

Amendment # 2 Update to the Houston-Galveston Area Council Clean Rivers Program FY 2016/2017 QAPP

***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 should be directed to:

Jean Wright, Houston-Galveston Area Council (H-GAC)

CRP Quality Assurance Officer

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Justification

The original FY16-17 QAPP was approved on August 21, 2015. With Amendment No. 1, several names were changed due to retirement or reorganizations within the local partner organizations. While Amendment No. 1 was in its final review and approval stage, another retirement occurred within a local partner organization. This amendment will include the needed changes associated with that retirement.

While reviewing the QAPP, EIH determined that a couple of procedures within their organization changed and needed clarification in the document.

There are also 10 additional monitoring stations being added to the CMS and being collected by EIH during FY2017. Those sites will be monitored 4 times during the year. A new Appendix B and monitoring map are being provided with this amendment. See the Detail of Changes for the specific sites added.

Additionally, Appendix I is updated each year and the update was completed in late July 2016. Hence, the updated document can be found in this final version of Amendment 2.

Detail of Changes

List each section in which a change is proposed and provide a description of the change(s) in the table below. Copies of changed language is included as replacement pages.

Section/Figure/Table	Page	Change	Justification
A1 Approval Page	5	REPLACE Linda Holman's	Linda Holman recently
A4 Project/Task Organization	20	name with Jennifer Myers in	retired.
Figure A4.1c Org. Chart	26	the Microbiology Section Technical Supervisor position	
B10 Data Management	71	Change 2nd sentence from "The EIH field QAO or the individual who collected the data inputs the data to an EXCEL spreadsheet." To "The EIH field QAO or EIH staff involved in the data collection inputs the data to an EXCEL spreadsheet.	The person who inputs the data is not necessarily 'the' individual who actually collected the data. Rather, it is one of the numerous persons who are trained to collect data.
B10 Data Management	71	ADD to front end of 4th sentence: "EIH staff QC 100% of the entered data, then the..."	Makes paragraph more accurate.

Section/Figure/Table	Page	Change	Justification
B10 Data Management	71	REPLACE the word 'hard' with 'scanned' in 6th sentence	EIH no longer sends hard copies of field sheets, etc. H-GAC will print them out as needed.
Appendix B		Added sites: 16678 21925 18639 18636 16486 16562 15941 16371 16374 17420	TCEQ found additional funds to add monitoring stations during FY2017.
Appendix I		Replaced Data Management Plan, July 2015	Update was completed on July 27, 2016, and is being added to this amendment.

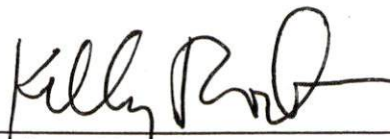
Distribution

QAPP Amendments and Revisions to Appendices will be distributed to all personnel on the distribution list maintained by H-GAC.

These changes will be incorporated into the QAPP document and TCEQ, H-GAC and H-GAC's local partners will acknowledge and accept these changes by signing this amendment. Only the local partners or sub-contractors affected by these changes will be signing this amendment.

Texas Commission on Environmental Quality

Water Quality Planning Division




Kelly Rodibaugh
Project Quality Assurance Specialist
CRP

10/6/16
Date



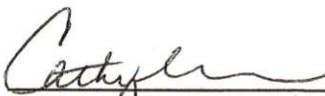
Sarah Eagle, Work Leader
Clean Rivers Program

10/6/16
Date



Kelly Rodibaugh
Project Manager, CRP

10/6/16
Date



Cathy Anderson
Team Leader
Data Management and Analysis

10/6/16

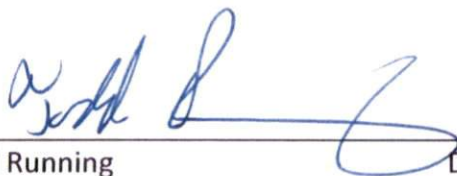
Monitoring Division



Daniel R. Burke
Lead CRP Quality Assurance Specialist
Laboratory and Quality Assurance Section

10/7/2016
Date

Houston-Galveston Area Council (H-GAC)

 10/4/16

Todd Running
H-GAC Project Manager

Date

 10/4/16

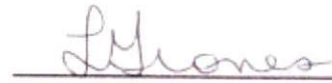
Jean Wright
H-GAC Quality Assurance Officer

Date

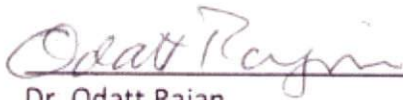
City of Houston, Houston Health Department (HHD)


Daisy James
CRP Project Manager

10/5/16
Date


Lisa Groves
HHD Field Quality Assurance Officer

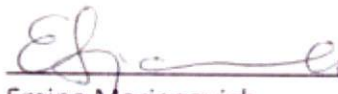
10/5/16
Date


Dr. Odatt Rajan
CRP Laboratory Director

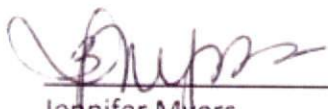
10/4/16
Date


Cyndie Boulé
HHD Laboratory Quality Assurance Officer

10/4/16
Date

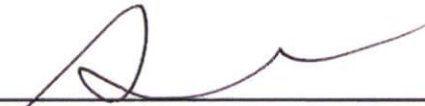

Emina Marjanovich
HHD Lab Inorganic Chemistry Section Technical Supervisor

10/4/2016
Date


Jennifer Myers
HHD Lab Microbiology Section Technical Supervisor

10/4/16
Date

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



Dr. George Guillen
CRP Project Manager and QAO

10/4/16

Date



Jenny Oakley
CRP Field QAO

10/4/16

Date

Eastex Laboratory

Pam P. Hickman 10-4-16
Pam Hickman Date
Eastex Lab Manager

Dan / Ben 10/4/16
Daniel Bowen Date
Eastex Lab Quality Assurance Officer

City of Houston, Health Department (HHD) Laboratory

Dr. Odatt Rajan HHD Lab Director

Responsible for meeting the requirements of the contract between H-GAC and the City of Houston, Health Department (HHD) Laboratory, ensures implementation is consistent with CRP QAPP requirements, QAPP amendments and appendices, and communicates project status to H-GAC Project Manager. Ensures lab's QMP and required monitoring systems audits are conducted to ensure QAPPs are followed and that projects are producing data of known quality. Ensures H-GAC CRP project manager and/or QA Specialist are notified of circumstances which may adversely affect quality of data derived from analysis of samples. Responsible for validating that all data collected meet the data quality objectives of the project and are suitable for reporting to the TCEQ. Ensures lab personnel are involved in coordinating basin planning activities and work with other basin partners as needed.

Emina Marjanovich HHD Laboratory Inorganic Chemistry Section Technical Supervisor

Responsible for inorganic chemistry laboratory testing of samples from CRP as per CRP requirements in contracts, QAPPs, and QAPP amendments and appendices. Ensures NELAP certification in CRP parameters and that projects are producing data of known quality. Ensures that subcontractors are qualified to perform contracted work. Ensures CRP project managers, laboratory director, and/or QA Specialists are notified of circumstances which may adversely affect quality of data derived from collection and analysis of samples. Responsible for validating that all data collected meet the data quality objectives of the project and are suitable for reporting to the TCEQ.

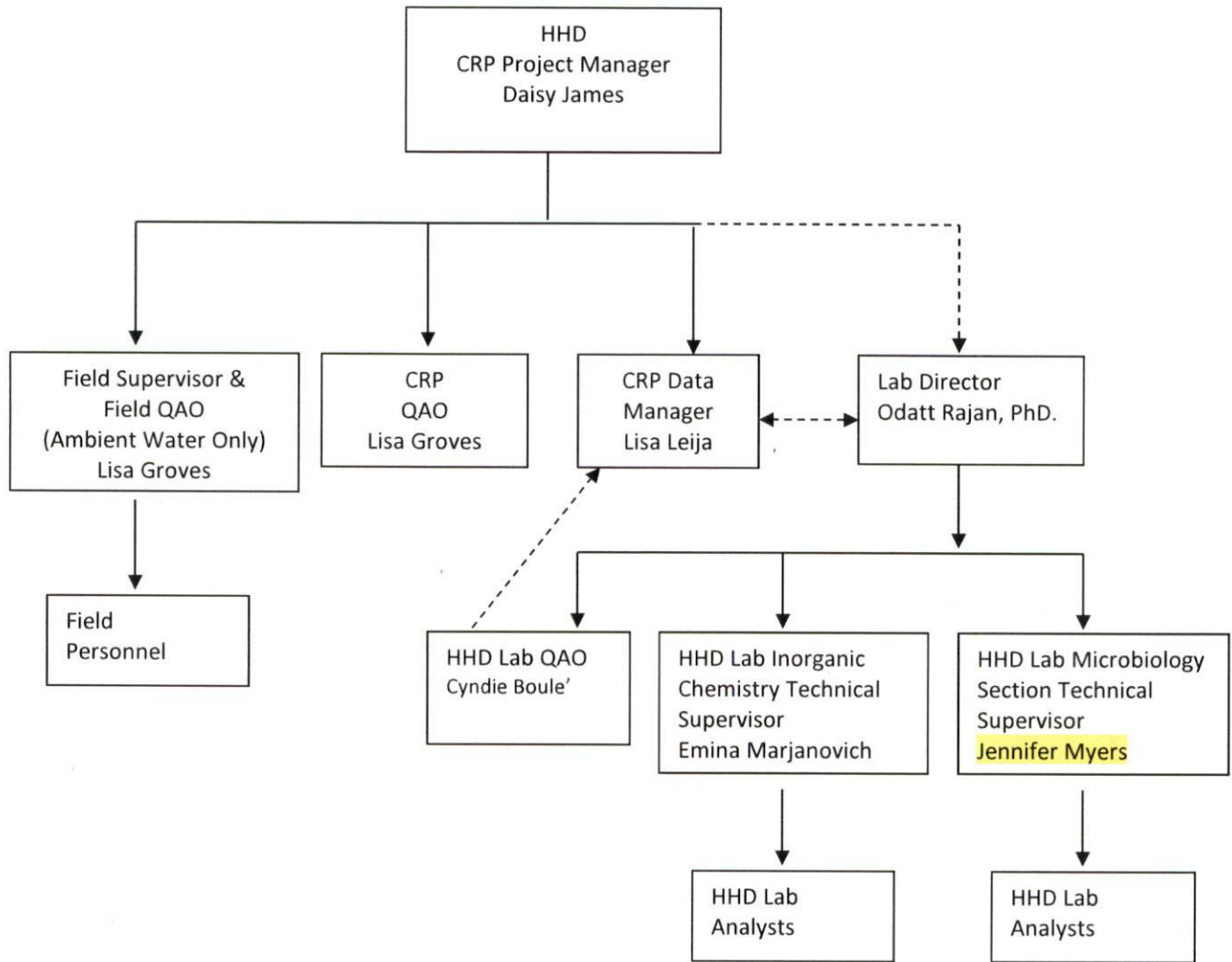
Jennifer Myers HHD Laboratory Microbiology Section Technical Supervisor

Responsible for microbiology laboratory testing of samples from CRP as per CRP requirements in contracts, QAPPs, and QAPP amendments and appendices. Ensures NELAP certification in CRP parameters and that projects are producing data of known quality. Ensures that subcontractors are qualified to perform contracted work. Ensures CRP project managers, laboratory director, and/or QA Specialists are notified of circumstances which may adversely affect quality of data derived from collection and analysis of samples. Responsible for validating that all data collected meet the data quality objectives of the project and are suitable for reporting to the TCEQ.

Cyndie Boule HHD Laboratory Quality Assurance Officer

Responsible for ensuring the quality system is implemented and followed. Develops, facilitates, and conducts laboratory quality assurance audits and notifies laboratory management of deficiencies (or opportunities for continuous improvement) and monitors corrective actions. Provides QC samples as per requirements of QAPP. Responsible for keeping the laboratory's *Quality Assurance Manual* current. Responsible for ensuring initial and continuing training as well as the demonstrations of capability meet NELAP acceptance criteria. Additional responsibilities include identifying, receiving, and maintaining project laboratory quality assurance records, notifying the laboratory Director, the Project Manager, and H-GAC's Project Manager of circumstances that may adversely affect the quality of data, and validating data prior to the submission of laboratory data to H-GAC.

Figure A4.1c. The City of Houston, Health Department (HHD) CRP Organizational Chart.



Routine monitoring is scheduled at varying frequencies, which are determined by the parameters of concern for individual streams and/or proximity to a monitoring agency's field office and lab. Water bodies are also selected for baseline monitoring if there is a 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).

- H-GAC's QAO checks the data for accuracy and reasonableness. Lake Conroe keeps the original field sheets and prints out copies of the Surveyor profile data to keep in their files. Copies of field sheets, COCs, calibration logs, and a Data Review Checklist are sent to H-GAC along with every data submittal for Lake Conroe samples.

A Data Review Checklist is completed by SJRA for field data and by DWO Lab or Eastex Lab for lab analyses. DWO Lab data manager performs all data entry & data management for Lake Conroe lab data only. SJRA performs data management for all Woodlands data.

- SJRA also collects samples from The Woodlands area. A courier from Eastex Lab inspects, receives, and transports the samples to Eastex Lab for analysis. The SJRA Data Manager enters the field data in MS EXCEL spreadsheet and reviews it for accuracy. SJRA receives lab results from Eastex and enters data into the spreadsheet with the corresponding field data. The SJRA Quality Assurance Officer (QAO) formats the data, verifies at least 10% of the data for transcription accuracy, reviews the data for outliers, and reviews the chain of custody forms. The QAO compiles the Data Review Checklist forms and submits the final data to H-GAC.
- EIH performs data entry for only the field data collected by their program. The EIH field QAO or EIH staff involved in the data collection inputs the data to an EXCEL spreadsheet. All supporting QA data is input to spreadsheets as well. EIH staff QC 100% of the entered data, then the EIH field QAO and the EIH CRP Project Manager review more than 10% of the data for accuracy, completeness, and reasonableness. A Data Review checklist is generated while data is being reviewed. Then, it is submitted to H-GAC along with electronic data and scanned copies of the field sheets and COCs. H-GAC's Data Manager receives electronic data files from Eastex Lab and merges lab data with field data prior to review and submission to TCEQ.

Data Dictionary

Terminology and field descriptions are included in the most recent version of TCEQ's DMRG. A table outlining the entities that will be used when submitting data under this QAPP is included below for the purpose of verifying which entity codes are included in this QAPP.

Table B10.1 –Sampling Entity Data Submission Codes

Name of Monitoring Entity	Tag Prefix	Submitting Entity	Collecting Entity
Houston-Galveston Area Council	I	HG	HG

Name of Monitoring Entity	Tag Prefix	Submitting Entity	Collecting Entity
Harris County Pollution Control Services	I	HG	HC
City of Houston, Health Department	I	HG	HH
City of Houston, Drinking Water Operations	I	HG	HW
San Jacinto River Authority	I	HG	SJ
Environmental Institute of Houston – University of Houston Clear Lake	I	HG	UI

Data Errors and Loss

Appendix B

Sample Design Rationale FY 2017

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.

Beginning in September 2016, the following changes in sampling locations will be made to the Coordinated Monitoring Schedule for FY2017. These sites were identified at the Coordinated Monitoring Meeting conducted on April 12, 2016, and agreed upon in subsequent conversations with local partners and steering committee members. There were no changes in monitoring frequencies except for one 24-hour monitoring station (see below). Field, conventional, nutrients and bacteria will be collected as listed in each partner's A7.1 tables. The following changes or additions have been made to the monitoring schedule.

