STORM WATER
PIPE SOLUTIONS

Executive Summary

Landfall Lake is approximately 14 acres of Class III high quality wetland, designed to provide flood protection, wildlife habitat, water quality and recreation. Surrounding the lake is a concrete multi-use pathway.

A recent deposition study was completed by Landfall COA, identifying numerous pipe segments that had been covered up with sediment and vegetative mat. Storm Water Pipe Solutions was tasked to identify and perform selective maintenance on restricted storm water pipes around Landfall Lake.

Twenty-four pipes were identified as discharging surface water into the lake. Five main pipes around the lake convey surface water from various streets and common areas, while the remaining nineteen are responsible for runoff from residential lots underneath the multiuse pathway.

Roadway Storm Water Pipes

Storm Water Pipe Solutions visually inspected the five primary street outfalls, and the findings are as follows: (Please see corresponding map for approximate locations.)

Pipe ID **VW2_VW3** is a 48" reinforced concrete pipe with a flared end section. The outfall drains surface water from parts of Arboretum Drive and Spanish Wells Drive. The pipe holds approximately a half of pipe of water, which is common for coastal community storm water infrastructure. The pipe appears to be free and clear of any obstructions. Picture below is taken at the pipe outfall into Landfall Lake.

Action Taken: None

Pipe ID **E15_D16** is a 30” reinforced concrete pipe with a flared end section. The outfall drains surface water from parts of Arboretum Drive, Deer Island Lane and Moreland Drive. The pipe holds very little water and is free and clear of any obstructions. Picture below is taken at the pipe outlet into Landfall Lake.

Action Taken: None

Pipe ID **BP6_BP7** is a 24” double wall corrugated plastic pipe. The outlet drains surface water from parts of Boatswain Place and Turnberry Lane. This pipe is completely underwater, which is common for Landfall, as well as coastal community storm water infrastructure. The outlet has a small sumped pool. When a rain event occurs, hydraulic head pressure builds, forcing water out of the mouth of the pipe. Storm Water Pipe Solutions cleaned and evaluated the internal condition of this pipe in 2017.

Action taken: May 2022: Over excavated the sumped pool to provide additional storage for organic material.

Pipe ID **HWD1_HWD2** is an 18” reinforced concrete pipe. The outlet drains surface water from parts of Turnberry Lane and Harborway Drive. This pipe is completely underwater, which is common for Landfall, as well as coastal community storm water infrastructure. The outlet has a small sumped pool. When a rain event occurs, hydraulic head pressure builds, forcing water out of the mouth of the pipe. Storm Water Pipe Solutions cleaned and evaluated the internal condition of this pipe in 2021

Action taken: May 2022: Over excavated the sumped pool to provide additional storage for organic material.

Pipe ID **AD3_Outfall** is a 15” reinforced concrete pipe with flared end section. The outfall drains surface water from parts of Anson Drive. The pipe holds very little water and is free and clear of any obstructions. Picture below is taken at the pipe outfall into Landfall Lake.

Action taken: May 2022: Outlet was excavated at the flared end section, and a tail ditch was created to efficiently convey surface water with minimal disturbance.

Multi-use Pathway Storm Water Pipes

Nineteen other pipes were identified as being standard length, width and slope. These pipes were installed as part of the multi-use path and convey surface water from one side to the other. The pipe material is double wall corrugated plastic pipe, approximately 20’ in length with flared end sections at both ends. Pictures shown below are a representative sample of work performed.

Action Taken: 15 of the 19 pipes identified had vegetative mat and deposition, restricting the outfall. May 2022: Outfalls were excavated at the flared end section and a tail ditch created to efficiently convey surface water with minimal disturbance.

All pipes around the lake are functioning as intended. Disturbed areas will naturally revegetate over the course of a growing season. Storm Water Pipe Solutions recommends that the area be re-evaluated every 3-5 years or after a major weather event.