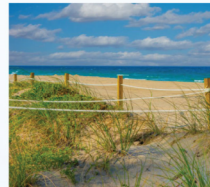
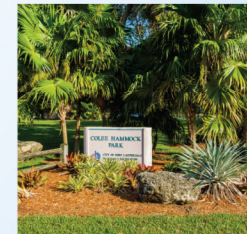




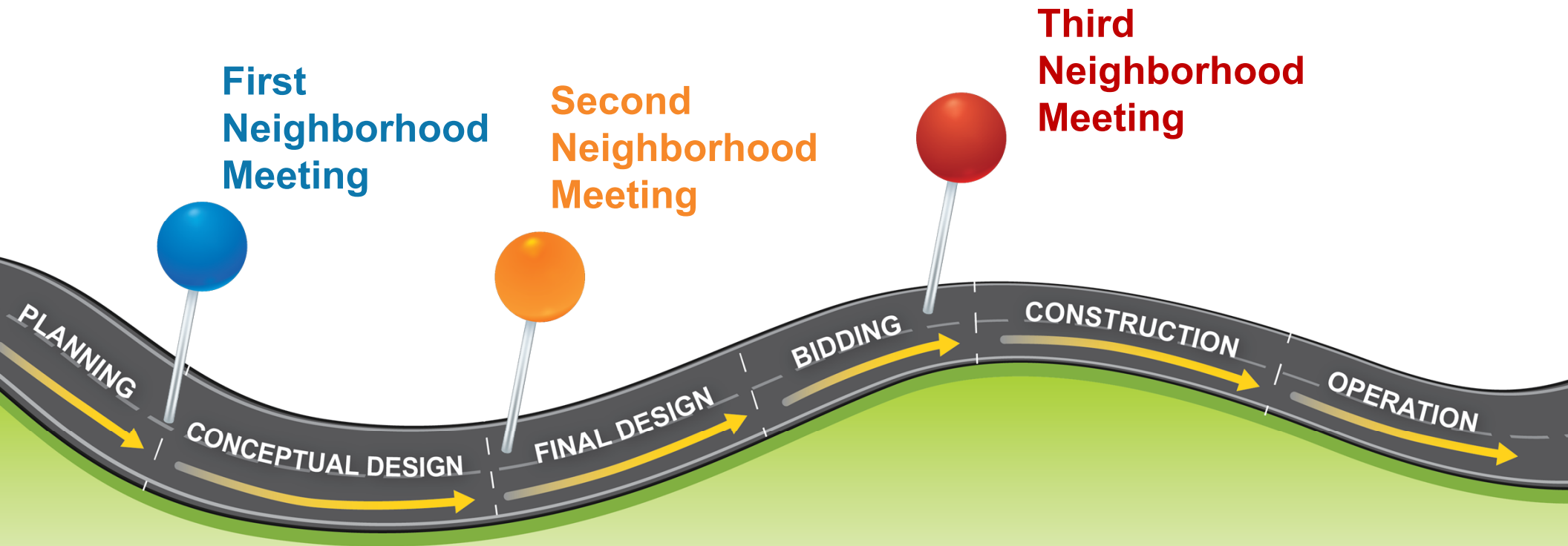
# Fortify Lauderdale

Building a Resilient Future  
in Fort Lauderdale



Tranche 2 Neighborhoods  
Stormwater Management Improvements  
City Project No. 12852  
Riverland Village, Chula Vista Neighborhoods  
& Adjoining Areas  
November 25, 2024 at 6:30pm

# The Road to Improvement in Your Neighborhood



## Meeting Objectives

- Give an overview of City's overall stormwater management program
- Give overview of current planning and conceptual design efforts for your neighborhood
- Gather your input and concerns about flooding events/conditions in your neighborhood
- Let you know what to expect next



