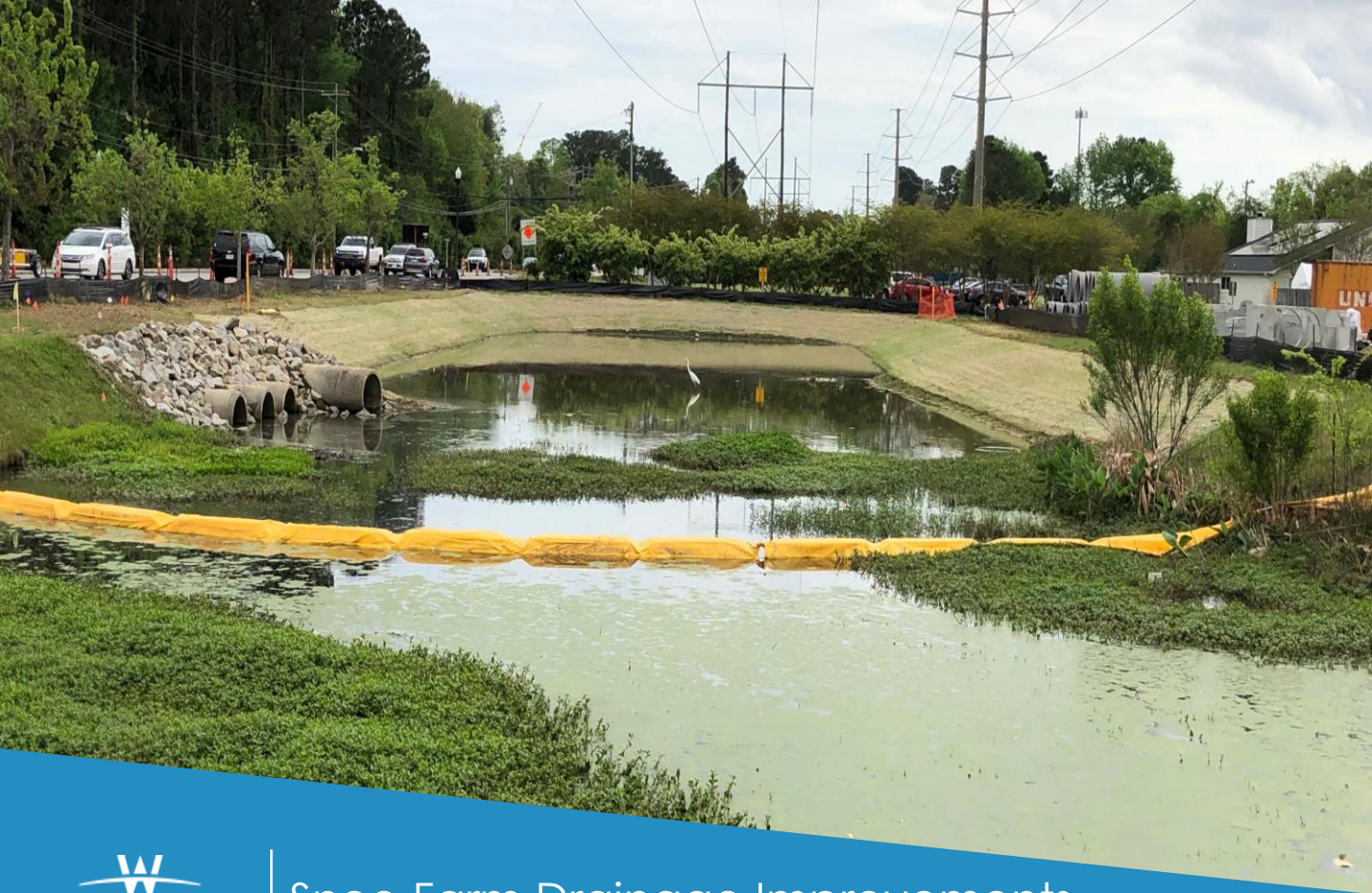
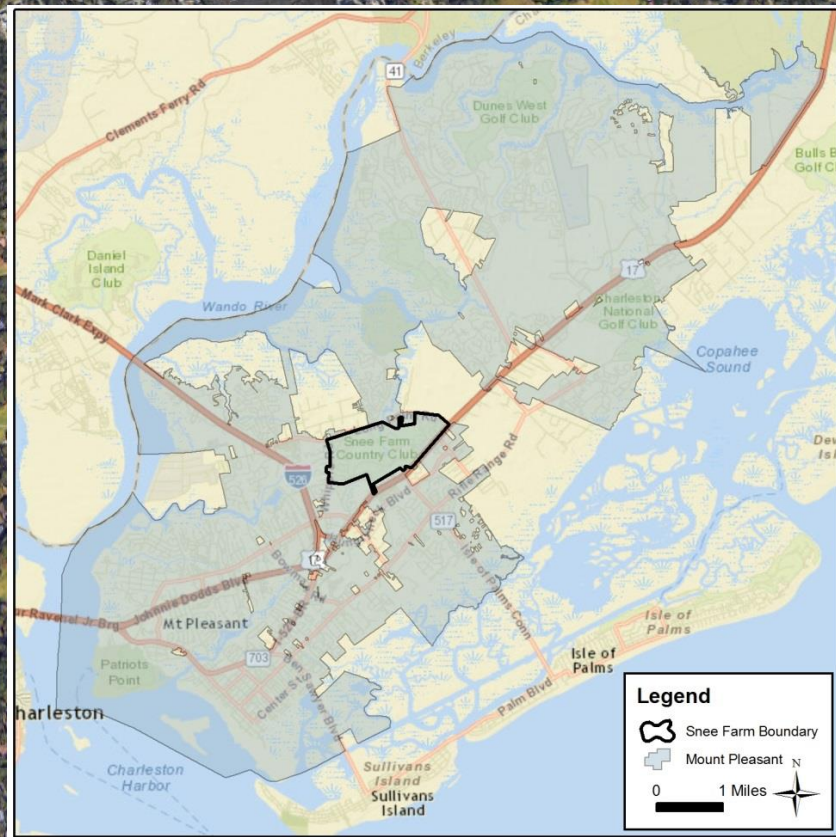




