Amendment # 3

To the Nueces River Authority Clean Rivers Program FY 2020/2021 QAPP

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

Effective: Immediately upon approval by all parties

Questions concerning this QAPP should be directed to:

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Justification

This document details the changes made to the basin-wide Quality Assurance Project Plan for FY 2020/21 activities. NRA is adding metals in water monitoring at three existing routine sites on a quarterly basis. Sampling frequency at one existing metals in water station will increase from a twice per year basis to a quarterly basis.

Summary of Changes

Section A6: Added language increasing metals sampling frequency at one site from a bi-annual basis to a quarterly basis and to add metals in water monitoring at 3 existing quarterly monitored stations. A total of three stations will now be monitored for metals in water on a bi-annual basis and a total of 4 stations will be monitored for metals in water on a quarterly basis.

Appendix B, Sampling Process Design and Monitoring Schedule (Plan), Sample Design Rationale FY 2020: Added metals in water locations to Sample Design Rationale FY 2020 section.

Appendix B, Table B1.1 Sample Design and Schedule, FY 2020/21: In Basin 21, frequency of metals in water monitoring at station 12980 was changed from a bi-annual basis to a quarterly basis. Metals in water monitoring at three existing stations (12983, 13023, and 12972) were added on a quarterly basis.

Detail of Changes A1 Approval Page

Texas Commission on Environmental Quality Water Quality Planning Division

Electronically Approved by Kyle	e Girten 6/24/2020	Electronically Approved	06/24/2020
Sarah Eagle, Work Leader Clean Rivers Program	Date	Rebecca DuPont Project Manager	Date
Electronically Approved	06/24/2020	Electronically Approved	06/22/2020
Kelly Rodibaugh Project Quality Assurance Speciali	Date	Cathy Anderson, Team Leader Data Management and Analysis	Date

Monitoring Division

Electronically Approved 06/24/2020

Dana D. Squires Date
Lead Quality Assurance Specialist

Nueces River Authority (NRA)

Electronically Approved	06/24/2020	Electronically Approved	06/24/2020
Sam Sugarek	Date	Sam Sugarek	Date
NRA Project Manager		NRA Quality Assurance Officer	

A6 Project/Task Description

NRA will monitor a minimum of 9 bay and tidal sites quarterly for conventional, bacteria, and field parameters. NRA will also monitor 2 bay and tidal locations on a semi-annual basis for conventional, bacteria, and field parameters NRA will monitor a minimum of 33 river and lake sites quarterly for conventional, bacteria, flow (where applicable), and field parameters. NRA will also monitor 2 river locations on a quarterly basis for Chlorophyll-a, TDS, bacteria, and field parameters. NRA will also monitor one river site for bacteria and field parameters only and one river site for field parameters only. NRA will also conduct 24-hour dissolved oxygen monitoring at two sites given sufficient water. NRA will monitor for metals in water at 3 locations on a twice per year frequency and at 4 locations on a quarterly basis.

Bandera County River Authority and Groundwater District (BCRAGD) will conduct routine quarterly monitoring, collecting field, conventional, bacteria and, where applicable, flow data at 3 river stations in basin 20.

See Appendix B for the project-related work plan tasks and schedule of deliverables for a description of work defined in this QAPP.

See Appendix B for sampling design and monitoring pertaining to this QAPP.

Amendments to the QAPP

Revisions to the QAPP may be necessary to address incorrectly documented information or to reflect changes in project organization, tasks, schedules, objectives, and methods. Requests for amendments will be directed from the Nueces River Authority Project Manager to the CRP Project Manager electronically. The Nueces River Authority will submit a completed QAPP Amendment document, including a justification of the amendment, a table of changes, and all pages, sections, and attachments affected by the amendment. Amendments are effective immediately upon approval by the Nueces River Authority Project Manager, the Nueces River Authority QAO, the CRP Project Manager, the CRP Lead QA Specialist, the TCEQ QA Manager or designee, the CRP Project QA Specialist, and additional parties affected by the amendment. Amendments are not retroactive. No work shall be implemented without an approved QAPP or amendment prior to the start of work. Any activities under this contract that commence prior to the approval of the governing QA document constitute a deficiency and are subject to corrective action as described in section C1 of this QAPP. Any deviation or deficiency from this QAPP which occurs after the execution of this QAPP will be addressed through a Corrective Action Plan (CAP). An Amendment may be a component of a CAP to prevent future recurrence of a deviation.

