STORM WATER POLLUTION PREVENTION PLAN

HIGHLAND LAKE TOWNHOMES

RESIDENTIAL SUBDIVISION

GULFPORT, HARRISON COUNTY, MISSISSIPPI

MARCH 2022

PREPARED FOR:

GULF COAST
DEVELOPMENT & DESIGN

PREPARED BY:

PHELAN
ENGINEERING LLC

EXECUTIVE SUMMARY

Phelan Engineering, LLC was engaged by Gulf Coast Development & Design, LLC to provide engineering design services for the Highland Lake Townhomes. The project site is at behind the SeaShore Highlands Retirement Community 12170 Highland Way, Gulfport, MS; approximate coordinates for the site are 30.4635,-89.0205.

The project looks to construct all infrastructure (i.e. roads, water, sewer, drainage, etc.) required for a 164 lot traditional single family townhome development. The project will be constructed in two phases with approximately 14.0 of the 20.1 total acres to be disturbed at varying times throughout the development. As required by the Mississippi Department of Environmental Quality (MDEQ) this Stormwater Pollution Prevention Plan (SWPPP) is being prepared for this specific project for coverage under the Large Construction General Permit. This SWPPP and associated permit requests will be for the entire 14.0 acres to be disturbed across both phases. The phases are anticipated to be constructed in relative succession and should any phase experience unanticipated delays, that will be coordinated with MDEQ at that time.

This SWPPP seeks to outlay the Erosion and Sediment Controls that will utilized, soil stabilization practices, vegetative practices, structural controls, post construction controls remaining, housekeeping, etc. as well as discuss the receiving stream most affected, implementation of this plan, maintenance of Best Management Practices (BMPs), and site inspections.

Finally, attachments to this report will further illustrate the means of providing sediment and erosion control on site.

Describe the nature of the construction activity:	Construction will consist of infrastructure (roads, water, sewer, drainage, etc.) and grading necessary for a 164-lot single family residential subdivision; roads will be approximately 0.57 miles.
Describe the intended sequence of major soil disturbing activities:	1) Installation of construction exit. 2) Install initial erosion and sediment control BMPs (these will be maintained and updated as construction progresses). 3) Begin site clearing and grubbing. 4) Perform Earthwork operations to get site to rough grade. 5) Install water, sewer, and drainage facilities 6) Grade road to final grades and pave. 7) Provide permanent stabilization 8) Remove all temporary BMPs Note, a construction entrance will be maintained during all phases and its location may move. Contractor will ensure that proper BMPs, commiserate with those shown on this SWPPP and its attachments, will be utilized between phases to protect completed phases from sedimentation on phases under construction.
Total area of the site:	20.14 Acres
Total area of the site to be disturbed:	14.00 Acres
Existing data describing the soil or quality of any stormwater discharge from the site:	Per Web Soil Survey, site is predominately sandy loams (Harleston (73.2%), Atmore (19.7%), and others (7.1%)). Stormwater discharge from this site, which primarily drains to a south-central wetlands area and the northeast corner, appears to be of normal quality as the site remains undeveloped.
Estimate the drainage area size for each discharge point:	In general, approximately 3.9 acres drains off the northeast corner and 19.3 acres drains to the central wetlands (includes a portion of off-site runoff).
Latitude and longitude of each discharge point and identify the receiving water or MS4 for each discharge point:	The property itself is located in and will discharge to the City of Gulfport MS4 area. Northeast Corner: 30.4642, -89.0185 Central Wetland: 30.4623,-89.0185

Give a detailed description of all controls, Best Management Practices (BMPs) and measures that will be implemented at the construction site for each activity identified in the intended sequence of major soil disturbing activities section.

Construction Exit – Stone pad to remove sediment trapped on vehicle tires.

Check Dam – Straw wattle, hay bale, stone, or similar barrier along a flow line/discharge point to reduce erosion and capture dislodged sediment.

Diversion Ditch – a designed watercourse set either to route undisturbed water around disturbed land or to route disturbed lands to proper erosion control BMPs.

