

## FINAL REPORT

**Project Name:** Exploration Green Public Access Development and Ecosystem Restoration,  
Phase 3

**GLO Contract No.:** 19-054-000-B088

**Submitted:** September 30, 2021

**Prepared by:**



**GALVESTON BAY**  
FOUNDATION

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**Prepared for:**



**A Report funded by a Texas Coastal Management Program grant approved by the Texas Land Commissioner pursuant to National Oceanic and Atmospheric Administration award no. NA18NOS4190153.**

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## Project Description

In 2011, the Clear Lake City Water Authority (CLCWA) purchased Exploration Green (EG), envisioning a 200-acre multi-use space that offers public recreational opportunities and serves as a stormwater detention facility to mitigate local flooding at one of the last open green spaces in Bay Area Houston (Map 1). With input from local residents, the Exploration Green Conservancy (EGC) was created to establish and maintain recreational amenities at the site. The CLCWA and EGC entered a conservation easement with the Galveston Bay Foundation (GBF) to protect the land in perpetuity as a natural green space.

The Exploration Green Master Plan outlines a five-phased plan to create a system of engineered water detention ponds with functional and protected wetlands and wildlife habitats and construct hike and bike trails and associated infrastructure to facilitate public use (Map 1). Phases 1-3 include the restoration of approximately 78 acres of wetland and upland habitat and construction of 20,000 linear feet of trail. Phases 4-5 include the construction of approximately 12,000 linear feet of trail and water detention ponds with a planned storage capacity of 578 acre-feet. The project addresses increasing flood issues to meet the evolving needs of the growing community. Upon completion, EG will be the largest, most accessible public park space in the area and have the capability to detain up to 500 million gallons of stormwater, protecting thousands of homes during major storm events.

Specifically, funding was to provide 1.5 miles, 10-foot wide, multi-purpose trail, providing public access to a variety of environmentally oriented education and recreation opportunities. The trail

was to comply with both AASHTO and ADA requirements and would be either soft- or hard-surface. An irrigation system would be permanently installed using subsurface pipelines to provide optimal growing conditions within restoration areas which would allow habitats to mature and become established quickly. Additionally, funding would be used to assist in native habitat restoration of 30-acres of upland and wetland habitats to support the planting of native trees, grasses, and shrubs to create natural habitat for indigenous species. Lastly, installation of a permanent sign was to be installed to recognize CMP funding at the project site.

### Division of Phase 3

Initially, Phase 3 represented an area of 30-acres of upland and 1.75 acres of wetland and would include 1.5 miles of hike and bike trail for public use. It was later decided by the CLCWA after the CMP grant agreement was put into place that Phase 3 would be broken into two phases, Phase 3A and 3B, because of jurisdictional disagreement from the Harris County Flood Control District (HCFCD). HCFCD controls part of the tributary that intersects Phase 3's catchment on the west side and opposed the impoundment of a natural tributary that drains to Galveston Bay. Thus, to continue with an accelerated schedule, Phase 3 was divided into two separate phases (Map 2).

The General Land Office then determined the scope of the project area would be reduced to Phase 3A and all funding would be concentrated to this portion to meet the grant agreement deliverable deadlines. Consequently, there is approximately 6-acres of restored prairie and 0.75 miles of hike and bike trails.

## Task 1: Project Design and Bidding

The Galveston Bay Foundation coordinated with the City of League City Water Authority to hire a professional service provider (PSP), Lockwood, Andrews & Newman, Inc. (LAN), to develop technical specifications, construction drawings, and bid documents. LAN then advertised and solicited the bid package with technical specifications and construction drawings in early August 2019 and selected the contractor, Serco Construction, Ltd, in late August 2019 after reviewing the bid tabulation of each prospective contractor. All permits and environmental clearance were adhered to and submitted to the GLO in January 2020.

The lead project manager for LAN was Adam Anderson and was assisted by Kelley Shipley. Monthly meetings were scheduled to discuss the progress of the project detailing expectations, delays, and planning. Members in attendance to the meetings were CLCWA, GBF, EGC, Serco, and other miscellaneous grant managers.

## Task 2: Construction and Sign Installation

### Excavation and Irrigation

During this project period, excavation and removal of material continued from November 2019 to February 2021. Total material removed was 338,800 CY. Irrigation was installed using the reclaimed golf course's effluent wastewater source which supplied a network of 2-inch PVC lines throughout the project site for proper irrigation of trees. An overall exhibit map is included in Appendix 1 outlining water lines in purple. Photographs 1-7 represent the sequential order of start to finish construction.

