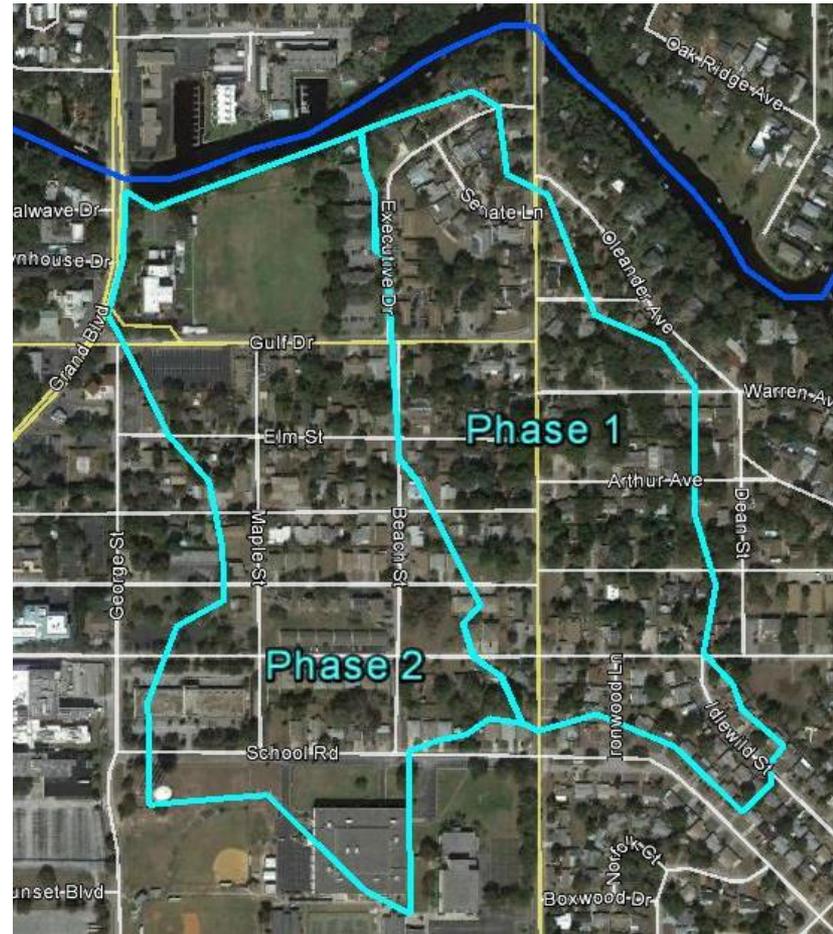


# RESTORE...

## Madison Street & Gulf Drive Stormwater Retrofit Project

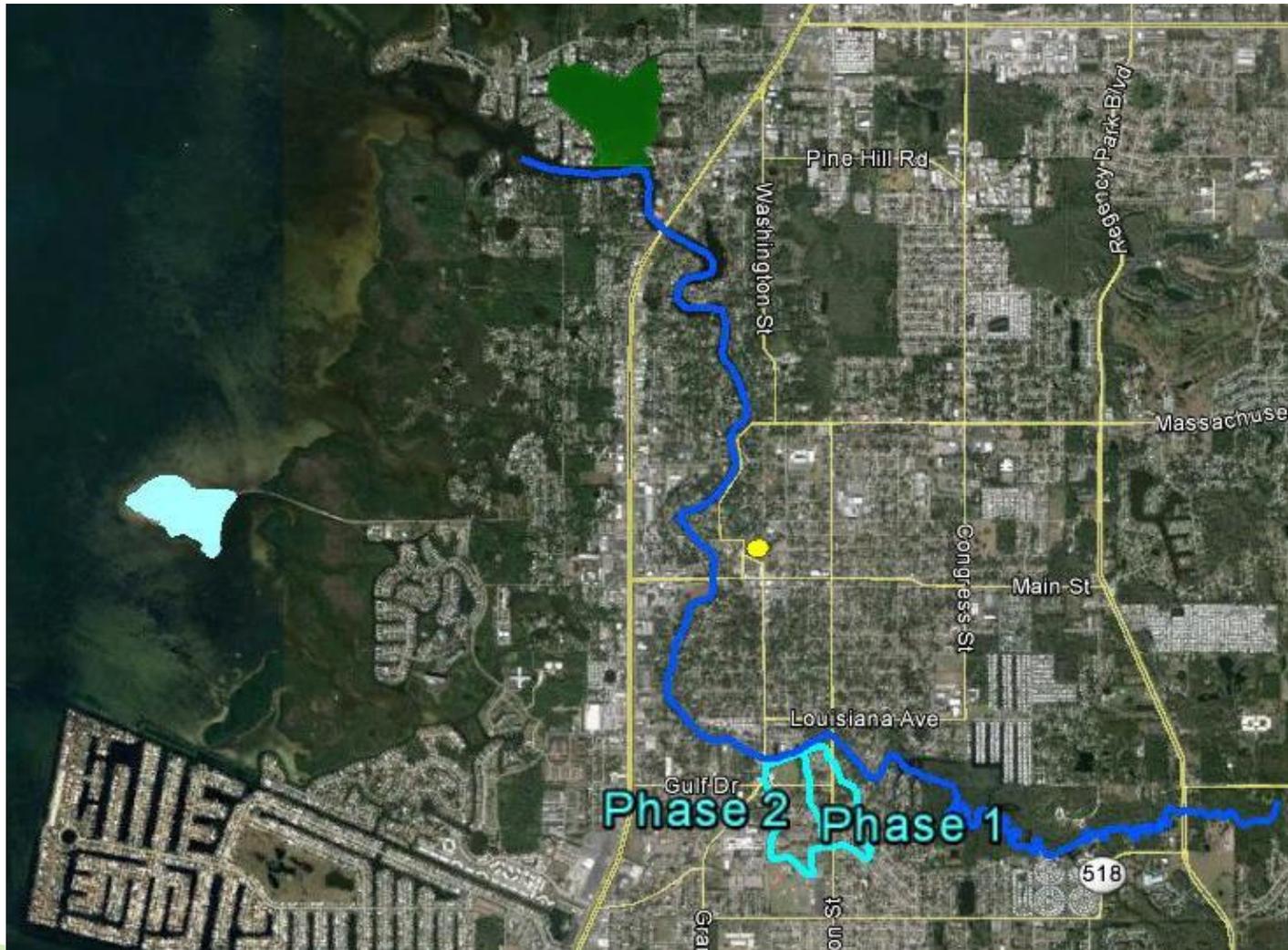


RESTORE

Advisory Committee  
GHS Environmental  
August 2016

Robert M. Rivera – City of New Port Richey  
Dana J. Gaydos – GHS Environmental

# What is planned?



# Project's Purpose



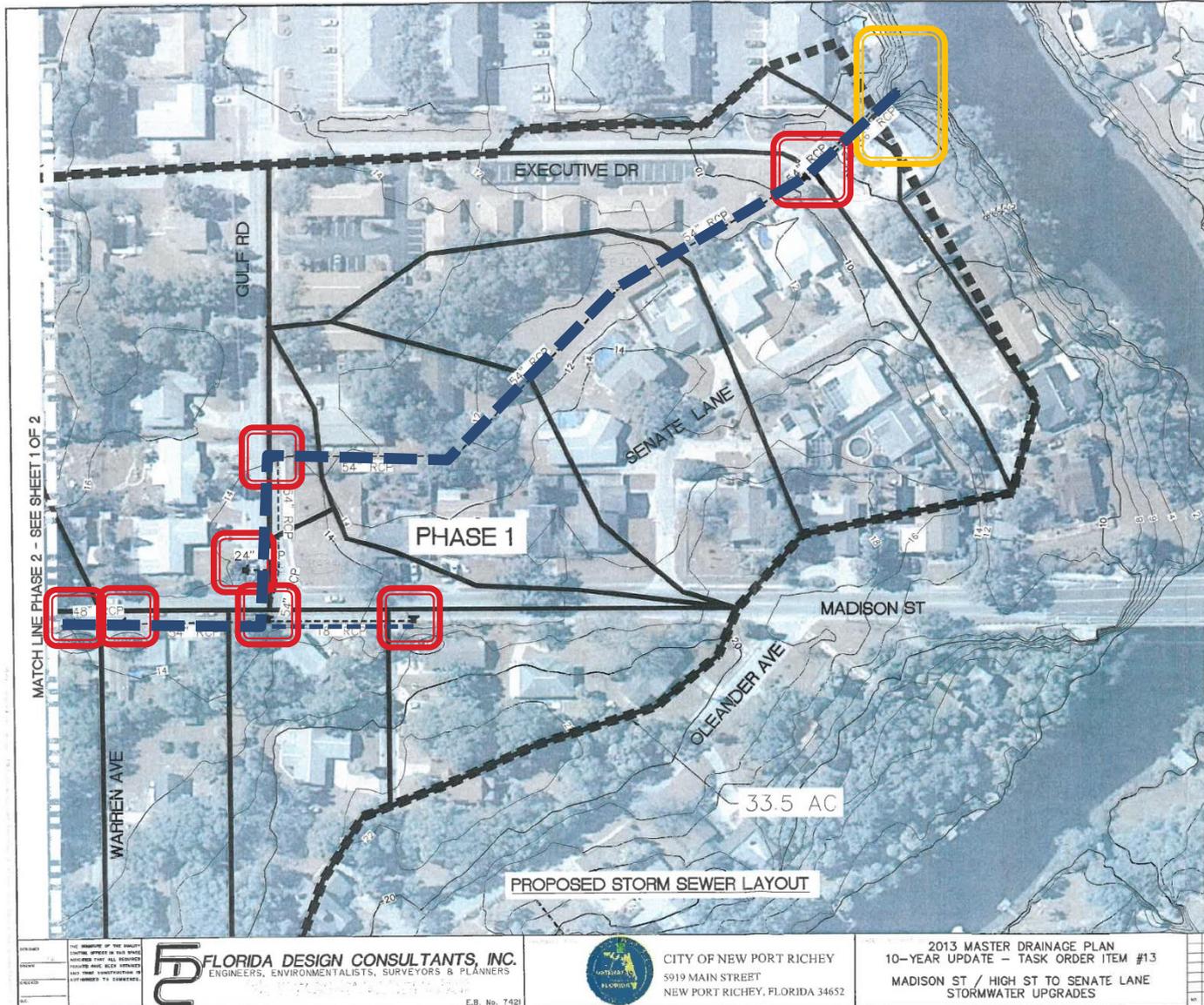
- Primary Function: Flooding Relief
  - Adds drainage structures and increase pipe sizes
- Additional Benefit: Water Quality
  - Proper BMP's will be embedded in the project based on NPR's 2015 River Basin study
- Additional Benefit: Life & Safety
  - Eliminate Repetitive Flooding located at a collector street intersection used by County and City Residents as a way to get to evacuation routes



# Project Overview – Phase 1

- ▶ Replace/Upgrade eight (8) stormwater drain inlets
  - ▶ Locations based on topographic sumps and historical flooding
- ▶ Construct 18-inch diameter DP
  - ▶ Leads to main drainage pipe
- ▶ Replace/Upgrade 54-inch diameter main DP
  - ▶ Leads to Cotee River
- ▶ Replace/Upgrade two 36-inch diameter outfalls
  - ▶ Will allow high rain discharge and alleviate flooding in these areas

# Phase 1



- Stormwater Drains
- 18-inch pipe
- 54-inch pipe
- 36-inch culverts

DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 THE NUMBER OF THE SHEET CONTAINING THIS SHEET IS INDICATED BY ALL NUMBERS FOLLOWING THIS SHEET NUMBER AND THE NUMBER OF SHEETS IN THIS PROJECT IS INDICATED BY THE NUMBER OF SHEETS IN THE PROJECT.