Houston-Galveston Area Council (H-GAC)

- All routine monitoring stations will remain the same.
- H-GAC identified 2 new sites for 24-hr DO monitoring for FY2016. Four of the 6 sites collected during FY2016 will also be continued in FY2017. H-GAC chose the following sites:
 - ADD Spring Branch (Segment 1010C_01) at SH 242 (Site 20451)
 - KEEP Brushy Creek (Segment 1008J) at Glenmont Estates (Site 20463)
 - KEEP Lake Creek (Segment 1015_02) at Honea Egypt Rd. (Site 11367)
 - ADD Lake Creek (Segment 1015_01) at FM149 (Site 18191)
 - KEEP Walnut Creek (Segment 1008I_01) at Decker Prairie Rd. (Site 20462)
 - KEEP Magnolia Creek (Segment 1101A_01) at FM 518/Bay Area Blvd (Site 16611). Increase frequency from 3 times to 4 times per year.
 - DROP Unnamed tributary (Newport Ditch) to Clear Creek tidal (Segment 1101E_01) at FM 518 (Site 18818).
 - DROP Mill Creek (Segment 1008A_01) at Hardin Store Rd near Tomball (Site 20461)

Harris County Pollution Control Services Department (HCPCS)

- No changes were made to the monitoring sites, frequency or parameter list.
 - HCPCS collects profile data quarterly every 2-3 meters on the ship channel and river, plus top, middle and 1 ft from bottom on lakes and side bays.

City of Houston, Health Department (HHD)

- DROP station 17493 South Mayde Creek because in same AU as site 11163
- ADD station 21813 (South Mayde Creek at South Park View Drive). 21813 is in different AU from.
- Continue REDUCED frequency for Site 17489 (Spring Creek @ Kuykendahl) from 9 times per year to quarterly. Because they cannot park on the bridge, the site requires a quarter mile walk to the centroid of the flow.

City of Houston, Drinking Water Operations (DWO)

- Will start collecting profile data on Lake Houston by collecting top, middle and bottom as well as total depth at least quarterly.
- No profile data will be collected on the watershed sites because they use a bucket to collect samples and measure field parameters.

San Jacinto River Authority (SJRA) – Lake Conroe and Woodlands Division

- Sites on Lake Conroe and on Lake Woodlands will not change.
- SJRA reported they collect lake profile data every 10 feet, in addition to the 1 ft surface and 1 ft off the bottom depths. All water quality samples collected from the 1 ft surface location.

Environmental Institute of Houston – UHCL (EIH)

- Continue sampling all monitoring stations, parameters, and frequencies as previously conducted during FY2016.
- Add 10 monitoring stations in Basins 11, 13, and 24. The list is as follows:
 - ADD 16678 – Cowart Creek at Cowart Creek Lane in Friendswood
 - ADD 21925 – Turkey Creek at Beamer Road in Friendswood
 - ADD 18639 – Mary’s Creek By-Pass at East Broadway St. FM 518 in Pearland
 - ADD 18636 – Unnamed tributary to Mary’s Creek at Thalerfield Dr in Pearland
 - ADD 16486 – Robinson’s Bayou at Webster St. in League City
 - ADD 16562 – Highland Bayou at east end of Bayou Lane in Freddiesville
 - ADD 15941 – Highland Bayou at FM 519 in Hitchcock
 - ADD 16371 – Gum Tree Branch at Wharton CR 252 SE of Lissie
 - ADD 16374 – West Bernard Creek at unnamed Wharton CR 4 km ESE of Lissie and 2.5 km downstream of US 90A
 - ADD 17420 – San Bernard River mid channel downstream of US 59 in Wharton Co.

Site Selection Criteria

This data collection effort involves monitoring routine water quality, using procedures that are consistent with the TCEQ SWQM program, for the purpose of data entry into the SWQMIS database maintained by the TCEQ. To this end, some general guidelines are followed when selecting sampling sites, as basically outlined below, and discussed thoroughly in SWQM Procedures. Overall consideration is given to accessibility and safety. All monitoring activities have been developed in coordination with the CRP Steering Committee and with the TCEQ. The site selection criteria set forth here may not apply to all programs. The site selection criteria specified are those the TCEQ would like

considered in order to produce data which is complementary to that collected by the state and which can be used in assessments, etc. Other criteria may be considered and should be described.

1. Locate stream sites so that samples can be safely collected from the centroid of flow. Centroid is defined as the midpoint of that portion of stream width which contains 50 percent of the total flow. If few sites are available for a stream segment, choose one that would best represent the water body, and not an unusual condition or contaminant source. Avoid backwater areas or eddies when selecting a stream site.
2. At a minimum for reservoirs, locate sites near the dam (reservoirs) and in the major arms. Larger reservoirs might also include stations in the middle and upper (riverine) areas. Select sites that best represent the water body by avoiding coves and back water areas. A single monitoring site is considered representative of 25 percent of the total reservoir acres, but not more than 5,120 acres. Routine monitoring sites are selected to maximize stream coverage or basin coverage. Very long segments may require more stations. As a rule of thumb, stream segments between 25 and 50 miles long require two stations, and longer than 50 miles require three or more depending on the existence of areas with significantly different sources of contamination or potential water quality concerns. Major hydrological features, such as the confluence of a major tributary or an instream dam, may also limit the spatial extent of an assessment based on one station.
3. Because historical water quality data can be very useful in assessing use attainment or impairment, it may be best to use sites that are on current or past monitoring schedules.
4. All classified segments (including reservoirs) should have at least one routine monitoring site that adequately characterizes the water body, and should be coordinated with the TCEQ or other qualified monitoring entities reporting routine data to TCEQ.
5. Routine monitoring sites may be selected to bracket sources of pollution, influence of tributaries, changes in land uses, and hydrological modifications.
6. Sites should be accessible. When possible, stream sites should have a USGS or IBWC stream flow gauge. If not, it should be possible to conduct flow measurement during routine visits.

Monitoring Sites for FY 2017

The sample design for H-GAC's coordinated surface water quality monitoring schedule is shown in Table B1.1 in the attached EXCEL spreadsheet.

Critical vs. non-critical measurements

All data taken for CRP and entered into SWQMIS are considered critical

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
ER TIDAL IMMEDIATELY DOWNSTREAM OF IH 10 BRIDGE EAST	11193	1001	10	12	HG	HC	RT	12	12	12				
ER TIDAL 23 METERS SOUTH AND 735 METERS EAST OF WALLISVILLE ROAD AND 7TH STREET	11198	1001	10	12	HG	HC	RT	12	12	12				
ER TIDAL IMMEDIATELY DOWNSTREAM OF US 90 BRIDGE EAST	11200	1001	10	12	HG	HC	RT	12	12	12				
ER TIDAL AT MAGNOLIA GARDENS 1.78 KM UPSTREAM OF US MONT HIGHWAY IN HOUSTON	11201	1001	10	12	HG	HC	RT	12	12	12				
HANNEL AT BAYTOWN TUNNEL/CM 103 1.84 KM NORTH AND INTERSECTION OF SH 225 AND SH 146	11254	1005	10	12	HG	HC	RT	12	12	12				
HANNEL AT SAN JACINTO PK WEST OF THE BATTLESHIP TX 317 W OF INTERSECTION OF BATTLEGROUND RD AND MARKER DR	11264	1006	10	12	HG	HC	RT	12	12	12				
HANNEL AT CONFLUENCE WITH GREENS BAYOU/CM 152	11271	1006	10	12	HG	HC	RT	12	12	12				
HANNEL/BUFFALO BAYOU HSC AT WASHBURN TUNNEL	11283	1007	10	12	HG	HC	RT	12	12	12				
YOU IN TURNING BASIN 2.82 K UPSTREAM OF CONFLUENCE DU 433 M S AND 182 M W OF INTERSECT OF SIGNET AND	11292	1007	10	12	HG	HC	RT	12	12	12				
146 DRAWBRIDGE	13332	2425	24	12	HG	HC	RT	12	12	12				
WAY BETWEEN GOOSE CREEK AND UPPER HOG ISLAND	13338	2426	24	12	HG	HC	RT	12	12	12				This site replaced site 1792
AT MID BAY 0.6 KM NE OF SH 146 BRIDGE AND 0.6 KM SE OF VA ST IN BAYTOWN	13340	2428	24	12	HG	HC	RT	12	12	12				
MID BAY 1.3 KM SSW OF CONFLUENCE WITH SPRING GULLY F LYNCHBURG ROAD	13344	2430	24	12	HG	HC	RT	12	12	12				This site replaced site 1792
TIDAL 25 M WEST OF CLEAR LAKE PARK FISHING PIER IN MUD LAKE IN HARRIS COUNTY	15455	1113	11	12	HG	HC	RT	12	12	12				
AL AT THE CONFLUENCE WITH CLEAR LAKE 30 M NORTH AND DAVIS ROAD AT VEGA COURT IN LEAGUE CITY IN HARRIS	16573	1101	11	12	HG	HC	RT	12	12	12				
HANNEL AT CARGILL TERMINAL NORTH OF TIDAL ROAD	16617	1006	10	12	HG	HC	RT	12	12	12				
HANNEL W OF EXXON DOCKS AND N OF ALEXANDER ISLAND 5 KM W OF INTERSECTION OF BAYWAY DR AND BAYTOWN AVE	16618	1005	10	12	HG	HC	RT	12	12	12				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
HANNEL AT LYNCHBURG FERRY INN SOUTH OF LYNCHBURG 802 M E OF INTERSECTION OF BATTLEGROUND RD AND TIDAL	16619	1005	10	12	HG	HC	RT	12	12	12				
HANNEL/BUFFALO BAYOU AT MAYO SHELL RD 1.42 KM S AND SECTION OF MAYO SHELL RD AND CLINTON DR IN HOUSTON	16620	1007	10	12	HG	HC	RT	12	12	12				
ER TIDAL AT CONFLUENCE WITH HSC 226 M S AND 1.07 KM W I OF S LYNCHBURG RD AND POQUENO RD IN HOUSTON	16621	1005	10	12	HG	HC	RT	12	12	12				
ER TIDAL AT BANANA BEND ROAD AT END OF PAVEMENT IN	16622	1001	10	12	HG	HC	RT	12	12	12				
ER TIDAL MID STREAM AT TERMINUS OF SHADY LANE IN M S AND 648 M W OF INTERSECTION OF SHADY LN AND PARK	17919	1001	10	12	HG	HC	RT	12	12	12				
AYTOWN 383 METERS WEST AND 137 METERS SOUTH OF THE BAYSHORE DRIVE AND CROW ROAD	17921	2430A	24	12	HG	HC	RT	12	12	12				Change temporary id to 17
1 SW OF INTERSECTION OF BAYWAY DRIVE AND PARK STREET	17922	2429	24	12	HG	HC	RT	12	12	12				
TO BAY UNDERNEATH ELECTRICAL TRANSMISSION LINES 2.1 SECTION OF MILLER CUTOFF RD AND OLD CLARK RD	17923	2427	24	12	HG	HC	RT	12	12	12				
TO BAY MID CHANNEL SOUTH OF SH 146 1 KM NE OF SH 225 AND STRANG ROAD IN LAPORTE	17924	2427	24	12	HG	HC	RT	12	12	12				
NEAR NORTH BANK 0.5 KM NNW OF THE INTERSECTION OF LVD AND MAPLE ST	17925	2436	24	12	HG	HC	RT	12	12	12				
AR SH 146 0.4 KM S/SW OF THE INTERSECTION OF SH 146 IN BAYTOWN	17927	2426C	24	12	HG	HC	RT	12	12	12				
FLOOD CONTROL DITCH A TRIBUTARY TO TAYLOR BAYOU 385 CONFLUENCE WEST OF SH 146 AT PORT ROAD IN HARRIS	20012	2425E	24	12	HG	HC	RT	12	12	12				
MID CHANNEL 400 M DOWNSTREAM OF PORT ROAD BRIDGE IN	20013	2425D	24	12	HG	HC	RT	12	12	12				
AMED INLET 115 M SOUTHWEST OF THE INTERSECTION OF D OCEANVIEW DRIVE IN SEABROOK IN HARRIS COUNTY	20014	2425	24	12	HG	HC	RT	12	12	12				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
LAKE AT BLUE WINDOWS 230 M SOUTH OF LAKEWAY DRIVE JRT/HARBOR COVE CIRCLE IN HARRIS COUNTY	20015	2425A	24	12	HG	HC	RT	12	12	12				
OU AT MOUTH OF BARGE CANAL 32 METERS WEST AND 666 FROM THE INTERSECTION OF DE ZAVALLA ROAD AND HARDING STREET IN HARRIS COUNTY	20797	1006	10	12	HG	HC	RT	12	12	12				
IMMEDIATELY DOWNSTREAM OF GREEN BUSH ROAD 3.1 MILES WEST OF KATY	11145	1014B	10	12	HG	HG	RT	4	4	4	4			was HG168
IMMEDIATELY UPSTREAM OF FM 2090 WEST OF SPLENDORA	11335	1010	10	12	HG	HG	RT	4	4	4	4			Site added in FY2012
SYPT COMMUNITY ROAD 8.3 MILES SOUTHWEST OF CONROE	11367	1015	10	12	HG	HG	BS				4	4		Started collecting 24-hr DC FY2016.
SYPT COMMUNITY ROAD 8.3 MILES SOUTHWEST OF CONROE	11367	1015	10	12	HG	HG	RT	4	4	4	4			
LAKE AT W BAY AREA BLVD LEAGUE CITY APPROX 250 M WEST OF WTP PERMIT WQ0010568-003	16611	1101A	11	12	HG	HG	BS				4	4		24- HR DO collected 4 time in 2017
SACINTO RIVER IMMEDIATELY DOWNSTREAM OF SH 150 WEST OF THE CITY OF WOODBRANCH	17431	1003	10	10	HG	HG	RT	4	4	4	4			Added site in FY11
LAKE AT 57 METERS DOWNSTREAM OF RUN OF THE OAKS 1.35 KM WEST OF CONROE CONfluence WITH LAKE CREEK	17937	1015A	10	12	HG	HG	RT	4	4	4	4			
LAKE AT 149 APPROX 12.5 KM SOUTH OF MONTGOMERY TEXAS COUNTY LINE ROAD	18191	1015	10	12	HG	HG	BS				4	4		Started collecting 24-hr DC FY2017.
LAKE AT 149 APPROX 12.5 KM SOUTH OF MONTGOMERY TEXAS COUNTY LINE ROAD	18191	1015	10	12	HG	HG	RT	4	4	4	4			
ROBERTS CEMETERY ROAD WEST-NORTHWEST OF TOMBALL WEST OF THE CITY OF WOODBRANCH	18868	1008	10	12	HG	HG	RT	4	4	4	4			
LAKE AT SH 242 NORTHWEST TO THE CITY OF WOODBRANCH	20451	1010C	10	12	HG	HG	BS				4	4		24- HR DO collected 4 time in 2017
LAKE AT SH 242 NORTHWEST TO THE CITY OF WOODBRANCH	20451	1010C	10	12	HG	HG	RT	4	4	4	4			was HG170
FIRETOWER ROAD WEST TO THE CITY OF WOODBRANCH	20452	1010	10	12	HG	HG	RT	4	4	4	4			was HG171
COUNTY LINE ROAD IN MONTGOMERY COUNTY EAST TO THE CITY OF WOODBRANCH	20453	1010	10	12	HG	HG	RT	4	4	4	4			was HG172
COUNTY LINE ROAD-FM 3081 NORTHEAST OF CONROE IN MONTGOMERY COUNTY	20454	1011	10	12	HG	HG	RT	4	4	4	4			was HG173

