Amendment # 1 to the Trinity River Authority Clean Rivers Program FY 2018/2019 QAPP

Prepared by the Trinity River Authority in Cooperation with the Texas Commission on Environmental Quality (TCEQ)

Effective: Immediately upon approval by all parties

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Justification

This document details changes made to the basin-wide Quality Assurance Project Plan in order to make updates for analyses conducted at the TRA CRWS Laboratory.

Detail of Changes

Section/ Figure/ Table	Page in Basin-Wide QAPP or previous amendments	Change	Justification	Affected Entity	Page in this amendment
Appendix A, Table A7.5	73 of 211	Move Fluoride from the Metals in Water section to Conventional Parameters in Water. Change the LOQ for Total Organic Carbon from 2 to 0.5 mg/L. Change the LOQs for Chloride and Sulfate from 5 to 2 mg/L.	Corrections from TRA CRWS Laboratory.	TRA	3 of 7
	74 of 211	Change the LOQ for Dissolved Iron from 5 to 50 µg/L.	Corrections from TRA CRWS Laboratory.	TRA	4 of 7
Appendix A, Table A7.6	80 of 211	Change the LOQs for Chloride and Sulfate from 5 to 2 mg/L.	Corrections from TRA CRWS Laboratory.	Grand Prairie	5 of 7

Details of the changes listed above are shown on the following pages. These pages are intended as direct replacements for existing pages in the QAPP.

Replaces page 73 of 211 in the Basin-Wide QAPP, Table A7.5 – Measurement Performance Specifications for Trinity River Authority

24 Hour Parameters in Water										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
DISSOLVED OXYGEN, 24-HOUR MAX. (MG/L) MIN. 4 MEA	mg/l	Water	TCEQ SOP V1	89856	NA	NA	NA	NA	NA	Field
DISSOLVED OXYGEN, 24-HOUR AVG. (MG/L) MIN. 4 MEA	mg/l	Water	TCEQ SOP V1	89857	NA	NA	NA	NA	NA	Field
DISSOLVED OXYGEN, # OF MEASUREMENTS IN 24-HRS	NU	Water	TCEQ SOP V1	89858	NA	NA	NA	NA	NA	Field
Flow Parameters										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
FLOW STREAM, INSTANTANEOUS (CUBIC FEET PER SEC)	cfs	water	TCEQ SOP V1	00061	NA*	NA	NA	NA	NA	Field
FLOW SEVERITY:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=Dry	NU	water	TCEQ SOP V1	01351	NA*	NA	NA	NA	NA	Field
FLOW MTH 1=GAGE 2=ELEC 3=MECH 4=WEIR/FLU 5=DOPPLER	NU	other	TCEQ SOP V1	89835	NA*	NA	NA	NA	NA	Field
Bacteriological Parameters in Water										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
E. COLI, COLILERT, IDEXX METHOD, MPN/100ML	MPN/100 mL	water	Colilert/ Colilert-18	31699	1	1	NA	0.50****	NA	TRA
Conventional Parameters in Water										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
ALKALINITY, TOTAL (MG/L AS CACO3)	mg/L	water	SM 2320 B	00410	20	20	NA	20	NA	TRA
RESIDUE, TOTAL NONFILTRABLE (MG/L)	mg/L	water	SM 2540 D	00530	5	2	NA	NA	NA	TRA
RESIDUE, VOLATILE NONFILTRABLE (MG/L)	mg/L	water	EPA 160.4	00535	5	2	NA	NA	NA	TRA
NITROGEN, AMMONIA, TOTAL (MG/L AS N)	mg/L	water	SM 4500 NH3 H	00610	0.1	0.02	70-130	20	80-120	TRA
NITRITE NITROGEN, TOTAL (MG/L AS N)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00615	0.05	0.05	70-130	20	80-120	TRA
NITRATE NITROGEN, TOTAL (MG/L AS N)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00620	0.05	0.05	70-130	20	80-120	TRA
NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	mg/L	water	EPA 351.2	00625	0.2	0.2	70-130	20	80-120	TRA
PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	mg/L	water	SM 4500 P E	00665	0.06	0.02	70-130	20	80-120	TRA
CARBON, TOTAL ORGANIC, NPOC (TOC), MG/L	mg/L	water	SM 5310 C	00680	2	**0.5**	NA	NA	NA	TRA
HARDNESS, TOTAL (MG/L AS CACO3)***	mg/L	water	SM 2340 C	00900	5	5	NA	20	80-120	TRA
CHLORIDE (MG/L AS CL)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00940	5	**2**	70-130	20	80-120	TRA
SULFATE (MG/L AS SO4)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00945	5	**2**	70-130	20	80-120	TRA
FLUORIDE, TOTAL (MG/L AS F)	**mg/L**	**water**	**EPA 300.0 Rev. 2.1 (1993)**	**00951**	**0.5**	**0.1**	**70-130**	**20**	**80-120**	**TRA**
CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH	µg/L	water	SM 10200 H (No FOA offered)	32211	3	3	NA	20	80-120	TRA
PHEOPHYTIN-A UG/L SPECTROPHOTOMETRIC ACID. METH.	µg/L	water	SM 10200 H (No FOA offered)	32218	3	3	NA	NA	NA	TRA
RESIDUE,TOTAL FILTRABLE (DRIED AT 180C) (MG/L)	mg/L	water	SM 2540 C	70300	10	10	NA	20	80-120	TRA
ORTHOPHOSPHATE PHOSPHORUS,DISS,MG/L,FILTER >15MIN	mg/L	water	SM 4500 P F	70507	0.04	0.02	70-130	20	80-120	TRA
Metals in Water										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
ARSENIC, DISSOLVED (UG/L AS AS)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01000	5	5	70-130	20	80-120	TRA