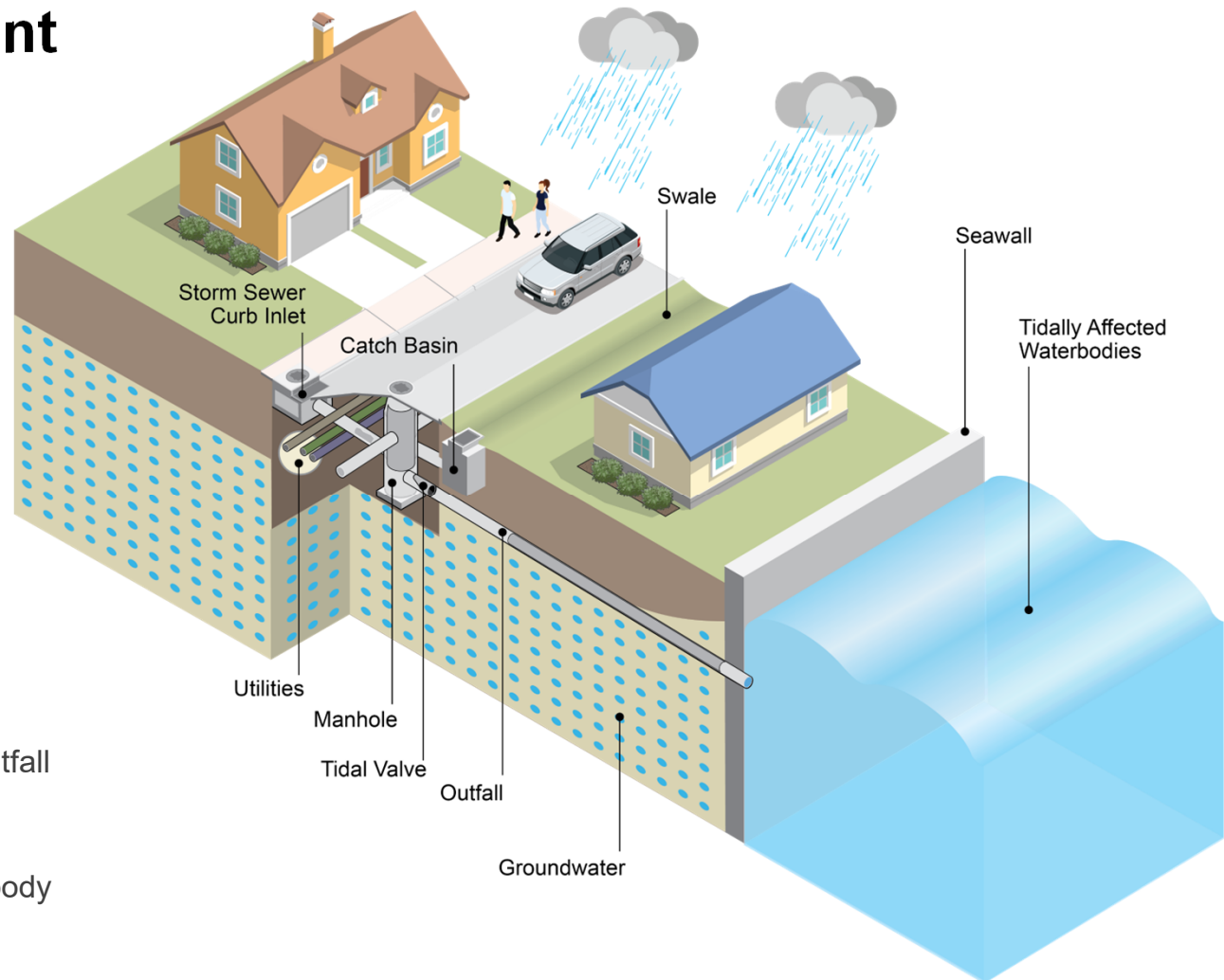
Residents

**"Best results achieved  
via collaboration"**

# Stormwater Management

## Stormwater Terminology

- Rainfall
- Groundwater
- Runoff
- Right-of-Way
- Swale
- Catch Basin/Curb Inlet
- Stormline
  - Gravity main
  - Force main
- Manhole
- Tidal Valve
- Discharge/Outfall
- Seawall
- Canal/Waterbody



# Common Stormwater System Features



**Swale**



**Inlet/Catch Basin**



**Curb Inlet**



**Tidal Valve**



**Outfall**

# Fortify Lauderdale

## Primary Goal:

*To Improve Resilience to Impacts of Climate Change within the City's Most Vulnerable Neighborhoods and Communities*

- Part of public investment includes stormwater improvements for 17 neighborhoods.
- The Fort Lauderdale Stormwater Program progress reports and events are posted on the City's website: <https://www.fortlauderdale.gov/fortifylauderdale>



**Fortify Lauderdale** Building a Resilient Future in Fort Lauderdale

## Fort Lauderdale Stormwater Program Progress Report

October 2024

**Work on the Stormwater/Resilience Master Plan continues to progress throughout vulnerable neighborhoods in the City.**

Updated project progress for Tranche 1 and Tranche 2 neighborhood is provided below. Work continues on planning efforts associated with the Tranche 2 neighborhoods, including updates to the City's existing stormwater model allowing simulation of current and future conditions to inform stormwater improvements.

**Tranche 1 Neighborhoods**  
Project Status Update:

- Construction substantially completed
- In Construction
- In Design

Community members actively participating in a previous public outreach meeting.

**Public Outreach Meetings for Tranche 2 Neighborhoods.**

The City is currently scheduling public outreach meetings, which will begin in October 2024 and continue through December 2024. Please check the Fortify Lauderdale website for the latest information on meetings in your neighborhood.

**Your input is essential**—stay informed and take part in shaping the future of your neighborhood at the upcoming meetings.

For updates and information: [www.fortlauderdale.gov/fortifylauderdale](https://www.fortlauderdale.gov/fortifylauderdale)

