BEACH WATCH WORK PLAN Aransas County, Nueces County, and San Patricio County September 1, 2024 to August 31, 2025

Introduction

As the lead state agency charged with implementing the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH Act), the Texas General Land Office (GLO) will contract with **City of Corpus Christi** (Provider) to collect and analyze water samples, notify the public of beach water quality and to recommend and/or issue, water quality advisories when warranted.

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I. QUALITY ASSURANCE PROJECT PLAN

All monitoring data must be collected according to the EPA approved Quality Assurance Project Plan (QAPP). Provider must adhere to the QAPP. The Project Manager is required to download and read the document and return the signature page (Appendix D of the QAPP) to the GLO Beach Watch Coordinator. If any conflicts arise between this work plan and the QAPP, the requirements of the QAPP shall take precedence. The QAPP can be downloaded at www.texasbeachwatch.com.

II. SAMPLING STATIONS AND SCHEDULE.

All samples shall be collected in accordance with the Procedures for Providers set forth below and in the QAPP.

Sampling Stations. The Provider shall collect water samples from fixed sampling stations, depicted on the maps and station lists in Appendix C of the QAPP for Aransas County, Nueces County, and San Patricio County. The Provider shall follow the attached Sampling Schedule (Exhibit 1 of this Work Plan) and shall conduct additional sampling as required in Section V of this Work Plan. Based upon the contract amount, for Aransas County, Nueces County, and San Patricio County shall be collected by Corpus Christi-Nueces County Public Health District over 42 sampling weeks between September 1, 2024 and August 31, 2025.

Sampling Depth. The Texas Beach Watch Program will sample at a depth of approximately two feet (~2 ft.) or knee depth. The two-foot sampling depth will apply unless:

- The majority of recreational activity occurs at a depth significantly different than two feet. If this occurs samples may be collected at the location of greatest swimmer activity; or
- The two-foot sampling depth occurs more than 50 meters from shore. If the two-foot sampling
 depth occurs more than 50 meters from the shore, samples may be collected at 50 meters from
 shore or at the location of greatest swimmer activity. The distance shall be measured from the
 approximate water line at the time of sampling.

Sampling Schedule. Exhibit 1 lists the weeks when sampling will be conducted. Tuesday is the preferred sample collection day. Monday and Wednesday are alternate sample collection days. This schedule

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allows time for re-sampling to occur, before the next regular sampling period, when elevated bacteria levels are detected. Depending on the number of beaches and stations, local contractors may require several days to collect samples. Collection may occur over a three-day period; however, prior approval from the Beach Watch Coordinator is required.

III. LABORATORY TESTING

The Provider will analyze water samples for Enterococci bacteria using Method 1600: Enterococci in Water by Membrane Filtration Using membrane-Enterococcus Indoxyl-\$-D-Glucoside Agar (mEI) Dec 2009 (https://www.epa.gov/sites/default/files/2015-08/documents/method_1600_2009.pdf or the IDEXX Enterolert™ system. The local contractor or designated laboratory shall have a Quality Assurance/Quality Control (QA/QC) Plan. Plans approved by other entities (state/federal/commercial) and adopted by the Provider may be considered. Upon execution of this Contract, the Provider shall provide the GLO Beach Watch Coordinator with the name, address, phone and fax numbers, and point of contact (with e-mail) for the laboratory, if separate from the Provider.

If the Provider is tasked with preparing water samples collected for QPCR analysis, the Provider will follow the following steps.

PRE-PROCESSING OF WATER SAMPLES FOR QUANTITATIVE PCR*

1.0 Laboratory Organization, Equipment, and Supplies

- 1.1 Disposable membrane filtration units (filter base, polycarbonate filter [0.4 μm] with 47 mm diameter, and 100 mL capacity funnel), individually bagged, and gamma-irradiated (Pall MicroFunnels™ filter funnels FMFNL1050 or equivalent)
- **1.2** Line vacuum, electric vacuum pump, or aspirator for use as a vacuum source. In an emergency or in the field, a hand pump or a syringe equipped with a check valve to prevent the return flow of air can be used.
- 1.3 Flask, filter, vacuum, usually 1 L, with appropriate tubing
- 1.4 Filter manifold to hold a number of filter bases
- 1.5 Flask for safety trap placed between the filter flask and the vacuum source
- **1.6** Polycarbonate membrane filters, white, 47 mm diameter, with 0.45 μ m pore size (Millipore HTTP04700 or equivalent). *Note:* These filters will not be needed if Pall MicroFunnelsTM filter funnels FMFNL1050 (See 1.1) are used because polycarbonate membrane filters are supplied with funnel assembly.
- **1.7** Stainless steel forceps, straight or curved, with smooth tips to handle filters without damage, 2 pairs
- **1.8** Permanent ink marking pen for labeling tubes
- **1.9** *Optional:* Glass filter assembly to be used in conjunction with item 1.6 or use item 1.1 to replace both of these. Assembly consists of filter base that connects to item 1.4, glass funnel and locking clamp to hold the two together.
- **1.10** Sterile transfer pipette.
- 1.11 Sterile, DNA- and DNase-free 5 mL plastic tubes (Qiagen 30122348 or equivalent)
- **1.12** Freezer, -20°C or -80°C (storage of filters); if -20°C freezer used, make sure it is a manual defrost freezer.