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
METERS EAST TO THE INTERSECTION OF KOWIS STREET AND METERS DOWNSTREAM OF HOPPER ROAD AND 502 METERS TLE YORK ROAD IN HOUSTON	20455	1006D	10	12	HG	HG	RT	4	4	4	4			was HG177
REEK AT MUESCHKE ROAD 4.4 KILOMETERS NORTH OF SH 290 CYPRESS	20456	1009E	10	12	HG	HG	RT	4	4	4	4			was HG166
T KATY HOCKLEY ROAD 7 KILOMETERS SOUTH OF SH 290 S	20457	1009	10	12	HG	HG	RT	4	4	4	4			was HG167
ARDIN STORE ROAD NORTH OF TOMBALL	20461	1008A	10	12	HG	HG	RT	4	4	4	4			This site replaces site 1660 been using wrong site ID.
AT DECKER PRAIRIE ROSEHL ROAD NORTHWEST OF TOMBALL	20462	1008I	10	12	HG	HG	BS				4	4		Started collecting 24-hr DC FY2016.
AT DECKER PRAIRIE ROSEHL ROAD NORTHWEST OF TOMBALL	20462	1008I	10	12	HG	HG	RT	4	4	4	4			was HG180
AT GLENMONT ESTATES BOULEVARD 265 METERS NORTH AND TO THE INTERSECTION OF ARNDT LANE AND ANN CIRCLE LL	20463	1008J	10	12	HG	HG	BS				4	4		Started collecting 24-hr DC FY2016.
GLENMONT ESTATES BOULEVARD 265 METERS NORTH AND TO THE INTERSECTION OF ARNDT LANE AND ANN CIRCLE LL	20463	1008J	10	12	HG	HG	RT	4	4	4	4			
AT FM 529 1.9 KILOMETERS EAST OF SH 6 NORTHWEST OF	20465	1014C	10	12	HG	HG	RT	4	4	4	4			was HG165
YOU AT SH 105/SH 321 SOUTHEAST OF CLEVELAND	20466	1002A	10	12	HG	HG	RT	4	4	4	4			was HG169
K AT MEMORIAL DRIVE IN CONROE	20731	1004B	10	12	HG	HG	RT	4	4	4	4			Added in FY13. Replaced s
AT TONY TAP ROAD NEAR CLEVELAND	21417	1003	10	10	HG	HG	RT	4	4	4	4			Site added in FY2014
TARY OF GREENS BAYOU IMMEDIATELY DOWNSTREAM OF AD 1.02 KM UPSTREAM OF CONFLUENCE WITH GREENS	11124	1016C	10	12	HG	HH	RT	9	9	9				
AT NORTH SAM HOUSTON PARKWAY/SH LOOP 8 NE OF	11125	1016A	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8074250
JENSEN DRIVE IN HOUSTON	11126	1006D	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8076500
METERS UPSTREAM OF TIDWELL ROAD IN SETTEGAST	11127	1006D	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF IH 10 EAST OF HOUSTON	11128	1007R	10	12	HG	HH	RT	9	9	9				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
AT NORTH LOOP EAST/IH 610 IN HOUSTON	11129	1007R	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8075770
ELEPHONE ROAD/SH 35 IN HOUSTON	11132	1007D	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8075500
MULLEN BLVD/FM 865 SOUTH OF HOUSTON	11133	1007D	10	12	HG	HH	RT	9	9	9				
HIRAM CLARKE RD IN HOUSTON	11135	1007D	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8075400
MEDIATELY DOWNSTREAM OF ALMEDA ROAD SOUTHWEST	11138	1007B	10	12	HG	HH	RT	9	9	9				
SOUTH MAIN ST IN HOUSTON	11139	1007B	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8075000
SOUTH GESSNER DRIVE IN HOUSTON	11140	1007B	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8074810
WYCK BAYOU AT TRIMBLE STREET/NORTH EDGE OF HOLLYWOOD IN HOUSTON	11148	1013A	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8074540
MEDIATELY DOWNSTREAM OF WEST LITTLE YORK ROAD	11155	1017C	10	12	HG	HH	RT	9	9	9				
WYCK IMMEDIATELY DOWNSTREAM OF LAKE LANE	11157	1017F	10	12	HG	HH	RT	9	9	9				
WYCK IMMEDIATELY DOWNSTREAM OF MEMORIAL DRIVE	11163	1014H	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU IMMEDIATELY DOWNSTREAM OF ROARK ROAD NEAR WYCK BLVD IN SOUTHWEST HOUSTON	11169	1007C	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8074800
WYCK BAYOU IMMEDIATELY DOWNSTREAM OF NORTH MAIN STREET IN HOUSTON	11172	1007	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU IMMEDIATELY UPSTREAM OF GOSLING ROAD	11185	1008H	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU IMMEDIATELY DOWNSTREAM OF MEMORIAL DRIVE IN WEST HOUSTON	11188	1014N	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU IMMEDIATELY DOWNSTREAM OF GREEN RIVER ROAD/LEY ROAD IN HOUSTON	11279	1006	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8076700
WYCK BAYOU TIDAL AT FEDERAL ROAD BRIDGE IN HOUSTON	11298	1007	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU IMMEDIATELY DOWNSTREAM OF LAWNSDALE AVENUE IN HOUSTON	11302	1007	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU TIDAL AT 75TH STREET IN HOUSTON	11306	1007	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU TIDAL AT SCOTT STREET IN HOUSTON	11309	1007	10	12	HG	HH	RT	9	9	9				
WYCK BAYOU IMMEDIATELY DOWNSTREAM OF RILEY FUZZEL ROAD	11312	1008	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8068520

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
MEDIATELY UPSTREAM OF SH 249	11314	1008	10	12	HG	HH	RT	9	9	9	9			Monitoring Entity changed to HH in 2010. Flow from g 8068275
MEDIATELY UPSTREAM OF DECKER PRAIRIE ROSEHILL ROAD	11323	1008	10	12	HG	HH	RT	9	9	9				Part of UAA
T STEUBNER-AIRLINE ROAD IN HOUSTON	11330	1009	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8068900
T SH 249	11331	1009	10	12	HG	HH	RT	9	9	9				Monitoring Entity changed to HH in 2010
IMMEDIATELY DOWNSTREAM OF GRANT ROAD NEAR CYPRESS	11332	1009	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8068800
IMMEDIATELY DOWNSTREAM OF HOUSE HAHN ROAD NEAR	11333	1009	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8068740
TIDAL AT MCKEE ST IN HOUSTON	11345	1013	10	12	HG	HH	RT	9	9	9				
TIDAL IMMEDIATELY DOWNSTREAM OF MAIN STREET IN	11347	1013	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8074600
TIDAL AT SHEPHERD DRIVE IN HOUSTON	11351	1013	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8074000
AT VOSS ROAD	11356	1014	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF WEST BELTWAY 8 IN	11360	1014	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8073600
AT WILCREST DRIVE IN HOUSTON	11361	1014	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF DAIRY ASHFORD ROAD ON	11362	1014	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8073500
AT ELDRIDGE ROAD IN HOUSTON	11363	1014	10	12	HG	HH	RT	9	9	9				
AT SH 6	11364	1014	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8072500
AT TIDWELL ROAD IN HARRIS CO	11369	1016	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF MT HOUSTON PARKWAY	11370	1016	10	12	HG	HH	RT	9	9	9				
AT US 59 NORTH OF HOUSTON	11371	1016	10	12	HG	HH	RT	9	9	9				
AT WEST GREENS PARKWAY	11376	1016	10	12	HG	HH	RT	9	9	9				
AT NORTH SHEPHERD STREET IN HOUSTON	11389	1017	10	12	HG	HH	RT	9	9	9				This site replaced site 1582
AT NORTH HOUSTON ROSSLYN ROAD	11394	1017	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF TAHOE DRIVE	11396	1017	10	12	HG	HH	RT	9	9	9				
AT GENOA-RED BLUFF RD NE OF ELLINGTON AFB	11404	1113A	11	12	HG	HH	RT	9	9	9				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
AT FAIRMONT PARKWAY ALONG MEDIAN AT MIDPOINT S	11405	1113A	11	12	HG	HH	RT	9	9	9				Added in FY2011 because of site 11409
TIDAL AT BAY AREA BLVD NORTH OF NASA AT MIDDLE OF N 2 BRIDGES EASTERN SHORE	11503	1113	11	12	HG	HH	RT	9	9	9				
84 METERS DOWNSTREAM OF KNOBCREST DRIVE	13778	1016	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8075900
REEK IMMEDIATELY DOWNSTREAM OF KLUGE ROAD IN	14159	1009E	10	12	HG	HH	RT	9	9	9				
U IMMEDIATELY DOWNSTREAM OF WEST 43RD STREET IN JSTON	15829	1017	10	12	HG	HH	RT	9	9	9				
U AT WEST TIDWELL ROAD IN NORTHWEST HOUSTON	15831	1017	10	12	HG	HH	RT	9	9	9				
TIDAL IMMEDIATELY UPSTREAM OF JENSEN DRIVE IN	15841	1007	10	12	HG	HH	RT	9	9	9				
TIDAL AT SABINE STREET NORTH OF ALLEN PARKWAY IN	15843	1013	10	12	HG	HH	RT	9	9	9				
AT CHIMNEY ROCK ROAD IN HOUSTON	15845	1014	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF BRIAR FOREST DRIVE IN	15846	1014	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF MEMORIAL DRIVE IN WEST	15847	1014K	10	12	HG	HH	RT	9	9	9				
MEDIATELY DOWNSTREAM OF SH 6 IN WEST HOUSTON	15848	1007B	10	12	HG	HH	RT	9	9	9				
DAIRY ASHFORD STREET IN WEST HOUSTON	15850	1007B	10	12	HG	HH	RT	9	9	9				
WILCREST DRIVE IN WEST HOUSTON	15851	1007B	10	12	HG	HH	RT	9	9	9				
MEDIATELY DOWNSTREAM OF BEECHNUT STREET IN WEST	15852	1007B	10	12	HG	HH	RT	9	9	9				
MEDIATELY DOWNSTREAM OF HILLCROFT STREET IN WEST	15853	1007B	10	12	HG	HH	RT	9	9	9				
MEDIATELY DOWNSTREAM OF SOUTH RICE AVENUE IN WEST	15854	1007B	10	12	HG	HH	RT	9	9	9				
MEDIATELY DOWNSTREAM OF STELLA LINK ROAD IN	15855	1007B	10	12	HG	HH	RT	9	9	9				
HOMESTEAD ROAD IN NORTHEAST HOUSTON	15862	1006D	10	12	HG	HH	RT	9	9	9				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
HIRSCH RD IN NORTHEAST HOUSTON	15863	1006D	10	12	HG	HH	RT	9	9	9				
MESA DR IN NORTHEAST HOUSTON	15864	1006D	10	12	HG	HH	RT	9	9	9				
AT JENSEN DRIVE IN NORTHEAST HOUSTON	15867	1007R	10	12	HG	HH	RT	9	9	9				
AT CAVALCADE ST IN NORTHEAST HOUSTON	15869	1007R	10	12	HG	HH	RT	9	9	9				
AT LOCKWOOD DRIVE IN NORTHEAST HOUSTON	15873	1007R	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY DOWNSTREAM OF ALMEDA ROAD IN SOUTH	15876	1007D	10	12	HG	HH	RT	9	9	9				
MARTIN LUTHER KING JUNIOR BOULEVARD IN SOUTH	15877	1007D	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8075470
WALLOW STREET IN SOUTHEAST HOUSTON	15878	1007D	10	12	HG	HH	RT	9	9	9				
SOUTH WAYSIDE DRIVE 802 METERS UPSTREAM OF IH 45 IN STON	16479	1007B	10	12	HG	HH	RT	9	9	9				
IMMEDIATELY UPSTREAM OF OLD HUMBLE ROAD AT FH RIENHARDT BAYOU IN NORTHEAST HOUSTON	16589	1016A	10	12	HG	HH	RT	9	9	9				
TARY OF GREENS BAYOU AT MESA DR/E. HOUSTON-) IN NORTHEAST HOUSTON	16590	1016B	10	12	HG	HH	RT	9	9	9				
CREEK IMMEDIATELY UPSTREAM OF WIRT ROAD 331 METERS F IH 10 IN WEST HOUSTON	16592	1014O	10	12	HG	HH	RT	9	9	9				
EDIATELY UPSTREAM OF BOLIVIA BLVD 792 METERS NINFLUENCE WITH WHITEOAK BAYOU IN NW HOUSTON	16593	1017B	10	12	HG	HH	RT	9	9	9				
LY AT US 290 IN NORTHWEST HOUSTON 2.03 KM UPSTREAM WITH WHITEOAK BAYOU	16594	1017A	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8074250
TARY OF WHITE OAK BAYOU AT US290 INTERSECTION AT IN NORTHWEST HOUSTON	16595	1017D	10	12	HG	HH	RT	9	9	9				
TARY OF WHITE OAK BAYOU AT W 14TH IN WEST HOUSTON DREAM OF CONFLUENCE WITH WHITE OAK BAYOU	16596	1017E	10	12	HG	HH	RT	9	9	9				
H / NEIMANS BAYOU AT MEMORIAL DRIVE IN WEST	16597	1014M	10	12	HG	HH	RT	9	9	9				
K BAYOU AT WHITE OAK DRIVE IN NORTH HOUSTON	16648	1013A	10	12	HG	HH	RT	9	9	9				
TARY OF BUFFALO BAYOU / JAPHET CREEK AT CLINTON DRIVE STON	16649	1007O	10	12	HG	HH	RT	9	9	9				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
AYOU/TRIBUTARY OF BRAYS BAYOU IMMEDIATELY SOUTH OF WAYSIDE DRIVE/US90A IN CENTRAL HOUSTON	16650	1007K	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF BRAYS BAYOU AT HUGHES STREET IN SOUTH HOUSTON	16651	1007K	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF BRAYS BAYOU AT MCDERMED DRIVE IN SOUTHWEST HOUSTON	16652	1007E	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF BRAYS BAYOU AT BROCK STREET 311 METERS WEST OF HEELER STREET IN SOUTHEAST CENTRAL HOUSTON	16653	1007G	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF BRAYS BAYOU AT DUMFRIES DRIVE IN SOUTH WEST HOUSTON	16654	1007L	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU AT DULCIMER STREET IN SOUTH HOUSTON	16655	1007N	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU AT TIFFANY DRIVE IN SOUTH HOUSTON	16656	1007D	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF HUNTING BAYOU IMMEDIATELY UPSTREAM OF JOHN F. WOODS ROAD IN EAST HOUSTON	16657	1007M	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU AT OLD GALVESTON ROAD IN SOUTH HOUSTON	16658	1007I	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU AT OLD GALVESTON ROAD IN SOUTH HOUSTON	16659	1007H	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU IMMEDIATELY UPSTREAM OF SOUTH EAST HOUSTON	16660	1007	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU IMMEDIATELY UPSTREAM OF SOUTH RICHEY STREET IN SOUTH HOUSTON	16661	1007F	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU IMMEDIATELY UPSTREAM OF SOUTH RICHEY STREET IN SOUTH HOUSTON	16662	1006F	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU IMMEDIATELY UPSTREAM OF SOUTH RICHEY STREET IN SOUTH HOUSTON	16663	1006H	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF SIMS BAYOU IMMEDIATELY UPSTREAM OF SOUTH RICHEY STREET IN SOUTH HOUSTON	16664	1006	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF HALLS BAYOU IMMEDIATELY DOWNSTREAM OF SOUTH RICHEY STREET IN SOUTH HOUSTON	16665	1006J	10	12	HG	HH	RT	9	9	9				
AYOU/TRIBUTARY OF HALLS BAYOU AT TALTON STREET IN NORTH EAST HOUSTON	16666	1006I	10	12	HG	HH	RT	9	9	9				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
TARY OF HALLS BAYOU AT WOODLYN ROAD IN NORTH EAST	16667	1006I	10	12	HG	HH	RT	9	9	9				
OF BUFFALO BAYOU AT GLENWOOD CEMETARY RD 160 M W LUBBOCK ST AND SAWYER ST IN CENTRAL HOUSTON	16675	1013C	10	12	HG	HH	RT	9	9	9				
TARY OF GREENS BAYOU AT SMITH RD IN NORTHEAST	16676	1016D	10	12	HG	HH	RT	9	9	9				
SPRING CREEK OAKS DRIVE IN TOMBALL	17481	1009D	10	12	HG	HH	RT	9	9	9				
AT SH 6 IN NORTHWEST HOUSTON	17482	1014E	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8072760
TANNER ROAD APPROX 920 METERS EAST OF NORTH /AY IN HOUSTON	17483	1014K	10	12	HG	HH	RT	9	9	9				
LD GREENHOUSE ROAD WEST OF HOUSTON	17484	1014A	10	12	HG	HH	RT	9	9	9				
TARY OF HORSEPEN BAYOU TIDAL AT PENN HILLS	17485	1113C	11	12	HG	HH	RT	9	9	9				
GH AT HILLRIDGE ROAD IN SOUTHEAST HOUSTON	17486	1113E	11	12	HG	HH	RT	9	9	9				
AT BANDRIDGE ROAD IN SOUTHEAST HOUSTON	17487	1113D	11	12	HG	HH	RT	9	9	9				
MEDIATELY DOWNSTREAM OF KUYKENDAHL ROAD OUSTON	17489	1008	10	12	HG	HH	RT	9	9	9				
AIRLINE ROAD IN NORTH HOUSTON	17490	1006D	10	12	HG	HH	RT	9	9	9				
DEER TRAIL DRIVE IN NORTH HOUSTON	17491	1006D	10	12	HG	HH	RT	9	9	9	9			Flow from gage 8076200
AT SOUTH MASON ROAD WEST OF HOUSTON	17492	1014B	10	12	HG	HH	RT	9	9	9				
.1 METERS DOWNSTREAM OF PARK PINE DRIVE WEST OF	17494	1014L	10	12	HG	HH	RT	9	9	9				
MMEDIATELY UPSTREAM OF MILLS ROAD WEST OF HOUSTON	17495	1016	10	12	HG	HH	RT	9	9	9				
OF CYPRESS CREEK 105 METERS DOWNSTREAM OF LAKEWOOD RTHWEST OF HOUSTON	17496	1009C	10	12	HG	HH	RT	9	9	9				
TREAM TIDAL AT SOUTH POST OAK ROAD IN SOUTHWEST	17976	1007D	10	12	HG	HH	RT	9	9	9				
TARY OF HUNTING BAYOU AT MINDEN STREET 0.3 KM EAST OF LOCKWOOD AND S OF N 610 LOOP EAST	18689	1007V	10	12	HG	HH	RT	9	9	9				
RIBUTARY OF BRAYS BAYOU UNDER CENTER OF BISSONNET ST : OF BISSONNET AT FONDREN RD IN SW HOUSTON	18690	1007T	10	12	HG	HH	RT	9	9	9				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
RIBUTARY OF BRAYS BAYOU AT NEWCASTLE DR IN JSTON	18691	1007U	10	12	HG	HH	RT	9	9	9				
H TRIBUTARY OF BRAYS BAYOU AT EASTBOUND NORTH D APPROX 200 M E OF BUFFALO SPEEDWAY IN SW HOUSTON	18692	1007S	10	12	HG	HH	RT	9	9	9				
AT SYNOTT ROAD 1.1 KM SOUTH OF THE INTERSECTION OF ID BISSONET STREET IN SOUTHWEST HOUSTON	20211	1007C	10	12	HG	HH	RT	9	9	9				
NORTH SHORE IMMEDIATELY UNDERNEATH THE EDER ROAD BRIDGE OF IH 610 WEST IN HOUSTON	20212	1014	10	12	HG	HH	RT	9	9	9				
T TUWA ROAD APPROXIMATELY 859 METERS DOWNSTREAM D IN NORTHERN HARRIS COUNTY	20730	1008H	10	12	HG	HH	RT	9	9	9				
ALVESTON ROAD IN HOUSTON	20736	1007	10	12	HG	HH	RT	9	9	9				This site replaces station 1. using wrong station id for t location they were samplir
T WALLISVILLE ROAD APPROX 150 METERS NORTHEAST OF N OF DATTNER ROAD AND WALLISVILLE ROAD IN HOUSTON	21008	1006	10	12	HG	HH	RT	9	9	9				This site replaced 11277 in due to safety issues.
FLOOD CONTROL DISTRICT CHANNEL D138 / CHIMNEY DITCH STREAM OF CAVERSHAM DRIVE BETWEEN THE ND SOUTHBOUND SECTIONS OF CHIMNEY ROCK ROAD IN	21180	1007W	10	12	HG	HH	RT	9	9	9				Added in FY2013
REEK AT SOUTH PARK VIEW DRIVE WEST OF HOUSTON	21813	1014H	10	12	HG	HH	RT	9	9	9				Replaced site 17493 in FY2
I JACINTO RIVER EAST FORK AT HUFFMAN-NEW CANEY ROAD	11187	1002B	10	12	HG	HW	RT	6	6	6				Monitoring Entity changed to HW in 2010
ORTH SIDE OF MISSOURI PACIFIC RAILROAD BRIDGE 137 ND 1.36 KM WEST OF INTERSECTION OF PINO LN AND	11208	1002	10	12	HG	HW	RT	12	12	12				
T FM 1960 WEST END PASS BRIDGE 269 M N AND 731 M E OF ATASCOCITA SHORES AND FM 1960/CITY HO SITE 9	11211	1002	10	12	HG	HW	RT	12	12	12				
T FM 1960 EAST END PASS BRIDGE 235 M S AND 950 M WEST I OF FM 1960 AND FAIRLAKE LANE/CITY HO SITE 13	11212	1002	10	12	HG	HW	RT	12	12	12				
JACINTO RIVER AT FM 1485	11235	1003	10	12	HG	HW	RT	6	6	6	6			Flow from gage 8070200