Amendments will be incorporated into the QAPP by way of attachment and distributed to personnel on the distribution list by the Nueces River Authority Project Manager. If adherence letters are required, the Nueces River Authority will secure an adherence letter from each sub-tier project participant (e.g., subcontractors, sub-participant, or other units of government) affected by the amendment stating the organization's awareness of and commitment to requirements contained in each amendment to the QAPP. The Nueces River Authority will maintain this documentation as part of the project's QA records, and ensure that the documentation is available for review.

Special Project Appendices

Projects requiring QAPP appendices will be planned in consultation with the Nueces River Authority and the TCEQ Project Manager and TCEQ technical staff. Appendices will be written in an abbreviated format and will reference the Nueces River Authority QAPP where appropriate. Appendices will be approved by the Nueces River Authority Project Manager, the Nueces River Authority QAO, the Laboratory (as applicable), and the CRP Project Manager, the CRP Project QA Specialist, the CRP Lead QA Specialist and additional parties affected by the Appendix, as appropriate. Copies of approved QAPP appendices will be distributed by the Nueces River Authority to project participants before data collection activities commence. The Nueces River Authority will secure written documentation from each sub-tier project participant (e.g., subcontractors, subparticipants, other units of government) stating the organization's awareness of and commitment to requirements contained in each special project appendix to the QAPP. The Nueces River Authority will maintain this documentation as part of the project's QA records, and ensure that the documentation is available for review.

Appendix B: Task 3

Work Plan & Sampling Process Design and Monitoring Schedule (Plan)

TASK 3: WATER QUALITY MONITORING

Objectives: Water quality monitoring will focus on the characterization of a variety of locations and conditions. This will include a combination of the following:

planning and coordinating basin-wide monitoring;

routine, regularly scheduled monitoring to collect long-term information and support statewide assessment of water quality; and

systematic, regularly scheduled short-term monitoring to screen water bodies for issues.

Task Description: The Performing Party, working closely with TCEQ, conducts watershed monitoring to identify and evaluate surface water quality issues and to establish priorities for corrective action. Under this program, the Performing Party is responsible for the San Antonio – Nueces Coastal Basin, the Nueces River Basin, the Nueces – Rio Grande Coastal Basin, and the adjacent bays and estuaries.

The Performing Party will complete the following subtasks:

Monitoring Description – In FY2020, the Performing Party will monitor a minimum of 10 bay and tidal sites quarterly for conventional, bacteria, and field parameters and 33 river and lake sites quarterly for conventional, bacteria, flow(where applicable), and field parameters. The Performing Party will also conduct 24-hour dissolved oxygen monitoring at two sites given sufficient water. The Performing Party will also conduct quarterly monitoring for metals in water at four sites in FY2020 and FY2021.

In FY 2021, the Performing Party will monitor at a similar level of effort as in FY 2020. The actual number of sites, location, frequency, and parameters collected for FY 2021 will be based on priorities identified at the Basin Steering Committee and Coordinated Monitoring meetings and included in the amended Appendix B schedule of the QAPP.

All monitoring procedures and methods will follow the guidelines prescribed in the Performing Party QAPP, the TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods (RG-415) and the TCEQ Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416).

Appendix B Sampling Process Design and Monitoring Schedule (plan)

Sample Design Rationale FY 2020

The sample design is based on the legislative intent of CRP. Under the legislation, the Basin Planning Agencies have been tasked with providing data to characterize water quality conditions in support of the Texas Water Quality Integrated Report, and to identify significant long-term water quality trends. Based on Steering Committee input, achievable water quality objectives and priorities and the identification of water quality issues are used to develop work plans which are in accord with available resources. As part of the Steering Committee process, the Nueces River Authority coordinates closely with the TCEQ and other participants to ensure a comprehensive water monitoring strategy within the watershed.

Segment 2004A – One quarterly monitoring station located on Aransas Creek (Station ID 12941) will be added due to recommendations made by the TCEQ basin assessor. Bacteria, field and flow data will be the only parameters monitored.

Segment 2102 – Two quarterly monitoring stations on the Nueces River (Station Id 21815 and 12965) will be monitored for Chlorophyll-*a*, TDS and bacteria only to monitor work being done through implementation of the WPP. Two quarterly monitoring stations exist (20936 and 12964) in this segment for assessment.

Segment 2104 – One 24-hour dissolved oxygen monitoring site located on the Nueces River at FM624 (Station Id 12974)

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will transition to a quarterly field parameters only station due to recommendations by the TCEQ basin assessor. One quarterly monitoring station located on the Nueces River (Station ID 12972) will have metals in water testing added on a quarterly basis.