2.0 Reagents and Standards

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2.1 PCR-grade water (OmniPur water [VWR EM-9610 or equivalent]). Water must be DNA/DNase free.

3.0 Procedure

- **3.1** Environmental water sample filtration and method blank (MB) preparation **Note**: 100 mL of each environmental water sample is the preferred amount to be filtered, minimum of 50 mL is acceptable. One MB sample should also be filtered with every batch of environmental water samples. The MB should be processed after environmental water samples for each of the steps described below.
 - **3.1.1** Place a fresh membrane filtration funnel assembly (Section 1.1) on the filter base <u>or a clean filter assembly (Section 1.9</u>). **Note**: If using a disposable filtration unit, confirm that the unit contains the correct filter type replace if necessary. (Section 1.6)
 - **3.1.2** Shake the environmental water sample bottle vigorously 25 times to distribute the bacteria uniformly, and measure 100 mL of the environmental water sample using the graduated markings on the funnel <u>or a sterile transfer pipette</u>. Filter sample. **Note**: If less than 100 mL of sample is available or if filter clogs, record actual volume filtered on sample form.
 - **3.1.3** After filtering the sample, turn off the vacuum.
 - **3.1.4** Label a storage tube (Section 1.11) to identify environmental water sample. Remove the funnel from the filter base. Using sterile forceps, fold filter into a cylinder with the sample side facing inward, being careful to handle the filter only on the edges, where the filter has not been exposed to the environmental water sample. Insert the rolled filter into the labeled storage tube.
 - Note: If using a reusable glass filter assembly, it will need to be sterilized between samples. To do this, place the glass funnel upside down on a ceramic tile and apply a generous amount of isopropyl alcohol or ethanol to the funnel and the filtration base. Allow the a few seconds of contact time and then light the alcohol with a flame and using metal tongs or forceps lift the funnel to ensure all the surface area has contact with the flame and is sterilized. Once the flame has extinguished and the assembly has cooled it, is ready for use.
 - **3.1.5** Filter the remaining environmental water samples and place filters in labeled storage tubes (Section 3.1.4). Filter MB samples (100 mL PCR-grade water, Section 2.1) and place filters in labeled storage tubes (Section 3.1.4).
 - **3.1.6** Store tubes containing folded filters at -80°C (-20°C manual defrost freezer okay) until shipment to lab for DNA extraction and purification.

*Procedures adapted from: USEPA (2019) Method 1696: Characterization of Human Fecal Pollution in Water by HF183/BacR287 TaqMan® Quantitative Polymerase Chain Reaction (qPCR) Assay. EPA 821-R19-002. Washington, DC.

IV. SAMPLING PROCEDURES

Equipment and Supplies. The following equipment and supplies will be necessary for the collection of water samples by the Provider:

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- Insulated cooler for storage and transportation of the samples to the laboratory
- Thermometer
- Sample bottles The bacteriological samples will be collected in polypropylene bottles at least 125 milliliters (ml) but no more than 1000 ml to allow for adequate sample mixing. Polypropylene bottles are recommended as they may be autoclaved and will keep sample costs down.
- Ice to keep samples cool
- Labels for sample bottles (Use waterproof adhesive labels.)
- Black indelible marker to label samples
- All paperwork including but not limited to Chain of Custody forms and Field Observation Forms (FOF) (Exhibit 2). Information collected on the FOF must be submitted electronically, once a month in a spreadsheet format supplied by the Beach Watch Coordinator.

Sample Collection Training. Trained individuals shall perform the collection of samples. A brief description of the training of the individuals must be provided to the Beach Watch Coordinator.

Sample Collection. One sample will be collected at each station. For every 10 stations sampled on any given day, a second sample must be collected at one of the stations as required by the QAPP. Samples shall be collected within arm's length of each other. Sample collection may be done side-by-side or concurrently. All water samples shall be collected as follows:

Step-by-Step Procedures for Local Contractors. The following procedures for sampling are based upon text taken from Part II, Section A, of the EPA publication "Microbiological Methods for Monitoring the Environment: Water and Wastes" EPA-600/8-78-017, December 1978.

- 1. Identify the sampling site on a chain of custody tag, if required, or on the bottle label and on a field log sheet.
- 2. Enter specific details to identify the sample on a permanent label. Take care in transcribing sampling information to the label. The label should be clean, waterproof, non-smearing, and large enough for the necessary information. The label must be securely attached to the sample bottle but removable when necessary. Preprinting standard information on the label can save time in the field. The marking pen or other device must be non-smearing and maintain a permanent legible mark.
- 3. Remove the bottle covering and closure just before obtaining each sample and protect them from contamination. Be careful not to touch the inside of the bottle itself or the inside of the cover.
- 4. The first sample to be prepared is the trip blank (at least one per sampling day for routine sampling is recommended). Open the sampling bottle and fill it with 100 ml of sterile buffered dilution solution when collecting freshwater, estuarine, or marine water samples. Cap the bottle and place it in a cooler. The trip blank will be used to verify samples have been maintained at the correct temperature for transportation.
- 5. To collect the water samples, carefully move to the first sampling location. If wading in the water, try to avoid kicking up bottom material at the sampling station. The sampler should be positioned downstream of any water current to take the sample from the incoming flow. Samples shall be collected in approximately two feet of water.
- 6. Open a sampling bottle, grasp it at the base with one hand, and plunge the bottle mouth downward at 90 degrees into the water to avoid introducing surface scum. Position the mouth of the bottle into the current away from the hand of the sampler. The sampling depth should be 15 to 30 centimeters

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(6 to 12 inches) below the water surface, depending on the depth from which the sample must be taken. Samples collected in less than the two-foot standing depth will collect the sample at the 15-centimeter (six inch) sampling depth to avoid the collection of sedimentation. Allow time for sediment settling prior to collecting the sample. If the water body is static, an artificial current can be created by moving the bottle horizontally with the direction of the bottle pointed away from the sampler. Tip the bottle slightly upward to allow air to exit and the bottle to fill.