Replaces page 74 of 211 in the Basin-Wide QAPP, Table A7.5 – Measurement Performance Specifications for Trinity River Authority

Metals in Water										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
CADMIUM, DISSOLVED (UG/L AS CD)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01025	0.3	0.3	70-130	20	80-120	TRA
CHROMIUM, DISSOLVED (UG/L AS CR)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01030	10	5	70-130	20	80-120	TRA
COPPER, DISSOLVED (UG/L AS CU)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01040	3	1	70-130	20	80-120	TRA
IRON, DISSOLVED (UG/L)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01046	NA	**50**	70-130	20	80-120	TRA
LEAD, DISSOLVED (UG/L AS PB)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01049	1	1	70-130	20	80-120	TRA
NICKEL, DISSOLVED (UG/L AS NI)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01065	10	1	70-130	20	80-120	TRA
ZINC, DISSOLVED (UG/L AS ZN)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01090	5	5	70-130	20	80-120	TRA
ALUMINUM, DISSOLVED (UG/L AS AL)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01106	200	50	70-130	20	80-120	TRA

* Reporting to be consistent with SWQM guidance and based on measurement capability.
** To be routinely reported when collecting data from perennial pools.
*** Hardness is not used for regulatory purposes but is used to assess metals in water at inland sites (estuarine sites do not require hardness analysis).
**** This value is not expressed as a relative percent difference. It represents the maximum allowable difference between the logarithm of the result of a sample and the logarithm of the duplicate result. See Section B5.

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998. (Note: The 21st edition may be cited if it becomes available.)
TCEQ SOP, V1 - TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, 2012 (RG-415).
TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416)

Replaces page 80 of 211 in the Basin-Wide QAPP, Table A7.6 – Measurement Performance Specifications for the City of Grand Prairie

Conventional Parameters in Water										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	mg/L	water	SM 4500 P E	00665	0.06	0.02	70-130	20	80-120	TRA
HARDNESS, TOTAL (MG/L AS CACO3)***	mg/L	water	SM 2340 C	00900	5	5	NA	20	80-120	TRA
CHLORIDE (MG/L AS CL)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00940	5	2	70-130	20	80-120	TRA
SULFATE (MG/L AS SO4)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00945	5	2	70-130	20	80-120	TRA
CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH	µg/L	water	SM 10200 H (No FOA offered)	32211	3	3	NA	20	80-120	TRA
RESIDUE,TOTAL FILTRABLE (DRIED AT 180C) (MG/L)	mg/L	water	SM 2540 C	70300	10	10	NA	20	80-120	TRA
ORTHOPHOSPHATE PHOSPHORUS,DISS,MG/L,FILTER >15MIN	mg/L	water	SM 4500 P F	70507	0.04	0.02	70-130	20	80-120	TRA
Metals in Water										
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD of LCS/LCSD)**	**Bias %Rec. of LCS**	**Lab**
CADMIUM, DISSOLVED (UG/L AS CD)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01025	0.3	0.3	70-130	20	80-120	TRA
CADMIUM, TOTAL (UG/L AS CD)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01027	NA	5	70-130	20	80-120	TRA
CHROMIUM, DISSOLVED (UG/L AS CR)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01030	10	5	70-130	20	80-120	TRA
CHROMIUM, TOTAL (UG/L AS CR)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01034	NA	5	70-130	20	80-120	TRA
COPPER, DISSOLVED (UG/L AS CU)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01040	3	1	70-130	20	80-120	TRA
COPPER, TOTAL (UG/L AS CU)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01042	NA	5	70-130	20	80-120	TRA
LEAD, DISSOLVED (UG/L AS PB)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01049	1	1	70-130	20	80-120	TRA
LEAD, TOTAL (UG/L AS PB)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01051	NA	5	70-130	20	80-120	TRA
ZINC, DISSOLVED (UG/L AS ZN)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01090	5	5	70-130	20	80-120	TRA
ZINC, TOTAL (UG/L AS ZN)	µg/L	water	EPA 200.8 Rev 5.4 (1998)	01092	NA	5	70-130	20	80-120	TRA

* Reporting to be consistent with SWQM guidance and based on measurement capability.
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TCEQ SOP, V2 - TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data, 2014 (RG-416)

Distribution

QAPP Amendments and Revisions to Appendices will be distributed to all personnel on the distribution list maintained by the Planning Agency.

These changes will be incorporated into the QAPP document and TCEQ and the Trinity River Authority will acknowledge and accept these changes by signing this amendment.

Texas Commission on Environmental Quality

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