Segment 2107 - One 24-hour dissolved oxygen monitoring station located on the Atascosa River (Station Id 12981) will be dropped due to a delisting of the dissolved oxygen impairment in the segment. One existing quarterly station located on the Atascosa River (Station ID 12980) will have metals in water testing added on a quarterly basis.

Segment 2108 – One quarterly monitoring station located at San Miguel Creek (Station ID 12983) will have metals in water testing added on a quarterly basis.

Segment 2116 – One existing quarterly station located on Choke Canyon Reservoir (Station ID 17389) will have metals in water testing added on a twice per year frequency.

Segment 2117 – One quarterly monitoring station located at the Frio River (Station ID 13023) will have metals in water testing added on a quarterly basis.

Segment 2472 – One quarterly monitoring station located at Port Bay (Station ID 13405) will transition to a bi-annual routine plus metals in water monitoring station.

Segment 2483A – One quarterly monitoring station located at Conn Brown Harbor (Station ID 18848) will transition to a bi-annual routine plus metals in water monitoring station.

Segment 2485 – One quarterly monitoring station located on Oso Bay (Station ID 13442) will be added due to a stakeholder request from TPWD.

Segment 2485A – One quarterly monitoring station located on Oso Creek (Station ID 13029) will have the indicator bacteria changed from Enterococcus to *E. coli* due to stakeholder input.

Segment 2491C – Flow reporting for Hidalgo Drain (Station 22003) and Raymondville Drain (Station 22004) will be added to the monitoring schedule.

Segment 2492 - One quarterly monitoring station located on Los Olmos Creek (Station ID 13034) will transition to a monthly monitoring station upon execution of this QAPP amendment. A GLO CMP grant will fund monitoring during 2 months per quarter in which CRP monitoring doesn't occur.

Segment 2494C – One quarterly monitoring station located on San Martin Lake in the Lower Rio Grande Valley (Station ID 22170) will be added to support the efforts of the Lower Laguna Madre and Brownsville Ship Channel WPP.

Monitoring Sites for FY 2020

Table B1.1 Sample Design and Schedule, FY 2020

Tuble B1.1 Sump	ie Desig	rt arta	. Sere	<u>cuute</u>	<u>, </u>	.020	Ba	sin 2	20													
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	MT	24 hr DO	AqHab	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
MISSION RIVER TIDAL NEAR SOUTH BANK IMMEDIATELY DOWNSTREAM OF THE FM 2678 BRIDGE BETWEEN REFUGIO AND BAYSIDE	12943	2001	14	NR	NR	RT									4			4			4	
MISSION RIVER IMMEDIATELY UPSTREAM OF US 77 BRIDGE AT REFUGIO	12944	2002	14	NR	NR	RT									4			4	4		4	
ARANSAS RIVER TIDAL AT BOAT RAMP ON FM 629 TERMINUS SOUTH OF BONNIE VIEW	12947	2003	14	NR	NR	RT									4			4			4	
ARANSAS RIVER TIDAL IMMEDIATELY UPSTREAM OF US 77 BRIDGE BETWEEN WOODSBORO AND SINTON	12948	2003	14	NR	NR	RT									4			4			4	
ARANSAS RIVER AT COUNTY ROAD EAST OF SKIDMORE	12952	2004	14	NR	NR	RT									4			4	4		4	

						Basi	n 20	- Co	ntin	ued												
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	TM	24 hr DO	АдНар	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
ARANSAS CREEK AT US 181 NORTH OF SKIDMORE IN BEE COUNTY	12941	2004A	14	NR	NR	RT									4			4	4		4	
POESTA CREEK, 77 M DOWNSTREAM OF SH 202	12937	2004B	14	NR	NR	RT									4			4	4		4	
							Ва	sin 2	21													
NUECES RIVER AT BLUNTZER BRIDGE ON FM 666	12964	2102	14	NR	NR	RT									4			4	4		4	
NUECES RIVER AT LA FRUTA BRIDGE ON SH 359	12965	2102	14	NR	NR	RT									4			4	4		4	TDS, Chloroph yll- a/Pheoph ytin only
NUECES RIVER BELOW LAKE CORPUS CHRISTI AT HAZEL BAZEMORE PARK BOAT RAMP 4.5 KM UPSTREAM OF I-37	20936	2102	14	NR	NR	RT									4			4	4		4	
NUECES RIVER IMMEDIATELY UPSTREAM OF THE SALTWATER BARRIER DAM AT LABONTE PARK	21815	2102	14	NR	NR	RT									4			4	4		4	TDS, Chloroph yll- a/Pheoph ytin only