- 7. Remove the bottle from the water body.
- 8. Pour out a small portion of the sample to allow an air space of 2.5 centimeters (1 to 2 inches) above each sample for proper mixing of the sample before analysis. [NOTE: If the bottle contains any debris, contaminants, or excessive sediment/sand, a new bottle must be used. Do not discard the water sample and refill the bottle.]
- 9. Tightly close the stopper.
- 10. Complete a Field Observation Form (FOF) for each beach to record the full details on sampling and other pertinent remarks, such as flooding, rain, or extreme temperature, that are relevant to interpretation of the results. This record also provides a back-up record of sample identification.
- 11. Place the samples in a suitable container and transport them to the laboratory as soon as possible. Adhering to sample preservation and holding time limits is critical to the production of valid data. Bacteriological samples should be iced or refrigerated at <10°C during transit to the laboratory. Use insulated containers such as plastic or Styrofoam coolers, if possible, to ensure proper maintenance of storage temperature. Take care to ensure sample bottles are not totally immersed in water during transit or storage. Process samples as soon as possible after collection. Do not hold samples longer than six hours between collection and initiation of analysis (US Environmental Protection Agency, 2000). Do not analyze samples that exceed holding time limits.
- 12. Collect water samples for analyses of other parameters in separate appropriate containers at the same time and perform analyses as specified in the methods.
- 13. Field Split Sampling: A field split is a single sample subdivided by field staff immediately following collection and submitted to the laboratory as two separate, identified samples. Split samples are preserved, handled, shipped, and analyzed identically and are used to assess variability or related to special project sampling. When collecting water samples for a field split, collect water samples in a sterile, unused 1000ml container.
 - Using the 1000ml container, follow the above sample collection procedure using steps 4-8.
 - Prepare pre-labeled 125ml bottles from the above step 1 by placing them on a stable, flat surface. Ensure the bottle caps are not contaminated by placing them with the threads facing up.
 - While keeping the 1000ml lid affixed, vigorously shake the bottle for 10 seconds, ensuring any particulates are suspended in the sample.
 - In rapid succession, remove the lid and pour contents into the two separately prepared 125ml containers, then immediately place the caps on. Depending on technique and timing, additional swirling of the 1000ml during this process may be needed to ensure particulates remain suspended.
 - Follow steps 11-12 in the above procedure.
- 14. After collecting samples from a station, wash hands and arms with alcohol wipes, a disinfectant lotion, or soap and water, and dry to reduce exposure to potentially harmful bacteria or other microorganisms.

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Labeling the Samples. Each sample bottle shall be labeled with the following information:

- Date and time of sample collection
- Sampler's name
- Sample letters and station number as identified in Appendix C of the QAPP (identify the first sample with the letter "A" after the station number, the second sample with the letter "B" and so forth)

Delivery of Samples to the Laboratory. Upon completion of sample collection, the samples must be delivered to the designated laboratory for testing within 6 (six) hours of collection. During transport to the laboratory, all samples must remain in a cooler packed in ice. If necessary, additional ice may be added during the sampling day.

Sampling Documentation. A FOF must be completed for each station. Multiple stations may be included on a single FOF if all the data is the same. A copy of a completed FOF must be provided to the designated laboratory (if different than the Provider). The Provider shall retain all FOFs. Data from the FOFs must be submitted electronically, once a month, in a spreadsheet format supplied by the Beach Watch Coordinator.

Other indicators to be noted on the FOF shall include:

- Dead fish, birds, or other animals on beach
- Number of people at the site
- Submerged debris in water (sargassum, dead fish, flood debris, etc.)
- Debris on beach (sargassum, algae, flood debris, trash, tar balls.)
- Water color and water odor
- Longshore current (speed and direction)

V. PUBLIC NOTICE/ISSUING ADVISORIES

Determining Bacteria Levels. One sample will be collected at each station and will be used to determine when an advisory shall be recommended. Where two samples are collected at a station as required in the QAPP for QA/QC purposes, the average of the two samples shall be used.

Recommending/Issuing Advisories. If the average of the one (or two) samples exceeds the Single Sample Maximum Density value of 104 cfu/100ml, an advisory shall be recommended to the local government contact(s). Sampling shall continue daily until the values are back below the standard. This includes weekends and summer holidays.

Public Advisory. If the Provider is a local government, the local government will be responsible for issuing a public advisory and advisory signs must be posted. Failure to post the signs will result in immediate termination of the contract.

If the Provider is not a local government, the GLO will notify the local government. The Provider may post the advisories signs if authorized by the local government.