Grass Swale – constructed channel (permanent or temporary) to both handle runoff and use vegetations natural ability to clean stormwater.

Inlet Protection – sediment barrier placed around an inlet structure or open pipe end to prevent dislodged sediment from entering underground drainage conveyance.

Rock Filter Dam – stone embankment used to capture sediment on the upstream side; includes a settling pooling area.

Sediment Barrier (silt fence) – temporary barrier to utilizing a geotextile fabric to prevent sediment from running off downstream.

Sediment Basin – an earthen embankment suitably located to capture runoff and designed to provide an area for runoff to pool and settle out a portion of the sediment.

Describe all temporary and permanent stabilization practices. Stabilization practices include temporary seeding, mulching, permanent seeding, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, vegetative preservations, etc.

Dust Control – use of water to keep wind-blown sediment from dislodging.

Erosion Control Blanket – a temporary protective made of biodegradable materials used to cover seeded bare earth and limit loss of seed during germination.

Seeding – both temporary and permanent, to include establishment of vegetation on all disturbed areas with no ongoing Work. Seeding will be per the attached chart.

Preservation of vegetation – avoidance of an area during land disturbing.

Buffer Strips – a vegetated strip (preferably natural/undisturbed) between disturbed areas and sensitive areas (i.e. existing wetlands).

Protection of Trees – maintaining trees that do no conflict with proposed construction to maintain tree roots' ability to "hold" sediment particles in place.

Note: Vegetative stabilization measures must be initiated whenever any clearing, grading, grubbing, excavating or other land disturbing activities have temporarily or permanently ceased on any portion of the site and will not resume for a period of fourteen (14) calendar days or more. The appropriate temporary or permanent vegetative practices shall be initiated immediately (no later than the next work-day.)

Describe all sediment basins to be implemented for areas that will disturb 10 or more acres at one time. The sediment basins (or an equivalent alternative) should be able to provide 3,600 cubic feet of storage for each acre drained.
To meet peak discharges matching pre-developed drainage patterns, the completed site will provide a large centralized detention ponds; this pond will maintain a portion of dry storage as well as provide a permanent wet pool. While this pond is designed primarily to perform a permanent detention function, it will be utilized as temporary sediment basin during construction. To serve as a sediment pond, this centralized detention pondwill be designed in accordance with Volume 1 of MDEQ's "Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas" (including, but not limited to: use of porous baffles, emergency spillways, a minimum volume of 3,600 cf of storage per acre drained, and a skimmer designed to drain the pond between 2 – 5 days.)
Describe all permanent stormwater management controls such as, but not limited to, detention or retention systems or vegetated swales that will be installed during the construction process.
Mentioned above, a detention pond will serve the site in perpetuity. This pond is located in a naturally lower area to avoid the need for excessive dirtwork and/or piping to route flow to the pond(s). Further, the permanent wet pool will provide better water quality capability vs. a dry pond. This ponds will have a single pipe outfall as well as an emergency spillway set ABOVE the anticipated 50 year water surface elevation. Grated inlets and throated curb inlets will connect underground pipe networks to discharge stormwater runoff either through the pond(s) or at natural low points. Grass swales will be provided where concentrated drainage travels overland.

Describe in detail controls for the following potential pollutants:

Waste disposal, this may include construction debris, chemicals, litter, and sanitary wastes:	Contractor will be required to provide waste receptacles and portable toilets around the construction site.
Offsite vehicle tracking from construction entrances/exits:	A 50'x20' stone construction exit will be constructed at the single point of entrance. This stone exit will be monitored and regraded/cleaned as necessary. This stone entrance will be moved as phases progress.
The proper application rates of all fertilizers, herbicides and pesticides used at the construction site:	Fertilizers, herbicides, and pesticides, will be stored in designated protected areas. Application rates will be no higher than manufacturer's recommendations. Fertilizers will be tilled in to limit fertilizer runoff.
The storage, application, generation and migration of all toxic substances:	Toxic substances will be stored in protected areas. Fuels will be stored on removable trailers. Equipment maintenance will occur off-site. Spill prevention practices and response procedures will be communicated to workers.

