Amendment #2
Update to the H-GAC's Multi-Basin Clean Rivers Program FY 2024/2025 QAPP Appendix B

Prepared by the Houston-Galveston Area Council (H-GAC) in Cooperation with the Texas Commission on Environmental Quality (TCEQ)

Effective: Immediately upon approval by all parties

Questions concerning this QAPP Amendment should be directed to:
~~Jean Wright~~ Dr. Jenny Oakley, Houston-Galveston Area Council (H-GAC)
CRP Quality Assurance Officer
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Houston, Texas 77227-2777
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~~jean.wright@h-gac.com~~ jenny.oakley@h-gac.com

Justification

This document details the changes made to the multi-basin QAPP to update language regarding limits of quantitation (LOQs) in sections A7 and B5, personnel changes, errors in citing a local partner, and updates to Appendix B for fiscal year 2025.

Red font = change by TCEQ CRP Project QA Specialist
Green highlighting = change by Houston-Galveston Area Council
~~Strikethrough font~~ = deletion of text from previous QAPP document (highlighted green for change by partner/red text for change by TCEQ CRP Project QA Specialist)

Summary of Changes

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
Title Page		1	Replace Jean Wright, Quality Assurance Officer, H-GAC, with Dr. Jenny Oakley	Change of personnel at H-GAC due to retirement	H-GAC	1
A1 – Approval Page		3	Replace Jean Wright, Quality Assurance Officer, H-GAC, with Dr. Jenny Oakley	Change of personnel at H-GAC due to retirement	H-GAC	9
A1 – Approval Page		4	Replace Dr. Latrice Babin, CRP Project Manager, HCPCS, with Vanessa de Vera	Reassignment of duties within HCPCS	HCPCS	9
A1 – Approval Page		6	Replace Shubha Thakur, Project Manager & Lab Director, with Jamie Shakar	Change of personnel at DWO due to retirement	DWO	11
A1 – Approval Page		8	Replace Dr. Jenny Oakley, CRP Project Manager, with Amanda (Mandi) Gordon as CRP	Change of personnel at EIH.	EIH	12

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
			Project Manager Replace Dr. Jenny Oakley with Sherah McDaniel as CRP Quality Assurance Officer Add Kaylei Chau as CRP Field Supervisor			
A3 – Distribution List		13	Replace Jean Wright, Quality Assurance Officer, H-GAC, with Dr. Jenny Oakley	Change of personnel at H-GAC due to retirement	H-GAC	14
A4 – Project / Task Organization	Description of Responsibilities	15	Replace Jean Wright, Quality Assurance Officer, H-GAC, with Dr. Jenny Oakley	Change of personnel at H-GAC due to retirement	H-GAC	15
A4 – Project / Task Organization	Description of Responsibilities	16	Replace Dr. Latrice Babin, CRP Project Manager, HCPCS, with Vanessa de Vera	Reassignment of duties within HCPCS	HCPCS	16
A4 – Project / Task Organization	Description of Responsibilities	19	Replace Shubha Thakur, Project Manager & Lab Director, with Jamie Shakar	Change of personnel at DWO due to retirement	DWO	17
A4 – Project / Task Organization	Description of Responsibilities	20	Change how EIH is listed in QAPP. Replace Dr. Jenny Oakley, CRP Project Manager, with Amanda (Mandi) Gordon	Corrected error per EIH request Change of personnel at EIH	EIH	18

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
			Replace Dr. Jenny Oakley, Quality Assurance Officer, with Sherah McDaniel Replace Dr. Jenny Oakley, Field Supervisor, with Kaylei Chau			
A4 – Project / Task Organization	Project Organization Chart; Figure A4.1	22	Replace Jean Wright, Quality Assurance Officer, H-GAC, with Dr. Jenny Oakley	Change of personnel at H-GAC due to retirement	H-GAC	19
A4 – Project / Task Organization	Project Organization Chart; Figure A4.1a – H-GAC	23	Replace Jean Wright, Quality Assurance Officer, H-GAC, with Dr. Jenny Oakley	Change of personnel at H-GAC due to retirement	H-GAC	20
A4 – Project / Task Organization	Project Organization Chart; Figure A4.1b - HCPCS	24	Replace Dr. Latrice Babin, CRP Project Manager, HCPCS, with Vanessa de Vera	Reassignment of duties within HCPCS	HCPCS	21
A4 – Project / Task Organization	Project Organization Chart; Figure A4.1d - DWO	26	Replace Shubha Thakur, Project Manager & Lab Director, with Jamie Shakar	Change of personnel at DWO due to retirement	DWO	22
A4 – Project / Task Organization	Project Organization Chart; Figure A4.1e - SJRA	27	Replace Shubha Thakur, Project Manager & Lab Director, with Jamie Shakar	Change of personnel at DWO due to retirement	DWO, SJRA	23
A4 – Project / Task Organization	Project Organization Chart; Figure A4.1f - EIH	28	Changed how EIH is listed in QAPP. Replace Dr. Jenny Oakley, CRP Project	Corrected error per EIH request. Change of personnel at	EIH	24

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
			Manager, with Amanda (Mandi) Gordon Replace Dr. Jenny Oakley, Quality Assurance Officer, with Sherah McDaniel Replace Dr. Jenny Oakley, Field Supervisor, with Kaylei Chau	EIH.		
A5 – Problem Definition/Background		30	Corrected grammar in last and second to the last paragraphs on page	Correct grammar error in sentences.	EIH	25
A6 – Project/Task Description	24-Hour Dissolved Oxygen (DO) Monitoring	32	Updated 24-hour monitoring sites.	Sites were added and dropped in the FY25 monitoring schedule.	EIH, H-GAC	26
A7	Ambient Water Reporting Limits (AWRLs)	33–34	Modified language concerning allowable LOQs.	To adjust language used in current CRP QAPPs that does not align with TCEQ CRP's stance on allowable LOQs.	All	27–28
A8 – Special Training/Certification	Table A8.1 Designated Trainer	35	Replace Jenny Oakley with Kaylei Chau	Changed job duties.	EIH	29
B2	Table B2.1h	46–47	Updated sample handling information	TRIES Lab is not NELAP certified	TRIES	30–31

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
			for chloride and total phosphorus	for either parameter. Samples are picked up and analyzed at Eastex Lab instead.		
B5	Quality Control or Acceptability Requirements, Deficiencies, and Corrective Actions	57	Modified language concerning allowable LOQs.	To adjust language used in current CRP QAPPs that does not align with TCEQ CRP's stance on allowable LOQs.	All	32
B10 – Data Management	Data Management Process	60	Corrected grammar. Updated data review process.	Correct grammar errors in sentences. Align language with CRP.	EIH	33
B10 – Data Management	Data Errors and Loss	62	Insert 'University of Houston-Clear Lake' into sentence. Replace Field QAO with Field Supervisor	Correct the reference to EIH.	EIH	34
B10 – Data Management	Record Keeping and Data Storage	63	Insert 'University of Houston-Clear Lake' into sentence.	Correct the reference to EIH.	EIH	35
D2 – Verification and Validation Methods	Table D2.1g – Data Review Tasks	76	Insert "University of Houston-Clear Lake' in title of table.	Correct the reference to EIH.	EIH	36
D2 – Verification and Validation Methods	Table D2.1g – Data Review Tasks	76	Replace or remove staff position assigned to	Correct assigned field	EIH	36

Section	Sub-section/ Figure/Table	Page(s) in Basin-wide QAPP	Change	Justification	Affected Entity	Page(s) in this Amendment
			complete several tasks cited in table.	tasks in table.		
Appendix A	Tables A7.7a–A7.7e	104–108	Insert "University of Houston-Clear Lake" in title of table.	Correct the reference to EIH.	EIH	37–41
Appendix A	Tables A7.8a–A7.8d	109–112	Remove parameters – Total Phosphorus and Chloride – from Table A7.8c (p.111)	Not currently NELAP accredited to report those parameters.	TRIES	42–45
Appendix B	Sample Design Rationale FY 2025	117	Updated fiscal year throughout from 2024 to 2025.	Changes to Appendix B in this amendment are to reflect FY 2025 monitoring, not FY 2024 monitoring.	ALL	46–48
Appendix B	Sample Design Rationale FY 2025	117–119	Updated FY25 monitoring descriptions	Updated information about monitoring sites.	All	46–48
Appendix B	Table B1.1 Sample Design and Schedule, FY 2025	120–148	Updated Table B1.1 to reflect modifications to sampling design for the new fiscal year (2025).	Sampling design has changed from FY 2024 to FY 2025.	All	49–84
Appendix C	Station Location Map	149–150	Updated maps of monitoring stations to reflect modifications to sampling design for the new fiscal year (2025).	Sites were added and/or dropped for H-GAC, HHD, SJRA, & EIH.	All	85–86

Distribution

This QAPP amendment will be distributed by the Houston-Galveston Area Council (H-GAC) via email to all personnel on the distribution list (section A3 of the QAPP).

These changes will be incorporated into the QAPP document and TCEQ and the H-GAC will acknowledge and accept these changes by approving the final amendment draft electronically via email. H-GAC will distribute the approved amendment electronically to all local partners and secure acknowledgement of receipt.

Texas Commission on Environmental Quality

Water Quality Planning Division

Electronically Approved	9/6/2024
Sarah Whitley, Team Leader Water Quality Standards and Clean Rivers Program	Date

Electronically Approved	8/30/2024
Lawrence Grant Bassett Project Quality Assurance Specialist Clean Rivers Program	Date

Electronically Approved	9/6/2024
Jenna Wadman, Project Manager Clean Rivers Program	Date

Electronically Approved	8/28/2024
Cathy Anderson, Team Leader Data Management and Analysis	Date

Monitoring Division

Electronically Approved	9/6/2024
Jason Natho Acting Lead CRP Quality Assurance Specialist	Date

Houston-Galveston Area Council (H-GAC)

Electronically Approved	8/28/2024
Todd Running, CRP Project Manager H-GAC	Date

Electronically Approved 8/28/2024 (position is effective 9/9/2024)	
~~Jean Wright~~ Dr. Jenny Oakley Quality Assurance Officer, H-GAC	Date

Electronically Approved	8/28/2024
Jessica Casillas, CRP Data Manager H-GAC	Date

Harris County Pollution Control Services (HCPCS)

Electronically Approved	9/3/2024
~~Dr. Latrice Babin~~ Vanessa de Vera CRP Project Manager HCPCS	Date

Electronically Approved	8/28/2024
Bryan Kosler CRP Field Quality Assurance Officer HCPCS	Date

Electronically Approved	9/3/2024
Vanessa de Vera, Lab Manager HCPCS	Date

Electronically Approved	8/28/2024
Ericka Jackson, CRP Data Manager HCPCS	Date

Electronically Approved	8/28/2024
Jane Ngari Lab Quality Assurance Officer HCPCS	Date

City of Houston, Houston Health Department (HHD)

Electronically Approved 8/28/2024

Nguyen Ly, CRP Project Manager Date
HHD

Electronically Approved 8/28/2024

Darryl Tate Date
CRP Field Quality Assurance Officer
HHD

Electronically Approved 8/28/2024

Lupe Garbalena, HHD BLS Lab Manager Date
HHD BLS

Electronically Approved 8/28/2024

Jane Marzano, CRP Data Manager Date
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Electronically Approved 9/3/2024

Kimyattia Smith Date
HHD BLS Lab Quality Assurance Officer
HHD BLS

Electronically Approved 8/28/2024

Huan Nguyen Date
HHD BLS Chemistry Lab Supervisor
HHD BLS

Electronically Approved 8/28/2024

Jennifer Myers Date
HHD BLS Environmental Microbiology Section Supervisor
HHD BLS

City of Houston, Drinking Water Operations (DWO)

Electronically Approved	8/28/2024
~~Shubha Thakur~~ Jamie Shakar	Date
CRP Project Manager & Laboratory Director DWO	

Electronically Approved	8/28/2024
Jamie Shakar, CRP Field Supervisor DWO	Date

Electronically Approved	8/28/2024
Harold Longbaugh, Laboratory Manager DWO	Date

Electronically Approved	8/28/2024
Desta Takie CRP Field Quality Assurance Officer DWO	Date

Electronically Approved	8/29/2024
Narendra Joshi, Lab QA Manager & CRP Lab Data Manager DWO	Date

Electronically Approved	8/28/2024
Mike Morfin, CRP Field Data Manager DWO	Date

San Jacinto Rivers Authority (SJRA)

Electronically Approved	8/29/2024
Shane Simpson CRP Project Manager and Field Quality Assurance Officer SJRA	Date

Electronically Approved	8/29/2024
Shane Simpson, CRP Data Manager SJRA	Date

Environmental Institute of Houston, University of Houston-Clear Lake (EIH)

Electronically Approved 8/28/2024

~~Dr. Jenny Oakley~~ Date
Amanda (Mandi) Gordon
CRP Project Manager
EIH

Electronically Approved 8/29/2024

Sherah McDaniel Date
CRP Quality Assurance Officer & Data Manager
EIH

Electronically Approved 8/29/2024

Kaylei Chau Date
CRP Field Supervisor
EIH

Texas Research Institute for Environmental Studies (TRIES)

Electronically Approved 9/5/2024

Dr. Chad Hargrave Date
CRP Project Manager
TRIES

Electronically Approved 8/28/2024

Ashley Morgan-Olvera Date
Field Quality Assurance Officer & Data Manager
TRIES

Electronically Approved 8/28/2024

Dr. Rachelle Smith Date
Laboratory Manager & Quality Assurance Officer
TRIES

Eastex Environmental Laboratory, Inc. (Coldspring, TX)

Electronically Approved 9/3/2024

Tiffany Harrison Date
Lab Technical Director
Eastex Lab (Coldspring, TX)

Electronically Approved 9/3/2024

Tiffany Harrison Date
'Acting' Lab Quality Assurance Officer
Eastex Lab (Coldspring, TX)

Electronically Approved 9/5/2024

Natalia Bondar, Lab Data Manager Date
Eastex Lab (Coldspring, TX)

Detail of Changes

The following replacement pages include the corrections to the original QAPP approved on 08-31-2023

A3 Distribution List

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The H-GAC will provide copies of this project plan and any amendments or appendices of this plan to each person on this list and to each sub-tier project participant, e.g., local partners, subcontractors, subparticipants, or other units of government. The H-GAC will document distribution of the plan and any amendments and appendices, maintain this documentation as part of the project's quality assurance records, and ensure the documentation is available for review. Local Partner/Sub-Tier participants & their Laboratories to receive copies of the QAPP include:

- Harris County Pollution Control Services & Laboratory
- City of Houston, Houston Health Department & Laboratory
- City of Houston, Drinking Water Operations & Laboratory
- Environmental Institute of Houston, University of Houston-Clear Lake
- San Jacinto River Authority
- Texas Research Institute for Environmental Studies & Laboratory
- Eastex Environmental Laboratory

Grant Bassett
CRP Project Quality Assurance Specialist
Serves as liaison between CRP management and TCEQ QA management. Participates in the development, approval, implementation, and maintenance of written QA standards (e.g., Program Guidance, SOPs, QAPPs, QMP). Serves on planning team for CRP special projects. Reviews and approves CRP QAPPs in coordination with other CRP staff. Coordinates documentation and monitors implementation of corrective actions for the CRP.

Houston-Galveston Area Council (H-GAC)

Todd Running
H-GAC Project Manager, Field Supervisor
Responsible for implementing and monitoring CRP requirements in contracts, QAPPs, and QAPP amendments and appendices. Coordinates basin planning activities and work of basin partners. Ensures monitoring systems audits are conducted to ensure QAPPs are followed by H-GAC participants and that projects are producing data of known quality. Supervises field monitoring with assistance from QAO to ensure all monitoring activities are completed as stated in the QAPP. Ensures that subparticipants are qualified to perform contracted work. Ensures CRP project managers and/or QA Specialists are notified of deficiencies and corrective actions, and that issues are resolved. Ensures that data collected is validated and are acceptable for reporting to the TCEQ."

~~Jean Wright~~ Dr. Jenny Oakley
H-GAC Quality Assurance Officer
Responsible for coordinating the implementation of the QA program. Responsible for writing and maintaining the Multi-Basin QAPP and monitoring its implementation. Responsible for maintaining records of QAPP distribution, including appendices and amendments. Responsible for maintaining written records of local partner/sub-tier commitment to requirements specified in this QAPP. Responsible for identifying, receiving, and maintaining project QA records. Responsible for coordinating with the TCEQ CRP PM and/or Project QAS to resolve QA-related issues. Notifies the H-GAC Project Manager of circumstances which may adversely affect the quality of data. Coordinates and monitors deficiencies and corrective action. Responsible for validating that data collected are acceptable for reporting to the TCEQ. Coordinates the research and review of technical QA material and data related to water quality monitoring system design and analytical techniques. Conducts monitoring systems audits on project participants to determine compliance with project and program specifications, issues written reports, and follows through on findings. Ensures that field staff is properly trained and that training records are maintained.

Jessica Casillas
H-GAC Data Manager
Responsible for ensuring that field data are properly reviewed and verified. Responsible for the transfer of basin quality-assured water quality data to the TCEQ in a format compatible with SWQMIS. Coordinates and maintains records of data verification and validation. Maintains quality-assured data on H-GAC internet sites.

Eastex Environmental Laboratory (Eastex) (Coldspring, TX, facility only)

Tiffany Harrison
Laboratory Technical Director - Eastex Environmental Lab (Contract Lab)
Responsible for the overall performance, administration, and reporting of analyses performed by Eastex Environmental Laboratory (Coldspring, TX). Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel

have adequate training and a thorough knowledge of this QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. The Technical Director reviews the final data packet after the Data Manager finishes their activities and then completes the Data Review checklist before emailing to H-GAC.

Tiffany Harrison
'Acting' Eastex Lab Quality Assurance Officer (QAO)
Responsible for the overall quality control and quality assurance of analyses performed by Eastex Environmental Laboratory (Coldspring, TX). Monitors the implementation of the QM/QAPP within the laboratory to ensure complete compliance with QA data quality objectives, as defined by this QAPP. Coordinates and monitors deficiencies and corrective actions. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory.

Natalia Bondar
Lab Data Manager
The Data Manager reviews data entry into LIMS for accuracy, then validates the data after reviewing for validity & QA/QC requirements. Notifies the Technical Director of data pending final review and distribution.

Harris County Pollution Control Services (HCPCS)

~~Dr. Latrice Babin~~ Vanessa de Vera
CRP Project Manager
Ensures all routine monitoring is conducted in support of the QAPP and the monitoring schedule. Ensures overall performance, administration, and reporting of analyses performed by HCPCS Laboratory is properly reported to H-GAC. Responsible for implementing and monitoring CRP requirements in QAPPs and QAPP amendments and appendices. Coordinates basin planning activities with the H-GAC Project Manager and/or QAO. Ensures H-GAC Quality Assurance Officer is notified of deficiencies and corrective actions, and that issues are resolved.

Vanessa de Vera
Manager-Laboratory Services
Responsible for overall performance, administration, and reporting of analyses performed by HCPCS Laboratory. Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of this QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Additionally, the lab manager will review and verify all laboratory data for integrity and continuity, reasonableness and conformance to project requirements, and will confirm data is validated against the data quality objectives listed in Appendix A of this QAPP.

Jane Ngari
Lab Quality Assurance Officer (QAO)
Responsible for monitoring the activities of HCPCS laboratory personnel. Responsible for the overall quality control and quality assurance of analyses performed by HCPCS Laboratory. Monitors the implementation of the QM within the laboratory to ensure complete compliance with QA data quality objectives, as defined by this QAPP. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory. Responsible for coordinating the implementation of the QA program. Responsible for identifying, receiving, and maintaining project QA records. Coordinates and monitors deficiencies and corrective action.

City of Houston – Drinking Water Operations (DWO)

~~Shubha Thakur~~ Jamie Shakar
CRP Project Manager / Laboratory Director
Responsible for implementing and monitoring CRP requirements in contracts, QAPPs and QAPP amendments and appendices. Coordinates basin planning activities and work of basin partners. Ensures monitoring systems audits are conducted to ensure QAPPs are followed by City of Houston Drinking Water Operations Laboratory participants and that projects are producing data of known quality. Ensures H-GAC project manager, H-GAC QAO, and/or H-GAC data manager are notified of deficiencies and corrective actions, and that issues are resolved.

Harold Longbaugh
Laboratory Manager
Responsible for overall performance, administration and reporting of analyses by City of Houston Drinking Water Operations Laboratory. Responsible for supervision of laboratory personnel involved in generating analytical data for the project. Ensures that laboratory personnel have adequate training and a thorough knowledge of this QAPP and related SOPs. Responsible for oversight of all laboratory operations ensuring that all QA/QC requirements are met, documentation is complete and adequately maintained, and results are reported accurately. Responsible for reviewing & validating field data submitted on COCs & laboratory data against raw data entered in BTLIMS.

Narendra Joshi
Lab Quality Assurance Manager / CRP Lab Data Manager
Responsible for overall quality control and quality assurance of analyses performed by City of Houston Drinking Water Operations Laboratory. Monitors the implementation of the QM/QAPP within the laboratory to ensure complete compliance with QA data quality objectives, as defined by the QAPP. Conducts in-house audits to ensure compliance with written SOPs and to identify potential problems. Responsible for supervising and verifying all aspects of the QA/QC in the laboratory. Responsible for training and keeping record of lab personnel to produce quality analytical data. Communicates any QA issues with laboratory manager and laboratory director. Responsible for coordinating and monitoring deficiencies and corrective actions. Responsible for coordinating with the H-GAC QAO to resolve QA-related issues. Notifies the City of Houston Drinking Water Operations Project Manager and laboratory manager of particular circumstances which may adversely affect the quality of data. Responsible for reviewing at least 10% of laboratory data against raw data entered in BTLIMS. Coordinates and maintains records of data verification and validation. Responsible for sending analytical data with required QA/QC and Data Review Checklist to H-GAC CRP Data Manager.

Jamie Shakar
CRP Field Supervisor
Responsible for supervising, scheduling and overall performance by making sure all CRP Field activities are conducted in adherence to this QAPP and SWQM Procedures.

Desta Takie
CRP Field Quality Assurance Officer (QAO)
Responsible for supervising the collection, preservation, handling and delivery of samples. Responsible for ensuring that field measurements, sample custody, and documentation follow procedures described in this QAPP. Notifies the DWO Lab QA Manager of particular circumstances which may adversely affect the quality of data. Trains all field monitoring personnel and maintains training records.