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VI. DATA ENTERY

The Provider through the Beach Watch Program's data entry website (https://s3.glo.texas.gov/beaches2009/login.cfm) must submit sampling results. Data must be entered into the website within one hour of receiving the results. Only extenuating circumstances such as power outage or Internet connectivity problems will preclude this requirement. If extenuating circumstances occur that preclude entering the data within one hour, the Provider shall notify the Beach Watch Coordinator by any means possible.

The Provider will complete a QA/QC weekly data check report and submit it to the TBW Project Manager through email by 10 am the day after results are submitted.

TBW QA/QC weekly data check			
Date		sample collection date	
Number of samples collected		total	
		use the email that does not have highlighted	
Number of samples in notification email		colors to account for field dupes.	
		List of results not entered into database. Include	
Missing Data		Date, Site ID, result, and time collected	
Duplicate data		List of results that need to be deleted. Include Site ID and Date	

VII. DELIVERABLES

1. Budget breakdown by category

Due Date: 09/30/2024

2. Review Sign and Return QAPP

Due Date: 10/31/2024

3. Inventory of signs. Include location and photos

Due Date: 11/31/2024
4. Reimbursement requests
 Due Date: Monthly
5. Field Observation Forms
 Due Date: Monthly

VIII. SPECIAL CONDITIONS

- 1. This project must be completed as described in this work plan.
- 2. The GLO must approve any changes in the scope of work.
- 3. The GLO must approve any budget category revisions per Exhibit 3.
- 3. GLO and Texas Beach Watch logos, must be printed on education/outreach materials, signs, and clothing when referencing information from the Texas Beach Watch program.
- 4. The contractor must coordinate with the GLO prior to issuing press releases, conducting media events, or otherwise engaging in any media related communications for this project.

EXHIBIT 1

Sampling Schedule

Sampling Schedule

September 1, 2024 through August 31, 2025

Sample Week	Sample	Event #	Sample Week	Sample	Event #
09/02/2024	Yes	1	03/03/2025	Yes	18
09/9/2024	Yes	2	03/10/2025	Yes	19
09/16/2024	Yes	3	03/17/2025	Yes	20
09/23/2024	Yes	4	03/24/2025	Yes	21
09/30/2024	Yes	5	03/31/2025	Yes	22
10/07/2024	Yes	6	04/07/2025	No	
10/14/2024	Yes	7	04/14/2025	Yes	23
10/21/2024	Yes	8	04/21/2025	No	
10/28/2024	Yes	9	04/28/2025	Yes	24
11/04/2024	Yes	10	05/05/2025	Yes	25
11/11/2024	No		05/12/2025	Yes	26
11/18/2024	Yes	11	05/19/2025	Yes	27
11/25/2024	No		05/26/2025	Yes	28
12/02/2024	Yes	12	06/02/2025	Yes	29
12/09/2024	No		06/09/2025	Yes	30
12/16/2024	Yes	13	06/16/2025	Yes	31
12/23/2024	No		06/23/2025	Yes	32
12/30/2025	No		06/30/2025	Yes	33
01/06/2025	Yes	14	07/07/2025	Yes	34
01/13/2025	No		07/14/2025	Yes	35
01/20/2025	Yes	15	07/21/2025	Yes	36
01/27/2025	No		07/28/2025	Yes	37
02/03/2025	No		08/04/2025	Yes	38
02/10/2025	Yes	16	08/11/2025	Yes	39
02/17/2025	No		08/18/2025	Yes	40
02/24/2025	Yes	17	08/26/2025	Yes	41
			08/30/2025	Yes	42

EXHIBIT 2

Field Observation Form



FIELD OBSERVATION FORM

Field Technician: Laboratory Recipient: Start Time Time Delivered		Date: / /
Start Time Time Delivered	Field Technician:	
	Laboratory Recipient:	
	Start Time	Time Delivered
End Time Delivery Temperature	End Time	Delivery Temperature

KEY

Water Surface: 1-Calm 2-Ripples 3-Chop 4-Swells 5-Other

Clarity: 1-Clear 2-Cloudy 3-Turbid

Water Color: 1-Md. Brown 2-Dk Brown 3-Red Brown 4-Green Brown

5-Yellow Brown 6-Blue Green 7-Blue

<u>Tide:</u> 1-High **2**-Low **3**-Ebb **4**-Flood **5**-Other

Trash: 1-Light 2-Medium 3-Heavy 0-None

Smell: 1-Sewage 2-Oily 3-Fishy 4-Rotten Egg 5-Other 0-None

Debris: 1- Shells 2-Dead Fish 3-Dead Crabs 4-Other(See Comments) 0-None

Sargassum: 1-Light 2-Medium 3-Heavy 0-None

Algae/Seaweed: 1-Light 2-Medium 3-Heavy 0-None

Rip Current: 1-Advisory **0-** No Advisory (See Lifeguard Flags)