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
ACINTO RIVER IMMEDIATELY UPSTREAM OF SH 105 WEST OF	11238	1003	10	12	HG	HW	RT	6	6	6	6			Site added in FY11. Flow fr 8070000
ACINTO RIVER IMMEDIATELY UPSTREAM OF SH 242	11243	1004	10	12	HG	HW	RT	6	6	6				This site ID replaces site ID Data was moved from 166: 11243.
ACINTO RIVER IMMEDIATELY DOWNSTREAM OF SH 105 NW	11251	1004	10	12	HG	HW	RT	6	6	6	6			Flow from gage 8067650
IDGE AT IH 45 20 MILES NORTH OF HOUSTON	11313	1008	10	12	HG	HW	RT	6	6	6	6			Flow from gage 8068500
RIDGE ON IH 45 15 MI NORTH OF HOUSTON	11328	1009	10	12	HG	HW	RT	6	6	6	6			Flow from gage 8069000
MEDIATELY DOWNSTREAM OF FM 1485	11334	1010	10	12	HG	HW	RT	6	6	6				
DGE AT FM 2090 IN SPLENDORA	11337	1011	10	12	HG	HW	RT	6	6	6				This site was substituted fo in FY2012.
0 M S AND 349 M W OF INTERSECTION OF MAGNOLIA PT DR /AY CANEY CREEK ARM IN HOUSTON	16623	1002	10	12	HG	HW	RT	12	12	12				
MEDIATELY UPSTREAM OF OLD HWY 105	16625	1011	10	12	HG	HW	RT	6	6	6				
.175 METERS DOWNSTREAM OF SH LOOP 336 SOUTHEAST OF	16626	1004E	10	12	HG	HW	RT	6	6	6				
T SH 242 SOUTHEAST OF CONROE	16635	1004D	10	12	HG	HW	RT	6	6	6				Replaces site 11181 Crysta FM1314
OF LK SHADOWS SUBDIVISION MID LAKE NW OF HOUSTON .38 KM E OF INTERSECT OF LK HOUSTON PKWY AND DITE	16668	1002	10	12	HG	HW	RT	12	12	12				
IV THE WEST FORK SAN JACINTO RIVER CHANNEL 270 M EAST I OF MISTY COVE AT ATASCOCITA PLACE DR	18667	1002	10	12	HG	HW	RT	12	12	12				
.UCE BAYOU 123 M NORTH AND 188 M WEST OF LAKEWATER OD DR IN WATER WONDERLAND SUBDIVISION IN HARRIS	18670	1002	10	12	HG	HW	RT	12	12	12				
VEST FORK SAN JACINTO RIVER ARM UNDER POWER LINES 567 D 538 METERS NORTH FROM THE INTERSECTION OF BELLEAU D SOUTHSORE DRIVE IN HOUSTON	20782	1002	10	12	HG	HW	RT	12	12	12				added site in FY 2011 want if OSSF community upstrea affecting ambient water qu
MILLMAC ROAD NORTHEAST OF CUT AND SHOOT	21465	1010	10	12	HG	HW	RT	6	6	6				Replaced site 14241 in FY2

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
DAM MID CHANNEL 85 M OUT FROM MIDDLE TAINTER GATE ; M E OF INTERSECTION OF DAM SITE RD AND SH 105	11342	1012	10	12	HG	SJ	RT	12	12	12				
FM 1375 IN THE MAIN CHANNEL 4TH PILING FROM THE EAST D 1.40 KM W OF INTERSECTION OF KAGLE RD AND FM 1375	11344	1012	10	12	HG	SJ	RT	12	12	12				
4 295 METERS DOWNSTREAM OF SAWDUST ROAD IN THE	16422	1008C	10	12	HG	SJ	RT	12	4	4				Replaced site 16628 in 201 stream access from bank.
5S AT WESTERN REACH 110 METERS NORTH AND 100 METERS CTION OF MEADOW COVE DR AND PLEASURE COVE DR IN THE	16481	1008F	10	12	HG	SJ	RT	12	4	4			2	
5S AT SOUTH END 23 METERS NORTH AND 50 METERS EAST 3E OF DAM IN THE WOODLANDS	16482	1008F	10	12	HG	SJ	RT	12	4	4			2	
5S AT MID POINT 130 METERS NORTH AND 30 METERS EAST N INTERSECTION OF E SHORE DR AND CAPE HARBOR PL IN 5	16483	1008F	10	12	HG	SJ	RT	12	4	4			2	
5S AT NORTH END 111 METERS DOWNSTREAM OF RESEARCH THE WOODLANDS	16484	1008F	10	12	HG	SJ	RT	12	4	4			2	
BRANCH AT FOOTBRIDGE 265 M UPSTREAM OF SAWDUST RD PSTREAM OF PERMIT WQ0011401-001 LOCATED AT 2436	16627	1008C	10	12	HG	SJ	RT	12	4	4			2	
BRANCH APPROX 80 M UPSTREAM OF PERMIT WQ0012597- 5402 RESEARCH FOREST DR	16629	1008B	10	12	HG	SJ	RT	12	4	4			2	
BRANCH APPROX 170 METERS DOWNSTREAM OF PERMIT LOCATED AT 5402 RESEARCH FOREST DR	16630	1008B	10	12	HG	SJ	RT	12	4	4			2	
METERS DOWNSTREAM OF RESEARCH FOREST DRIVE	16631	1008E	10	12	HG	SJ	RT	12	4	4	4		2	Flow from gage 8068400
APRIL POINT MID CHANNEL 559 M N AND 586 M E OF : APRIL POINT PLACE AND APRIL HILL	16638	1012	10	12	HG	SJ	RT	12	12	12				
SOUTH END OF LAKE ON EAST SIDE 201 METERS SOUTH AND T OF INTERSECTION OF S VALLEY DRIVE AND CREST DRIVE	16639	1012	10	12	HG	SJ	RT	12	12	12				
OF BENTWATER ISLAND WEST COVE S OF FM 1097 BRIDGE 769 OF INTERSECTION OF WATERFRONT AND SPRINGTIME DR	16640	1012	10	12	HG	SJ	RT	12	12	12				

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
AQUARIUS POINT MID CHANNEL N OF FM 830 BOAT RAMP 1 M W OF INTERSECT OF FM 830 AND LAKEVIEW MANOR DR	16641	1012	10	12	HG	SJ	RT	12	12	12				
LAKE MID POINT MID CHANNEL AT FM 1097 BRIDGE 57 M S INTERSECTION OF FM 1097 AND BLUEBERRY HILL	16642	1012	10	12	HG	SJ	RT	12	12	12				
HUNTERS POINT CANEY CREEK ARM E OF SCOTTS RIDGE BOAT ND 558 M E OF INTERSECT OF TEEL RD AND HUNTERS TRL	16643	1012	10	12	HG	SJ	RT	12	12	12				
PARADISE POINT MID CHANNEL 396 METERS S AND 309 M ON OF PARADISE VIEW DRIVE AND PARADISE POINT DRIVE	16644	1012	10	12	HG	SJ	RT	12	12	12				
MOUTH OF SANDY BRANCH COVE 2.63 KM EAST OF HARDY SMITH ROAD AND F S 218 A	16645	1012	10	12	HG	SJ	RT	12	12	12				
TIDAL MID CHANNEL 45 M DOWNSTREAM OF SH 146 IN AYTOWN	11115	0901	9	12	HG	UI	RT	4	4	4				Changed from HG to UI in FY2015
TIDAL AT IH 10 EASTBOUND BRIDGE SOUTH OF MONT BELVIEU BOULEVARD	11117	0901	9	12	HG	UI	RT	4	4	4				Changed from HG to UI in FY2015
BOULEVARD TIDAL 30 M DOWNSTREAM OF FM 1942 AT EAST BANK	11118	0902	9	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in FY2015
BOULEVARD TIDAL 45 M DOWNSTREAM OF FM 1960 NORTHEAST OF	11123	0902	9	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in FY2015
LAKEVIEW NORTHBOUND SH 146 BRIDGE AT MID-BRIDGE NORTH OF LA	11400	2431A	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY2017
LAKEVIEW AT FAIRWOOD ROAD IN LA MARQUE IN GALVESTON	11415	2424A	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY2017
LAKEVIEW FM 2004 SW OF ALTO LOMA	11422	2432C	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY2017
LAKEVIEW AT FM 2917 SOUTH OF ALVIN	11423	2432A	24	12	HG	UI	RT	4	4	4	4			Added site in FY2012
LAKEVIEW AT FM 518 IN FRIENDSWOOD	11425	1102A	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY2017
LAKEVIEW FM 517 W OF DICKINSON	11434	1103E	11	12	HG	UI	RT	4	4	4	4			Reduced frequency for FY2017
LAKEVIEW FM 517 E OF DICKINSON	11436	1103D	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY2017
LAKEVIEW TIDAL AT SH 146 BRIDGE EAST OF DICKINSON	11455	1103	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY2017
LAKEVIEW TIDAL AT IH 45	11462	1103	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY2017
LAKEVIEW TIDAL FM 2004 BRIDGE SOUTH OF ALVIN	11478	1107	11	12	HG	UI	RT	4	4	4				Added chlorophyll a in FY2017 Reduced frequency for FY2017

