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August 28, 2026

Ben Quartermaine, P.E.
Director – Stormwater
1001 Sarasota Center Blvd.
Sarasota, FL 34240

Re: Conceptual Stormwater/Ecological Management Area
Former Gulf Gate Golf Course. Sarasota County, Florida

Dear Mr. Quartermaine:

Phillips Environmental is providing this concept for converting the former Gulf Gate Golf Course into a stormwater/ecological management area (SMA) in Sarasota County, Florida. This letter outlines the concept, stormwater and nutrient modeling, soil remediation approach and an update to the previously provided opinion of probable costs to complete the conversion. Based on initial modeling utilizing Sarasota County stormwater modeling data, the full Gulf Gate property can be used as a regional stormwater asset.

The SMA concept would capture and treat runoff from the property and nearby areas within the adjacent watersheds, spread water among the proposed ponds/lakes, reduce flood peaks, and release water through the existing outfalls at controlled rates. Throughout the lakes and ponds areas, wetlands species would be planted to enhance nutrient treatment during normal operating conditions, while a smart pond operational approach would be created to store, manage and release flood waters during extreme precipitation events. As a part of the construction sequencing, the residual impacted soils will be managed onsite through beneficial reuse, capped in place or in the case of localized source areas, will be excavated for offsite transportation and disposal at a permitted landfill.

Introduction

Phillips and our subconsultants, EnviroTactics, BioTech Consulting and DeLoach Engineering Science, LLC utilized the original concept from Phillips' April 10, 2026 proposal combined with Sarasota County stormwater model data to evaluate the viability of the 49.5-acre Gulf Gate Golf Course conversion to a stormwater treatment/ecological management area. The most important element of this conversion is the capability of the conceptual design to manage the treatment modes (Normal and Flood Attenuation) and potentially mitigate localized flooding during various storms including 2-inch, 10-year and 100-year events. Secondary to the flood management capabilities are the additional nutrient (nitrogen and phosphorous) reduction capabilities of the system. The third and final element analyzed is the approach to remediating the site and converting the area into a naturalized ecological management system.

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Conceptual Site and Watershed Modeling

The primary design criteria for the conversion of the Gulf Gate site to an SMA is the management of variable 24-hour storm events. Models by DeLoach utilized storm events ranging from routine 2-inch storms to more significant 10 and 100-year storm events to evaluate storage, release, conveyance and treatment of each event. The Gulf Gate property was modeled based upon the three (3) Areas (Northern, Central and Southern) noted below to evaluate impacts of both property and local/regional flow regimes, and operational scenarios. The three Areas are shown in Figure 1, and the operational schemes are detailed below.

