

Deep Creek Area Major Storm Resiliency Projects

City of Chesapeake
Citizen Information Meeting
July 27, 2017

Overall Flooding Analysis

Recent events:

Thunderstorm	July 1, 2016	5" in four hours	50 year event
TS Julia	Sept 19-22, 2016	6-17" in 72 hours	200 year event
Hurricane Matthew	Oct 8-9, 2016	<u>15" in 12 hours</u>	1000 year event
<u>total rainfall range</u>		21-32"	

Source: NOAA Precipitation Frequency Estimates

Summary:

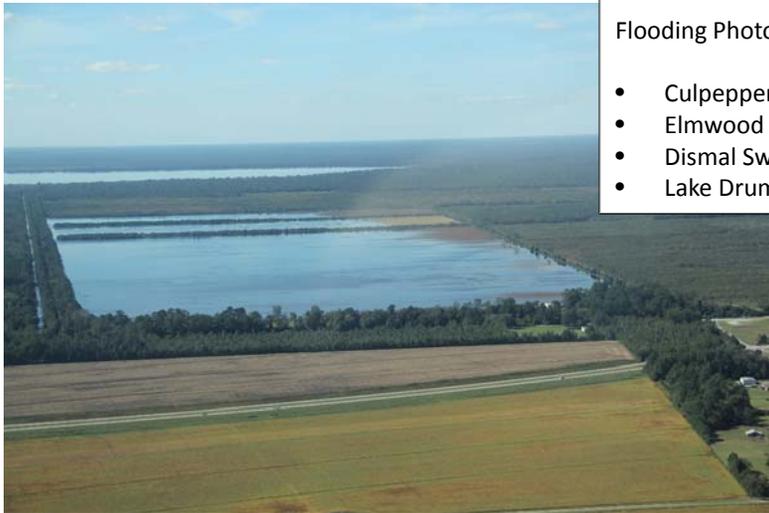
- Storms exceeded drainage design standards
- Inspection of drainage system due to potentially damaging flows is nearly complete
- Storms provided opportunity to “stress test” the drainage system, identify areas for potential “resiliency and reliability” projects and validate master drainage models and associated improvement recommendations

