0.00	9.90
14-NOV-1994	02:55	0.16	1.26	1.87	10.20
12-DEC-1994	02:40	1.08	0.52	2.65	9.70
	Count	48	48	48	48
	Minimum	0.00	0.00	0.00	1.10
	Average	0.16	0.51	1.21	10.19
	Median	0.08	0.46	1.17	9.55
	Maximum	1.08	1.26	2.65	18.10

Notes: A. Values below the detetction limit of 0.02 mg/L were set equal to half the detection limit (0.01 mg/L) for statistical analysis.
B. LDEQ collected no ammonia data prior to 1999.
C. The DO data for this station was unavailable.

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Table C.7. LDEQ Historical Water Quality Data for Flat River Drainage Canal northeast of Bossier City, Louisiana (389)

Collection Date	Collection Time	NO_2+NO_3 (mg/L)[A]	TP (mg/L)	TKN (mg/L)	TOC (mg/L)
14-NOV-1990	10:00	0.23	0.85	1.17	9.00
11-DEC-1990	09:10	0.36	0.46	1.09	8.40
14-JAN-1991	12:45	0.25	0.56	0.81	8.20
05-FEB-1991	10:25	0.23	0.48	0.96	9.60
12-MAR-1991	11:10	0.09	0.56	1.57	13.10
16-APR-1991	09:20	0.14	0.62	1.11	9.20
13-MAY-1991	12:30	< 0.02	0.55	1.12	10.00
11-JUN-1991	08:30	0.16	0.35	1.62	10.10
15-JUL-1991	03:15	< 0.02	0.43	1.90	17.50
12-AUG-1991	03:45	< 0.02	0.37	1.23	13.10
09-SEP-1991	02:45	< 0.02	0.45	1.02	8.10
15-OCT-1991	03:25	0.03	0.21	0.79	9.30
19-NOV-1991	08:45	0.24	1.16	0.94	12.30
10-DEC-1991	08:30	0.14	0.73	1.07	9.40
06-JAN-1992	02:20	0.03	0.26	0.77	8.10
10-FEB-1992	01:35	0.04	0.00	0.00	7.90
09-MAR-1992	12:55	0.14	0.85	1.73	14.00
06-APR-1992	03:50	0.03	0.30	0.93	10.20
11-MAY-1992	03:30	0.00	0.38	1.34	10.10
15-JUN-1992	01:50	0.03	0.48	1.44	10.20
13-JUL-1992	02:05	< 0.02	0.40	0.93	15.80
15-SEP-1992	10:30	0.04	0.33	1.03	10.70
13-OCT-1992	09:30	< 0.02	0.20	0.66	7.90
17-NOV-1992	08:10	0.02	0.17	0.55	7.70
14-DEC-1992	10:45	< 0.02	0.36	0.71	9.50
11-JAN-1993	02:10	0.16	0.50	0.86	7.60
09-FEB-1993	09:05	< 0.02	0.32	0.98	14.40
08-MAR-1993	01:10	0.09	0.23	0.80	9.40
13-APR-1993	09:25	0.22	0.47	1.15	1.10
11-MAY-1993	10:00	0.37	0.36	1.20	11.00
15-JUN-1993	02:40	0.06	0.52	1.17	8.30
13-JUL-1993	01:45	< 0.02	0.58	3.67	16.50
09-AUG-1993	03:00	0.04	0.53	0.81	10.50
14-SEP-1993	02:00	< 0.02	0.52	0.97	11.00
11-OCT-1993	02:30	0.04	0.66	0.84	9.40
16-NOV-1993	01:35	0.32	0.96	1.51	14.40
13-DEC-1993	02:15	0.10	0.21	0.61	8.40
10-JAN-1994	03:00	0.07	0.11	0.68	6.70
08-FEB-1994	12:35	0.16	0.38	1.02	7.50
15-MAR-1994	03:20	0.16	0.35	0.82	9.20
11-APR-1994	03:35	0.17	0.28	1.48	9.20
09-MAY-1994	04:15	0.27	0.46	1.40	10.10
13-JUN-1994	02:45	0.04	0.45	1.18	11.40
11-JUL-1994	03:15	< 0.02	0.70	1.51	15.50
09-AUG-1994	09:30	< 0.02	0.56	0.98	10.90
12-SEP-1994	02:00	0.02	0.43	1.19	11.60
10-OCT-1994	02:15	< 0.02	1.28	1.20	10.10
14-NOV-1994	02:35	< 0.02	0.60	1.24	10.40
12-DEC-1994	02:20	0.62	0.65	1.66	10.60
	Count	49	49	49	49
	Minimum	0.00	0.00	0.00	1.10
	Average	0.11	0.48	1.13	10.30
	Median	0.04	0.46	1.07	10.10
	Maximum	0.62	1.28	3.67	17.50

Notes: A. Values below the detetction limit of 0.02 mg/L were set equal to half the detection limit (0.01 mg/L) for statistical analysis.
B. LDEQ collected no ammonia data prior to 1999.
C. The DO data for this station was unavailable.

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Table C.8. LDEQ Historical Data for Flat River east of Taylortown, Louisiana (272).

Collection Date	Collection Time	DO (mg/L)	NO_2+NO_3 (mg/L)[A]	TP (mg/L)	TKN (mg/L)	TOC (mg/L)	NH_3 (mg/L)[B]
12-FEB-1990	09:25	7.90	0.30	0.54	1.06	10.70	
09-APR-1990	12:30	4.70	0.31	0.40	1.15	9.20	
11-JUN-1990	11:30	9.90	< 0.02	0.32	0.93	8.20	
14-AUG-1990	11:10	4.10	0.03	0.23	1.05	4.70	
16-OCT-1990	10:00	5.50	0.06	0.19	0.54	4.50	
10-DEC-1990	11:15	7.60	0.13	0.32	0.72	5.30	
04-FEB-1991	01:45	7.80	0.15	0.15	0.51	4.60	
16-APR-1991	12:10	3.00	0.08	0.31	0.68	8.00	
11-JUN-1991	11:45	4.20	0.06	0.15	0.65	10.70	
13-AUG-1991	12:00	5.50	< 0.02	0.20	0.61	4.20	
14-OCT-1991	12:50	7.80	< 0.02	0.13	0.54	4.20	
10-DEC-1991	11:45	6.00	0.25	0.69	1.32	10.80	
10-FEB-1992	11:45	8.40	0.06	0.27	0.77	7.50	
06-APR-1992	11:45	6.30	0.08	0.19	0.79	6.20	
15-JUN-1992	11:20	4.00	0.23	0.21	0.95	5.70	
11-AUG-1992	11:50	5.00	0.03	0.16	0.67	4.60	
12-OCT-1992	12:40	7.20	< 0.02	0.09	0.45	3.50	
14-DEC-1992	11:15	8.40	0.11	0.24	< 0.02	7.00	
08-FEB-1993	01:40	8.60	0.11			4.60	
13-APR-1993	09:35	5.55	0.13	0.23	0.65	6.03	
14-JUN-1993	09:50	5.30	0.08	0.24	1.06	6.80	
09-AUG-1993	09:00	3.67	0.28	0.32	0.84	5.20	
11-OCT-1993	09:45	6.23	0.13	0.17	0.53	4.10	
14-DEC-1993	09:25	8.10	0.28	0.25	0.81	4.20	
08-FEB-1994	10:00	6.30	0.11	0.16	0.88	5.30	
12-APR-1994	08:53	7.42	0.15	0.33	1.36	5.10	
13-JUN-1994	10:45	4.36	0.26	0.22	0.79	4.50	
08-AUG-1994	09:50	3.71	0.36	0.43	1.06	6.80	
11-OCT-1994	09:40	4.76	< 0.02	0.23	0.49	3.90	
13-DEC-1994	09:10	8.34	0.09	0.40	1.03	11.30	
14-FEB-1995	09:40	6.93	0.06	0.11	0.54	4.50	
04-APR-1995	09:50	3.77	0.04	0.16	0.58	5.40	
12-JUN-1995	10:25	2.59	0.46	0.21	0.94	3.50	
15-AUG-1995	11:29	3.21	0.08	0.18	0.91		
09-OCT-1995	10:45	7.12	0.05	0.09	0.63	8.90	
11-DEC-1995	09:52	6.41	0.23	0.12	0.74	8.50	
13-FEB-1996	09:58	7.12	0.06	0.14	0.63	11.90	
08-APR-1996	11:12	6.52	0.69	0.16	1.08	17.80	
10-JUN-1996	10:14	4.56	0.30	0.17	1.21	6.80	
13-AUG-1996	10:04	4.31	0.09	0.14	0.36	8.10	
15-OCT-1996	10:28	6.46	0.06	0.18	0.47	9.80	
09-DEC-1996	10:39	7.71	0.12	1.64	0.68	10.80	
18-FEB-1997	09:36	8.67	0.07	0.36	0.74	7.80	
15-APR-1997	10:26	7.86	< 0.02	0.24	0.56	10.30	
09-JUN-1997	10:42	5.87	1.09	0.19	1.02	18.70	
12-AUG-1997	09:54	6.46	0.39	0.25	0.85	8.00	
14-OCT-1997	10:12	7.42	0.33	0.33	0.43	4.70	

Collection Date	Collection Time	DO (mg/L)	NO_2+NO_3 (mg/L)[A]	TP (mg/L)	TKN (mg/L)	TOC (mg/L)	NH_3 (mg/L)[B]
09-DEC-1997	10:12	9.48	0.31	0.50	1.36	13.50	
10-FEB-1998	09:46	9.54					
14-APR-1998	10:38	7.81	0.11	0.17	0.75	6.90	
15-JAN-2002	09:20		0.22	ND	0.91	4.00	0.1
19-FEB-2002	01:15	7.13	0.11	0.12	0.65	5.30	0.1
19-MAR-2002	09:25	6.78	0.13	0.25	0.93	8.10	0.1
09-APR-2002	12:40	5.13	0.18	0.40	1.17	10.80	< 0.1
14-MAY-2002	09:35	3.58	0.16	0.12	0.73	ND	0.1
11-JUN-2002	11:55	4.68	0.12	0.20	0.64	27.50	0.1
09-JUL-2002	09:05	3.33	0.10	0.17	0.95	ND	0.1
05-AUG-2002	12:25	8.89	< 0.02	0.14	0.41	27.20	< 0.1
17-SEP-2002	09:25	3.96	0.09	0.18	0.53	3.10	0.1
15-OCT-2002	09:45	5.11	< 0.02	7.91	6.92	3.40	
18-NOV-2002	09:50	5.92	0.14	0.47	0.79	6.00	0.1
10-DEC-2002							0.1
	Count	60	60	58	59	57	10
	Minimum	2.59	0.01	0.09	0.01	3.10	0.05
	Average	6.17	0.16	0.40	0.88	7.87	0.09
	Median	6.30	0.11	0.21	0.75	6.80	0.10
	Maximum	9.90	1.09	7.91	6.92	27.50	0.10

Notes: A. Values below the detetction limit of 0.02 mg/L were set equal to half the detection limit (0.01 mg/L) for statistical analysis.
B. LDEQ collected no ammonia data prior to 1999.

FILE: R:\PROJECTS\2110-616\TECH\FTN REPORT\FLAT\STN ANAL-FLAT RIVER 272.XLS

FIELD SHEETS ARE AVAILABLE FROM EPA UPON REQUEST.

APPENDIX D

Model Diagram

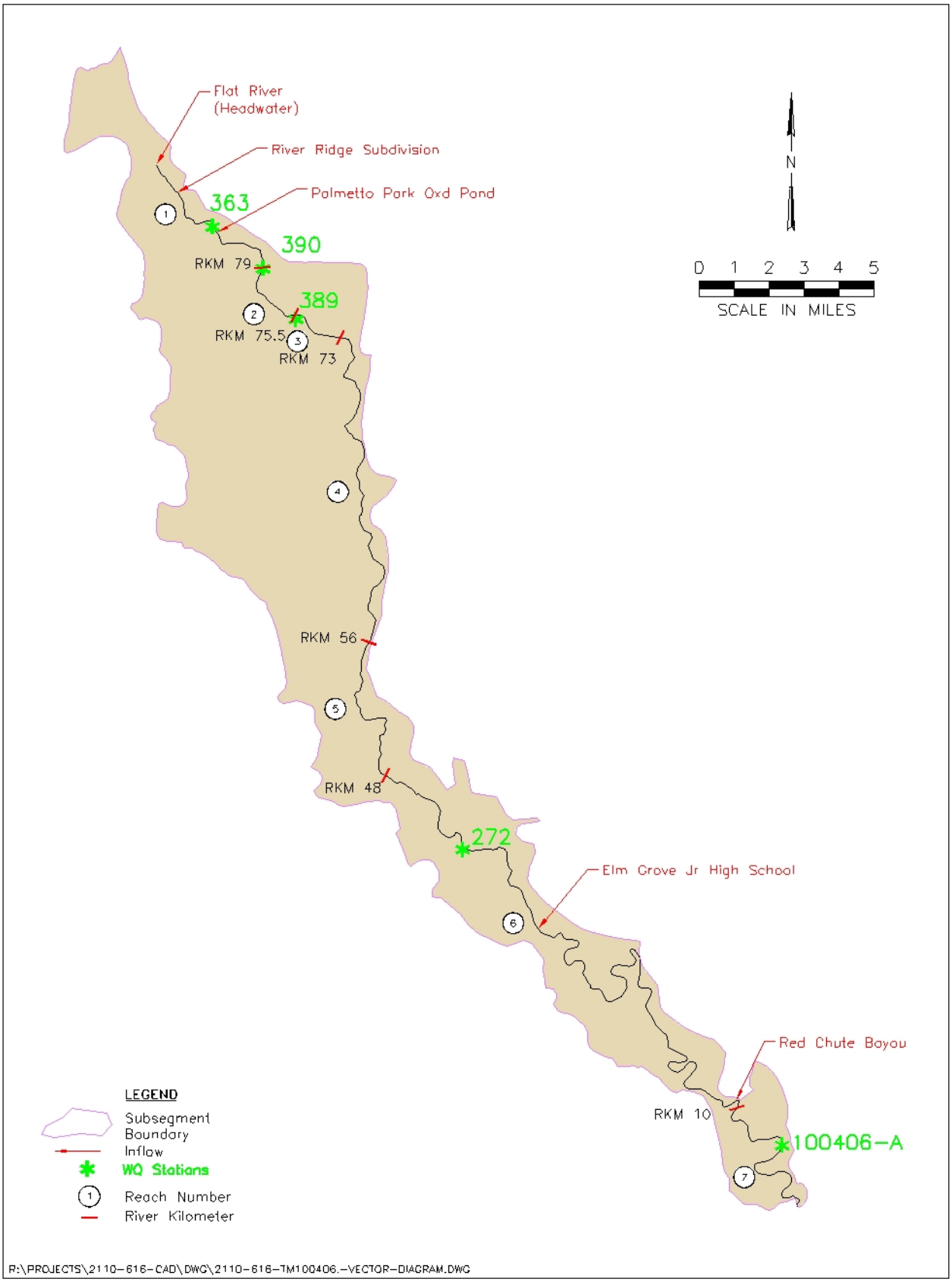

Figure D.1. LA-QUAL vector diagram for Flat River.

APPENDIX E

Target DO Calculations

Table E.1. Continuous DO data collected at 272.

Date and time	DO mg/L	Ratio of instantaneous DO to daily mean DO For 8/31	Ratio of instantaneous DO to daily mean DO For 9/01	Ratio of instantaneous DO to daily min DO For 8/31	Ratio of instantaneous DO to daily min DO For 9/01
8/30/05 19:45	8.1				
8/30/05 20:00	8.0				
8/30/05 20:15	7.8				
8/30/05 20:30	7.8				
8/30/05 20:45	7.4				
8/30/05 21:00	7.4				
8/30/05 21:15	7.0				
8/30/05 21:30	6.6				
8/30/05 21:45	6.6				
8/30/05 22:00	6.4				
8/30/05 22:15	6.0				
8/30/05 22:30	5.9				
8/30/05 22:45	5.6				
8/30/05 23:00	5.5				
8/30/05 23:15	5.3				
8/30/05 23:30	5.0				
8/30/05 23:45	5.0				
8/31/05 00:00	4.7	0.77		1.88	
8/31/05 00:15	4.6	0.75		1.84	
8/31/05 00:30	4.5	0.73		1.80	
8/31/05 00:45	4.3	0.70		1.72	
8/31/05 01:00	4.0	0.65		1.60	
8/31/05 01:15	4.0	0.65		1.60	
8/31/05 01:30	3.7	0.60		1.48	
8/31/05 01:45	3.7	0.60		1.48	
8/31/05 02:00	3.6	0.59		1.44	
8/31/05 02:15	3.4	0.55		1.36	
8/31/05 02:30	3.2	0.52		1.28	
8/31/05 02:45	3.3	0.54		1.32	
8/31/05 03:00	3.2	0.52		1.28	
8/31/05 03:15	3.2	0.52		1.28	
8/31/05 03:30	2.9	0.47		1.16	
8/31/05 03:45	2.9	0.47		1.16	
8/31/05 04:00	2.8	0.46		1.12	
8/31/05 04:15	2.8	0.46		1.12	
8/31/05 04:30	2.7	0.44		1.08	
8/31/05 04:45	2.7	0.44		1.08	
8/31/05 05:00	2.8	0.46		1.12	
8/31/05 05:15	2.7	0.44		1.08	

Estimation of daily mean DO values at other stations

Station	Date	Time	DO at time of measurement (mg/L)	Estimated daily mean DO (mg/L)	Estimated daily min DO (mg/L)	Estimated daily ı DO + 1 mg/L (mg/L)

Date and time	DO mg/L	Ratio of instantaneous DO to daily mean DO For 8/31	Ratio of instantaneous DO to daily mean DO For 9/01	Ratio of instantaneous DO to daily min DO For 8/31	Ratio of instantaneous DO to daily min DO For 9/01	Station	Date	Time	DO at time of measurement (mg/L)	Estimated daily mean DO (mg/L)	Estimated daily min DO (mg/L)	Estimated daily n DO + 1 mg/L (mg/L)
8/31/05 05:30	2.6	0.42		1.04								
8/31/05 05:45	2.5	0.41		1.00								
8/31/05 06:00	2.7	0.44		1.08								
8/31/05 06:15	2.7	0.44		1.08								
8/31/05 06:30	2.7	0.44		1.08								
8/31/05 06:45	2.7	0.44		1.08								
8/31/05 07:00	2.8	0.46		1.12								
8/31/05 07:15	2.8	0.46		1.12								
8/31/05 07:30	2.8	0.46		1.12								
8/31/05 07:45	2.8	0.46		1.12								
8/31/05 08:00	2.8	0.46		1.12								
8/31/05 08:15	2.9	0.47		1.16								
8/31/05 08:30	3.1	0.51		1.24								
8/31/05 08:45	3.2	0.52		1.28								
8/31/05 09:00	3.2	0.52		1.28								
8/31/05 09:15	3.4	0.55		1.36								
8/31/05 09:30	3.6	0.59		1.44								
8/31/05 09:45	3.7	0.60		1.48								
8/31/05 10:00	4.1	0.67		1.64								
8/31/05 10:15	4.2	0.68		1.68								
8/31/05 10:30	4.6	0.75		1.84								
8/31/05 10:45	4.8	0.78		1.92								
8/31/05 11:00	5.1	0.83		2.04								
8/31/05 11:15	5.4	0.88		2.16								
8/31/05 11:30	5.8	0.94		2.32								
8/31/05 11:45	6.0	0.98		2.40								
8/31/05 12:00	6.4	1.04		2.56								
8/31/05 12:15	6.7	1.09		2.68								
8/31/05 12:30	7.1	1.16		2.84								
8/31/05 12:45	7.5	1.22		3.00								
8/31/05 13:00	7.6	1.24		3.04								
8/31/05 13:15	8.2	1.34		3.28								
8/31/05 13:30	8.4	1.37		3.36								
8/31/05 13:45	8.9	1.45		3.56								
8/31/05 14:00	9.0	1.47		3.60								
8/31/05 14:15	8.9	1.45		3.56								
8/31/05 14:30	9.0	1.47		3.60								
8/31/05 14:45	9.3	1.52		3.72								
8/31/05 15:00	9.6	1.56		3.84								
8/31/05 15:15	9.9	1.61		3.96								
8/31/05 15:30	10.1	1.65		4.04								
8/31/05 15:45	10.3	1.68		4.12								