An aerial photograph of a suburban neighborhood. A winding river or stream flows through the center of the area, surrounded by lush green trees and grass. To the right of the river, there is a golf course with several green fairways and a clubhouse. The surrounding area is filled with residential houses, streets, and some commercial buildings. The overall scene is a mix of natural and developed land.

AGENDA:

- Overview of the Problem
- Determine the Solution
- Implement the Solution



Built in the 1970's-1980's
1.2 square miles (762 acres)

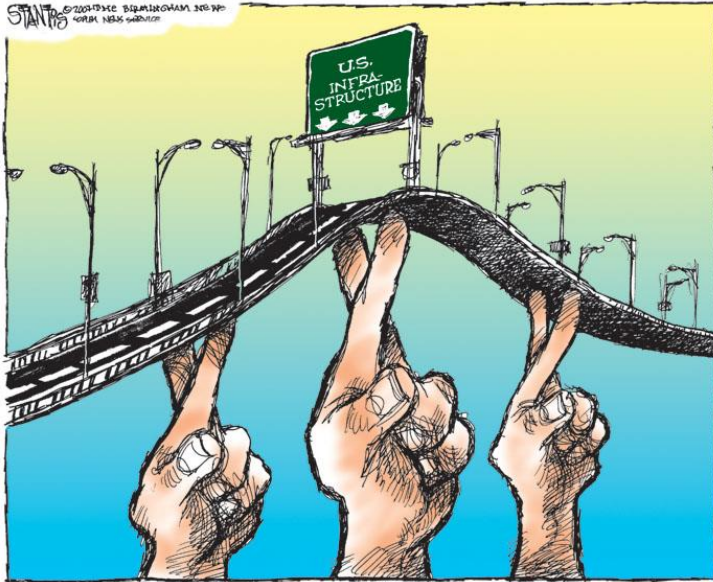




Overview of the Problem



Overview of the Problem



Overview of the Problem

Data Collected

(late 2015-early 2016):

Pipes: 464 (8.2 mi)