Field Observation Form

Water Color: © Tide: 0	Clear ❷ Cloudy ❸ Turbid	Del Green Brown Sar Rip	ell: 0 Sewage bris: 0 Shells gassum: 0 Light Current: 0 Advisory Geaweed: 0 Light	 Dead Fish Dead Crabs Medium Heavy No Advisory (See Life guard 	O Rotten Egg O Other O None O Other (See comments) O None None d flags) None
SAMPLE SITE TIME COLLECTED START TIME END TIME ReSample DU COMMENTS	BEACH SEGMENT ID COLLECTION DEPTH ENTERO RESULTS cfu/ 100mL	BEACH DEBRIS # ALG/SWD # SARGASSUM # CRAB # TRASH #	PEOPLE # DOGS # BIRDS # JELLYFISH # SMELL # RIP CUR #	GE PRESENT SIGNAGE COR O YES NO WEATHER AIR TEMP WIND DIR WIND SPD WATER SURF TIDE WATER COLOR CLARITY	
SAMPLE SITE TIME COLLECTED START TIME END TIME ReSample DUI COMMENTS	BEACH SEGMENT ID COLLECTION DEPTH ENTERO RESULTS cfu/ 100mL	OBSERVATIONS BEACH DEBRIS # ALG/SWD # SARGASSUM # CRAB # FISH # TRASH #	PEOPLE # DOGS # BIRDS # JELLYFISH # SMELL # RIP CUR #	GE PRESENT SIGNAGE COR YES NO WEATHER AIR TEMP WIND DIR WIND SPD WATER SURF TIDE WATER COLOR CLARITY	RECT YES WATER TEMP F SALINITY PPt TURBIDITY NTU RAINFALL 24 HRS 3 DAYS 7 DAYS
SAMPLE SITE TIME COLLECTED START TIME END TIME Resample DU	BEACH SEGMENT ID COLLECTION DEPTH ENTERO RESULTS Cfu / 100mL	OBSERVATIONS BEACH DEBRIS # ALG/SWD # SARGASSUM # CRAB # TISH # TRASH #	PEOPLE # DOGS # BIRDS # JELLYFISH # SMELL # RIP CUR #	GE PRESENT SIGNAGE COR D YES NO WEATHER AIR TEMP WIND DIR WIND SPD WATER SURF TIDE WATER COLOR CLARITY	
COMMENTS					

EXHIBIT 3

TBW Administrative and Financial Guidance

TEXAS BEACH WATCH

ADMINISTRATIVE & FINANCIAL GUIDANCE

EPA-FUNDED PROJECTS

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TEXAS BEACH WATCH EPA-FUNDED PROJECT ADMINISTRATIVE EXPECTATIONS

Pre-Contract Execution

Work Plan Development

Upon notification of contract continuation in June 2024, the Texas General Land Office Texas Beach Watch program (TBW) project manager will begin working with **City of Corpus** to develop the work plan and budget. TBW will help ensure the project produces deliverables consistent with the BEACH Act of 2000.

As part of the work plan development, the TBW project manager will work with applicants to create a detailed budget narrative. The budget narrative is a breakdown of how the project intends to spend TBW funds under each budget category. **City of Corpus** will only be authorized to use project funds on items included in the budget narrative. If **City of Corpus** would like to use project funds on an item not included in the mutually agreed upon budget narrative once the project begins, the applicant will need to first request approval from the TBW project manager.

Please note, funding is not guaranteed for a TBW project until City of Corpus and TBW staff come to a mutually agreed upon work plan, budget narrative, all required supporting documentation is submitted, and a final contract is executed. If a project work plan cannot be agreed upon or if eligibility issues are uncovered during TBW staff review of the supporting documentation, the funding invitation will be withdrawn. The agreed upon work plan and budget narrative should not be altered or amended after receipt of the final funding notification to ensure timely execution of the grant award.

Contracting

TBW funds are available for use starting September 1, 2024. However, subrecipients cannot start work on their project until the GLO contract is fully executed, meaning all GLO and subrecipient signatures are secured. The GLO will not reimburse any work that occurs prior to the contract effective date.

The GLO strives to maintain uniformity and fairness in its treatment of all subrecipients. Using standard and unvarying language in contracts ensures each subrecipient is treated equitably and allows management of contracts to be streamlined and consistent. The GLO will not accept revisions to the contract or its attachments, except as necessary to correct errors or accurately reflect legal requirements and limitations.

Kick-Off Call

The GLO will host a kick-off call with the subrecipient in August 2024 to go over the project work plan, budget, deliverables, due dates, and project expectations prior to contract execution. Subrecipients are highly encouraged to ask questions and bring up concerns, as needed.

Subrecipient kick-off call attendees should include the project manager, the financial reporter and anyone else pertinent to the success of the project.

Post-Contract Execution

The GLO expects the subrecipient project manager to maintain clear and open communication with the TBW project management staff throughout the grant award period. Adhering to the project's timeframe (12-months) is paramount.

Subrecipient Grant Agreement

TBW grant funding is provided through the issuance of a binding and enforceable contract between the subrecipient and the GLO. This contract, called a subrecipient grant agreement, sets forth the terms and conditions of the grant to the subrecipient, and includes other contract documents governing the grant, such as the approved project work plan and budget.

The subrecipient is legally responsible for successfully completing each task and producing each project deliverable as specified in the approved work plan. If the funding amount approved for a task is underestimated, the subrecipient is responsible for providing any additional funding needed to complete the project as approved.

Reporting

TBW sample summary reports and reimbursement requests are due on or before the tenth day of the month following the reporting period. TBW sample summary reports should be completed on the provided standard template form, which includes a description of each task's status, major accomplishments for the reporting period, deliverable/milestone completion/submission dates, obstacles encountered, a description of plans for the next reporting period, and a list of personnel that worked on the grant activities during the reporting period. If a task has not started, this should be noted in the progress report. Reimbursement request requirements are detailed below in the financial requirements.