## Key steps to advance the Tranche 2 planning effort:

STEP  
**1**

Update the City's  
Master Plan Stormwater Model

STEP  
**2**

Conceptualize Needed  
Improvements

STEP  
**3**

Apply for a Conceptual Permit  
with Broward County

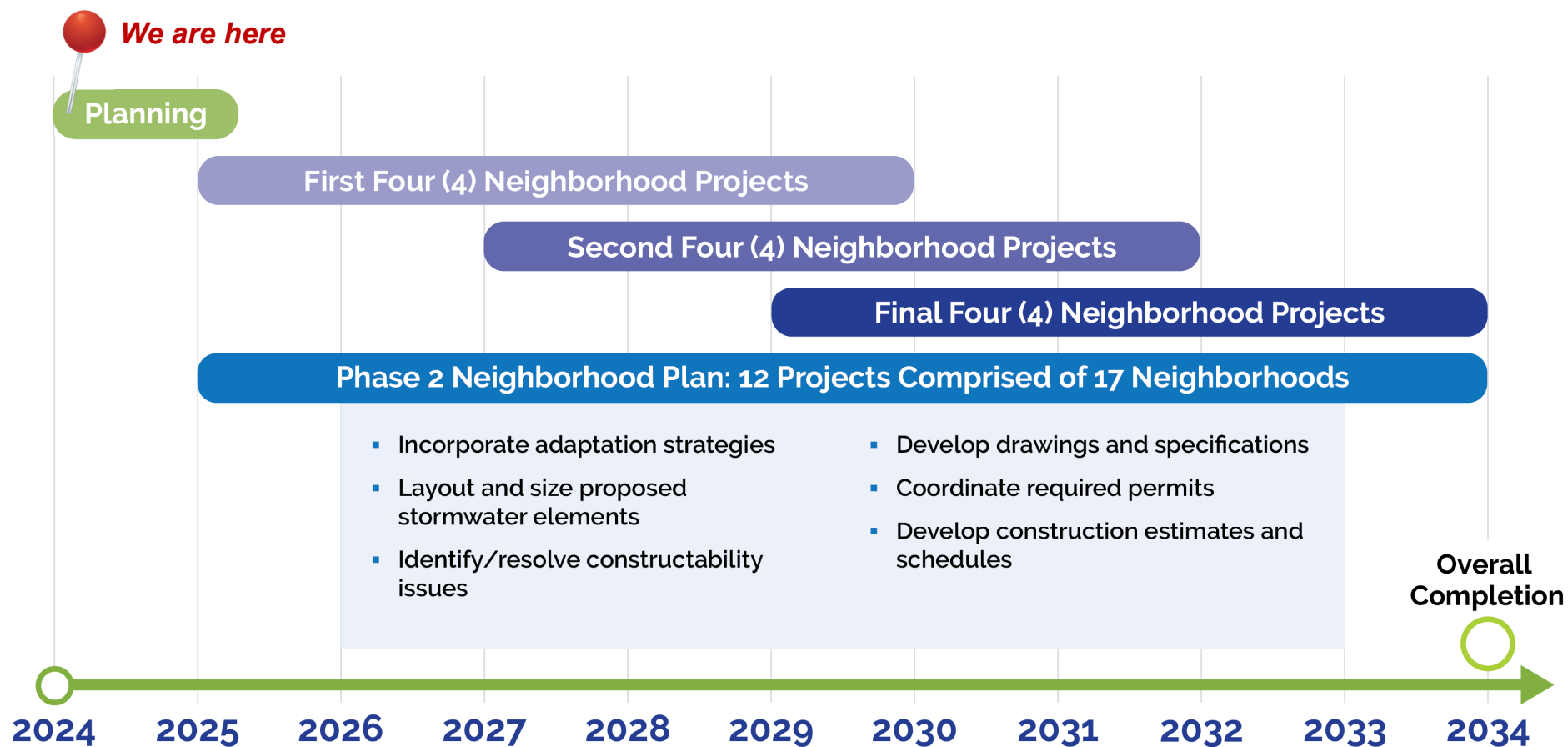
STEP  
**4**

Initiate Public Outreach,  
Engagement and Private Resiliency

STEP  
**5**

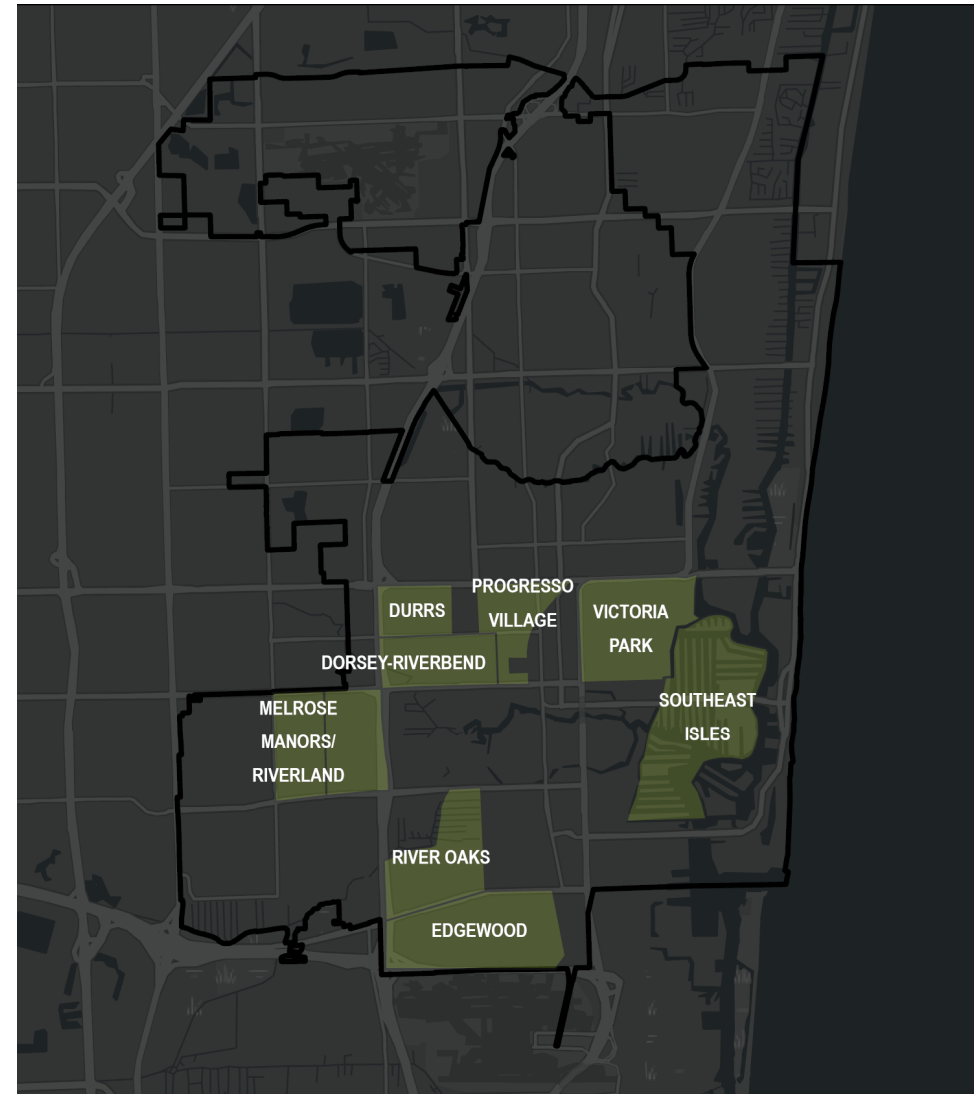
Develop Overall Program  
Management Plan

