

Appendix 3A-4a: Non-ECP Water Quality Sampling Sites, Monitoring Schedule, and Flow Volumes

Shi Kui Xue

Table 1. Water quality monitoring schedule for non-Everglades Construction Project (non-ECP) discharge structures and additional upstream monitoring locations.

AREA	Non-ECP PERMIT STRUCTURE	WATER QUALITY SAMPLING SITE	WATER QUALITY MONITORING SCHEDULE						WATER QUALITY COMMENTS	
			Physical	Nutrients	Major Ions	Trace Metals	Pesticides Water	Pesticides Sediment		
INTO	ACME1DS	ACME1DS	BWF/M	BWF/M	QTR	SA	QTR	SA		
	ACME1 + (Upstream of ACME1DS)	VOW1		Weekly Flowing (autosampler)					Sampling conducted by Village of Wellington (ended on 1/2/07). TP collected by autosampler.	
	G-94D	G94D	BWF/M	BWF/M	QTR	SA	QTR	SA		
	ACME2 + (Upstream of G94D)	VOW2		Weekly Flowing (autosampler)					Sampling conducted by Village of Wellington. TP collected by autosampler.	
	G-123	G123	BWF/M	BWF/M (autosampler)	QTR	SA	QTR	SA		
	S-9	S9	BWF/M	Weekly Flowing (autosampler)	QTR	SA	QTR	SA	TP collected by autosampler.	
	S-9A	S9A	BWF/M	BWF/M except TP-WF/M Grab (autosampler)	QTR				Sampling started in WY2003	
	S-174	S176	BWF/M	BWF/M	QTR	SA	QTR	SA		
	S-332D	S176 & S332DAS	BWF	BWF			QTR			
	S-18C	S18C	BWF/M	BWF/M (autosampler)	QTR	SA	QTR	SA		
	S-140	S140	BWF/M	BWF/M (autosampler)	QTR	SA	QTR	SA	TP collected by autosampler, nitrogen species collected by grab	
	S-190	S190	BWF/M	BWF/M (autosampler)	QTR	SA	QTR	SA	TP collected by autosampler, nitrogen species collected by grab	
	NSID1	NSIDSP01	BWF	BWF	QTRF	SAF	QTRF	SAF	TP collected by autosampler	
S38B		BWF	BWF	QTRF	SAF	QTRF	SAF			
WITHIN	G-64	G64	BWF	BWF	QTRF *				Monitoring Fe, Mg, Ca phased out *	
	G-69	G69	BWF	BWF	QTRF *				Monitoring Fe, Mg, Ca phased out *	
	S-346, S-347	S12D	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-141	S34	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-142	S142	BWF/M	BWF/M	QTR *		QTRF	SAF	Monitoring Fe, Mg, Ca phased out *	
	S-143	S11A	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-144	S145							Discontinued sampling in favor of surrogate location at S-145 *	
	S-145	S145	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-146	S145							Discontinued sampling in favor of surrogate location at S-145 *	
	S-151	S151	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-333	S333	BWF/M	BWF/M	QTR	SA				
	S-339, S-340	C123SR84	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-175	S175	BWF/M	BWF/M	QTR	SA				
S-332	S332	BWF/M	BWF/M	QTR	SA	QTR	SA			
Berm B3	BermB3	BWF	BWF			QTR				
FROM	G-94A, G-94B, G-94C	G94B	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-31	S31	BWF/M	BWF/M	QTR *		QTR	SA	Monitoring Fe, Mg, Ca phased out *	
	S-34	S34	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-38	S38	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-39	S39	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-197	S197	BWF	BWF	QTRF *				Monitoring Fe, Mg, Ca phased out *	
	S-334	S334	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-337	S31	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-343A, S-343B	US41-25	BWF/M	BWF/M	QTR *				Monitoring Fe, Mg, Ca phased out *	
	S-344	S344	QTR	QTR	QTR *				Monitoring Fe, Mg, Ca phased out *	
C-111 BASIN	S-176 +	S176	BWF/M	BWF/M	QTR	SA	QTR	SA		
	S-177 +	S177	BWF/M	BWF/M	QTR	SA	QTR	SA		
	S-178 +	S178	BWF/M	BWF/M	QTR	SA	QTR	SA		
	S-331 +, S-173 +	S331-173	BWF/M	BWF/M	QTR	SA				
		S331					QTR	SA	S173 is not listed in Permit, but is adjacent to and flows in same direction as S331	
	S-332B+	S332B	BWF	BWF			QTR		S-332B, and S332C are not listed in Non-ECP permit, but they are in Emergency Order # 9.	
S-332C+	S332C	BWF	BWF			QTR				

Notes: 1) Water quality sample site is located on upstream side of permitted structure, unless otherwise noted with different representative sampling location.