Date and time	DO mg/L	Ratio of instantaneous DO to daily mean DO For 8/31	Ratio of instantaneous DO to daily mean DO For 9/01	Ratio of instantaneous DO to daily min DO For 8/31	Ratio of instantaneous DO to daily min DO For 9/01	Station	Date	Time	DO at time of measurement (mg/L)	Estimated daily mean DO (mg/L)	Estimated daily min DO (mg/L)	Estimated daily n DO + 1 mg/L (mg/L)
8/31/05 16:00	10.6	1.73		4.24								
8/31/05 16:15	10.7	1.74		4.28								
8/31/05 16:30	10.8	1.76		4.32								
8/31/05 16:45	11.1	1.81		4.44								
8/31/05 17:00	10.9	1.78		4.36								
8/31/05 17:15	11.0	1.79		4.40								
8/31/05 17:30	10.9	1.78		4.36								
8/31/05 17:45	10.9	1.78		4.36								
8/31/05 18:00	10.7	1.74		4.28								
8/31/05 18:15	10.6	1.73		4.24								
8/31/05 18:30	10.4	1.69		4.16								
8/31/05 18:45	10.1	1.65		4.04								
8/31/05 19:00	9.8	1.60		3.92		100406-A	8/31/2005	19:00	5.26	3.3	1.3	2.3
8/31/05 19:15	9.7	1.58		3.88								
8/31/05 19:30	9.5	1.55		3.80								
8/31/05 19:45	9.2	1.50		3.68								
8/31/05 20:00	9.2	1.50		3.68								
8/31/05 20:15	8.7	1.42		3.48								
8/31/05 20:30	8.6	1.40		3.44								
8/31/05 20:45	8.4	1.37		3.36								
8/31/05 21:00	8.1	1.32		3.24								
8/31/05 21:15	7.9	1.29		3.16								
8/31/05 21:30	7.8	1.27		3.12								
8/31/05 21:45	7.5	1.22		3.00								
8/31/05 22:00	7.2	1.17		2.88								
8/31/05 22:15	6.7	1.09		2.68								
8/31/05 22:30	6.6	1.08		2.64								
8/31/05 22:45	6.6	1.08		2.64								
8/31/05 23:00	6.3	1.03		2.52								
8/31/05 23:15	6.0	0.98		2.40								
8/31/05 23:30	5.8	0.94		2.32								
8/31/05 23:45	5.4	0.88		2.16								
9/01/05 00:00	5.4		0.83		2.25							
9/01/05 00:15	5.3		0.81		2.21							
9/01/05 00:30	5.1		0.78		2.13							
9/01/05 00:45	5.0		0.77		2.08							
9/01/05 01:00	4.7		0.72		1.96							
9/01/05 01:15	4.7		0.72		1.96							
9/01/05 01:30	4.6		0.71		1.92							
9/01/05 01:45	4.4		0.68		1.83							
9/01/05 02:00	4.3		0.66		1.79							
9/01/05 02:15	4.1		0.63		1.71							

Date and time	DO mg/L	Ratio of instantaneous DO to daily mean DO For 8/31	Ratio of instantaneous DO to daily mean DO For 9/01	Ratio of instantaneous DO to daily min DO For 8/31	Ratio of instantaneous DO to daily min DO For 9/01	Station	Date	Time	DO at time of measurement (mg/L)	Estimated daily mean DO (mg/L)	Estimated daily min DO (mg/L)	Estimated daily n DO + 1 mg/L (mg/L)
9/01/05 02:30	3.8		0.58		1.58							
9/01/05 02:45	3.8		0.58		1.58							
9/01/05 03:00	3.6		0.55		1.50							
9/01/05 03:15	3.5		0.54		1.46							
9/01/05 03:30	3.3		0.51		1.38							
9/01/05 03:45	3.3		0.51		1.38							
9/01/05 04:00	3.2		0.49		1.33							
9/01/05 04:15	3.1		0.48		1.29							
9/01/05 04:30	3.1		0.48		1.29							
9/01/05 04:45	3.0		0.46		1.25							
9/01/05 05:00	2.8		0.43		1.17							
9/01/05 05:15	2.9		0.45		1.21							
9/01/05 05:30	2.9		0.45		1.21							
9/01/05 05:45	2.7		0.41		1.13							
9/01/05 06:00	2.7		0.41		1.13							
9/01/05 06:15	2.6		0.40		1.08							
9/01/05 06:30	2.6		0.40		1.08							
9/01/05 06:45	2.6		0.40		1.08							
9/01/05 07:00	2.4		0.37		1.00							
9/01/05 07:15	2.4		0.37		1.00							
9/01/05 07:30	2.4		0.37		1.00							
9/01/05 07:45	2.6		0.40		1.08							
9/01/05 08:00	2.5		0.38		1.04	389	9/1/2005	7:54	1.44	3.7	1.4	2.4
9/01/05 08:15	2.7		0.41		1.13							
9/01/05 08:30	2.8		0.43		1.17							
9/01/05 08:45	2.8		0.43		1.17	390	9/1/2005	8:40	0.37	0.9	0.3	1.3
9/01/05 09:00	3.0		0.46		1.25							
9/01/05 09:15	3.1		0.48		1.29							
9/01/05 09:30	3.3		0.51		1.38	363	9/1/2005	9:30	5.16	10.2	3.8	4.8
9/01/05 09:45	3.6		0.55		1.50							
9/01/05 10:00	3.8		0.58		1.58							
9/01/05 10:15	4.0		0.61		1.67							
9/01/05 10:30	4.4		0.68		1.83							
9/01/05 10:45	4.8		0.74		2.00							
9/01/05 11:00	5.1		0.78		2.13							
9/01/05 11:15	5.5		0.84		2.29							
9/01/05 11:30	6.0		0.92		2.50							
9/01/05 11:45	6.2		0.95		2.58							
9/01/05 12:00	6.7		1.03		2.79							
9/01/05 12:15	7.0		1.08		2.92							
9/01/05 12:30	7.5		1.15		3.13							
9/01/05 12:45	7.7		1.18		3.21							

Date and time	DO mg/L	Ratio of instantaneous DO to daily mean DO For 8/31	Ratio of instantaneous DO to daily mean DO For 9/01	Ratio of instantaneous DO to daily min DO For 8/31	Ratio of instantaneous DO to daily min DO For 9/01	Station	Date	Time	DO at time of measurement (mg/L)	Estimated daily mean DO (mg/L)	Estimated daily min DO (mg/L)	Estimated daily n DO + 1 mg/L (mg/L)
9/01/05 13:00	7.8		1.20		3.25							
9/01/05 13:15	8.2		1.26		3.42							
9/01/05 13:30	8.5		1.31		3.54							
9/01/05 13:45	9.3		1.43		3.88							
9/01/05 14:00	9.7		1.49		4.04							
9/01/05 14:15	9.6		1.47		4.00							
9/01/05 14:30	10.1		1.55		4.21							
9/01/05 14:45	10.7		1.64		4.46							
9/01/05 15:00	10.0		1.54		4.17							
9/01/05 15:15	10.4		1.60		4.33							
9/01/05 15:30	10.5		1.61		4.38							
9/01/05 15:45	10.8		1.66		4.50							
9/01/05 16:00	10.5		1.61		4.38							
9/01/05 16:15	11.8		1.81		4.92							
9/01/05 16:30	11.8		1.81		4.92							
9/01/05 16:45	12.3		1.89		5.13							
9/01/05 17:00	11.9		1.83		4.96							
9/01/05 17:15	12.7		1.95		5.29							
9/01/05 17:30	11.9		1.83		4.96							
9/01/05 17:45	12.1		1.86		5.04							
9/01/05 18:00	10.8		1.66		4.50							
9/01/05 18:15	10.0		1.54		4.17							
9/01/05 18:30	10.1		1.55		4.21							
9/01/05 18:45	9.3		1.43		3.88							
9/01/05 19:00	9.5		1.46		3.96							
9/01/05 19:15	9.8		1.51		4.08							
9/01/05 19:30	9.3		1.43		3.88							
9/01/05 19:45	10.3		1.58		4.29							
9/01/05 20:00	10.2		1.57		4.25							
9/01/05 20:15	10.1		1.55		4.21							
9/01/05 20:30	9.6		1.47		4.00							
9/01/05 20:45	8.5		1.31		3.54							
9/01/05 21:00	8.5		1.31		3.54							
9/01/05 21:15	8.1		1.24		3.38							
9/01/05 21:30	8.2		1.26		3.42							
9/01/05 21:45	8.2		1.26		3.42							
9/01/05 22:00	7.6		1.17		3.17							
9/01/05 22:15	7.8		1.20		3.25							
9/01/05 22:30	7.6		1.17		3.17							
9/01/05 22:45	7.6		1.17		3.17							
9/01/05 23:00	7.3		1.12		3.04							
9/01/05 23:15	6.9		1.06		2.88							

Date and time	DO mg/L	Ratio of instantaneous DO to daily mean DO For 8/31	Ratio of instantaneous DO to daily mean DO For 9/01	Ratio of instantaneous DO to daily min DO For 8/31	Ratio of instantaneous DO to daily min DO For 9/01	Station	Date	Time	DO at time of measurement (mg/L)	Estimated daily mean DO (mg/L)	Estimated daily min DO (mg/L)	Estimated daily DO + 1 mg/L (mg/L)
9/01/05 23:30	6.9		1.06		2.88							
9/01/05 23:45	6.7		1.03		2.79							
9/02/05 00:00	6.5											
9/02/05 00:15	6.5											
9/02/05 00:30	6.1											
9/02/05 00:45	5.8											
9/02/05 01:00	5.9											
9/02/05 01:15	5.6											
9/02/05 01:30	5.1											
9/02/05 01:45	5.3											
9/02/05 02:00	5.0											
9/02/05 02:15	5.1											
9/02/05 02:30	4.8											
9/02/05 02:45	4.6											
9/02/05 03:00	4.4											
9/02/05 03:15	4.4											
9/02/05 03:30	4.1											
9/02/05 03:45	4.0											
9/02/05 04:00	3.9											
9/02/05 04:15	3.8											
9/02/05 04:30	3.5											
9/02/05 04:45	3.5											
9/02/05 05:00	3.5											
9/02/05 05:15	3.1											
9/02/05 05:30	3.3											
9/02/05 05:45	3.0											
9/02/05 06:00	3.0											
9/02/05 06:15	2.8											
9/02/05 06:30	2.8											
9/02/05 06:45	2.7											
9/02/05 07:00	2.5											
9/02/05 07:15	2.5											
9/02/05 07:30	2.5											
9/02/05 07:45	2.3											
9/02/05 08:00	2.4											
9/02/05 08:15	2.5											
9/02/05 08:30	2.3											
9/02/05 08:45	6.8											
9/02/05 09:00	6.3											
9/02/05 09:15	8.4											
9/02/05 09:30	8.3											
9/02/05 09:45	8.5											

Table E.1 Continuous data collected at 272

Date and time	DO mg/L	Ratio of instantaneous DO to daily mean DO For 8/31	Ratio of instantaneous DO to daily mean DO For 9/01	Ratio of instantaneous DO to daily min DO For 8/31	Ratio of instantaneous DO to daily min DO For 9/01	Station	Date	Time	DO at time of measurement (mg/L)	Estimated daily mean DO (mg/L)	Estimated daily min DO (mg/L)	Estimated daily n DO + 1 mg/L (mg/L)
9/02/05 10:00	8.5											
9/02/05 10:15	8.4											
9/02/05 10:30	8.5											
9/02/05 10:45	8.4											
9/02/05 11:00	8.1											
9/02/05 11:15	8.1											
9/02/05 11:30	8.3											
9/02/05 11:45	8.3											
9/02/05 12:00	8.3											
9/02/05 12:15	8.3											
9/02/05 12:30	8.3											
9/02/05 12:45	8.3											
9/02/05 13:00	8.3											
9/02/05 13:15	8.4											
9/02/05 13:30	8.3											
9/02/05 13:45	8.1											
9/02/05 14:00	8.0											
9/02/05 14:15	7.9											
9/02/05 14:30	7.9											
9/02/05 14:45	8.2											

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Table E.1 Continuous data collected at 272

Table E2. Summary of Continuous DO collected at Statin 272.

Date	Time begin	Date	Time end	Min DO (mg/L)	Max DO (mg/L)	DO swing (mg/L)
8/30/2005	19:45	8/31/2005	19:45	2.5	11.1	8.6
8/31/2005	19:45	9/1/2005	19:45	2.4	12.7	10.3
9/1/2005	19:45	9/2/2005	8:30	2.3	10.3	8

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APPENDIX F

Data and Calculations for Hydraulic Coefficients

Reach No	width, m	depth, m	rough d/s km	u/s km	final d/s km	u/s km	Reach description
1	11.67	0.278768	78.841	86.886	79	87	Flat R Drainage Canal between Airline Dr and Deer Pt Rd
2	10.51953	0.450088	75.623	78.841	75.5	79	Flat R Drainage Canal between Deer Pt Rd and Swan Lake Rd
3	13.40764	0.326003	73.2095	75.623	73	75.5	Drainage canal to Flat River
4	15.36287	0.300246	56.315	73.2095	56	73	Flat River (urban)
5	31.68309	0.305886	48.27	56.315	48	56	Flat River (urban)
6	31.68309	0.403555	10.4585	48.27	10.5	48	Flat River (agri)
7	12.00912	0.169497	0	10.4585	0	10.5	Flat R d/s Red Chute Bayou confluence

Reach No	drainage, sq mi	pt source q, cfs	total q, cfs	depth, ft
1	24.02	0.033377	1.710051	0.914594
2				
3				
4	77.19	0.172449	5.560562	0.985058
5	91.67667	0.172449	6.571778	1.003564
6				
7				

Field sheets plainly state there was no measueable flow.

INITIAL POINT (ft)	WIDTH (ft)	DEPTH (ft)	AREA (ft2)
0	0	0	0
2.5			
5	5	0.8	7.6
12			
19	14	0.4	4.6
23.5			
28	9	1	8
31.5			
35	7	0.3	1.71
37.2			
39.4	4.4	0	0
Total =	39.4		21.91

average depth = 0.556091

dist (ft)	avg depth (ft)
0	0.556091
40	0.556091

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\FLAT\FLAT GEOMETRY AND FLOW.XLS

Field sheets plainly state there was no measueable flow.

INITIAL POINT (ft)	WIDTH (ft)	DEPTH (ft)	AREA (ft2)
0	0	0	0
2.5			
5	5	0.9	4.5
7.5			
10	5	1.7	8.5
12.5			
15	5	1.6	8
17.5			
20	5	0.9	3.6
21.5			
23	3	0	0
Total =	23		24.6

Average depth = 1.069565 ft

dist (ft)	avg depth (ft)
0	1.069565
25	1.069565

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\FLAT\FLAT GEOMETRY AND FLOW.XLS

INITIAL POINT (ft)	WIDTH (ft)	DEPTH (ft)	MEAN VELOC. (ft/sec)	AREA (ft2)	FLOW (cfs)	
0	0	0	0	0	0	
7.5						
15	15	4.4	0.5	44	22	
17.5						
20	5	2.3	0.5	11.5	5.75	
22.5						
25	5	1.7	0.571428571	8.5	4.857142857	This was interpolated
27.5						
30	5	1.3	0.642857143	6.5	4.178571429	This was interpolated
32.5						
35	5	1.1	0.714285714	7.15	5.107142857	
39						
43	8	0	0	0	0	
total =	43			77.65	41.89285714	

mean depth = 1.805814 ft
mean velocity = 0.539509 ft/sec

dist (ft)	avg depth (ft)
0	1.805814
45	1.805814

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\FLAT\FLAT GEOMETRY AND FLOW.XLS

INITIAL POINT (ft)	WIDTH (ft)	DEPTH (ft)	MEAN VELOC. (ft/sec)	AREA (ft2)	FLOW (cfs)
6	0	0	0	0	0
7					
8	2	0.9	0.06	2.7	0.108
10					
12	4	1.5	0.24	6	1.44
14					
16	4	1.9	0.2	7.6	1.52
18					
20	4	1.7	0.25	6.8	1.7
22					
24	4	1.6	0.14	6.4	0.896
26					
28	4	1.4	0.22	5.6	1.232
30					
32	4	1.3	0.05	5.2	0.26
34					
36	4	1.4	0.05	5.6	0.28
38					
40	4	1	0	3.75	0
41.75					
43.5	3.5	0	0	0	0
total =	37.5		1.21	49.65	7.436

Note: as opposed to other sheets IP was not on the bank itself.

mean depth = 1.324 ft
mean velocity = 0.149768 ft/sec

dist (ft)	avg depth (ft)
0	1.324
45	1.324

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\FLAT\FLAT GEOMETRY AND FLOW.XLS

Since according to DMR, when they were out there at natural flow coditions at 8:40 AM, there was no real flow)
so the flow part of this table has been deleted.

INITIAL POINT (ft)	WIDTH (ft)	DEPTH (ft)	AREA (ft2)
0	0	0	0
2			
4	4	2.2	8.8
6			
8	4	2.8	11.2
10			
12	4	2.3	9.2
14			
16	4	1.5	6
18			
20	4	1.3	9.1
25			
30	10	0	0
total =	30		44.3

average depth = 1.476667 ft

dist (ft)	avg depth (ft)
0	1.476667
30	1.476667

Flows were measured at 12:15

	stn	width (ft)	depth (ft)	area (ft2)	velocity (ft/sec)	flow (cfs)
LB	0					
	4	4	3.5	21	0.5	10.5
	6					
	8	4	4.4	17.6	1	17.6
	10				1.25	
	12	4	4.4	11	1.5	16.5
	12.5					
	13	1	3.6	14.4	1.625	23.4
	16.5					
	20	7	3.2	17.6	1.712962963	30.14815
	22					
	24	4	3.1	12.4	0.648148148	8.037037
	26					
	28	4	1.7	6.8	0.416666667	2.833333
	30					
	32	4	0.3	1.05	1.018518519	1.069444
	33.5					
RB	35	3				
	total =	35		101.85		110.088

average depth = 2.91 ft
average velocity = 1.080883 ft/sec

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\FLAT\FLAT GEOMETRY AND FLOW.XLS

APPENDIX G

Literature Values for Mineralization Rates

TABLE 5-3. RATE COEFFICIENTS FOR NITROGEN TRANSFORMATIONS

PON → DON		DON → NH_3		PON → NH_3		NH_3 → NO_2		NH_3 → NO_3		NO_2 → NO_3		SEDM → NH_3		References
K	θ	K	θ	K	θ	K	θ	K	θ	K	θ	K	θ	
								Calibration Values						
				0.035	(linear)			0.04	(linear)					Thomann et al. (1975)
				0.03**	1.08									Thomann et al. (1979)
				0.03***	1.08			0.12***	1.08			0.0025	1.08	Di Toro & Connolly (1980)
				0.03***	1.08			0.20	1.08					Di Toro & Matystik (1980)
				0.075	1.08			0.09-0.13***	1.08			0.0004	1.08	Thomann & Fitzpatrick (1982)
								0.025***	1.08					O'Connor et al. (1981)
				0.14	(linear)									Salas & Thomann (1978)
				0.001	1.02	0.003-0.03	1.02			0.09	1.02	0.001	1.02	Chen & Orlob (1972, 1975)
0.020	(linear)	0.020	(linear)					0.060	(linear)					Scavia et al. (1976)
0.020	(linear)	0.020	(linear)					0.1	(linear)					Scavia (1980)
0.02	1.020	0.02	1.020					0.1	1.020					Bowie et al. (1980)
0.02	(linear)	0.024	(linear)					0.16	(linear)					Canale et al. (1976)
				0.003	1.020	0.02	1.047			0.25	1.047	0.0015	1.047	Tetra Tech (1980)
				0.1	1.047	0.02	1.047			0.25	1.047	0.0015	1.047	Porcella et al. (1983)
				0.01**	NI							0.95-1.8***	1.14	Nyholm (1978)
				0.005**	1.08									Bierman et al. (1980)
				0.1**	1.02									Jorgensen (1976)
				0.2**	1.072									Jorgensen et al. (1978)

(continued)

APPENDIX H

USGS Flow Data and Drainage Area Information

Conductivity at Station 272 on 9/2/05 (after reservoir releases started) are similar to conductivity measured at Station 100406-A on 8/31/05 (before reservoir releases started) suggesting that reservoir releases had not yet reached Station 272, and the flow measured there reflected low flow conditions. Therefore flow at 272 was used to estimateflows for the calibration model.