# The Phased Project Schedule plans for completion by 2034



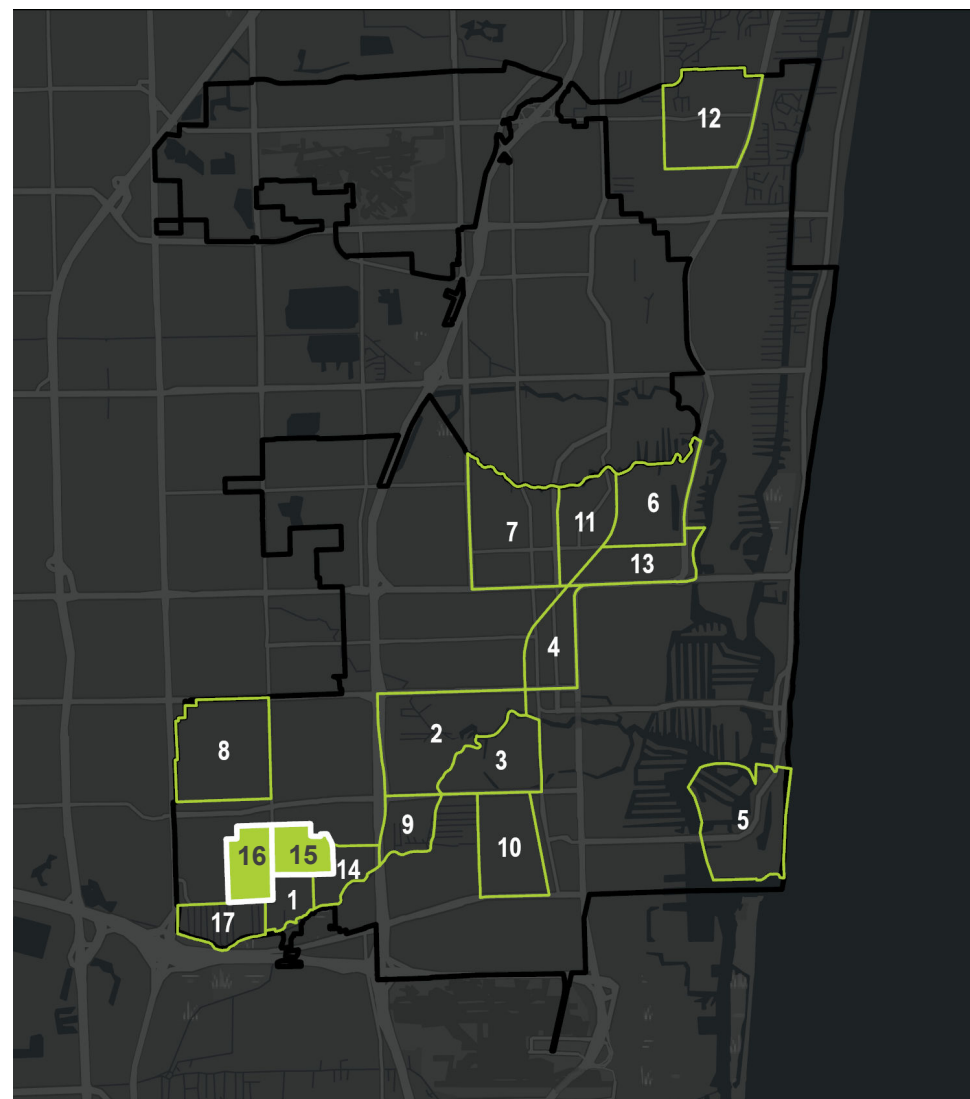
# Original Eight Neighborhoods

- Edgewood
- River Oaks
- Dorsey-Riverbend
- Durrs
- Progresso Village
- Victoria Park
- Southeast Isles
- Melrose Manors/Riverland