						Ва	sin 2	21 - Co	ntin	ued												
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	MT	24 hr DO	АдНар	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
LAKE CORPUS CHRISTI MID-LAKE AT THE DAM 380 M NNW OF NORTHERN TIP OF DAM USGS SITE	12967	2103	14	NR	NR	RT									4			4			4	
LAKE CORPUS CHRISTI APPROX. 0.2 MI OFF WESTERN SHORE DIRECTLY WEST OF HIDEAWAY HILL	17384	2103	14	NR	NR	RT									4			4			4	
NUECES RIVER AT LIVE OAK CR 151 NEAR RIVER CREEK ACRES UPSTREAM OF LAKE CORPUS CHRISTI	17648	2103	14	NR	NR	RT									4			4	4		4	
NUECES RIVER AT FM 1042 BRIDGE 1.2 MILES NORTH OF SIMMONS	12972	2104	14	NR	NR	RT					1				4			4	4		4	
NUECES RIVER AT SH 16 SOUTH OF TILDEN	12973	2104	16	NR	NR	RT									4			4	4		4	
NUECES RIVER AT FM 624	12974	2104	16	NR	NR	RT													4		4	
NUECES RIVER BRIDGE ON FM 190 NORTH OF ASHERTON	12976	2105	16	NR	NR	BS	4						TO 10						4		4	

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						Ва	sin 2	21 - Co	ntin	ued												
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	MT	24 hr DO	АдНар	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
FRIO RIVER AT SH 72 IN THREE RIVERS TX	12977	2106	14	NR	NR	RT									4			4	4		4	
NUECES RIVER BRIDGE ON US 281 SOUTH OF THREE RIVERS	12979	2106	14	NR	NR	RT									4			4	4		4	
ATASCOSA RIVER AT FM 99 BRIDGE WEST OF WHITSETT	12980	2107	14	NR	NR	RT					2				4			4	4		4	
ATASCOSA RIVER AT FM 541 4.75 KM UPSTREAM OF THE CONFLUENCE WITH LIVEOAK CREEK IN ATASCOSA COUNTY	20764	2107	13	NR	NR	BS	4												4		4	
ATASCOSA RIVER AT FM 541 4.75 KM UPSTREAM OF THE CONFLUENCE WITH LIVEOAK CREEK IN ATASCOSA COUNTY	20764	2107	13	NR	NR	RT									4			4	4		4	
SAN MIGUEL CREEK AT SH 16 NORTH OF TILDEN	12983	2108	16	NR	NR	RT					1				4			4	4		4	
LEONA RIVER 370 M UPSTREAM OF FM 140	18418	2109	13	NR	NR	RT									4			4	4		4	
SABINAL RIVER BRIDGE AT US 90 WEST OF SABINAL	12993	2110	13	NR	NR	RT							TA 11		4			4	4		4	

						Ва	sin 2	21 - Co	ntin	ued												
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	IM	24 hr DO	АдНар	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
SABINAL RIVER AT FM 187 5.6 MI SOUTH OF VANDERPOOL	14939	2111	13	NR	ВА	RT									4			4	4		4	
SABINAL RIVER AT RANCH ROAD 187 APPROX 10 KILOMETERS SOUTH OF UTOPIA AND 400 METERS UPSTREAM OF THE CONFLUENCE WITH ONION CREEK	21948	2111	13	NR	ВА	RT									4			4	4		4	
NUECES RIVER IMMEDIATELY DOWNSTREAM OF SH 55 SOUTHBOUND BRIDGE APPROXIMATELY 2.5 KM SOUTH OF LAGUNA	16704	2112	13	NR	NR	RT									4			4	4		4	
HONDO CREEK MID CHANNEL IMMEDIATELY DOWNSTREAM OF SH 173 SOUTHEAST OF HONDO	18408	2114	13	NR	NR	RT									4			4			4	
SECO CREEK AT SH 470 APPROXIMATELY 10 MI WEST OF TARPLEY	13017	2115	13	NR	ВА	RT									4			4	4		4	