Flow at Station 272 =	7.436	cfs
Drainage area at Station 272 =	106.528	sq mi (estimated based on Sloss 1991)
Station 272 flow/area =	0.069803	cfs/sq mi
Estimated headwater drainage =	23.98	sq mi
Estimated headwater flow =	1.673882	cfs

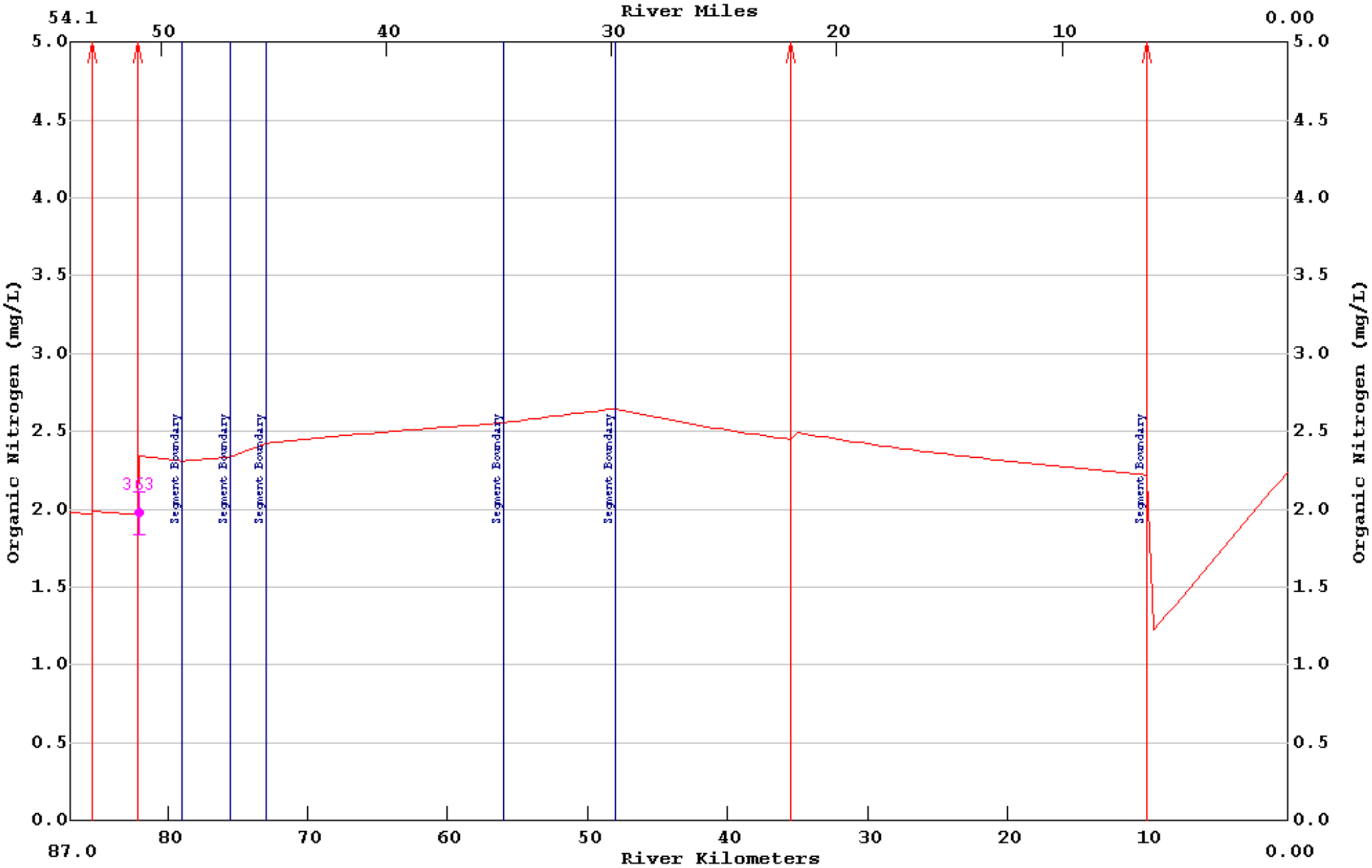
Red Chute Bayou Flow 9/1/05 (USGS 07349860) =	7.2	cfs
Red Chute Bayou drainage area =	980	sq mi
Red Chute Bayou flow/area =	0.007347	cfs/sq mi
Drainage area Red Chute Bayou at mouth =	1000	sq mi
Estimated flow Red Chute Bayou at mouth =	7.346939	cfs

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\FLAT\FLAT GEOMETRY AND FLOW.XLS

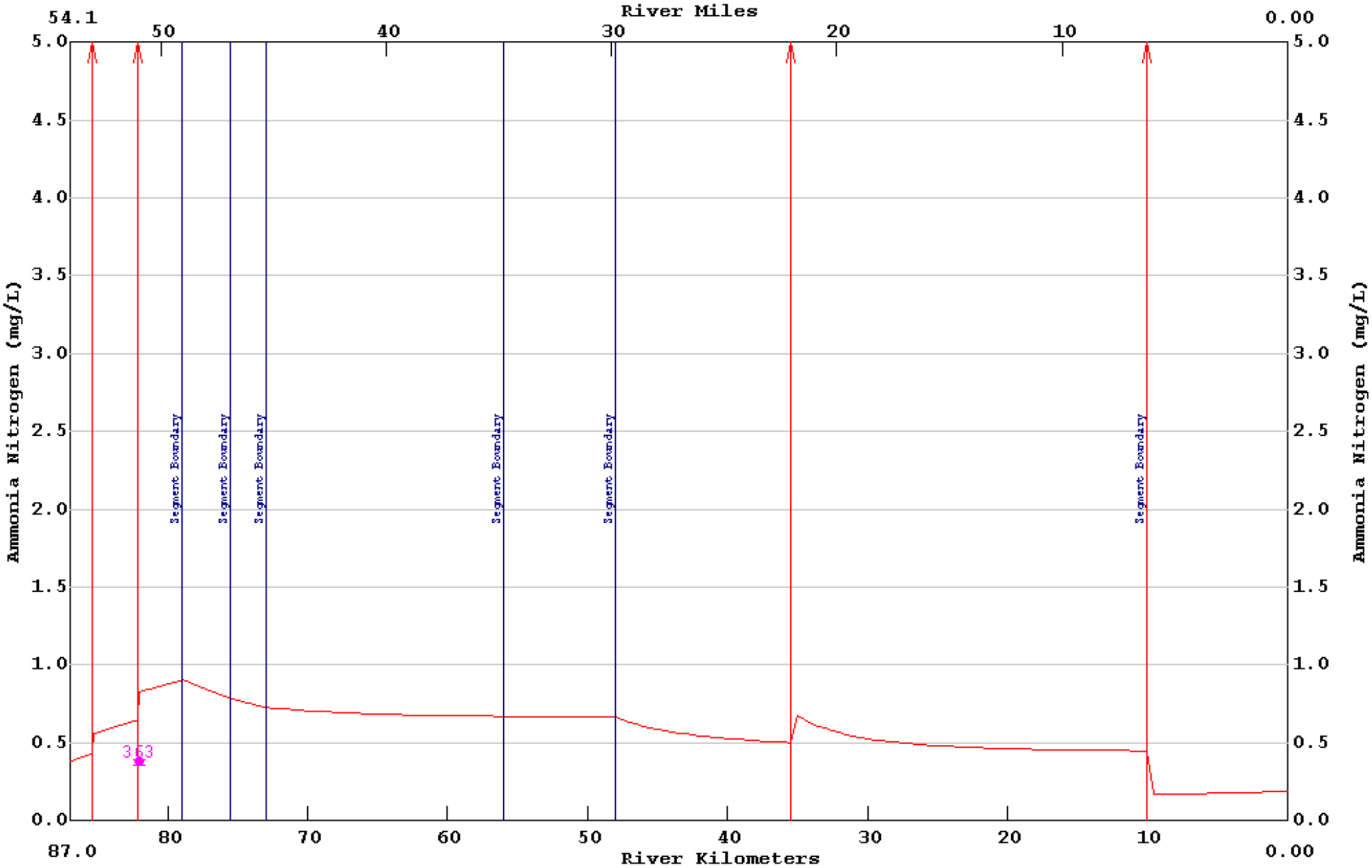
APPENDIX I

Plots of Predicted and Observed Water Quality

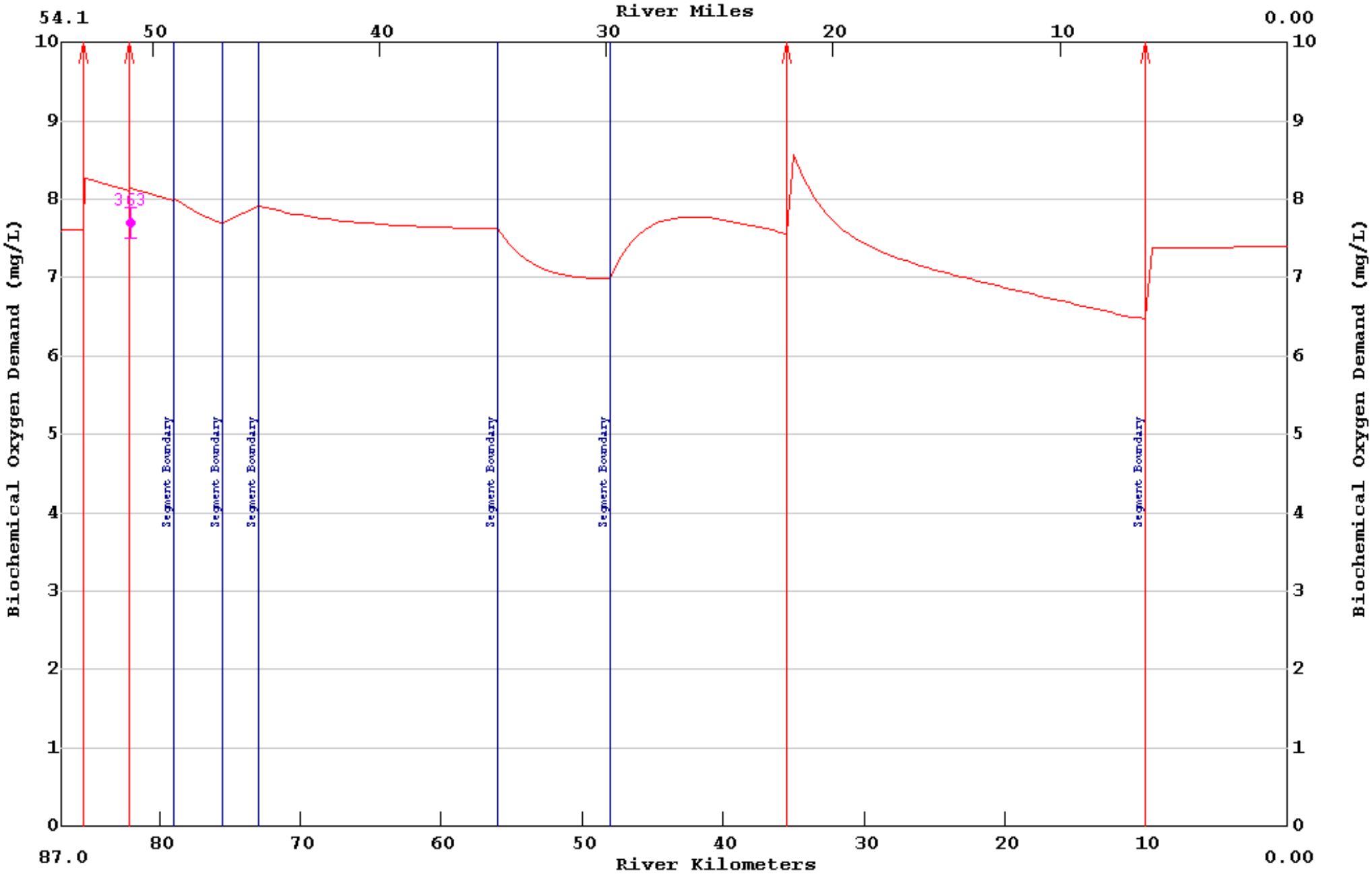
LA-QUAL Version 8.11 Run at 14:13 on 09/26/2007 File D:\comp_models\LA-QUAL_8p11\Flat_Calib3.txt
FTN Field Survey calibration 15
Flat River



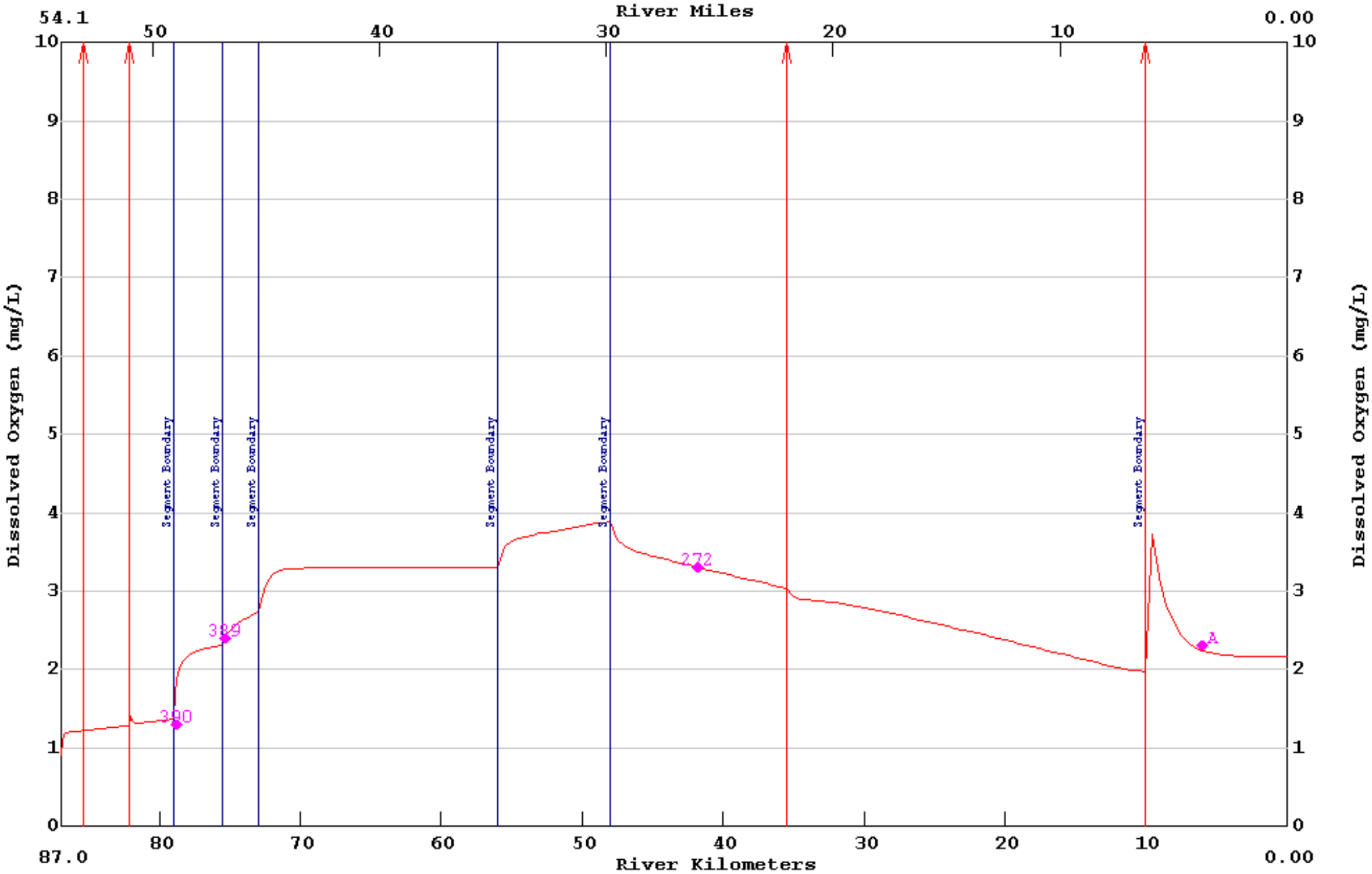
LA-QUAL Version 8.11 Run at 14:13 on 09/26/2007 File D:\comp_models\LA-QUAL_8p11\Flat_Calib3.txt
FTN Field Survey calibration 15
Flat River



LA-QUAL Version 8.11 Run at 14:13 on 09/26/2007 File D:\comp_models\LA-QUAL_8p11\Flat_Calib3.txt
FTN Field Survey calibration 15
Flat River



LA-QUAL Version 8.11 Run at 14:13 on 09/26/2007 File D:\comp_models\LA-QUAL_8p11\Flat_Calib3.txt
FTN Field Survey calibration 15
Flat River



APPENDIX J

Printout of Model Output for Calibration

```
LA-QUAL Version 8.11
Louisiana Department of Environmental Quality

Input file is D:\comp_models\LA-QUAL_8p11\Flat_Calib3.txt
Output produced at 14:13 on 09/26/2007

$$$ DATA TYPE 1 (TITLES AND CONTROL CARDS) $$$

CARD TYPE       CONTROL TITLES

TITLE01         LA-QUAL calibration for Flat River
TITLE02         FTN Field Survey calibration 15
CNTROL03   NO   SEQU                        <Warning: legacy control - line ignored>
CNTROL04  YES   METR
CNTROL05  YES   OXYG                        <Warning: legacy control - line ignored>
ENDATA01

$$$ DATA TYPE 2 (MODEL OPTIONS) $$$

CARD TYPE       MODEL OPTION

MODOPT01   NO   TEMP
MODOPT02   NO   SALI
MODOPT03   NO   CONSERVATIVE MATERIAL
MODOPT04   NO   CONSERVATIVE MATERIAL II
MODOPT05  YES   DISS
MODOPT06  YES   BIOC
MODOPT07  YES   NITR
MODOPT08   NO   PHOS
MODOPT09   NO   CHLO
MODOPT10   NO   MACR
MODOPT11   NO   COLI
MODOPT12   NO   NONC
ENDATA02

$$$ DATA TYPE 3 (PROGRAM CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

PROGRAM         HYDRAULIC CALCULATION METHOD       =         2.00000 (widths and depths)
PROGRAM         MAXIMUM ITERATION LIMIT            =       500.00000
ENDATA03

$$$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) $$$

 CARD TYPE     RATE CODE     THETA VALUE

THETA        NH3 DECA       1.07000
ENDATA04

$$$ CONSTANTS TYPE 5 (TEMPERATURE DATA) $$$
```

```
CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA05

$$$ DATA TYPE 6 (ALGAE CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA06

$$$ DATA TYPE 7 (MACROPHYTE CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                        VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$
                                                     BEGIN        END    ELEM   REACH    ELEMS  BEGIN   END
CARD TYPE  REACH  ID  NAME                           REACH       REACH  LENGTH  LENGTH  PER RCH  ELEM   ELEM
                                                        km          km      km      km            NUM    NUM

REACH ID      1   FR  C Flat R Drainage Canal        87.00  TO   79.00  0.1000    8.00     80      1     80
REACH ID      2   FR  C Flat R Drainage Canal        79.00  TO   75.50  0.1000    3.50     35     81    115
REACH ID      3   FR  C Flat R Drainage Canal        75.50  TO   73.00  0.1000    2.50     25    116    140
REACH ID      4   FR  Flat River                     73.00  TO   56.00  0.5000   17.00     34    141    174
REACH ID      5   FR  Flat River                     56.00  TO   48.00  0.5000    8.00     16    175    190
REACH ID      6   FR  Flat River                     48.00  TO   10.00  0.5000   38.00     76    191    266
REACH ID      7   FR  Flat River                     10.00  TO    0.00  0.5000   10.00     20    267    286
ENDATA08

$$$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE  REACH  ID      WIDTH      WIDTH      WIDTH      DEPTH      DEPTH      DEPTH     SLOPE   MANNINGS
                           "A"        "B"        "C"        "D"        "E"        "F"               "N"

HYDR-1        1   FR      0.000      0.000     11.670      0.000      0.000      0.280   0.00000   0.000
HYDR-1        2   FR      0.000      0.000     10.520      0.000      0.000      0.450   0.00000   0.000
HYDR-1        3   FR      0.000      0.000     13.410      0.000      0.000      0.330   0.00000   0.000
HYDR-1        4   FR      0.000      0.000     15.360      0.000      0.000      0.300   0.00000   0.000
HYDR-1        5   FR      0.000      0.000     31.680      0.000      0.000      0.310   0.00000   0.000
HYDR-1        6   FR      0.000      0.000     31.680      0.000      0.000      0.400   0.00000   0.000
HYDR-1        7   FR      0.000      0.000     12.010      0.000      0.000      0.170   0.00000   0.000
ENDATA09

$$$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE  REACH  ID     TIDAL     DISPERSION     DISPERSION     DISPERSION     DISPERSION
                        RANGE        "A"            "B"            "C"            "D"

ENDATA10
```

$$$ DATA TYPE 11 (INITIAL CONDITIONS) $$$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	FR	29.30	0.00	5.16	0.38	0.00	0.00	0.00	0.00
INITIAL	2	FR	27.10	0.00	0.37	0.38	0.00	0.00	0.00	0.00
INITIAL	3	FR	26.90	0.00	1.44	0.38	0.00	0.00	0.00	0.00
INITIAL	4	FR	26.20	0.00	2.16	0.38	0.00	0.00	0.00	0.00
INITIAL	5	FR	26.20	0.00	2.16	0.38	0.00	0.00	0.00	0.00
INITIAL	6	FR	25.50	0.00	2.87	0.38	0.00	0.00	0.00	0.00
INITIAL	7	FR	30.60	0.00	5.26	0.38	0.00	0.00	0.00	0.00

ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$

CARD TYPE	RCH NUM	RCH ID	K2 OPT		K2 "A"	K2 "B"	K2 "C"	BKGRND SOD g/m²/d	BOD DECAY per day	BOD SETT m/d	BOD CONV TO SOD	ANAER BOD2 DECAY per day	BOD2 DECAY per day	BOD2 SETT m/d	BOD2 CONV TO SOD	ANAER BOD2 DECAY per day
COEFF-1	1	FR	15	LOUISIANA	0.000	0.000	0.000	6.000	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COEFF-1	2	FR	15	LOUISIANA	0.000	0.000	0.000	2.950	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COEFF-1	3	FR	15	LOUISIANA	0.000	0.000	0.000	3.000	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COEFF-1	4	FR	15	LOUISIANA	0.000	0.000	0.000	2.700	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COEFF-1	5	FR	15	LOUISIANA	0.000	0.000	0.000	2.200	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COEFF-1	6	FR	15	LOUISIANA	0.000	0.000	0.000	2.200	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COEFF-1	7	FR	15	LOUISIANA	0.000	0.000	0.000	5.500	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000

ENDATA12

$$$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) $$$

CARD TYPE	REACH	ID	ORG-N DECA	ORG-N SETT	ORGN CONV TO NH3 SRCE	NH3 DECA	NH3 SRCE	PHOS SRCE	DENIT RATE
COEFF-2	1	FR	0.020	0.000	1.000	0.090	0.000	0.000	0.000
COEFF-2	2	FR	0.020	0.000	1.000	0.090	0.000	0.000	0.000
COEFF-2	3	FR	0.020	0.000	1.000	0.090	0.000	0.000	0.000
COEFF-2	4	FR	0.020	0.000	1.000	0.070	0.000	0.000	0.000
COEFF-2	5	FR	0.020	0.000	1.000	0.070	0.000	0.000	0.000
COEFF-2	6	FR	0.020	0.000	1.000	0.090	0.000	0.000	0.000
COEFF-2	7	FR	0.020	0.000	1.000	0.090	0.000	0.000	0.000

ENDATA13

$$$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) $$$

CARD TYPE	REACH	ID	SECCHI DEPTH	ALGAE: CHL A	ALGAE SETT	ALG CONV TO SOD	ALGAE GROW	ALGAE RESP	MACRO GROW	MACRO RESP	SHADING

ENDATA14

$$$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) $$$

```
CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF     DECAY      SETT     TO SOD

ENDATA15

$$$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE      REACH  ID       OUTFLOW      INFLOW      TEMP     SALIN      CM-I     CM-II   IN/DIST  OUT/DIST

ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE      REACH  ID          DO       BOD     ORG-N     NH3-N     NO3-N     BOD#2

ENDATA17

$$$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE      REACH  ID       BOD#1     ORG-N      COLI       NCM        DO     BOD#2

NONPOINT         1   FR       22.00      1.00      0.00      0.00      0.00      0.00
NONPOINT         2   FR       20.00      1.00      0.00      0.00      0.00      0.00
NONPOINT         3   FR       15.00      1.00      0.00      0.00      0.00      0.00
NONPOINT         4   FR       95.00      5.00      0.00      0.00      0.00      0.00
NONPOINT         5   FR       85.00      5.00      0.00      0.00      0.00      0.00
NONPOINT         6   FR      600.00     25.00      0.00      0.00      0.00      0.00
NONPOINT         7   FR       30.00     25.00      0.00      0.00      0.00      0.00
ENDATA19

$$$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m³/s      cfs   deg C      ppt

HDWTR-1          1     Flat R Drainage Cana    0   0.04700    1.660   29.30     0.00     0.000     0.000   0.00
ENDATA20

$$$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE     ELEMENT   NAME                        DO     BOD#1     ORG-N     NH3-N     NO3-N     BOD#2
                                                   mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2          1     Flat R Drainage Cana       0.90      7.60      1.98      0.38      0.00      0.00
```

ENDATA21

$$$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
			mg/L	mg/L	mg/L	mg/L

ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$

CARD TYPE	JUNCTION ELEMENT	UPSTRM ELEMENT	RIVER KILOM	NAME

ENDATA23

$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE	ELEMENT	RKILO	NAME	FLOW	FLOW	FLOW	TEMP	SALIN	CM-I	CM-II
				m^3/s	cfs	MGD	deg C	ppt		
WSTLD-1	17	85.40	River Ridge Subdvsn	0.00090	0.03178	0.021	29.30	0.00	0.000	0.000
WSTLD-1	50	82.10	Palmetto Park	0.00390	0.13771	0.089	29.30	0.00	0.000	0.000
WSTLD-1	216	35.50	Elm Grove Jr High	0.00110	0.03884	0.025	25.50	0.00	0.000	0.000
WSTLD-1	267	10.00	NPS Red Chute Bayou	0.20800	7.34463	4.748	30.60	0.00	0.000	0.000

ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE	ELEMENT	NAME	DO	BOD	% BOD RMVL	ORG-N	NH3-N	% NITRIF	NO3-N	BOD#2
			mg/L	mg/L		mg/L	mg/L		mg/L	mg/L
WSTLD-2	17	River Ridge Subdvsn	2.00	43.00	0.00	3.00	7.00	0.00	0.00	0.00
WSTLD-2	50	Palmetto Park	5.00	8.70	0.00	7.00	3.00	0.00	0.00	0.00
WSTLD-2	216	Elm Grove Jr High	2.00	69.00	0.00	5.00	10.00	0.00	0.00	0.00
WSTLD-2	267	NPS Red Chute Bayou	5.26	7.60	0.00	0.90	0.10	0.00	0.00	0.00

ENDATA25

$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE	ELEMENT	NAME	PHOS	CHL A	COLI	NCM
			mg/L	mg/L	mg/L	mg/L

ENDATA26

$$$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) $$$

CARD TYPE	CONSTITUENT	CONCENTRATION

ENDATA27

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$$$ DATA TYPE 28 (DAM DATA) $$$

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

ENDATA28

$$$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) $$$

CARD TYPE       PARAMETER     COL 1     COL 2     COL 3     COL 4     COL 5     COL 6     COL 7     COL 8

ENDATA29

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$


NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   7
PLOT RCH  1  2  3  4  5  6  7
ENDATA30

$$$ DATA TYPE 31 (OVERLAY PLOT DATA) $$$


OVERLAY 1 FlatR.ovl                       :Flat River
ENDATA31



     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
     .....TRIDIAGONAL MATRIX TERMS INITIALIZED
     .....OXYGEN DEPENDENT RATES CONVERGENT IN  25 ITERATIONS
     .....CONSTITUENT CALCULATIONS COMPLETED
     .....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11


FINAL REPORT    Flat R Drainage Cana                            LA-QUAL calibration for Flat River
REACH NO.  1    C Flat R Drainage Canal                         FTN Field Survey calibration 15


 ******************************************************** REACH INPUTS ********************************************************

 ELEM  TYPE        FLOW     TEMP     SALN     CM-I    CM-II     DO  BOD#1  BOD#2 EBOD#1 EBOD#2   ORGN    NH3  NO3+2   PHOS  CHL A     COLI     NCM
 NO.                        deg C      ppt                     mg/L   mg/L   mg/L   mg/L   mg/L   mg/L   mg/L   mg/L   mg/L   µg/L  #/100mL

    1  HDWTR     0.04700   29.30     0.00     0.00     0.00   0.90   7.60   0.00   7.60   0.00   1.98   0.38   0.00   0.00   0.00     0.00    0.00
   17  WSTLD     0.00090   29.30     0.00     0.00     0.00   2.00  43.00   0.00  43.00   0.00   3.00   7.00   0.00   0.00   0.00     0.00    0.00
   50  WSTLD     0.00390   29.30     0.00     0.00     0.00   5.00   8.70   0.00   8.70   0.00   7.00   3.00   0.00   0.00   0.00     0.00    0.00


 ************************************************** HYDRAULIC PARAMETER VALUES **************************************************
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ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
1	87.00	86.90	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
2	86.90	86.80	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
3	86.80	86.70	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
4	86.70	86.60	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
5	86.60	86.50	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
6	86.50	86.40	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
7	86.40	86.30	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
8	86.30	86.20	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
9	86.20	86.10	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
10	86.10	86.00	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
11	86.00	85.90	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
12	85.90	85.80	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
13	85.80	85.70	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
14	85.70	85.60	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
15	85.60	85.50	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
16	85.50	85.40	0.04700	0.0	0.01438	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.014
17	85.40	85.30	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
18	85.30	85.20	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
19	85.20	85.10	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
20	85.10	85.00	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
21	85.00	84.90	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
22	84.90	84.80	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
23	84.80	84.70	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
24	84.70	84.60	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
25	84.60	84.50	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
26	84.50	84.40	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
27	84.40	84.30	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
28	84.30	84.20	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
29	84.20	84.10	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
30	84.10	84.00	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
31	84.00	83.90	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
32	83.90	83.80	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
33	83.80	83.70	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
34	83.70	83.60	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
35	83.60	83.50	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
36	83.50	83.40	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
37	83.40	83.30	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
38	83.30	83.20	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
39	83.20	83.10	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
40	83.10	83.00	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
41	83.00	82.90	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
42	82.90	82.80	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
43	82.80	82.70	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
44	82.70	82.60	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
45	82.60	82.50	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
46	82.50	82.40	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015

47	82.40	82.30	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
48	82.30	82.20	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
49	82.20	82.10	0.04790	1.9	0.01466	0.08	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.015
50	82.10	82.00	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
51	82.00	81.90	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
52	81.90	81.80	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
53	81.80	81.70	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
54	81.70	81.60	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
55	81.60	81.50	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
56	81.50	81.40	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
57	81.40	81.30	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
58	81.30	81.20	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
59	81.20	81.10	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
60	81.10	81.00	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
61	81.00	80.90	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
62	80.90	80.80	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
63	80.80	80.70	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
64	80.70	80.60	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
65	80.60	80.50	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
66	80.50	80.40	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
67	80.40	80.30	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
68	80.30	80.20	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
69	80.20	80.10	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
70	80.10	80.00	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
71	80.00	79.90	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
72	79.90	79.80	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
73	79.80	79.70	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
74	79.70	79.60	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
75	79.60	79.50	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
76	79.50	79.40	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
77	79.40	79.30	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
78	79.30	79.20	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
79	79.20	79.10	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
80	79.10	79.00	0.05180	9.3	0.01585	0.07	0.28	11.67	326.76	1167.00	3.27	0.00	0.000	0.000	0.016
TOT						6.16			26140.79	93360.00					
AVG					0.0150		0.28	11.67			3.27				
CUM						6.16									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
1	86.900	7.65	3.69	0.10	0.00	0.00	0.00	0.00	0.00	10.76	10.76	5.88	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	86.800	7.66	3.69	0.11	0.00	0.00	0.00	0.00	0.00	10.74	10.74	6.24	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	86.700	7.66	3.69	0.11	0.00	0.00	0.00	0.00	0.00	10.72	10.72	6.36	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	86.600	7.67	3.68	0.11	0.00	0.00	0.00	0.00	0.00	10.70	10.70	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	86.500	7.67	3.68	0.11	0.00	0.00	0.00	0.00	0.00	10.68	10.68	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6	86.400	7.67	3.68	0.11	0.00	0.00	0.00	0.00	0.00	10.67	10.67	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	86.300	7.68	3.68	0.11	0.00	0.00	0.00	0.00	0.00	10.65	10.65	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	86.200	7.68	3.68	0.11	0.00	0.00	0.00	0.00	0.00	10.63	10.63	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	86.100	7.68	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.61	10.61	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	86.000	7.69	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.59	10.59	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	85.900	7.69	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.57	10.57	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	85.800	7.69	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.56	10.56	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	85.700	7.70	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.54	10.54	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	85.600	7.70	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.52	10.52	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	85.500	7.71	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.50	10.50	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	85.400	7.71	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.48	10.48	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	85.300	7.71	3.68	0.11	0.00	0.00	0.00	0.00	0.00	10.46	10.46	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	85.200	7.72	3.68	0.11	0.00	0.00	0.00	0.00	0.00	10.45	10.45	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	85.100	7.72	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.43	10.43	6.41	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	85.000	7.72	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.41	10.41	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	84.900	7.73	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.39	10.39	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	84.800	7.73	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.37	10.37	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	84.700	7.74	3.67	0.11	0.00	0.00	0.00	0.00	0.00	10.36	10.36	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	84.600	7.74	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.34	10.34	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	84.500	7.74	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.32	10.32	6.40	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	84.400	7.75	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.30	10.30	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	84.300	7.75	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.28	10.28	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	84.200	7.75	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.27	10.27	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	84.100	7.76	3.66	0.11	0.00	0.00	0.00	0.00	0.00	10.25	10.25	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	84.000	7.76	3.65	0.11	0.00	0.00	0.00	0.00	0.00	10.23	10.23	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	83.900	7.77	3.65	0.11	0.00	0.00	0.00	0.00	0.00	10.21	10.21	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	83.800	7.77	3.65	0.11	0.00	0.00	0.00	0.00	0.00	10.20	10.20	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	83.700	7.77	3.65	0.11	0.00	0.00	0.00	0.00	0.00	10.18	10.18	6.39	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	83.600	7.78	3.65	0.11	0.00	0.00	0.00	0.00	0.00	10.16	10.16	6.38	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	83.500	7.78	3.65	0.11	0.00	0.00	0.00	0.00	0.00	10.14	10.14	6.38	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	83.400	7.78	3.64	0.11	0.00	0.00	0.00	0.00	0.00	10.13	10.13	6.38	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	83.300	7.79	3.64	0.11	0.00	0.00	0.00	0.00	0.00	10.11	10.11	6.38	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	83.200	7.79	3.64	0.11	0.00	0.00	0.00	0.00	0.00	10.09	10.09	6.38	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	83.100	7.80	3.64	0.11	0.00	0.00	0.00	0.00	0.00	10.07	10.07	6.38	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	83.000	7.80	3.64	0.11	0.00	0.00	0.00	0.00	0.00	10.06	10.06	6.38	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	82.900	7.80	3.63	0.11	0.00	0.00	0.00	0.00	0.00	10.04	10.04	6.37	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	82.800	7.81	3.63	0.11	0.00	0.00	0.00	0.00	0.00	10.02	10.02	6.37	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	82.700	7.81	3.63	0.11	0.00	0.00	0.00	0.00	0.00	10.00	10.00	6.37	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	82.600	7.81	3.63	0.11	0.00	0.00	0.00	0.00	0.00	9.99	9.99	6.37	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	82.500	7.82	3.63	0.11	0.00	0.00	0.00	0.00	0.00	9.97	9.97	6.37	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	82.400	7.82	3.63	0.11	0.00	0.00	0.00	0.00	0.00	9.95	9.95	6.37	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	82.300	7.83	3.62	0.11	0.00	0.00	0.00	0.00	0.00	9.93	9.93	6.37	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	82.200	7.83	3.62	0.11	0.00	0.00	0.00	0.00	0.00	9.92	9.92	6.36	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	82.100	7.83	3.62	0.11	0.00	0.00	0.00	0.00	0.00	9.90	9.90	6.36	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	82.000	7.84	3.69	0.12	0.00	0.00	0.00	0.00	0.00	9.88	9.88	6.95	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	81.900	7.84	3.69	0.12	0.00	0.00	0.00	0.00	0.00	9.87	9.87	6.64	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	81.800	7.85	3.69	0.11	0.00	0.00	0.00	0.00	0.00	9.85	9.85	6.53	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	81.700	7.85	3.68	0.11	0.00	0.00	0.00	0.00	0.00	9.83	9.83	6.48	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	81.600	7.85	3.68	0.11	0.00	0.00	0.00	0.00	0.00	9.81	9.81	6.46	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	81.500	7.86	3.68	0.11	0.00	0.00	0.00	0.00	0.00	9.80	9.80	6.46	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	81.400	7.86	3.68	0.11	0.00	0.00	0.00	0.00	0.00	9.78	9.78	6.45	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

57	81.300	7.86	3.68	0.11	0.00	0.00	0.00	0.00	0.00	9.76	9.76	6.45	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	81.200	7.87	3.68	0.11	0.00	0.00	0.00	0.00	0.00	9.75	9.75	6.45	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	81.100	7.87	3.67	0.11	0.00	0.00	0.00	0.00	0.00	9.73	9.73	6.45	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	81.000	7.88	3.67	0.11	0.00	0.00	0.00	0.00	0.00	9.71	9.71	6.45	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	80.900	7.88	3.67	0.11	0.00	0.00	0.00	0.00	0.00	9.70	9.70	6.44	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	80.800	7.88	3.67	0.11	0.00	0.00	0.00	0.00	0.00	9.68	9.68	6.44	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	80.700	7.89	3.67	0.11	0.00	0.00	0.00	0.00	0.00	9.66	9.66	6.44	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	80.600	7.89	3.66	0.11	0.00	0.00	0.00	0.00	0.00	9.65	9.65	6.44	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	80.500	7.90	3.66	0.11	0.00	0.00	0.00	0.00	0.00	9.63	9.63	6.44	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	80.400	7.90	3.66	0.11	0.00	0.00	0.00	0.00	0.00	9.61	9.61	6.44	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	80.300	7.90	3.66	0.11	0.00	0.00	0.00	0.00	0.00	9.60	9.60	6.44	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	80.200	7.91	3.66	0.11	0.00	0.00	0.00	0.00	0.00	9.58	9.58	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	80.100	7.91	3.66	0.11	0.00	0.00	0.00	0.00	0.00	9.56	9.56	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	80.000	7.91	3.65	0.11	0.00	0.00	0.00	0.00	0.00	9.55	9.55	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	79.900	7.92	3.65	0.11	0.00	0.00	0.00	0.00	0.00	9.53	9.53	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	79.800	7.92	3.65	0.11	0.00	0.00	0.00	0.00	0.00	9.51	9.51	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	79.700	7.93	3.65	0.11	0.00	0.00	0.00	0.00	0.00	9.50	9.50	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	79.600	7.93	3.65	0.11	0.00	0.00	0.00	0.00	0.00	9.48	9.48	6.43	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	79.500	7.93	3.64	0.11	0.00	0.00	0.00	0.00	0.00	9.46	9.46	6.42	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	79.400	7.94	3.64	0.11	0.00	0.00	0.00	0.00	0.00	9.45	9.45	6.42	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	79.300	7.94	3.64	0.11	0.00	0.00	0.00	0.00	0.00	9.43	9.43	6.42	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	79.200	7.95	3.64	0.11	0.00	0.00	0.00	0.00	0.00	9.42	9.42	6.42	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	79.100	7.95	3.64	0.11	0.00	0.00	0.00	0.00	0.00	9.40	9.40	6.42	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	79.000	7.95	3.64	0.11	0.00	0.00	0.00	0.00	0.00	9.38	9.38	6.42	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.14	0.12	0.00	0.00	0.00	0.00	0.00	6.00			0.02	0.00	0.09	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
1	86.900	29.27	0.00	0.00	0.00	1.09	7.61	0.00	7.61	0.00	1.98	0.38	0.00	2.36	0.00	0.00	0.00	0.	0.00
2	86.800	29.24	0.00	0.00	0.00	1.16	7.61	0.00	7.61	0.00	1.98	0.39	0.00	2.37	0.00	0.00	0.00	0.	0.00
3	86.700	29.22	0.00	0.00	0.00	1.19	7.61	0.00	7.61	0.00	1.98	0.39	0.00	2.37	0.00	0.00	0.00	0.	0.00
4	86.600	29.19	0.00	0.00	0.00	1.20	7.61	0.00	7.61	0.00	1.98	0.39	0.00	2.37	0.00	0.00	0.00	0.	0.00
5	86.500	29.16	0.00	0.00	0.00	1.20	7.61	0.00	7.61	0.00	1.98	0.40	0.00	2.38	0.00	0.00	0.00	0.	0.00
6	86.400	29.14	0.00	0.00	0.00	1.20	7.61	0.00	7.61	0.00	1.98	0.40	0.00	2.38	0.00	0.00	0.00	0.	0.00
7	86.300	29.11	0.00	0.00	0.00	1.20	7.61	0.00	7.61	0.00	1.97	0.40	0.00	2.38	0.00	0.00	0.00	0.	0.00
8	86.200	29.08	0.00	0.00	0.00	1.21	7.61	0.00	7.61	0.00	1.97	0.41	0.00	2.38	0.00	0.00	0.00	0.	0.00
9	86.100	29.05	0.00	0.00	0.00	1.21	7.61	0.00	7.61	0.00	1.97	0.41	0.00	2.39	0.00	0.00	0.00	0.	0.00
10	86.000	29.02	0.00	0.00	0.00	1.21	7.61	0.00	7.61	0.00	1.97	0.41	0.01	2.39	0.00	0.00	0.00	0.	0.00
11	85.900	29.00	0.00	0.00	0.00	1.21	7.61	0.00	7.61	0.00	1.97	0.42	0.01	2.39	0.00	0.00	0.00	0.	0.00
12	85.800	28.97	0.00	0.00	0.00	1.21	7.61	0.00	7.61	0.00	1.97	0.42	0.01	2.40	0.00	0.00	0.00	0.	0.00
13	85.700	28.94	0.00	0.00	0.00	1.22	7.61	0.00	7.61	0.00	1.97	0.42	0.01	2.40	0.00	0.00	0.00	0.	0.00
14	85.600	28.91	0.00	0.00	0.00	1.22	7.61	0.00	7.61	0.00	1.97	0.43	0.01	2.40	0.00	0.00	0.00	0.	0.00
15	85.500	28.89	0.00	0.00	0.00	1.22	7.61	0.00	7.61	0.00	1.97	0.43	0.01	2.41	0.00	0.00	0.00	0.	0.00
16	85.400	28.86	0.00	0.00	0.00	1.22	7.62	0.00	7.62	0.00	1.97	0.43	0.01	2.41	0.00	0.00	0.00	0.	0.00