Michael Morfin
CRP Field Data Manager
Responsible for verifying and validating data files against measurement performance specifications

and other requirements in the QAPP. Formats and delivers field data in the format described in the most recent revision of the DMRG to H-GAC CRP Data Manager. Submits hard copies of field sheets, chain-of custody reports and Data Review Checklist to H-GAC CRP Data Manager.

San Jacinto River Authority (SJRA)

Shane Simpson
CRP Project Manager / CRP Field Supervisor / CRP Field Quality Assurance Officer
Responsible for conducting routine monitoring in support of this QAPP. Responsible for implementing and monitoring CRP requirements in QAPPs, and QAPP amendments and appendices. Coordinates basin planning activities with the H-GAC. Ensures H-GAC CRP project manager and/or QAO are notified of deficiencies and corrective actions, and that issues are resolved. Responsible for supervising the collection, preservation, handling and delivery of samples. Responsible for ensuring that field measurements, sample custody, and documentation follow procedures described in this QAPP. Notifies the H-GAC QAO of particular circumstances which may adversely affect the quality of data. Trains all field monitoring personnel and maintains training records. Responsible for coordinating the implementation of the QA program. Responsible for identifying, receiving, and maintaining project QA records. Responsible for coordinating with the H-GAC QA staff to resolve QA-related issues. Coordinates and monitors deficiencies and corrective actions. Responsible for data entry of all field data.

Shane Simpson
CRP Data Manager
Responsible for verifying and validating data files against measurement performance specifications and other requirements in this QAPP. Formats and delivers data in the format described in the DMRG, most recent version, to H-GAC CRP Data Manager. Submits electronic data and supporting documents (field data sheets, chain-of-custody reports, and Data Review Checklists) to the H-GAC CRP Data Manager.

Environmental Institute of Houston, ~~(EIH)~~ University of Houston Clear Lake (EIH)

~~*Dr. Jenny Oakley*~~ ***Amanda (Mandi) Gordon***
EIH CRP Project Manager ~~/ CRP Quality Assurance Officer (QAO)~~ ~~/ Field Supervisor~~
~~Responsible for conducting routine monitoring in support of this QAPP.~~ Responsible for implementing and monitoring CRP requirements in, QAPPs, and QAPP amendments and appendices. Coordinates basin planning activities with the H-GAC. ~~Trains all field monitoring personnel and maintains training records.~~ Ensures H-GAC CRP project manager and/or QAO are notified of deficiencies and corrective actions, and that issues are resolved. Responsible for coordinating the implementation of the QA program. Responsible for identifying, receiving, and maintaining project QA records. Responsible for coordinating with the H-GAC QA staff to resolve QA-related issues. Coordinates and monitors deficiencies and corrective actions.

Sherah McDaniel
CRP Data Manager / CRP Quality Assurance Officer
Responsible for verifying and validating data files against measurement performance specifications and other requirements in this QAPP. Responsible for completing the Data Review Checklist for their datasets. Formats and delivers data in the format described in the DMRG, most recent version, to H-GAC CRP Data Manager.

Kaylei Chau
CRP Field Supervisor
Responsible for conducting routine monitoring in support of this QAPP. Trains all field monitoring personnel and maintains training records.

Project Organization Chart

Figure A4.1. Organization Chart – Lines of Communication

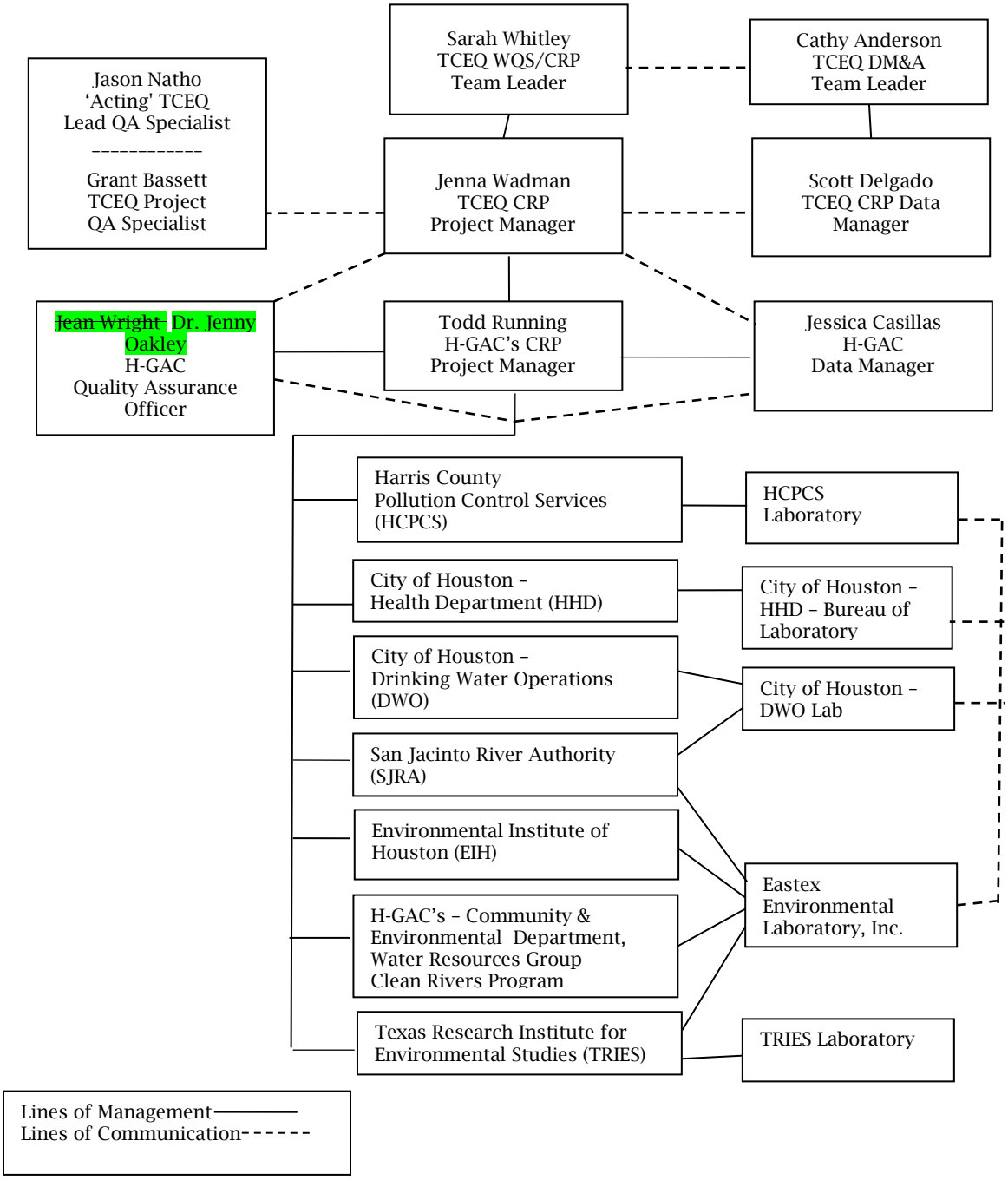


Figure A4.1a. The Houston-Galveston Area Council (H-GAC) CRP Organizational Chart.

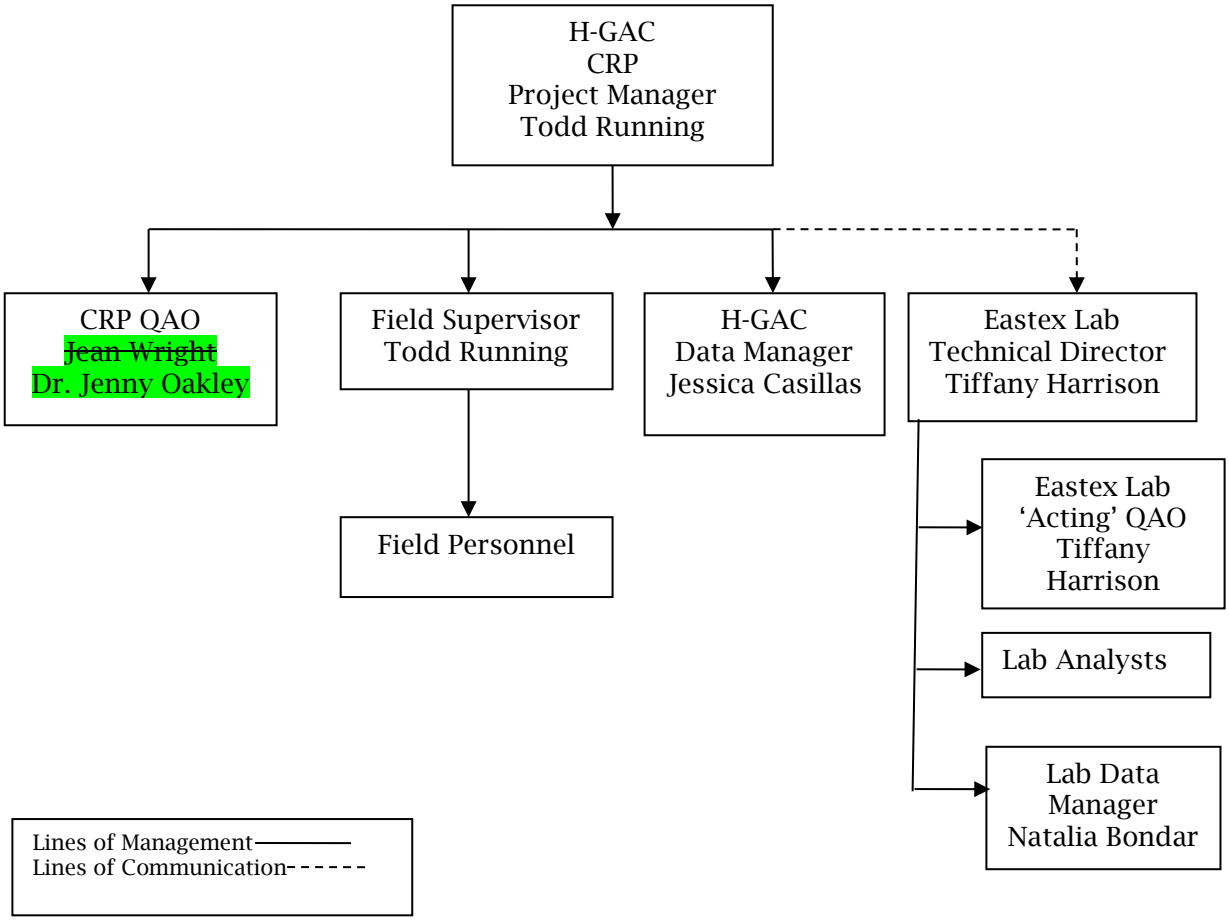


Figure A4.1b. The Harris County Pollution Control Services (HCPCS) CRP Organizational Chart.

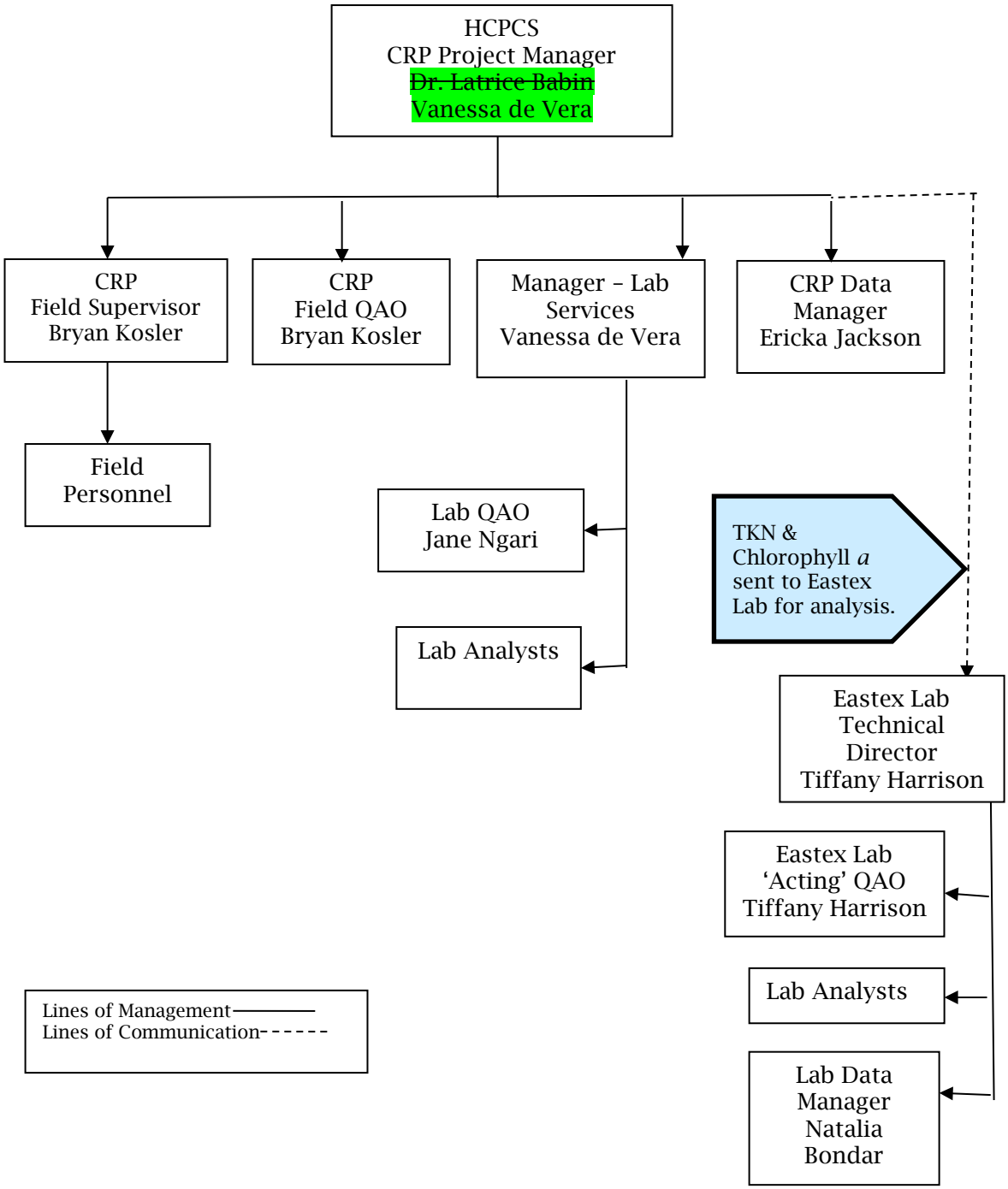


Figure A4.1d. The City of Houston, Drinking Water Operations (DWO) CRP Organizational Chart.

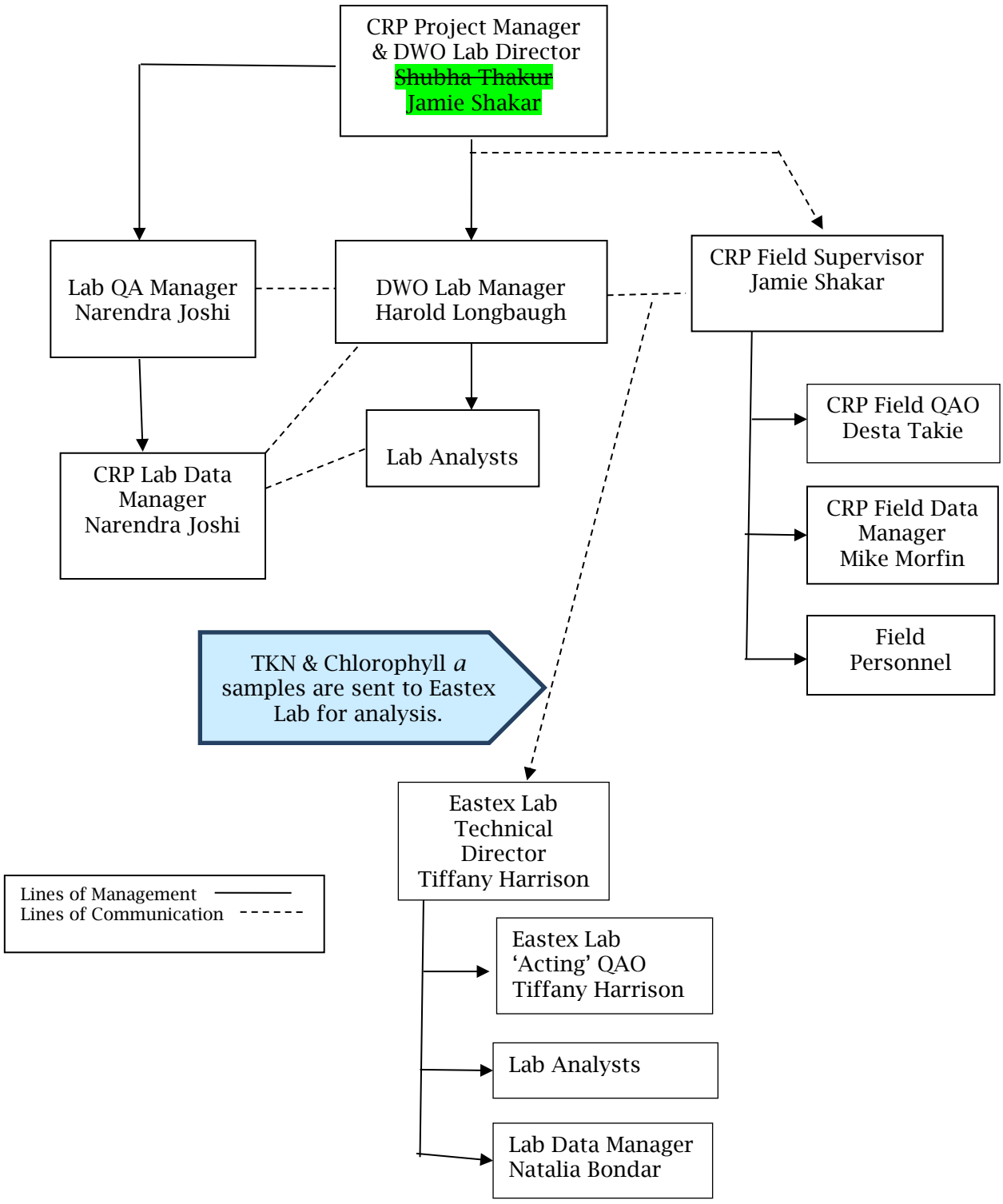


Figure A4.1e. San Jacinto River Authority (SJRA) CRP Organizational Chart.

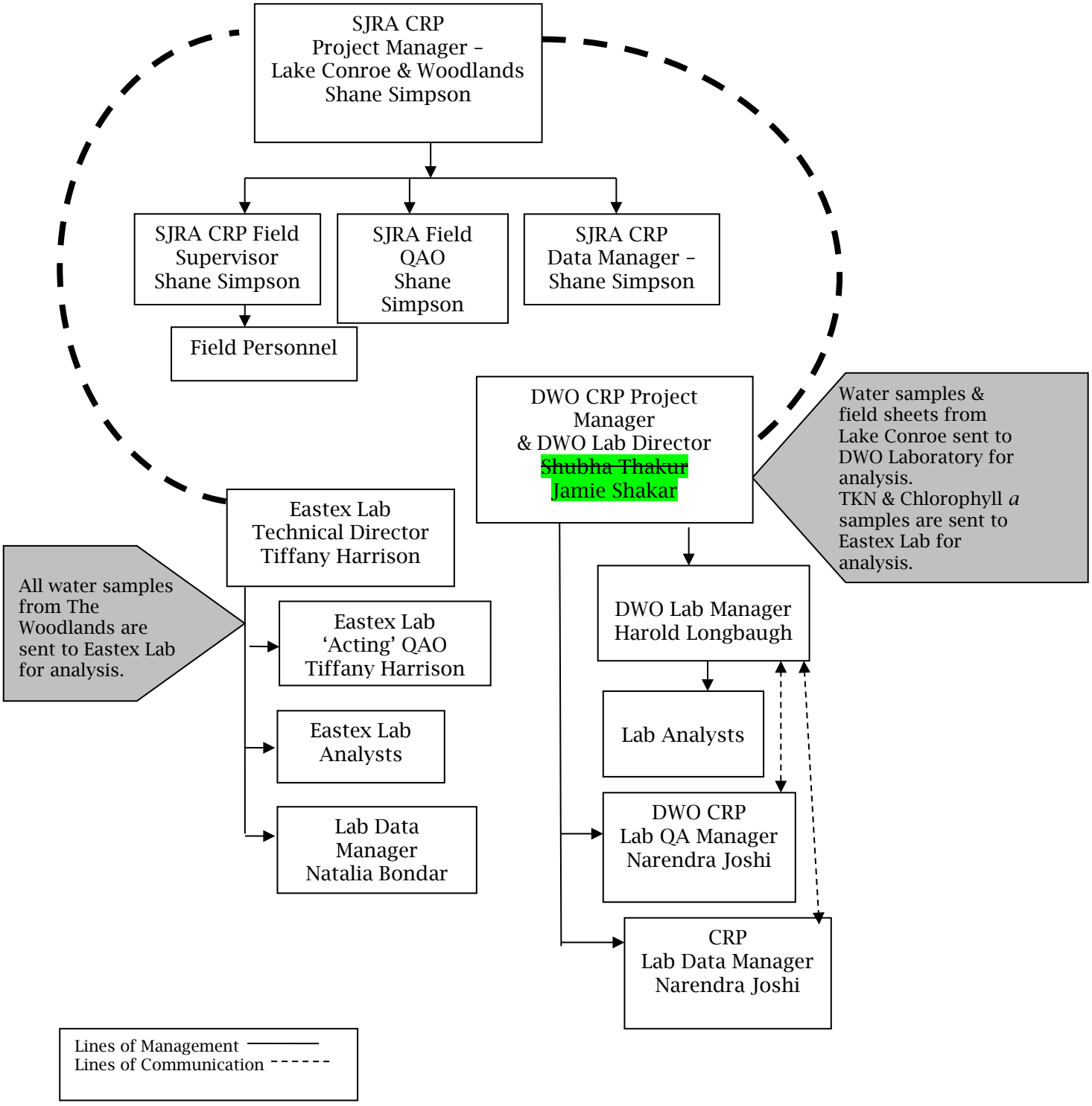
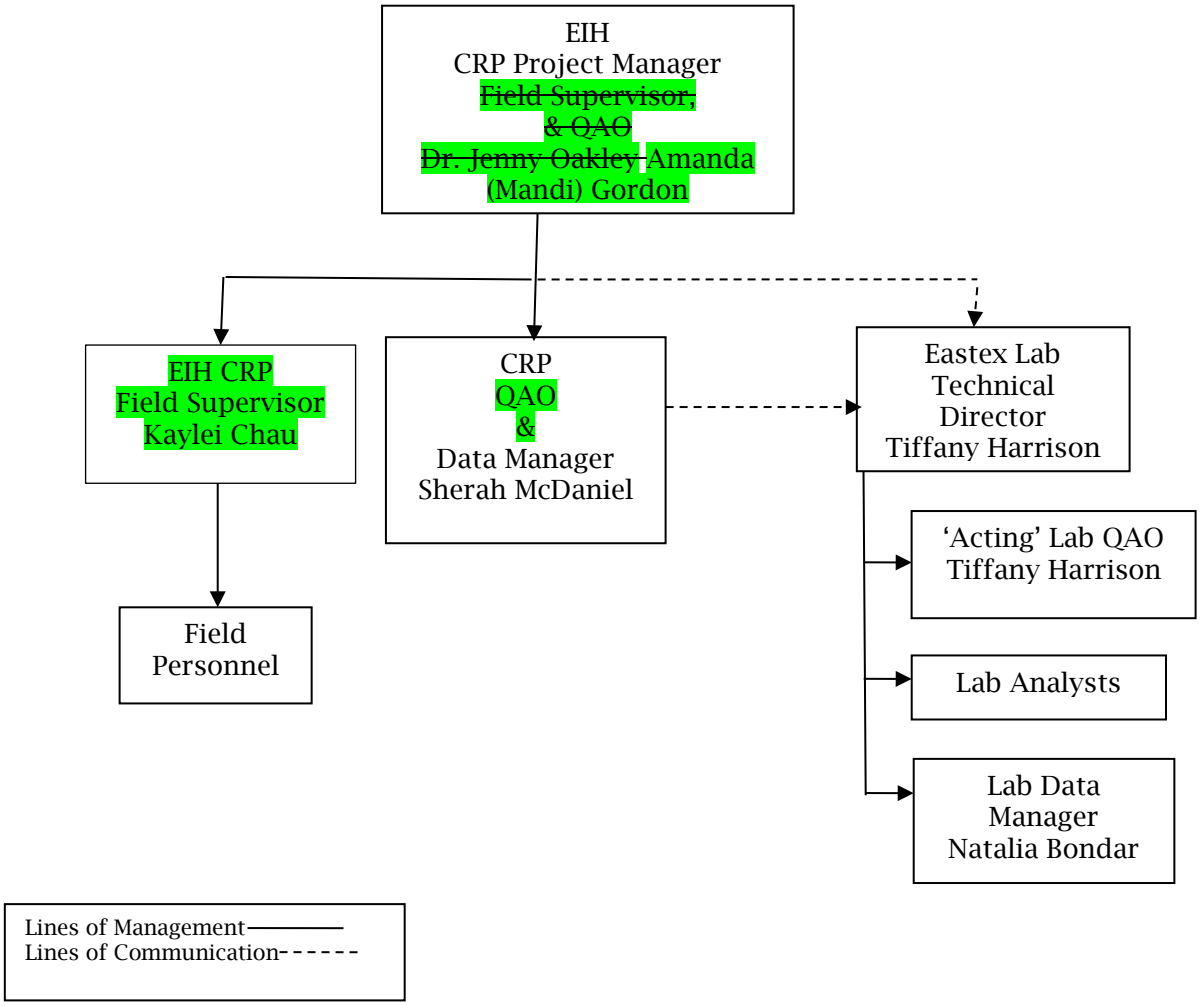