Provide a detailed description of the maintenance plan for all structural and non-structural controls to assure that they remain in good and effective operating condition.
All structural and non-structural measures will be maintained by the contractor in good working repair. Any deficiencies noted will be repaired within 24 hours of discovery; in any instance where repair may take > 24 hours, contractor will contact MDEQ to discuss. Maintenance will include looking for and repairing tears or breaches in structural controls, unvegetated areas, etc. Sediment buildup on structural controls will be closely monitored on a (minimum) weekly basis. Once the sediment is at 50% of the capacity of the control, sediment will be removed.
Inspections: Describe the inspection and inspection documentation procedures.
Inspection of all receiving streams, outfalls, erosion and sediment controls and other SWPPP requirements shall be performed during permit coverage using a copy of the form provided in the Large Construction Forms Package (or equivalent form), and inspections shall be performed by qualified personnel (see Definitions): (1) At least weekly for a minimum of four inspections per month; and (2) after any rainfall event that produces a discharge (3) As often as is necessary to ensure that appropriate erosion and sediment controls have been properly constructed and maintained and to determine if additional or alternative control measures are required. Before conducting the site inspection, the inspector should review Chapter 4, Inspector's Checklist and Troubleshooting Chart found in MDEQ's Field Manual for Erosion and Sediment Control on Construction Sites in Mississippi. A daily "walk through" inspection of the construction site will help ensure controls are in place and will function properly.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

OWNER:

DocuSigned by:

_____ Date: 2/28/2022

Kenneth Jones FE696FF1E319479...

Gulf Coast Development & Design, LLC

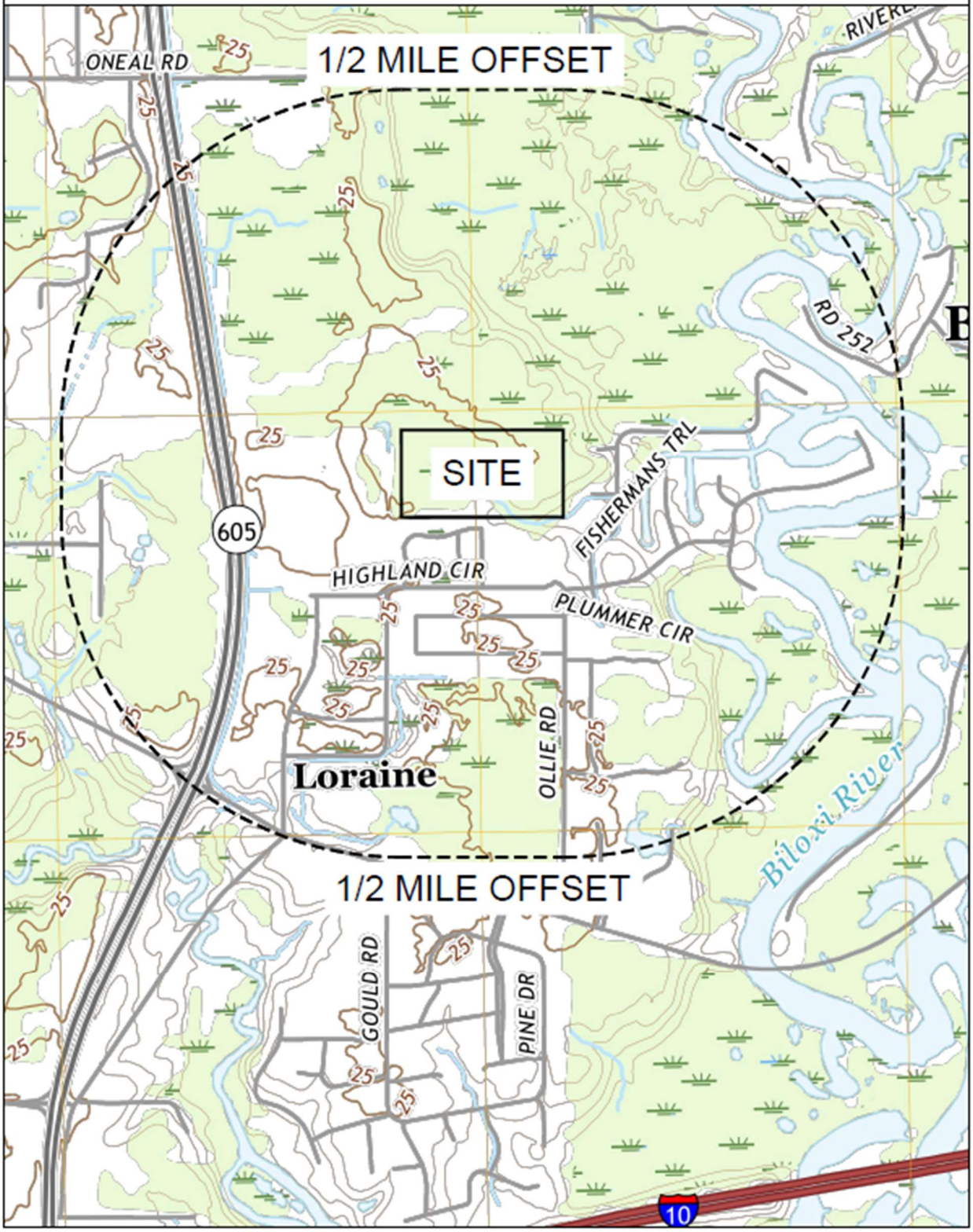
CONTRACTOR:

_____ Date: _____

Attachments:

1) Vicinity Map with USGS Topographical Map
2) Seeding Chart for the State of Mississippi
3) Large Construction Notice of Intent
4) Site Inspection and Certification Form
5) Request for Termination of Coverage
6) Associated Plan Sheets.

VICINITY / TOPO MAP



SEEDING CHART FOR THE STATE OF MISSISSIPPI

SPECIES	SEEDING RATE/ACRE	PLANTING TIME	DESIRED pH RANGE	FERTILIZATION RATE/ACRE	METHOD OF ESTAB-LISHMENT	ZONE OF ADAPT-ABILITY[1]
Common Bermuda	15 lbs. alone 10 lbs. mixture	3/1 - 7/15 9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed or sod	All
Bahia	40 lbs. alone 30 lbs. mixture	3/1 - 7/15 9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	Central South
Fescue	40 lbs. alone 30 lbs. mixture	9/1- 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	North Central
Saint Augustine	--	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	sod only	Central South
Centipede	4 lbs. alone 2.5 lbs. mix	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	seed or sod	All
Carpet Grass	15 lbs. alone 10 lbs. mixture	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	seed or sod	All
Oysia Grass	--	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	sod only	All
Creeping Red Fescue	30 lbs. alone 22.5 lbs. mix	9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All
Weeping Lovegrass	10 lbs. alone 5 lbs. mix	3/1 - 7/15	6.0 - 7.0	600 lbs. 13-13-13	seed	All
Sericea Lespedeza	40 lbs.	3/1 - 7/15 9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
***Wheat**	90 lbs. alone	9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All
***Ryegrass**	30 lbs.	9/1 - 11/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All
***White Clover**	5 lbs.	9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
***Crimson Clover**	25 lbs. alone 15 lbs. mix	9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
***Hairy Vetch**	30 lbs.	9/1 - 11/30	6.0 - 7.0	400 lbs. 6-24-24	seed	All
***Browntop Millet**	40 lbs. alone 15 lbs. mix	4/1 - 8/30	6.0 - 7.0	600 lbs. 13-13-13	seed	All

* Annuals. For permanent seeding, annuals can only be used in a mixture with perennials.

North- north of Hwy. 82
Central- south of Hwy. 82 & north of Hwy. 84
South- South of Hwy. 84