### Habitat Restoration

Habitat restoration began by testing a seeding area to determine proper seeding rates which began in May 2020. Results concluded the seed rate recommended by HCFCD had better success and was implemented for the project (Photograph 8, 9, and 10). Moreover, GBF approved the prairie seed mixture of native grasses and the winter cover crop, all of which were purchased through Bamert Seed Company (Photograph 11). To encourage better growing conditions, topsoil was added to the prairie areas and the seed was drilled into the soil to avoid washing downslope during a rainfall event (Photograph 12 and 13). The seeding success for the cover crop went exceptionally well, however native prairie grass establishment needed improvement. To further the success of habitat restorations efforts, the EGC has been supplementing prairies with young grasses and forbs that were locally grown in greenhouses and at the Exploration Green outdoor nursery. (Photograph 14 and 15). There has been discussion between LAN and Serco to reseed in fall of 2021 after mowing. Additionally, tree plantings are scheduled for fall 2021 and will be led by the Exploration Green Conservancy. The volunteer sign-ups for tree planting events can be found at

Wetlands plants were planted in the ponds beginning in April 2021. Currently, there has been over 3000 planted and will be continuously supplemented until they are well established

(Photograph 16 and 17). There were minor issues of wildlife plucking recently planted specimens to forage on the root systems.