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
DAL AT THAT-WAY DRIVE 0.5 MILES BELOW FM 2004	11486	1109	11	12	HG	UI	RT	4	4	4				Changed from HG to UI in 5 2015
JGH IMMEDIATELY DOWNSTREAM OF ALLENHURST RD NE OF .LENHURST COMMUNITY	12135	1305A	13	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in 5 2015
35 M DOWNSTREAM OF SIMS ROAD APPROXIMATELY 5.20 KM SOUTH	12138	1304A	13	12	HG	UI	RT	4	4	4				Changed from HG to UI in 5 2015
IMMEDIATELY UPSTREAM OF CONCRETE BRIDGE 210 M FROM LINVILLE BAYOU CONFLUENCE AND ADJACENT TO FM 521	12151	1304	13	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in 5 2015
BAYOU MID BAYOU OPPOSITE LAKE MADELINE CANAL	13322	2424D	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
IDGE MARKER D BETWEEN SOUTH DEER ISLAND AND	14622	2424	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
OFF CM 18	14645	2424D	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
VER IMMEDIATELY DOWNSTREAM OF FM 3013 ON THE IN COUNTY LINE APPROXIMATELY 15KM SW OF SEALY	16370	1302	13	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in 5 2015
' AT FM517 BRIDGE 0.10MI UPSTREAM OF CONFLUENCE OF U IN DICKINSON	16469	1103B	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
AT FM517 BRIDGE 0.19MI UPSTREAM OF DICKINSON BAYOU IN	16470	1103C	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
AT FM 517 / PINE DR IN DICKINSON	16471	1103A	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
MARYS CROSSING IN NORTH FRIENDSWOOD	16473	1102B	11	12	HG	UI	RT	4	4	4	4			Reduced frequency for FY0
OU AT FM270 IN LEAGUE CITY	16475	1101D	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
FM2094 APPROX 0.3MI DOWNSTREAM OF CLEAR LAKE KEMAH	16476	2425B	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
LAWRENCE ROAD IN KEMAH	16485	2425B	24	12	HG	UI	RT	4	4	4				Added in FY2015
J 80 M NORTHEAST OF SH 6 BRIDGE CENTERPOINT IN BAYOU I 45 IN GALVESTON COUNTY	16488	2424A	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
OU TIDAL AT FM519 IN HITCHCOCK	16490	2424C	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
J AT FM 2004 IN HITCHCOCK IN GALVESTON COUNTY	16491	2424A	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
AT FM528 BRIDGE IN FRIENDSWOOD	16493	1101B	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
OD GATES AT GALVESTON BAY CONFLUENCE AT SHELL ISLAND	16551	2431	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
AT CORNER OF BELUCHE DRIVE AND DOMINIQUE DRIVE IN	16564	2424B	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
AL AT BROOKDALE DR APPROX 0.1MI DOWNSTREAM OF OUNTRYSIDE PARK IN CANOE LAUNCHING AREA IN LEAGUE	16576	1101	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
< AT W BAY AREA BLVD LEAGUE CITY APPROX 250 M WTP PERMIT WQ0010568-003	16611	1101A	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
I AT ROBINSON DRIVE IN PEARLAND	17068	1102C	11	12	HG	UI	RT	4	4	4	4			site added to UI schedule i
1.2 KM EAST OF WHARTON BAYOU AND 8.1 KM F FM 2004	17085	2432	24	12	HG	UI	RT	4	4	4				this site replaces site 1334
200 M NORTHWEST OF HORSE GROVE POINT AND 5.1 KM F FM 2004	17086	2432	24	12	HG	UI	RT	4	4	4				this site replaces site 1334
SH 3 IN TEXAS CITY	17910	2431A	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
M 2004 S/SW OF HITCHCOCK	17911	2432E	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
OU AT FM 2004 S/SW OF HITCHCOCK	17913	2432D	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
JASA ROAD 1 IN WEBSTER 100 M EAST OF FM 270/EL CAMINO	17928	1101C	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
T FM 2004 APPROXIMATELY 4 MILES SOUTHEAST OF S IN BRAZORIA COUNTY	18048	1105C	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
OFF BAYOU WOOD DR DUE EAST OF BRAZORIA CR 201 AT DR APPROX 1.1 KM UPSTREAM OF SH 288B IN RICHWOOD	18502	1105	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
TIDAL APPROXIMATELY 15 M OFF NORTH BANK AND 1.55 KM 1 2004 IN RICHWOOD VILLAGE	18503	1105	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
TIDAL MID CHANNEL AT NORTH END OF BASTROP BEACH VNSTREAM OF FM 523 SE OF ANGLETON	18504	1105	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
TIDAL 38 M NORTH OF N END OF COMPASS DR/BRAZORIA CR ELY 4.4 KM DOWNSTREAM OF FM 523 SE OF ANGLETON	18505	1105	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
IMEDIATELY UPSTREAM OF DANBURY-ANGLETON CR 210 EAST OF DANBURY	18506	1105C	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
LID CHANNEL 189 M UPSTREAM OF CONFLUENCE WITH TIDAL UPSTREAM OF CR 227 IN BRAZORIA COUNTY	18507	1105B	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
IMMEDIATELY UPSTREAM OF DANBURY-ANGLETON CR 210 EAST OF ANGLETON	18508	1105A	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
IMMEDIATELY UPSTREAM OF EAST SOUTH STREET 85 SOUTHBOUND SH 35 IN ALVIN USGS ID 8077890	18554	2432A	24	12	HG	UI	RT	4	4	4	4			site added in FY2012
TARY OF CLEAR CREEK TIDAL IN FOREST PARK CEMETERY STREAM OF S FEEDER RD OF I 45/GULF FWY S OF NASA RD 1	18591	1101F	11	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
TARY OF MOSES LAKE AT STATE LOOP 197/25TH AVE NORTH ORTHBOUND SH 146 IN TEXAS CITY	18592	2431C	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
J DIVERSION CANAL MID CHANNEL AT SECOND STREET UPSTREAM OF PRICE ROAD WWTP RELEASE IN HITCHCOCK	18593	2424G	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
AT BAKER ST 404 M UPSTREAM OF FM 2004 SOUTH OF SANTA I COUNTY	18668	2432B	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
MID BAYOU 250 M EAST AND 83 M SOUTH OF 61ST ST BRIDGE GALVESTON	18695	2424E	24	12	HG	UI	RT	4	4	4				Reduced frequency for FY0
IVE TIDAL AT YOST ROAD TERMINUS IN PEARLAND IN Y	20010	1102	11	12	HG	UI	RT	4	4	4	4			site added to UI schedule in
VER TIDAL AT SH 35 SOUTHWEST OF WEST COLUMBIA	20460	1301	13	12	HG	UI	RT	4	4	4				Changed from HG to UI in 2015
REEK AT WHARTON CR 225 IN EAST OF HUNGERFORD	20721	1302B	13	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in 2015
WHARTON CR 117/CHUDALLA ROAD/ARCHER ROAD 89 OF THE INTERSECTION OF WHARTON CR 117/CHUDALLA ROAD AND WHARTON CR 121/ WHARTON CR 119/DONALDSON WHARTON	20722	1302D	13	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in 2015
T BRAZORIA CR 450/JACKSON SETTLEMENT ROAD 1.22 TREAM OF FM 1301 IN WEST OF WEST COLUMBIA	20723	1302E	13	12	HG	UI	RT	4	4	4	4			Changed from HG to UI in 2015

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
AT SPRUCE DRIVE IN DICKINSON	20724	1103B	11	12	HG	UI	RT	4	4	4	4			replaces temp id HG-188 cr 2 years then compare resu 16469
TARY OF GUM BAYOU AT OWENS DRIVE 1.51 KILOMETERS ONFLUENCE WITH GUM BAYOU IN DICKINSON	20728	1103G	11	12	HG	UI	RT	4	4	4	4			replaces temp id HG-191 t was added after site 11446 dropped for being a duplic WCFO
DU IMMEDIATELY UPSTREAM OF BRAZORIA CR 171 / DLATE BAYOU ROAD IN LIVERPOOL	21178	1107	11	12	HG	UI	RT	4	4	4				This is a corrected location site sampled for several ye Replaces site id 11480.
J AT THE HEIGHTS-MANVEL ROAD /CARDINAL DRIVE BRIDGE	21416	2432A	11	12	HG	UI	RT	4	4	4	4			Added in FY2014
T BRAZORIA CR 213 / SHELL ROAD 8.9 KILOMETERS EAST OF	21734	1105E	11	12	HG	UI	RT	4	4	4				Added site in FY16
TARY OF BASTROP BAYOU TIDAL AT BRAZORIA CR 213 / SHELL ETERS EAST OF ANGLETON	21735	1105D	11	12	HG	UI	RT	4	4	4				Moved site downstream of location in FY16
METERS DOWNSTREAM FROM COWART CREEK LANE BRIDGE COUNTY LINE IN FRIENDSWOOD	16678	1102A	11	12	HG	UI	RT	4	4	4	4			Added for FY2017 only
BEAMER ROAD 1.5 KM SOUTHEAST OF FM 1959/DIXIE FARM WOOD	21925	1102D	11	12	HG	UI	RT	4	4	4	4			Added for FY2017 only
PASS AT EAST BROADWAY ST/FM 518 WEST OF SUNSET PEARLAND	18639	1102F	11	12	HG	UI	RT	4	4	4	4			Added for FY2017 only
OF MARYS CREEK 8 M DOWNSTREAM OF THALERFIELD DR E OF BAYOU RD/BRAZORIA CR 89 APPROX 300 M UPST SILVER LAKE	18636	1102G	11	12	HG	UI	RT	4	4	4	4			Added for FY2017 only
DU AT WEBSTER STREET BRIDGE OFF FM270 IN LEAGUE CITY	16486	1101D	11	12	HG	UI	RT	4	4	4				Added for FY2017 only
J AT END OF BAYOU LANE FREDDIESVILLE	16562	2424A	24	12	HG	UI	RT	4	4	4				Added for FY2017 only
J TIDAL AT FM 519 335 METERS NORTH OF SH 6 IN CITY OF ALVESTON COUNTY	15941	2424A	24	12	HG	UI	RT	4	4	4				Added for FY2017 only
CH AT WHARTON CR 252 APPROXIMATELY 5.9KM SE OF LISSIE	16371	1302A	13	12	HG	UI	RT	4	4	4	4			Added for FY2017 only

AC's FY2017 Coordinated Monitoring Schedule

Site Description	Station ID	Waterbody ID	Basin	Region	SE	CE	MT	Field	Conv	Bacteria	Flow	24 hr DO	Metal Water	Comments
REEK AT UNNAMED WHARTON COUNTY ROAD 4KM ESE OF LISSIE AND APPROX 2.51KM DOWNSTREAM OF	16374	1302B	13	12	HG	UI	RT	4	4	4	4			Added for FY2017 only
VER MID CHANNEL IMMEDIATELY DOWNSTREAM OF US 59 WHARTON	17420	1302	13	12	HG	UI	RT	4	4	4	4			Added for FY2017 only

Data Management Plan

July 2016

HOUSTON-GALVESTON AREA COUNCIL
Community & Environmental Planning Department

*Prepared in cooperation with the
Texas Commission on Environmental Quality
under the authorization of the Texas Clean Rivers Act*

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Introduction

The Data Management Plan (The Plan) outlines the standard policies and procedures for data management within the Community and Environmental Planning (C&E) Department. The Plan covers the management of both tabular (non-geographic) and spatial (geographic) datasets. Its primary purpose is to ensure the efficient access and maintenance of these datasets within the C&E Geospatial/Geographic Information Systems (GIS) environment.

GIS technology provides a systematic means to capture, manipulate, analyze, store and display spatially referenced data. GIS supports a wide variety of applications ranging from site assessments, environmental planning, urban planning, and spatial analysis to support organizational strategies. In general, GIS supports the overall departmental goals of guiding regional planning, enhancing the quality of the region's natural environment, and public education through outreach programs. The C&E GIS team supports various programs within the C&E department through data development, spatial analysis, geospatial applications development, cartography in support of departmental goals.

The Plan is considered a dynamic working document which responds to changing technology, funding, staffing, and project requirements. Consequently, the Plan is reviewed on an annual basis and amended as necessary.

Geospatial Services

The following section explains the geospatial services provided by the H-GAC C&E GIS team as it relates to the sharing of data, development of geospatial applications, cartography, and underlying GIS resources. The C&E GIS team is responsible for the development of data and sharing of many publicly viable datasets, developing geospatial applications, cartography, and coordination of maintenance of underlying geospatial hardware and software for C&E.

The C&E GIS team maintains a centralized geospatial warehouse (C&E SDE), an online mapping platform for web-based geospatial applications (Mapping Server), and an FTP download site (Data Clearinghouse). The C&E SDE utilizes ESRI's ArcSDE software running on a Microsoft SQLServer RDBMS. The mapping server uses ESRI's ArcGIS Server platform running on .NET. The Data Clearinghouse is an FTP server that provides C&E with storage space where it can post publicly available datasets for downloading. The C&E SDE, Mapping Server, and Data Clearinghouse platforms are installed by the H-GAC Data Services department (Data Services), with Data Services maintaining only the lower-level technology components such as the physical hardware, software installation, and low-level server and RDBMS functions. All upgrades and maintenance is coordinated by the C&E GIS Manager. All geospatial content stored in the C&E SDE, the Data Clearinghouse, and Mapping Server, are the responsibility of the C&E GIS staff, which resides within the C&E Socio-Economic Modeling program. A detailed schematic of the geospatial technical architecture and how the various systems are interconnected can be found in the *System Architecture* section below.

Data Sharing

The C&E SDE serves as the primary internal repository for geospatial data, metadata, and other information relevant to the activities and goals of the C&E department. All GIS users within C&E and some users from other H-GAC departments are provided *Editor* or *Viewer* access to data in the C&E SDE. The majority of users outside the core C&E GIS team have only viewer access to data in the C&E SDE. Other specific users that maintain data in the C&E SDE have editor access to the datasets. All user access privileges are assigned by the C&E GIS Manager based upon business needs, GIS skills, and role within the organization. No users outside of the C&E department have editor level access to any GIS data in the C&E SDE, and in some instances there are datasets

that are viewable by only C&E GIS users. Instructions for connecting to the C&E SDE are provided to authorized users.

Datasets determined to be viable for publication to the public are exported to the Data Clearinghouse website, thereby allowing the general public widespread access to this information via the internet. Members of the public may view metadata and download any of the datasets that are posted to the Data Clearinghouse. In some instances these datasets are used in web-based mapping applications and can be accessed online via the Mapping Server's services directory, or accessible via the Data Clearinghouse for downloading. All public C&E GIS data, applications, cartographic products, and the C&E map services directory can be accessed via our C&E GIS page at <http://www.h-gac.com/go/apps>, and a screen shot of the website can be found in Appendix 7.

Geospatial Applications

The C&E department has made a strategic decision to incorporate internet-based mapping applications into its deliverables for many programs and projects. Before, the results of most projects consisted of a large-format map printed on a plotter up to 48"x36" in diameter. This form of cartography although still useful in many settings, did not allow programs to communicate results to the public or external organizations that had an interest in our analysis results. By taking results from C&E projects and coupling this with base map data and imagery, C&E has been able to share the results of projects to a far greater audience, and has created opportunities whereby map layers published on the C&E mapping server can be utilized in other organizations mapping applications.

Currently there are three platforms upon which C&E provides internet-based mapping solutions. The first platform is based on the Adobe Flex programming environment, and all mapping applications developed using this platform run inside standard internet browsers that support the Flash technology, such as Internet Explorer. This platform is intended to provide users with a graphics rich user interface whereby the map can be navigated, layers turned on/off, and information obtained on each feature. In some instances, features have links to additional resources such as photos of monitoring stations, external websites, and detailed reports. This mapping application environment allows the users to make full use of their computers internet browser window, and serves as a simple online GIS.

The second platform utilizes the capabilities of the ArcServer platform to allow users to directly access map layers published on the mapping server. This method of delivery is called 'streaming' and allows end users read-only access to individual map layers and geoprocessing tools published on the server. Typical users of this method of delivery are other GIS users using desktop GIS, whereby they can connect directly to our ArcServer platform for read-only access and view our map layers. Other instances whereby users may utilize this method is where they are including our map layers in their own mapping applications.

The third and final platform involves developing applications for mobile devices or tablets. The C&E department has developed both native (installed) applications for the Apple iOS platform, as well as server-side scripted applications which utilize the free ESRI ArcGIS for Mobile Devices viewer app, which runs on iOS, Android, or Windows phone devices. In both instances, map layers used in these applications are delivered from the C&E ArcServer platform.

Mapping and Cartographic Products

The C&E department produces a variety of static cartographic maps for the region as a result of project activities and for general usage. To facilitate the sharing of these maps in an electronic format, C&E has implemented a Map Book as part of their C&E GIS page. Maps can be downloaded in multiple formats. The C&E Map Book can be accessed via our C&E GIS page at <http://www.h-gac.com/rds/map-book/Default.aspx>.