17	85.300	28.83	0.00	0.00	0.00	1.23	8.27	0.00	8.27	0.00	1.99	0.56	0.01	2.55	0.00	0.00	0.00	0.	0.00
18	85.200	28.81	0.00	0.00	0.00	1.23	8.27	0.00	8.27	0.00	1.99	0.56	0.01	2.56	0.00	0.00	0.00	0.	0.00
19	85.100	28.78	0.00	0.00	0.00	1.23	8.26	0.00	8.26	0.00	1.99	0.56	0.01	2.56	0.00	0.00	0.00	0.	0.00
20	85.000	28.75	0.00	0.00	0.00	1.23	8.26	0.00	8.26	0.00	1.98	0.57	0.01	2.56	0.00	0.00	0.00	0.	0.00
21	84.900	28.72	0.00	0.00	0.00	1.23	8.25	0.00	8.25	0.00	1.98	0.57	0.01	2.57	0.00	0.00	0.00	0.	0.00
22	84.800	28.69	0.00	0.00	0.00	1.23	8.25	0.00	8.25	0.00	1.98	0.57	0.01	2.57	0.00	0.00	0.00	0.	0.00
23	84.700	28.67	0.00	0.00	0.00	1.24	8.24	0.00	8.24	0.00	1.98	0.58	0.01	2.57	0.00	0.00	0.00	0.	0.00
24	84.600	28.64	0.00	0.00	0.00	1.24	8.24	0.00	8.24	0.00	1.98	0.58	0.02	2.58	0.00	0.00	0.00	0.	0.00
25	84.500	28.61	0.00	0.00	0.00	1.24	8.23	0.00	8.23	0.00	1.98	0.58	0.02	2.58	0.00	0.00	0.00	0.	0.00
26	84.400	28.58	0.00	0.00	0.00	1.24	8.23	0.00	8.23	0.00	1.98	0.58	0.02	2.58	0.00	0.00	0.00	0.	0.00
27	84.300	28.56	0.00	0.00	0.00	1.24	8.22	0.00	8.22	0.00	1.98	0.59	0.02	2.59	0.00	0.00	0.00	0.	0.00
28	84.200	28.53	0.00	0.00	0.00	1.25	8.21	0.00	8.21	0.00	1.98	0.59	0.02	2.59	0.00	0.00	0.00	0.	0.00
29	84.100	28.50	0.00	0.00	0.00	1.25	8.21	0.00	8.21	0.00	1.98	0.59	0.02	2.59	0.00	0.00	0.00	0.	0.00
30	84.000	28.48	0.00	0.00	0.00	1.25	8.20	0.00	8.20	0.00	1.98	0.60	0.02	2.59	0.00	0.00	0.00	0.	0.00
31	83.900	28.45	0.00	0.00	0.00	1.25	8.20	0.00	8.20	0.00	1.98	0.60	0.02	2.60	0.00	0.00	0.00	0.	0.00
32	83.800	28.42	0.00	0.00	0.00	1.25	8.19	0.00	8.19	0.00	1.98	0.60	0.02	2.60	0.00	0.00	0.00	0.	0.00
33	83.700	28.39	0.00	0.00	0.00	1.25	8.19	0.00	8.19	0.00	1.98	0.60	0.02	2.60	0.00	0.00	0.00	0.	0.00
34	83.600	28.36	0.00	0.00	0.00	1.26	8.18	0.00	8.18	0.00	1.98	0.61	0.02	2.61	0.00	0.00	0.00	0.	0.00
35	83.500	28.34	0.00	0.00	0.00	1.26	8.18	0.00	8.18	0.00	1.97	0.61	0.02	2.61	0.00	0.00	0.00	0.	0.00
36	83.400	28.31	0.00	0.00	0.00	1.26	8.17	0.00	8.17	0.00	1.97	0.61	0.03	2.61	0.00	0.00	0.00	0.	0.00
37	83.300	28.28	0.00	0.00	0.00	1.26	8.17	0.00	8.17	0.00	1.97	0.62	0.03	2.62	0.00	0.00	0.00	0.	0.00
38	83.200	28.25	0.00	0.00	0.00	1.26	8.16	0.00	8.16	0.00	1.97	0.62	0.03	2.62	0.00	0.00	0.00	0.	0.00
39	83.100	28.23	0.00	0.00	0.00	1.27	8.16	0.00	8.16	0.00	1.97	0.62	0.03	2.62	0.00	0.00	0.00	0.	0.00
40	83.000	28.20	0.00	0.00	0.00	1.27	8.15	0.00	8.15	0.00	1.97	0.62	0.03	2.62	0.00	0.00	0.00	0.	0.00
41	82.900	28.17	0.00	0.00	0.00	1.27	8.15	0.00	8.15	0.00	1.97	0.63	0.03	2.63	0.00	0.00	0.00	0.	0.00
42	82.800	28.15	0.00	0.00	0.00	1.27	8.14	0.00	8.14	0.00	1.97	0.63	0.03	2.63	0.00	0.00	0.00	0.	0.00
43	82.700	28.12	0.00	0.00	0.00	1.27	8.14	0.00	8.14	0.00	1.97	0.63	0.03	2.63	0.00	0.00	0.00	0.	0.00
44	82.600	28.09	0.00	0.00	0.00	1.28	8.13	0.00	8.13	0.00	1.97	0.63	0.03	2.64	0.00	0.00	0.00	0.	0.00
45	82.500	28.06	0.00	0.00	0.00	1.28	8.13	0.00	8.13	0.00	1.97	0.64	0.03	2.64	0.00	0.00	0.00	0.	0.00
46	82.400	28.03	0.00	0.00	0.00	1.28	8.12	0.00	8.12	0.00	1.97	0.64	0.04	2.64	0.00	0.00	0.00	0.	0.00
47	82.300	28.01	0.00	0.00	0.00	1.28	8.12	0.00	8.12	0.00	1.97	0.64	0.04	2.65	0.00	0.00	0.00	0.	0.00
48	82.200	27.98	0.00	0.00	0.00	1.28	8.12	0.00	8.12	0.00	1.97	0.64	0.04	2.65	0.00	0.00	0.00	0.	0.00
49	82.100	27.95	0.00	0.00	0.00	1.29	8.11	0.00	8.11	0.00	1.97	0.65	0.04	2.65	0.00	0.00	0.00	0.	0.00
50	82.000	27.92	0.00	0.00	0.00	1.41	8.14	0.00	8.14	0.00	2.34	0.83	0.04	3.21	0.00	0.00	0.00	0.	0.00
51	81.900	27.90	0.00	0.00	0.00	1.35	8.14	0.00	8.14	0.00	2.34	0.83	0.04	3.21	0.00	0.00	0.00	0.	0.00
52	81.800	27.87	0.00	0.00	0.00	1.33	8.13	0.00	8.13	0.00	2.34	0.83	0.04	3.21	0.00	0.00	0.00	0.	0.00
53	81.700	27.84	0.00	0.00	0.00	1.32	8.12	0.00	8.12	0.00	2.34	0.83	0.04	3.22	0.00	0.00	0.00	0.	0.00
54	81.600	27.82	0.00	0.00	0.00	1.32	8.12	0.00	8.12	0.00	2.34	0.84	0.04	3.22	0.00	0.00	0.00	0.	0.00
55	81.500	27.79	0.00	0.00	0.00	1.32	8.11	0.00	8.11	0.00	2.34	0.84	0.04	3.22	0.00	0.00	0.00	0.	0.00
56	81.400	27.76	0.00	0.00	0.00	1.32	8.11	0.00	8.11	0.00	2.34	0.84	0.05	3.22	0.00	0.00	0.00	0.	0.00
57	81.300	27.73	0.00	0.00	0.00	1.32	8.10	0.00	8.10	0.00	2.34	0.84	0.05	3.23	0.00	0.00	0.00	0.	0.00
58	81.200	27.70	0.00	0.00	0.00	1.32	8.10	0.00	8.10	0.00	2.33	0.85	0.05	3.23	0.00	0.00	0.00	0.	0.00
59	81.100	27.68	0.00	0.00	0.00	1.33	8.09	0.00	8.09	0.00	2.33	0.85	0.05	3.23	0.00	0.00	0.00	0.	0.00
60	81.000	27.65	0.00	0.00	0.00	1.33	8.09	0.00	8.09	0.00	2.33	0.85	0.05	3.24	0.00	0.00	0.00	0.	0.00
61	80.900	27.62	0.00	0.00	0.00	1.33	8.08	0.00	8.08	0.00	2.33	0.86	0.05	3.24	0.00	0.00	0.00	0.	0.00
62	80.800	27.59	0.00	0.00	0.00	1.33	8.08	0.00	8.08	0.00	2.33	0.86	0.05	3.24	0.00	0.00	0.00	0.	0.00
63	80.700	27.57	0.00	0.00	0.00	1.33	8.07	0.00	8.07	0.00	2.33	0.86	0.06	3.24	0.00	0.00	0.00	0.	0.00
64	80.600	27.54	0.00	0.00	0.00	1.34	8.06	0.00	8.06	0.00	2.33	0.86	0.06	3.25	0.00	0.00	0.00	0.	0.00
65	80.500	27.51	0.00	0.00	0.00	1.34	8.06	0.00	8.06	0.00	2.33	0.87	0.06	3.25	0.00	0.00	0.00	0.	0.00
66	80.400	27.49	0.00	0.00	0.00	1.34	8.05	0.00	8.05	0.00	2.32	0.87	0.06	3.25	0.00	0.00	0.00	0.	0.00
67	80.300	27.46	0.00	0.00	0.00	1.34	8.05	0.00	8.05	0.00	2.32	0.87	0.06	3.26	0.00	0.00	0.00	0.	0.00

68	80.200	27.43	0.00	0.00	0.00	1.34	8.04	0.00	8.04	0.00	2.32	0.87	0.06	3.26	0.00	0.00	0.00	0.	0.00
69	80.100	27.40	0.00	0.00	0.00	1.35	8.04	0.00	8.04	0.00	2.32	0.88	0.06	3.26	0.00	0.00	0.00	0.	0.00
70	80.000	27.38	0.00	0.00	0.00	1.35	8.03	0.00	8.03	0.00	2.32	0.88	0.07	3.26	0.00	0.00	0.00	0.	0.00
71	79.900	27.35	0.00	0.00	0.00	1.35	8.03	0.00	8.03	0.00	2.32	0.88	0.07	3.27	0.00	0.00	0.00	0.	0.00
72	79.800	27.32	0.00	0.00	0.00	1.35	8.02	0.00	8.02	0.00	2.32	0.88	0.07	3.27	0.00	0.00	0.00	0.	0.00
73	79.700	27.29	0.00	0.00	0.00	1.35	8.02	0.00	8.02	0.00	2.32	0.88	0.07	3.27	0.00	0.00	0.00	0.	0.00
74	79.600	27.27	0.00	0.00	0.00	1.36	8.01	0.00	8.01	0.00	2.32	0.89	0.07	3.27	0.00	0.00	0.00	0.	0.00
75	79.500	27.24	0.00	0.00	0.00	1.36	8.01	0.00	8.01	0.00	2.31	0.89	0.07	3.28	0.00	0.00	0.00	0.	0.00
76	79.400	27.21	0.00	0.00	0.00	1.36	8.00	0.00	8.00	0.00	2.31	0.89	0.07	3.28	0.00	0.00	0.00	0.	0.00
77	79.300	27.18	0.00	0.00	0.00	1.36	8.00	0.00	8.00	0.00	2.31	0.89	0.08	3.28	0.00	0.00	0.00	0.	0.00
78	79.200	27.16	0.00	0.00	0.00	1.36	7.99	0.00	7.99	0.00	2.31	0.90	0.08	3.29	0.00	0.00	0.00	0.	0.00
79	79.100	27.13	0.00	0.00	0.00	1.37	7.99	0.00	7.99	0.00	2.31	0.90	0.08	3.29	0.00	0.00	0.00	0.	0.00
80	79.000	27.10	0.00	0.00	0.00	1.37	7.98	0.00	7.98	0.00	2.31	0.90	0.08	3.29	0.00	0.00	0.00	0.	0.00

FINAL REPORT Flat R Drainage Cana LA-QUAL calibration for Flat River
REACH NO. 2 C Flat R Drainage Canal FTN Field Survey calibration 15

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
81	UPR RCH	0.05180	27.10	0.00	0.00	0.00	1.37	7.98	0.00	7.98	0.00	2.31	0.90	0.08	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
81	79.00	78.90	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
82	78.90	78.80	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
83	78.80	78.70	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
84	78.70	78.60	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
85	78.60	78.50	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
86	78.50	78.40	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
87	78.40	78.30	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
88	78.30	78.20	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
89	78.20	78.10	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
90	78.10	78.00	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
91	78.00	77.90	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
92	77.90	77.80	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
93	77.80	77.70	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
94	77.70	77.60	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
95	77.60	77.50	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
96	77.50	77.40	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
97	77.40	77.30	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
98	77.30	77.20	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011

99	77.20	77.10	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
100	77.10	77.00	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
101	77.00	76.90	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
102	76.90	76.80	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
103	76.80	76.70	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
104	76.70	76.60	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
105	76.60	76.50	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
106	76.50	76.40	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
107	76.40	76.30	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
108	76.30	76.20	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
109	76.20	76.10	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
110	76.10	76.00	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
111	76.00	75.90	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
112	75.90	75.80	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
113	75.80	75.70	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
114	75.70	75.60	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
115	75.60	75.50	0.05180	9.3	0.01094	0.11	0.45	10.52	473.40	1052.00	4.73	0.00	0.000	0.000	0.011
TOT						3.70			16569.01	36820.00					
AVG					0.0109		0.45	10.52			4.73				
CUM						9.86									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
81	78.900	7.95	2.08	0.14	0.00	0.00	0.00	0.00	0.00	4.61	4.61	3.90	0.02	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	78.800	7.96	2.08	0.15	0.00	0.00	0.00	0.00	0.00	4.61	4.61	4.29	0.02	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	78.700	7.96	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.61	4.61	4.50	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	78.600	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.61	4.61	4.60	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	78.500	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.60	4.60	4.60	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	78.400	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.60	4.60	4.60	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	78.300	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.60	4.60	4.60	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	78.200	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.60	4.60	4.60	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	78.100	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.60	4.60	4.60	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	78.000	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.60	4.60	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	77.900	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	77.800	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	77.700	7.96	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	77.600	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	77.500	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	77.400	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	77.300	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.58	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	77.200	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.58	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	77.100	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.58	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	77.000	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.58	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	76.900	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.58	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	76.800	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.58	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

103	76.700	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.57	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	76.600	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.57	4.57	4.57	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	76.500	7.97	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.57	4.57	4.57	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	76.400	7.98	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.57	4.57	4.57	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	76.300	7.98	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.57	4.57	4.57	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	76.200	7.98	2.08	0.17	0.00	0.00	0.00	0.00	0.00	4.57	4.57	4.57	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	76.100	7.98	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.57	4.57	4.56	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	76.000	7.98	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.56	4.56	4.56	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	75.900	7.98	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.56	4.56	4.56	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	75.800	7.98	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.56	4.56	4.56	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	75.700	7.98	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.56	4.56	4.56	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	75.600	7.98	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.56	4.56	4.56	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	75.500	7.98	2.08	0.16	0.00	0.00	0.00	0.00	0.00	4.56	4.56	4.55	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.82	0.12	0.00	0.00	0.00	0.00	0.00	2.95			0.02	0.00	0.09	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
81	78.900	27.09	0.00	0.00	0.00	1.69	7.99	0.00	7.99	0.00	2.31	0.90	0.09	3.30	0.00	0.00	0.00	0.	0.00
82	78.800	27.09	0.00	0.00	0.00	1.86	7.99	0.00	7.99	0.00	2.31	0.90	0.09	3.30	0.00	0.00	0.00	0.	0.00
83	78.700	27.08	0.00	0.00	0.00	1.95	7.98	0.00	7.98	0.00	2.31	0.90	0.10	3.31	0.00	0.00	0.00	0.	0.00
84	78.600	27.08	0.00	0.00	0.00	2.00	7.97	0.00	7.97	0.00	2.31	0.89	0.11	3.32	0.00	0.00	0.00	0.	0.00
85	78.500	27.07	0.00	0.00	0.00	2.04	7.96	0.00	7.96	0.00	2.31	0.89	0.12	3.32	0.00	0.00	0.00	0.	0.00
86	78.400	27.07	0.00	0.00	0.00	2.08	7.95	0.00	7.95	0.00	2.31	0.89	0.13	3.33	0.00	0.00	0.00	0.	0.00
87	78.300	27.06	0.00	0.00	0.00	2.11	7.93	0.00	7.93	0.00	2.31	0.88	0.14	3.34	0.00	0.00	0.00	0.	0.00
88	78.200	27.05	0.00	0.00	0.00	2.13	7.92	0.00	7.92	0.00	2.32	0.88	0.15	3.34	0.00	0.00	0.00	0.	0.00
89	78.100	27.05	0.00	0.00	0.00	2.15	7.91	0.00	7.91	0.00	2.32	0.87	0.16	3.35	0.00	0.00	0.00	0.	0.00
90	78.000	27.04	0.00	0.00	0.00	2.17	7.90	0.00	7.90	0.00	2.32	0.87	0.17	3.36	0.00	0.00	0.00	0.	0.00
91	77.900	27.04	0.00	0.00	0.00	2.18	7.89	0.00	7.89	0.00	2.32	0.87	0.18	3.36	0.00	0.00	0.00	0.	0.00
92	77.800	27.03	0.00	0.00	0.00	2.20	7.88	0.00	7.88	0.00	2.32	0.86	0.19	3.37	0.00	0.00	0.00	0.	0.00
93	77.700	27.03	0.00	0.00	0.00	2.21	7.87	0.00	7.87	0.00	2.32	0.86	0.20	3.37	0.00	0.00	0.00	0.	0.00
94	77.600	27.02	0.00	0.00	0.00	2.22	7.86	0.00	7.86	0.00	2.32	0.86	0.20	3.38	0.00	0.00	0.00	0.	0.00
95	77.500	27.01	0.00	0.00	0.00	2.22	7.85	0.00	7.85	0.00	2.32	0.85	0.21	3.39	0.00	0.00	0.00	0.	0.00
96	77.400	27.01	0.00	0.00	0.00	2.23	7.84	0.00	7.84	0.00	2.32	0.85	0.22	3.39	0.00	0.00	0.00	0.	0.00
97	77.300	27.00	0.00	0.00	0.00	2.24	7.83	0.00	7.83	0.00	2.32	0.85	0.23	3.40	0.00	0.00	0.00	0.	0.00
98	77.200	27.00	0.00	0.00	0.00	2.24	7.82	0.00	7.82	0.00	2.32	0.84	0.24	3.41	0.00	0.00	0.00	0.	0.00
99	77.100	26.99	0.00	0.00	0.00	2.25	7.81	0.00	7.81	0.00	2.32	0.84	0.25	3.41	0.00	0.00	0.00	0.	0.00
100	77.000	26.99	0.00	0.00	0.00	2.26	7.80	0.00	7.80	0.00	2.32	0.84	0.26	3.42	0.00	0.00	0.00	0.	0.00
101	76.900	26.98	0.00	0.00	0.00	2.26	7.80	0.00	7.80	0.00	2.32	0.83	0.27	3.43	0.00	0.00	0.00	0.	0.00
102	76.800	26.97	0.00	0.00	0.00	2.26	7.79	0.00	7.79	0.00	2.33	0.83	0.28	3.43	0.00	0.00	0.00	0.	0.00
103	76.700	26.97	0.00	0.00	0.00	2.27	7.78	0.00	7.78	0.00	2.33	0.83	0.29	3.44	0.00	0.00	0.00	0.	0.00
104	76.600	26.96	0.00	0.00	0.00	2.27	7.77	0.00	7.77	0.00	2.33	0.82	0.30	3.44	0.00	0.00	0.00	0.	0.00
105	76.500	26.96	0.00	0.00	0.00	2.28	7.76	0.00	7.76	0.00	2.33	0.82	0.30	3.45	0.00	0.00	0.00	0.	0.00
106	76.400	26.95	0.00	0.00	0.00	2.28	7.75	0.00	7.75	0.00	2.33	0.82	0.31	3.46	0.00	0.00	0.00	0.	0.00
107	76.300	26.95	0.00	0.00	0.00	2.29	7.75	0.00	7.75	0.00	2.33	0.81	0.32	3.46	0.00	0.00	0.00	0.	0.00