						Ва	isin 2	21 - Co	ntin	ued												
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	TM	24 hr DO	АдНав	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
CHOKE CANYON RESERVOIR NEAR THE DAM 422 M SOUTH AND 129 M EAST OF SPILLWAY CHANNEL USGS SITE AC	13019	2116	14	NR	NR	RT									4			4			4	
CHOKE CANYON RESERVOIR MID LAKE 15 M E OF LIVE OAK/MCMULLEN COUNTY LINE NEAR OLD HWY 99 1.25 KM NORTH OF CC STATE PARK POINT	13020	2116	14	NR	NR	RT									4			4			4	
CHOKE CANYON RESERVOIR APPROX 0.45 KM SOUTHEAST OF FM 99 SOUTHERN MOST BRIDGE CROSSING THE FRIO RIVER ARM	17389	2116	16	NR	NR	RT					2				4			4			4	
FRIO RIVER AT SH 16 IN TILDEN	13023	2117	16	NR	NR	RT					1				4			4	4		4	
FRIO RIVER IMMEDIATELY UPSTREAM OF SH 97 NORTH OF FOWLERTON	18373	2117	16	NR	NR	RT									4			4	4		4	

							E	Basin 2	22													
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	MT	24 hr DO	АдНар	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
ARROYO COLORADO AT US 77 IN SW HARLINGEN	13079	2202	15	NR	NR	RT									4			4	4		4	
PETRONILA CREEK 181 METERS WEST AND 6 METERS SOUTH FROM THE INTERSECTION OF ALICE ROAD AND LOST CREEK ROAD	20806	2204	14	NR	NR	RT									4			4			4	
PETRONILA CREEK AT FM 665 EAST OF DRISCOLL	13096	2204	14	NR	NR	RT									4			4	4		4	
PETRONILA CREEK AT FM 892 SE OF DRISCOLL	13094	2204	14	NR	NR	RT									4			4	4		4	

							E	Basin 2	24													
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	TM	24 hr DO	АдНав	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
PORT BAY AT MIDDLE OF SH 188 WEST OF ROCKPORT	13405	2472	14	NR	NR	RT					2				2			2			2	
REDFISH BAY AT SH 361 AT 3RD BRIDGE BETWEEN ARANSAS PASS AND PORT ARANSAS	13426	2483	14	NR	NR	RT									4			4			4	
CONN BROWN HARBOR MID HARBOR 50 M NORTHEAST OF THE INTERSECTION OF HUFF ST AND EAST MADDOX AVE IN ARANSAS PASS	18848	2483A	14	NR	NR	RT					2				2			2			2	
OSO BAY IMMEDIATELY OFFSHHORE AT TIP OF PENINSULA AT PADRE ISLAND DRIVE/SOUTHBOUND AT SH 358	13440	2485	14	NR	NR	RT									4			4			4	
OSO BAY 40 M UPSTREAM OF OCEAN DRIVE AND APPROXIMATELY 50 M WEST OF EASTERN LANDFALL OF BRIDG	13442	2485	14	NR	NR	RT									4			4			4	
OSO CREEK IMMEDIATELY DOWNSTREAM OF SH 286 SOUTH OF CORPUS CHRISTI	13028	2485A	14	NR	NR	RT									4			4			4	

						Ва	sin 2	4 - Co	ntin	ued												
Site Description	Staion ID	Waterbody ID	Reg	SE	CE	TM	24 hr DO	АдНар	Benthics	Nekton	Metal Water	Organic Water	Metal Sed	Organic Sed	Conv	Amb Tox Water	Amb Tox Sed	Bacteria	Flow	Fish Tissue	Field	Comments
OSO CREEK IMMEDIATELY DOWNSTREAM OF FM 763 SOUTHWEST OF CORPUS CHRISTI	13029	2485A	14	NR	NR	RT									4			4			4	
HIDALGO MAIN FLOODWATER CHANNEL AT FM 1420 1.65 KM SOUTH OF INTERSECTION WITH FM 490 EAST OF RAYMONDVILLE	22003	2491C	15	NR	NR	RT									4			4	4		4	
RAYMONDVILLE DRAIN AT WILLACY COUNTY ROAD 445 800 METERS NORTH OF INTERSECTION WITH FM 3142 EAST OF RAYMONDVILLE	22004	2491C	15	NR	NR	RT									4			4	4		4	
LOS OLMOS CREEK IMMEDIATELY UPSTREAM OF US 77 SOUTH OF RIVIERA	13034	2492	14	NR	NR	RT									12			12			12	8x CMP, 4x CRP
SAN FERNANDO CREEK AT US 77 AT KINGSVILLE	13033	2492A	14	NR	NR	RT									4			4	4		4	
SAN MARTIN LAKE MID ESTUARY 2.04 KM EAST AND 0.80 KM NORTH OF THE HWY 48 BRIDGE NORTHEAST OF BROWNSVILLE	22170	2494C	15	NR	NR	RT									4			4			4	