**FD** FLORIDA DESIGN CONSULTANTS, INC.  
 ENGINEERS, ENVIRONMENTALISTS, SURVEYORS & PLANNERS  
 11115 W. UNIVERSITY BLVD., SUITE 100  
 TAMPA, FLORIDA 33613-3000  
 TEL: 813.241.1111 FAX: 813.241.1112

E.B. No. 7421



CITY OF NEW PORT RICHEY  
 5919 MAIN STREET  
 NEW PORT RICHEY, FLORIDA 34652

2013 MASTER DRAINAGE PLAN  
 10-YEAR UPDATE - TASK ORDER ITEM #13  
 MADISON ST / HIGH ST TO SENATE LANE  
 STORMWATER UPGRADES

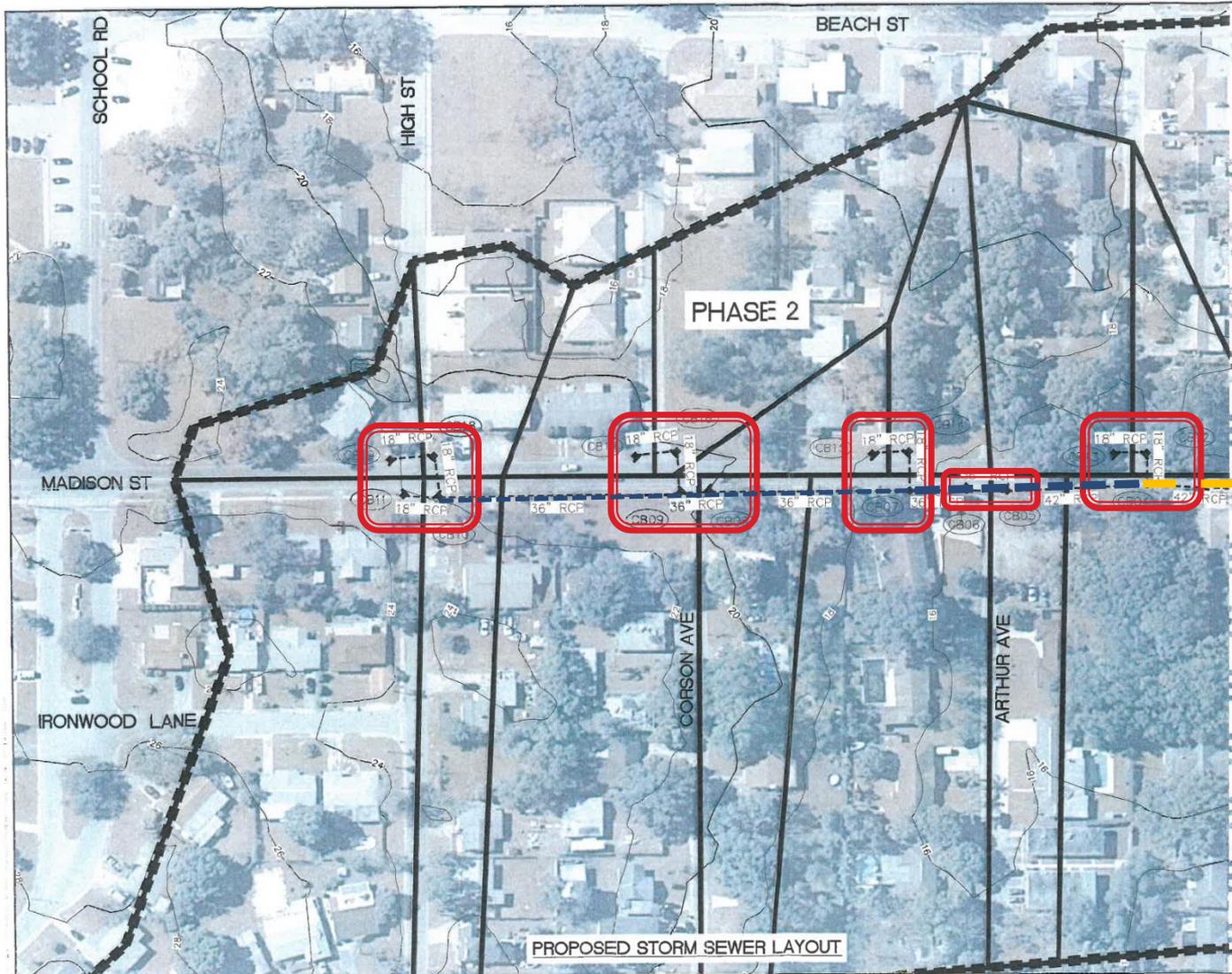


# Project Overview – Phase 2



- Construct sixteen (16) storm drain inlets
  - Locations based on topographic sumps and historical flooding
- Construct several 18-inch diameter DP
  - Leads to main drainage pipe
- Construct 36-inch diameter main DP
  - Connects into larger main drainage pipe
- Construct 42-inch diameter main DP
  - Connects into Phase 1 54-inch diameter main DP

