



**EASTERN
WATERSHED
IMPROVEMENT
PROJECT**

**CITY COUNCIL RETREAT
FEBRUARY 2012**



**IMPROVEMENT
PROJECT**

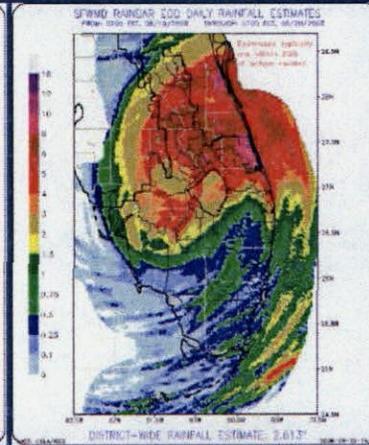
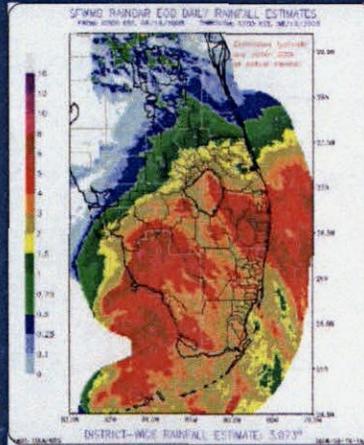
**CITY COUNCIL RETREAT
FEBRUARY 2012**

TROPICAL STORM FAY

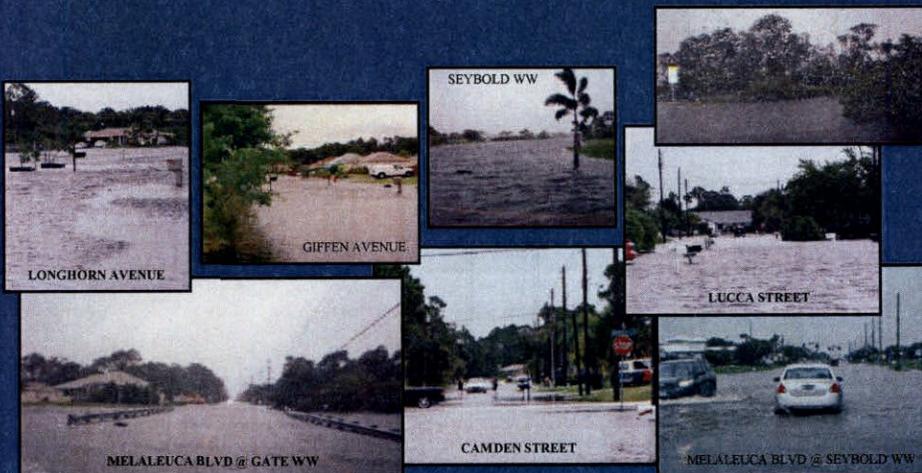
24-48 hour Rainfall

AUGUST 18-19

AUGUST 19-20



TROPICAL STORM FAY

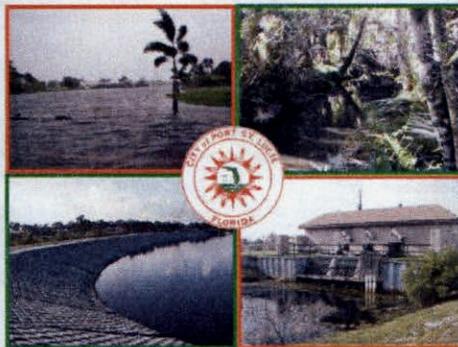


TROPICAL STORM FAY



LENNARD ROAD @ US 1
LOOKING NORTH TOWARDS SAM'S CLUB

City of Port St. Lucie Eastern Watershed Drainage Report



APRIL 2009



Prepared By
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Vice Mayor Jack Kelly
Councilwoman Michelle Berger
Councilman Christopher Cooper
Councilwoman Linda Bartz

Donald Cooper, City Manager
Walter England, P.E., City Engineer

DRAINAGE REPORT RECOMMENDATIONS



- Howard Creek ROW selective clearing (permitted by FDEP & ACOE).
- Increase conveyance system and wet well storage capacity into Tiffany pump station.
- Increase frequency of maintenance (debris removal, vac trucks, sweeping, scheduled program) and Public Education.