Figure 1. Conceptual Site Plan

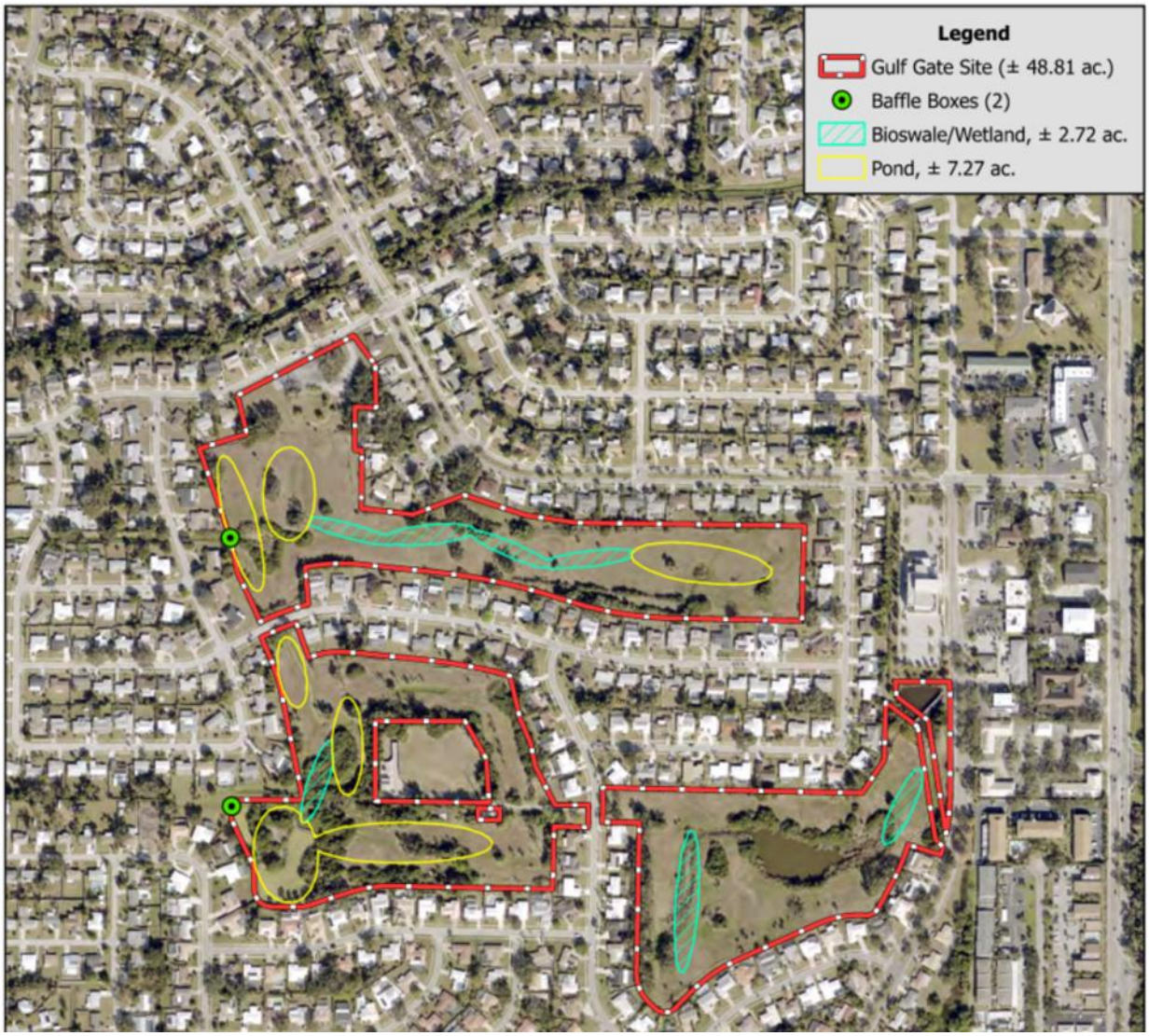

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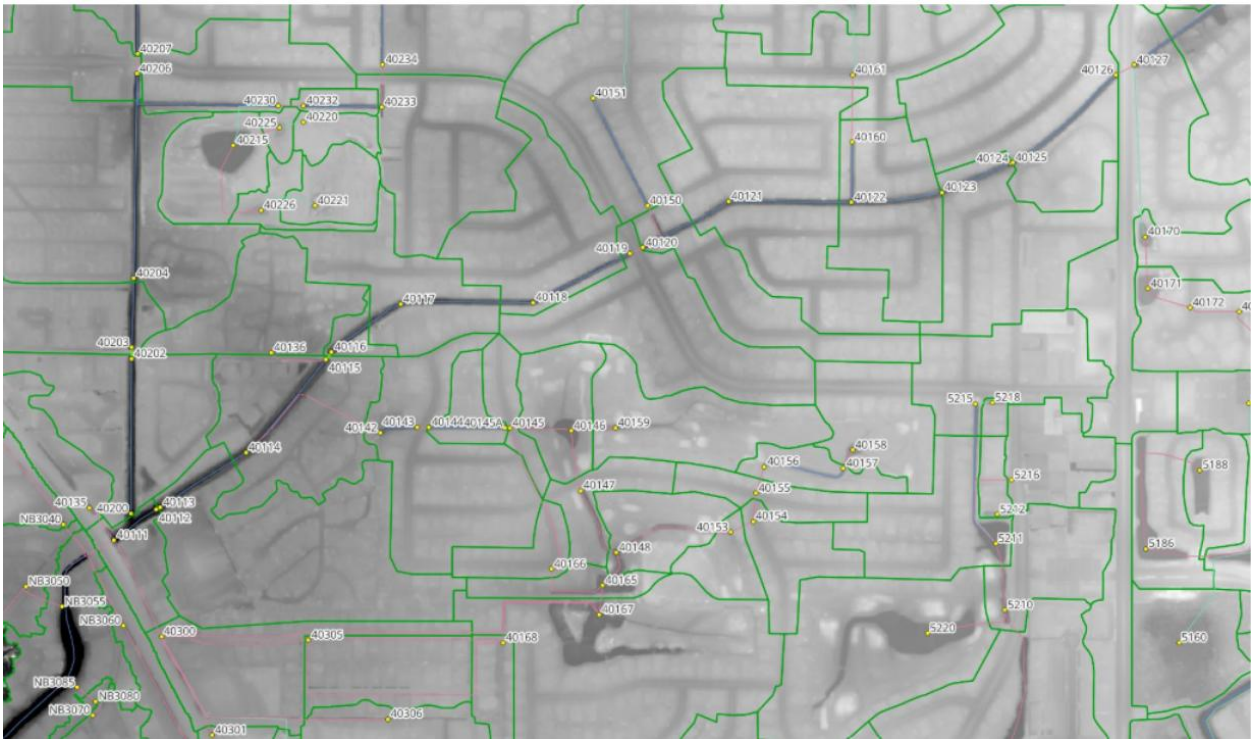
Table 1 – Conceptual Operational Scheme

Northern Area	3 New Ponds/Lakes + Bioswales	Receive, store and treat regional flow, release towards Central Area.
Central Area	4 New Ponds/Lakes + Bioswales	Receive, store and treat local and regional flows, hold and release westward.
Southern Area	New Bioswales	Receive, store and treat local and central lakes, hold and release southward.

A more detailed concept of how each of the Areas would work interchangeably to store and manage water is described below and shown in Figure 2, and through the water flow process described in Figure 3.

Figure 2 – Detailed Model Network and Node IDs



Regional Channel and Return

The northern regional channel passes 40124/40123, 40122, 40121, 40120, 40119, and 40118 before reaching 40114. The property already drains to that same channel at 40114 through 40146, 40145, 40144, 40143, and 40142.

Northern Area

Flow from 40156 enters 40157. Nodes 40157, 40158, and 40159 are closely connected. Water at 40159 can move west toward 40146, and high water at 40158 can spill north toward 40119.

Central Area

Flow from 40168 enters 40167, and flow from 40166 enters 40165. Water can then move through 40167, 40165, 40148, and 40147 toward 40146.

Southern Area

Flow from 5215/5218, 5212, and 5216 moves through 5211 and 5210. Node 5220 exchanges water with 5210 and can send water toward 40167 and 5125 during high-water conditions.