Subrecipients will submit TBW sample summary reports, deliverables, and reimbursement requests to the GLO via the vendorinvoices@glo.texas.gov and lucy.flores@glo.texas.gov monthly. Reporting frequency is determined by project and entity type. Reporting frequency requirements are denoted in the project work plan, which will be contained in Attachment A of the subrecipient grant agreement. Reimbursement requests must be submitted with progress reports every month or quarter, even if they contain a \$0 request.

Progress reports, deliverables and reimbursement requests should be submitted on or ahead of the date specified in the work plan. If a delay is anticipated, the subrecipient should email the TBW project manager notifying them of the impending delay.

Contract Amendments

Informal contract amendments are amendments that do not substantively change the project scope or outcome (e.g., changes to deliverable and task due dates within the 12-month contract period and budget revisions that do not increase or decrease the project budget). Subrecipients must submit a written request for an informal contract amendment to the GLO independent of routine progress reports. For budget revisions that do not change the overall budget, subrecipients must submit a completed Budget Amendment form. The form is available upon request.

Formal contract amendments include changes to the project scope, increases or decreases to the project budget, and extensions to the project duration beyond the 12-month contract period. For Subrecipients must submit a written request with acceptable justification to the GLO for consideration at least 90 days prior to the expiration of the contract. Subrecipients may request a contract extension provided additional time is required for the successful completion of the

project and the term of the contract does not extend beyond the Federal Award period. Note, requests will be considered on a case-by-case basis and can potentially impact future funding considerations. Subrecipients must fulfill tasks as described in the subrecipient grant agreement as projects are awarded based on the information provided in the original application.

Substantive modifications to the contract tasks, budget, or deliverables may require EPA review and approval.

Acknowledgement of TBW Funds

Publications, materials, and permanent signage produced with grant funding must include the required acknowledgement statements as well as the EPA, GLO and TBW logos. Acknowledgement language is provided in the subrecipient grant agreement. Reports, papers, requests for proposals, and bid solicitations must provide the acknowledgement statement and the EPA, GLO and TBW logos on the front cover or title page of the document.

Performance Monitoring, Evaluations and Risk Assessment

To ensure compliance with expectations, GLO staff will provide the subrecipient with a "Project Monitoring and Review Timeline" at the beginning of the grant contract. The timeline will detail how TBW staff will review, audit, and assess a project's compliance during the grant and provide information on the consequences of non-compliance. Please note, adherence to this schedule can play a role in securing future grant funding.

The GLO will perform quarterly project evaluations and annual risk assessments. These mechanisms will be used by GLO staff to identify contracts that may need additional monitoring and/or oversight and identify areas of risk. Additional monitoring activities may include telephone calls, meetings, desk reviews and site visits. Subrecipients will be notified in writing if non-compliance issues are identified during either the quarterly or annual reviews.

Site Visits

The GLO will conduct at least one site visit during the grant period for TBW projects. Subrecipients must provide the GLO or other agencies of the state or federal government reasonable access to the site for project monitoring.

Geographic Information Systems Data Products

Data, databases, and products associated with electronic Geographic Information Systems (GIS) that have been collected, manipulated, or purchased with TBW grant funds will be subject to all applicable terms of the Texas Administrative Code (TAC) Rule

§205.10, State Agency Geographic Information Standards (texreg.sos.state.tx.us/public/readtac\$sub.ListRegister?p reg id=288527).

Any GIS data to be transferred or exchanged that is collected, manipulated, or purchased with funds from this contract must be documented as specified in the Federal Geographic Data Committee's (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM). The federal metadata standard is available online at www.fgdc.gov/metadata/csdgm.

Any electronic spatial data collected, manipulated, or purchased with TBW grant funds and/or local match funds shall be transferred in a mutually acceptable GIS format, along with appropriate documentation. Non-spatial data deliverables (textual, spreadsheet, database, etc.) must be delivered in standard text, image, or database formats, and on mutually acceptable delivery media. All applicants are expected to comply with these guidelines. An applicant who cannot comply with these guidelines must provide a written justification detailing why an exception is warranted.

Intellectual Property

Subject to the rights of the federal government, the GLO will own, and the subrecipient must irrevocably assign to the GLO, all ownership right, title, and interest in and to all intellectual property acquired or developed by the subrecipient in connection with the TBW grant, including without limitation all intellectual property in and to reports, drafts of reports, data, drawings, computer programs and codes, and/or any other information or materials acquired or developed by the subrecipient in connection with the TBW grant. The GLO will have the right to obtain and to hold in its name all patents, copyrights, trademarks, service marks, registrations, or such other protection as may be appropriate to the subject matter, including extensions and renewals. Subrecipients must give the GLO and the State of Texas, as well as any person designated by the GLO or the State of Texas, all assistance and execute such documents, as required to perfect the intellectual property rights granted to the GLO without any additional charge or expense.

Audit Compliance

Subrecipients who expend \$750,000 or more in federal awards during a fiscal year must obtain an annual audit and comply with audit requirements set forth in 2 C.F.R. Part 200, Subpart F. Subrecipients who are under this threshold must submit a completed Audit Reporting Form within 60 days of the end of their fiscal year. The Audit Reporting Form can be found attached to your contract. Entities, such as state

agencies and institutions of higher education, subject to the statewide single audit are not required to submit the Audit Reporting Form.