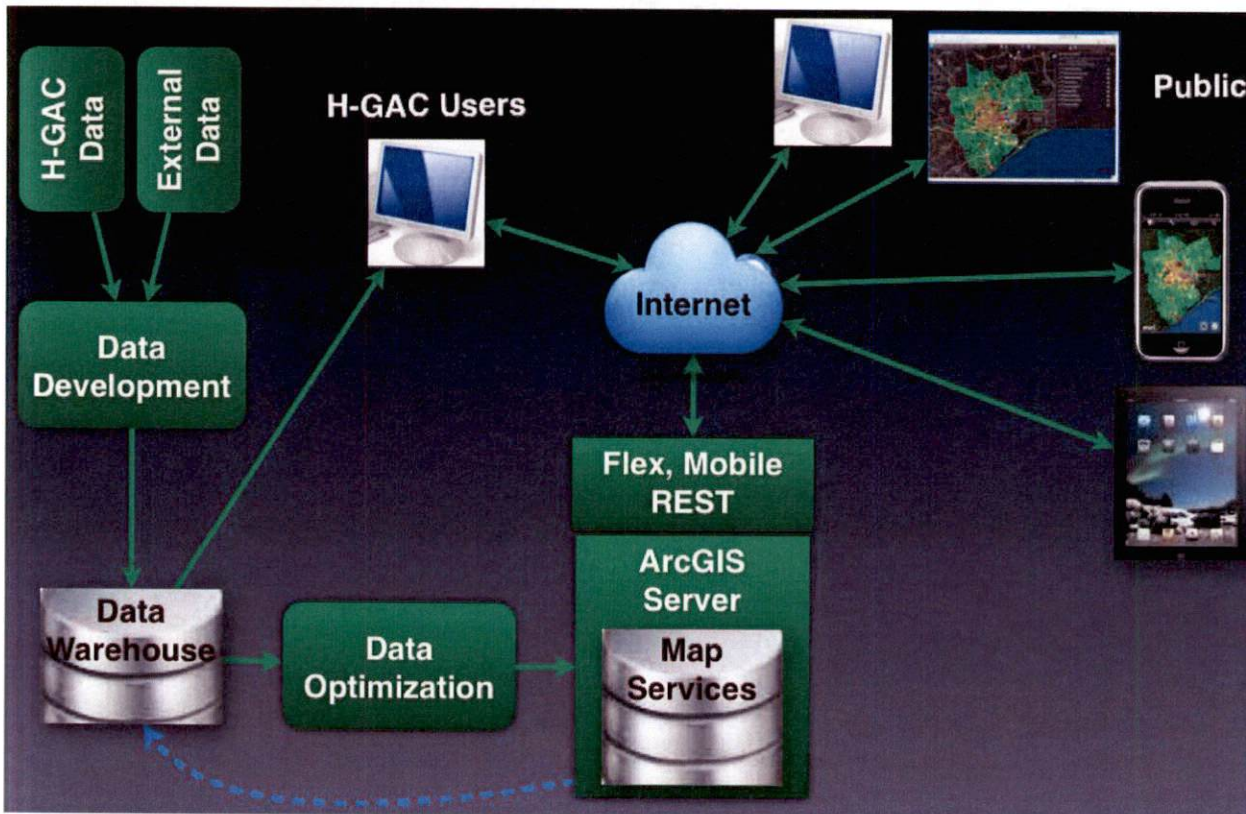
System Resources

System Architecture

The C&E department uses an integrated architecture to support the development, analysis, and dissemination of spatial information. The diagram below illustrates this system architecture at a high level. The goal of the overall system is to allow for a streamlined workflow to develop/maintain data, optimize the data for use in online applications, and the consumption of applications via multiple platforms.

Currently the C&E GIS platform supports sharing of geospatial data via the ArcServer mapping server platform. This allows end users internally or externally to consume map layers and geoprocessing tools via GIS desktop, mobile, tablet, or 3rd party applications.

In some instances, applications are configured with public feedback and volunteer GIS workflows that allow the C&E GIS team to obtain information for the public on various geographic features in the region. This public feedback loop allows C&E to investigate feedback and verify its validity prior to incorporating the information into the data warehouse.



Hardware

The configuration of the hardware used by staff that performs GIS and data Management work is a distributed network. This network consists of several PC's which are connected to central file servers. The department also uses a central web mapping server for online mapping applications.

A complete listing of departmental hardware is found in Appendix 3.

Software

The C&E department relies upon the H-GAC Data Services department (Data Services) for all of its end user workstation configuration, installation, and maintenance. Each workstation for users comes with the Microsoft Office software package which includes Outlook (e-mail), Word (word processing), Excel (spreadsheets),

PowerPoint (presentations), and in some instances Access (desktop database) should the user require desktop database capabilities. Each workstation is pre-configured and setup to operate within the H-GAC internal network, and has access to central servers for file storage. In some instances, certain personnel have additional non-standard software installed by Data Services as it is required for their responsibilities.

The C&E GIS staff utilizes ESRI's ArcGIS 10.1 platform for all geospatial analysis and mapping needs. In addition, as needed, the staff also utilizes the SAS software platform for further analysis and data development as deemed necessary. The ESRI ArcGIS 10.1 platform includes integrated Python programming capabilities, which allows for the creation of programming scripts or batch programs to improve efficiency and documentation of processes. The Python programming language is an Open Source platform, and is freely distributable.

The centralized SDE is also provided by ESRI, and provided for a centralized geospatial database where GIS staff can store geospatial data for either read-only or editable access by GIS users in the C&E department. The C&E GIS staff maintains access privileges to the SDE datasets, and assigns individual users to various SDE access groups to grant approved access to data in the SDE. The SDE is considered the central warehouse where GIS users can go to for geospatial data to use in their analysis or mapping projects.

The software products currently used to accomplish the department's data management objectives are listed in Appendix 4.

Programming Languages

Programming services will be provided on an as needed and resource available basis. All programming efforts will follow a standard procedure from needs assessment, program planning, development and testing, to refinement and documentation. The principal programming languages to be used in task automation and project customization will depend on the nature of the need and the current state of the technology. At this time, all web-based GIS applications are developed using the ESRI ArcGIS Server platform, and user interface components to that platform are developed using the ESRI JavaScript API. Automated data development and analysis workflows utilize the Python programming language and the SAS programming platform as needed.

Data

Department staff members will be consulted annually to determine priority needs for data management. Based on this consultation, specific data sets will be acquired or further developed for the various program areas represented in the department. The current list of department-specific data sets is shown in Appendix 5. A separate database lists all datasets regularly obtained from external sources, contact information, as well as the frequency of the datasets availability, and its cost. This database is developed using Microsoft Access, and is available to the C&E GIS team for tracking when updates to dataset may be available.

Personnel

The Data Management staff will be responsible for the maintenance and development of the C&E SDE, mapping server, geospatial applications, C&E GIS page, and Data Clearinghouse. These data management responsibilities cover a wide range from original data creation, acquisition and integration, data archiving and distribution. Additional responsibilities include enhancing the geographic extent, feature attributes, and metadata of the datasets.

The C&E GIS team is comprised of 3 full-time GIS professionals, one of which is the GIS Manager, and 2 full-time GIS Analysts. The C&E GIS team supports all programs within the C&E department, which include Clean Rivers/Water Quality, Sustainability, Economic Development, Solid Waste, Ped/Bike, Socio-Economic Modeling, and special project. The C&E GIS team is part of the Socio-Economic Modeling program within C&E.

H-GAC's Data Services Department plays an indirect role in the implementation and maintenance of The Plan. The Data Services Department is responsible for managing the underlying hardware and network upon which

C&E stores GIS data and implements GIS-based applications.

Training

Training for all users of the system is a critical part of The Plan. C&E staff directly responsible for data management will attend conferences, seminars, and software/hardware training courses as needed. H-GAC users of the system will be trained and/or receive technical support by the C&E GIS Manger and other C&E subject matter experts.

Budget

Budgetary requirements to sustain data management efforts will be reviewed annually.

Data Maintenance, Manipulation, and Use

Quality Assurance/Quality Control

QA/QC is designed to standardize screening, documentation, entry, output, analysis, correction, and updating of data in the system. QA/QC will document those responsible for data and system maintenance.

Data Limitations

Prior to the integration of data within the C&E SDE and posting to the Data Clearinghouse, a review of the data set will be completed to determine predefined data limitations such as missing values, different sampling frequencies, multiple measurements, analytical uncertainty, censored or unavailable data, and duplicated data with existing data sets. After review of the data set, a report will be generated which records any errors detected and any corrections that may be necessary.

Data Development Protocol

The C&E GIS staff works to update existing dataset, acquire new data, and perform geospatial analysis in support of various C&E programs. All new data generated from the result of an analysis is a candidate to be stored not only in the SDE as a new dataset, but also as a layer with a mapping application should the need arise. All data development and analysis is done internally to C&E, and at times leverages outside resources such as consultants, other non-profits whom H-GAC is partnering with, as well as with other H-GAC departments to obtain necessary data. Two datasets that the C&E department uses regularly outside the C&E SDE are the Data Services StarMap road centerline dataset, and the Data Services aerial imagery database. The C&E GIS staff uses a hybrid approach to conducting geospatial analysis. Much of the analysis being performed may need to be re-processed at a later date as new versions of datasets become available, or as inputs to the analysis models are updated themselves. Thus to minimize the time spent re-running analysis models, the C&E GIS staff utilizes the ESRI ArcGIS platform in conjunction with SAS and Python to develop repeatable and documented workflows. This approach saves more time than interactive methods whereby a user must remember the process to follow, and then execute each step in the analysis independently. Documentation related to data management efforts such as system evolution, structure, and procedures for use will be compiled and made available for the end user. Documentation will be made available online and in hard copy format.

Data Input

Standard conventions for data input will be determined on a per project and/or individual data set basis. To ensure Year 2000 Compliance, all data sets with date/time fields will include a four-digit year (YYYY). Either of the following formats will be used: International Standard Date notation where the date field is represented as MM/DD/YYYY (Month/Day/Year), or an ordinal format where the date field is represented as YYYYDDD.

Data Dictionary and Metadata

A list of all C&E data available in either the C&E SDE or other tabular formats can be found in Appendix 5. Metadata for each dataset in the C&E SDE is stored with the datasets, and can be viewed by GIS users via their GIS desktop software. Any data provided for public download via the Data Clearinghouse also has a metadata html page that can be viewed via internet browsers.

Data Conversion

Data to be imported into the C&E SDE from hard copy, digital or by manual data entry, will follow a uniform

conversion protocol to comply with the structure of current data sets. The type of data being converted will determine the protocol. All data is stored in ESRI geodatabase format within the C&E SDE, and when posted to the Data Clearinghouse the data is stored in the ESRI File Geodatabase file format, unless there is a specific requirement to provide the data in another format such as Shapefile or GIS Coverage.

Coordinate Systems

The Texas Stateplane Coordinate System, North American Datum 1983 (NAD83) will be the standard for geographic data at H-GAC. This coordinate system is based on the Cartesian coordinate system, or rectangular coordinates. When receiving geographic data from other sources the data will be transformed into the Stateplane Coordinate System to ensure compatibility with current data sets.

When publishing mapping services for use in web-based GIS mapping applications, the Web Mercator Auxiliary Sphere projection is used for all Data Frame projections. However, the underlying GIS data within these mapping services still use the Texas Stateplane Coordinate System, North American Datum 1983 (NAD83) projection.

Data Validation

Data Quality Control

When data are received from any source, documentation will be created to include the source name, date received, format of data and a brief description of the contents. Data will be loaded onto the system from the media received and a review of the data will be made along with any corrections being made to the source documentation. An analysis will be made in order to determine the means of data entry into the system whether it is only a stand-alone database, a number of linked tables, or a geographic database. The data will be converted to the appropriate format for integration with the current system whether it is a conversion into MS Access, Excel, SAS, or ESRI ArcGIS. The data will be visually examined to determine its validity and accuracy. If the data is invalid it will be corrected (if possible) otherwise the data will be incorporated into the C&E SDE, and then if applicable, posted to the Data Clearinghouse and used in conjunction with existing data. A QA/QC report of all procedures and a detailed description of how the data was incorporated into the current system (from the date received to the date of integration) will be generated.

Equipment Quality Control

All printers, workstations, and server hardware and operating systems are maintained by the Data Services department, unless otherwise noted in Appendix 3.

Genealogy

Upon receipt of data from outside sources, all data will be screened for integrity and completeness. After the preliminary evaluation of the data, a log of the data source, type and completeness is created and maintained with the associated data. A description of the data and the responsible personnel are documented.

Migration/Transfer

A copy of every C&E generated GIS dataset will be housed in the C&E SDE which C&E GIS staff manage the contents and structure of datasets. The underlying hardware and network connections for the C&E SDE are maintained by the Data Services Department. Datasets that are of public interest will be placed in the Data Clearinghouse for public access. Transfer from the C&E SDE to the Data Clearinghouse will occur on an as needed basis following department QA/QC measures and is handled by the C&E GIS team.

Data Security & Access

Data placed on the Data Clearinghouse will be available to those with Internet browsing and/or FTP capability. Data requests for non-public data from other agencies and the general public will be evaluated on an individual basis. When the data requests are received, a preliminary evaluation of the deliverable will be determined and a timeline and cost if applicable will be provided to the requesting agency or individual.

GIS and tabular data will be secure through directory permissions. H-GAC will employ Firewall or Proxy Server Technology to filter and severely restrict access to internal networks and database systems. Virus protection will be implemented to ensure system and data integrity.

Archives/Backup

Each week the C&E GIS team runs a schedule backup program to store a copy of all C&E SDE datasets on a portable hard drive with resides in a secure location within the H-GAC office. In addition, Data Services backs up and archives C&E SDE data and server configuration at regular intervals. A backup will be performed daily and the tapes will be maintained for 8 weeks before they will be recycled. Every six month, a complete system backup will be performed and the tapes will be archived and kept for five years off-site for security.

Disaster Recovery

In the event of a disaster, the C&E department will have access to all C&E SDE data which is stored on the portable hard drive. The C&E GIS team will restore or provide needed data to GIS users from this portable hard drive until such as time that Data Services can restore the C&E SDE onto either a new server or a temporary server.

Appendices

Appendix 1 Data Source Information Sheet

Data Title:

Source Agency:

Contact:

Title:

Address

Phone:

Data Description:

Data source:

Date created:

Accuracy:

Media:

Data items:

Description of data:

Format (specify what software)

Map:

Tabular:

Image:

Text:

Retrieval Procedure:

Command(s):

Appendix 2 Data Log Sheet

Date received: _____

Report Prepared by: _____

Source Name and Phone: _____

Format: _____

Media: _____

Check the following steps to determine the validity of the data:

1. What is the extent of the geographic area? _____

2. Structure (Circle One) Vector Raster

3. Scale? _____

4. Projection and Datum? _____

1. Do any of the key fields have missing values? If so which parameters have missing values? Yes ___
No ___

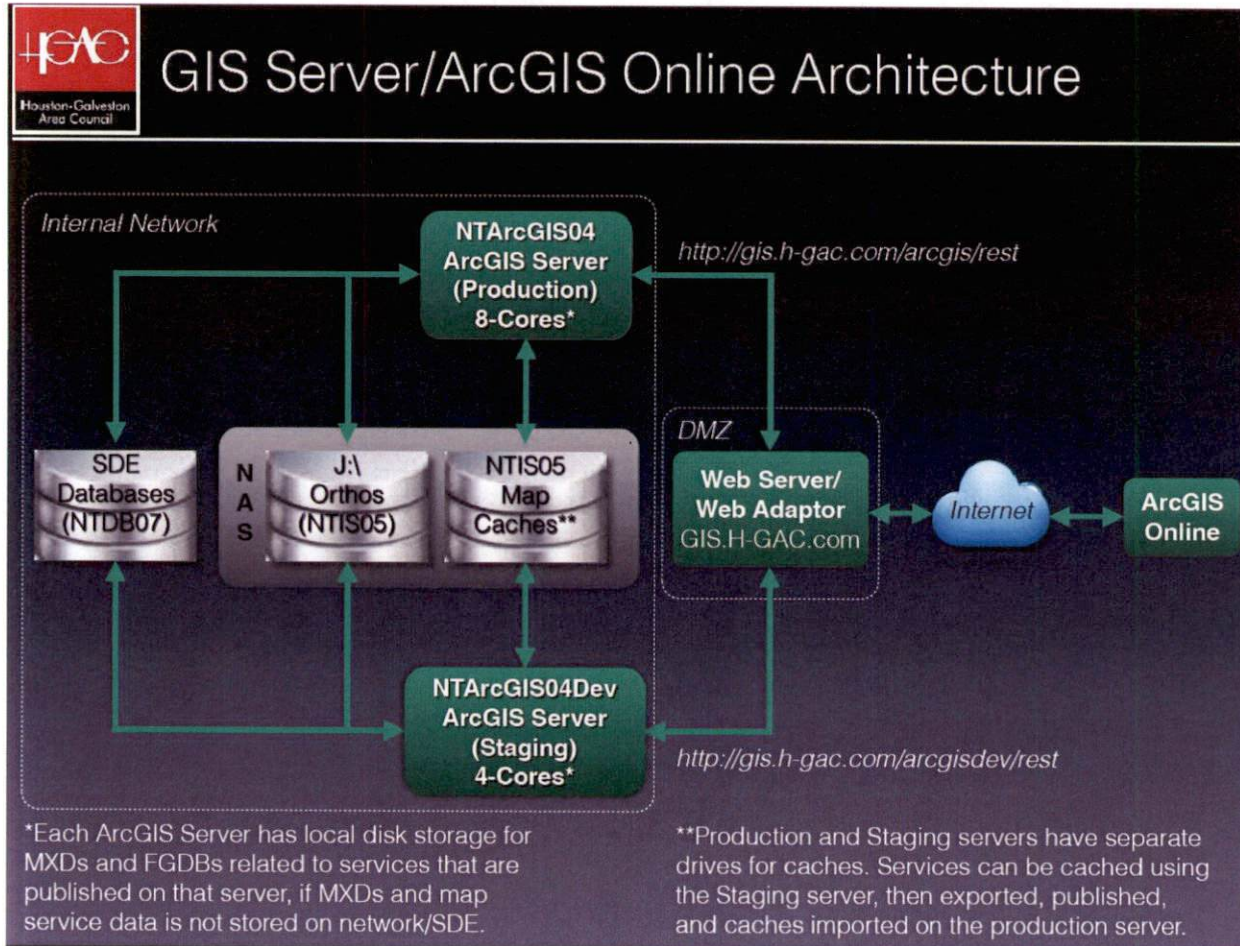
2. Any known duplicate records? Yes ___ No ___

Appendix 3 Hardware

FTP Server

Windows 2000 Server

Mapping Application Servers



Printers & Plotters

HP1055CM Plotter - Used by C&E staff for large format printing of maps and schematics.
 HP2500CM and LaserJet 4M Printers. C&E maintains both printers.