Figure 3 – Potential Water Management Model

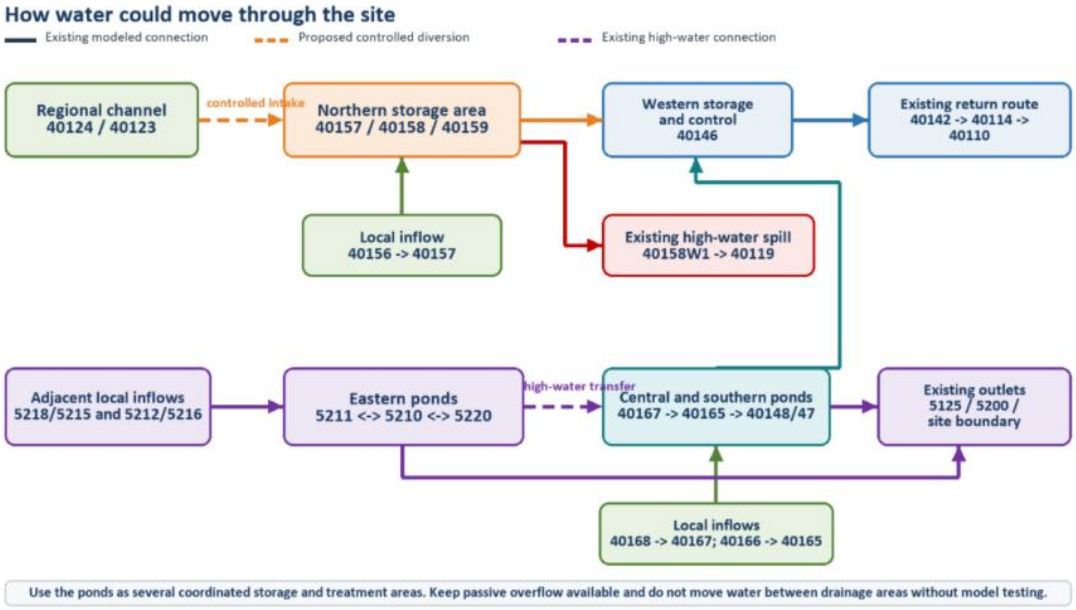


Figure 3. How existing model connections and the proposed controlled diversion could work together.

Diagram note: solid arrows show connections already in the model. The dashed orange arrow is the proposed diversion concept only; its exact route, slope, property rights, and construction needs are not yet known. Dashed purple arrows show existing high-water connections in the model.

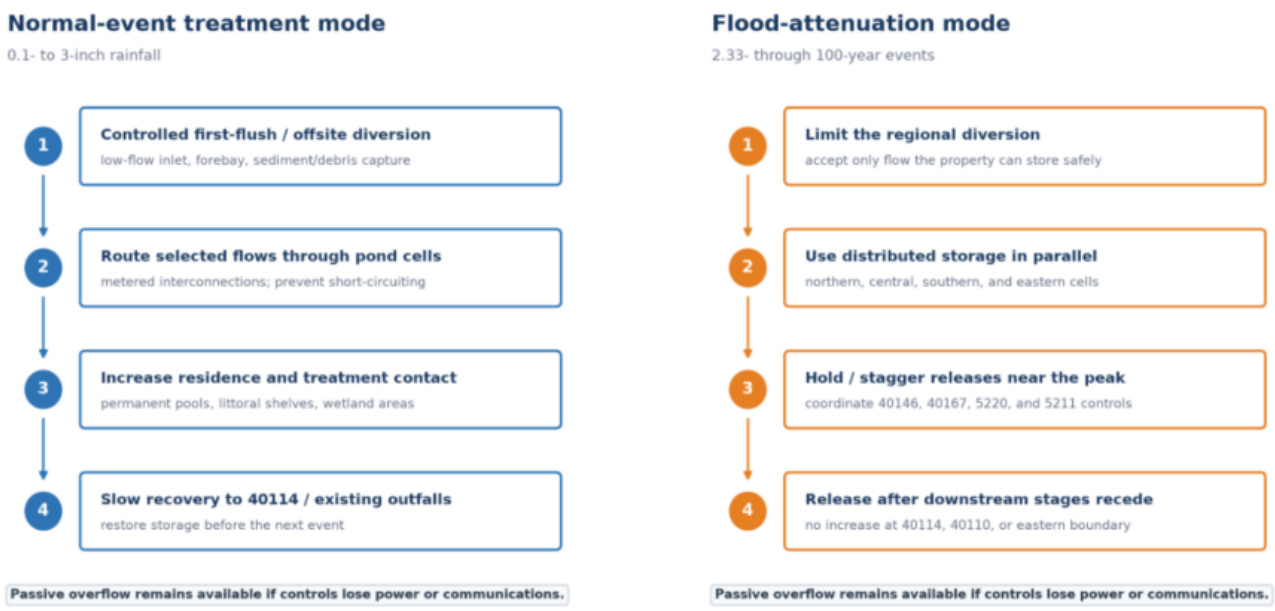
The high flow limitation in this model is node 40159 discharge to 40146. During design and additional modeling, this pathway should be further evaluated for improvement along with the channel discharge at 40146 for higher rate discharge under high flow conditions (e.g. 100-year storm event).