2) Structure names with a "+" are upstream of Non-ECP INTO structures and are additional monitoring locations.

3) * indicates monitoring requirement eliminated in the November 1999 Non-ECP Permit Modification.

4) Table Legend:

BWF/M = Biweekly if Flowing/Otherwise Monthly

BWF = Biweekly if Flowing

QTR = Quarterly

QTRF = Quarterly if Flowing

SA = Semiannually

SAF = Semiannually if Flowing

1 WS - 1 DS = 1 Wet Season and 1 Dry Season

Table 2. Flow volume and annual flow-weighted mean total phosphorus (TP) concentrations for non-ECP structures during Water Year 2007 (WY2007).

AREA	NON-ECP PERMIT STRUCTURE	WATER QUALITY SAMPLING SITE	FLOW		Monthly Flow Volumes (acre-ft) (May 1, 2006 - April 30, 2007)												Total Flow Volume (acre-ft)	Annual Flow-Weighted Mean TP (ppb)	
			STATION	DBKEY	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr			
INTO	ACME1DS	ACME1DS	ACME1	OH647	752	1,016	2,107	2,994	3,957	500	442	1,844	0	0	0	0	13,611	101	
	ACME1 + (Upstream of ACME1DS)	VOW1	ACME1	OH647	752	1,016	2,107	2,994	3,957	500	442	1,844	0	0	0	0	13,611	117	
	G-94D	G94D	ACME2	OH648	725	1,033	1,836	2,634	4,159	386	345	1,593	0	0	0	0	12,711	161	
	ACME2 + (Upstream of G94D)	VOW2	ACME2	OH648	725	1,033	1,836	2,634	4,159	386	345	1,593	0	0	0	0	12,711	141	
	G-123	G123	G123_P	K5481	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/F
	S-9	S9	S9_P	K5483	0	61	12,867	5,836	18,838	0	433	3,989	0	251	68	116	42,459	19	
	S-9A	S9A	S-9A_P	TA415	5,656	4,982	11,345	11,631	13,390	4,464	7,399	5,659	5,836	5,786	4,796	410	81,353	13	
	S-174	S174	S174_S	15769	0	0	0	0	0	0	1	0	0	0	0	0	1	5	
	S-332D	S332D	S-332D_P	TA413	5	11	11252	8550	16268	1404	4517	1941	626	13	22	438	45,048	7	
	S-18C	S18C	S18C_S	15760	708	191	23,379	19,768	20,820	9,542	2,589	946	0	52	1,039	1,323	80,357	7	
	S-140	S140	S140_TOT	06754	0	681	14,110	22,090	39,993	5,200	2,953	2,226	1,265	0	0	0	88,518	47	
	S-190	S190	S190_S	K5501	63	1035	5699	12917	47613	2815	583	1	1	0	0	0	70,727	215	
	NSID1	NSIDSP01	NSID1_WC2A	PS225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/F
		S38B	n/a	n/a	See flow data from NSPRNG_C2A												N/F		
WITHIN	G-64	G64	G64_C	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	G-69	G69	G69_C	K5480	26	21	40	27	67	16	40	57	57	54	71	0	477	nd	
	S-346, S-347	S12D	S12D_S	FE774	0	0	3614	20412	34411	40262	20339	2741	0	0	0	0	121,779	13	
	S-141	S34	S141_W	K5493	0	0	0	0	0	0	0	0	0	0	0	0	0	N/F	
	S-142	S142	S142_C	K5494	0	0	0	0	0	0	0	0	0	0	0	0	0	N/F	
	S-143	S11A	S143_C	K5495	4,356	0	0	0	0	0	0	0	0	0	4,324	196	8,876	40	
	S-144	S144	S144_C	K5497	0	0	3292	212	7772	1233	0	0	0	0	0	0	12,508	nd	
	S-145	S145	S145_C	K5498	0	0	4,858	1,184	8,919	1,354	0	0	0	0	0	0	16,315	9	
	S-146	S146	S146_C	K5499	0	0	2679	208	7943	1190	0	0	652	0	0	0	12,672	nd	
	S-151	S151	S151_C	K5500	9,744	0	10,113	0	33,600	46,399	0	0	0	0	0	0	99,856	13	
	S-333	S333	S333_S	15042	3,986	10	160	12,456	4,276	48,406	21,908	3,819	3,955	10,478	24,948	1,266	135,668	17	
	S-339	C123SR84	S339_S	K5506	0	0	0	0	6408	0	0	0	0	0	0	0	6,408	41	
	S-340	C123SR84	S340_S	K5507	0	0	0	0	5,418	1,228	0	0	0	0	0	0	6,646	41	
	S-175	S175	S175_C	15752	0	0	0	0	0	0	1	0	0	0	0	0	2	6	
	S-332	S332	S332_P	15753	0	0	0	0	0	0	0	0	0	0	0	0	0	nd	
BERMB3	BERMB3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