Figure A4.1f. The Environmental Institute of Houston, ~~(EIH) at the~~ University of Houston - Clear Lake (~~UHCL~~ EIH) CRP Organizational Chart.



A5 Problem Definition/Background

In 1991, the Texas Legislature passed the Texas Clean River Act (Senate Bill 818) in response to growing concerns that water resource issues were not being pursued in an integrated, systematic manner. The act requires that ongoing water quality assessments be conducted for each river basin in Texas, an approach that integrates water quality issues within the watershed. The CRP legislation mandates that each river authority (or local governing entity) shall submit quality-assured data collected in the river basin to the commission. Quality-assured data in the context of the legislation means data that comply with TCEQ rules for surface water quality monitoring (SWQM) programs, including rules governing the methods under which water samples are collected and analyzed and data from those samples are assessed and maintained. This QAPP addresses the program developed between the H-GAC and the TCEQ to carry out the activities mandated by the legislation. The QAPP was developed and will be implemented in accordance with provisions of the TCEQ Quality Management Plan, January 2023 or most recent version (QMP).

The purpose of this QAPP is to clearly delineate H-GAC QA policy, management structure, and procedures which will be used to implement the QA requirements necessary to verify and validate the surface water quality data collected. The QAPP is reviewed by the TCEQ to help ensure that data generated for the purposes described above are of known and documented quality, deemed acceptable for their intended use. This process will ensure that data collected under this QAPP and submitted to SWQMIS have been collected and managed in a way that guarantees its reliability and therefore can be used in water quality assessments, total maximum daily load (TMDL) and water quality standards development, permit decisions, and other program activities deemed appropriate by the TCEQ. Project results will be used to support the achievement of CRP objectives, as contained in the *Clean Rivers Program Guidance and Reference Guide FY 2024-2025*.

H-GAC is the lead agency for the Clean Rivers Program in the San Jacinto River Basin and three associated coastal basins - the Trinity-San Jacinto, the San Jacinto-Brazos and the Brazos-Colorado. In many of the state's major river basins, a legislatively created river authority leads the monitoring effort for its basin as intended by the Texas Legislature through the Clean Rivers Act. In areas not covered by a particular river authority, either a neighboring authority or some other logical regional entity is to be designated to coordinate monitoring. H-GAC is a Council of Governments (COG), the regional authority for the Gulf Coast State Planning Region, and has been actively involved in regional water quality planning and public outreach activities since the 1970's. In addition, many of the key agencies and individuals involved in water quality matters in the region already participate in environmental committees and programs initiated by H-GAC.

In addition to promoting water quality data collection, the Clean Rivers Program aims to develop and maintain a multi-basin water quality monitoring program that minimizes duplicative monitoring, facilitates the assessment process, and targets monitoring to support the permitting and standards process.

H-GAC's regional surface water quality monitoring program is a voluntary association of local monitoring agencies, coordinated through H-GAC, under the auspices of the Texas Clean Rivers Program. Federal, state, and local agencies that conduct routine surface water quality monitoring programs within the San Jacinto River, Trinity-San Jacinto Coastal, San Jacinto-Brazos Coastal and Brazos-Colorado Coastal Basins collect surface water quality monitoring information that is used not only by the individual agencies but will be shared among the other participants through a data clearinghouse maintained by H-GAC. The agencies that submit data through the H-GAC Clean Rivers Program are Harris County Pollution Control Services (HCPCS), City of Houston Health Department (HHD), City of Houston Drinking Water Operations (DWO), San Jacinto River Authority (SJRA), the Environmental Institute of Houston, University of Houston-Clear Lake (EIH), the Texas Research Institute on Environmental Studies (TRIES), and the Houston-Galveston Area Council (H-GAC).

The coordinated program routinely collects surface water quality data from more than 300 sites throughout the region. Sampling includes collection of physicochemical, bacteriological, and hydrological data at varying frequencies. The program was established to collect, store, and make available water quality data, which the participating agencies require to carry out their assigned functions. The Houston-Galveston Area Council collects this data and uses it for evaluations of water quality under the Clean Rivers Program. The data are ~~is~~ also widely used by state water quality managers, cities, counties, consultants, students, and the general public. Routine samples are collected from classified stream, reservoir, and bay segments to monitor for the attainment of uses and numerical criteria. Numerous unclassified water bodies are also monitored for attainment of designated and presumed uses, in

The **Texas Research Institute for Environmental Studies** is contracted by H-GAC to monitor ambient surface water quality on the Upper East Fork San Jacinto River, Winters Bayou, and Tarkington Bayou watersheds. Field parameters, conventional and bacteria samples are collected at every site every quarter. Flow data is collected at every site if the stream is wadable at the time of sample collection.

Routine monitoring is scheduled at varying frequencies, which are determined by the parameters of concern for individual streams. Water bodies are also selected for baseline monitoring if there is high public interest; if it has a high potential for impairment; or there is a need for continuous up-to-date water quality information. Frequencies vary from quarterly for some partners and parameters to monthly in more highly impacted areas (see coordinated monitoring schedule in Appendix B).

Data collected through routine monitoring is designed to characterize water quality trends and monitor progress in protecting and restoring water quality. This monitoring will provide an overall view of water quality throughout the river and coastal basins. Baseline monitoring will include the collection of basic field parameters at all sites and the collection of bacteria, flow, and conventional chemical parameters at sites where indicated. All monitoring procedures and methods will follow the guidelines prescribed in H-GAC QAPP and the most current versions of TCEQ's *Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, 2012 (RG-415).*

24-Hour Dissolved Oxygen (DO) monitoring by the Houston-Galveston Area Council and the Environmental Institute of Houston.

Numerous segments and unclassified waterbodies in H-GAC region have dissolved oxygen (DO) impairments or concerns for depressed DO. Using the most recent Texas Integrated Report, TCEQ and H-GAC identified segments and/or unclassified waterbodies which have been listed in the 303(d) List as being impaired or having DO concerns. Additional data is needed to confirm DO impairments on these segments and/or unclassified waterbodies. All data collected and summarized will be submitted to the TCEQ. H-GAC and/or EIH will conduct 24-hour DO monitoring at ten monitoring sites quarterly during the first year of the two-year contract period. ~~At least seven~~ Ten monitoring sites will be monitored in year two of the two-year contract period. Monitoring events will be planned and conducted according to the most current version of TCEQ's *Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, 2012 (RG-415).*

The sites are located on segments/unclassified segments:

- ~~Site 11405 – (1113A) – Armand Bayou at Fairmont Parkway (in Pasadena) along median at midpoint between bridges~~
- ~~Site 16675 – (1013C) – Unnamed Trib of Buffalo Bayou at Glenwood Cemetery Rd 160 M W of intersection of Lubbock St and Sawyer St. in central Houston~~
- Site 16475 – (1101D_01) – Robinsons Bayou at FM270 in League City
- Site 16676 – (1016D_01) – Unnamed Trib of Greens Bayou at Smith Road, Houston
- Site 11118 – (0902) – Cedar Bayou above tidal 30 meters downstream of FM1942 north of I-10
- Site 12155 – (1305) – Caney Creek Above Tidal 35 M downstream of Ashwood Rd/FM 3156 in Matagorda County
- ~~Site 21734 – (1105E) – Brushy Bayou at FM 213 (east of Angleton in Brazoria County)~~
- Site 16564 – (2424B) – Lake Madeline at corner of Beluche Drive and Dominique Drive in Galveston
- Site 20721 – (1302B) – West Bernard Creek at Wharton CR 225 East of Hungerford
- Site 20723 – (1302E) – Mound Creek at Brazoria CR 450/Jackson Settlement Road 1.22 KM upstream of FM 1301 in West Columbia
- Site 11128 – (1007R) – Hunting Bayou immediately downstream of IH 10 east of Houston
- Site 21180 – (1007W) – Harris County Flood Control District Channel D138
- Site 12135 – (1305A) – Hardeman Slough immediately downstream of Allenhurst Rd

Permit Support monitoring by the Houston-Galveston Area Council (H-GAC) and the Environmental Institute of Houston (EIH).

During FY2024, there will be no permit support monitoring conducted by EIH nor H-GAC. If this changes, an amendment will be needed to add new efforts.

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

Amendments 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 H-GAC Project Manager and/or QAO to the CRP Project Manager electronically. The H-GAC 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 H-GAC Project Manager, the H-GAC 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 H-GAC Project Manager or designee. If adherence letters are required, the H-GAC will secure an adherence letter from each local partner/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 H-GAC 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 H-GAC and the TCEQ Project Manager and TCEQ technical staff. Appendices will be written in an abbreviated format and will reference the Multi-Basin QAPP where appropriate. Appendices will be approved by the H-GAC Project Manager, the H-GAC 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 H-GAC to project participants before data collection activities commence. The H-GAC will secure written documentation from each local partner/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 H-GAC will maintain this documentation as part of the project's QA records and ensure that the documentation is available for review.

A7 Quality Objectives and Criteria

The purpose of routine water quality monitoring is to collect surface water quality data that can be used to characterize water quality conditions, identify significant long-term water quality trends, support water quality standards development, support the permitting process, and conduct water quality assessments in accordance with TCEQ's Guidance for Assessing and Reporting Surface Water Quality in Texas, July 2022 or most recent version (https://www.tceq.texas.gov/downloads/water-quality/assessment/integrated-report-2022/2022-guidance.pdf). These water quality data, and data collected by other organizations (e.g., United States Geological Survey (USGS), TCEQ, etc.), will be subsequently reconciled for use and assessed by the TCEQ.

The measurement performance specifications to support the project purpose for a minimum data set are specified in Appendix A.

Ambient Water Reporting Limits (AWRLs)

For surface water to be evaluated for compliance with Texas Surface Water Quality Standards ("TSWQS") and screening levels, data must be reported at or below specified reporting limits. To ensure data are collected at or below these reporting limits, required ambient water reporting limits ("AWRL") have been established. A full listing of AWRLs can be found at https://www.tceq.texas.gov/assets/public/waterquality/crp/QA/awrlmaster.pdf .

The limit of quantitation (LOQ) is the minimum reporting limit, concentration, or quantity of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence by the laboratory analyzing the sample. Analytical results shall be reported down to the laboratory's LOQ (i.e., the laboratory's LOQ for a given parameter is its reporting limit) as specified in Appendix A.

The following requirements must be met in order to report results to the CRP:

- The laboratory's LOQ for each analyte must be set at or below the AWRL.
- Once the LOQ is established in the QAPP, that is the reporting limit for that parameter until such time as the laboratory amends the QAPP and lists an updated LOQ.
- The laboratory must demonstrate its ability to quantitate at its LOQ for each analyte by running an LOQ check sample for each analytical batch of CRP samples analyzed.
- ~~When reporting data, no results~~ Under reasonable circumstances (e.g., the use of a subcontracted lab), data may be reported above or below the LOQ stated in this QAPP, so long as the LOQ remains at or below the AWRL stated in this QAPP.
- Measurement performance specifications for LOQ check samples are found in Appendix A.

Laboratory Measurement Quality Control Requirements and Acceptability Criteria are provided in Section B5.

Precision

Precision is the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. It is a measure of agreement among replicate measurements of the same property, under prescribed similar conditions, and is an indication of random error.

Laboratory precision is assessed by comparing replicate analyses of Laboratory Control Samples (LCS) in the sample matrix (e.g. deionized water, sand, commercially available tissue), Matrix Spike/Matrix Spike Duplicate (MS/MSD), or sample/duplicate (DUP) pairs, as applicable. Precision results are compared against measurement performance specifications and used during evaluation of analytical performance. Program-defined measurement performance specifications for precision are defined in Appendix A.

Bias

Bias is the systematic or persistent distortion of a measurement process, which causes errors in one direction (i.e., the expected sample measurement is different from the sample's true value). Bias is a statistical measurement of correctness and includes multiple components of systematic error. Bias is determined through the analysis of LCS and LOQ check samples prepared with verified and known amounts of all target analytes in the sample matrix (e.g. deionized water, sand, commercially available tissue) and by calculating percent recovery. Results are compared against measurement performance specifications and used during evaluation of analytical performance. Program-defined measurement performance specifications for bias are specified in Appendix A.

Representativeness

Site selection, the appropriate sampling regime, comparable monitoring and collection methods, and use of only approved analytical methods will assure that the measurement data represents the conditions at the site. Routine data collected under CRP are considered to be spatially and temporally representative of ambient water quality conditions. Water quality data are collected on a routine frequency and are separated by approximately even time intervals. At a minimum, samples are collected over at least two seasons (to include inter-seasonal variation) and over two years (to include inter-year variation) and include some data collected during an index period (March 15–October 15). Although data may be collected during varying regimes of weather and flow, the data sets will not be biased toward unusual conditions of flow, runoff, or season. The goal for meeting maximum representation of the water body will be tempered by funding availability.

Comparability

Confidence in the comparability of routine data sets for this project and for water quality assessments is based on the commitment of project staff to use only approved sampling and analysis methods and QA/QC protocols in accordance with quality system requirements as described in this QAPP and in TCEQ guidance. Comparability is also guaranteed by reporting data in standard units, by using accepted rules for rounding figures, and by reporting data in a standard format as specified in the Data Management Plan in Section B10.

Completeness

The completeness of the data describes how much of the data are available for use compared to the total potential data. Ideally, 100% of the data should be available. However, the possibility of unavailable data due to accidents, insufficient sample volume, broken or lost samples, etc. is to be expected. Therefore, it will be a general goal of the project(s) that 90% data completion is achieved.

A8 Special Training/Certification

Before new field personnel independently conduct field work, the local partner's designated trainer (See table A8.1 below) trains him/her in proper instrument calibration, field sampling techniques, and field analysis procedures. The QA Officer (or designee) will retain documentation of training and the successful field demonstration in the employee's personnel file (or other designated location) and ensure that the documentation will be available during monitoring systems audits.

Table A8.1 The Designated Trainer for each Local Partner Agency

Local Partner Agency	Designated Trainer
Houston-Galveston Area Council	Kendall Guidroz
Harris County Pollution Control Services	Bryan Kosler
City of Houston – Houston Health Department	Darryl Tate
City of Houston – Drinking Water Operations	Desta Takie
San Jacinto River Authority	Shane Simpson
Environmental Institute of Houston	~~Jenny Oakley~~ Kaylei Chau
Texas Research Institute for Environmental Studies	Ashley Morgan-Olvera

The requirements for obtaining certified positional data using a Global Positioning System (GPS) are located in Section B10, Data Management.

Contractors and subcontractors must ensure that laboratories analyzing samples under this QAPP meet the requirements contained in The NELAC Institute Standard (2016) Volume 1, Module 2, Section 4.5 (concerning Subcontracting of Environmental Tests).

A9 Documents and Records

The documents and records that describe, specify, report, or certify activities are listed. The list below is limited to documents and records that may be requested for review during a monitoring systems audit.

Table B2.1g Sample Storage, Preservation and Handling Requirements for EIH. Samples Analyzed by Eastex Environmental Laboratory

Parameter	Matrix	Container	Preservation	Sample Volume	Holding Time
TSS	water	Plastic	Cool to <6˚C but not frozen	1 L	7 days
Sulfate	water	Plastic	Cool to <6˚C but not frozen	100 ml[3]	28 days
Chloride	water	Plastic	Cool to <6˚C but not frozen	100 mL[3]	28 days
E.coli IDEXX Colilert	water	Sterile Plastic w/ sodium thiosulfate	Cool to <6˚C but not frozen	120 mL[4]	8 hours[1]
Enterococci IDEXX Enterolert	water	Sterile Plastic w/ sodium thiosulfate	Cool to <6˚C but not frozen	120 mL[4]	8 hours
TKN[7]	water	Plastic	Cool to <6˚C but not frozen H_2SO_4 to pH <2	500 mL[2]	28 days
Ammonia-N	water	Plastic	Cool to <6˚C but not frozen H_2SO_4 to pH <2	125 mL[2]	28 days
Nitrite-N	water	Plastic	Cool to <6˚C but not frozen	100 mL[3 and 5]	48 hours
Nitrate-N	water	Plastic	Cool to <6˚C but not frozen	100 mL[3 and 5]	48 hours
Nitrite + nitrate-N	water	Plastic	Cool to <6˚C but not frozen, H_2SO_4 to pH <2	125 mL[2 and 5]	28 days
Phosphorus-P, total	water	Plastic	Cool to <6˚C but not frozen HNO3 to pH <2 in lab	125 mL[6]	28 days
Chlorophyll-*a*	water	Brown plastic	Dark & iced before filtration; Dark & frozen after filtration	4 L	Filtered w/in 48 hours; after filtered, then frozen up to 24 days

1. *E.coli* samples should always be processed as soon as possible and incubated no later than 8 hours from time of collection. When transport conditions necessitate sample incubation after 8 hours from time of collection, the holding time may be extended, and samples must be processed as soon as possible and within 30 hours.
2. Three tests are analyzed from one 1L plastic bottle.
3. One 500 mL plastic container is used to collect these four samples.
4. Maximum volume analyzed for bacteria analysis is 50 ml allowing duplicate analyses from 1 container.
5. Eastex will run IC speciation (100 mL samples) first but will analyze Nitrite+Nitrate (125 mL sample) by cadmium reduction method if IC equipment is down.
6. T. Phosphorus sample taken out of TSS 1-liter and preserved at the lab with Nitric Acid (HNO3) in separate bottle if sample needed.
7. Eastex Environmental Lab will pick up and analyze sample(s).

Table B2.1h Sample Storage, Preservation, and Handling Requirements for TRIES. Samples Analyzed by the TRIES Laboratory (or Eastex Environmental Laboratory as necessary)

Parameter*	Matrix	Container	Preservation	Sample Volume	Holding Time
TSS	water	Plastic	Cool to <6˚C but not frozen	1 L	7 days
Sulfate	water	Plastic	Cool to <6˚C but not frozen	100 mL [3]	28 days
Chloride[7]	water	Plastic	Cool to <6˚C but not frozen	100 mL [3]	28 days
E.coli IDEXX	water	Sterile Plastic w/	Cool to <6˚C	250 mL [2]	8 hours[1]

Parameter*	Matrix	Container	Preservation	Sample Volume	Holding Time
Colilert		sodium thiosulfate	but not frozen	100 mL	
TKN[7]	water	Plastic	Cool to <6°C but not frozen H_2SO_4 to pH <2 in field	500 mL	28 days
Ammonia-N	water	Plastic	Cool to <6°C but not frozen H_2SO_4 to pH <2 in field	125 mL	28 days
Nitrite-N	water	Plastic	Cool to <6°C but not frozen	125 mL[3]	48 hours
Nitrate-N	water	Plastic	Cool to <6°C but not frozen	125 mL[3]	48 hours
Nitrite + Nitrate-N	water	Plastic	Cool to <6°C but not frozen, H_2SO_4 to pH <2 in field	125 mL	28 days[4 & 5]
Phosphorus-P, total[7]	water	Plastic	Cool to <6°C but not frozen HNO_3 to pH <2 in field	125 mL[6]	28 days

* If TRIES does not have accreditation or they have an issue with equipment, TRIES will subcontract affected parameters to Eastex to get all the parameters they committed to.