# Phase 2



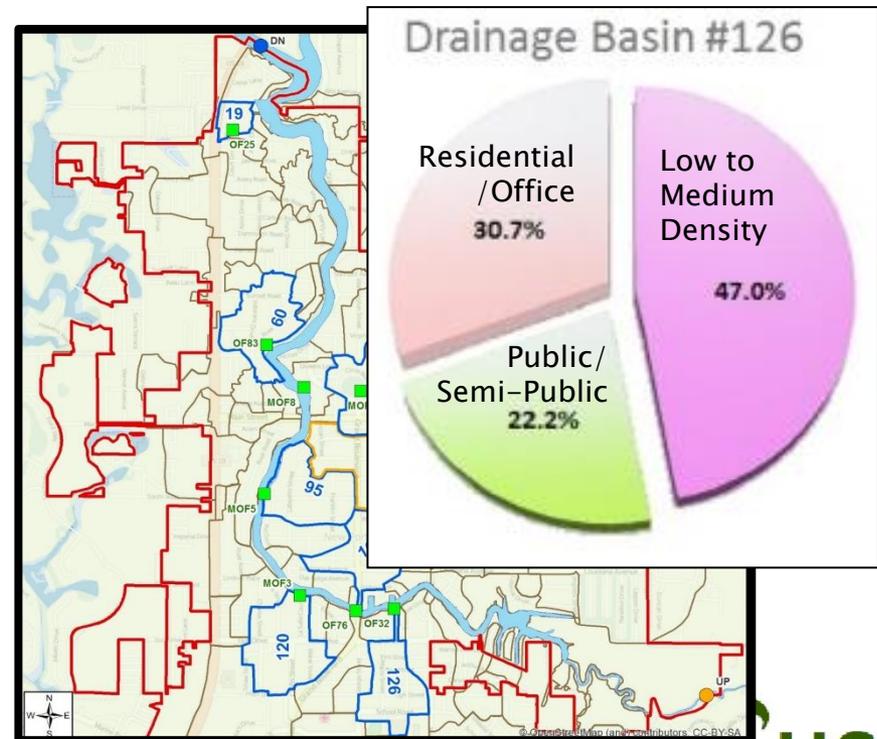
-  Stormwater Drains
-  18-inch pipe
-  36-inch pipe
-  42-inch pipe

Connects to  
Phase 1 thru  
42-inch pipe.



# Water Quality Benefits

- ▶ NPR conducted a city wide stormwater discharge assessment in 2015
- ▶ Included Drainage Basin #126 (includes Phases 1 & 2)
- ▶ All stormwater drainage discharges to the Cotee River
- ▶ DB #126 exceeded Class III Surface Water Standards:
  - ▶ Copper
  - ▶ Zinc
  - ▶ Total Nitrogen
  - ▶ Dissolved Orthophosphate
  - ▶ Total Phosphorus
- ▶ Project design is to include specific BMP's for proper treatment

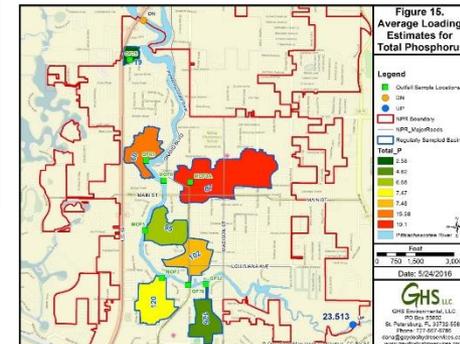
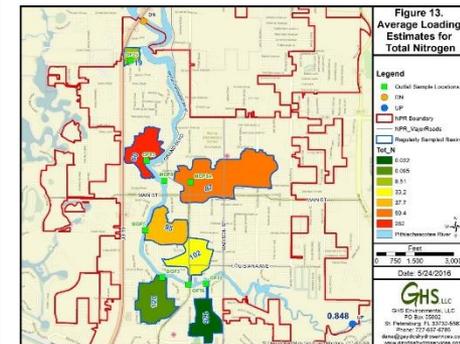
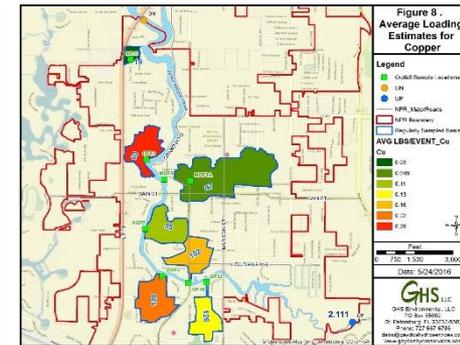