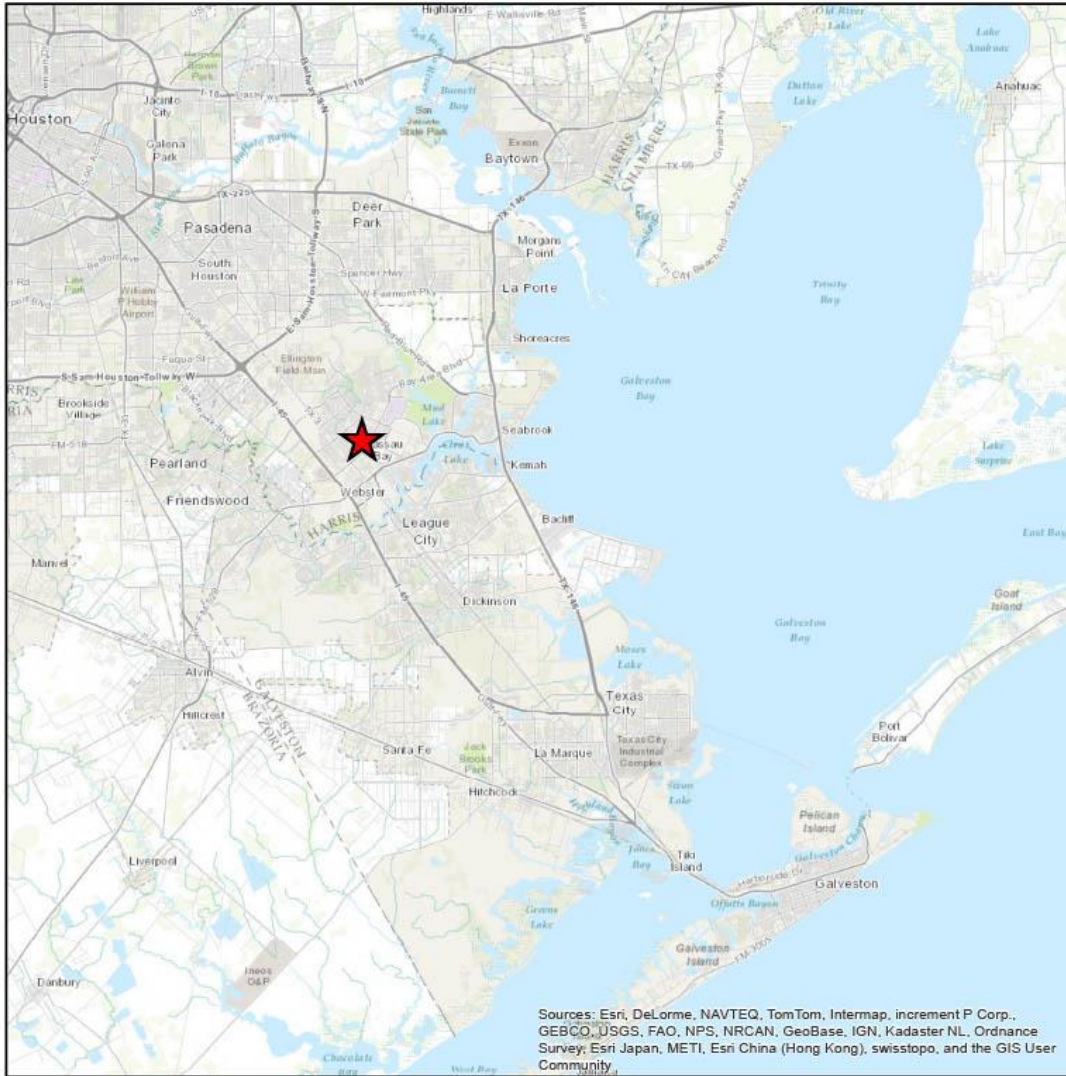
#### CMP Signage and Inspections

A temporary sign was installed at the Phase 3A construction site September 2019 and 2 permanent signs were installed once all heavy machinery was removed from the job site December 2020 (Photograph 18 and 19). Lastly, the final “As Built” technical specification and construction drawings was submitted April 2022 and the TAS certificate was submitted July 2021. (Appendix 2).

#### Task 3: Project Monitoring and Reporting

Monthly progress reports were submitted from October 2018 to September 2021. Additionally, periodic site visits and restoration events hosted by Exploration Green Conservancy were conducted throughout the contract period.

# Exploration Green Conservation Easement



**Legend**

★ Easement Location

**Galveston Bay Foundation  
Easement Location Map**

0 10 20 Miles



Map 1. Exploration Green Easement Location.

## conceptual masterplan



The Master Plan is founded on the following components:

### General Features

- 178 acres
- Upland / Islands area – 101 acres
- Permanent water area – 38 acres
- Wetlands area – 39 acres

### Flood Mitigation Features

- 1,680-acre feet of storm water storage
- Water Storage Depth - 13"
- Permanent Water Depth - 6" Maximum

### Water Quality Features

- Emergent wetland fringe
- Trash Interceptor baskets
- Tree canopy
- Return water flow polishing

### Amenity Features

- Land forming with variable slopes to create a natural character
- Wet bottom basin
- Reforestation
- Islands (habitat areas)
- Trails
- Nature-friendly habitat areas

### Recreation Features\*

- Athletic Sports Fields
- Entrance plaza / water feature
- Parking
- Picnic and open game areas
- Hike and bike trails

\* This is a partial list and may include other features to be determined and funded by the Community separate and apart from the flood mitigation and water quality improvements.

Map 2. Exploration Green conceptual masterplan





## Photographs



Photograph 1. Pre-construction photograph taken December 2016 on north end of project site.



Photograph 2. Pre-construction photograph taken December 2016 facing north on southeastern corner of project site.



Photograph 3. Pre-construction photograph taken December 2016 facing east on northwestern corner of project site.



Photograph 4. During construction photograph taken July 2020.



Photograph 5. During construction photograph taken July 2020.



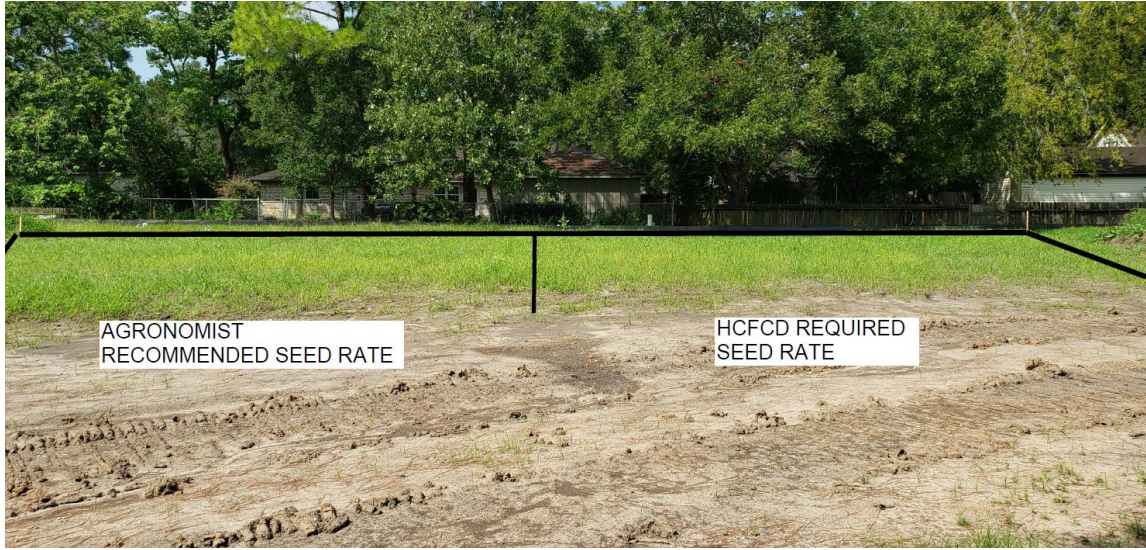
Photograph 6. During construction photograph taken November 2020.