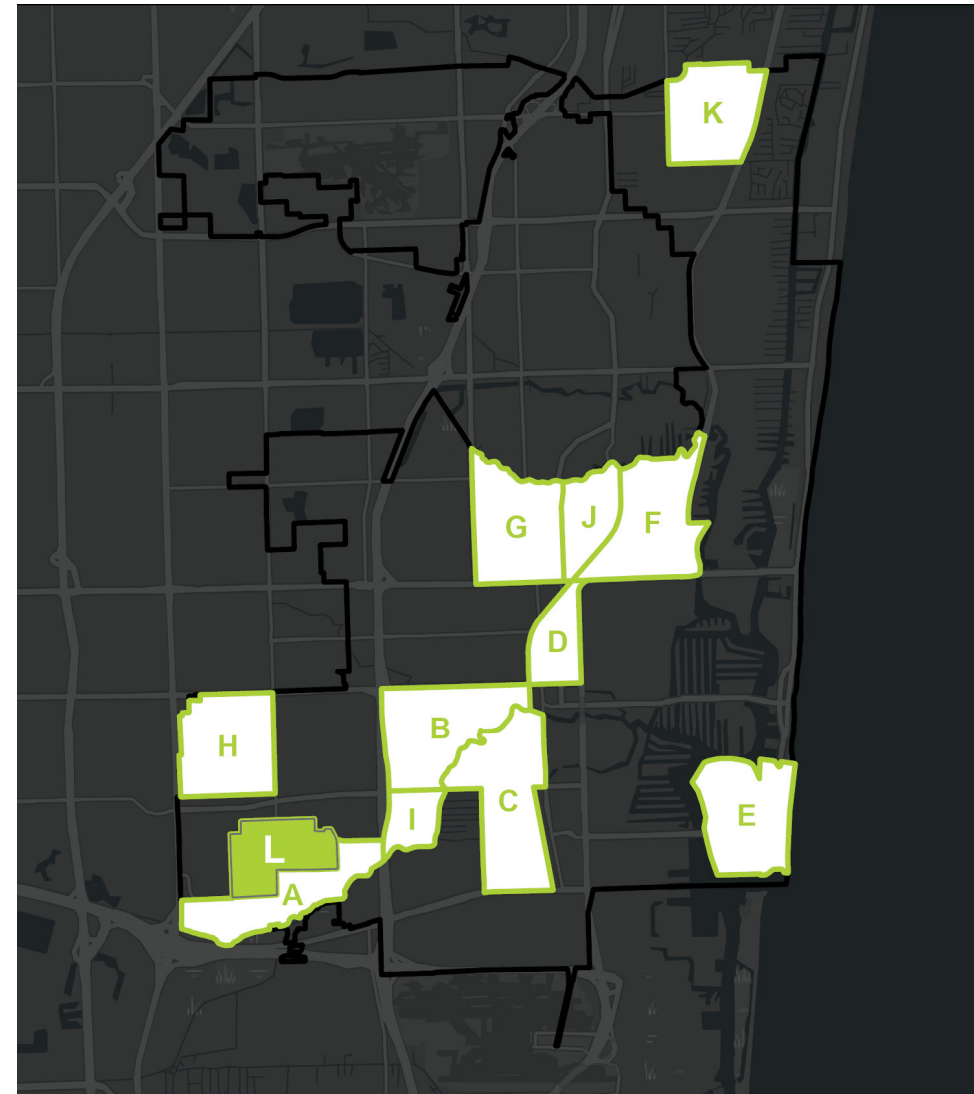
## Tranche 2 Neighborhoods

1. River Landings & Adjoining Areas
- 2a. Sailboat Bend
- 2b. Riverside Park
3. Tarpon River
4. Flagler Village
5. Harbour Isles & Adjoining Areas
6. Poinsettia Heights
7. South Middle River
8. Melrose Park
9. Shady Banks
10. Croissant Park
11. Middle River Terrace
12. Imperial Point
13. Lake Ridge
14. Riverland Manors/Woods & Adjoining Areas
15. Chula Vista & Adjoining Areas
16. Riverland Village
17. Lauderdale Isles



# Projects

- A. River Landings, Riverland Manors/Woods, Lauderdale Isles & Adjoining Areas
- B. Sailboat Bend and Riverside Park
- C. Tarpon River and Croissant Park
- D. Flagler Village
- E. Harbour Isles & Adjoining Areas
- F. Poinsettia Heights and Lake Ridge
- G. South Middle River
- H. Melrose Park
- I. Shady Banks
- J. Middle River Terrace
- K. Imperial Point
- L. Riverland Village, Chula Vista & Adjoining Areas



## The 17 Neighborhoods were consolidated into 12 Projects based on a variety of factors

- Proximity/Adjacency
- Similarity of hydrologic conditions and drainage infrastructure



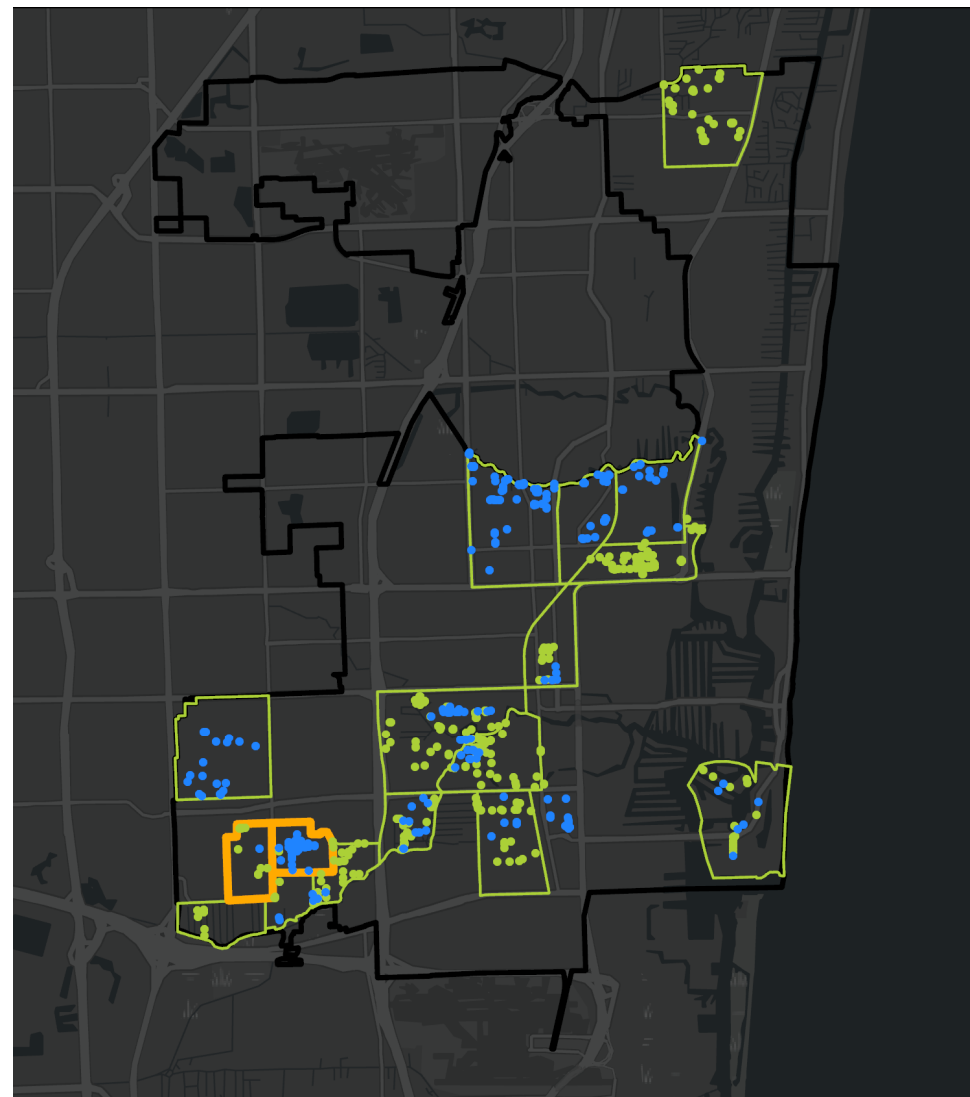
# Spatial coverage for data collection was widespread



Wet Weather Site Visits



Dry Weather Site Visits



## Data Collection Team used ArcGIS Survey123...

Swale Conditions  
Existing Infrastructure  
Outfall Conditions  
Mitigation Strategies



...and populated a PowerBI Dashboard

# Field Data Summary - Riverland Village



## Flooding

Nature of Flooding	Is There Drainage Infrastructure?
Isolated	Yes

## Outfalls

Existing Outfalls?	Accessible?
Yes	No

## Swales

Existing Swales?	Paved Swales?	Distribution	Grading Problems?
Yes	No	Widespread	Yes