DRAINAGE REPORT RECOMMENDATIONS



- Install debris catchers/trash and filter racks.
- Exotic vegetation removal.
- Pump redundancy & upgrade @ both Blackwell and Tiffany pumping stations.
- Increase volume of storm water pumped into Blackwell reservoir (requires analysis & wave attenuation).
- Add transfer pump station between Eastport 2 & Eastport 1 Basins.
- Permit & maximize greater discharge where possible.

DRAINAGE REPORT RECOMMENDATIONS

- **Add backup conveyance and pump systems between Eastport1 (Tiffany), Eastport 2 (Blackwell), and Howard Creek Basins.**
- **Maximize storage in canals & detention areas (widen / remove sedimentation).**
- **Add stormwater treatment areas (STAs) /storage ponds on City owned parcels and/or land swaps.**

NEW STORMWATER STANDARD

- **The Finished Floor Elevations of structures should be at or above the flood elevation of a 100-year, 3-day storm event; and**
- **Roads should have no greater than 8-inches of stormwater over the crown of the road, 12-hours after the peak stage in a 100-year, 3-day storm event to allow for safe passage.**

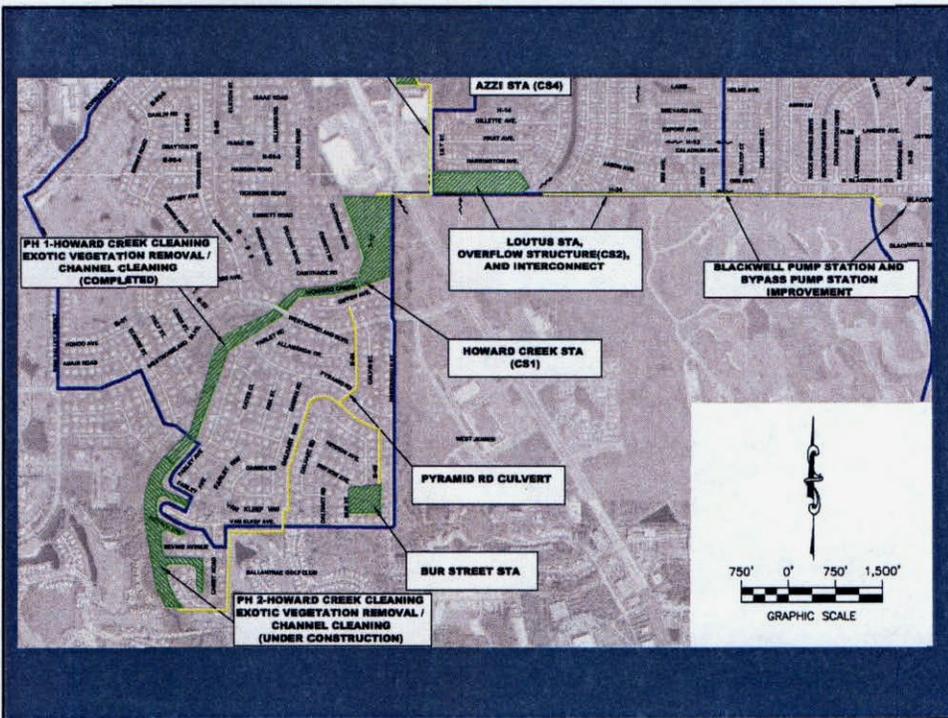
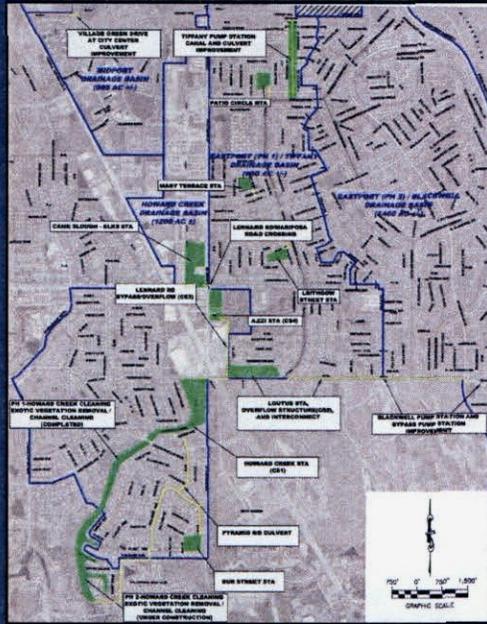
PUBLIC MEETINGS AND WORKSHOPS