Global Positioning System (GPS) Units

The C&E Department possesses two GPS units.

Scanning Equipment

HP Scanjet 7400c. The CEP Department owns one network-accessible HP scanner.

Fax Equipment

Brother Intellifax 4750e. The C&E Department owns one fax machine.

Portable Storage Devices

Lacie 300GB external hard drive (USB, Firewire)

Appendix 4 Software

Office Productivity Software

Microsoft Office 365 - Word, Excel, Access, PowerPoint, publisher, InfoPath and Outlook.
Internet Explorer (ver 11) – Primary Development Tool

Graphics and Desktop Publishing

Macromedia Fireworks 4
Adobe Illustrator (ver 8.01) – Graphics
Adobe Photoshop (ver 5.0) – Graphics
Corel Draw (ver 7.0) - Graphics
Quark Express (ver 5.0) - Desktop Publishing.
Paintshop Pro (ver 4.12)
Camtasia Studio (ver 7.0) – Screen capture and video tutorial production

Programming

Visual Basic (ver 6.0) – Web Mapping Development Tool.
MS Active Server Pages (ver 2.0) – Web Database Development Tool.
Web AppBuilder for ArcGIS (ver 2.0) – Web-based GIS application development tool
SAS (ver 9.3) – Data development and analytics.

Geographic Information Systems (GIS)

ESRI ArcGIS (ver 10.2.2) – Computer mapping and database manipulation capable of using ArcView, ArcInfo, and ArcEditor licenses as needed.
ESRI ArcGIS Server (ver 10, SP3) – Internet Mapping Application Server.
ESRI ArcSDE (ver 10.1, SP1) – Spatial data warehouse.

Data Management

Access (2007, 2010) - Relational Database.
SQL Server (2000) - Relational Database.

Operating Systems

Windows XP - PC working environment/Operating System
Windows 7 - PC working environment/Operating System
Windows 2003 & 2008 - Server Operating Systems

Appendix 5 Data List**C&E Spatial Data Warehouse (SDE) Datasets**

Dataset Name	Type
AustCAD_Parcels_Coverage_2005	Polygon
AustCAD_Parcels_Coverage_2005_pts	Point
AustCAD_Parcels_Coverage_2006	Polygon
AustCAD_Parcels_Coverage_2006_pts	Point
AustCAD_Parcels_Coverage_2007	Polygon
AustCAD_Parcels_Coverage_2007_pts	Point
AustCAD_Parcels_Coverage_2008	Polygon
AustCAD_Parcels_Coverage_2008_Pts	Point
Austin_County	Polygon
AUSTIN_COUNTY_PARCEL_INFO_2005	Table
AUSTIN_COUNTY_PARCEL_INFO_2006	Table
AUSTIN_COUNTY_PARCEL_INFO_2007	Table
Austin_County_Parcel_Info_2008	Table
Austin_County_Parcel_Values_2006	Table
Austin_County_Parcel_Values_2007	Table
Austin_County_Parcel_Values_2008	Table
BrazCAD_Parcels_Coverage_2005	Polygon
BrazCAD_Parcels_Coverage_2005_pts	Point
BrazCAD_Parcels_Coverage_2006	Polygon
BrazCAD_Parcels_Coverage_2006_pts	Point
BrazCAD_Parcels_Coverage_2007	Polygon
BrazCAD_Parcels_Coverage_2007_pts	Point
BrazCAD_Parcels_Coverage_2008	Polygon
BrazCAD_Parcels_Coverage_2008_Pts	Point
Brazoria_County	Polygon
BRAZORIA_COUNTY_PARCEL_INFO_2005	Table
BRAZORIA_COUNTY_PARCEL_INFO_2006	Table
BRAZORIA_COUNTY_PARCEL_INFO_2007	Table
Brazoria_County_Parcel_Info_2008	Table
Brazoria_County_Parcel_Values_2005	Table
Brazoria_County_Parcel_Values_2006	Table
Brazoria_County_Parcel_Values_2007	Table
Brazoria_County_Parcel_Values_2008	Table
Brazoria_County_Political	Polygon
Chambers_County	Polygon
Chambers_County_Political	Polygon
Clean_Rivers_Public_Feedback	Point
Clean_Rivers_Public_Feedback__ATTACH	Table
Colorado_County	Polygon
CRP_Project_Areas	Polygon

Dataset Name	Type
FBendCAD_Parcels_Coverage_2005	Polygon
FBendCAD_Parcels_Coverage_2005_pts	Point
FBendCAD_Parcels_Coverage_2006	Polygon
FBendCAD_Parcels_Coverage_2006_pts	Point
FBendCAD_Parcels_Coverage_2007	Polygon
FBendCAD_Parcels_Coverage_2007_pts	Point
FBendCAD_Parcels_Coverage_2008	Polygon
FBendCAD_Parcels_Coverage_2008_Pts	Point
Fort_Bend_County	Polygon
Fort_Bend_County_Parcel_Info_2006	Table
Fort_Bend_County_Parcel_Info_2007	Table
Fort_Bend_County_Parcel_Info_2008	Table
Fort_Bend_County_Parcel_Values_2006	Table
Fort_Bend_County_Parcel_Values_2007	Table
Fort_Bend_County_Parcel_Values_2008	Table
GalvCAD_Parcels_Coverage_2005	Polygon
GalvCAD_Parcels_Coverage_2005_pts	Point
GalvCAD_Parcels_Coverage_2006	Polygon
GalvCAD_Parcels_Coverage_2006_pts	Point
GalvCAD_Parcels_Coverage_2007	Polygon
GalvCAD_Parcels_Coverage_2007_Pts	Point
GalvCAD_Parcels_Coverage_2008	Polygon
GalvCAD_Parcels_Coverage_2008_Pts	Point
Galveston_Bay_Estuary_Program_Watersheds	Polygon
Galveston_County	Polygon
GALVESTON_COUNTY_PARCEL_INFO_2005	Table
GALVESTON_COUNTY_PARCEL_INFO_2007	Table
Galveston_County_Parcel_Info_2008	Table
Galveston_County_Parcel_Values_2005	Table
Galveston_County_Parcel_Values_2007	Table
Galveston_County_Parcel_Values_2008	Table
Galveston_County_Political	Polygon
Grimes_County	Polygon
Gulf_Of_Mexico	Polygon
Harris_County	Polygon
Harris_County_FCD_Sub_Watersheds	Polygon
Harris_County_FCD_Watersheds	Polygon
HARRIS_COUNTY_PARCEL_INFO_2005	Table
HARRIS_COUNTY_PARCEL_INFO_2006	Table
HARRIS_COUNTY_PARCEL_INFO_2007	Table
Harris_County_Parcel_Info_2008	Table
Harris_County_Parcel_Values_2005	Table
Harris_County_Parcel_Values_2006	Table
Harris_County_Parcel_Values_2007	Table

Harris_County_Parcel_Values_2008	Table
Dataset Name	Type
Harris_County_Zones_58	Polygon
HCAD_Parcels_Coverage_2000	Polygon
HCAD_Parcels_Coverage_2000_pts	Point
HCAD_Parcels_Coverage_2003	Polygon
HCAD_Parcels_Coverage_2003_pts	Point
HCAD_Parcels_Coverage_2005	Polygon
HCAD_Parcels_Coverage_2005_pts	Point
HCAD_Parcels_Coverage_2006	Polygon
HCAD_Parcels_Coverage_2006_pts	Point
HCAD_Parcels_Coverage_2007	Polygon
HCAD_Parcels_Coverage_2007_Pts	Point
HCAD_Parcels_Coverage_2008	Polygon
HCAD_Parcels_Coverage_2008_Pts	Point
HGAC_13_County_Airports	Point
HGAC_13_County_Airports_ParcellIDs	Table
HGAC_13_County_BlockGroups_1990	Polygon
HGAC_13_County_BlockGroups_2000	Polygon
HGAC_13_County_BlockGroups_2010	Polygon
HGAC_13_County_Blocks_2000	Polygon
HGAC_13_County_Blocks_2010	Polygon
HGAC_13_County_Brownfield_Sites	Point
HGAC_13_County_Bus_Routes	Polyline
HGAC_13_County_Bus_Stops	Point
HGAC_13_County_Census_PL_Data_2010_Block_Groups	Table
HGAC_13_County_Census_PL_Data_2010_Blocks	Table
HGAC_13_County_Census_PL_Data_2010_Counties	Table
HGAC_13_County_Census_PL_Data_2010_Places	Table
HGAC_13_County_Census_PL_Data_2010_School_Districts	Table
HGAC_13_County_Census_PL_Data_2010_Tracts	Table
HGAC_13_County_Census_Places_2000	Polygon
HGAC_13_County_Census_Places_2000_Clippped	Polygon
HGAC_13_County_Census_Places_2000_Pts	Point
HGAC_13_County_Census_Places_2010	Polygon
HGAC_13_County_Census_Places_2010_Clippped	Polygon
HGAC_13_County_Census_Places_2010_Pts	Point
HGAC_13_County_Census_Urban_Areas_1990	Polygon
HGAC_13_County_Census_Urban_Areas_2000	Polygon
HGAC_13_County_Census_Urban_Areas_2009	Polygon
HGAC_13_County_Census_Urban_Areas_2010	Polygon
HGAC_13_County_Census_Zip_Codes_2010	Polygon
HGAC_13_County_City_Boundaries	Polygon
HGAC_13_County_City_Boundaries_Clippped	Polygon
HGAC_13_County_City_Ordinance_Areas	Polygon

HGAC_13_County_Closed_Landfill_Inventory	Point
Dataset Name	Type
HGAC_13_County_Landfill_Areas	Polygon
HGAC_13_County_Landfill_Areas_Historical	Polygon
HGAC_13_County_Landfills	Point
HGAC_13_County_Landfills_Historical	Point
HGAC_13_COUNTY_COASTAL_VIGNETTE	Raster
HGAC_13_County_Coastline	Polygon
HGAC_13_County_Coastline_Boundary	Polygon
HGAC_13_County_CRP_DO_Stations	Point
HGAC_13_County_CRP_Monitoring_Stations_2008	Point
HGAC_13_County_CRP_Monitoring_Stations_2010	Point
HGAC_13_County_CRP_Monitoring_Stations_2011	Point
HGAC_13_County_CRP_Monitoring_Stations_2012	Point
HGAC_13_County_CRP_Monitoring_Stations_2013	Point
HGAC_13_County_CRP_Monitoring_Stations_2014	Point
HGAC_13_County_CRP_Monitoring_Stations_2015	Point
HGAC_13_County_CRP_Monitoring_Stations_2016	Point
HGAC_13_County_CRP_Monitoring_Stations_2017	Point
HGAC_13_County_CRP_Monitoring_Stations_Historical	Point
HGAC_13_County_Dams	Point
HGAC_13_County_Districts	Polygon
HGAC_13_County_Election_Precincts_2010	Polygon
HGAC_13_County_Farmland	Polygon
HGAC_13_County_Federal_Aid_Roads	Polyline
HGAC_13_County_G1M	Polygon
HGAC_13_County_G3M	Polygon
HGAC_13_County_G5M	Polygon
HGAC_13_County_Grocery_Stores	Point
HGAC_13_County_Libraries	Point
HGAC_13_County_Libraries_Parcel_Xref	Table
HGAC_13_County_Major_Rivers	Polyline
HGAC_13_County_Major_Roads	Polyline
HGAC_13_County_Metropolitan_Statistical_Area	Polygon
HGAC_13_County_OSSF_Permits	Point
HGAC_13_County_Parks	Point
HGAC_13_County_Parks_Awards	Table
HGAC_13_County_Parks_Features	Table
HGAC_13_County_Parks_Parcels	Table
HGAC_13_County_Pipelines	Polyline
HGAC_13_County_Plats	Polygon
HGAC_13_County_Political	Polygon
HGAC_13_County_Political_Boundary	Polygon
HGAC_13_County_Railroads	Polyline
HGAC_13_County_Raster_Extent	Polygon

Dataset Name	Type
HGAC_13_County_Recycle_Centers	Point
HGAC_13_County_School_Districts_Census_2010	Polygon
HGAC_13_County_School_Districts_TEA_2010	Polygon
HGAC_13_County_Service_Area_Boundaries	Polygon
HGAC_13_County_Soils	Polygon
HGAC_13_County_State_Parks	Polygon
HGAC_13_County_Superfund_NPL_Sites	Polygon
HGAC_13_County_Superfund_NPL_Sites_Pts	Point
HGAC_13_County_TIRZs	Polygon
HGAC_13_County_Tracts_1990	Polygon
HGAC_13_County_Tracts_2000	Polygon
HGAC_13_County_Tracts_2010	Polygon
HGAC_13_County_Transit_Centers_Parks_and_Rides	Point
HGAC_13_County_Water	Polygon
HGAC_13_County_Water_Detailed	Polygon
HGAC_13_County_Watershed_Project_Monitoring_Sites	Point
HGAC_13_County_Zip_Codes_2000	Polygon
HGAC_13_County_Zip_Codes_2002	Polygon
HGAC_13_County_Zip_Codes_2005	Polygon
HGAC_15_County_Aquifer_Recharge_Zones	Polygon
HGAC_15_County_Basins	Polygon
HGAC_15_County_Bio_Monitoring_Sites	Point
HGAC_15_County_Census_Zip_Codes_2010	Polygon
HGAC_15_County_City_Boundaries	Polygon
HGAC_15_County_City_Boundaries_Clippped	Polygon
HGAC_15_County_Coastline	Polygon
HGAC_15_County_Coastline_Boundary	Polygon
HGAC_15_County_Contours_2_Feet	Polyline
HGAC_15_County_Contours_5_Feet	Polyline
HGAC_15_COUNTY_CRP_Impairments	Table
HGAC_15_County_CRP_Lakes	Polygon
HGAC_15_County_CRP_Stream_End_Points	Point
HGAC_15_County_CRP_Streams	Polyline
HGAC_15_County_DEM_10m	Raster
HGAC_15_County_Hillshade	Raster
HGAC_15_County_Major_Rivers	Polyline
HGAC_15_County_Major_Roads	Polyline
HGAC_15_County_Political	Polygon
HGAC_15_County_Political_Boundary	Polygon
HGAC_15_County_School_Districts_TEA_2010	Polygon
HGAC_15_County_Soils	Polygon
HGAC_15_County_Wastewater_Outfalls	Point
HGAC_15_County_Wastewater_Outfalls_Historical	Point
HGAC_15_County_Wastewater_Outfalls_Info	Table