- Notes: 1) Water quality sample site is located on upstream side of permitted structure, unless otherwise noted with different sampling location.
- 2) n/a indicates that flow and/or stage data are not available, or that structure is not appropriately instrumented to capture information.
- 3) Structure names with a "+" are upstream of Non-ECP INTO structures and are additional monitoring locations or are listed in Emergency Order Number 9.
- 4) N/F indicates no positive flow
- 5) S-331 and S-173 flow records were combined to determine the annual flow-weighted mean TP.
- 6) nd indicates no data or no positive flow was recorded on sampling date, therefore a flow-weighted mean could not be calculated.

Table 2. Continued.

AREA	NON-ECP PERMIT STRUCTURE	WATER QUALITY SAMPLING SITE	FLOW		Monthly Flow Volumes (acre-ft) (May 1, 2006 - April 30, 2007)												Total Flow Volume (acre-ft)	Annual Flow-Weighted Mean TP (ppb)
			STATION	DBKEY	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		
FROM	G-94A	G94B	G94A_C	TA422	0	0	0	503	0	997	0	0	0	228	330	0	2,057	163
	G-94B	G94B	G94A_C	TA423	3,672	237	0	0	0	0	0	0	0	0	0	0	3,909	33
	G-94C	G94B	G94C_C	TA424	0	0	0	647	76	8,052	3,043	363	0	1,178	0	0	13,359	29
	S-31	S31	S31_C	K5486	0	0	9	11	0	0	0	0	0	4	0	0	24	10
	S-34	S34	S34_C	K5487	1,987	0	0	0	0	5	0	0	0	0	3,340	352	5,684	22
	S-38	S38	S38_C	K5488	4,855	1,778	0	0	0	3,219	3,352	2,096	3,923	1,910	2,562	190	23,885	19
	S-39	S39	S39_S	K5489	3,015	710	0	0	0	1,511	1,191	1,912	2,052	1,698	6,990	623	19,701	21
	S-197	S197	S197_C	15763	0	0	0	0	0	0	0	0	0	0	0	0	0	nd
	S-334	S334	S334_S	FB752	3,215	10	44	0	0	65	41	36	897	9,750	23,871	1,354	39,282	11
	S-337	S31	S337_C	K5505	8,867	0	0	0	0	0	0	0	0	0	0	0	8,867	24
	S-343A	US41-25	S343A_C	K5508	0	0	0	0	0	0	0	0	0	0	0	0	0	33
	S-343B	US41-25	S343B_C	K5509	0	0	0	0	7300	9179	0	0	0	0	0	0	16,479	14
	S-344	S344	S344_C	K5511	0	0	0	0	0	0	0	0	0	0	0	0	0	nd
C-111 BASIN	S-176 +	S176	S176_S	15762	3,262	0	1,225	467	221	0	0	535	287	2,179	5,243	157	13,578	11
	S-177 +	S177	S177_S	15772	2,096	0	19,557	12,361	19,580	2,502	1,909	407	1,133	1,257	3,739	1,242	65,784	6
	S-178 +	S178	S178_C	SO632	0	0	150	0	0	0	0	0	0	0	0	0	150	19
	S-331 +	S331-173	S331_P	P6935	132	61	12035	10507	12935	2077	8751	4134	28	113	33	0	50,805	7
	S-173 +	S331-173	S173_C	FB759	4,748	0	81	0	0	3,234	2,235	2,705	3,094	3,885	7,067	1,530	28,579	10
	S-332B+	S332B	S-332B	TB064	23	37	8,040	4,056	2,034	6	10	0	33	0	0	8	14,246	7
	S-332C+	S332C	S-332B	UT724	0	0	13,252	5,686	7,508	2,191	0	0	0	0	0	518	29,155	6

- Notes: 1) Water quality sample site is located on upstream side of permitted structure, unless otherwise noted with different sampling location.
2) n/a indicates that flow and/or stage data are not available, or that structure is not appropriately instrumented to capture information.
3) Structure names with a "+" are upstream of Non-ECP INTO structures and are additional monitoring locations or are listed in Emergency Order Number 9.
4) N/F indicates no positive flow
5) S-331 and S-173 flow records were combined to determine the annual flow-weighted mean TP.
6) nd indicates no data or no positive flow was recorded on sampling date, therefore a flow-weighted mean could not be calculated.