108	76.200	26.94	0.00	0.00	0.00	2.29	7.74	0.00	7.74	0.00	2.33	0.81	0.33	3.47	0.00	0.00	0.00	0.	0.00
109	76.100	26.93	0.00	0.00	0.00	2.29	7.73	0.00	7.73	0.00	2.33	0.81	0.34	3.48	0.00	0.00	0.00	0.	0.00
110	76.000	26.93	0.00	0.00	0.00	2.30	7.73	0.00	7.73	0.00	2.33	0.80	0.35	3.48	0.00	0.00	0.00	0.	0.00
111	75.900	26.92	0.00	0.00	0.00	2.30	7.72	0.00	7.72	0.00	2.33	0.80	0.36	3.49	0.00	0.00	0.00	0.	0.00
112	75.800	26.92	0.00	0.00	0.00	2.30	7.71	0.00	7.71	0.00	2.33	0.80	0.37	3.50	0.00	0.00	0.00	0.	0.00
113	75.700	26.91	0.00	0.00	0.00	2.31	7.71	0.00	7.71	0.00	2.33	0.79	0.37	3.50	0.00	0.00	0.00	0.	0.00
114	75.600	26.91	0.00	0.00	0.00	2.31	7.70	0.00	7.70	0.00	2.33	0.79	0.38	3.51	0.00	0.00	0.00	0.	0.00
115	75.500	26.90	0.00	0.00	0.00	2.31	7.69	0.00	7.69	0.00	2.34	0.79	0.39	3.51	0.00	0.00	0.00	0.	0.00

FINAL REPORT Flat R Drainage Cana LA-QUAL calibration for Flat River
REACH NO. 3 C Flat R Drainage Canal FTN Field Survey calibration 15

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
116	UPR RCH	0.05180	26.90	0.00	0.00	0.00	2.31	7.69	0.00	7.69	0.00	2.34	0.79	0.39	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
116	75.50	75.40	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
117	75.40	75.30	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
118	75.30	75.20	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
119	75.20	75.10	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
120	75.10	75.00	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
121	75.00	74.90	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
122	74.90	74.80	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
123	74.80	74.70	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
124	74.70	74.60	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
125	74.60	74.50	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
126	74.50	74.40	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
127	74.40	74.30	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
128	74.30	74.20	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
129	74.20	74.10	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
130	74.10	74.00	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
131	74.00	73.90	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
132	73.90	73.80	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
133	73.80	73.70	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
134	73.70	73.60	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
135	73.60	73.50	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
136	73.50	73.40	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
137	73.40	73.30	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
138	73.30	73.20	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012

139	73.20	73.10	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
140	73.10	73.00	0.05180	9.3	0.01171	0.10	0.33	13.41	442.53	1341.00	4.43	0.00	0.000	0.000	0.012
TOT						2.47			11063.25	33525.00					
AVG					0.0117		0.33	13.41			4.43				
CUM						12.33									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
116	75.400	7.99	2.87	0.16	0.00	0.00	0.00	0.00	0.00	4.62	4.62	4.62	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	75.300	7.99	2.87	0.16	0.00	0.00	0.00	0.00	0.00	4.62	4.62	4.62	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	75.200	7.99	2.86	0.16	0.00	0.00	0.00	0.00	0.00	4.61	4.61	4.61	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	75.100	8.00	2.86	0.16	0.00	0.00	0.00	0.00	0.00	4.60	4.60	4.60	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	75.000	8.00	2.86	0.16	0.00	0.00	0.00	0.00	0.00	4.59	4.59	4.59	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	74.900	8.01	2.86	0.16	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.58	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	74.800	8.01	2.86	0.16	0.00	0.00	0.00	0.00	0.00	4.58	4.58	4.58	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	74.700	8.01	2.86	0.16	0.00	0.00	0.00	0.00	0.00	4.57	4.57	4.57	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
124	74.600	8.02	2.86	0.16	0.00	0.00	0.00	0.00	0.00	4.56	4.56	4.56	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	74.500	8.02	2.85	0.16	0.00	0.00	0.00	0.00	0.00	4.55	4.55	4.55	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	74.400	8.03	2.85	0.16	0.00	0.00	0.00	0.00	0.00	4.54	4.54	4.54	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	74.300	8.03	2.85	0.16	0.00	0.00	0.00	0.00	0.00	4.54	4.54	4.54	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	74.200	8.03	2.85	0.16	0.00	0.00	0.00	0.00	0.00	4.53	4.53	4.53	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	74.100	8.04	2.85	0.16	0.00	0.00	0.00	0.00	0.00	4.52	4.52	4.52	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	74.000	8.04	2.85	0.16	0.00	0.00	0.00	0.00	0.00	4.51	4.51	4.51	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	73.900	8.05	2.85	0.16	0.00	0.00	0.00	0.00	0.00	4.50	4.50	4.50	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	73.800	8.05	2.84	0.16	0.00	0.00	0.00	0.00	0.00	4.50	4.50	4.50	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	73.700	8.06	2.84	0.16	0.00	0.00	0.00	0.00	0.00	4.49	4.49	4.49	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	73.600	8.06	2.84	0.16	0.00	0.00	0.00	0.00	0.00	4.48	4.48	4.48	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	73.500	8.06	2.84	0.16	0.00	0.00	0.00	0.00	0.00	4.47	4.47	4.47	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	73.400	8.07	2.84	0.16	0.00	0.00	0.00	0.00	0.00	4.46	4.46	4.46	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	73.300	8.07	2.84	0.16	0.00	0.00	0.00	0.00	0.00	4.46	4.46	4.46	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	73.200	8.08	2.84	0.16	0.00	0.00	0.00	0.00	0.00	4.45	4.45	4.45	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	73.100	8.08	2.83	0.16	0.00	0.00	0.00	0.00	0.00	4.44	4.44	4.44	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	73.000	8.08	2.83	0.16	0.00	0.00	0.00	0.00	0.00	4.43	4.43	4.43	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.52	0.12	0.00	0.00	0.00	0.00	0.00	3.00			0.02	0.00	0.09	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
116	75.400	26.87	0.00	0.00	0.00	2.36	7.70	0.00	7.70	0.00	2.34	0.79	0.40	3.52	0.00	0.00	0.00	0.	0.00

117	75.300	26.84	0.00	0.00	0.00	2.40	7.71	0.00	7.71	0.00	2.34	0.78	0.41	3.53	0.00	0.00	0.00	0.	0.00
118	75.200	26.82	0.00	0.00	0.00	2.44	7.72	0.00	7.72	0.00	2.35	0.78	0.42	3.54	0.00	0.00	0.00	0.	0.00
119	75.100	26.79	0.00	0.00	0.00	2.47	7.73	0.00	7.73	0.00	2.35	0.78	0.42	3.55	0.00	0.00	0.00	0.	0.00
120	75.000	26.76	0.00	0.00	0.00	2.49	7.74	0.00	7.74	0.00	2.35	0.77	0.43	3.56	0.00	0.00	0.00	0.	0.00
121	74.900	26.73	0.00	0.00	0.00	2.51	7.75	0.00	7.75	0.00	2.36	0.77	0.44	3.57	0.00	0.00	0.00	0.	0.00
122	74.800	26.70	0.00	0.00	0.00	2.53	7.75	0.00	7.75	0.00	2.36	0.77	0.45	3.58	0.00	0.00	0.00	0.	0.00
123	74.700	26.68	0.00	0.00	0.00	2.55	7.76	0.00	7.76	0.00	2.36	0.77	0.46	3.59	0.00	0.00	0.00	0.	0.00
124	74.600	26.65	0.00	0.00	0.00	2.56	7.77	0.00	7.77	0.00	2.37	0.76	0.46	3.60	0.00	0.00	0.00	0.	0.00
125	74.500	26.62	0.00	0.00	0.00	2.58	7.78	0.00	7.78	0.00	2.37	0.76	0.47	3.60	0.00	0.00	0.00	0.	0.00
126	74.400	26.59	0.00	0.00	0.00	2.59	7.79	0.00	7.79	0.00	2.37	0.76	0.48	3.61	0.00	0.00	0.00	0.	0.00
127	74.300	26.56	0.00	0.00	0.00	2.60	7.80	0.00	7.80	0.00	2.38	0.76	0.49	3.62	0.00	0.00	0.00	0.	0.00
128	74.200	26.54	0.00	0.00	0.00	2.61	7.81	0.00	7.81	0.00	2.38	0.75	0.50	3.63	0.00	0.00	0.00	0.	0.00
129	74.100	26.51	0.00	0.00	0.00	2.63	7.82	0.00	7.82	0.00	2.39	0.75	0.50	3.64	0.00	0.00	0.00	0.	0.00
130	74.000	26.48	0.00	0.00	0.00	2.64	7.83	0.00	7.83	0.00	2.39	0.75	0.51	3.65	0.00	0.00	0.00	0.	0.00
131	73.900	26.45	0.00	0.00	0.00	2.65	7.84	0.00	7.84	0.00	2.39	0.75	0.52	3.66	0.00	0.00	0.00	0.	0.00
132	73.800	26.42	0.00	0.00	0.00	2.66	7.84	0.00	7.84	0.00	2.40	0.74	0.53	3.67	0.00	0.00	0.00	0.	0.00
133	73.700	26.40	0.00	0.00	0.00	2.67	7.85	0.00	7.85	0.00	2.40	0.74	0.53	3.68	0.00	0.00	0.00	0.	0.00
134	73.600	26.37	0.00	0.00	0.00	2.68	7.86	0.00	7.86	0.00	2.40	0.74	0.54	3.68	0.00	0.00	0.00	0.	0.00
135	73.500	26.34	0.00	0.00	0.00	2.69	7.87	0.00	7.87	0.00	2.41	0.74	0.55	3.69	0.00	0.00	0.00	0.	0.00
136	73.400	26.31	0.00	0.00	0.00	2.70	7.88	0.00	7.88	0.00	2.41	0.73	0.56	3.70	0.00	0.00	0.00	0.	0.00
137	73.300	26.28	0.00	0.00	0.00	2.71	7.89	0.00	7.89	0.00	2.41	0.73	0.56	3.71	0.00	0.00	0.00	0.	0.00
138	73.200	26.26	0.00	0.00	0.00	2.72	7.90	0.00	7.90	0.00	2.42	0.73	0.57	3.72	0.00	0.00	0.00	0.	0.00
139	73.100	26.23	0.00	0.00	0.00	2.73	7.91	0.00	7.91	0.00	2.42	0.73	0.58	3.73	0.00	0.00	0.00	0.	0.00
140	73.000	26.20	0.00	0.00	0.00	2.74	7.92	0.00	7.92	0.00	2.42	0.73	0.59	3.74	0.00	0.00	0.00	0.	0.00

FINAL REPORT Flat R Drainage Cana LA-QUAL calibration for Flat River
REACH NO. 4 Flat River FTN Field Survey calibration 15

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
141	UPR RCH	0.05180	26.20	0.00	0.00	0.00	2.74	7.92	0.00	7.92	0.00	2.42	0.73	0.59	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
141	73.00	72.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
142	72.50	72.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
143	72.00	71.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
144	71.50	71.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
145	71.00	70.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
146	70.50	70.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
147	70.00	69.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011

148	69.50	69.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
149	69.00	68.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
150	68.50	68.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
151	68.00	67.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
152	67.50	67.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
153	67.00	66.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
154	66.50	66.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
155	66.00	65.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
156	65.50	65.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
157	65.00	64.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
158	64.50	64.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
159	64.00	63.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
160	63.50	63.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
161	63.00	62.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
162	62.50	62.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
163	62.00	61.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
164	61.50	61.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
165	61.00	60.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
166	60.50	60.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
167	60.00	59.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
168	59.50	59.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
169	59.00	58.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
170	58.50	58.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
171	58.00	57.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
172	57.50	57.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
173	57.00	56.50	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
174	56.50	56.00	0.05180	9.3	0.01124	0.51	0.30	15.36	2304.00	7680.00	4.61	0.00	0.000	0.000	0.011
TOT						17.50			78336.01	261120.00					
AVG					0.0112		0.30	15.36			4.61				
CUM						29.83									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
141	72.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	72.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	71.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144	71.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	70.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	70.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	69.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	69.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	68.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	68.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	67.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	67.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

153	66.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	66.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	65.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	65.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	64.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	64.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	63.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	63.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	62.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	62.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	61.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	61.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	60.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166	60.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	59.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	59.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
169	58.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	58.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
171	57.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172	57.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
173	56.500	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
174	56.000	8.08	3.09	0.16	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.75	0.12	0.00	0.00	0.00	0.00	0.00	2.70			0.02	0.00	0.07	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
141	72.500	26.20	0.00	0.00	0.00	3.08	7.89	0.00	7.89	0.00	2.43	0.72	0.62	3.77	0.00	0.00	0.00	0.	0.00
142	72.000	26.20	0.00	0.00	0.00	3.21	7.87	0.00	7.87	0.00	2.43	0.72	0.65	3.80	0.00	0.00	0.00	0.	0.00
143	71.500	26.20	0.00	0.00	0.00	3.26	7.85	0.00	7.85	0.00	2.44	0.72	0.68	3.84	0.00	0.00	0.00	0.	0.00
144	71.000	26.20	0.00	0.00	0.00	3.28	7.83	0.00	7.83	0.00	2.44	0.71	0.71	3.87	0.00	0.00	0.00	0.	0.00
145	70.500	26.20	0.00	0.00	0.00	3.29	7.81	0.00	7.81	0.00	2.45	0.71	0.75	3.90	0.00	0.00	0.00	0.	0.00
146	70.000	26.20	0.00	0.00	0.00	3.29	7.80	0.00	7.80	0.00	2.45	0.71	0.78	3.94	0.00	0.00	0.00	0.	0.00
147	69.500	26.20	0.00	0.00	0.00	3.29	7.78	0.00	7.78	0.00	2.46	0.70	0.81	3.97	0.00	0.00	0.00	0.	0.00
148	69.000	26.20	0.00	0.00	0.00	3.30	7.77	0.00	7.77	0.00	2.46	0.70	0.84	4.00	0.00	0.00	0.00	0.	0.00
149	68.500	26.20	0.00	0.00	0.00	3.30	7.76	0.00	7.76	0.00	2.46	0.70	0.87	4.03	0.00	0.00	0.00	0.	0.00
150	68.000	26.20	0.00	0.00	0.00	3.30	7.74	0.00	7.74	0.00	2.47	0.70	0.90	4.07	0.00	0.00	0.00	0.	0.00
151	67.500	26.20	0.00	0.00	0.00	3.30	7.73	0.00	7.73	0.00	2.47	0.69	0.93	4.10	0.00	0.00	0.00	0.	0.00
152	67.000	26.20	0.00	0.00	0.00	3.30	7.72	0.00	7.72	0.00	2.48	0.69	0.96	4.13	0.00	0.00	0.00	0.	0.00
153	66.500	26.20	0.00	0.00	0.00	3.30	7.71	0.00	7.71	0.00	2.48	0.69	1.00	4.17	0.00	0.00	0.00	0.	0.00
154	66.000	26.20	0.00	0.00	0.00	3.30	7.71	0.00	7.71	0.00	2.48	0.69	1.03	4.20	0.00	0.00	0.00	0.	0.00
155	65.500	26.20	0.00	0.00	0.00	3.30	7.70	0.00	7.70	0.00	2.49	0.69	1.06	4.23	0.00	0.00	0.00	0.	0.00
156	65.000	26.20	0.00	0.00	0.00	3.30	7.69	0.00	7.69	0.00	2.49	0.68	1.09	4.26	0.00	0.00	0.00	0.	0.00
157	64.500	26.20	0.00	0.00	0.00	3.30	7.68	0.00	7.68	0.00	2.50	0.68	1.12	4.30	0.00	0.00	0.00	0.	0.00
158	64.000	26.20	0.00	0.00	0.00	3.30	7.68	0.00	7.68	0.00	2.50	0.68	1.15	4.33	0.00	0.00	0.00	0.	0.00

159	63.500	26.20	0.00	0.00	0.00	3.30	7.67	0.00	7.67	0.00	2.50	0.68	1.18	4.36	0.00	0.00	0.00	0.	0.00
160	63.000	26.20	0.00	0.00	0.00	3.30	7.67	0.00	7.67	0.00	2.51	0.68	1.21	4.40	0.00	0.00	0.00	0.	0.00
161	62.500	26.20	0.00	0.00	0.00	3.30	7.66	0.00	7.66	0.00	2.51	0.68	1.24	4.43	0.00	0.00	0.00	0.	0.00
162	62.000	26.20	0.00	0.00	0.00	3.30	7.66	0.00	7.66	0.00	2.51	0.68	1.27	4.46	0.00	0.00	0.00	0.	0.00
163	61.500	26.20	0.00	0.00	0.00	3.30	7.65	0.00	7.65	0.00	2.52	0.68	1.30	4.49	0.00	0.00	0.00	0.	0.00
164	61.000	26.20	0.00	0.00	0.00	3.31	7.65	0.00	7.65	0.00	2.52	0.68	1.33	4.53	0.00	0.00	0.00	0.	0.00
165	60.500	26.20	0.00	0.00	0.00	3.31	7.65	0.00	7.65	0.00	2.52	0.67	1.36	4.56	0.00	0.00	0.00	0.	0.00
166	60.000	26.20	0.00	0.00	0.00	3.31	7.64	0.00	7.64	0.00	2.53	0.67	1.39	4.59	0.00	0.00	0.00	0.	0.00
167	59.500	26.20	0.00	0.00	0.00	3.31	7.64	0.00	7.64	0.00	2.53	0.67	1.42	4.63	0.00	0.00	0.00	0.	0.00
168	59.000	26.20	0.00	0.00	0.00	3.31	7.64	0.00	7.64	0.00	2.53	0.67	1.45	4.66	0.00	0.00	0.00	0.	0.00
169	58.500	26.20	0.00	0.00	0.00	3.31	7.63	0.00	7.63	0.00	2.54	0.67	1.48	4.69	0.00	0.00	0.00	0.	0.00
170	58.000	26.20	0.00	0.00	0.00	3.31	7.63	0.00	7.63	0.00	2.54	0.67	1.51	4.72	0.00	0.00	0.00	0.	0.00
171	57.500	26.20	0.00	0.00	0.00	3.31	7.63	0.00	7.63	0.00	2.54	0.67	1.54	4.76	0.00	0.00	0.00	0.	0.00
172	57.000	26.20	0.00	0.00	0.00	3.31	7.63	0.00	7.63	0.00	2.55	0.67	1.57	4.79	0.00	0.00	0.00	0.	0.00
173	56.500	26.20	0.00	0.00	0.00	3.31	7.63	0.00	7.63	0.00	2.55	0.67	1.60	4.82	0.00	0.00	0.00	0.	0.00
174	56.000	26.20	0.00	0.00	0.00	3.31	7.62	0.00	7.62	0.00	2.55	0.67	1.63	4.86	0.00	0.00	0.00	0.	0.00

FINAL REPORT Flat R Drainage Cana LA-QUAL calibration for Flat River
REACH NO. 5 Flat River FTN Field Survey calibration 15