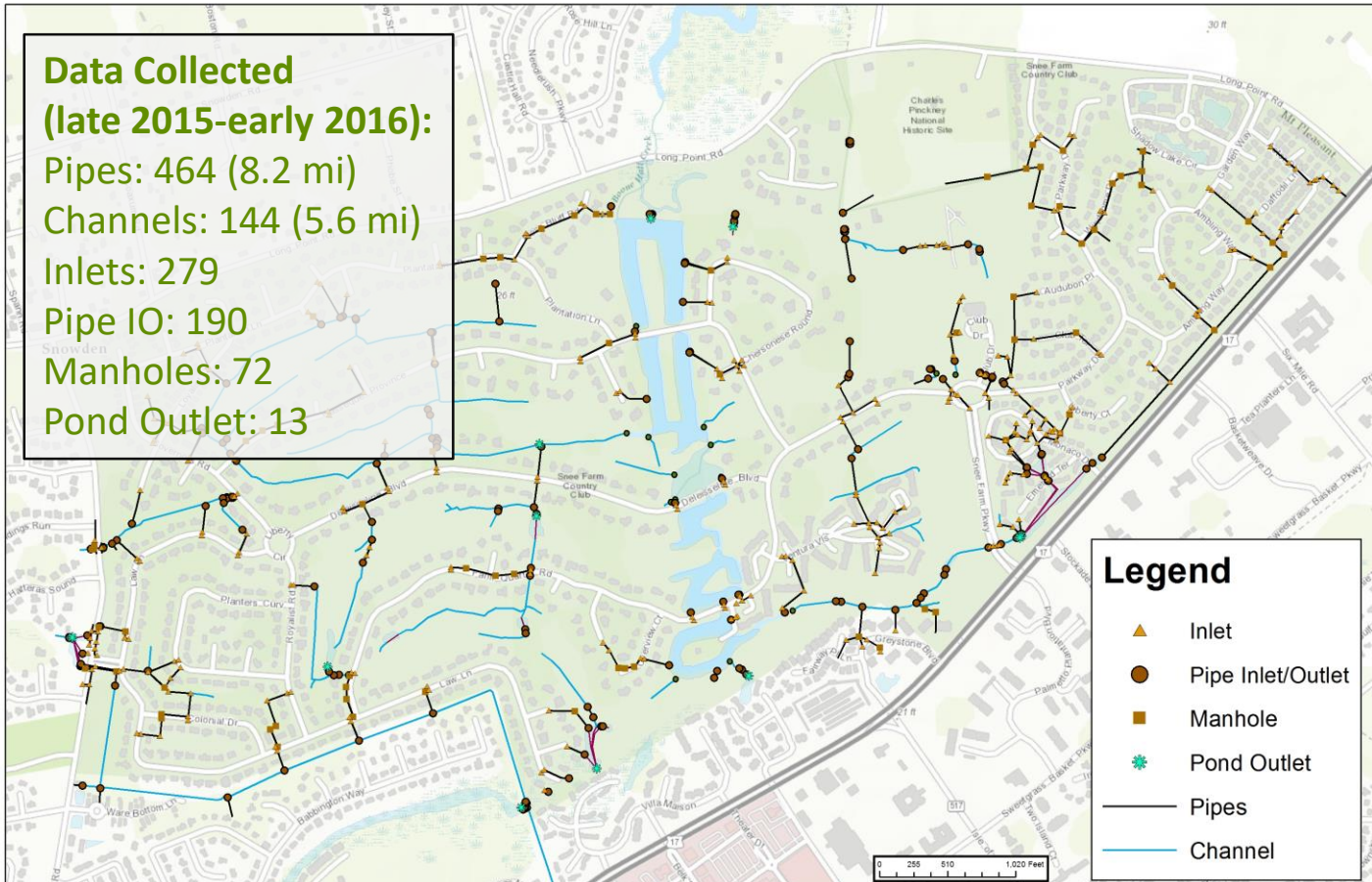
Channels: 144 (5.6 mi)

Inlets: 279

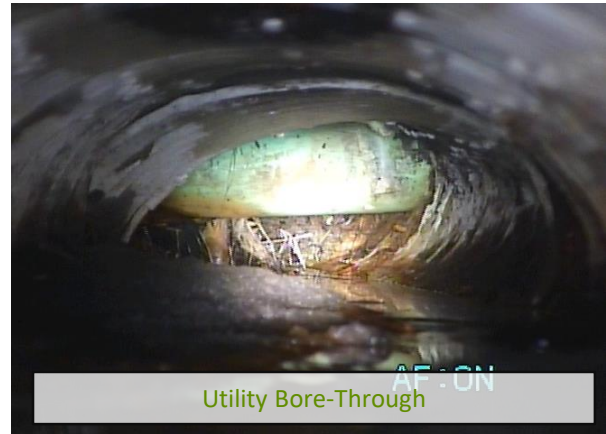
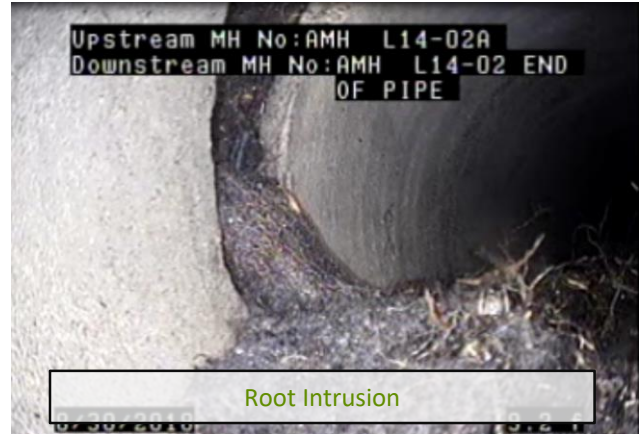
Pipe IO: 190