# Drainage Basin #126

Drainage Basin	Reporting Units	NNC Cotee Estuary	62-302 Fresh Surface Water	62-777 Fresh Surface Water	62-777 Marine Water	UP	126
<b>Herbicides</b>							
2,4,5-T	ug/l			140	140	U	U
2,4-D	ug/l			80	80	0.035	U
Dicamba	ug/l			200	200	U	U
Pentachlorophenol	ug/l		8.2			U	0.015
<b>Metals</b>							
Chromium	mg/l		0.011	0.011	0.05	U	0.0014
Copper	mg/l		0.0037			0.00049	<b>0.0077</b>
Lead	mg/l		0.0085			U	0.0019
Nickel	mg/l		0.0083			U	0.0010
Zinc	mg/l		0.086			0.0025	0.08
<b>Oil &amp; Grease</b>							
HEM (Oil & Grease)	mg/l		5.0			0.17	0.98
<b>Nutrients</b>							
<b>Ammonia as N</b>							
Nitrogen, Kjeldahl	mg/l		0.2			U	U
Nitrate as N	mg/l					0.77	1.8
Nitrate Nitrite as N	mg/l					0.058	0.19
Nitrite as N	mg/l					0.074	0.17
<b>Total Nitrogen</b>	mg/l	0.65				<b>0.85</b>	<b>1.9</b>
Dissolved Orthophosphate	mg/l	0.034				<b>0.051</b>	<b>0.28</b>
<b>Total Phosphorus</b>	mg/l	0.034				<b>0.061</b>	<b>0.36</b>
<b>Ionic Measurements</b>							
Chloride	mg/l					59	4.4
Total Dissolved Solids	mg/l					215	36
Total Suspended Solids	mg/l					2.0	83
<b>Microbiology</b>							
Coliform, Total	cfu/100ml		800			22,750	877,125
Coliform, Fecal	cfu/100ml		800			676	629,163

Notes:  
 cfu/100ml - colony forming units per 100 milliliters  
 mg/l - milligrams per liter  
 ug/l - micrograms/liter

Notes:  
**BOLD** - Indicates the value is above an acceptable concentration.  
 TNTC - Too Numerous To Count  
 U - Indicates that the compound was analyzed for but not detected.