PROJECT IMPROVEMENTS

- Howard Creek Channel Clearing Improvement (Ph 1 & 2)
- Howard Creek STA / Bur Street STA / BY-PASS PIPING
- Patio Circle STA Improvements
- Lennard Road / Mariposa Road Crossing
- Cane Slough/Elks STA Improvements
- Mary Terrace / Leithgow STA Improvements
- Azzi STA / Lennard Road Bypass Improvement
- Tiffany Pump Station / Canal Improvements
- Village Green Drive @ City Center Improvement
- Loutus STA and Inter-connect Improvement
- Blackwell Pump Station Improvement / By-Pass Pump Station Improvement

MAP OF PROJECT IMPROVEMENTS



PROJECT TIMELINE

- Federal regulations applicable to the bonds require the project to be completed within 36 months of issuance—January 15, 2013.
- The Project is anticipated to be substantially complete sooner...the fall of the 2012 Calendar Year.

PROGRESS TO DATE

- **DESIGN -COMPLETE**
- **LAND ACQUISITION - COMPLETE**
- **PERMITTING - COMPLETE**
- **CONSTRUCTION – ON GOING**
- **PUBLIC OUTREACH – ON GOING**
- **LEVERAGING – ON GOING**

CONSTRUCTION

- Howard Creek clean out is complete.
- Selective hand clearing of Howard Creek is complete.
- The Patio Circle STA is complete and landscaped.
- The Howard Creek STA / Burr Street STA is complete and landscaped.
- Elks-Cane Slough STA is under construction. Pipe installation across Lennard Road complete.
- Lennard Square STA is under construction.
- Pump Station components are complete and installed.
- Mobile Pump system delivered to City and tested.

CONSTRUCTION

- Tiffany Channel Improvements are complete.
- Mary Terrace/Leithgow Street Ponds are complete.
- Loutus Pond/Blackwell Channel work is under construction.
- Upon completion of the other STAs and ponds, landscaping will follow.

CONSTRUCTION

Patio Circle Pond



CONSTRUCTION

Patio Circle Pond



CONSTRUCTION

Howard Creek STA



CONSTRUCTION

Howard Creek STA



CONSTRUCTION

Howard Creek STA



CONSTRUCTION

Howard Creek



CONSTRUCTION

Howard Creek



CONSTRUCTION

Bur Street Pond



CONSTRUCTION
Bur Street Pond



CONSTRUCTION
Elks Cane Slough STA



CONSTRUCTION

Lennard Square STA



CONSTRUCTION

Leithgow Street Pond



CONSTRUCTION

Leithgow Street Pond



CONSTRUCTION

Mary Terrace Pond



CONSTRUCTION

Mary Terrace Pond



CONSTRUCTION

Tiffany Channel Improvements



CONSTRUCTION
Tiffany Channel Improvements



CONSTRUCTION
Tiffany Channel Improvements



CONSTRUCTION

Loutus Pond/Blackwell PS Improvements



CONSTRUCTION

Loutus Pond/Blackwell PS Improvements



CONSTRUCTION

Roadway Resurfacing

- **VAN KLEFF AVENUE**
- **TIFFANY AVENUE**
- **BUR STREET**
- **PATIO STREET**
- **LEITHGOW STREET**
- **MARY TERRACE**
- **MARIPOSA AVENUE**
- **MASLAN AVENUE**
- **PARROT STREET**
- **SIMMONS STREET**
- **FLINTLOCK ROAD**
- **AVALON ROAD**

IMPACTS TO DATE

- **OCT. 6-7 RAIN EVENT, 5.2 INCHES OF RAIN – PROJECT WEATHERED THE EVENT WITH NO ISSUES.**
- **DEC. 10-12 RAIN EVENT, 6.7 INCHES OF RAIN – PROJECT MET THE REQUIRED STANDARD OF HAVING PASSABLE ROADWAYS WITHIN 12 HOURS OF THE END OF THE EVENT.**

PUBLIC OUTREACH

- PROJECT SIGNS;
- NEWSLETTER;
- NEIGHBORHOOD MEETINGS;
- ONGOING COORDINATION WITH RESIDENTS VIA ONE-ON-ONE MEETINGS, PHONE CALLS AND E-MAILS.