1. *E.coli* samples should always be processed as soon as possible and incubated no later than 8 hours from time of collection. When transport conditions necessitate sample incubation after 8 hours from time of collection, the holding time may be extended, and samples must be processed as soon as possible and within 30 hours.
2. One bacteria sample collected in 250 mL sterile container during each sampling run to allow duplicate analysis from 1 container. Otherwise, bacteria samples collected in 120 mL sterile container during the run.
3. One 250 mL plastic container is used to collect these four samples.
4. Eastex Environmental Lab will pick up and analyze sample(s) if necessary.
5. TRIES & Eastex can both run IC speciation but if TRIES IC unit is down, Eastex will analyze Nitrite+Nitrate by cadmium reduction method instead.
6. T. Phosphorus sample collected in separate 125 ml plastic bottle and preserved with Nitric Acid (HNO3) in the field.
7. Eastex Environmental Lab will pick up and analyze sample(s) for TKN, Chloride, and Phosphorus-P, total.

Sample Containers

Certificates from sample container manufacturers are maintained in a notebook by each of the monitoring partners as appropriate. Information about the various sample containers for each local partner is described below.

Houston-Galveston Area Council (H-GAC)

All sample containers are provided to H-GAC by their contract lab, Eastex. The lab performs and tracks required QC procedures for all bottles purchased.

- Plastic, disposable sample containers are used for conventional parameters.
- Sterile, sealed, 120 mL plastic, disposable bottles with a sodium thiosulfate tablet added, are used for bacteriological samples.
- When preservation is required for specific parameters, the acid is added to the container in the field-by-field personnel immediately after samples are collected. The Total Phos. parameter preservation is completed in the lab.

Harris County Pollution Control Services (HCPCS)

All sample containers are purchased by the HCPCS Lab except as noted below. The labs perform and track all required QC procedures for the bottles they purchased and provide to the field crew.

- Pre-cleaned, plastic, disposable sample containers are used for conventional parameters.
- Sterile, sealed, 120 mL plastic, disposable bottles with a sodium thiosulfate tablet added, are used for bacteriological samples.
- Brown, polyethylene, 4-liter cubitainers are used routinely for chlorophyll-*a* samples and are provided by H-GAC's contract lab, Eastex Environmental Lab.
- Pre-cleaned, plastic, disposable sample containers for the TKN samples are also provided by H-GAC's contract lab, Eastex Environmental Lab.
- When preservation is required for particular parameters, the bottles are pre-acidified at the lab. Containers are never dipped underwater but are filled using a white or opaque, plastic triple-rinsed pitcher with water sample collected from the required depth as specified in the SWQM Procedures Volume 1 manual.

B5 Quality Controls

Quality Control or Acceptability Requirements, Deficiencies, and Corrective Actions

Sampling QC excursions are evaluated by the H-GAC Project Manager, in consultation with the H-GAC QAO. If the differences in sample results are used to assess the entire sampling process, including environmental variability, the arbitrary rejection of results based on pre-determined limits is not practical. Therefore, the professional judgment of the H-GAC Project Manager, QAO and Data Manager will be relied upon in evaluating results. Notations of blank contamination are noted in the data summaries that accompany data deliverables.

Laboratory measurement quality control failures are evaluated by the laboratory staff. The disposition of such failures and the nature and disposition of the failure is reported to the Laboratory QAO. The Laboratory QAO will discuss the failure with the H-GAC Project Manager, QAO and/or Data Manager. If applicable, the H-GAC Project Manager, QAO and/or Data Manager will include this information in a CAP and submit with the Progress Report which is sent to the TCEQ CRP Project Manager.

The definition of and process for handling deficiencies and corrective action are defined in Section C1.

Additionally, in accordance with CRP requirements and the TNI Standard (Volume 1, Module 2, Section 4.5, Subcontracting of Environmental Tests) when a laboratory that is a signatory of this QAPP finds it necessary and/or advantageous to subcontract analyses, the laboratory that is the signatory on this QAPP must ensure that the subcontracting laboratory is NELAP-accredited (when required) and understands and follows the QA/QC requirements included in this QAPP. This includes confirming that the sub-contracting laboratory has LOQs at or below TCEQ AWRLs ~~utilize the same reporting limits as the signatory laboratory~~ and performs all required quality control analysis outlined in this QAPP. The signatory laboratory is also responsible for quality assurance of the data prior to delivering it to the H-GAC, including review of all applicable QC samples related to CRP data. As stated in section 4.5.5 of the TNI Standard, the laboratory performing the subcontracted work shall be indicated in the final report and the signatory laboratory shall make a copy of the subcontractor's report available to the client (H-GAC) when requested.

B6 Instrument/Equipment Testing, Inspection, and Maintenance

All sampling equipment testing, and maintenance requirements are detailed in the SWQM Procedures. Field supervisor or designee will ensure sampling equipment is inspected and tested upon receipt and is assured appropriate for use. Equipment records are kept on all field equipment and a supply of critical spare parts is maintained.

All laboratory tools, gauges, instrument, and equipment testing, and maintenance requirements are contained within laboratory QM(s).

- City of Houston DWO & Lake Houston field personnel turn in samples, the chain of custody and field form to the sample receiver in the lab. The Sample Administrator enters some of the field data provided by sample collectors on COCs into the BTLIMS. Samples are analyzed by various chemists according to the required method and results are entered by the chemists performing each analysis, then reviewed by another chemist and the Data Manager for accuracy, validity, QA/QC requirements, and finally validated in BTLIMS by Lab QA Manager. The laboratory manager also checks the accuracy of these data entry into BTLIMS. These tables are exported from the BTLIMS. The checklist for lab data accuracy, completeness, reasonableness, and outliers is created and reviewed by the Lab QA Manager. The lab submits EXCEL spreadsheets to H-GAC containing laboratory data only. Documented non-conformances from QAPP, SOP, and DWO Quality Manual requirements that may impact the data and problems encountered in collection or analysis of the samples are evaluated and addressed in the data review checklist.

  The CRP Field Supervisor and/or CRP Data Manager or designee inputs field data into an EXCEL worksheet. The data is reviewed for accuracy and completeness by a different person. A Data Review Checklist is generated for each data packet. The CRP Field supervisor completes a Data Review Checklist section for that field dataset before it is submitted to H-GAC independent of the lab data.

- SJRA collects samples from Lake Conroe and the Lake Woodlands watershed. Lake Conroe samples are submitted to the City of Houston DWO Lab for analysis (see previous paragraph for lab data handling) and the Woodlands samples are sent to Eastex Laboratory. Electronic data files from the field datasondes are sent directly to H-GAC's Data Manager for import during data processing. Additional field data are input to an ACCESS database by SJRA's Data Manager, where it is reviewed, formatted, and exported in EXCEL format for submission to H-GAC. H-GAC's Data Manager merges the field data with the profile data and rechecks for outliers and formatting. H-GAC's QAO checks the data for accuracy and reasonableness. SJRA keeps the original field sheets. Copies of field sheets, COCs, calibration logs, and a Data Review Checklist are sent to H-GAC with every data submittal for Lake Conroe and The Woodlands samples. Eastex Lab sends electronic lab data results to SJRA and H-GAC at the same time for the H-GAC data manager to merge with field data.

- The EIH field staff enter field data collected by their program into an EXCEL spreadsheet and a second staff member reviews the entered data for accuracy and completeness. All supporting QA data are ~~is~~ input to spreadsheets as well. The EIH CRP QAO and the EIH CRP Data Manager review at least ~~50-100~~ 10% of the data for accuracy, completeness, and reasonableness. A Data Review checklist is generated while data are ~~is~~ being reviewed. Then, it is submitted to H-GAC along with electronic data. H-GAC downloads scanned field sheets and COCs from the EIH FTP site for review during data processing. H-GAC's Data Manager receives electronic data files from Eastex Lab and merges lab data with field data during data processing, prior to review and submission to TCEQ.

- TRIES lab QAO submits all final lab data to the TRIES Data Manager who merges the lab and field data together. The data manager completes all data entry into an Excel spreadsheet. Any supporting QA data is input to a separate spreadsheet in the same workbook. The TRIES field QAO or designee, TRIES Lab QAO and the TRIES CRP Data Manager review more than 10% of data for accuracy, completeness, and reasonableness. A Data Review Checklist is completed by the data manager and submitted to the TRIES CRP Project Manager for final approval. The data manager then submits the Excel spreadsheet for both the field and lab data along with scanned hard copies of the field sheets and COCs to H-GAC. If necessary, analytes analyzed by Eastex Laboratory are submitted directly to H-GAC for processing.

- Eastex Environmental Lab (Eastex) analyses water quality samples for H-GAC, EIH, SJRA-Lake Woodlands, and sometimes TRIES. Eastex also analyses TKN and chlorophyll samples for all local partners. Eastex is contacted to pick up samples and conducts the analyses listed on the COC. The raw data is reviewed by the Technical Director and then entered into LIMS by analysts and data entry personnel. The Data Manager reviews data entry into LIMS for accuracy, then validates the data after reviewing for validity & QA/QC requirements. The Technical Director then further reviews the final data packet and completes the Data Review checklist before emailing to H-GAC.

- checks all data for outliers and reasonableness. Then, the data is reviewed by a second individual for transcription accuracy. A Data Review Checklist is completed for each set of data submitted to H-GAC.

- City of Houston DWO Details of their Laboratory protocols for data reductions and review are described in their Quality Management Plan, Section 7, (most recent revision). All field data sheets are turned over at the Lake Houston office for data input to EXCEL spreadsheets. The DWO Data Manager reviews

  the data for outliers and accuracy. Then, the Field QAO or designee reviews the data for transcription accuracy and reasonableness. A Data Review Checklist is completed for each set of data submitted to H-GAC.

- San Jacinto River Authority Lake Conroe water samples are sent to DWO lab where all analyses are completed and results managed (See City of Houston DWO above). A copy of the field data sheet is sent to the lab. DWO CRP Lab Data Manager/Lab QA Manager or designee perform all data management for Lake Conroe lab data. SJRA inputs field data to an EXCEL spreadsheet and submits spreadsheet to H-GAC Data Manager along with scanned copies of field sheets, calibration forms, and COCs. Profile data from the Hydrolab Surveyor is downloaded to SJRA's data folders and saved in a raw data file and a working data file. The working data files are reviewed and reformatted as needed, then sent to H-GAC. A Data Review Checklist is completed by SJRA for field data while DWO provides the Data Review Checklist for the lab data.

- The Woodlands samples are sent to Eastex Lab for analysis. (See Eastex Lab details below.) The Woodlands lab data results are managed by Eastex and sent to H-GAC directly by Eastex along with a Data Review Checklist for the same data. Information from the field data sheets are input to EXCEL spreadsheets by the SJRA Data Manager who also checks the data for outliers and reasonableness. The CRP QAO or a second employee reviews the data for transcription accuracy and completeness. A Data Review Checklist is completed for each set of field data submitted to H-GAC along with scanned copies of field sheets, calibration forms, and COCs. SJRA performs data management for only The Woodlands field data because Eastex manages all the lab data.

  When all data is received from SJRA, DWO Lab, and Eastex Lab, H-GAC's Data Manager inputs the data to an ACCESS database, merges the related data sets, and reviews the data for outliers. H-GAC QAO reviews the data for accuracy, reasonableness, and completeness. A Data Summary Sheet is submitted to TCEQ with each data set from Lake Conroe and/or The Woodlands.

- Eastex Lab Details of their protocols for data reduction and review are described in the Eastex Laboratory Quality Manual, (most recent version), Sections 8.1. A Data Review Checklist is completed for each set of data submitted to H-GAC. Eastex sends data results from all CRP monitoring to H-GAC.

- Environmental Institute of Houston, University of Houston-Clear Lake (EIH) water samples are sent to Eastex Lab for analysis. (See Eastex Lab details above.) Field data sheets are collected and information input to EXCEL spreadsheets by the EIH Data Manager or designee who also checks the data for outliers and reasonableness. The EIH Field ~~QAO~~ Supervisor also reviews the data for transcription accuracy and reasonableness. A Data Review Checklist is completed for each set of data submitted to H-GAC.

- TRIES Details of the protocols for data reductions and review are described in their TRIES Analytical Lab Quality Manual, Section 27 (most current version). The TRIES Data Manager collects all field data sheets and immediately inputs data into an EXCEL spreadsheet while also checking for data outliers and reasonableness. The TRIES CRP QAO also reviews the data for transcription accuracy and reasonableness. A Data Review Checklist is completed for each set of data submitted to H-GAC.

Record Keeping and Data Storage

As each data set is processed by H-GAC, all hard copies of data and/or field forms are organized into packets. All correspondence or reports related to the data set are to be printed and placed in the packet of information, including but not limited to the QAO review comments, the draft and final Data Summary Reports/Sheets. Any

other documentation related to that specific data set is also to be attached. Each packet of information is placed in a file storage box for long term storage.

Each local agency submits electronic data along with scanned copies of field sheets and COC forms. In addition, the local agency is required to submit a "Data Review Checklist" (Appendix F) to H-GAC. Electronic data is stored in folders on H-GAC network as "raw data" and as copies for data management, verification, and validation. Daily and weekly backups are completed on H-GAC's server. Hard copies are filed in filing cabinets or file boxes for use as needed. Data more than 2 years old may be stored off-site storage according to H-GAC procedures. All data is maintained indefinitely by H-GAC and for at least seven (7) years by all local partners.

Each partner has a paragraph below briefly discussing their Record Keeping and Data Storage practices.

- Harris County Pollution Control Services (HCPCS) Details of the HCPCS records management and data storage procedures may be found in section 6 of the HCPCS Laboratory Services Quality Manual, (most current version). The laboratory data manager manages all the data – hard copy and electronic – for both field and lab.

- City of Houston HHD-BLS Details of their protocols for records management and data storage procedures are described in their Environmental Laboratory Services Quality Manual, Section 6 and Section 15, (most current version). HHD field data is housed and electronically stored at HHD offices located Park Place, Houston. Electronic data is stored in an Access Database which is maintained by the HHD field office.

- City of Houston DWO Laboratory Details of their protocols for records management and data storage procedures are described in their Quality Management Plan, Section 13, (most recent revision). Original DWO field data is stored at their field office located at Lake Houston. Copies of all field sheets are given to the lab to be kept with lab analysis paperwork. Electronic data is stored in an EXCEL spreadsheet by the field supervisor.

- San Jacinto River Authority (SJRA) will store all hard copies of field and lab data from both Lake Conroe and The Woodlands sample sites in the Program Manager's Lake Conroe office. Electronic data (raw and working files) will be stored on a shared computer server at the same location in EXCEL or ACCESS format.

- Eastex Environmental Lab Details of the Eastex *Electronic Record Storage* system is described in the Laboratory's Quality Assurance Manual, (most current version), Sections 8.4.

- Environmental Institute of Houston, University of Houston-Clear Lake (EIH) stores hard copy and electronic data at their offices on the UHCL campus. Electronic data is stored in EXCEL spreadsheets and various workbooks. The data manager maintains the files.

- TRIES Details of the protocols for records management and data storage procedures are described in their TRIES Analytical Lab Quality Manual, Sections 16.1 & 16.2 (most current version). All field data will be stored electronically in an EXCEL spreadsheet and in hard copy format at TRIES. The TRIES Data Manager and the TRIES Lab QAO will maintain the data.

Data Handling, Hardware, and Software Requirements

H-GAC maintains several networked computers to store and manage CRP data. All computers are equipped with at least Office 2010 which includes MS EXCEL 2010 and MS ACCESS 2010 or newer versions. The data manager's computer also includes Oracle 9 to assist with screening, management and reformatting the data to TCEQ's specifications. Additionally, the SAS software is available on the DM's and another computer if an alternate SAS Operator is needed.

Table D2.1g: Data Review Tasks for Environmental Institute of Houston, University of Houston-Clear Lake (EIH) with samples analyzed by Eastex Lab

EIH Data to be Verified	Field Task	Eastex Lab Task	H-GAC QAO or Data Manager Tasks
Sample documentation complete; samples labeled, sites identified	CRP Data Mgr & Field ~~QAO~~ Supervisor	Sample Custodian	
Field instrument pre- and post-calibration results within limits	Field ~~QAO~~ Supervisor		H-GAC Data Mgr &/or H-GAC QAO
Field QC samples collected for all analytes as prescribed in the TCEQ *SWQM Procedures Manual*	~~CRP Data Mgr & Field QAO~~ N/A		
Field documentation (e.g., biological, stream habitat) complete	Field ~~QAO~~ Supervisor & CRP Data Manager		
Standards and reagents traceable	Field ~~QAO~~ Supervisor	Lab QAO	
Chain of custody complete/acceptable	CRP Data Mgr & Field ~~QAO~~ Supervisor	Sample Custodian	H-GAC Data Mgr &/or H-GAC QAO
NELAP Accreditation is current		Lab QAO	H-GAC Data Mgr &/or H-GAC QAO
Sample preservation and handling acceptable	QAO or Sample collector	Sample Custodian	H-GAC Data Mgr &/or H-GAC QAO
Holding times not exceeded	~~Field QAO & CRP Data Mgr~~ QAO or sample collector	Lab QAO	H-GAC Data Mgr &/or H-GA QAO
Collection, preparation, and analysis consistent with SOPs and QAPP	Field ~~QAO~~ Supervisor	Lab QAO	H-GAC QAO
Instrument calibration data complete	Field ~~QAO~~ Supervisor or sample collector	Lab QAO	
Bacteriological records complete	Field ~~QAO~~ Supervisor or sample collector	Lab QAO	H-GAC Data Mgr &/or H-GAC QAO
QC samples analyzed at required frequency	~~Field QAO or sample collector~~	Lab QAO	H-GAC Data Mgr
QC results meet performance and program specifications	~~Field~~ QAO ~~& CRP Data Mgr~~	Lab QAO	H-GAC Data Mgr
Analytical sensitivity (Limits of Quantitation/Ambient Water Reporting Limits) consistent with QAPP	~~Field QAO & CRP Data Mgr~~	Lab QAO	H-GAC Data Mgr &/or H-GAC QAO
Results, calculations, transcriptions checked	~~Field~~ QAO & CRP Data Mgr	Tech. Dir.	
Laboratory bench-level review performed		Head Technician	
All laboratory samples analyzed for all parameters		Lab QAO	
Corollary data agree		Lab QAO	H-GAC Data Mgr
Nonconforming activities documented	~~Field~~ QAO	Lab QAO	H-GAC QAO
Outliers confirmed and documented; reasonableness check performed	~~Field~~ QAO & CRP Data Mgr	Data Manager & Lab QAO	H-GAC Data Mgr &/or H-GAC QAO
Dates formatted correctly	~~Field~~ QAO & CRP Data Mgr		H-GAC Data Mgr &/or H-GAC QAO
Depth reported correctly	Field ~~QAO~~ Supervisor & CRP Data Mgr		H-GAC Data Mgr &/or H-GAC QAO
TAG IDs correct			H-GAC Data Mgr
TCEQ Station ID number assigned	Field ~~QAO~~ Supervisor & CRP Data Mgr	Data Manager & Lab QAO	H-GAC Data Mgr
Valid parameter codes	~~Field~~ QAO & CRP Data Mgr	Data Manager & Lab QAO	H-GAC Data Mgr
Codes for submitting & collecting entity(ies), and monitoring type(s) used correctly	~~Field QAO & CRP Data Mgr~~		H-GAC Data Mgr
Time based on 24-hour clock	~~Field QAO &~~ CRP Data Mgr	Data Manager	H-GAC Data Mgr &/or H-GAC QAO
Absence of transcription error confirmed	~~Field QAO &~~ CRP Data Mgr	Tech. Dir.	H-GAC Data Mgr
Absence of electronic errors confirmed	~~Field QAO &~~ CRP Data Mgr	Tech. Dir.	H-GAC Data Mgr
Sampling and analytical data gaps checked (e.g., all sites for which data are reported are on the CMS)	~~Field QAO &~~ CRP Data Mgr	Data Manager	H-GAC Data Mgr
Field QC results attached to data review checklist	~~Field QAO &~~ CRP Data Mgr		H-GAC Data Mgr
10% of data manually reviewed	~~Field~~ QAO & CRP Data Mgr	Tech. Dir.	H-GAC QAO

TABLE A7.7a Measurement Performance Specifications for Environmental Institute of Houston, University of Houston-Clear Lake (EIH)

Field Parameters

Parameter*	Units	Matrix	Method	Parameter Code	Lab
TEMPERATURE, WATER (DEGREES CENTIGRADE)	DEG C	water	SM 2550 B and TCEQ SOP V1	00010	Field
TRANSPARENCY, SECCHI DISC (METERS)	meters	water	TCEQ SOP V1	00078	Field
SPECIFIC CONDUCTANCE,FIELD (US/CM @ 25C)	us/cm	water	EPA 120.1 and TCEQ SOP, V1	00094	Field
OXYGEN, DISSOLVED (MG/L)	mg/L	water	SM 4500-O G and TCEQ SOP V1	00300	Field
PH (STANDARD UNITS)	s.u.	water	EPA 150.1 and TCEQ SOP V1	00400	Field
SALINITY - PARTS PER THOUSAND	PPT	water	SM 2520 and TCEQ SOP V1	00480	Field
DAYS SINCE PRECIPITATION EVENT (DAYS)	days	other	TCEQ SOP V1	72053	Field
DEPTH OF BOTTOM OF WATER BODY AT SAMPLE SITE	meters	water	TCEQ SOP V2	82903	Field
MAXIMUM POOL WIDTH AT TIME OF STUDY (METERS)**	meters	other	TCEQ SOP V2	89864	Field
MAXIMUM POOL DEPTH AT TIME OF STUDY(METERS)**	meters	other	TCEQ SOP V2	89865	Field
POOL LENGTH, METERS**	meters	other	TCEQ SOP V2	89869	Field
% POOL COVERAGE IN 500 METER REACH**	%	other	TCEQ SOP V2	89870	Field
WIND INTENSITY (1=CALM,2=SLIGHT,3=MOD.,4=STRONG)	NU	other	NA	89965	Field
PRESENT WEATHER (1=CLEAR,2=PTCLDY,3=CLDY,4=RAIN,5=OTHER)	NU	other	NA	89966	Field
WATER SURFACE(1=CALM,2=RIPPLE,3=WAVE,4=WHITECAP)	NU	water	NA	89968	Field
TIDE STAGE 1=LOW,2=FALLING,3=SLACK,4=RISING,5=HI	NU	water	NA	89972	Field
WATER ODOR (1=SEWAGE, 2=OILY/CHEMICAL, 3=ROTTEN EGGS, 4=MUSKY, 5=FISHY, 6=NONE, 7=OTHER (WRITE IN COMMENTS))	NU	water	NA	89971	Field
WATER COLOR 1=BRWN 2=RED 3=GRN 4=BLCK 5=CLR 6=OT	NU	water	NA	89969	Field

* Reporting to be consistent with SWQM guidance and based on measurement capability.
** To be routinely reported when collecting data from perennial pools.