Photograph 7. Post construction photograph taken March 2021.



Photograph 7. Post construction photograph taken August 2021.



Photograph 8. Test plot of seeding rates recommended by the Agronomist and HCFCD.



Photograph 9. Visual results of Agronomist seed rate.



Photograph 10. Visual results of HCFCD seed rate.

**Bamert Seed Company Inc.**

1897 CR 1018 Muleshoe, TX 79347      (800) 262-9892      Permit # TX00905

***Hydromulch Seeding Grass Blend Substitutions***      Lot/Sales # SO-70101

Kind & Variety	Pure Seed	Germ	Dormant	Hard Seed	Origin
Bluestem Big, "Kaw" ( <i>Andropogon gerardi</i> )	12.89%	95.00%	4.00%	0.00%	TX
Bluestem, Little "Cimarron" ( <i>Schizachyrium scoparium</i> )	16.11%	78.00%	12.00%	0.00%	TX
Bristlegrass Plains, ( <i>Setaria vulpiseta</i> )	11.10%	12.00%	82.00%	0.00%	TX
Dropseed, Sand ( <i>Sporobolus cryptandrus</i> )	1.78%	24.00%	74.00%	0.00%	TX
Gramma, Sideoats "Haskell" ( <i>Bouteloua curtipendula</i> )	19.54%	78.00%	14.00%	0.00%	TX
Green Sprangletop, "Van Horn" ( <i>Lepochloa dubia</i> )	8.79%	99.00%	0.00%	0.00%	TX
Lovegrass Sand, "Bend" ( <i>Eragrostis trichodes</i> )	2.64%	97.00%	2.00%	0.00%	TX
Switchgrass, "Blackwell" ( <i>Panicum virgatum</i> )	7.03%	77.00%	22.00%	0.00%	TX

Photograph 11. Seed mixture purchased from Bamert Seed Company, Inc.



Photograph 12. The addition of topsoil to prairie sites. Photo taken August 2020.



Photograph 13. Cover crop growing in rows placed by seed drill. Photo taken April 2021.



Photograph 14. Seedlings started in local off-site greenhouse.



Photograph 15. Exploration Green outdoor nursery of 1-gallon pots of prairie plants ready for planting.



Photograph 16. Wetland planting with volunteers February 2021.





Photograph 17. Recently planted wetland plants. Taken March 2021.



Photograph 18. Temporary sign installed September 2019.



Photograph 19. Permanent sign at South entrance of Phase 3A.



## Appendix 2



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### ACCESSIBILITY CHECK

10710 S. SAM HOUSTON PKWY. W. #240  
HOUSTON, TEXAS 77031  
713-995-1993

July 7, 2021  
A✓ # 138-18

**MS. JENNIFER MORROW**  
Clear Lake City Water Authority  
900 Bay Area Boulevard  
Houston, TX 77058

Exploration Green Phase 3A  
1219 El Dorado Blvd.  
Houston, TX 77062

TDLR# EABPRJB9805381  
Response Material Received 07/06/21

**CORRECTIVE MODIFICATIONS – NO VIOLATIONS**

Dear Ms. Morrow:

Your submittal regarding the referenced violations pending report has been reviewed. We are pleased to inform you that all items cited in the inspection report now appear to be in substantial compliance with the requirements of the of the Texas Government Code, Chapter 469.

These results will be forwarded to the Texas Department of Licensing and Regulation for issuance of the final approval letter. For newly constructed buildings and facilities, the Department will provide a Notice of Substantial Compliance (Certificate and Decal) to the owner upon receipt of a completed Notice of Substantial Compliance Request Form.

This determination is applicable only to ensuring compliance with Texas Government Code, Chapter 469 and does not address the requirements of the Americans with Disabilities Act (ADA), (P.L/ 101-336), or any other federal, state, or local requirements. For information on the ADA, call the ADA hotline, (800) 949-4232 or the United States Department of Justice at (202) 514-0301.

Sincerely,

A handwritten signature in black ink that reads "Holly Respondek".

Holly Respondek  
Registered Accessibility Specialist #39

FILE: 18Acheck\138-18\Corrective modifications no violations 138-18.doc

Fax 713-995-1994

E-mail [acheck@accessibilitycheck.com](mailto:acheck@accessibilitycheck.com)

[www.accessibilitycheck.com](http://www.accessibilitycheck.com)