Manholes: 72

Pond Outlet: 13



Overview of the Problem



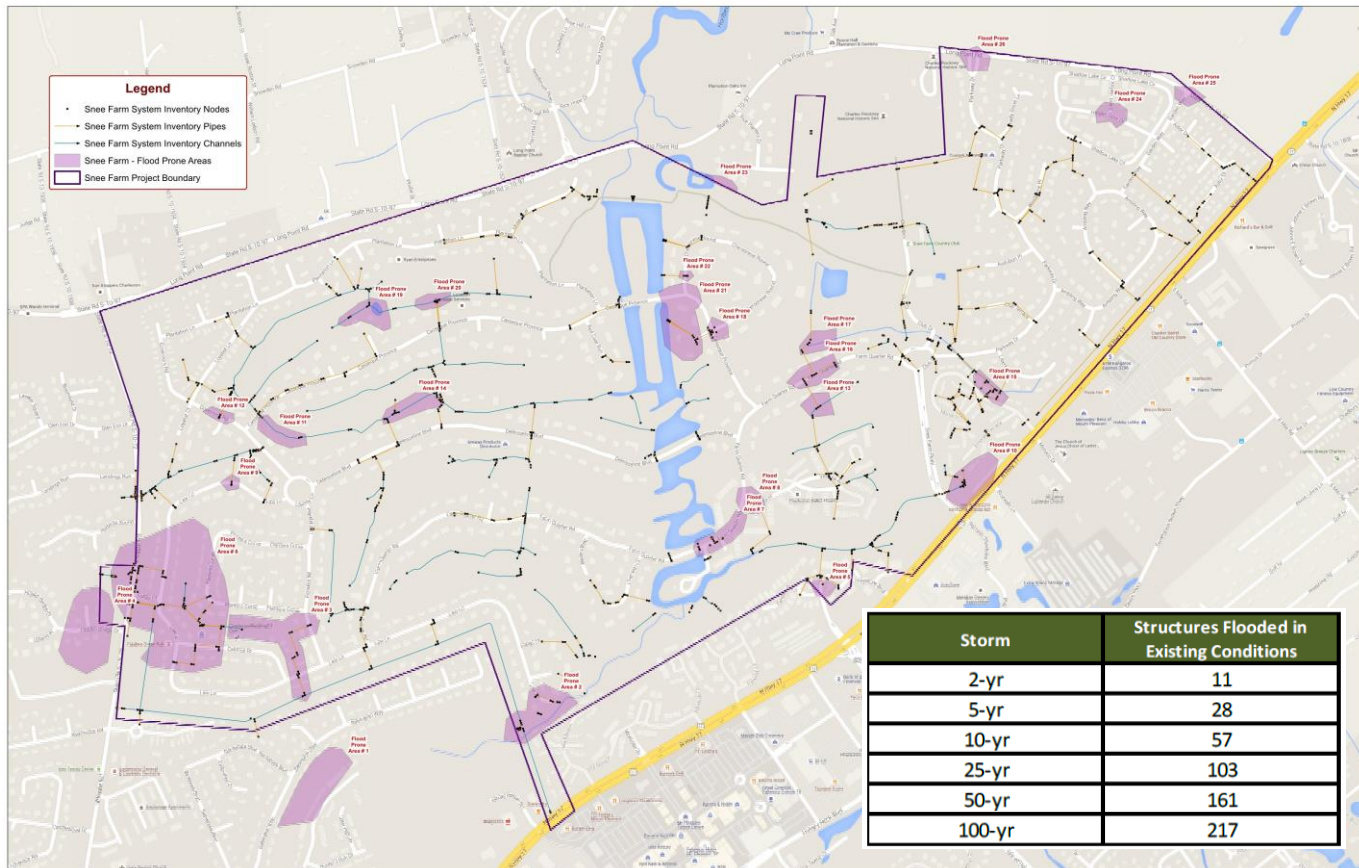
Overview of the Problem



Overview of the Problem



Overview of the Problem



Determine the Solution

1. Rehabilitate/Repair Failing Infrastructure
 - Corrugated metal pipes that are degraded/failed
 - An aging system
2. Alleviate Flooding
 - Systems that convey *public* water
 - Multiple *large* storm events in the past couple of years
 - Focus on *structural* flooding
3. Improve Water Quality