All subrecipients are subject to audit. Subrecipients selected for audit must provide the GLO and other agencies of the state and federal government reasonable access to the project site and to project records. Project records and deliverables are subject to the state and federal administrative and audit regulations, including the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 C.F.R. Part 200).

Period of Retention

Unless applicable federal laws or regulations specify a longer retention period, subrecipients are required by state law to retain project files for a seven-year period following the official grant award closeout date or until final audit resolution is reached. Following closeout, subrecipients will receive a letter from the GLO specifying the period of retention for the grant award.

EPA-FUNDED PROJECTS - FINANCIAL REQUIREMENTS

General Requirements

Financial Assistance Standard Terms and Conditions

Subrecipients must comply with the Department of Commerce Financial Assistance Standard Terms and Conditions, including the Office of Management and Budget (OMB) Uniform Guidance (2 C.F.R. Part 200) and all associated Terms and Conditions. Subrecipients should refer to 2 C.F.R. § 200.101(b)(1) to determine the applicability of 2 C.F.R. Part 200 and 2 C.F.R.

§ 200.330 (Subrecipient and contractor determinations) through § 200.332, (Subrecipient monitoring and management). The Standard Terms and Conditions is available on the GLO website.

Subrecipients should review and understand the subrecipient grant agreement requirements and all applicable state and/or federal assurances, certifications, OMB rules, Uniform Management Grant Standards and travel rules and guidelines, including the following:

- Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 C.F.R. Part 200)
- Assurances for Non-construction (SF-424B)/Construction Projects (SF-424D)
- Certifications regarding Debarment, Suspension, and other Responsibility Matters; Drug Free Workplace Requirements and Lobbying (CD-511)
- Certifications regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion Lower Tier Transactions (CD-512)
- State of Texas Travel Guidelines (TexTravel) -

https://fmx.cpa.state.tx.us/fmx/travel/textravel/index.php

Invoices and Reimbursements

TBW is a reimbursement-based grant program. The subrecipient is expected to make the initial outlays for the project. The GLO will only reimburse the subrecipient for allowable, budgeted expenses. Any costs incurred prior to the effective date or after the termination or expiration of the subrecipient grant agreement are not eligible for reimbursement unless agreed upon by the GLO and **City of Corp**us. Payments are directly linked to grant performance and may be withheld if project schedules are not met and/or deliverables are not submitted.

Subrecipients are required to submit reimbursement requests and documentation for local and third-party match with the corresponding progress report on or before the 10th day of the month following the reporting period. Reimbursement requests should be submitted to Vendorinvoices@glo.texas.gov, Gloria.maynard@glo.texas.gov and Lucy.Flores@glo.texas.gov. If a subrecipient does not incur expenses during the reporting period, a \$0 invoice should still be submitted. For the final invoice, documentation for reimbursement requests must be submitted within 60 days from the date the expense is incurred.

Invoices must be submitted on the approved GLO forms. Subrecipients must include documentation that adequately supports the expenses. Documentation of direct costs must be acceptable to the GLO. Subrecipients should be set up for direct deposit for reimbursements.

Unallowable costs

Unallowable costs, as defined in 2 C.F.R. Part 200, Subpart E — Cost Principles, are ineligible for reimbursement Unallowable costs include, but are not limited to, costs related to alcohol, contingency, entertainment, fundraising, sponsorship, tips, and any staff or program not directly related to TBW activities. The reimbursement of administrative costs is prohibited.

Withholding

To ensure completion of the project in accordance with the subrecipient grant agreement, the GLO may withhold an amount equal to five percent (5%) of the budget. Final disbursement will occur upon project completion and submission of final deliverables.

End of year balance

If at the end of the contract there is a surplus of funds in the **City of Corpus** designated TBW account. All funds must be used on TBW related expenses with GLO approval in preparation for the new year. The use of surplus funds may be used for the purchase of a TBW program vehicle, TBW vehicle maintenance, scientific equipment, supplies, etc.

TBW Budget Categories

Salary

Salary includes the wages of the subrecipient's personnel working directly on the project. For reimbursement documentation, subrecipients are required to submit time sheets or another form of documentation from the payroll system for all subrecipient staff paid by the grant upon GLO request. Documentation must be acceptable to the GLO.

Fringe

Fringe benefits include allowances and services provided to employees by the subrecipient as compensation in addition to regular salaries and wages. Fringe benefits should be limited to no more than 35% of individual salaries and wages. For reimbursement documentation, subrecipients are required to submit time sheets or another form of documentation from the payroll system for all subrecipient staff paid by the grant upon GLO request. Documentation must be acceptable to the GLO.

Travel

Travel costs include expenses for transportation, lodging, subsistence, and related items incurred by employees traveling for project-related purposes. Subrecipients must claim actual expenses for travel not to exceed the maximum allowable rates. Reimbursement of per diem rates is not permitted. Itemized receipts and proof of payment must be submitted for reimbursement documentation upon GLO request.