Dataset Name	Type
HGAC_15_County_Water	Polygon
HGAC_15_County_Watershed_Insets	Polygon
HGAC_15_County_Watershed_Signs	Point
HGAC_15_County_Watersheds	Polygon
HGAC_15_County_Zip_Codes_2000	Polygon
HGAC_15_County_Zip_Codes_2002	Polygon
HGAC_8_County_Bikeway_Needs	Polyline
HGAC_8_County_Bikeways	Polyline
HGAC_8_County_BlockGroups_2000	Polygon
HGAC_8_County_BlockGroups_2010	Polygon
HGAC_8_County_Blocks_2000	Polygon
HGAC_8_County_Blocks_2010	Polygon
HGAC_8_County_Census_Places_2000	Polygon
HGAC_8_County_Census_Places_2000_Clippped	Polygon
HGAC_8_County_Census_Places_2000_Pts	Polygon
HGAC_8_County_Census_Places_2010	Polygon
HGAC_8_County_Census_Places_2010_Clippped	Polygon
HGAC_8_County_Census_Places_2010_Pts	Polygon
HGAC_8_County_Census_Urban_Areas_2000	Polygon
HGAC_8_County_Census_Urban_Areas_2009	Polygon
HGAC_8_County_Census_Urban_Areas_2010	Polygon
HGAC_8_County_Census_Zip_Codes_2010	Polygon
HGAC_8_County_City_Boundaries	Polygon
HGAC_8_County_City_Boundaries_Clippped	Polygon
HGAC_8_County_City_Ordinance_Areas	Polygon
HGAC_8_COUNTY_COASTAL_VIGNETTE	Raster
HGAC_8_County_Coastal_Vignette_50_25	Polygon
HGAC_8_County_Coastline	Polygon
HGAC_8_County_Coastline_Boundary	Polygon
HGAC_8_County_Comprehensive_Plan_2010_pts	Point
HGAC_8_County_Eco_Types	Polygon
HGAC_8_County_Forecast_Cities_h	Table
HGAC_8_County_Forecast_Cities_v	Table
HGAC_8_County_Forecast_Counties_h	Table
HGAC_8_County_Forecast_Counties_v	Table
HGAC_8_County_Forecast_G025M_h	Table
HGAC_8_County_Forecast_G1_h	Table
HGAC_8_County_Forecast_G10K_h	Table
HGAC_8_County_Forecast_G10K_v	Table
HGAC_8_County_Forecast_G1M_h	Table
HGAC_8_County_Forecast_G1M_v	Table
HGAC_8_COUNTY_FORECAST_LU_G1_H	Table
HGAC_8_County_Forecast_RAZ_h	Table
HGAC_8_County_Forecast_RAZ_v	Table

Dataset Name	Type
HGAC_8_County_Forecast_Region_v	Table
HGAC_8_County_Forecast_TAZ_h_2003	Table
HGAC_8_County_Forecast_TAZ_v_2003	Table
HGAC_8_County_Forecast_Tracts_h	Table
HGAC_8_County_Forecast_Tracts_v	Table
HGAC_8_County_Forecast_Zip_Codes_h	Table
HGAC_8_County_Forecast_Zip_Codes_v	Table
HGAC_8_County_G025M	Polygon
HGAC_8_County_G1	Polygon
HGAC_8_County_G10	Polygon
HGAC_8_County_G1M	Polygon
HGAC_8_County_Livable_Centers	Point
HGAC_8_County_Livable_Centers_Areas	Polygon
HGAC_8_County_Major_Rivers	Polyline
HGAC_8_County_Major_Roads	Polyline
HGAC_8_County_PedBike_Improvement_Areas	Polyline
HGAC_8_County_PedBike_Improvement_Locations	Polyline
HGAC_8_County_Pedestrian_Pathways	Polyline
HGAC_8_County_Political	Polygon
HGAC_8_County_Political_Boundary	Polygon
HGAC_8_County_Railroads	Polyline
HGAC_8_County_Raster_Extent	Polygon
HGAC_8_County_RAZ	Polygon
HGAC_8_County_School_Districts_TEA_2010	Polygon
HGAC_8_County_Soils	Polygon
HGAC_8_County_TAZ_2003	Polygon
HGAC_8_County_Tracts_1970	Polygon
HGAC_8_County_Tracts_1980	Polygon
HGAC_8_County_Tracts_2000	Polygon
HGAC_8_County_Tracts_2010	Polygon
HGAC_8_County_Water	Polygon
HGAC_8_County_Water_Detailed	Polygon
HGAC_8_County_Zip_Codes_2000	Polygon
HGAC_8_County_Zip_Codes_2002	Polygon
HGAC_8_County_Zip_Codes_2005	Polygon
HGAC_8_County_Zoning_2010_pts	Point
HGAC_Bastrop_Bayou_Sub_Watersheds	Polygon
HGAC_CRP_Watersheds	Polygon
HGAC_LAND_COVER_10_CLASS_2008	Polygon
HGAC_LAND_COVER_10_CLASS_ROADS_2008	Raster
HGAC_LAND_COVER_3X3_MODE_FILTERED_2008	Raster
HGAC_LAND_COVER_MERGED_6_CLASS_2008	Raster
HGAC_Other_CRP_Monitoring_Stations	Point
HGAC_Sea_Level_Rise_10Ft	Polygon

Dataset Name	Type
HGAC_Sea_Level_Rise_15Ft	Polygon
HGAC_Sea_Level_Rise_1Ft	Polygon
HGAC_Sea_Level_Rise_20Ft	Polygon
HGAC_Sea_Level_Rise_25Ft	Polygon
HGAC_Sea_Level_Rise_30Ft	Polygon
HGAC_Sea_Level_Rise_35Ft	Polygon
HGAC_Sea_Level_Rise_3Ft	Polygon
HGAC_Sea_Level_Rise_5Ft	Polygon
HGAC_Sea_Level_Rise_All_Levels	Polygon
HGAC_Sea_Level_Rise_Current_Sea_Level	Polygon
Hurricane_Dolly_Observations	Point
Hurricane_Dolly_Track	Polyline
Hurricane_Ike_High_Water_Measurements	Point
Hurricane_Ike_Observations	Point
HURRICANE_IKE_SALT_BURN_GULF_COAST	Raster
Hurricane_Ike_Storm_Surge_Model_i48_gl2	Polygon
HURRICANE_IKE_STORM_SURGE_MODEL_I48_GL2_RASTER	Raster
Hurricane_Ike_Track	Polyline
Land_Cover_1992_19_Class_NLCD	Raster
Land_Cover_1992_19_Class_NLCD_Corrected	Raster
Land_Cover_1996_22_Class_NOAA	Raster
Land_Cover_2001_15_Class_NLCD	Raster
Land_Cover_2001_15_Class_NLCD_Corrected	Raster
Land_Cover_2001_22_Class_NOAA	Raster
Land_Cover_2005_22_Class_NOAA	Raster
Land_Cover_2006_15_Class_NLCD	Raster
Land_Cover_2011_15_Class_NOAA	Raster
Land_Cover_2011_22_Class_NOAA	Raster
Land_Cover_Change_1992_to_2011_9_Class	Raster
LibCAD_Parcels_Coverage_2007	Polygon
LibCAD_Parcels_Coverage_2007_pts	Point
LibCAD_Parcels_Coverage_2008	Polygon
LibCAD_Parcels_Coverage_2008_Pts	Point
Liberty_County	Polygon
LIBERTY_COUNTY_PARCEL_INFO_2007	Table
Liberty_County_Parcel_Info_2008	Table
Liberty_County_Parcel_Values_2007	Table
Liberty_County_Parcel_Values_2008	Table
Matagorda_County	Polygon
Matagorda_County_Political	Polygon
METRO_LRT_Lines	Polyline
METRO_LRT_Stations	Point
Model_Buildings	Point
Model_Buildings_Rural	Point

Model_Buildings_Uses	Point
Dataset Name	Type
Model_Buildings_Uses_Rural	Table
Model_Parcels	Table
Model_Parcels_Acct_Nums	Polygon
Model_Parcels_Acct_Nums_Rural	Table
Model_Parcels_Addresses	Table
Model_Parcels_Addresses_Rural	Table
Model_Parcels_Features	Table
Model_Parcels_Features_Rural	Table
Model_Parcels_Forecast	Table
Model_Parcels_Removed_Merged	Table
Model_Parcels_Rural	Polygon
MontCAD_Parcels_Coverage_2005	Polygon
MontCAD_Parcels_Coverage_2005_pts	Point
MontCAD_Parcels_Coverage_2006	Polygon
MontCAD_Parcels_Coverage_2006_pts	Point
MontCAD_Parcels_Coverage_2007	Polygon
MontCAD_Parcels_Coverage_2007_pts	Point
MontCAD_Parcels_Coverage_2008	Polygon
MontCAD_Parcels_Coverage_2008_Pts	Point
Montgomery_County	Polygon
MONTGOMERY_COUNTY_PARCEL_INFO_2006	Table
MONTGOMERY_COUNTY_PARCEL_INFO_2007	Table
Montgomery_County_Parcel_Info_2008	Table
Montgomery_County_Parcel_Values_2006	Table
Montgomery_County_Parcel_Values_2007	Table
Montgomery_County_Parcel_Values_2008	Table
Montgomery_County_Zones_4	Polygon
NLCD_IMPERVIOUSNESS_2001	Raster
NLCD_IMPERVIOUSNESS_2006	Raster
NLCD_IMPERVIOUSNESS_CHANGE_2006	Raster
NLCD_TREE_CANOPY_2001	Raster
NOAA_Surge_MOM_Galveston_Bay	Polygon
NOAA_Surge_MOM_Matagorda_Bay	Polygon
San_Jacinto_County	Polygon
SEM_User_Input_Point	Point
SEM_User_Input_Polygon	Polygon
SEM_User_Input_Polyline	Polyline
Texas_113th_Congressional_Districts	Polygon
Texas_Census_BlockGroups_1990	Polygon
Texas_Census_BlockGroups_2000	Polygon
Texas_Census_BlockGroups_2010	Polygon
Texas_Census_Blocks_2000	Polygon
Texas_Census_Blocks_2010	Polygon

Texas_Census_School_Districts_2010	Polygon
Dataset Name	Type
Texas_Census_Tracts_1990	Polygon
Texas_Census_Tracts_2000	Polygon
Texas_Census_Tracts_2010	Polygon
Texas_Census_Urban_Areas_2009	Polygon
Texas_Coastal_Bathymetry	Point
Texas_Coastal_Vignette_50_25	Polygon
Texas_Coastline	Polygon
Texas_COG_Boundaries	Polygon
Texas_Counties_Coastline	Polygon
Texas_Counties_Political	Polygon
Texas_Highways	Polyline
Texas_Impairment_Streams_2008	Polyline
Texas_Impairment_Waterbodies_2008	Polygon
Texas_Major_Rivers	Polyline
Texas_Map_Extent	Polygon
Texas_State_House_Districts_2012	Polygon
Texas_State_Senate_Districts_2012	Polygon
Texas_Stream_Team_Monitoring_Sites	Point
Texas_Zip_Codes_2005	Polygon
The_Woodlands_Pathways	Polyline
TMDL_Project_Areas	Polygon
TMDL_Project_Areas_Mask	Polygon
TMDL_Watersheds	Polygon
US_State_Boundaries	Polygon
USFWS_Wetlands_2009	Polygon
USFWS_Wetlands_2010	Polygon
USFWS_Wetlands_2011	Polygon
USFWS_Wetlands_2012	Polygon
USGS_HUC_10_Watersheds	Polygon
USGS_HUC_12_Sub_Watersheds	Polygon
USGS_HUC_6_Basins	Polygon
USGS_HUC_8_Sub_Basins	Polygon
USGS_River_Basins	Polygon
USGS_Stream_Gauges_2009	Point
USGS_Stream_Gauges_2010	Point
USGS_Stream_Gauges_2012	Point
USGS_Sub_Watershed_Study_Areas	Polygon
WalkCAD_Parcels_Coverage_2005	Polygon
WalkCAD_Parcels_Coverage_2005_pts	Point
WalkCAD_Parcels_Coverage_2006	Polygon
WalkCAD_Parcels_Coverage_2006_pts	Point
WalkCAD_Parcels_Coverage_2007	Polygon
WalkCAD_Parcels_Coverage_2007_pts	Point

WalkCAD_Parcels_Coverage_2008	Polygon
Dataset Name	Type
WalkCAD_Parcels_Coverage_2008_Pts	Point
Walker_County	Polygon
WALKER_COUNTY_PARCEL_INFO_2005	Table
WALKER_COUNTY_PARCEL_INFO_2006	Table
WALKER_COUNTY_PARCEL_INFO_2007	Table
Walker_County_Parcel_Info_2008	Table
Walker_County_Parcel_Values_2005	Table
Walker_County_Parcel_Values_2006	Table
Walker_County_Parcel_Values_2007	Table
Walker_County_Parcel_Values_2008	Table
WallCAD_Parcels_Coverage_2007	Polygon
WallCAD_Parcels_Coverage_2007_Pts	Point
WallCAD_Parcels_Coverage_2008	Polygon
WallCAD_Parcels_Coverage_2008_Pts	Point
Waller_County	Polygon
WALLER_COUNTY_PARCEL_INFO_2007	Table
Waller_County_Parcel_Info_2008	Table
Waller_County_Parcel_Values_2007	Table
Waller_County_Parcel_Values_2008	Table
Wharton_County	Polygon
World_Country_Boundaries	Polygon

C&E Non-Spatial Data

Ambient Surface Water Quality Monitoring

Wastewater Self-reporting Data

Parcel-Based Land Use, Attributes, and Valuation (9 counties)

Census Data

Appendix 6 Data Dictionary

**Data Dictionary
Houston-Galveston Area Council
Community and Environmental Planning Department**

General Information		
Thematic Layer Name		
Feature Class		
Topology		
Table Name		
Data Source		
Report Prepared by		
Phone	Fax	E-Mail

Attribute Table				
Variable	Begin Column	Item Name	Alternate Name	Item Definition

Data History
Source Agency
Originating Date
Originating Scale

Status Information
Percentage Complete
Planned Completion Date
Geographic Extent
Planned Enhancements
Known problems or limitations

Maintenance Information
Maintaining Office/Division/Section
Contact Name
Contact Telephone Number
Type of updates performed
Frequency of Updates

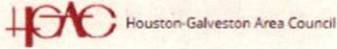
Data Format Information
Data Format
Software/Version
Number of features/records

Total File Size

Projection
Geographic Projection:
Spheroid:
Zone:
Datum:
Units:
Fips Zone:
Quadrant:
X Shift:
Y Shift:
1st Standard Parallel:
2nd Standard Parallel:
Central Meridian:
Lat. of Projection Origin:
False Easting:
False Northing:

Additional Documentation
Quality Assurance Quality Control
Attribute Reports Available
Additional Documentation Available

Appendix 7 H-GAC C&E GIS Mapping Applications



About H-GAC

Enter keyword(s) to find what you are looking for on our website.

SEARCH

Interactive Web Applications

This page showcases the interactive web applications developed by H-GAC's Community & Environmental Planning Department, as well as a few related external applications.

Click on a thumbnail below to view a brief description of the application. To view the application click on "Launch Application".

You can filter the applications using the list of filters listed below. You can select "Show All" at anytime to show all the applications.

Please note that when you select an "External App" you will be leaving H-GAC's website.







Disclaimer

These applications are intended for general reference and planning purposes only. Mapping may not reflect on the ground conditions. The Houston-Galveston Area Council makes no further claims as to the accuracy or reliability of the data, and neither assumes, nor will accept liability for their use.

List of Filters

Show All	Census	Employment	Environment
Growth Forecast	Land Use	Planning	Transportation
Water Quality	External Apps		

List of Applications

 Basin Summary Report (2016)	 Blue Map - Summary Viewer	 Blue Map - Advanced Viewer
		

Interactive Web Applications

Contact Us
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713-627-3200

H-GAC News & Events

2016 Basin Summary Report
Posted: 06/16/2016
H-GAC Releases Low Impact Development Guide
Posted: 05/20/2016

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