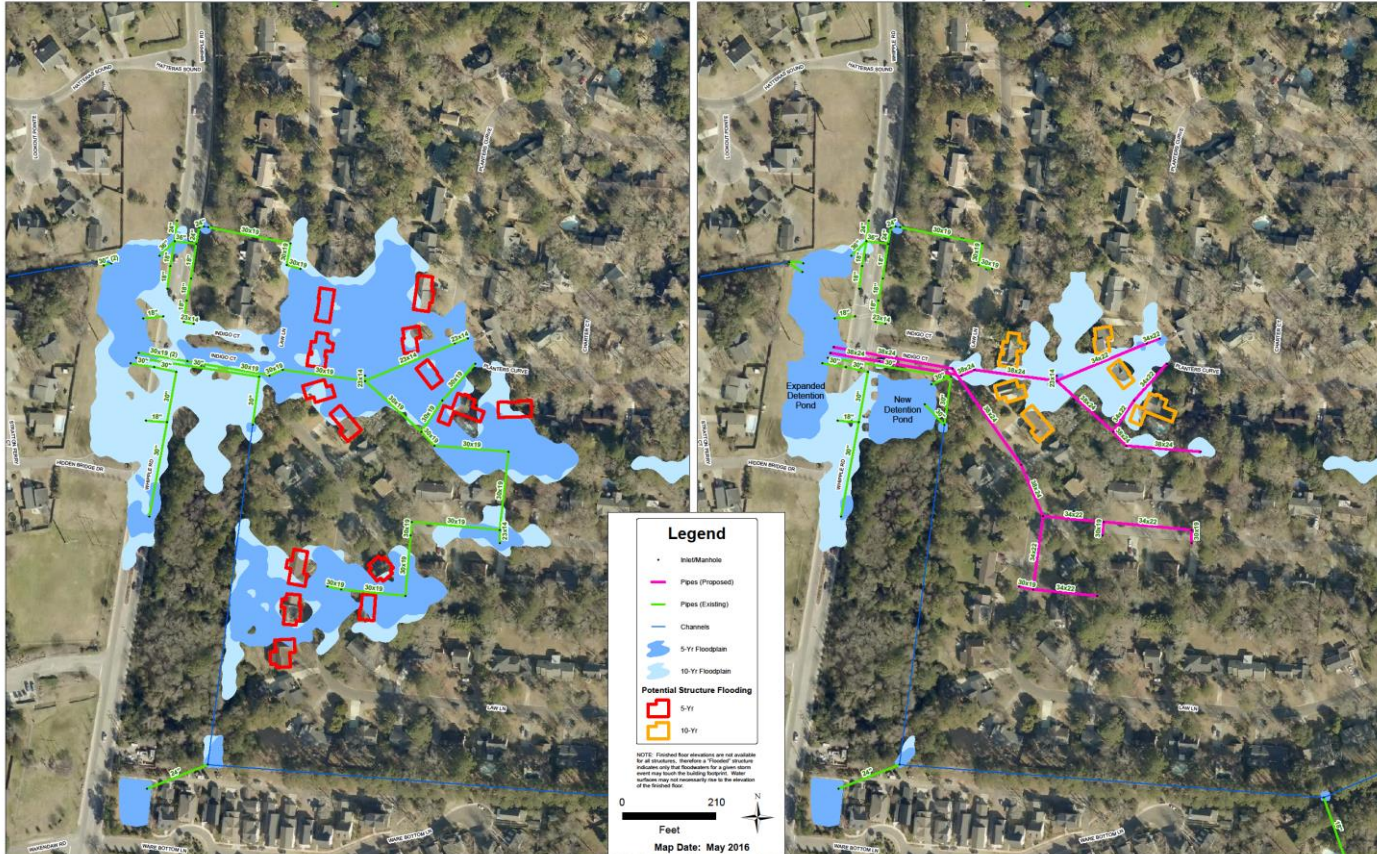


Determine the Solution

Snee Farm Flooding Assessment - Whipple Road Area

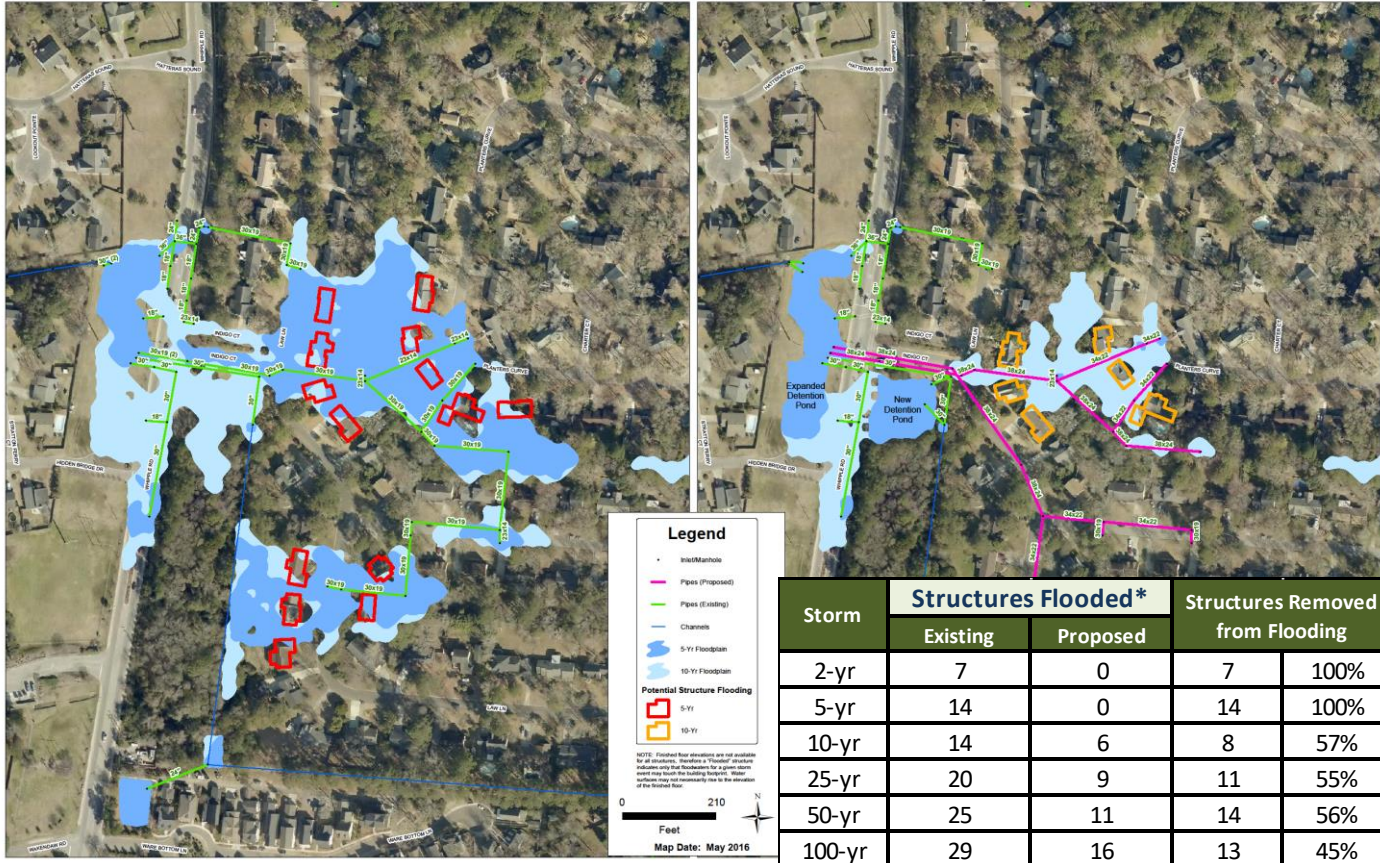