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

TABLE A7.7b Measurement Performance Specifications for Environmental Institute of Houston, University of Houston-Clear Lake (EIH)

Flow Parameters					
Parameter	**Units**	**Matrix**	**Method**	**Parameter Code**	**Lab**
FLOW STREAM, INSTANTANEOUS (CUBIC FEET PER SEC)	cfs	water	TCEQ SOP V1	00061	Field
FLOW SEVERITY:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=Dry	NU	water	TCEQ SOP V1	01351	Field
STREAM FLOW ESTIMATE (CFS)	cfs	water	TCEQ SOP V1	74069	Field
FLOW MTH 1=GAGE 2=ELEC 3=MECH 4=WEIR/FLU 5=DOPPLER	NU	other	TCEQ SOP V1	89835	Field

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

TABLE A7.7c Measurement Performance Specifications for Environmental Institute of Houston, University of Houston-Clear Lake (EIH)

Conventional Parameters in Water

Parameter	Units	Matrix	Method	Parameter Code	TCEQ AWRL	LOQ	LOQ Check Sample %Rec	Precision (RPD)	Bias %Rec. of LCS	Lab
RESIDUE, TOTAL NONFILTRABLE (MG/L)	mg/L	water	SM 2540D	00530	5	1	NA	NA	NA	Eastex
NITROGEN, AMMONIA, TOTAL (MG/L AS N)	mg/L	water	SM 4500 NH3 G	00610	0.1	0.1	70–130	20	80–120	Eastex
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	Eastex
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	Eastex
NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	mg/L	water	EPA 351.2	00625	0.2	0.2	70–130	20	80–120	Eastex
NITRITE PLUS NITRATE, TOTAL ONE LAB DETERMINED VALUE (MG/L AS N)	mg/L	water	SM 4500-NO3 F	00630	0.05	0.02	70–130	20	80–120	Eastex
PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	mg/L	water	EPA 200.7	00665	0.06	0.06	70–130	20	80–120	Eastex
CHLORIDE (MG/L AS CL)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00940	5	5	70–130	20	80–120	Eastex
SULFATE (MG/L AS SO4)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00945	5	4	70–130	20	80–120	Eastex
CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH	ug/L	water	EPA 446.0	32211	3	3	NA	20	80–120	Eastex

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

TABLE A7.7d Measurement Performance Specifications for Environmental Institute of Houston, University of Houston-Clear Lake (EIH)

Bacteriological Parameters in Water

Parameter	Units	Matrix	Method	Parameter Code	TCEQ AWRL	LOQ	LOQ Check Sample %Rec	Log Difference of Duplicates	Bias %Rec. of LCS	Lab
E.COLI, COLILERT, IDEXX METHOD, MPN/100ML	MPN/100 mL	water	IDEXX Colilert or Colilert 18**	31699	1	1	NA	0.50*	NA	Eastex
ENTEROCOCCI, ENTEROLERT, IDEXX, (MPN/100 ML)	MPN/100 mL	water	IDEXX Enterolert	31701	10***	10***	NA	0.50*	NA	Eastex
E.COLI, COLILERT, IDEXX, HOLDING TIME	hours	water	NA	31704	NA	NA	NA	NA	NA	Eastex

* 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.
** *E. coli* samples analyzed by these methods should always be processed as soon as possible and within 8 hours. When transport conditions necessitate delays in delivery longer than 6 hours, the holding time may be extended and samples must be processed as soon as possible and within 30 hours.
****Enterococcus* samples should be diluted 1:10 for all waters.

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

TABLE A7.7e Measurement Performance Specifications for Environmental Institute of Houston, University of Houston-Clear Lake (EIH)

24 Hour Parameters in Water

Parameter*	Units	Matrix	Method	Parameter Code	Lab
TEMPERATURE, WATER (DEGREES CENTIGRADE), 24HR AVG	DEG C	Water	TCEQ SOP V1	00209	field
WATER TEMPERATURE, DEGREES CENTIGRADE, 24HR MAX	DEG C	Water	TCEQ SOP V1	00210	field
TEMPERATURE, WATER (DEGREES CENTIGRADE) 24HR MIN	DEG C	Water	TCEQ SOP V1	00211	field
SPECIFIC CONDUCTANCE, US/CM, FIELD, 24HR AVG	uS/cm	Water	TCEQ SOP V1	00212	field
SPECIFIC CONDUCTANCE, US/CM, FIELD, 24HR MAX	uS/cm	Water	TCEQ SOP V1	00213	field
SPECIFIC CONDUCTANCE, US/CM, FIELD, 24HR MIN	uS/cm	Water	TCEQ SOP V1	00214	field
PH, S.U., 24HR MAXIMUM VALUE	std. units	Water	TCEQ SOP V1	00215	field
PH, S.U., 24HR, MINIMUM VALUE	std. units	Water	TCEQ SOP V1	00216	field
SALINITY, 24-HR, MAXIMUM, PPT	ppt	Water	TCEQ SOP V1	00217	field
SALINITY, 24-HR, AVERAGE, PPT	ppt	Water	TCEQ SOP V1	00218	field
SALINITY, 24-HR, MINIMUM, PPT	ppt	Water	TCEQ SOP V1	00219	field
SALINITY, # OF MEASUREMENTS IN 24-HRS	NU	Water	TCEQ SOP V1	00220	field
WATER TEMPERATURE, # OF MEASUREMENTS IN 24-HRS	NU	Water	TCEQ SOP V1	00221	field
SPECIFIC CONDUCTANCE, # OF MEASUREMENTS IN 24-HRS	NU	Water	TCEQ SOP V1	00222	field
pH, # OF MEASUREMENTS IN 24-HRS	NU	Water	TCEQ SOP V1	00223	field
DISSOLVED OXYGEN, 24-HOUR MIN. (MG/L) MIN. 4 MEA	mg/l	Water	TCEQ SOP V1	89855	field
DISSOLVED OXYGEN, 24-HOUR MAX. (MG/L) MIN. 4 MEA	mg/l	Water	TCEQ SOP V1	89856	field
DISSOLVED OXYGEN, 24-HOUR AVG. (MG/L) MIN. 4 MEA	mg/l	Water	TCEQ SOP V1	89857	field
DISSOLVED OXYGEN, # OF MEASUREMENTS IN 24-HRS	NU	Water	TCEQ SOP V1	89858	field

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

TABLE A7.8a Measurement Performance Specifications for Texas Research Institute for Environmental Studies (TRIES)

Field Parameters

Parameter*	Units	Matrix	Method	Parameter Code	Lab
TEMPERATURE, WATER (DEGREES CENTIGRADE)	DEG C	water	SM 2550 B and TCEQ SOP V1	00010	Field
TRANSPARENCY, SECCHI DISC (METERS)	meters	water	TCEQ SOP V1	00078	Field
SPECIFIC CONDUCTANCE,FIELD (US/CM @ 25C)	us/cm	water	EPA 120.1 and TCEQ SOP, V1	00094	Field
OXYGEN, DISSOLVED (MG/L)	mg/L	water	SM 4500-O G and TCEQ SOP V1	00300	Field
PH (STANDARD UNITS)	s.u.	water	EPA 150.1 and TCEQ SOP V1	00400	Field
DAYS SINCE PRECIPITATION EVENT (DAYS)	days	other	TCEQ SOP V1	72053	Field
DEPTH OF BOTTOM OF WATER BODY AT SAMPLE SITE	meters	water	TCEQ SOP V2	82903	Field
MAXIMUM POOL WIDTH AT TIME OF STUDY (METERS)**	meters	other	TCEQ SOP V2	89864	Field
MAXIMUM POOL DEPTH AT TIME OF STUDY(METERS)**	meters	other	TCEQ SOP V2	89865	Field
POOL LENGTH, METERS**	meters	other	TCEQ SOP V2	89869	Field
% POOL COVERAGE IN 500 METER REACH**	%	other	TCEQ SOP V2	89870	Field
WIND INTENSITY (1=CALM,2=SLIGHT,3=MOD.,4=STRONG)	NU	other	NA	89965	Field
PRESENT WEATHER (1=CLEAR,2=PTCLDY,3=CLDY,4=RAIN,5=OTHER)	NU	other	NA	89966	Field
WATER SURFACE(1=CALM,2=RIPPLE,3=WAVE,4=WHITECAP)	NU	water	NA	89968	Field
WATER ODOR (1=SEWAGE, 2=OILY/CHEMICAL, 3=ROTTEN EGGS, 4=MUSKY, 5=FISHY, 6=NONE, 7=OTHER (WRITE IN COMMENTS))	NU	water	NA	89971	Field
WATER COLOR 1=BRWN 2=RED 3=GRN 4=BLCK 5=CLR 6=OT	NU	water	NA	89969	Field
WATER CLARITY (1=EXCELLENT, 2=GOOD, 3=FAIR, 4=POOR)	NU	water	NA	20424	Field
TURBIDITY, OBSERVED (1=LOW, 2=MEDIUM, 3=HIGH)	NU	water	NA	88842	Field

* Reporting to be consistent with SWQM guidance and based on measurement capability.
** To be routinely reported when collecting data from perennial pools.

References:
United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

TABLE A7.8b Measurement Performance Specifications for Texas Research Institute for Environmental Studies (TRIES)

Flow Parameters

Parameter	Units	Matrix	Method	Parameter Code	Lab
FLOW STREAM, INSTANTANEOUS (CUBIC FEET PER SEC)	cfs	water	TCEQ SOP V1	00061	Field
FLOW SEVERITY:1=No Flow,2=Low,3=Normal,4=Flood,5=High,6=Dry	NU	water	TCEQ SOP V1	01351	Field
FLOW MTH 1=GAGE 2=ELEC 3=MECH 4=WEIR/FLU 5=DOPPLER	NU	other	TCEQ SOP V1	89835	Field

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020

U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.

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).

TABLE A7.8c Measurement Performance Specifications for Texas Research Institute for Environmental Studies (TRIES)										
Conventional Parameters in Water										
Parameter*	**Units**	**Matrix**	**Method**	**Parameter Code**	**TCEQ AWRL**	**LOQ**	**LOQ Check Sample %Rec**	**Precision (RPD)**	**Bias %Rec. of LCS**	**Lab**
RESIDUE, TOTAL NONFILTRABLE (MG/L)	mg/L	water	SM 2540D	00530	5	2.5	NA	NA	NA	TRIES
RESIDUE, TOTAL NONFILTRABLE (MG/L)	mg/L	water	SM 2540D	00530	5	1	NA	NA	NA	Eastex
NITROGEN, KJELDAHL, TOTAL (MG/L AS N)	mg/L	water	EPA 351.2	00625	0.2	0.2	70–130	20	80–120	Eastex
NITROGEN, AMMONIA, TOTAL (MG/L AS N)	mg/L	water	SM 4500-NH3 D	00610	0.1	0.1	70–130	20	80–120	TRIES
NITROGEN, AMMONIA, TOTAL (MG/L AS N)	mg/L	water	SM 4500-NH3 G	00610	0.1	0.1	70–130	20	80–120	Eastex
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	85–115	TRIES
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	Eastex
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	85–115	TRIES
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	Eastex
NITRITE PLUS NITRATE, TOTAL ONE LAB DETERMINED VALUE (MG/L AS N)	mg/L	water	SM 4500-NO3 F	00630	0.05	0.02	70–130	20	80–120	Eastex
~~**PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)**~~	~~mg/L~~	~~water~~	~~EPA 200.7~~	~~00665~~	~~0.06~~	~~0.04~~	~~70-130~~	~~20~~	~~85-115~~	~~TRIES~~
PHOSPHORUS, TOTAL, WET METHOD (MG/L AS P)	mg/L	water	EPA 200.7	00665	0.06	0.06	70–130	20	80–120	Eastex
~~**CHLORIDE (MG/L AS CL)**~~	~~mg/L~~	~~water~~	~~EPA 300.0 Rev. 2.1 (1993)~~	~~00940~~	~~5~~	~~4~~	~~70-130~~	~~20~~	~~85-115~~	~~TRIES~~
CHLORIDE (MG/L AS CL)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00940	5	5	70–130	20	80–120	Eastex
SULFATE (MG/L AS SO4)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00945	5	3	70–130	20	85–115	TRIES
SULFATE (MG/L AS SO4)	mg/L	water	EPA 300.0 Rev. 2.1 (1993)	00945	5	4	70–130	20	80–120	Eastex

References:

* If TRIES does not have accreditation for a parameter or they have an issue with lab equipment, TRIES will subcontract to Eastex Lab the affected parameter(s) to get results for all the parameters they committed to collect and submit to H-GAC.

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

TABLE A7.8d Measurement Performance Specifications for Texas Research Institute for Environmental Studies (TRIES)

Bacteriological Parameters in Water

Parameter*	Units	Matrix	Method	Parameter Code	TCEQ AWRL	LOQ	LOQ Check Sample %Rec	Log Difference of Duplicates	Bias %Rec. of LCS	Lab
E.COLI, COLILERT, IDEXX METHOD, MPN/100ML	MPN/100 mL	water	IDEXX Colilert***	31699	1	1	NA	0.50**	NA	TRIES
E.COLI, COLILERT, IDEXX, HOLDING TIME	hours	water	NA	31704	NA	NA	NA	NA	NA	TRIES
E.COLI, COLILERT, IDEXX METHOD, MPN/100ML	MPN/100 mL	water	IDEXX Colilert or Colilert-18***	31699	1	1	NA	0.50**	NA	Eastex
E.COLI, COLILERT, IDEXX, HOLDING TIME	hours	water	NA	31704	NA	NA	NA	NA	NA	Eastex

* If TRIES does not have accreditation for a parameter or they have an issue with lab equipment, TRIES will subcontract to Eastex Lab the affected parameter(s) to get results for all the parameters they committed to collect and submit to H-GAC.

** 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.

*** *E. coli* samples analyzed by these methods should always be processed as soon as possible and within 8 hours. When transport conditions necessitate delays in delivery longer than 6 hours, the holding time may be extended and samples must be processed as soon as possible and within 30 hours.

References:

United States Environmental Protection Agency (USEPA) Methods for Chemical Analysis of Water and Wastes, Manual #EPA-600/4-79-020
U.S. Code of Federal Regulations (CFR). Title 40: Protection of Environment, Part 136
American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF), Standard Methods for the Examination of Water and Wastewater, 24th Edition, 2022.
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).

Appendix B: Task 3 Work Plan & Sampling Process Design and Monitoring Schedule (Plan)

Sample Design Rationale FY 2025

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 H-GAC coordinates closely with the TCEQ and other participants to ensure a comprehensive water monitoring strategy within the watershed. A very brief discussion of past or ongoing water quality issues are provided with each partner's section to justify the monitoring schedule.

Houston-Galveston Area Council (H-GAC):

H-GAC conducts routine monitoring at 21 sites on a quarterly basis. Flow measurements are collected at all sites whenever possible. These sites are located towards the perimeter of the region where other local partners do not monitor. These sites are located where there are no cities or communities able to conduct ambient water quality monitoring.

All current routine sites, parameters, and monitoring efforts will continue into FY25. Currently, H-GAC has three 24-hour DO sites to confirm whether there is a new or continuing 24-hour DO issue at the three sites. Status of 24-hour monitoring sites is detailed below.

- DROP site 16675 (Unnamed Trib of Buffalo Bayou at Glenwood Cemetery – Segment 1013C_01)
- ADD site 11128 (Hunting Bayou at I-10 east of Houston – Segment 1007R)
- CONTINUE site 16676 (Unnamed Trib of Greens Bayou at Smith Rd in Houston – Segment 1016D_01)
- DROP site 16475 (Robinsons Bayou at FM270 in League City – Segment 1101D_01)
- ADD site 21180 (Harris County Flood Control Channel D138/ Chimney Ditch at Caversham Drive – Segment 1007W)

Current sampling throughout the East Fork San Jacinto River watershed will continue between H-GAC, TRIES, and DWO. The two Luce Bayou sites added in FY24 will continue in FY25.

Harris County Pollution Control Services (HCPCS):

HCPCS staff monitor the Houston Ship channel, San Jacinto River tidal portion, side bays along the ship channel, Barbour's Cut, Clear Lake, and tributaries either monthly or every other month. Monitoring sites, parameters, and frequencies will not change in FY25.

Houston Health Department (HHD):

The city currently collects samples from 133 sites 6 times per year or approximately every other month. Staff have identified 13 shallow sites that are supposed to be only field measurements, observations, and bacteria sampling. No conventional parameters will be collected at the 13 sites. All 13 sites are part of the Bacteria Implementation Group (BIG) project area and continue to be sampled due to bacteria impairments in all of those waterways. Shallow sites include 11157, 16594, 16652, 16656, 16657, 16662, 16666, 22474, 18689, 18690, 18691, and 18692 in basin 10 plus 17487 in basin 11.

Site 11368 (Greens Bayou at Brock Park) will be DROPPED in FY25 and efforts returned to site 11369 (Greens Bayou at Tidwell Rd) since the bridge construction is completed and there is a sidewalk to collect from the bridge.

HHD collects TKN samples from only 25 of the 133 sites. TKN samples (no chlorophyll *a*) are collected quarterly.

Houston Drinking Water Operations (DWO);

DWO collects samples from Lake Houston and the Lake Houston watershed because Lake Houston is a drinking water source for the region. Some sites are sampled monthly while others are sampled every other month. Twelve (12) TKN samples and three (3) chlorophyll *a* are sampled quarterly.

Station 22224 - Luce Bayou at Cry Baby Lane (segment 1002) has accessibility issues. They will continue with monthly monitoring. If the site cannot be reached for any reason, DWO will include an explanation on the data review checklist so H-GAC can include in the data summary report to TCEQ.

DWO anticipates access issues with site 16625 because the bridge is under construction. They will attempt to sample every time and document if they are not successful.

There will be no other potential changes to DWO sites, parameters, or frequencies.

SJRA Lake Conroe & The Woodlands

SJRA monitors Lake Conroe at 10 sites monthly. The City of Houston DWO lab analyzes the conventional and bacteria samples. SJRA collects TKN and chlorophyll *a* samples at four (4) of the ten (10) sites quarterly.

SJRA will monitor ten (10) sites in The Woodlands area. Four (4) sites are located on Lake Woodlands with TKN and chlorophyll *a* collected at one site quarterly. One site is being added to the Bear Branch Reservoir at the dam (site 22493 on 1008E). Field with sonde parameters are collected monthly with lab samples being collected quarterly. Bacteria is the only lab sample collected at site 22493. There are no TKN or chlorophyll *a* samples collected on the tributary sites.

Texas Research Institute for Environmental Studies (TRIES):

H-GAC contracts with TRIES to collect 11 sites on the East Fork San Jacinto River, Winters Bayou, and a few other small tributaries. Sites are monitored quarterly. In FY25, TRIES will continue with the monitoring plan from FY24. TKN sample collection will continue at each of the Tarkington Bayou sites. There are no plans to change the parameters or frequency of other monitoring sites.

Environmental Institute of Houston, University of Houston-Clear Lake (EIH):

EIH is contracted to collect samples in Basin 9 (Cedar Bayou), Basin 11 (Galveston and Brazoria Counties), Basin 13 (Austin, Brazoria, Colorado, Wharton, and Matagorda Counties), and Basin 24 (Bays and Estuaries). Sites are monitored on a quarterly basis. In FY25, EIH will also collect 24-hour DO at seven (7) sites quarterly to confirm whether there are new or continuing 24-hour DO issues. Status of 24-hour monitoring sites is detailed below.

- CONTINUE site 11118 (Cedar Bayou above tidal at FM 1960 – Segment 0902)
- DROP site 11405 (Armand Bayou at Fairmont Parkway – Segment 1113A)

- ADD site 12135 (Hardeman Slough downstream of Allenhurst Rd – 1305A)
- CONTINUE site 12155 (Caney Creek above tidal – 1305_03)
- ADD site 16475 (Robinson Bayou tidal at FM518 in League City – 1101D)
- CONTINUE site 16564 (Lake Madeline in Galveston – Segment 2424B).
- CONTINUE site 20721 (West Bernard Creek at Wharton CR 225 East – 1302B).
- CONTINUE site 20723 (Mound Creek at Brazoria CR 450/ Jackson Settlement RD upstream of FM 1301 – 1302E).
- DROP site 21734 (Brushy Bayou at FM 213 – Segment 1105E)

EIH dropped routine monitoring at site 21734 for FY25. Routine monitoring at new site 22497 (Moses Bayou south of Explorer Drive) was added in FY25 with cost savings from dropping site 21734.

Monitoring Sites for FY 2025

See table starting on next page.