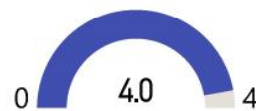
### Existing Critical Facilities

Sanitary Sewer Lift Station (3)  
School (1)

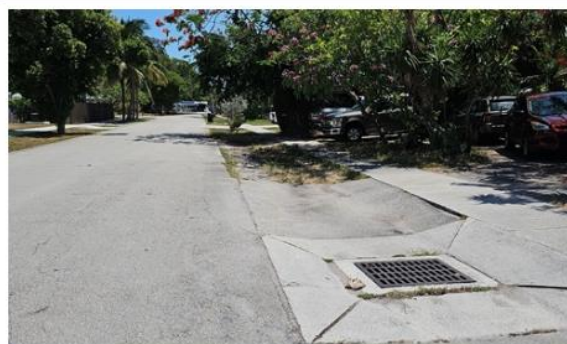
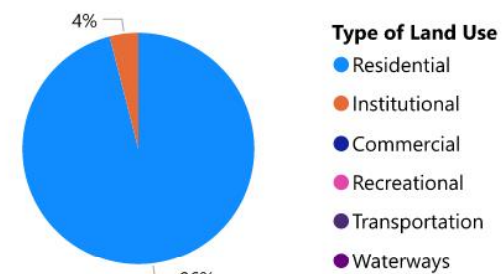
### Critical Facilities



### Buildings per Acre



## Land Use Distribution



# Field Data Summary - Chula Vista



## Flooding

Nature of Flooding	Is There Drainage Infrastructure?
Widespread	Minimal

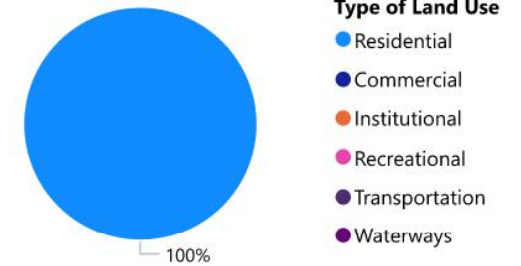
## Swales

Existing Swales?	Grading Problems?
Limited	Yes

## Outfalls

Existing Outfalls?	Accessible?
Yes	No

## Land Use Distribution



### Existing Critical Facilities

Sanitary Sewer Lift Station (1)

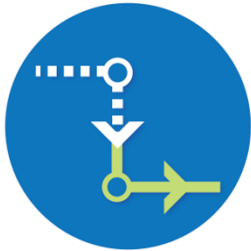
### Critical Facilities



### Buildings per Acre

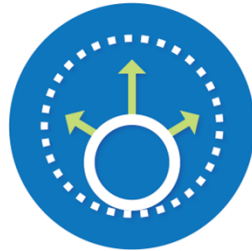


# A variety of potential adaptation strategies is proposed



Extend Drainage System

**DS**



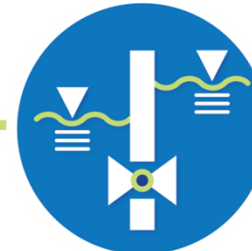
Increase Conveyance Capacity

**UP**



Install Pump Station

**PS-I**



Install Tidal Valve

**TV**



Capital Maintenance

**MA**



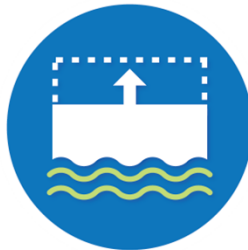
Private Resiliency Program

**PR**



Upgrade Existing Pump Station

**PS-U**



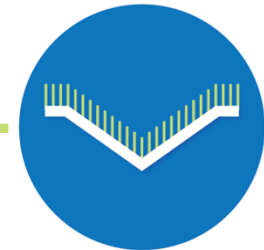
Raise Seawalls

**RS**



Grading Improvements

**GI**



Rehabilitate Grass Swales

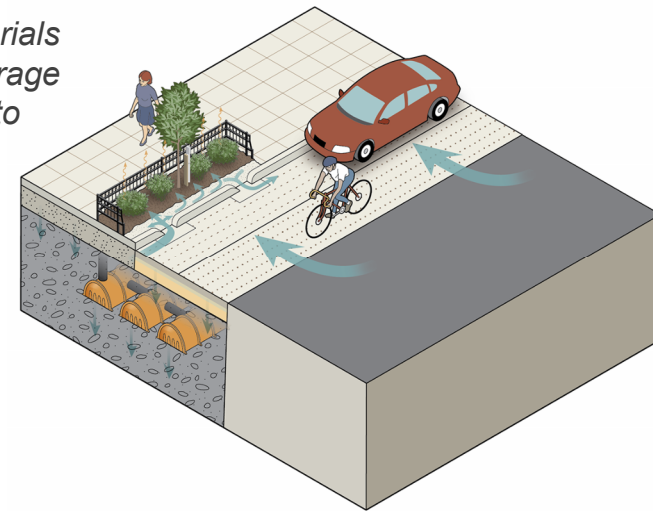
**SW**

# Green Infrastructure and Basin Storage



- Suitable Landscaping and Flood-Resistant Materials
- Enhanced Stormwater Storage or Ponds
- Bioswales and Bioretention
- Permeable Pavement or Pavers
- Rainwater Harvesting



*Green infrastructure/materials and non-conventional storage can be incorporated into adaptation strategies.*