Existing Conditions

Proposed Conditions



Determine the Solution

Snee Farm Flooding Assessment - Whipple Road Area



Determine the Solution

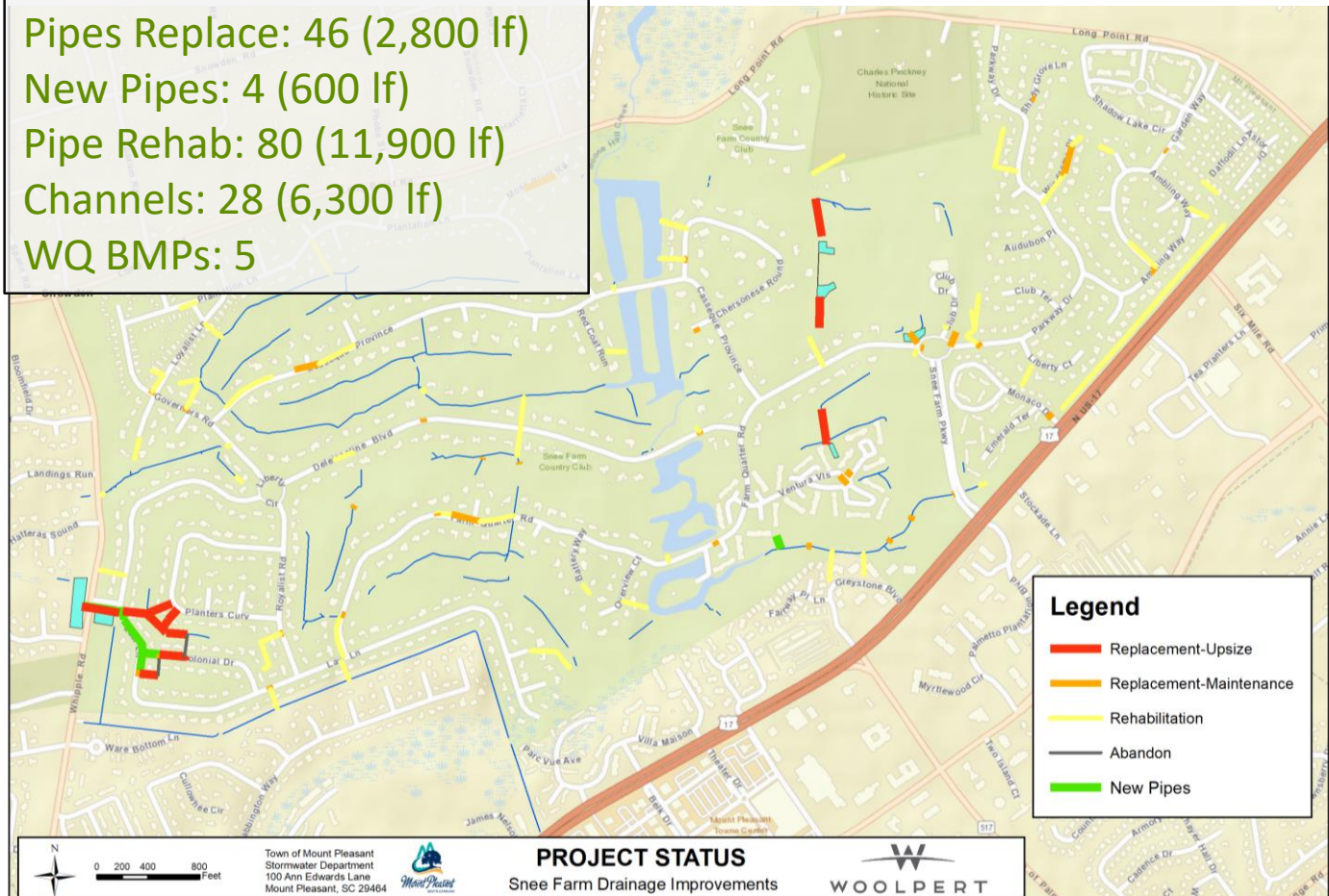
Pipes Replace: 46 (2,800 lf)

New Pipes: 4 (600 lf)

Pipe Rehab: 80 (11,900 lf)

Channels: 28 (6,300 lf)