Table B1.1 Sample Design and Schedule, FY 2025

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
ROBINSONS BAYOU AT FM270 IN LEAGUE CITY	16475	1101D	11	12	HG	UI ~~HG~~	BS					4			Added in FY23; continue in FY24; transferred from HG to UI in FY25.
~~UNNAMED TRIB OF BUFFALO BAYOU AT GLENWOOD CEMETARY RD 160 M W OF INTERSECT OF LUBBOCK ST AND SAWYER ST IN CENTRAL HOUSTON~~	~~16675~~	~~1013C~~	~~10~~	~~12~~	~~HG~~	~~HG~~	~~BS~~				~~4~~	~~4~~			~~Added in FY22; Continue in FY24.~~
HUNTING BAYOU IMMEDIATELY DOWNSTREAM OF IH 10 EAST OF HOUSTON	11128	1007R	10	12	HG	HG	BS				4	4			Added in FY25
HARRIS COUNTY FLOOD CONTROL DISTRICT CHANNEL D138 / CHIMNEY DITCH IMMEDIATELY UPSTREAM OF CAVERSHAM DRIVE BETWEEN THE NORTHBOUND AND SOUTHBOUND SECTIONS OF CHIMNEY ROCK ROAD IN HOUSTON	21180	1007W	10	12	HG	HG	BS				4	4			Added in FY25
UNNAMED TRIB OF GREENS BAYOU AT SMITH ROAD, HOUSTON	16676	1016D	10	12	HG	HG	BS				4	4			Added in FY23; Continue in FY25
CEDAR BAYOU ABOVE TIDAL 30 METERS DOWNSTREAM OF FM 1942 AT EAST BANK	11118	0902	9	12	HG	UI	BS				4	4			Added in FY24
~~ARMAND BAYOU AT FAIRMONT PARKWAY ALONG MEDIAN AT MIDPOINT BETWEEN BRIDGES~~	~~11405~~	~~1113A~~	~~11~~	~~12~~	~~HG~~	~~UI~~	~~BS~~				~~4~~	~~4~~			~~Added in FY22; Transferred to UI in FY23;~~

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
HARDEMAN SLOUGH IMMEDIATELY DOWNSTREAM OF ALLENHURST RD NE OF FM 2540 NEAR ALLENHURST COMMUNITY	12135	1305A	13	12	HG	UI	BS				4	4			Added in FY25
CANEY CREEK ABOVE TIDAL 35 M DOWNSTREAM OF ASHWOOD RD/FM 3156 1.24 KM SOUTHWEST OF MATAGORDA CR 1728 ASHWOOD	12155	1305	13	12	HG	UI	BS				4	4			Added in FY24
LAKE MADELINE AT CORNER OF BELUCHE DRIVE AND DOMINIQUE DRIVE IN GALVESTON	16564	2424B	24	12	HG	UI	BS					4			
WEST BERNARD CREEK AT WHARTON CR 225 EAST OF HUNGERFORD	20721	1302B	13	12	HG	UI	BS				4	4			Added in FY24
MOUND CREEK AT BRAZORIA CR 450/JACKSON SETTLEMENT ROAD 1.22 KILOMETERS UPSTREAM OF FM 1301 IN WEST OF WEST COLUMBIA	20723	1302E	13	12	HG	UI	BS				4	4			Added in FY24.
~~BRUSHY BAYOU AT FM213~~	~~21734~~	~~1105E~~	~~11~~	~~12~~	~~HG~~	~~UI~~	~~BS~~				~~4~~	~~4~~			~~Added back into CMS in FY22 per Assessor request;~~
SAN JACINTO RIVER TIDAL IMMEDIATELY DOWNSTREAM OF IH 10 BRIDGE EAST OF CHANNELVIEW	11193	1001	10	12	HG	HC	RT	12	12	12					
SAN JACINTO RIVER TIDAL 23 METERS SOUTH AND 735 METERS EAST OF INTERSECTION OF WALLISVILLE ROAD AND 7TH STREET	11198	1001	10	12	HG	HC	RT	12	12	12					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
SAN JACINTO RIVER TIDAL IMMEDIATELY DOWNSTREAM OF US 90 BRIDGE EAST OF SHELDON	11200	1001	10	12	HG	HC	RT	12	12	12			4		
SAN JACINTO RIVER TIDAL AT MAGNOLIA GARDENS 1.78 KM UPSTREAM OF US BUS 90U/ BEAUMONT HIGHWAY IN HOUSTON	11201	1001	10	12	HG	HC	RT	12	12	12					
HOUSTON SHIP CHANNEL AT BAYTOWN TUNNEL/CM 103 1.84 KM NORTH AND 1.17 KM EAST OF INTERSECTION OF SH 225 AND SH 146	11254	1005	10	12	HG	HC	RT	12	12	12					
HOUSTON SHIP CHANNEL AT SAN JACINTO PK WEST OF THE BATTLESHIP TX 317 M N AND 303 M W OF INTERSECTION OF BATTLEGROUND RD AND MARKER DR	11264	1006	10	12	HG	HC	RT	12	12	12					
HOUSTON SHIP CHANNEL AT CONFLUENCE WITH GREENS BAYOU/CM 152	11271	1006	10	12	HG	HC	RT	12	12	12					
HOUSTON SHIP CHANNEL/BUFFALO BAYOU HSC AT WASHBURN TUNNEL	11283	1007	10	12	HG	HC	RT	12	12	12					
HSC/BUFFALO BAYOU IN TURNING BASIN 2.82 K UPSTREAM OF CONFLUENCE WITH BRAYS BAYOU 433 M S AND 182 M W OF INTERSECT OF SIGNET AND DORSETT	11292	1007	10	12	HG	HC	RT	12	12	12					
CLEAR LAKE AT SH 146 DRAWBRIDGE	13332	2425	24	12	HG	HC	RT	6	6	6			4	4	
TABBS BAY MIDWAY BETWEEN GOOSE CREEK AND UPPER HOG ISLAND	13338	2426	24	12	HG	HC	RT	6	6	6			4	4	

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
BLACK DUCK BAY AT MID BAY 0.6 KM NE OF SH 146 BRIDGE AND 0.6 KM SE OF END OF OKLAHOMA ST IN BAYTOWN	13340	2428	24	12	HG	HC	RT	6	6	6			4	4	
BURNETT BAY AT MID BAY 1.3 KM SSW OF CONFLUENCE WITH SPRING GULLY AND 1.6 KM SE OF LYNCHBURG ROAD	13344	2430	24	12	HG	HC	RT	6	6	6			4	4	
ARMAND BAYOU TIDAL 25 M WEST OF CLEAR LAKE PARK FISHING PIER IN MUD LAKE/PASADENA LAKE IN HARRIS COUNTY	15455	1113	11	12	HG	HC	RT	6	6	6			4	4	
CLEAR CREEK TIDAL AT THE CONFLUENCE WITH CLEAR LAKE 30 M NORTH AND 266 M WEST OF DAVIS ROAD AT VEGA COURT IN LEAGUE CITY IN HARRIS COUNTY	16573	1101	11	12	HG	HC	RT	6	6	6			4	4	
HOUSTON SHIP CHANNEL AT CARGILL TERMINAL NORTH OF TIDAL ROAD	16617	1006	10	12	HG	HC	RT	12	12	12					
HOUSTON SHIP CHANNEL W OF EXXON DOCKS AND N OF ALEXANDER ISLAND 316 M S AND 1.55 KM W OF INTERSECTION OF BAYWAY DR AND BAYTOWN AVE	16618	1005	10	12	HG	HC	RT	12	12	12	-				
HOUSTON SHIP CHANNEL AT LYNCHBURG FERRY INN SOUTH OF LYNCHBURG RD 658 M N AND 802 M E OF INTERSECTION OF BATTLEGROUND RD AND TIDAL RD	16619	1005	10	12	HG	HC	RT	12	12	12					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
HOUSTON SHIP CHANNEL/BUFFALO BAYOU AT MAYO SHELL RD 1.42 KM S AND 41 M W OF INTERSECTION OF MAYO SHELL RD AND CLINTON DR IN HOUSTON	16620	1007	10	12	HG	HC	RT	12	12	12					
SAN JACINTO RIVER TIDAL AT CONFLUENCE WITH HSC 226 M S AND 1.07 KM W OF INTERSECTION OF S LYNCHBURG RD AND POQUENO RD IN HOUSTON	16621	1005	10	12	HG	HC	RT	12	12	12					
SAN JACINTO RIVER TIDAL AT BANANA BEND ROAD AT END OF PAVEMENT IN HOUSTON	16622	1001	10	12	HG	HC	RT	12	12	12			4	4	
SAN JACINTO RIVER TIDAL MID STREAM AT TERMINUS OF SHADY LANE IN CHANNELVIEW 9 M S AND 648 M W OF INTERSECTION OF SHADY LN AND PARK DR	17919	1001	10	12	HG	HC	RT	12	12	12					
CRYSTAL BAY IN BAYTOWN 383 METERS WEST AND 137 METERS SOUTH OF THE INTERSECTION OF BAYSHORE DRIVE AND CROW ROAD	17921	2430A	24	12	HG	HC	RT	6	6	6					
SCOTT BAY 1.2 KM SW OF INTERSECTION OF BAYWAY DRIVE AND PARK STREET IN BAYTOWN	17922	2429	24	12	HG	HC	RT	6	6	6			4	4	
UPPER SAN JACINTO BAY UNDERNEATH ELECTRICAL TRANSMISSION LINES 2.1 KM E/NE OF INTERSECTION OF MILLER CUTOFF RD AND OLD CLARK RD	17923	2427	24	12	HG	HC	RT	6	6	6			4	4	

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
LOWER SAN JACINTO BAY MID CHANNEL SOUTH OF SH 146 1 KM NE OF INTERSECTION OF SH 225 AND STRANG ROAD IN LAPORTE	17924	2427	24	12	HG	HC	RT	6	6	6			4	4	
BARBOURS CUT NEAR NORTH BANK 0.5 KM NNW OF THE INTERSECTION OF BARBOURS CUT BLVD AND MAPLE ST	17925	2436	24	12	HG	HC	RT	6	6	6					
GOOSE CREEK NEAR SH 146 340 M SOUTH OF THE INTERSECTION OF SH 146 AND WEST MAIN IN BAYTOWN	17927	2426C	24	12	HG	HC	RT	6	6	6					
HARRIS COUNTY FLOOD CONTROL DITCH A TRIBUTARY TO TAYLOR BAYOU 385 M UPSTREAM OF CONFLUENCE WEST OF SH 146 AT PORT ROAD IN HARRIS COUNTY	20012	2425E	24	12	HG	HC	RT	6	6	6					
TAYLOR BAYOU MID CHANNEL 400 M DOWNSTREAM OF PORT ROAD BRIDGE IN HARRIS COUNTY	20013	2425A	24	12	HG	HC	RT	6	6	6					
CLEAR LAKE UNNAMED INLET 115 M SOUTHWEST OF THE INTERSECTION OF NASA ROAD 1 AND OCEANVIEW DRIVE IN SEABROOK IN HARRIS COUNTY	20014	2425	24	12	HG	HC	RT	6	6	6					
TAYLOR LAKE MID LAKE AT BLUE WINDOWS 230 M SOUTH OF LAKEWAY DRIVE AT RAY SHELL COURT/HARBOR COVE CIRCLE IN HARRIS COUNTY	20015	2425A	24	12	HG	HC	RT	6	6	6			4	4	

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
CARPENTERS BAYOU AT MOUTH OF BARGE CANAL 32 METERS WEST AND 666 METERS SOUTH FROM THE INTERSECTION OF DE ZAVALLA ROAD AND HARDING ROAD/HARDING STREET IN HARRIS COUNTY	20797	1006	10	12	HG	HC	RT	12	12	12					
BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF GREEN BUSH ROAD 3.1 MILES SOUTHEAST OF KATY	11145	1014B	10	12	HG	HG	RT	4	4	4	4		4		
CANEY CREEK IMMEDIATELY UPSTREAM OF FM 2090 WEST OF SPLENDORA	11335	1010	10	12	HG	HG	RT	4	4	4	4		4		
LAKE CREEK AT EGYPT COMMUNITY ROAD 8.3 MILES SOUTHWEST OF CONROE	11367	1015	10	12	HG	HG	RT	4	4	4	4		4		
EAST FORK SAN JACINTO RIVER IMMEDIATELY DOWNSTREAM OF SH 150 WEST OF COLDSPRING	17431	1003	10	10	HG	HG	RT	4	4	4	4		4		
MOUND CREEK 167 METERS DOWNSTREAM OF MULLIGAN ROAD 1.35 KM UPSTREAM OF CONFLUENCE WITH LAKE CREEK	17937	1015A	10	12	HG	HG	RT	4	4	4	4		4		
LAKE CREEK AT SH 105 1.0 KM NORTHEAST OF FM 1486 NEAR DOBBIN AND 8.0 KM WEST OF MONTGOMERY TEXAS	18192	1015	10	12	HG	HG	RT	4	4	4	4				
SPRING CREEK AT ROBERTS CEMETERY ROAD WEST-NORTHWEST OF TOMBALL	18868	1008	10	12	HG	HG	RT	4	4	4	4				
CANEY CREEK AT FIRETOWER ROAD WEST TO THE CITY OF WOODBRANCH	20452	1010	10	12	HG	HG	RT	4	4	4	4				

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
CANEY CREEK AT COUNTY LINE ROAD IN MONTGOMERY COUNTY EAST TO THE CITY OF WILLIS	20453	1010	10	12	HG	HG	RT	4	4	4	4				
PEACH CREEK AT COUNTY LINE ROAD-FM 3081 NORTHEAST OF CONROE IN MONTGOMERY COUNTY	20454	1011	10	12	HG	HG	RT	4	4	4	4				
LITTLE CYPRESS CREEK AT MUESCHKE ROAD 4.4 KILOMETERS NORTH OF SH 290 NORTHWEST OF CYPRESS	20456	1009E	10	12	HG	HG	RT	4	4	4	4				
CYPRESS CREEK AT KATY HOCKLEY ROAD 7 KILOMETERS SOUTH OF SH 290 WEST OF CYPRESS	20457	1009	10	12	HG	HG	RT	4	4	4	4				
WALNUT CREEK AT DECKER PRAIRIE ROSEHL ROAD NORTHWEST OF TOMBALL	20462	1008I	10	12	HG	HG	RT	4	4	4	4		4		
BRUSHY CREEK AT GLENMONT ESTATES BOULEVARD 265 METERS NORTH AND 35 METERS WEST TO THE INTERSECTION OF ARNDT LANE AND ANN CIRCLE WEST OF TOMBALL	20463	1008J	10	12	HG	HG	RT	4	4	4	4		4		
HORSEPEN CREEK AT FM 529 1.9 KILOMETERS EAST OF SH 6 NORTHWEST OF HOUSTON	20465	1014C	10	12	HG	HG	RT	4	4	4	4				
WHITE OAK CREEK AT MEMORIAL DRIVE IN CONROE	20731	1004J	10	12	HG	HG	RT	4	4	4	4		4		
WINTERS BAYOU AT TONY TAP ROAD NEAR CLEVELAND	21417	1003A	10	10	HG	HG	RT	4	4	4	4		4		
MILL CREEK AT FM 149 NORTH OF TOMBALL	21957	1008A	10	12	HG	HG	RT	4	4	4	4		4		

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
SPRING BRANCH IMMEDIATELY DOWNSTREAM OF SHAKEY HOLLOW WEST OF WOODBRANCH VILLAGE IN MONTGOMERY COUNTY	21965	1010C	10	12	HG	HG	RT	4	4	4	4		4		
LUCE BAYOU AT GRAND PARKWAY/SH-99 NORTHEAST OF LAKE HOUSTON	22429	1002B	10	12	HG	HG	RT	4	4	4	4		4		ADDED in FY24
LUCE BAYOU AT HWY 321 APPROXIMATELY 1.1 KM SOUTH OF COUNTY ROAD 2322	22430	1002B	10	12	HG	HG	RT	4	4	4	4		4		ADDED in FY24
GARNERS BAYOU AT NORTH SAM HOUSTON PARKWAY/SHLOOP8 NE OF HOUSTON	11125	1016A	10	12	HG	HH	RT	6	6	6	6				ADDED back into CMS in FY24
HALLS BAYOU AT JENSEN DRIVE IN HOUSTON	11126	1006D	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8076500
HALLS BAYOU 87 METERS UPSTREAM OF TIDWELL ROAD IN SETTEGAST	11127	1006D	10	12	HG	HH	RT	6	6	6					
HUNTING BAYOU IMMEDIATELY DOWNSTREAM OF IH 10 EAST OF HOUSTON	11128	1007R	10	12	HG	HH	RT	6	6	6					
HUNTING BAYOU AT NORTH LOOP EAST/IH 610 IN HOUSTON	11129	1007R	10	12	HG	HH	RT	6	6	6	6				Flow from USGS gage 8075770
SIMS BAYOU AT TELEPHONE ROAD/SH 35 IN HOUSTON	11132	1007D	10	12	HG	HH	RT	6	6	6	6				Flow from USGS gage 8075500
SIMS BAYOU AT CULLEN BLVD/FM 865 SOUTH OF HOUSTON	11133	1007D	10	12	HG	HH	RT	6	6	6					
SIMS BAYOU AT HIRAM CLARKE RD IN HOUSTON	11135	1007D	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8075400
BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF ALMEDA ROAD SOUTHWEST OF HOUSTON	11138	1007B	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
BRAYS BAYOU AT SOUTH MAIN ST IN HOUSTON	11139	1007B	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8075000
BRAYS BAYOU AT SOUTH GESSNER DRIVE IN HOUSTON	11140	1007B	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8074810
LITTLE WHITE OAK BAYOU AT TRIMBLE STREET/NORTH EDGE OF HOLLYWOOD CEMETERY IN HOUSTON	11148	1013A	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8074540
VOGEL CREEK IMMEDIATELY DOWNSTREAM OF WEST LITTLE YORK ROAD	11155	1017C	10	12	HG	HH	RT	6	6	6					
ROLLING FORK CREEK IMMEDIATELY DOWNSTREAM OF LAKE LANE	11157	1017F	10	12	HG	HH	RT	6		6					Shallow site
SOUTH MAYDE CREEK IMMEDIATELY DOWNSTREAM OF MEMORIAL DRIVE	11163	1014H	10	12	HG	HH	RT	6	6	6			4		
BRAYS/KEEGANS BAYOU IMMEDIATELY DOWNSTREAM OF ROARK ROAD NEAR US 59 AT BELTWAY 8 IN SOUTHWEST HOUSTON	11169	1007C	10	12	HG	HH	RT	6	6	6	6				Flow from USGS gage 8074800
LITTLE VINCE BAYOU IMMEDIATELY DOWNSTREAM OF NORTH MAIN STREET IN PASADENA TX	11172	1007	10	12	HG	HH	RT	6	6	6					
WILLOW CREEK IMMEDIATELY UPSTREAM OF GOSLING ROAD	11185	1008H	10	12	HG	HH	RT	6	6	6			4		
RUMMEL CREEK IMMEDIATELY DOWNSTREAM OF MEMORIAL DRIVE IN WEST HOUSTON	11188	1014N	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
GREENS BAYOU IMMEDIATELY DOWNSTREAM OF GREEN RIVER ROAD/LEY ROAD IN HOUSTON	11279	1006	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8076700
HUNTING BAYOU TIDAL AT FEDERAL ROAD BRIDGE IN HOUSTON	11298	1007	10	12	HG	HH	RT	6	6	6					
SIMS BAYOU TIDAL IMMEDIATELY DOWNSTREAM OF LAWNDALE AVENUE IN HOUSTON	11302	1007	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU TIDAL AT 75TH STREET IN HOUSTON	11306	1007	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU TIDAL AT SCOTT STREET IN HOUSTON	11309	1007	10	12	HG	HH	RT	6	6	6					
SPRING CREEK IMMEDIATELY DOWNSTREAM OF RILEY FUZZEL ROAD	11312	1008	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8068520
SPRING CREEK 1.13 KM UPSTREAM OF SH 249 NEAR DRAGONFLY RD IN SPRING CREEK PARK	11315	1008	10	12	HG	HH	RT	6	6	6			4		REPLACED site 11314 in FY2020 due to bridge construction
SPRING CREEK IMMEDIATELY UPSTREAM OF DECKER PRAIRIE ROSEHILL ROAD	11323	1008	10	12	HG	HH	RT	6	6	6					
CYPRESS CREEK AT STEUBNER-AIRLINE ROAD IN HOUSTON	11330	1009	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8068900
CYPRESS CREEK AT SH 249	11331	1009	10	12	HG	HH	RT	6	6	6					
CYPRESS CREEK IMMEDIATELY DOWNSTREAM OF GRANT ROAD NEAR CYPRESS	11332	1009	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8068800
BUFFALO BAYOU TIDAL AT MCKEE ST IN HOUSTON	11345	1013	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
BUFFALO BAYOU TIDAL AT SHEPHERD DRIVE IN HOUSTON	11351	1013	10	12	HG	HH	RT	6	6	6	6				Flow from USGS gage 8074000
BUFFALO BAYOU AT VOSS ROAD	11356	1014	10	12	HG	HH	RT	6	6	6					
BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF WEST BELTWAY 8 IN HOUSTON	11360	1014	10	12	HG	HH	RT	6	6	6	6				Flow from USGS gage 8073600
BUFFALO BAYOU AT WILCREST DRIVE IN HOUSTON	11361	1014	10	12	HG	HH	RT	6	6	6					
BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF DAIRY ASHFORD ROAD WEST OF HOUSTON	11362	1014	10	12	HG	HH	RT	6	6	6	6				Flow from USGS gage 8073500
BUFFALO BAYOU AT ELDRIDGE ROAD IN HOUSTON	11363	1014	10	12	HG	HH	RT	6	6	6					
BUFFALO BAYOU AT SH 6	11364	1014	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8072500
GREENS BAYOU AT TIDWELL ROAD IN HARRIS CO	11369	1016	10	12	HG	HH	RT	6	6	6					Moved monitoring effort back to 11369 from 11368 in FY25.
~~GREENS BAYOU AT UNNAMED ROAD IN BROCK PARK GOLF COURSE 705 METERS UPSTREAM OF THE CONFLUENCE WITH HALLS BAYOU~~	~~11368~~	~~1016~~	~~10~~	~~12~~	~~HG~~	~~HH~~	~~RT~~	~~6~~	~~6~~	~~6~~					REPLACED site 11369 in FY23; moved back to 11369 in FY25.
GREENS BAYOU IMMEDIATELY DOWNSTREAM OF MT HOUSTON PARKWAY	11370	1016	10	12	HG	HH	RT	6	6	6					HHD confirmed this site for FY23
GREENS BAYOU AT US 59 NORTH OF HOUSTON	11371	1016	10	12	HG	HH	RT	6	6	6			4		
GREENS BAYOU AT WEST GREENS PARKWAY	11376	1016	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
WHITEOAK BAYOU AT NORTH SHEPHERD STREET IN HOUSTON	11389	1017	10	12	HG	HH	RT	6	6	6					
WHITEOAK BAYOU AT NORTH HOUSTON ROSSLYN ROAD	11394	1017	10	12	HG	HH	RT	6	6	6			4		
WHITEOAK BAYOU IMMEDIATELY DOWNSTREAM OF TAHOE DRIVE	11396	1017	10	12	HG	HH	RT	6	6	6					
ARMAND BAYOU AT GENOA-RED BLUFF RD NE OF ELLINGTON AFB	11404	1113A	11	12	HG	HH	RT	6	6	6					
ARMAND BAYOU AT FAIRMONT PARKWAY ALONG MEDIAN AT MIDPOINT BETWEEN BRIDGES	11405	1113A	11	12	HG	HH	RT	6	6	6			4		
ARMAND BAYOU TIDAL AT BAY AREA BLVD NORTH OF NASA AT MIDDLE OF MEDIAN BETWEEN 2 BRIDGES EASTERN SHORE	11503	1113	11	12	HG	HH	RT	6	6	6					
GREENS BAYOU 184 METERS DOWNSTREAM OF KNOBCREST DRIVE	13778	1016	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8075900
LITTLE CYPRESS CREEK IMMEDIATELY DOWNSTREAM OF KLUGE ROAD IN HOUSTON	14159	1009E	10	12	HG	HH	RT	6	6	6			4		
WHITEOAK BAYOU IMMEDIATELY DOWNSTREAM OF WEST 43RD STREET IN NORTHWEST HOUSTON	15829	1017	10	12	HG	HH	RT	6	6	6			4		
WHITEOAK BAYOU AT WEST TIDWELL ROAD IN NORTHWEST HOUSTON	15831	1017	10	12	HG	HH	RT	6	6	6					
BUFFALO BAYOU TIDAL IMMEDIATELY UPSTREAM OF JENSEN DRIVE IN HOUSTON	15841	1007	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
BUFFALO BAYOU TIDAL AT SABINE STREET NORTH OF ALLEN PARKWAY IN HOUSTON	15843	1013	10	12	HG	HH	RT	6	6	6					
BUFFALO BAYOU AT CHIMNEY ROCK ROAD IN HOUSTON	15845	1014	10	12	HG	HH	RT	6	6	6					
BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF BRIAR FOREST DRIVE IN WEST HOUSTON	15846	1014	10	12	HG	HH	RT	6	6	6					
TURKEY CREEK 200 METERS UPSTREAM OF MEMORIAL DRIVE AT BRIDGE IN MEMORIAL OAKS CEMETERY	15847	1014K	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF SH 6 IN WEST HOUSTON	15848	1007B	10	12	HG	HH	RT	6	6	6			4		
BRAYS BAYOU AT DAIRY ASHFORD STREET IN WEST HOUSTON	15850	1007B	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU AT WILCREST DRIVE IN WEST HOUSTON	15851	1007B	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF BEECHNUT STREET IN WEST HOUSTON	15852	1007B	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF HILLCROFT STREET IN WEST HOUSTON	15853	1007B	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF SOUTH RICE AVENUE IN WEST HOUSTON	15854	1007B	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU IMMEDIATELY DOWNSTREAM OF STELLA LINK ROAD IN HOUSTON	15855	1007B	10	12	HG	HH	RT	6	6	6					
HUNTING BAYOU AT LOCKWOOD DRIVE IN NORTHEAST HOUSTON	15873	1007R	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
SIMS BAYOU IMMEDIATELY DOWNSTREAM OF ALMEDA ROAD IN SOUTH HOUSTON	15876	1007D	10	12	HG	HH	RT	6	6	6					
SIMS BAYOU AT MARTIN LUTHER KING JUNIOR BOULEVARD IN SOUTH HOUSTON	15877	1007D	10	12	HG	HH	RT	6	6	6	6		4		Flow from USGS gage 8075470
SIMS BAYOU AT SWALLOW STREET IN SOUTHEAST HOUSTON	15878	1007D	10	12	HG	HH	RT	6	6	6					
HALLS BAYOU AT HOMESTEAD ROAD IN NORTHEAST HOUSTON	15862	1006D	10	12	HG	HH	RT	6	6	6					
HALLS BAYOU AT HIRSCH RD IN NORTHEAST HOUSTON	15863	1006D	10	12	HG	HH	RT	6	6	6					
HALLS BAYOU AT MESA DR IN NORTHEAST HOUSTON	15864	1006D	10	12	HG	HH	RT	6	6	6					
HUNTING BAYOU AT JENSEN DRIVE IN NORTHEAST HOUSTON	15867	1007R	10	12	HG	HH	RT	6	6	6					
HUNTING BAYOU AT CAVALCADE ST IN NORTHEAST HOUSTON	15869	1007R	10	12	HG	HH	RT	6	6	6					
BRAYS BAYOU AT SOUTH WAYSIDE DRIVE 802 METERS UPSTREAM OF IH 45 IN SOUTHEAST HOUSTON	16479	1007	10	12	HG	HH	RT	6	6	6					
GARNERS BAYOU IMMEDIATELY UPSTREAM OF OLD HUMBLE ROAD AT CONFLUENCE WITH RIENHARDT BAYOU IN NORTHEAST HOUSTON	16589	1016A	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF GREENS BAYOU AT MESA DR/E. HOUSTON-DYERSDALE ROAD IN NORTHEAST HOUSTON	16590	1016B	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
SPRING BRANCH CREEK IMMEDIATELY UPSTREAM OF WIRT ROAD 331 METERS DOWNSTREAM OF IH 10 IN WEST HOUSTON	16592	1014O	10	12	HG	HH	RT	6	6	6					
COLE CREEK IMMEDIATELY UPSTREAM OF BOLIVIA BLVD 792 METERS UPSTREAM OF CONFLUENCE WITH WHITEOAK BAYOU IN NW HOUSTON	16593	1017B	10	12	HG	HH	RT	6	6	6					
BRICKHOUSE GULLY AT US 290 IN NORTHWEST HOUSTON 2.03 KM UPSTREAM OF CONFLUENCE WITH WHITEOAK BAYOU	16594	1017A	10	12	HG	HH	RT	6		6	6				Flow via USGS gage 8074250; Shallow site
UNNAMED TRIBUTARY OF WHITE OAK BAYOU AT W 14TH IN WEST HOUSTON 516 METERS UPSTREAM OF CONFLUENCE WITH WHITE OAK BAYOU	16596	1017E	10	12	HG	HH	RT	6	6	6					
NEWMAN BRANCH / NEIMANS BAYOU AT MEMORIAL DRIVE IN WEST HOUSTON	16597	1014M	10	12	HG	HH	RT	6	6	6					
LITTLE WHITE OAK BAYOU AT WHITE OAK DRIVE IN NORTH HOUSTON	16648	1013A	10	12	HG	HH	RT	6	6	6					
COUNTRY CLUB BAYOU/TRIBUTARY OF BRAYS BAYOU IMMEDIATELY UPSTREAM OF SOUTH WAYSIDE DRIVE/US90A IN CENTRAL HOUSTON	16650	1007K	10	12	HG	HH	RT	6	6	6					
COUNTRY CLUB BAYOU/TRIBUTARY OF BRAYS BAYOU AT HUGHES STREET IN CENTRAL HOUSTON	16651	1007K	10	12	HG	HH	RT	6	6	6					
WILLOW WATERHOLE AT MCDERMED DRIVE IN SOUTHWEST HOUSTON	16652	1007E	10	12	HG	HH	RT	6		6					Shallow site