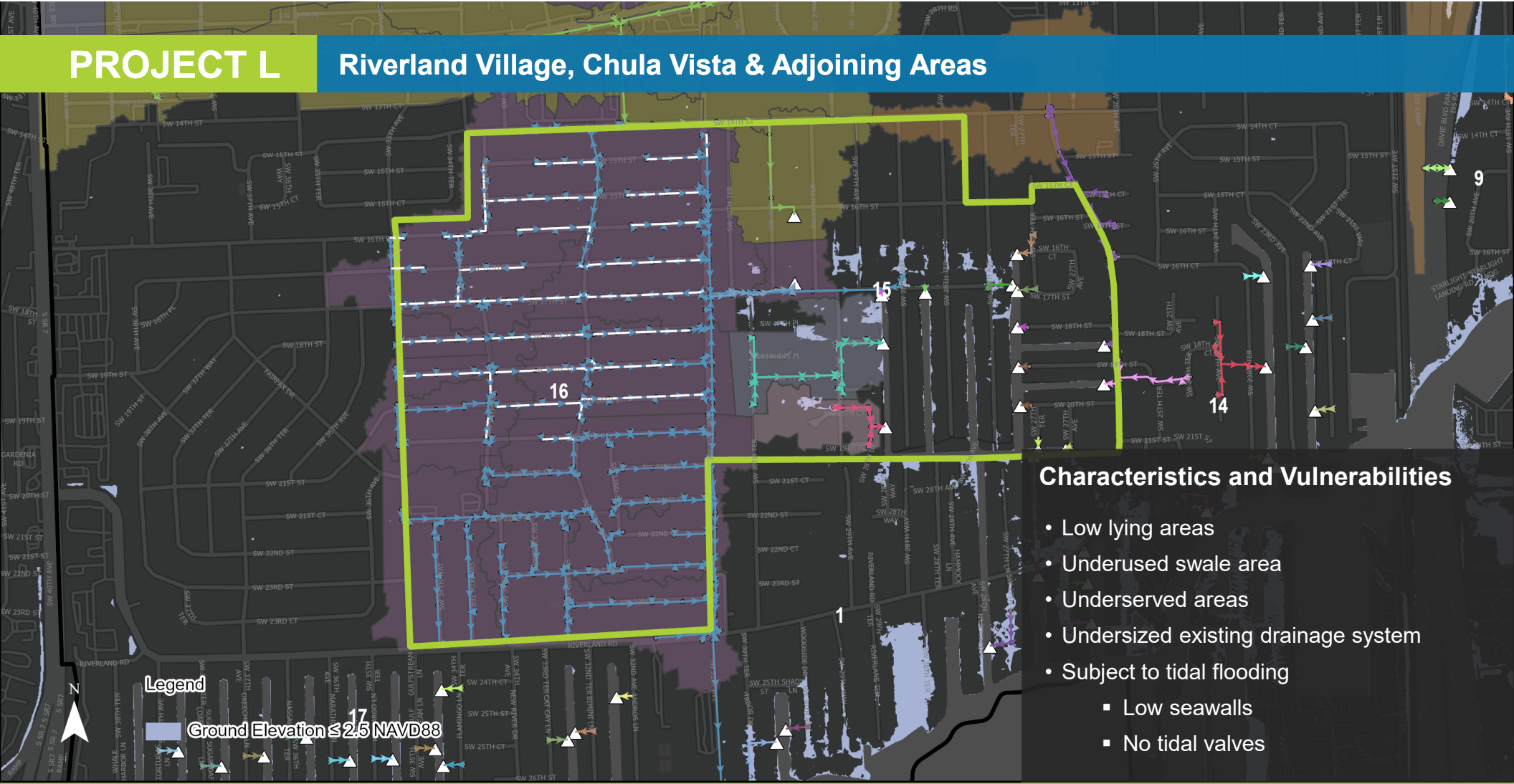


# Takeaway from Field Work & Desktop Analyses

		Adaptation Strategies									
											
Project	Tranche 2 Neighborhoods	DS	UP	PS-I	MA	PR	PS-U	RS	GI	TV	SW
A	Riverland Manors, Lauderdale Isles, River Landings & Adjoining Areas	✓		✓		✓		✓	✓	✓	✓
B	Sailboat Bend, Riverside Park & Adjoining Areas	✓	✓	✓		✓		✓		✓	✓
C	Tarpon River and Croissant Park	✓	✓	✓		✓		✓		✓	✓
D	Flagler Village		✓		✓	✓	✓				
E	Harbour Isles & Adjoining Areas		✓			✓				✓	
F	Lake Ridge and Poinsettia Heights	✓	✓	✓		✓			✓		✓
G	South Middle River	✓	✓	✓		✓			✓		✓
H	Melrose Park			✓	✓	✓					
I	Shady Banks	✓	✓	✓		✓				✓	✓
J	Middle River Terrace	✓	✓	✓		✓			✓		✓
K	Imperial Point	✓	✓			✓					✓
L	<b>Riverland Village, Chula Vista &amp; Adjoining Areas</b>	✓		✓	✓	✓		✓		✓	✓