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
175	UPR RCH	0.05180	26.20	0.00	0.00	0.00	3.31	7.62	0.00	7.62	0.00	2.55	0.67	1.63	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
175	56.00	55.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
176	55.50	55.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
177	55.00	54.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
178	54.50	54.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
179	54.00	53.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
180	53.50	53.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
181	53.00	52.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
182	52.50	52.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
183	52.00	51.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
184	51.50	51.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
185	51.00	50.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
186	50.50	50.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
187	50.00	49.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
188	49.50	49.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005
189	49.00	48.50	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005

190	48.50	48.00	0.05180	9.3	0.00527	1.10	0.31	31.68	4910.40	15840.00	9.82	0.00	0.000	0.000	0.005							
TOT						17.55			78566.39	253440.00												
AVG					0.0053		0.31	31.68			9.82											
CUM						47.39																

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
175	55.500	8.09	2.68	0.16	0.00	0.00	0.00	0.00	0.00	3.24	3.24	3.24	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176	55.000	8.10	2.68	0.16	0.00	0.00	0.00	0.00	0.00	3.23	3.23	3.23	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177	54.500	8.10	2.68	0.16	0.00	0.00	0.00	0.00	0.00	3.22	3.22	3.22	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
178	54.000	8.11	2.67	0.16	0.00	0.00	0.00	0.00	0.00	3.22	3.22	3.22	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
179	53.500	8.12	2.67	0.16	0.00	0.00	0.00	0.00	0.00	3.21	3.21	3.21	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	53.000	8.12	2.67	0.16	0.00	0.00	0.00	0.00	0.00	3.20	3.20	3.20	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
181	52.500	8.13	2.67	0.16	0.00	0.00	0.00	0.00	0.00	3.19	3.19	3.19	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
182	52.000	8.14	2.67	0.16	0.00	0.00	0.00	0.00	0.00	3.18	3.18	3.18	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
183	51.500	8.14	2.66	0.16	0.00	0.00	0.00	0.00	0.00	3.17	3.17	3.17	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
184	51.000	8.15	2.66	0.16	0.00	0.00	0.00	0.00	0.00	3.16	3.16	3.16	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	50.500	8.15	2.66	0.16	0.00	0.00	0.00	0.00	0.00	3.15	3.15	3.15	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
186	50.000	8.16	2.66	0.16	0.00	0.00	0.00	0.00	0.00	3.15	3.15	3.15	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
187	49.500	8.17	2.65	0.16	0.00	0.00	0.00	0.00	0.00	3.14	3.14	3.14	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
188	49.000	8.17	2.65	0.16	0.00	0.00	0.00	0.00	0.00	3.13	3.13	3.13	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
189	48.500	8.18	2.65	0.15	0.00	0.00	0.00	0.00	0.00	3.12	3.12	3.12	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190	48.000	8.19	2.65	0.15	0.00	0.00	0.00	0.00	0.00	3.11	3.11	3.11	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.39	0.12	0.00	0.00	0.00	0.00	0.00	2.20			0.02	0.00	0.07	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM
175	55.500	26.16	0.00	0.00	0.00	3.56	7.50	0.00	7.50	0.00	2.56	0.67	1.70	4.93	0.00	0.00	0.00	0.	0.00
176	55.000	26.11	0.00	0.00	0.00	3.64	7.40	0.00	7.40	0.00	2.57	0.67	1.76	5.00	0.00	0.00	0.00	0.	0.00
177	54.500	26.07	0.00	0.00	0.00	3.68	7.31	0.00	7.31	0.00	2.57	0.67	1.83	5.06	0.00	0.00	0.00	0.	0.00
178	54.000	26.03	0.00	0.00	0.00	3.70	7.24	0.00	7.24	0.00	2.58	0.67	1.89	5.13	0.00	0.00	0.00	0.	0.00
179	53.500	25.98	0.00	0.00	0.00	3.72	7.18	0.00	7.18	0.00	2.58	0.66	1.96	5.20	0.00	0.00	0.00	0.	0.00
180	53.000	25.94	0.00	0.00	0.00	3.74	7.14	0.00	7.14	0.00	2.59	0.66	2.02	5.27	0.00	0.00	0.00	0.	0.00
181	52.500	25.89	0.00	0.00	0.00	3.75	7.10	0.00	7.10	0.00	2.60	0.66	2.08	5.34	0.00	0.00	0.00	0.	0.00
182	52.000	25.85	0.00	0.00	0.00	3.77	7.07	0.00	7.07	0.00	2.60	0.66	2.15	5.41	0.00	0.00	0.00	0.	0.00
183	51.500	25.81	0.00	0.00	0.00	3.79	7.04	0.00	7.04	0.00	2.61	0.66	2.21	5.48	0.00	0.00	0.00	0.	0.00
184	51.000	25.76	0.00	0.00	0.00	3.80	7.03	0.00	7.03	0.00	2.61	0.66	2.28	5.55	0.00	0.00	0.00	0.	0.00
185	50.500	25.72	0.00	0.00	0.00	3.82	7.01	0.00	7.01	0.00	2.62	0.66	2.34	5.62	0.00	0.00	0.00	0.	0.00

186	50.000	25.67	0.00	0.00	0.00	3.83	7.00	0.00	7.00	0.00	2.62	0.66	2.40	5.69	0.00	0.00	0.00	0.	0.00
187	49.500	25.63	0.00	0.00	0.00	3.85	7.00	0.00	7.00	0.00	2.63	0.67	2.47	5.76	0.00	0.00	0.00	0.	0.00
188	49.000	25.59	0.00	0.00	0.00	3.86	6.99	0.00	6.99	0.00	2.63	0.67	2.53	5.83	0.00	0.00	0.00	0.	0.00
189	48.500	25.54	0.00	0.00	0.00	3.88	6.99	0.00	6.99	0.00	2.64	0.67	2.60	5.90	0.00	0.00	0.00	0.	0.00
190	48.000	25.50	0.00	0.00	0.00	3.89	6.99	0.00	6.99	0.00	2.65	0.67	2.66	5.97	0.00	0.00	0.00	0.	0.00

FINAL REPORT Flat R Drainage Cana LA-QUAL calibration for Flat River
REACH NO. 6 Flat River FTN Field Survey calibration 15

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
191	UPR RCH	0.05180	25.50	0.00	0.00	0.00	3.89	6.99	0.00	6.99	0.00	2.65	0.67	2.66	0.00	0.00	0.00	0.00
216	WSTLD	0.00110	25.50	0.00	0.00	0.00	2.00	69.00	0.00	69.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
191	48.00	47.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
192	47.50	47.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
193	47.00	46.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
194	46.50	46.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
195	46.00	45.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
196	45.50	45.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
197	45.00	44.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
198	44.50	44.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
199	44.00	43.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
200	43.50	43.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
201	43.00	42.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
202	42.50	42.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
203	42.00	41.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
204	41.50	41.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
205	41.00	40.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
206	40.50	40.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
207	40.00	39.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
208	39.50	39.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
209	39.00	38.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
210	38.50	38.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
211	38.00	37.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
212	37.50	37.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
213	37.00	36.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
214	36.50	36.00	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
215	36.00	35.50	0.05180	9.3	0.00409	1.42	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004

216	35.50	35.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
217	35.00	34.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
218	34.50	34.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
219	34.00	33.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
220	33.50	33.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
221	33.00	32.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
222	32.50	32.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
223	32.00	31.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
224	31.50	31.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
225	31.00	30.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
226	30.50	30.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
227	30.00	29.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
228	29.50	29.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
229	29.00	28.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
230	28.50	28.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
231	28.00	27.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
232	27.50	27.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
233	27.00	26.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
234	26.50	26.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
235	26.00	25.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
236	25.50	25.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
237	25.00	24.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
238	24.50	24.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
239	24.00	23.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
240	23.50	23.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
241	23.00	22.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
242	22.50	22.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
243	22.00	21.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
244	21.50	21.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
245	21.00	20.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
246	20.50	20.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
247	20.00	19.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
248	19.50	19.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
249	19.00	18.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
250	18.50	18.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
251	18.00	17.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
252	17.50	17.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
253	17.00	16.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
254	16.50	16.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
255	16.00	15.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
256	15.50	15.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
257	15.00	14.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
258	14.50	14.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
259	14.00	13.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
260	13.50	13.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
261	13.00	12.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
262	12.50	12.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
263	12.00	11.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
264	11.50	11.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
265	11.00	10.50	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004
266	10.50	10.00	0.05290	11.2	0.00417	1.39	0.40	31.68	6336.00	15840.00	12.67	0.00	0.000	0.000	0.004

TOT							106.09					481536.00	1203840.00										
AVG						0.0041		0.40	31.68					12.67									
CUM							153.48																

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
191	47.500	8.18	2.01	0.15	0.00	0.00	0.00	0.00	0.00	3.12	3.12	3.12	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
192	47.000	8.17	2.01	0.16	0.00	0.00	0.00	0.00	0.00	3.14	3.14	3.14	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
193	46.500	8.16	2.01	0.16	0.00	0.00	0.00	0.00	0.00	3.15	3.15	3.15	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
194	46.000	8.15	2.02	0.16	0.00	0.00	0.00	0.00	0.00	3.16	3.16	3.16	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
195	45.500	8.14	2.02	0.16	0.00	0.00	0.00	0.00	0.00	3.18	3.18	3.18	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
196	45.000	8.13	2.02	0.16	0.00	0.00	0.00	0.00	0.00	3.19	3.19	3.19	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
197	44.500	8.12	2.02	0.16	0.00	0.00	0.00	0.00	0.00	3.20	3.20	3.20	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
198	44.000	8.11	2.03	0.16	0.00	0.00	0.00	0.00	0.00	3.22	3.22	3.22	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	43.500	8.10	2.03	0.16	0.00	0.00	0.00	0.00	0.00	3.23	3.23	3.23	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200	43.000	8.09	2.03	0.16	0.00	0.00	0.00	0.00	0.00	3.24	3.24	3.24	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
201	42.500	8.08	2.03	0.16	0.00	0.00	0.00	0.00	0.00	3.26	3.26	3.26	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202	42.000	8.07	2.04	0.16	0.00	0.00	0.00	0.00	0.00	3.27	3.27	3.27	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
203	41.500	8.06	2.04	0.16	0.00	0.00	0.00	0.00	0.00	3.29	3.29	3.29	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
204	41.000	8.05	2.04	0.16	0.00	0.00	0.00	0.00	0.00	3.30	3.30	3.30	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
205	40.500	8.04	2.04	0.16	0.00	0.00	0.00	0.00	0.00	3.31	3.31	3.31	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
206	40.000	8.03	2.04	0.16	0.00	0.00	0.00	0.00	0.00	3.33	3.33	3.33	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
207	39.500	8.02	2.05	0.16	0.00	0.00	0.00	0.00	0.00	3.34	3.34	3.34	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208	39.000	8.01	2.05	0.16	0.00	0.00	0.00	0.00	0.00	3.36	3.36	3.36	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
209	38.500	8.00	2.05	0.16	0.00	0.00	0.00	0.00	0.00	3.37	3.37	3.37	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
210	38.000	7.99	2.05	0.16	0.00	0.00	0.00	0.00	0.00	3.38	3.38	3.38	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
211	37.500	7.98	2.06	0.16	0.00	0.00	0.00	0.00	0.00	3.40	3.40	3.40	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
212	37.000	7.97	2.06	0.17	0.00	0.00	0.00	0.00	0.00	3.41	3.41	3.41	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213	36.500	7.96	2.06	0.17	0.00	0.00	0.00	0.00	0.00	3.43	3.43	3.43	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
214	36.000	7.95	2.06	0.17	0.00	0.00	0.00	0.00	0.00	3.44	3.44	3.44	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
215	35.500	7.94	2.07	0.17	0.00	0.00	0.00	0.00	0.00	3.46	3.46	3.46	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
216	35.000	7.93	2.07	0.17	0.00	0.00	0.00	0.00	0.00	3.47	3.47	3.47	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
217	34.500	7.92	2.08	0.17	0.00	0.00	0.00	0.00	0.00	3.49	3.49	3.49	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
218	34.000	7.91	2.08	0.17	0.00	0.00	0.00	0.00	0.00	3.50	3.50	3.50	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
219	33.500	7.90	2.08	0.17	0.00	0.00	0.00	0.00	0.00	3.52	3.52	3.52	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	33.000	7.90	2.08	0.17	0.00	0.00	0.00	0.00	0.00	3.53	3.53	3.53	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
221	32.500	7.89	2.09	0.17	0.00	0.00	0.00	0.00	0.00	3.55	3.55	3.55	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
222	32.000	7.88	2.09	0.17	0.00	0.00	0.00	0.00	0.00	3.56	3.56	3.56	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
223	31.500	7.87	2.09	0.17	0.00	0.00	0.00	0.00	0.00	3.58	3.58	3.58	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
224	31.000	7.86	2.09	0.17	0.00	0.00	0.00	0.00	0.00	3.59	3.59	3.59	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225	30.500	7.85	2.10	0.17	0.00	0.00	0.00	0.00	0.00	3.61	3.61	3.61	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
226	30.000	7.84	2.10	0.17	0.00	0.00	0.00	0.00	0.00	3.62	3.62	3.62	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
227	29.500	7.83	2.10	0.17	0.00	0.00	0.00	0.00	0.00	3.64	3.64	3.64	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
228	29.000	7.82	2.10	0.17	0.00	0.00	0.00	0.00	0.00	3.65	3.65	3.65	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
229	28.500	7.81	2.11	0.17	0.00	0.00	0.00	0.00	0.00	3.67	3.67	3.67	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

230	28.000	7.80	2.11	0.17	0.00	0.00	0.00	0.00	0.00	3.68	3.68	3.68	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
231	27.500	7.79	2.11	0.18	0.00	0.00	0.00	0.00	0.00	3.70	3.70	3.70	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
232	27.000	7.78	2.11	0.18	0.00	0.00	0.00	0.00	0.00	3.71	3.71	3.71	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
233	26.500	7.77	2.12	0.18	0.00	0.00	0.00	0.00	0.00	3.73	3.73	3.73	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
234	26.000	7.77	2.12	0.18	0.00	0.00	0.00	0.00	0.00	3.75	3.75	3.75	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
235	25.500	7.76	2.12	0.18	0.00	0.00	0.00	0.00	0.00	3.76	3.76	3.76	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236	25.000	7.75	2.12	0.18	0.00	0.00	0.00	0.00	0.00	3.78	3.78	3.78	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
237	24.500	7.74	2.13	0.18	0.00	0.00	0.00	0.00	0.00	3.79	3.79	3.79	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
238	24.000	7.73	2.13	0.18	0.00	0.00	0.00	0.00	0.00	3.81	3.81	3.81	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
239	23.500	7.72	2.13	0.18	0.00	0.00	0.00	0.00	0.00	3.83	3.83	3.83	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
240	23.000	7.71	2.13	0.18	0.00	0.00	0.00	0.00	0.00	3.84	3.84	3.84	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
241	22.500	7.70	2.14	0.18	0.00	0.00	0.00	0.00	0.00	3.86	3.86	3.86	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
242	22.000	7.69	2.14	0.18	0.00	0.00	0.00	0.00	0.00	3.88	3.88	3.88	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
243	21.500	7.68	2.14	0.18	0.00	0.00	0.00	0.00	0.00	3.89	3.89	3.89	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
244	21.000	7.67	2.14	0.18	0.00	0.00	0.00	0.00	0.00	3.91	3.91	3.91	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
245	20.500	7.67	2.15	0.18	0.00	0.00	0.00	0.00	0.00	3.92	3.92	3.92	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
246	20.000	7.66	2.15	0.18	0.00	0.00	0.00	0.00	0.00	3.94	3.94	3.94	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
247	19.500	7.65	2.15	0.18	0.00	0.00	0.00	0.00	0.00	3.96	3.96	3.96	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
248	19.000	7.64	2.15	0.18	0.00	0.00	0.00	0.00	0.00	3.97	3.97	3.97	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
249	18.500	7.63	2.16	0.19	0.00	0.00	0.00	0.00	0.00	3.99	3.99	3.99	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	18.000	7.62	2.16	0.19	0.00	0.00	0.00	0.00	0.00	4.01	4.01	4.01	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
251	17.500	7.61	2.16	0.19	0.00	0.00	0.00	0.00	0.00	4.03	4.03	4.03	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
252	17.000	7.60	2.16	0.19	0.00	0.00	0.00	0.00	0.00	4.04	4.04	4.04	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
253	16.500	7.59	2.17	0.19	0.00	0.00	0.00	0.00	0.00	4.06	4.06	4.06	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
254	16.000	7.59	2.17	0.19	0.00	0.00	0.00	0.00	0.00	4.08	4.08	4.08	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
255	15.500	7.58	2.17	0.19	0.00	0.00	0.00	0.00	0.00	4.09	4.09	4.09	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
256	15.000	7.57	2.17	0.19	0.00	0.00	0.00	0.00	0.00	4.11	4.11	4.11	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
257	14.500	7.56	2.18	0.19	0.00	0.00	0.00	0.00	0.00	4.13	4.13	4.13	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
258	14.000	7.55	2.18	0.19	0.00	0.00	0.00	0.00	0.00	4.15	4.15	4.15	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
259	13.500	7.54	2.18	0.19	0.00	0.00	0.00	0.00	0.00	4.16	4.16	4.16	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
260	13.000	7.53	2.18	0.19	0.00	0.00	0.00	0.00	0.00	4.18	4.18	4.18	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
261	12.500	7.52	2.19	0.19	0.00	0.00	0.00	0.00	0.00	4.20	4.20	4.20	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
262	12.000	7.52	2.19	0.19	0.00	0.00	0.00	0.00	0.00	4.22	4.22	4.22	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
263	11.500	7.51	2.19	0.19	0.00	0.00	0.00	0.00	0.00	4.23	4.23	4.23	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
264	11.000	7.50	2.19	0.19	0.00	0.00	0.00	0.00	0.00	4.25	4.25	4.24	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
265	10.500	7.49	2.20	0.19	0.00	0.00	0.00	0.00	0.00	4.27	4.27	4.24	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
266	10.000	7.48	2.20	0.19	0.00	0.00	0.00	0.00	0.00	4.29	4.29	4.24	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			1.81	0.12	0.00	0.00	0.00	0.00	0.00	2.20			0.02	0.00	0.09	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
191	47.500	25.57	0.00	0.00	0.00	3.66	7.18	0.00	7.18	0.00	2.64	0.65	2.76	6.05	0.00	0.00	0.00	0.	0.00
192	47.000	25.63	0.00	0.00	0.00	3.58	7.33	0.00	7.33	0.00	2.63	0.63	2.86	6.12	0.00	0.00	0.00	0.	0.00
193	46.500	25.70	0.00	0.00	0.00	3.54	7.45	0.00	7.45	0.00	2.62	0.62	2.96	6.19	0.00	0.00	0.00	0.	0.00