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
KUHLMAN GULLY/TRIBUTARY OF BRAYS BAYOU AT BROCK STREET 311 METERS UPSTREAM OF WHEELER STREET IN SOUTHEAST CENTRAL HOUSTON	16653	1007G	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF BRAYS BAYOU AT DUMFRIES DRIVE IN SOUTH WEST HOUSTON	16654	1007L	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF SIMS BAYOU AT DULCIMER STREET IN SOUTH HOUSTON	16655	1007N	10	12	HG	HH	RT	6	6	6					
SIMS BAYOU SOUTH BRANCH AT TIFFANY DRIVE IN SOUTH HOUSTON	16656	1007A	10	12	HG	HH	RT	6		6					Shallow site
UNNAMED TRIBUTARY OF HUNTING BAYOU IMMEDIATELY UPSTREAM OF JOHN RALSTON ROAD IN EAST HOUSTON	16657	1007M	10	12	HG	HH	RT	6		6					Shallow site
PLUM CREEK/TRIBUTARY OF SIMS BAYOU AT OLD GALVESTON ROAD IN SOUTHEAST HOUSTON	16658	1007I	10	12	HG	HH	RT	6	6	6					
PINE GULLY/TRIBUTARY OF SIMS BAYOU AT OLD GALVESTON ROAD IN SOUTHEAST HOUSTON	16659	1007H	10	12	HG	HH	RT	6	6	6					
BERRY BAYOU/TRIBUTARY OF SIMS BAYOU IMMEDIATELY UPSTREAM OF AHRENS DRIVE IN SOUTH EAST HOUSTON	16660	1007	10	12	HG	HH	RT	6	6	6					
BERRY BAYOU IMMEDIATELY UPSTREAM OF SOUTH RICHEY STREET IN SOUTH EAST HOUSTON	16661	1007F	10	12	HG	HH	RT	6	6	6					
BIG GULCH AT WALLISVILLE ROAD IN EAST HOUSTON	16662	1006F	10	12	HG	HH	RT	6		6					Shallow site

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
SPRING GULLY AT WEST TERMINUS OF BARNESWORTH DRIVE IN NORTHEAST HOUSTON	16663	1006H	10	12	HG	HH	RT	6	6	6			4		
GOODYEAR CREEK TIDAL IMMEDIATELY UPSTREAM OF IH 10 IN EAST HOUSTON	16664	1006	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF HALLS BAYOU IMMEDIATELY DOWNSTREAM OF LANGLEY ROAD IN NORTH HOUSTON	16665	1006J	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF HALLS BAYOU AT TALTON STREET IN NORTHEAST HOUSTON	16666	1006I	10	12	HG	HH	RT	6		6					Shallow site
UNNAMED TRIB OF BUFFALO BAYOU NEAR GLENWOOD CEMETARY ST 120 METERS SOUTH AND 110 METERS WEST OF INTERSECTION OF LUBBOCK ST AND WEST SAWYER ST IN CENTRAL HOUSTON	16675	1013C	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF GREENS BAYOU AT SMITH RD IN NORTHEAST HOUSTON	16676	1016D	10	12	HG	HH	RT	6	6	6					
SPRING GULLY AT SPRING CREEK OAKS DRIVE IN TOMBALL	17481	1009D	10	12	HG	HH	RT	6	6	6					
LANGHAM CREEK AT SH 6 IN NORTHWEST HOUSTON	17482	1014E	10	12	HG	HH	RT	6	6	6	6				
BEAR CREEK AT OLD GREENHOUSE ROAD WEST OF HOUSTON	17484	1014A	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF HORSEPEN BAYOU TIDAL AT PENN HILLS	17485	1113C	11	12	HG	HH	RT	6	6	6					
BIG ISLAND SLOUGH AT HILLRIDGE ROAD IN SOUTHEAST HOUSTON	17486	1113E	11	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
WILLOW SPRING AT BANDRIDGE ROAD IN SOUTHEAST HOUSTON	17487	1113D	11	12	HG	HH	RT	6		6					Shallow site
SPRING CREEK IMMEDIATELY DOWNSTREAM OF KUYKENDAHL ROAD NORTHEAST OF HOUSTON	17489	1008	10	12	HG	HH	RT	6	6	6			4		
HALLS BAYOU AT AIRLINE ROAD IN NORTH HOUSTON	17490	1006D	10	12	HG	HH	RT	6	6	6					
HALLS BAYOU AT DEER TRAIL DRIVE IN NORTH HOUSTON	17491	1006D	10	12	HG	HH	RT	6	6	6	6				Flow from USGS gage 8076200
BUFFALO BAYOU AT SOUTH MASON ROAD WEST OF HOUSTON	17492	1014B	10	12	HG	HH	RT	6	6	6					
MASON CREEK 151 METERS DOWNSTREAM OF PARK PINE DRIVE WEST OF HOUSTON	17494	1014L	10	12	HG	HH	RT	6	6	6					
GREENS BAYOU IMMEDIATELY UPSTREAM OF MILLS ROAD WEST OF HOUSTON	17495	1016	10	12	HG	HH	RT	6	6	6					
FAULKEY GULLY OF CYPRESS CREEK 105 METERS DOWNSTREAM OF LAKEWOOD FOREST DRIVE NORTHWEST OF HOUSTON	17496	1009C	10	12	HG	HH	RT	6	6	6					
SIMS BAYOU UPSTREAM TIDAL AT SOUTH POST OAK ROAD IN SOUTHWEST HOUSTON	17976	1007D	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF BUFFALO BAYOU IMMEDIATELY DOWNSTREAM OF EMILE ST ON NORTH BANK 120 M SOUTH OF CLINTON DRIVE IN CENTRAL HOUSTON	17977	1007O	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
UNNAMED TRIBUTARY OF HUNTING BAYOU AT MINDEN STREET APPROXIMATELY 0.3 KM EAST OF LOCKWOOD AND S OF N 610 LOOP EAST	18689	1007V	10	12	HG	HH	RT	6		6					Shallow site
BINTLIFF DITCH TRIBUTARY OF BRAYS BAYOU UNDER CENTER OF BISSONNET ST BRIDGE 317 M NE OF BISSONNET AT FONDREN RD IN SW HOUSTON	18690	1007T	10	12	HG	HH	RT	6		6					Shallow site
MIMOSA DITCH TRIBUTARY OF BRAYS BAYOU AT NEWCASTLE DR IN SOUTHWEST HOUSTON	18691	1007U	10	12	HG	HH	RT	6		6					Shallow site
POOR FARM DITCH TRIBUTARY OF BRAYS BAYOU AT EASTBOUND NORTH BRAESWOOD BLVD APPROX 200 M E OF BUFFALO SPEEDWAY IN SW HOUSTON	18692	1007S	10	12	HG	HH	RT	6		6					Shallow site
KEEGANS BAYOU AT SYNOTT ROAD 1.1 KM SOUTH OF THE INTERSECTION OF SYNOTT ROAD AND BISSONET STREET IN SOUTHWEST HOUSTON	20211	1007C	10	12	HG	HH	RT	6	6	6					
BUFFALO BAYOU NORTH SHORE IMMEDIATELY UNDERNEATH THE SOUTHBOUND FEEDER ROAD BRIDGE OF IH 610 WEST IN HOUSTON	20212	1014	10	12	HG	HH	RT	6	6	6					
WILLOW CREEK AT TUWA ROAD APPROXIMATELY 859 METERS DOWNSTREAM OF FM 2920 ROAD IN NORTHERN HARRIS COUNTY	20730	1008H	10	12	HG	HH	RT	6	6	6					
SIMS BAYOU AT GALVESTON ROAD IN HOUSTON	20736	1007	10	12	HG	HH	RT	6	6	6					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
GREENS BAYOU AT WALLISVILLE ROAD APPROX 150 METERS NORTHEAST OF THE INTERSECTION OF DATTNER ROAD AND WALLISVILLE ROAD IN HOUSTON	21008	1006	10	12	HG	HH	RT	6	6	6					
HARRIS COUNTY FLOOD CONTROL DISTRICT CHANNEL D138 / CHIMNEY DITCH IMMEDIATELY UPSTREAM OF CAVERSHAM DRIVE BETWEEN THE NORTHBOUND AND SOUTHBOUND SECTIONS OF CHIMNEY ROCK ROAD IN HOUSTON	21180	1007W	10	12	HG	HH	RT	6	6	6					
SOUTH MAYDE CREEK AT SOUTH PARK VIEW DRIVE WEST OF HOUSTON	21813	1014H	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF GREENS BAYOU AT ALDINE WESTFIELD RD	22090	1016C	10	12	HG	HH	RT	6	6	6					
UNNAMED TRIBUTARY OF WHITE OAK BAYOU 18 METERS SOUTH AND 18 METERS WEST OF HELBERG RD DEAD END	22094	1017D	10	12	HG	HH	RT	6	6	6					
TURKEY CREEK AT CLAY ROAD IN NORTHWEST HOUSTON	22169	1014K	10	12	HG	HH	RT	6	6	6			4		
CYPRESS CREEK AT FRY ROAD 3.3 KM UPSTREAM OF US 290/NORTHWEST FWY	22393	1009	10	12	HG	HH	RT	6	6	6	6		4		REPLACED site 11333 in FY23 due to safety
BUFFALO BAYOU TIDAL AT CONGRESS ST BRIDGE IN HOUSTON	22396	1013	10	12	HG	HH	RT	6	6	6	6				REPLACED site 11347 in FY23
KENNEDY GULLY OF HALLS BAYOU AT WOODLYN ROAD IN NORTHEAST HOUSTON	22474	1006L	10	12	HG	HH	RT	6		6					Shallow site; Replaced site 16667 ID

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
CRYSTAL CREEK AT FM 1314	11181	1004D	10	12	HG	HW	RT	6	6	6			4		
LUCE BAYOU/SAN JACINTO RIVER EAST FORK AT HUFFMAN-NEW CANEY ROAD	11187	1002B	10	12	HG	HW	RT	6	6	6					
LAKE HOUSTON NORTH SIDE OF MISSOURI PACIFIC RAILROAD BRIDGE 137 METERS SOUTH AND 1.36 KM WEST OF INTERSECTION OF PINO LN AND SUNOCO RD	11208	1002	10	12	HG	HW	RT	12	12	12			4	4	
LAKE HOUSTON AT FM 1960 WEST END PASS BRIDGE 269 M N AND 731 M E OF INTERSECTION OF ATASCOCITA SHORES AND FM 1960/CITY HO SITE 9	11211	1002	10	12	HG	HW	RT	12	12	12					
LAKE HOUSTON AT FM 1960 EAST END PASS BRIDGE 235 M S AND 950 M WEST OF INTERSECTION OF FM 1960 AND FAIRLAKE LANE/CITY HO SITE 13	11212	1002	10	12	HG	HW	RT	12	12	12					
EAST FORK SAN JACINTO RIVER AT FM 1485	11235	1003	10	12	HG	HW	RT	6	6	6	6		4		Flow from USGS gage 8070200
EAST FORK SAN JACINTO RIVER IMMEDIATELY UPSTREAM OF TX-105 BUSINESS ROUTE / W SOUTHLINE STREET WEST OF CLEVELAND	11238	1003	10	12	HG	HW	RT	6	6	6	6		4		Flow from USGS gage 8070000
WEST FORK SAN JACINTO RIVER IMMEDIATELY UPSTREAM OF SH 242	11243	1004	10	12	HG	HW	RT	6	6	6			4		
WEST FORK SAN JACINTO RIVER IMMEDIATELY DOWNSTREAM OF SH 105 NW OF CONROE CAMS772	11251	1004	10	12	HG	HW	RT	6	6	6	6				Flow from USGS gage 8067650

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
SPRING CREEK BRIDGE AT IH 45 20 MILES NORTH OF HOUSTON	11313	1008	10	12	HG	HW	RT	6	6	6	6		4		Flow from USGS gage 8068500
CYPRESS CREEK BRIDGE ON IH 45 15 MI NORTH OF HOUSTON	11328	1009	10	12	HG	HW	RT	6	6	6	6		4		Flow from USGS gage 8069000
CANEY CREEK IMMEDIATELY DOWNSTREAM OF FM 1485	11334	1010	10	12	HG	HW	RT	6	6	6					
PEACH CREEK BRIDGE AT FM 2090 IN SPLENDORA	11337	1011	10	12	HG	HW	RT	6	6	6	6		4		Flow from USGS gage 08071000
LAKE HOUSTON 90 M S AND 349 M W OF INTERSECTION OF MAGNOLIA PT DR AND DIAMOND WAY CANEY CREEK ARM IN HOUSTON	16623	1002	10	12	HG	HW	RT	12	12	12					
PEACH CREEK IMMEDIATELY UPSTREAM OF OLD HWY 105	16625	1011	10	12	HG	HW	RT	6	6	6					
STEWARTS CREEK 175 METERS DOWNSTREAM OF SH LOOP 336 SOUTHEAST OF CONROE	16626	1004E	10	12	HG	HW	RT	6	6	6			4		
LK HOUSTON W OF LK SHADOWS SUBDIVISION MID LAKE NW OF HOUSTON 2.09 KM N AND 1.38 KM E OF INTERSECT OF LK HOUSTON PKWY AND DITE CAYLIN	16668	1002	10	12	HG	HW	RT	12	12	12					
LAKE HOUSTON IN THE WEST FORK SAN JACINTO RIVER CHANNEL 270 M EAST AND 60 M NORTH OF MISTY COVE AT ATASCOCITA PLACE DR	18667	1002	10	12	HG	HW	RT	12	12	12			4	4	