# PROJECT L

## Riverland Village, Chula Vista & Adjoining Areas

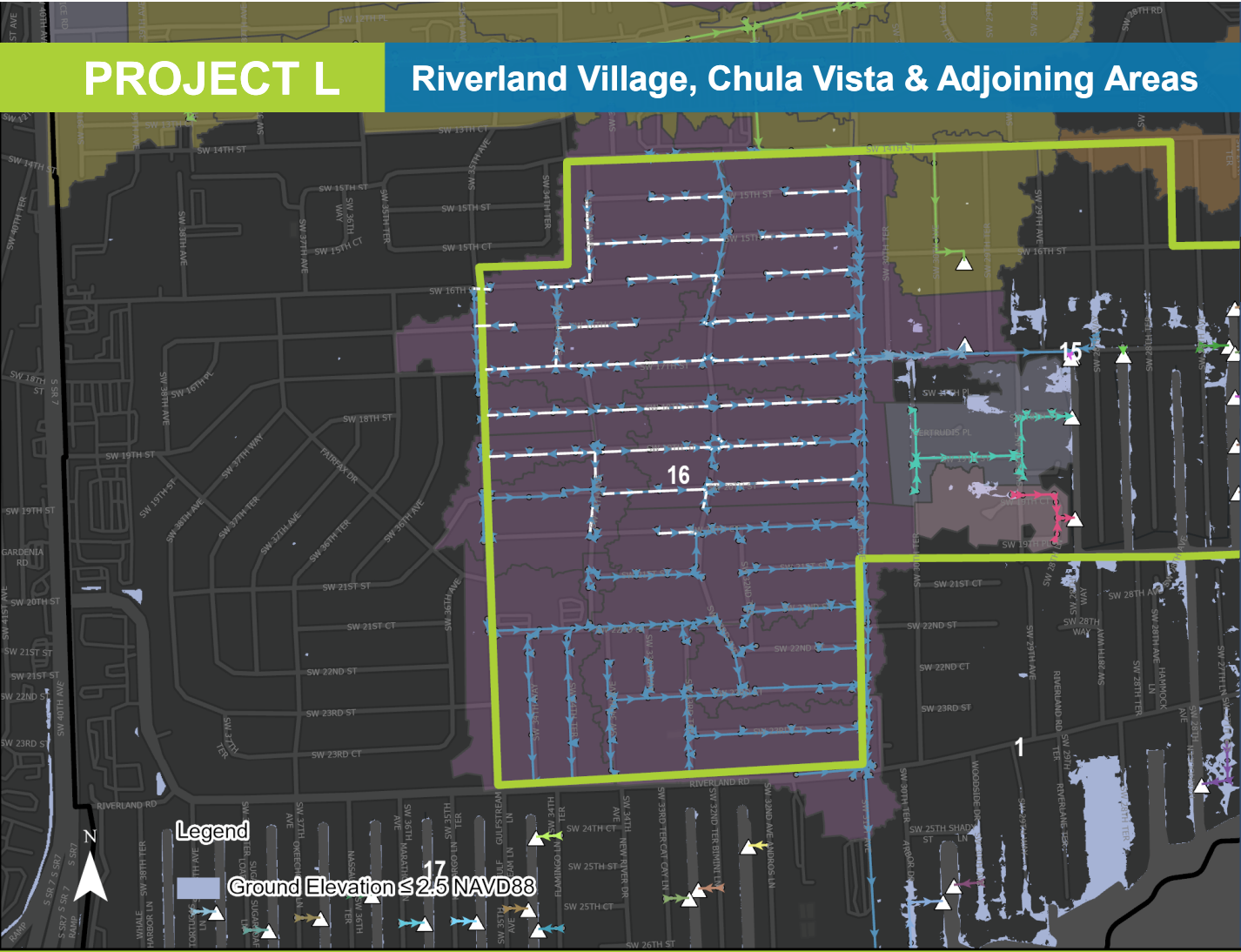


### Characteristics and Vulnerabilities







- Low lying areas
- Underused swale area
- Underserved areas
- Undersized existing drainage system
- Subject to tidal flooding
  - Low seawalls
  - No tidal valves

# PROJECT L

## Riverland Village, Chula Vista & Adjoining Areas



### Potential Adaptation Strategies

-  **Rehabilitate Grass Swales**
-  **Extend Drainage System**
-  **Raise Seawalls**
-  **Install Tidal Valve**
-  **Install Pump Station**
-  **Capital Maintenance**
-  **Private Resiliency Program**

## Neighbor's Input leveraging ArcGIS Survey123 to...

- Identify specific flooding locations
- Describe flooding experiences and associated impacts
- Identify primary concerns related to flooding
- Collect flooding photos/videos

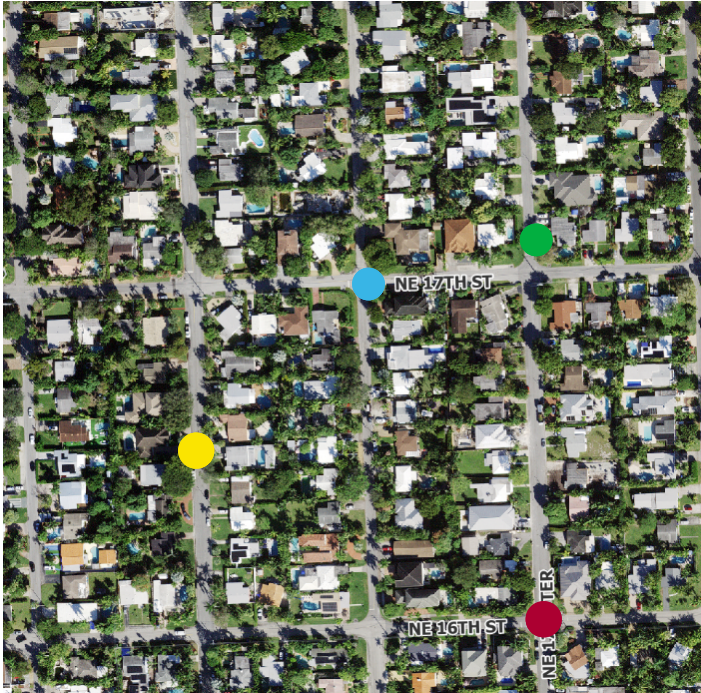


Please follow link  
via QR Code



<https://arcg.is/1fbTbj0>

## Data Collection – Flooding Locations



- Green Dot – Nuisance Ponding (< 6 inches)
- Blue Dot – Yard Flooding (except swale)
- Yellow Dot – Roadway Flooding (> 6 inches)
- Red Dot – Impassible Flooding (> 12 inches)

We are available with maps after the presentation to collect flooding location data in addition to the digital survey.

# What to Expect Next



- Field crews will continue to collect data in your area
- Collecting of information via survey (QR Code/link) or in person during neighborhood meetings
- Next meeting will include design recommendations for each neighborhood. Check Fortify Lauderdale website for meeting dates:  
<https://www.fortlauderdale.gov/fortifylauderdale>







**Fortify  
Lauderdale**  
Building a Resilient Future  
in Fort Lauderdale

Flood Survey



<https://arcg.is/1fbTbj0>

## Questions

-  Green Dot – Nuisance Ponding (< 6 inches)
-  Blue Dot – Yard Flooding (except swale)
-  Yellow Dot – Roadway Flooding (> 6 inches)
-  Red Dot – Impassible Flooding (> 12 inches)