Enhanced Local Flood Management

A known condition in and around the Gulf Gate Community is the regional flooding that occurs during significant rain events. The capacity of the conceptual system in Figure 1 to

receive, store and treat water both during typical and extreme rain events was modeled to develop an approach to reducing the potential for localized flooding. This water management approach was outlined above and in Figures 2 and 3.

Beyond just moving water across the site, building a “Smart Pond” system can improve treatment and reduce flood peaks but gates and sensors alone do not create storage. The ponds need usable space above the normal water level, below normal water level in pre-storm operations mode, maintenance mode and abnormally wet season paths that keep water in contact with treatment areas, enough time to drain after a storm, access for sediment removal, and outlet rules that keep several ponds from releasing at the same time. Small storms should therefore use different operating rules in the model compared to large storms or potentially tropical and flooding events. A smart pond water management combined with the expanded pond/lake/bioswale system would manage the localized hydrology in two modes – normal and flood attenuation mode.



Generally, the intent of a “normal-event” treatment mode is sediment/debris capture, selected flow through ponds that will increase residence times and treatment contact for nutrient removal and resetting storage across the system before the next event. This normal mode provides the best opportunity to reduce nutrient and sediment transport offsite and into Little Sarasota Bay

Under high flow or tropical events, the system would switch to “flood-attenuation” mode focusing on storage and transfer of water from the basins to the downstream areas. This system would maximize storage up to flood levels, distribute water across the entire

system in parallel to hold peak flows and manage release post event to minimize impacts downstream. This mode focuses on controlled management and release of extreme 100-year events up to nearly 17-cfs of water flowing through the system compared to release of 0-cfs and 9-cfs in 2-inch and 10-year events across all nodes modeled.

The general rules the system would operate under include:

1. Treat water before it reaches the ponds. Provide accessible settling basins, sump and debris traps, and erosion protection at the regional diversion outlet and the main entry points at 40156, 5215/5218, 5212/5216, 40166, and 40168.

2. Treat water within the ponds. Use permanent pools, sediment-settling areas, shallow planted shelves, wetland vegetation, and long flow paths. Avoid a short path that lets water move directly from an inlet to an outlet.

3. Control flow between ponds. Use gravity gates, openings, weirs, and one-way checks to control the amount and direction of flow. The base model already shows flow reversing in parts of the 5220/5210 and 40165/40148 systems.

4. Operate the ponds as a coordinated system. Use water-level sensors and selected active gates to make storage available before a forecast storm, hold some flow while water levels are rising, and release it after downstream water levels fall. If power or communication fails, the system should return to a safe passive condition that is no worse than the approved baseline.

5. Plan for maintenance and verify water-quality benefits. Provide access for sediment removal, trash management, vegetation maintenance, inspection, and manual operation. To show the water-quality benefit, measure how much water is captured or bypassed, how long it remains in the system, how quickly storage recovers, and how pollutant loads change over time.

The smart pond concept and operational strategy will require additional modeling during design to validate and optimize the system and confirm the system can be designed to mitigate local flooding issues under all scenarios evaluated.

Nutrient and Ecological Management System

In the November 15, 2025 report *"Evaluation of Water Resources and Green Space Value Associated with Public Acquisition of Gulf Gate Golf Course"* by Stephen M. Suau P.E. Engineering and Consulting, LLC with assistance from Peter Brown, P.E. of RESPEC, nutrient loadings in the Matheny Creek and Elligraw Bayou drainage basins is approximately 1017 pounds Total Nitrogen (TN) and 296 pounds Total Phosphorous (TP)

into the Little Sarasota Bay. The total area including the Gulf Gate Golf Course used to calculate that loading is approximately 185-acres.