WQ BMPs: 5



Implement the Solution



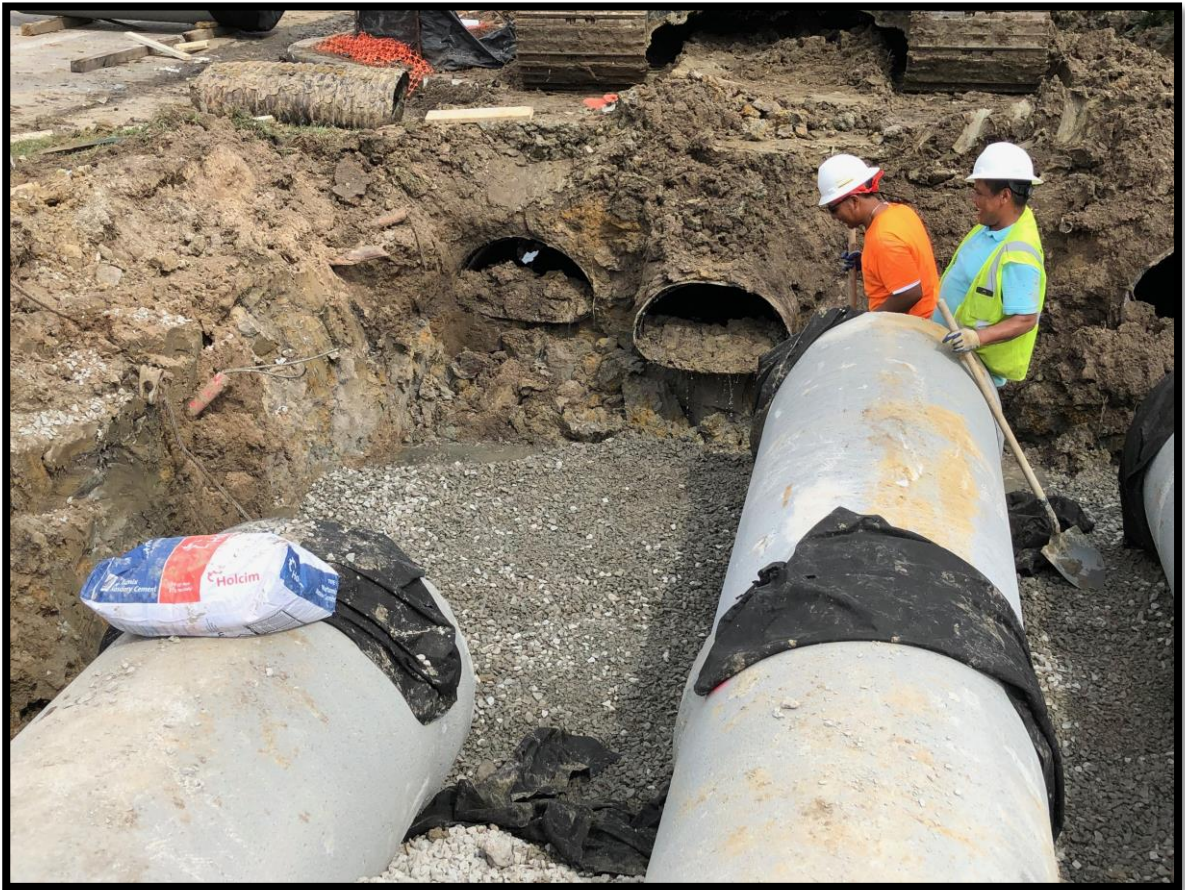
Implement the Solution

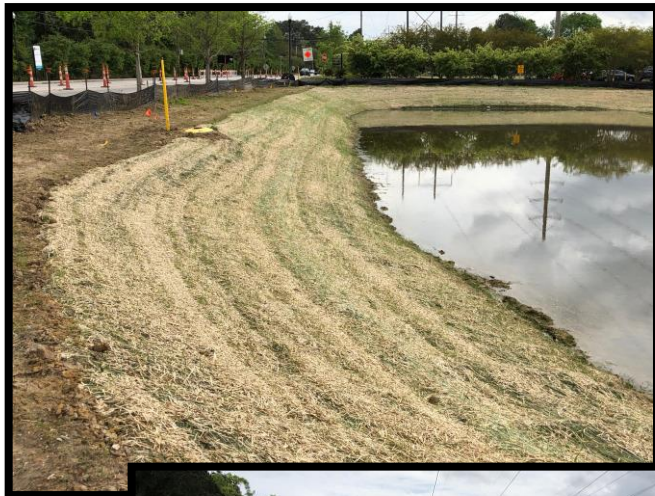
LET'S START DIGGING!















Field Adjustments





Expecting the Unexpected

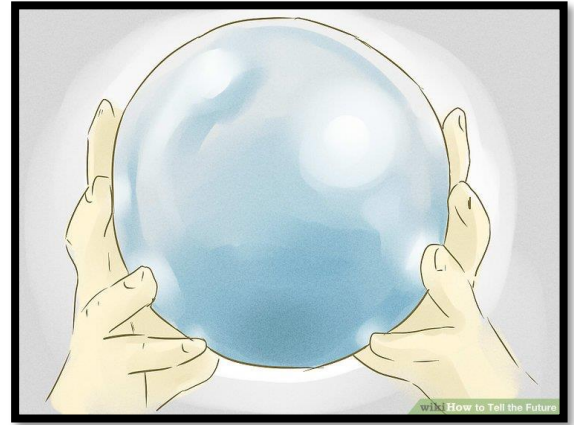








So....what does it take?



"I just got it! Life is not about instant gratification."

So....what does it take?

1. Communicate with the community
2. Maintain a good relationship with local businesses, HOAs, and groups
3. Construction Administration
4. Build a relationship with the site superintendents
5. Specifications
6. Plan and design, but....
7. **Expect the unexpected**





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