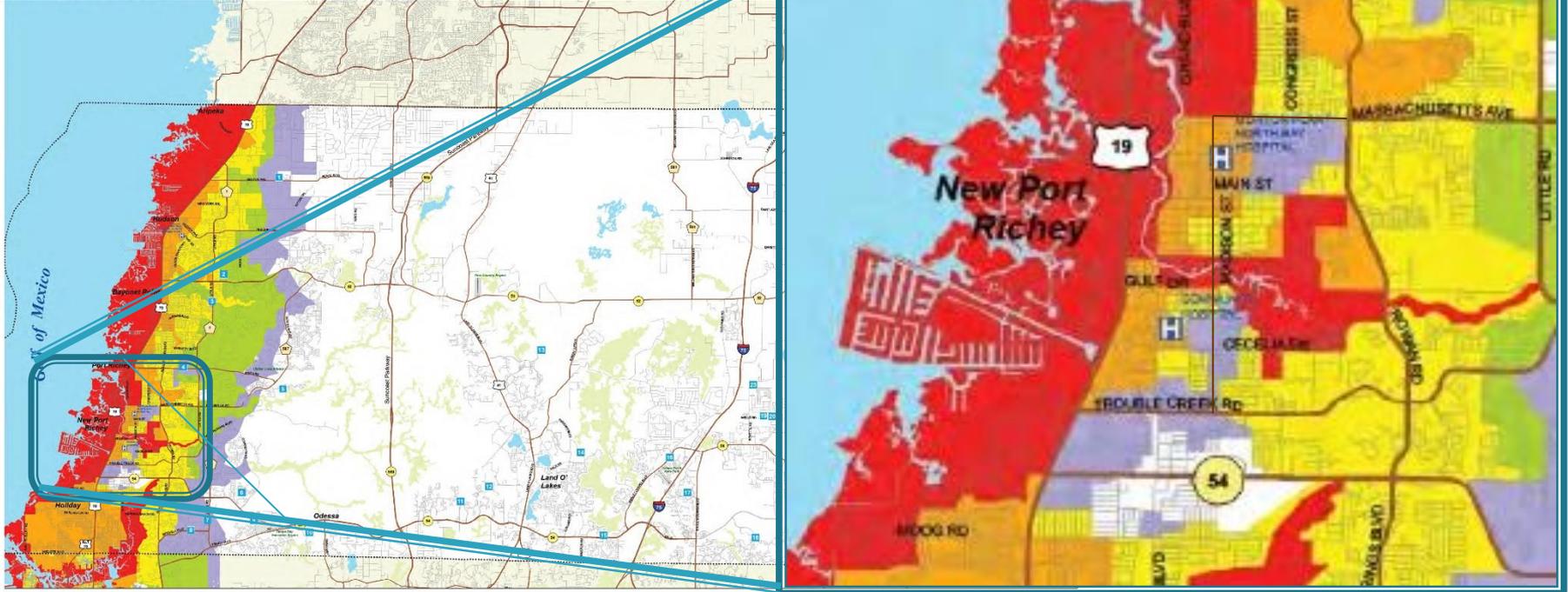


# Life & Safety



## PASCO COUNTY

### EVACUA



**Hurricane Watch:**  
An announcement that hurricane conditions (sustained winds of 74 mph or higher) are possible within the specified area. The hurricane watch is issued 48 hours in advance of the anticipated onset of tropical-storm-force winds.

**Hurricane Warning:**  
An announcement that hurricane conditions (sustained winds of 74 mph or higher) are expected somewhere within the specified area. The hurricane warning is issued 36 hours in advance of the anticipated onset of tropical-storm-force winds.

Source: <http://www.fhc.noaa.gov/outlookss.shtml>

SAFFIR-SIMPSON HURRICANE WIND SCALE	
CATEGORY	WIND SPEED (MPH)
Category 1	74 to 95
Category 2	96 to 110
Category 3	111 to 129
Category 4	130 to 156
Category 5	157 and over

LEGEND	
<b>Evacuation Levels</b>	<b>Potential Storm Tide Heights (FT)</b>
Level A: Evacuate red areas and all manufactured home residents	To 0'
Level B: Evacuate red and orange areas and all manufactured home residents	To 10'
Level C: Evacuate red, orange and yellow areas and all manufactured home residents	To 21'
Level D: Evacuate red, orange, yellow and green areas and all manufactured homes	To 27'
Level E: Evacuate red, orange, yellow, green and purple areas and all manufactured home residents	To 34'
Evacuation Routes	



# Project Phases

Phase	Description	RESTORE	NPR	Subtotal
Preliminary	Assessment, Design & Permitting	\$112,400	\$28,100	\$140,500
Phase 1	A Replace two 36-inch Diameter Outfalls & 54-inch Diameter Main DP	\$225,300	\$56,400	\$281,700
	B Replace 18-inch Diameter DP & Replace 8 Stormwater Drains	\$150,200	\$37,600	\$187,800
Phase 2	A Replace 42-inch Diameter Main DP & Replace 1 Stormwater Drains	\$168,700	\$42,200	\$210,900
	B Replace 36-inch Diameter Main DP & Replace 5 Stormwater Drains	\$84,400	\$21,100	\$105,500
	C Replace 18-inch Diameter DP & Replace 10 Stormwater Drains	\$84,400	\$21,100	\$105,500
<b>Total</b>		<b>\$825,400</b>	<b>\$206,500</b>	<b>\$1,031,900</b>

Request for Madison Street Project to be slated to funded in 2018.



# Contact Information

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## **GHS Environmental**

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