Their calculations showed that up to an additional 400-lbs of TN and 250-lbs of TP could be removed from surface water by converting the Gulf Gate Golf Course to a wetland/stormwater treatment unit.

Rather than relying on a single treatment method, the proposed approach will incorporate multiple treatment processes to progressively reduce nutrients, suspended solids, and other pollutants as water moves through the site and into the bay. Treatment components could include bioswales and vegetated conveyance systems, nutrient-adsorbing media such as SWIG, and strategically located open-water treatment ponds incorporating littoral zones, with the potential for planted shelves, aeration and other vegetated treatment areas. SWIG is a green infrastructure media that helps meet TMDL and ERP nutrient requirements by removing more than 80% of the Total Phosphorus, 40% of Total Nitrogen, 95% of TSS and more than 80% of Metals. Standard aquatic vegetation nutrient absorption rates are generally in the 10% to 74% for TN and 15% to 66% for TP, however trending to the lower percentages.

The treatment trains will be designed to intercept and treat runoff generated within the former golf course, as well as appropriate off-site drainage that currently enters or can feasibly be directed through the property. Bioswales and vegetated systems will provide initial filtration, sediment removal, nutrient uptake, and flow attenuation. Where appropriate, engineered nutrient-adsorbing media (i.e. SWIG) will provide an additional level of treatment targeted particularly toward dissolved nutrient removal. This media could be incorporated into stand-alone detention areas, but more likely it will be utilized in wet pond/bioswale banks, and potentially as a final treatment component within baffle boxes. Treated flows will be conveyed through these facilities, as well as the open-water systems that are designed to provide additional residence time, settling, biological uptake, and nutrient transformation.

The proposed ponds will be designed as functional water quality features rather than conventional open-water stormwater ponds. Littoral zones, shallow planted shelves, and other native wetland/aquatic vegetation applications will be incorporated, where applicable, to increase the biologically active treatment area and create conditions favorable for nutrient uptake and other natural treatment processes. These features can also provide ancillary benefits including improved habitat, increased ecological diversity, enhanced site aesthetics, and potentially improved resiliency during larger storm events.

By arranging these components in series, the project will provide multiple opportunities for pollutant removal before water leaves the site, allowing individual treatment practices to

complement one another and providing greater treatment reliability than would typically be achieved through a single best management practice. The system can also be designed to accommodate variations in flow, pollutant loading, site constraints, and long-term maintenance requirements.

Ultimately, the project represents an opportunity to transform an abandoned golf course into a large-scale water quality asset with an interesting recreational component. The proposed improvements would utilize the historic golf course footprint to provide measurable nutrient-reduction and water-quality benefits while simultaneously restoring ecological function and creating a more sustainable and beneficial long-term use of the property.

Beyond the water quality aspects of this project, restoring the historic golf course landscape to native and Florida-adapted vegetation will provide significant opportunities to improve wildlife habitat for all localized wildlife, including threatened and endangered species like the Florida Bonneted Bat, the Florida Scrub Jay and the Piping Plover. Conversion of intensively managed turf areas into a more diverse mosaic of native grasses, wildflowers, shrubs, wetlands, ponds and tree communities will substantially increase habitat diversity and ecological function. These restored areas can provide improved foraging, nesting, refuge, and movement corridors for birds, pollinators, small mammals, reptiles, amphibians, and other native wildlife. Where appropriate, maintaining interconnected upland, wetland, and open-water habitats can further enhance the site's value as a larger ecological corridor rather than a series of isolated habitat areas.