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Project Overview Issue

STORMWATER IMPROVEMENTS SCHEDULED IN YOUR NEIGHBORHOOD

In August 2009, 100,000 gallons of rainwater from the City of Fort St. Louis will be used to fund the construction of stormwater management projects in the east side of the City. It is called the Eastern Watershed Improvement Project (EWIP) and is required to meet the Clean Water Act (CWA) and the Florida State Water Pollution Control Act (FSWPCA). The monthly newsletters will be distributed to affected neighborhoods to help residents stay informed about the project.

In the coming months, you will find information about the City's current and future stormwater management projects and how they will help reduce potential flooding problems in your neighborhood.

PROJECT OVERVIEW

The Eastern Watershed Improvement Project is the construction and installation of a system of drainage facilities, retention ponds, piping, pumps and other structures that will together manage stormwater runoff on the east side of the City. It includes all of the City's use of U.S. 1, as well as small portions of U.S. 1, Florida State Road 100, and the Florida State Road 100 Extension.

The Eastern Watershed Area was developed under the 1997 Interlocal Development Compact (IDC), which was the original developer of the City. The Florida Watershed Management Trust (FWMT) provided the financial support for the project. The project is required to meet the CWA and the FSFPCA. The project is required to meet the CWA and the FSFPCA. The project is required to meet the CWA and the FSFPCA.

With the Eastern Watershed Area are four drainage basins that were placed and defined under the FWMT permit obtained in the 1990s:

- Howard Creek Drainage Basin (1,200 acres)
- Eastern Phase 1/Talley Basin (1000 acres)
- Midport Drainage Basin (1,500 acres)
- Eastern Phase 2/Howard Drainage Basin (1,400 acres)

The current goal of the City is to improve drainage capacity from north to south, and from east to west, in the Eastern Phase 1/

STORMY WEATHER

In 2009, Tropical Storm Alex caused heavy flooding at U.S. 1 and Leonard Road, and in other areas along the eastern Phase 1 Basin.

Howard Creek Basin through the Eastern Phase 1/Talley Basin to the Howard Creek Basin.

The Eastern Phase 1/Talley Basin and the Eastern Phase 2/Howard Basin were designed and constructed to allow two large pump stations to remove the excess water from the basin, which also limited the amount of water that would be discharged to the Howard Creek Basin.

These retention systems are designed and constructed to store significant amounts of water in the basins, and the operation of these pump stations are required, they will not be used for the low flow areas of the Howard Creek Basin. The addition of pump stations between the Howard Creek Basin and the Howard Creek Basin is approximately 1000 acres.

The Howard Creek Basin is divided into two sub-basins by U.S. 1. Because U.S. 1 is a primary retention area, it was constructed at a higher elevation than the adjacent properties. This elevation, especially important during hurricanes. The long drainage structure with the Howard Creek Basin is also a key way to flow water to U.S. 1, but they have not been used in their full capacity because of the drainage system operation and maintenance were designed to have operation.

In heavy rainfall, high flows in the Howard Creek Basin are being handled with more than the other basins, and the problem was made worse because of the operation of the Howard Creek Basin when severe weather hit St. Louis Storm.

INSIDE—SEE SPECIAL FOLDOUT MAP OF THE PROPOSED IMPROVEMENTS FOR THE EASTERN WATERSHED AREA

LEVERAGING

- THE CITY HAS SOUGHT TO LEVERAGE ITS INVESTMENT BY SEEKING GRANTS FROM FEDERAL, STATE AND REGIONAL PROGRAMS.
- TO DATE, THE CITY HAS RECEIVED APPROXIMATELY \$1,465,000 IN GRANT FUNDING:
 - \$965,000 FROM THE SLRIT, THROUGH SFWMD, FOR THE HOWARD CREEK STA.
 - \$500,000 FROM FDEP FOR THE CANE SLOUGH STA.
 - \$500,000 FROM FDEP FOR THE LENNARD SQUARE STA.
- THE CITY CONTINUES TO PURSUE ALL OTHER APPROPRIATE GRANT SOURCES.

QUESTIONS?