194	46.000	25.77	0.00	0.00	0.00	3.50	7.55	0.00	7.55	0.00	2.61	0.61	3.05	6.27	0.00	0.00	0.00	0.	0.00
195	45.500	25.84	0.00	0.00	0.00	3.48	7.62	0.00	7.62	0.00	2.60	0.60	3.15	6.34	0.00	0.00	0.00	0.	0.00
196	45.000	25.90	0.00	0.00	0.00	3.45	7.67	0.00	7.67	0.00	2.59	0.59	3.24	6.41	0.00	0.00	0.00	0.	0.00
197	44.500	25.97	0.00	0.00	0.00	3.43	7.71	0.00	7.71	0.00	2.58	0.58	3.33	6.49	0.00	0.00	0.00	0.	0.00
198	44.000	26.04	0.00	0.00	0.00	3.40	7.74	0.00	7.74	0.00	2.57	0.57	3.42	6.56	0.00	0.00	0.00	0.	0.00
199	43.500	26.10	0.00	0.00	0.00	3.38	7.76	0.00	7.76	0.00	2.56	0.56	3.51	6.63	0.00	0.00	0.00	0.	0.00
200	43.000	26.17	0.00	0.00	0.00	3.36	7.77	0.00	7.77	0.00	2.56	0.56	3.60	6.71	0.00	0.00	0.00	0.	0.00
201	42.500	26.24	0.00	0.00	0.00	3.34	7.78	0.00	7.78	0.00	2.55	0.55	3.68	6.78	0.00	0.00	0.00	0.	0.00
202	42.000	26.31	0.00	0.00	0.00	3.31	7.78	0.00	7.78	0.00	2.54	0.55	3.77	6.85	0.00	0.00	0.00	0.	0.00
203	41.500	26.37	0.00	0.00	0.00	3.29	7.77	0.00	7.77	0.00	2.53	0.54	3.86	6.93	0.00	0.00	0.00	0.	0.00
204	41.000	26.44	0.00	0.00	0.00	3.27	7.76	0.00	7.76	0.00	2.52	0.54	3.94	7.00	0.00	0.00	0.00	0.	0.00
205	40.500	26.51	0.00	0.00	0.00	3.25	7.75	0.00	7.75	0.00	2.52	0.53	4.03	7.08	0.00	0.00	0.00	0.	0.00
206	40.000	26.57	0.00	0.00	0.00	3.23	7.74	0.00	7.74	0.00	2.51	0.53	4.11	7.15	0.00	0.00	0.00	0.	0.00
207	39.500	26.64	0.00	0.00	0.00	3.21	7.72	0.00	7.72	0.00	2.50	0.52	4.20	7.22	0.00	0.00	0.00	0.	0.00
208	39.000	26.71	0.00	0.00	0.00	3.18	7.70	0.00	7.70	0.00	2.49	0.52	4.28	7.30	0.00	0.00	0.00	0.	0.00
209	38.500	26.77	0.00	0.00	0.00	3.16	7.69	0.00	7.69	0.00	2.49	0.52	4.36	7.37	0.00	0.00	0.00	0.	0.00
210	38.000	26.84	0.00	0.00	0.00	3.14	7.67	0.00	7.67	0.00	2.48	0.51	4.45	7.44	0.00	0.00	0.00	0.	0.00
211	37.500	26.91	0.00	0.00	0.00	3.12	7.65	0.00	7.65	0.00	2.47	0.51	4.53	7.52	0.00	0.00	0.00	0.	0.00
212	37.000	26.98	0.00	0.00	0.00	3.10	7.63	0.00	7.63	0.00	2.47	0.51	4.61	7.59	0.00	0.00	0.00	0.	0.00
213	36.500	27.04	0.00	0.00	0.00	3.08	7.60	0.00	7.60	0.00	2.46	0.51	4.70	7.66	0.00	0.00	0.00	0.	0.00
214	36.000	27.11	0.00	0.00	0.00	3.06	7.58	0.00	7.58	0.00	2.45	0.50	4.78	7.74	0.00	0.00	0.00	0.	0.00
215	35.500	27.18	0.00	0.00	0.00	3.04	7.56	0.00	7.56	0.00	2.45	0.50	4.86	7.81	0.00	0.00	0.00	0.	0.00
216	35.000	27.24	0.00	0.00	0.00	2.93	8.58	0.00	8.58	0.00	2.49	0.67	4.87	8.03	0.00	0.00	0.00	0.	0.00
217	34.500	27.31	0.00	0.00	0.00	2.90	8.36	0.00	8.36	0.00	2.48	0.65	4.97	8.10	0.00	0.00	0.00	0.	0.00
218	34.000	27.38	0.00	0.00	0.00	2.89	8.18	0.00	8.18	0.00	2.48	0.63	5.07	8.18	0.00	0.00	0.00	0.	0.00
219	33.500	27.45	0.00	0.00	0.00	2.88	8.02	0.00	8.02	0.00	2.47	0.61	5.17	8.25	0.00	0.00	0.00	0.	0.00
220	33.000	27.51	0.00	0.00	0.00	2.88	7.90	0.00	7.90	0.00	2.46	0.59	5.26	8.32	0.00	0.00	0.00	0.	0.00
221	32.500	27.58	0.00	0.00	0.00	2.86	7.79	0.00	7.79	0.00	2.46	0.58	5.36	8.39	0.00	0.00	0.00	0.	0.00
222	32.000	27.65	0.00	0.00	0.00	2.85	7.70	0.00	7.70	0.00	2.45	0.56	5.45	8.46	0.00	0.00	0.00	0.	0.00
223	31.500	27.71	0.00	0.00	0.00	2.84	7.62	0.00	7.62	0.00	2.44	0.55	5.54	8.54	0.00	0.00	0.00	0.	0.00
224	31.000	27.78	0.00	0.00	0.00	2.82	7.55	0.00	7.55	0.00	2.43	0.54	5.63	8.61	0.00	0.00	0.00	0.	0.00
225	30.500	27.85	0.00	0.00	0.00	2.81	7.49	0.00	7.49	0.00	2.43	0.53	5.72	8.68	0.00	0.00	0.00	0.	0.00
226	30.000	27.92	0.00	0.00	0.00	2.79	7.44	0.00	7.44	0.00	2.42	0.53	5.80	8.75	0.00	0.00	0.00	0.	0.00
227	29.500	27.98	0.00	0.00	0.00	2.77	7.39	0.00	7.39	0.00	2.42	0.52	5.89	8.82	0.00	0.00	0.00	0.	0.00
228	29.000	28.05	0.00	0.00	0.00	2.75	7.35	0.00	7.35	0.00	2.41	0.51	5.97	8.90	0.00	0.00	0.00	0.	0.00
229	28.500	28.12	0.00	0.00	0.00	2.73	7.31	0.00	7.31	0.00	2.40	0.51	6.06	8.97	0.00	0.00	0.00	0.	0.00
230	28.000	28.18	0.00	0.00	0.00	2.71	7.28	0.00	7.28	0.00	2.40	0.50	6.14	9.04	0.00	0.00	0.00	0.	0.00
231	27.500	28.25	0.00	0.00	0.00	2.69	7.24	0.00	7.24	0.00	2.39	0.50	6.22	9.11	0.00	0.00	0.00	0.	0.00
232	27.000	28.32	0.00	0.00	0.00	2.67	7.21	0.00	7.21	0.00	2.38	0.49	6.30	9.18	0.00	0.00	0.00	0.	0.00
233	26.500	28.39	0.00	0.00	0.00	2.65	7.18	0.00	7.18	0.00	2.38	0.49	6.39	9.26	0.00	0.00	0.00	0.	0.00
234	26.000	28.45	0.00	0.00	0.00	2.63	7.16	0.00	7.16	0.00	2.37	0.49	6.47	9.33	0.00	0.00	0.00	0.	0.00
235	25.500	28.52	0.00	0.00	0.00	2.61	7.13	0.00	7.13	0.00	2.37	0.48	6.55	9.40	0.00	0.00	0.00	0.	0.00
236	25.000	28.59	0.00	0.00	0.00	2.59	7.10	0.00	7.10	0.00	2.36	0.48	6.63	9.47	0.00	0.00	0.00	0.	0.00
237	24.500	28.65	0.00	0.00	0.00	2.57	7.08	0.00	7.08	0.00	2.36	0.48	6.71	9.54	0.00	0.00	0.00	0.	0.00
238	24.000	28.72	0.00	0.00	0.00	2.55	7.05	0.00	7.05	0.00	2.35	0.48	6.79	9.61	0.00	0.00	0.00	0.	0.00
239	23.500	28.79	0.00	0.00	0.00	2.53	7.03	0.00	7.03	0.00	2.34	0.47	6.87	9.69	0.00	0.00	0.00	0.	0.00
240	23.000	28.86	0.00	0.00	0.00	2.51	7.01	0.00	7.01	0.00	2.34	0.47	6.95	9.76	0.00	0.00	0.00	0.	0.00
241	22.500	28.92	0.00	0.00	0.00	2.49	6.98	0.00	6.98	0.00	2.33	0.47	7.03	9.83	0.00	0.00	0.00	0.	0.00
242	22.000	28.99	0.00	0.00	0.00	2.46	6.96	0.00	6.96	0.00	2.33	0.47	7.11	9.90	0.00	0.00	0.00	0.	0.00
243	21.500	29.06	0.00	0.00	0.00	2.44	6.94	0.00	6.94	0.00	2.32	0.47	7.18	9.97	0.00	0.00	0.00	0.	0.00
244	21.000	29.12	0.00	0.00	0.00	2.42	6.92	0.00	6.92	0.00	2.32	0.47	7.26	10.05	0.00	0.00	0.00	0.	0.00

245	20.500	29.19	0.00	0.00	0.00	2.40	6.89	0.00	6.89	0.00	2.31	0.46	7.34	10.12	0.00	0.00	0.00	0.	0.00
246	20.000	29.26	0.00	0.00	0.00	2.38	6.87	0.00	6.87	0.00	2.31	0.46	7.42	10.19	0.00	0.00	0.00	0.	0.00
247	19.500	29.33	0.00	0.00	0.00	2.35	6.85	0.00	6.85	0.00	2.30	0.46	7.50	10.26	0.00	0.00	0.00	0.	0.00
248	19.000	29.39	0.00	0.00	0.00	2.33	6.83	0.00	6.83	0.00	2.30	0.46	7.58	10.33	0.00	0.00	0.00	0.	0.00
249	18.500	29.46	0.00	0.00	0.00	2.31	6.81	0.00	6.81	0.00	2.29	0.46	7.65	10.41	0.00	0.00	0.00	0.	0.00
250	18.000	29.53	0.00	0.00	0.00	2.29	6.79	0.00	6.79	0.00	2.29	0.46	7.73	10.48	0.00	0.00	0.00	0.	0.00
251	17.500	29.59	0.00	0.00	0.00	2.27	6.77	0.00	6.77	0.00	2.29	0.46	7.81	10.55	0.00	0.00	0.00	0.	0.00
252	17.000	29.66	0.00	0.00	0.00	2.24	6.74	0.00	6.74	0.00	2.28	0.46	7.89	10.62	0.00	0.00	0.00	0.	0.00
253	16.500	29.73	0.00	0.00	0.00	2.22	6.72	0.00	6.72	0.00	2.28	0.46	7.96	10.69	0.00	0.00	0.00	0.	0.00
254	16.000	29.79	0.00	0.00	0.00	2.20	6.70	0.00	6.70	0.00	2.27	0.45	8.04	10.77	0.00	0.00	0.00	0.	0.00
255	15.500	29.86	0.00	0.00	0.00	2.18	6.68	0.00	6.68	0.00	2.27	0.45	8.12	10.84	0.00	0.00	0.00	0.	0.00
256	15.000	29.93	0.00	0.00	0.00	2.16	6.66	0.00	6.66	0.00	2.26	0.45	8.19	10.91	0.00	0.00	0.00	0.	0.00
257	14.500	30.00	0.00	0.00	0.00	2.13	6.64	0.00	6.64	0.00	2.26	0.45	8.27	10.98	0.00	0.00	0.00	0.	0.00
258	14.000	30.06	0.00	0.00	0.00	2.11	6.62	0.00	6.62	0.00	2.25	0.45	8.35	11.05	0.00	0.00	0.00	0.	0.00
259	13.500	30.13	0.00	0.00	0.00	2.09	6.60	0.00	6.60	0.00	2.25	0.45	8.43	11.13	0.00	0.00	0.00	0.	0.00
260	13.000	30.20	0.00	0.00	0.00	2.07	6.58	0.00	6.58	0.00	2.25	0.45	8.50	11.20	0.00	0.00	0.00	0.	0.00
261	12.500	30.26	0.00	0.00	0.00	2.04	6.56	0.00	6.56	0.00	2.24	0.45	8.58	11.27	0.00	0.00	0.00	0.	0.00
262	12.000	30.33	0.00	0.00	0.00	2.02	6.54	0.00	6.54	0.00	2.24	0.45	8.65	11.34	0.00	0.00	0.00	0.	0.00
263	11.500	30.40	0.00	0.00	0.00	2.00	6.52	0.00	6.52	0.00	2.23	0.45	8.73	11.41	0.00	0.00	0.00	0.	0.00
264	11.000	30.47	0.00	0.00	0.00	1.99	6.50	0.00	6.50	0.00	2.23	0.45	8.81	11.49	0.00	0.00	0.00	0.	0.00
265	10.500	30.53	0.00	0.00	0.00	1.99	6.49	0.00	6.49	0.00	2.23	0.45	8.88	11.56	0.00	0.00	0.00	0.	0.00
266	10.000	30.60	0.00	0.00	0.00	1.98	6.48	0.00	6.48	0.00	2.22	0.45	8.96	11.63	0.00	0.00	0.00	0.	0.00

FINAL REPORT Flat R Drainage Cana LA-QUAL calibration for Flat River
REACH NO. 7 Flat River FTN Field Survey calibration 15

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
267	UPR RCH	0.05290	30.60	0.00	0.00	0.00	1.98	6.48	0.00	6.48	0.00	2.22	0.45	8.96	0.00	0.00	0.00	0.00
267	WSTLD	0.20800	30.60	0.00	0.00	0.00	5.26	7.60	0.00	7.60	0.00	0.90	0.10	0.00	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
267	10.00	9.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
268	9.50	9.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
269	9.00	8.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
270	8.50	8.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
271	8.00	7.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
272	7.50	7.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
273	7.00	6.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
274	6.50	6.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128

275	6.00	5.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
276	5.50	5.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
277	5.00	4.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
278	4.50	4.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
279	4.00	3.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
280	3.50	3.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
281	3.00	2.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
282	2.50	2.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
283	2.00	1.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
284	1.50	1.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
285	1.00	0.50	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
286	0.50	0.00	0.26090	82.0	0.12779	0.05	0.17	12.01	1020.85	6005.00	2.04	0.00	0.000	0.000	0.128
TOT						0.91			20417.00	120100.00					
AVG					0.1278		0.17	12.01			2.04				
CUM						154.39									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
267	9.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
268	9.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
269	8.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
270	8.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
271	7.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
272	7.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
273	6.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
274	6.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
275	5.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
276	5.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
277	4.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
278	4.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
279	3.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
280	3.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281	2.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
282	2.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
283	1.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
284	1.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
285	0.500	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
286	0.000	7.48	12.15	0.20	0.00	0.00	0.00	0.00	0.00	10.72	10.72	10.72	0.02	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			10.00	0.12	0.00	0.00	0.00	0.00	0.00	5.50			0.02	0.00	0.09	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
267	9.500	30.60	0.00	0.00	0.00	3.73	7.37	0.00	7.37	0.00	1.22	0.17	1.82	3.21	0.00	0.00	0.00	0.	0.00
268	9.000	30.60	0.00	0.00	0.00	3.18	7.38	0.00	7.38	0.00	1.28	0.17	1.82	3.27	0.00	0.00	0.00	0.	0.00
269	8.500	30.60	0.00	0.00	0.00	2.82	7.38	0.00	7.38	0.00	1.33	0.17	1.82	3.32	0.00	0.00	0.00	0.	0.00
270	8.000	30.60	0.00	0.00	0.00	2.58	7.38	0.00	7.38	0.00	1.38	0.17	1.82	3.38	0.00	0.00	0.00	0.	0.00
271	7.500	30.60	0.00	0.00	0.00	2.44	7.38	0.00	7.38	0.00	1.44	0.17	1.82	3.43	0.00	0.00	0.00	0.	0.00
272	7.000	30.60	0.00	0.00	0.00	2.34	7.38	0.00	7.38	0.00	1.49	0.17	1.82	3.49	0.00	0.00	0.00	0.	0.00
273	6.500	30.60	0.00	0.00	0.00	2.28	7.38	0.00	7.38	0.00	1.55	0.17	1.82	3.54	0.00	0.00	0.00	0.	0.00
274	6.000	30.60	0.00	0.00	0.00	2.24	7.38	0.00	7.38	0.00	1.60	0.17	1.83	3.60	0.00	0.00	0.00	0.	0.00
275	5.500	30.60	0.00	0.00	0.00	2.21	7.38	0.00	7.38	0.00	1.65	0.18	1.83	3.65	0.00	0.00	0.00	0.	0.00
276	5.000	30.60	0.00	0.00	0.00	2.20	7.39	0.00	7.39	0.00	1.71	0.18	1.83	3.71	0.00	0.00	0.00	0.	0.00
277	4.500	30.60	0.00	0.00	0.00	2.18	7.39	0.00	7.39	0.00	1.76	0.18	1.83	3.77	0.00	0.00	0.00	0.	0.00
278	4.000	30.60	0.00	0.00	0.00	2.18	7.39	0.00	7.39	0.00	1.81	0.18	1.83	3.82	0.00	0.00	0.00	0.	0.00
279	3.500	30.60	0.00	0.00	0.00	2.17	7.39	0.00	7.39	0.00	1.87	0.18	1.83	3.88	0.00	0.00	0.00	0.	0.00
280	3.000	30.60	0.00	0.00	0.00	2.17	7.39	0.00	7.39	0.00	1.92	0.18	1.83	3.93	0.00	0.00	0.00	0.	0.00
281	2.500	30.60	0.00	0.00	0.00	2.17	7.39	0.00	7.39	0.00	1.97	0.18	1.83	3.99	0.00	0.00	0.00	0.	0.00
282	2.000	30.60	0.00	0.00	0.00	2.17	7.39	0.00	7.39	0.00	2.03	0.18	1.83	4.04	0.00	0.00	0.00	0.	0.00
283	1.500	30.60	0.00	0.00	0.00	2.17	7.39	0.00	7.39	0.00	2.08	0.18	1.84	4.10	0.00	0.00	0.00	0.	0.00
284	1.000	30.60	0.00	0.00	0.00	2.17	7.40	0.00	7.40	0.00	2.13	0.19	1.84	4.15	0.00	0.00	0.00	0.	0.00
285	0.500	30.60	0.00	0.00	0.00	2.16	7.40	0.00	7.40	0.00	2.19	0.19	1.84	4.21	0.00	0.00	0.00	0.	0.00
286	0.000	30.60	0.00	0.00	0.00	2.16	7.40	0.00	7.40	0.00	2.24	0.19	1.84	4.26	0.00	0.00	0.00	0.	0.00

STREAM SUMMARY
Flat R Drainage Cana

LA-QUAL calibration for Flat River
FTN Field Survey calibration 15

TRAVEL TIME	=	154.39	DAYS		
MAXIMUM EFFLUENT	=	81.99	PERCENT		
FLOW	=	0.04700	TO	0.26090	m³/s
DISPERSION	=	0.0000	TO	0.0000	m²/s
VELOCITY	=	0.00409	TO	0.12779	m/s
DEPTH	=	0.17	TO	0.45	m
WIDTH	=	10.52	TO	31.68	m
BOD DECAY	=	0.10	TO	0.20	per day
NH3 DECAY	=	0.01	TO	0.16	per day
SOD	=	3.11	TO	10.72	g/m²/d
NH3 SOURCE	=	0.00	TO	0.00	g/m²/d
REAERATION	=	2.01	TO	12.15	per day
BOD SETTLING	=	0.00	TO	0.00	per day
ORG-N DECAY	=	0.02	TO	0.02	per day
ORG-N SETTLING	=	0.00	TO	0.00	per day
TEMPERATURE	=	25.50	TO	30.60	deg C
DISSOLVED OXYGEN	=	1.09	TO	3.89	mg/L

LA-QUAL calibration for Flat River
FTN Field Survey calibration 15

INPUT/OUTPUT LOADING SUMMARY

	FLOW m^3/s	DO kg/d	BOD#1 kg/d	BOD#2 kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A	NCM
HEADWATER FLOW	0.047	3.7	30.9	0.0	8.0	1.5	0.0	0.0	0.0	0.0
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WASTELOADS	0.214	96.6	149.4	0.0	19.2	4.3	0.0	0.0	0.0	0.0
WITHDRAWLS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FLOW THRU LOWER BNDRY	-0.261	-48.8	-166.8	0.0	-50.5	-4.2	-41.4	0.0	0.0	0.0
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DISPERSION THRU HDWTR BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	867.0	0.0	63.0					0.0
NATURAL REAERATION		9484.5								
DAM REAERATION		0.0								
BACKGROUND SOD		-8476.0								
BOD#1 DECAY		-880.5	-880.5							
BOD#1 SETTLING		0.0	0.0							
ANAEROBIC BOD#1 DECAY			0.0							
BOD#2 DECAY		0.0		0.0						
BOD#2 SETTLING		0.0		0.0						
ANAEROBIC BOD#2 DECAY				0.0						
ORG-N DECAY		0.0			-39.8	39.8				
ORG-N SETTLING					0.0	0.0				
NH3 DECAY		-179.4				-41.4	41.4			
BACKGROUND NH3 SOURCE						0.0				
OTHER DENITRIFICATION							0.0			
PHOSPHORUS SOURCE								0.0		
ALGAE PHOTOSYNTHESIS		0.0				0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0				0.0		0.0	0.0	
ALGAE SETTLING		0.0							0.0	
MACRO PHOTOSYNTHESIS		0.0				0.0	0.0	0.0		
NCM DECAY		0.0								0.0
NCM SETTLING		0.0								0.0
TOTAL INPUTS	0.261	9584.7	1047.3	0.0	90.3	45.7	41.4	0.0	0.0	0.0
TOTAL OUTPUTS	-0.261	-9584.8	-1047.3	0.0	-90.3	-45.7	-41.4	0.0	0.0	0.0
NET CONVERGENCE ERROR	0.000	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

.....EXECUTION COMPLETED