Reimbursement for lodging, travel, and other incidental direct expenses must be limited to the rates established in the Texas Administrative Code and the State of Texas travel guidelines, *Textravel*. Additional information is available at https://fmx.cpa.state.tx.us/fmx/travel/textravel/. Lodging and meal reimbursement must not exceed the allowable U.S. General Services Administration per diem rates at https://www.gsa.gov/travel/plan-book/per-diem-rates. Mileage rates must not exceed the allowable State rate at https://fmx.cpa.state.tx.us/fmx/travel/textravel/rates/current.php.

Travel-related expenses to attend specific meetings, conferences or events must be included in the subrecipient's mutually agreed upon budget narrative. If not included in the original budget narrative, the subrecipient must submit an acceptable justification and receive the TBW project manager's written approval prior to the travel.

Grant funds should only be spent on travel necessary to complete the goals and deliverables delineated in the project work plan. Travel should occur within Texas. Grant funds may be used to travel to one (1) out-of-state conference, meeting, or workshop. Out-of-state travel is limited to the contiguous United States and must be strongly justified and approved by the TBW project manager.

Supplies

Supplies include all personal property with an acquisition cost of less than \$5,000 per unit. Supplies must be purchased during the contract period for the purpose of implementing the project unless prior GLO approval was attained. Subrecipients must comply with 2 C.F.R., Part 200, Sec. 320 Methods of Procurement o be Followed when procuring supplies. Itemized receipts and proof of payment are required as reimbursement documentation.

Equipment

Equipment includes tangible, non-expendable personal property with a useful life of more than one year and an acquisition cost of more than \$5,000 per unit. Subrecipients must comply with 2 C.F.R., Part 200, Sec. 320 Methods of Procurement to be Followed when procuring equipment. Subrecipients are prohibited from purchasing equipment not included as a reimbursable item in the subrecipient grant agreement. Subrecipients must perform a lease versus purchase analysis to ensure it's more cost efficient to purchase the equipment rather than lease. Written approval must be received from TBW staff before an equipment purchase can be initiated. Itemized receipts and proof of payment are required as reimbursement documentation.

Subrecipients must retain title to, and possession of equipment purchased with grant funding unless the equipment is transferred to the GLO, upon written request by the GLO. The final request for reimbursement must include a list of all equipment purchased as part of the project, including the name of the manufacturer, the model number, and the serial number. Disposition of equipment must follow state and federal audit regulations.

Contractual

The contractual category includes all subrecipient subcontracts required, as determined by the subrecipient, to implement the project. This budget category would include "professional services" as defined in Texas Government Code Chapter 2254 (i.e., architects, landscape architects, land surveying, land appraisers), engineering contracts, construction contracts and university subawards. Per the TBW subrecipient grant agreement, these subrecipient subcontracts must comply with 2 C.F.R., Part 200, Sec. 320 Methods of Procurement to be Followed when procuring contractual services. Competitive bidding procedures must be followed as required and in all other cases when possible. Per State law, architectural and engineering services **cannot** be competitively bid and must be acquired using a Request for Qualifications.

Subrecipients must provide the GLO with a copy of each subcontract agreement and any subsequent amendments, including agreements with third-party contributors, within 10 business days after execution. Subrecipients must submit invoices and proof of payment (e.g., canceled checks or copies of bank statements) as reimbursement and match documentation.

A competitive bid process is required to establish a subcontract under the following circumstances:

- <\$50,000: no Request for Proposals/Qualifications required
- >\$50,000: Competitive Request for Proposals/Qualifications must be obtained from a

minimum of 3 biddersFor state agencies and state universities, state procurement rules apply, even when using federal funds (2 CFR 200.317). Applicable thresholds include:

- < \$10,000 no Request for Proposals/Qualifications required Can issue purchase order directly to vendor.
- < \$25,000 informal Request for Proposals/Qualifications process required
- > \$25,000 formal Request for Proposals/Qualifications process required

Other

Costs include any anticipated purchases excluded from all other budget categories, including printing, registration fees, equipment rental, student tuition, fleet vehicle use and volunteer time. Subrecipients must include itemized receipts or invoices for budgeted expenses and documentation (e.g., canceled checks or copies of bank statements) verifying the subrecipient has paid all invoices submitted for reimbursement or as match.

Vendor/Service Contracts: Vendors or goods and service contracts should be budgeted under the Other category. While not required per the TBW subrecipient grant agreement, these contractors should attempt to comply with 2 C.F.R., Part 200, Sec. 320 Methods of Procurement to be Followed, when possible, and adhere to the thresholds list in the Contractual section above.

Subrecipients must provide the GLO with a copy of each vendor/service contract agreement and any subsequent amendments, including agreements with third-party contributors, within 10 business days after execution. Subrecipients must submit invoices and proof of payment (e.g., canceled checks or copies of bank statements) as reimbursement and match documentation.

Computers and Computer Software: Subrecipients are prohibited from purchasing computer software not included as a reimbursable item in the subrecipient grant agreement. Computers, accessories, and computer software cannot be purchased within the final three (3) months of a grant award.

Salary and Tuition: Subrecipients may request reimbursement for both salary and/or wages and tuition costs earned by the same student working directly on the project.

Indirect and Allocated Direct Costs

Indirect and Allocated Direct costs include the costs of continuing operation as established by the Negotiated Indirect Cost Rate Agreement (NICRA) and the Cost Allocation Plan (CAP).

Reimbursement of these costs is prohibited.