The transition away from traditional golf course management also provides important water quality benefits. Native and adapted vegetation generally requires substantially less fertilizer, irrigation, and chemical treatment than maintained golf turf, reducing the potential for nutrient and chemical loading to adjacent surface waters and groundwater. Deeper and more diverse root systems can improve soil structure, increase infiltration, reduce runoff velocities, stabilize soils, and promote biological uptake of nitrogen and phosphorus. Vegetated buffers surrounding ponds, wetlands, swales, and other drainage features can provide an additional level of treatment by filtering suspended material and promoting nutrient uptake before runoff reaches downstream receiving waters.

Soil Remediation Approach

Phillips and EnviroTactics reviewed the various remedial documents in the case history to develop the recommended approach forward for design. Our approach aims to offset as much risk as feasible while delivering the constructed project as cost effectively as possible. The documents stored at the Florida Department of Environmental Protection (FDEP) Oculus portal (DEP OCULUS Document Management System) reviewed as part of this concept include:

- *2022 GHD Site Assessment Report*
- *2022 GHD Remedial Action/Soil Management Plan*
- *2023 SCS Response to Comments and Remedial Action/Soil Management Plan*
- *2025 SCS Soil Remedial Action Plan Modification*
- *2026 FLDEP Soil Remedial Action Plan Approval*

The approach outlined herein is a combination of the various approaches defined in the documents above and has already been approved by FDEP in response to the above documents. The goal of the soil remedy is to remediate soil and groundwater through limited removals of source materials while mitigating any arsenic containing surface water discharges through soil management, treatment and controls onsite.

The general approach to management and remediation of soil onsite includes:

- Excavation and stockpiling of approximately 71,000 cubic yards (CY) of soils from the newly constructed ponds and lakes.

- Stripping and stockpiling of upper 6-inches of the fairway areas (est. 2,000 CY).

- Blending of the pond/lake soil with the fairway soil to create beneficial reuse of fill.

- Capping of the remaining tees and greens not excavated for ponds and lakes with blended soil (est 5,900 CY)

- Capping of the remaining fairways not excavated for ponds and lakes with blended soil (est 8,000 CY)

- Excavation and offsite disposal of soils around the Maintenance/MW-2 Areas which represent the highest concentration of arsenic in soils and underlying groundwater. Phillips assumes the original estimate of 2,000 CY by GHD applies. This soil is assumed non-hazardous to be transported to a permitted landfill facility.

- Backfill the excavated areas and capping of the Maintenance Area with excavated soils from the new pond/lake areas. This material will be blended with stripped materials from fairways and greens followed by testing to confirm compliance with the state target cleanup levels.

- Use of residual beneficial reuse soils across the property for grading and visual appearance.

- Topsoil import, seeding and planting of all wetlands areas within lakes, ponds, bioswales and channels.

- Construction of a walking path around the perimeter combined with an educational nature center, parking areas and access roads.

- Implementation of the groundwater natural attenuation monitoring (NAM) remedy including additional offsite ground water delineation wells, sitewide groundwater monitoring, quarterly monitoring for a year, monitoring well abandonments and final groundwater closure.

Updates to Opinion of Probable Costs and Project Schedule

To provide Sarasota with the potential cost of construction, Phillips and EnviroTactics updated the original Opinion of Probable Costs from the April 10th proposal to break out the budgetary Remedial Costs from the Stormwater Management Area construction and maintenance costs. While the original range is still valid for the full construction project, $12.5M - $18.8M, a summary of the costs are below with detailed costs attached on the Opinion of Probable Costs:

ROM Estimate Summary Table

Scope Item	Remediation Capital	Remediation O&M	Stormwater Facility Capital	Stormwater Facility O&M
Pre-Design Data Collection	$ 583,400.00			
Remedial Construction	$ 4,953,220.34			
Stormwater Management Area Construction			$ 7,927,298.74	
Groundwater NAM Remedy		$ 594,473.00		
Annual Remedy Monitoring*		$ 123,262.00		
Annual SMA Operations and Maintenance				$ 41,630.00
Subtotal	$ 5,536,620.34	$ 717,735.00	$ 7,927,298.74	$ 41,630.00
Undesigned Contingency (10%)	$ 553,662.03	$ 71,773.50	$ 792,729.87	$ 4,163.00
TOTAL	**$ 6,090,282.37**	**$ 789,508.50**	**$ 8,720,028.61**	**$ 45,793.00**
ROM Low Range (-20%)	$ 4,872,225.90	$ 631,606.80	$ 6,976,022.89	$ 36,634.40
ROM High Range (+20%)	$ 7,308,338.85	$ 947,410.20	$ 10,464,034.34	$ 54,951.60

* - Annual Remedy Monitoring will be required until soil closure. This is the annual monitoring cost.