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
LAKE HOUSTON/LUCE BAYOU 123 M NORTH AND 188 M WEST OF LAKEWATER DR AT WATERWOOD DR IN WATER WONDERLAND SUBDIVISION IN HARRIS COUNTY	18670	1002	10	12	HG	HW	RT	12	12	12			4	4	
LAKE HOUSTON WEST FORK SAN JACINTO RIVER ARM UNDER POWER LINES 567 METERS EAST AND 538 METERS NORTH FROM THE INTERSECTION OF BELLEAU WOOD DRIVE AND SOUTHSHORE DRIVE IN HOUSTON	20782	1002	10	12	HG	HW	RT	12	12	12					
CANEY CREEK AT MILLMAC ROAD NORTHEAST OF CUT AND SHOOT	21465	1010	10	12	HG	HW	RT	6	6	6			4		
LUCE BAYOU 224 METERS NORTHWEST OF END OF CRY BABY LANE IN HUFFMAN	22224	1002	10	12	HG	HW	RT	12	12	12					ADDED in FY21
LAKE CONROE AT DAM MID CHANNEL 85 M OUT FROM MIDDLE TAINTER GATE 922 M N AND 426 M E OF INTERSECTION OF DAM SITE RD AND SH 105	11342	1012	10	12	HG	SJ	RT	12	12	12			4	4	
LAKE CONROE AT FM 1375 IN THE MAIN CHANNEL 4TH PILING FROM THE EAST 541 M SOUTH AND 1.40 KM W OF INTERSECTION OF KAGLE RD AND FM 1375 USGS SITE GC	11344	1012	10	12	HG	SJ	RT	12	12	12			4	4	
PANTHER BRANCH 295 METERS DOWNSTREAM OF SAWDUST ROAD IN THE WOODLANDS	16422	1008C	10	12	HG	SJ	RT	12	4	4					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
LAKE WOODLANDS AT WESTERN REACH 110 METERS NORTH AND 100 METERS EAST OF INTERSECTION OF MEADOW COVE DR AND PLEASURE COVE DR IN THE WOODLANDS	16481	1008F	10	12	HG	SJ	RT	12	4	4					
LAKE WOODLANDS AT SOUTH END 23 METERS NORTH AND 50 METERS EAST OF THE WEST EDGE OF DAM IN THE WOODLANDS	16482	1008F	10	12	HG	SJ	RT	12	4	4			4	4	
LAKE WOODLANDS AT MID POINT 130 METERS NORTH AND 30 METERS EAST OF THE NORTHERN INTERSECTION OF E SHORE DR AND CAPE HARBOR PL IN THE WOODLANDS	16483	1008F	10	12	HG	SJ	RT	12	4	4					
LAKE WOODLANDS AT NORTH END 111 METERS DOWNSTREAM OF RESEARCH FOREST DRIVE IN THE WOODLANDS	16484	1008F	10	12	HG	SJ	RT	12	4	4					
LOWER PANTHER BRANCH AT FOOTBRIDGE 265 M UPSTREAM OF SAWDUST RD APPROX 200 M UPSTREAM OF PERMIT WQ0011401-001 LOCATED AT 2436 SAWDUST ROAD	16627	1008C	10	12	HG	SJ	RT	12	4	4					
UPPER PANTHER BRANCH APPROX 80 M UPSTREAM OF PERMIT WQ0012597-001 LOCATED AT 5402 RESEARCH FOREST DR	16629	1008B	10	12	HG	SJ	RT	12	4	4					
UPPER PANTHER BRANCH APPROX 170 METERS DOWNSTREAM OF PERMIT WQ0012597-001 LOCATED AT 5402 RESEARCH FOREST DR	16630	1008B	10	12	HG	SJ	RT	12	4	4					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
BEAR BRANCH 20 METERS DOWNSTREAM OF RESEARCH FOREST DRIVE	16631	1008E	10	12	HG	SJ	RT	12	4	4	12				Flow from USGS gage 8068390
LAKE CONROE AT APRIL POINT MID CHANNEL 559 M N AND 586 M E OF INTERSECTION OF APRIL POINT PLACE AND APRIL HILL	16638	1012	10	12	HG	SJ	RT	12	12	12					
LAKE CONROE AT SOUTH END OF LAKE ON EAST SIDE 201 METERS SOUTH AND 732 METERS WEST OF INTERSECTION OF S VALLEY DRIVE AND CREST DRIVE	16639	1012	10	12	HG	SJ	RT	12	12	12			4	4	
LAKE CONROE S OF BENTWATER ISLAND WEST COVE S OF FM 1097 BRIDGE 769 M N AND 89 M E OF INTERSECTION OF WATERFRONT AND SPRINGTIME DR	16640	1012	10	12	HG	SJ	RT	12	12	12					
LAKE CONROE AT AQUARIUS POINT MID CHANNEL N OF FM 830 BOAT RAMP 437 M N AND 924 M W OF INTERSECT OF FM 830 AND LAKEVIEW MANOR DR	16641	1012	10	12	HG	SJ	RT	12	12	12					
LAKE CONROE AT LAKE MID POINT MID CHANNEL AT FM 1097 BRIDGE 57 M S AND 520 M W OF INTERSECTION OF FM 1097 AND BLUEBERRY HILL	16642	1012	10	12	HG	SJ	RT	12	12	12			4	4	
LAKE CONROE AT HUNTERS POINT CANEY CREEK ARM E OF SCOTTS RIDGE BOAT RAMP 640 M N AND 558 M E OF INTERSECT OF TEEL RD AND HUNTERS TRL	16643	1012	10	12	HG	SJ	RT	12	12	12					

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
LAKE CONROE AT PARADISE POINT MID CHANNEL 396 METERS S AND 309 M WEST INTERSECTION OF PARADISE VIEW DRIVE AND PARADISE POINT DRIVE	16644	1012	10	12	HG	SJ	RT	12	12	12					
LAKE CONROE AT MOUTH OF SANDY BRANCH COVE 2.63 KM EAST OF INTERSECTION OF HARDY SMITH ROAD AND F S 218 A	16645	1012	10	12	HG	SJ	RT	12	12	12					
BEAR BRANCH IMMEDIATELY UPSTREAM OF THE BEAR BRANCH RESERVIOR DAM ABOUT 115 METERS UPSTREAM OF KUYKENDAHL ROAD	22493	1008E	10	12	HG	SJ	RT	12		4					NEW in FY25
EAST FORK SAN JACINTO RIVER AT FM 2090 IN LIBERTY COUNTY	11236	1003	10	12	HG	TF	RT	4	4	4	4				
EAST FORK SAN JACINTO RIVER IMMEDIATELY DOWNSTREAM OF FM 945 5.6 MILES NORTH OF CLEVELAND	11237	1003	10	10	HG	TF	RT	4	4	4	4				
EAST FORK SAN JACINTO RIVER IMMEDIATELY DOWNSTREAM OF US 59 AT RED GULLY	14242	1003	10	12	HG	TF	RT	4	4	4	4				
TARKINGTON BAYOU AT SH 105/SH 321 SOUTHEAST OF CLEVELAND	20466	1002A	10	12	HG	TF	RT	4	4	4	4		4		NEW in FY24.
WINTERS BAYOU AT FM 2929 / FOUR NOTCH ROAD 4.8 KILOMETERS SOUTH OF PHELPS IN WALKER COUNTY	21933	1003A	10	12	HG	TF	RT	4	4	4	4				
BOSWELL CREEK AT FOUR NOTCH ROAD / BOSWELL ROAD 13 KILOMETERS NORTHEAST OF NEW WAVERLY IN WALKER COUNTY	21934	1003C	10	12	HG	TF	RT	4	4	4	4				

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WINTERS BAYOU AT FM 2693 IN SAN JACINTO COUNTY	21935	1003A	10	10	HG	TF	RT	4	4	4	4				
WINTERS BAYOU AT DABNEY BOTTOM RD IN SAN JACINTO COUNTY	21937	1003A	10	10	HG	TF	RT	4	4	4	4				
NEBLETTS CREEK AT FM 1725 IN SAN JACINTO COUNTY	21938	1003B	10	10	HG	TF	RT	4	4	4	4				
EAST FORK SAN JACINTO RIVER AT NORTH BUTCH ARTHUR ROAD IN SAN JACINTO COUNTY	21939	1003	10	10	HG	TF	RT	4	4	4	4				
TARKINGTON BAYOU AT FM 787 APPROXIMATELY 1.1 KM EAST OF CAMPBELL ST IN CLEVELAND TX	22431	1002A	10	12	HG	TF	RT	4	4	4	4		4		NEW in FY24.
CEDAR BAYOU TIDAL MID CHANNEL 45 M DOWNSTREAM OF SH 146 NORTHEAST OF BAYTOWN	11115	901	9	12	HG	UI	RT	4	4	4					
CEDAR BAYOU ABOVE TIDAL 30 M DOWNSTREAM OF FM 1942 AT EAST BANK	11118	902	9	12	HG	UI	RT	4	4	4	4				
CEDAR BAYOU ABOVE TIDAL 45 M DOWNSTREAM OF FM 1960 NORTHEAST OF HUFFMAN	11123	902	9	12	HG	UI	RT	4	4	4	4		4		
MOSES BAYOU AT NORTHBOUND SH 146 BRIDGE AT MID-BRIDGE NORTH OF LA MARQUE	11400	2431A	24	12	HG	UI	RT	4	4	4					
HIGHLAND BAYOU AT FAIRWOOD ROAD IN LA MARQUE IN GALVESTON COUNTY	11415	2424A	24	12	HG	UI	RT	4	4	4					
MUSTANG BAYOU AT FM 2917 SOUTH OF ALVIN	11423	2432A	24	12	HG	UI	RT	4	4	4	4		4		

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
CEDAR CREEK AT FM 517 W OF DICKINSON	11434	1103E	11	12	HG	UI	RT	4	4	4	4				
GUM BAYOU AT FM 517 E OF DICKINSON	11436	1103D	11	12	HG	UI	RT	4	4	4			4		
DICKINSON BAYOU TIDAL AT SH 146 BRIDGE EAST OF DICKINSON	11455	1103	11	12	HG	UI	RT	4	4	4			4		
DICKINSON BAYOU TIDAL AT IH 45	11462	1103	11	12	HG	UI	RT	4	4	4					
CHOCOLATE BAYOU TIDAL FM 2004 BRIDGE SOUTH OF ALVIN	11478	1107	11	12	HG	UI	RT	4	4	4			4	4	
OYSTER CREEK TIDAL AT THAT-WAY DRIVE 0.5 MILES BELOW FM 2004	11486	1109	11	12	HG	UI	RT	4	4	4			4		
OYSTER CREEK IMMED. DOWNSTREAM OF SH 35 WEST OF ANGLETON	11490	1110	11	12	HG	UI	RT	4	4	4	4		4		Conv & Bact added in second half of FY2020
OYSTER CREEK AT SIMS RD / BRAZORIA CR 30 WEST OF ANGLETON	11491	1110	11	12	HG	UI	RT	4	4	4	4		4		ADDED site to CRP in FY2019. TCEQ Permitting requested flow in FY20.
OYSTER CREEK AT FM 1462 WEST OF ROSHARON	11493	1110	11	12	HG	UI	RT	4	4	4	4		4		ADDED in FY20 at request of TCEQ
HARDEMAN SLOUGH IMMEDIATELY DOWNSTREAM OF ALLENHURST RD NE OF FM 2540 NEAR ALLENHURST COMMUNITY	12135	1305A	13	12	HG	UI	RT	4	4	4	4				
LINNVILLE BAYOU 35 M DOWNSTREAM OF SIMS ROAD / CR 153 APPROXIMATELY 5.20 KM UPSTREAM OF MOUTH	12138	1304A	13	12		UI	RT	4	4	4	4		4		ADDED IN FY2024

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
CANEY CREEK IMMEDIATELY UPSTREAM OF CONCRETE BRIDGE 210 M DOWNSTREAM OF LINVILLE BAYOU CONFLUENCE AND ADJACENT TO FM 521	12151	1304	13	12	HG	UI	RT	4	4	4					
CANEY CREEK AT SERGEANT JOE PARKS JR MEMORIAL HIGHWAY / FM 457 IN MATAGORDA COUNTY	12153	1305	13	12	HG	UI	RT	4	4	4	4		4		
CANEY CREEK ABOVE TIDAL 35 M DOWNSTREAM OF ASHWOOD RD/FM 3156 1.24 KM SOUTHWEST OF MATAGORDA CR1728 ASHWOOD	12155	1305	13	12	HG	UI	RT	4	4	4	4		4		ADDED IN FY2024
WEST BAY OFFAT BAYOU MID BAYOU OPPOSITE LAKE MADELINE CANAL	13322	2424D	24	12	HG	UI	RT	4	4	4			4	4	
WEST BAY AT RANGE MARKER D BETWEEN SOUTH DEER ISLAND AND TEICHMAN POINT	14622	2424	24	12	HG	UI	RT	4	4	4			4	4	
OFFATTS BAYOU OFF CM 18	14645	2424D	24	12	HG	UI	RT	4	4	4					
HIGHLAND BAYOU TIDAL AT FM 519 335 METERS NORTH OF SH 6 IN CITY OF HITCHCOCK IN GALVESTON COUNTY	15941	2424A	24	12	HG	UI	RT	4	4	4			4		
SAN BERNARD RIVER IMMEDIATELY DOWNSTREAM OF FM 3013 ON THE COLORADO-AUSTIN COUNTY LINE APPROXIMATELY 15KM SW OF SEALY	16370	1302	13	12	HG	UI	RT	4	4	4	4				
GUM TREE BRANCH AT WHARTON CR 242 APPROXIMATELY 5.9 KM SE OF LISSIE	16371	1302A	13	12	HG	UI	RT	4	4	4	4				ADDED IN FY2024

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
GEISLER BAYOU AT FM517 BRIDGE 0.19MI UPSTREAM OF DICKINSON BAYOU IN DICKINSON	16470	1103C	11	12	HG	UI	RT	4	4	4					
BENSONS BAYOU AT FM 517 / PINE DR IN DICKINSON	16471	1103A	11	12	HG	UI	RT	4	4	4					
MARYS CREEK AT MARYS CROSSING IN NORTH FRIENDSWOOD	16473	1102B	11	12	HG	UI	RT	4	4	4	4		4		
ROBINSONS BAYOU AT FM270 IN LEAGUE CITY	16475	1101D	11	12	HG	UI	RT	4	4	4					
HIGHLAND BAYOU 80 M NORTHEAST OF SH 6 BRIDGE CENTERPOINT IN BAYOU VISTA WEST OF IH 45 IN GALVESTON COUNTY	16488	2424A	24	12	HG	UI	RT	4	4	4			4	4	
MARCHAND BAYOU TIDAL AT FM519 IN HITCHCOCK	16490	2424C	24	12	HG	UI	RT	4	4	4					
HIGHLAND BAYOU AT FM 2004 IN HITCHCOCK IN GALVESTON COUNTY	16491	2424A	24	12	HG	UI	RT	4	4	4			4		
CHIGGER CREEK AT FM528 BRIDGE IN FRIENDSWOOD	16493	1101B	11	12	HG	UI	RT	4	4	4	4				
HIGHLAND BAYOU AT END OF BAYOU LANE FREDDIESVILLE	16562	2424A	24	12	HG	UI	RT	4	4	4					
LAKE MADELINE AT CORNER OF BELUCHE DRIVE AND DOMINIQUE DRIVE IN GALVESTON	16564	2424B	24	12	HG	UI	RT	4	4	4			4	4	
CLEAR CREEK TIDAL AT BROOKDALE DR APPROX 0.1MI DOWNSTREAM OF GRISSOM RD IN COUNTRYSIDE PARK IN CANOE LAUNCHING AREA IN LEAGUE CITY	16576	1101	11	12	HG	UI	RT	4	4	4			4		

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
MAGNOLIA CREEK AT W BAY AREA BLVD LEAGUE CITY APPROX 250 M UPSTREAM OF WWTP PERMIT WQ0010568-003	16611	1101A	11	12	HG	UI	RT	4	4	4	4				
COWART CREEK 9 METERS UPSTREAM FROM CASTLEWOOD DRIVE BRIDGE IN FRIENDSWOOD	16677	1102A	11	12	HG	UI	RT	4	4	4	4				
HICKORY SLOUGH AT ROBINSON DRIVE IN PEARLAND	17068	1102C	11	12	HG	UI	RT	4	4	4	4				
CHOCOLATE BAY 200 M NORTHWEST OF HORSE GROVE POINT AND 5.1 KM DOWNSTREAM OF FM 2004	17086	2432	24	12	HG	UI	RT	4	4	4			4	4	
MOSES BAYOU AT SH 3 IN TEXAS CITY	17910	2431E	24	12	HG	UI	RT	4	4	4	4				
NEW BAYOU AT FM 2004 S/SW OF HITCHCOCK	17911	2432E	24	12	HG	UI	RT	4	4	4					
PERSIMMON BAYOU AT FM 2004 S/SW OF HITCHCOCK	17913	2432D	24	12	HG	UI	RT	4	4	4					
COW BAYOU AT NASA ROAD 1 IN WEBSTER 100 M EAST OF FM 270/EL CAMINO REAL	17928	1101C	11	12	HG	UI	RT	4	4	4					
AUSTIN BAYOU AT FM 2004 APPROXIMATELY 4 MILES SOUTHEAST OF ANGLETON TEXAS IN BRAZORIA COUNTY	18048	1105B	11	12	HG	UI	RT	4	4	4			4	4	
BASTROP BAYOU OFF BAYOU WOOD DR DUE EAST OF BRAZORIA CR 201 AT BASTROP BAYOU DR APPROX 1.1 KM UPSTREAM OF SH 288B IN RICHWOOD VILLAGE	18502	1105	11	12	HG	UI	RT	4	4	4					

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BASTROP BAYOU TIDAL APPROXIMATELY 15 M OFF NORTH BANK AND 1.55 KM UPSTREAM OF FM 2004 IN RICHWOOD VILLAGE	18503	1105	11	12	HG	UI	RT	4	4	4					
BASTROP BAYOU TIDAL MID CHANNEL AT NORTH END OF BASTROP BEACH ROAD 350 M DOWNSTREAM OF FM 523 SE OF ANGLETON	18504	1105	11	12	HG	UI	RT	4	4	4					
BASTROP BAYOU TIDAL 38 M NORTH OF N END OF COMPASS DR/BRAZORIA CR 504 APPROXIMATELY 4.4 KM DOWNSTREAM OF FM 523 SE OF ANGLETON	18505	1105	11	12	HG	UI	RT	4	4	4			4	4	
AUSTIN BAYOU IMMEDIATELY UPSTREAM OF DANBURY-ANGLETON ROAD/BRAZORIA CR 210 EAST OF DANBURY	18506	1105C	11	12	HG	UI	RT	4	4	4	4		4		
FLORES BAYOU IMMEDIATELY UPSTREAM OF DANBURY-ANGLETON ROAD/BRAZORIA CR 210 EAST OF ANGLETON	18508	1105A	11	12	HG	UI	RT	4	4	4	4				
MUSTANG BAYOU IMMEDIATELY UPSTREAM OF EAST SOUTH STREET 85 METERS WEST OF SOUTHBOUND SH 35 IN ALVIN USGS ID 8077890	18554	2432A	24	12	HG	UI	RT	4	4	4	4				
UNNAMED TRIBUTARY OF CLEAR CREEK TIDAL IN FOREST PARK CEMETERY IMMEDIATELY UPSTREAM OF S FEEDER RD OF I 45/GULF FWY S OF NASA RD 1 IN WEBSTER	18591	1101F	11	12	HG	UI	RT	4	4	4	4				

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
UNNAMED TRIBUTARY OF MOSES LAKE AT STATE LOOP 197/25TH AVE NORTH 432 M EAST OF NORTHBOUND SH 146 IN TEXAS CITY	18592	2431C	24	12	HG	UI	RT	4	4	4					
HIGHLAND BAYOU DIVERSION CANAL MID CHANNEL AT SECOND STREET BRIDGE 467 M UPSTREAM OF PRICE ROAD WWTP RELEASE IN HITCHCOCK	18593	2424G	24	12	HG	UI	RT	4	4	4					
MARYS CREEK BYPASS AT EAST BROADWAY ST/FM 518 WEST OF SUNSET MEADOWS DR IN PEARLAND	18639	1102F	11	12	HG	UI	RT	4	4	4	4				
WILLOW BAYOU AT BAKER ST 404 M UPSTREAM OF FM 2004 SOUTH OF SANTA FE IN GALVESTON COUNTY	18668	2432B	24	12	HG	UI	RT	4	4	4	4				
ENGLISH BAYOU MID BAYOU 250 M EAST AND 83 M SOUTH OF 61ST ST BRIDGE CENTERPOINT IN GALVESTON	18695	2424E	24	12	HG	UI	RT	4	4	4			4	4	
CLEAR CREEK ABOVE TIDAL AT YOST ROAD TERMINUS IN PEARLAND IN BRAZORIA COUNTY	20010	1102	11	12	HG	UI	RT	4	4	4	4				
SAN BERNARD RIVER TIDAL AT SH 35 SOUTHWEST OF WEST COLUMBIA	20460	1301	13	12	HG	UI	RT	4	4	4					
WEST BERNARD CREEK AT WHARTON CR 225 EAST OF HUNGERFORD	20721	1302B	13	12	HG	UI	RT	4	4	4	4		4		

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
PEACH CREEK AT WHARTON CR 117/CHUDALLA ROAD/ARCHER ROAD 89 METERS SOUTH OF THE INTERSECTION OF WHARTON CR 117/CHUDALLA ROAD/ARCHER ROAD AND WHARTON CR 121/ WHARTON CR 119/DONALDSON ROAD IN EAST OF WHARTON	20722	1302D	13	12	HG	UI	RT	4	4	4	4		4		
MOUND CREEK AT BRAZORIA CR 450/JACKSON SETTLEMENT ROAD 1.22 KILOMETERS UPSTREAM OF FM 1301 IN WEST OF WEST COLUMBIA	20723	1302E	13	12	HG	UI	RT	4	4	4	4		4		
BORDENS GULLY AT SPRUCE DRIVE IN DICKINSON	20724	1103B	11	12	HG	UI	RT	4	4	4	4		4		
UNNAMED TRIBUTARY OF GUM BAYOU AT OWENS DRIVE 1.51 KILOMETERS UPSTREAM OF CONFLUENCE WITH GUM BAYOU IN DICKINSON	20728	1103G	11	12	HG	UI	RT	4	4	4					
CARY BAYOU IMMEDIATELY UPSTREAM OF RACCOON DRIVE BRIDGE IN BAYTOWN	21079	0901A	9	12	HG	UI	RT	4	4	4			4		ADDED in FY21 at request of assessor
CHOCOLATE BAYOU IMMEDIATELY UPSTREAM OF BRAZORIA CR 171 / MUSTANG CHOCOLATE BAYOU ROAD IN LIVERPOOL	21178	1107	11	12	HG	UI	RT	4	4	4					
MUSTANG BAYOU AT THE HEIGHTS-MANVEL ROAD /CARDINAL DRIVE BRIDGE NEAR ALVIN	21416	2432A	24	12	HG	UI	RT	4	4	4	4				
~~BRUSHY BAYOU AT FM 213~~	~~21734~~	~~1105E~~	~~11~~	~~12~~	~~HG~~	~~UI~~	~~RT~~	~~4~~	~~4~~	~~4~~	~~4~~				~~ADDED again in FY2022~~

Site Description	Station ID	Water-body ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	TKN	Chlorophyll a	Comments
UNNAMED TRIBUTARY OF BASTROP BAYOU TIDAL AT BRAZORIA CR 213 / SHELL ROAD 7.0 KILOMETERS EAST OF ANGLETON	21735	1105D	11	12	HG	UI	RT	4	4	4	4		4		
TURKEY CREEK AT BEAMER ROAD 1.5 KM SOUTHEAST OF FM 1959/DIXIE FARM ROAD IN FRIENDSWOOD	21925	1102D	11	12	HG	UI	RT	4	4	4	4				
AUSTIN BAYOU TIDAL 1.60 KILOMETERS UPSTREAM OF THE CONFLUENCE WITH BASTROP BAYOU TIDAL IN BRAZORIA COUNTY	22012	1105B	11	12	HG	UI	RT	4	4	4			4	4	
ARMAND BAYOU TIDAL 100 M BELOW THE CONFLUENCE WITH SPRING GULLY	22187	1113	11	12	HG	UI	RT	4	4	4			4	4	
MOSES BAYOU ABOVE TIDAL APPROXIMATELY 60 METERS SOUTH OF EXPLORER DRIVE CUL-DE-SAC WEST OF HWY 3 / GALVESTON RD IN TEXAS CITY	22497	2431E	24	12	HG	UI	RT	4	4	4	4				Added in FY25

Appendix C: Station Location Maps

Station Location Maps

A map of stations monitored by the H-GAC and its local partners is provided below. The map was generated by the H-GAC. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Jessica Casillas at 713-993-4594 or via email at jessica.casillas@h-gac.com.

H-GAC's FY2025 Regional Coordinated Monitoring Stations