Early Public Outreach

From the early stages of design and engineering through construction, early public engagement and outreach supporting the project and creating regional awareness will be critical to acceptance from residents. The Gulf Gate Community Association has been

extremely active in this project and early engagement with key stakeholders will be crucial for their support. These elements supporting a project such as this ensure that delivery of the project is concurrently working with both public and private stakeholders early on to avoid conflict in the later stages of project.

This outreach will not only cover the Sarasota County region. Outreach should be expanded to the tri-county region that covers beneficial use of the project for the Sarasota, Charlotte and Lee County areas thus expanding public and private support for this critically important project.

Opinion of Probable Costs
Gulf Gate Golf Course
August 28, 2026

Scope Elements	Quantity	Unit	
Pre-Design Data Collection			
Pre-Design Data Collection	1	LS	
Plan Preparation	10	ea	
		Subtotal Pre-Design Data Collection	**$ 583,400**
Remedial Construction			
Design and Permitting	1	LS	
Bond	1	LS	
Mobilization/Site Setup	1	LS	
Security and Silt Fence	1	LS	
Construction Entrance Installation	1	LS	
Site Facilities Installation	1	LS	
Capping of Mainteance Area - 2' imported or clean fill from Ponds	9,000	CY	
Capping of Tees/Greens	5,900	CY	
Stripping/Stockpiling of Fairways	2,000	CY	
Capping of Fairways	8,000	CY	
Offsite Transportation and Disposal of Non-Hazardous Soils	3,000	Tons	
Final Grading	33	Acres	
Topsoil Import	17,747	CY	
Permanent Seeding	33	Acres	
Temporary Seeding	11	Acres	
Dust Monitoring	180	days	
Dust Control	180	days	
Construction Completion Report	1	EA	
		Remedial Construction Subtotal	**$ 4,953,220**
Stormwater Management Area Construction			
Design and Permitting	1	LS	
Bond	1	LS	
Stormwater Bypass Installation	1	LS	
Dewatering/Bypass Pumping	180	Days	
Construction Water Treatment	5,000,000	Gallons	
Excavation of Ponds for Storage	71,000	CY	
Construct Ponds	11	Acres	
Permanent Seeding	22	Acres	
Temporary Seeding	11	Acres	
Wetlands Plantings	5.5	Acres	
Boardwalk/Footpath Installation	11,600	LF	
Access Road	20,000	square feet	
Parking Areas	115,532	square feet	

Opinion of Probable Costs
Gulf Gate Golf Course
August 28, 2026

Nature Center	2000	square feet
Stormwater Management Area Construction Subtotal		**$ 7,927,299**
Groundwater NAM remedy		
GW Monitoring Plan	1	Rpt
Final Sitewide Preconstruction Sampling Event	1	LS
Well abandonments in Construction Area	18	Wells
Additional Offsite Delineation Wells	8	Ea
1 years quarterly monitoring	4	EVT
Reporting	1	reports
Groundwater NAM Remedy Subtotal		**$ 594,473**
Annual Remedy Monitoring		
Water Quality Monitoring	1	LS
Limited Cap Maintenance	4	EVT
Annual Remedy Monitoring		**$ 123,262**
Annual SMA Operations and Maintenance		
Annual Weed/Invasive Species Removal	1	Acres
Wetlands Re-Planting	1	Acres
Annual Boardwalk Budget	1	LS
Annual Operations and Maintenance		**$ 41,630**

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