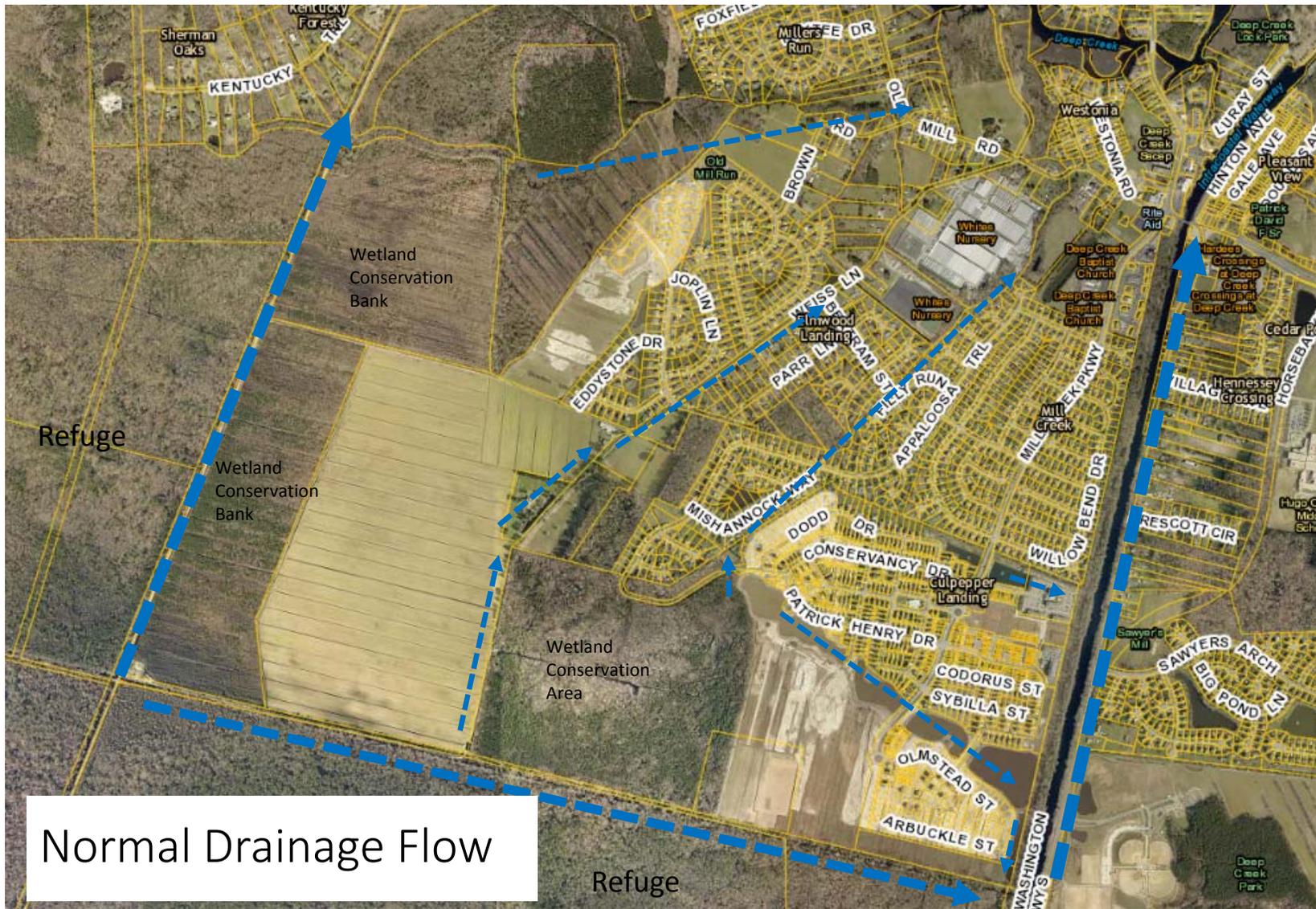


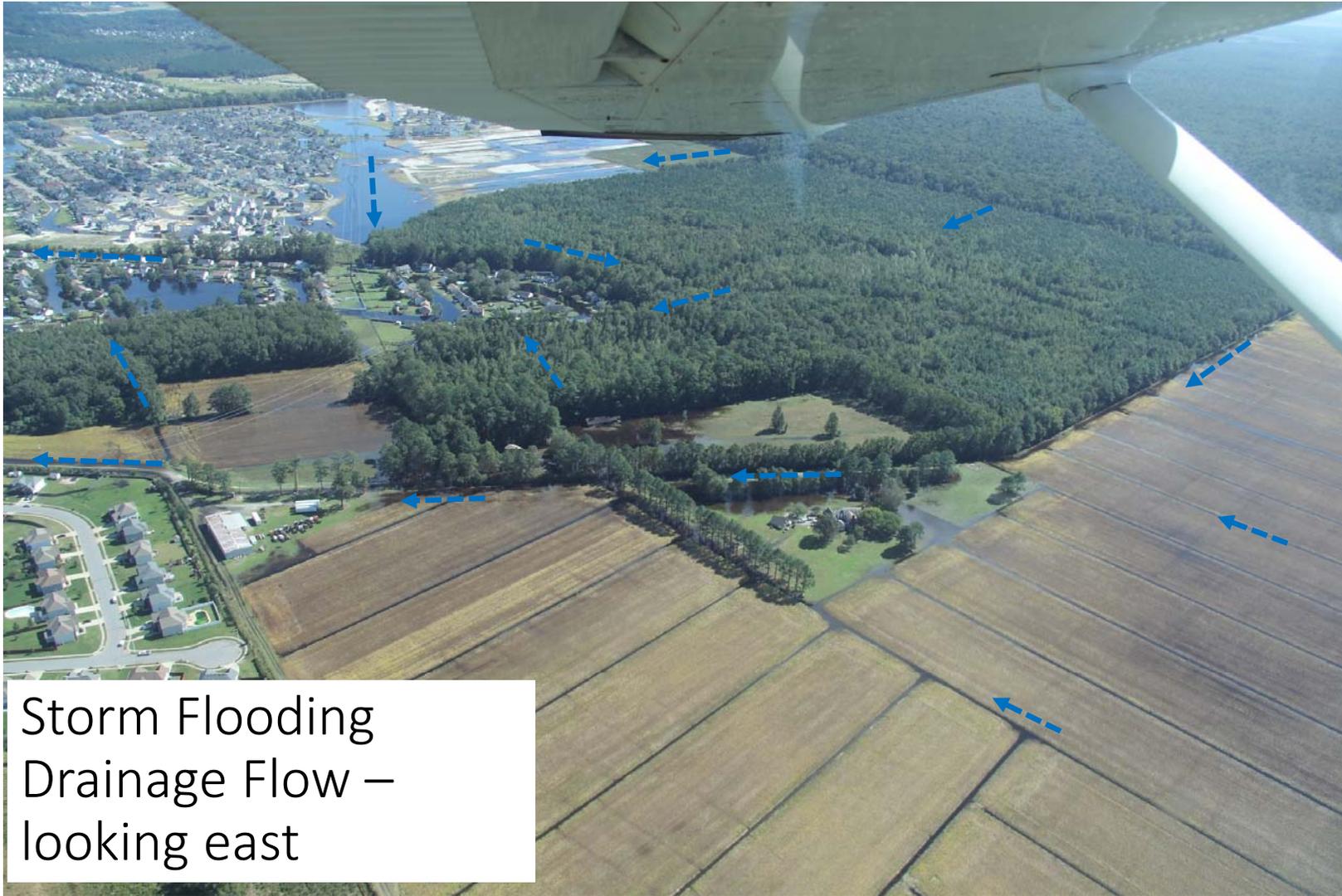
Hurricane Matthew

Flooding Photos: Clockwise from Top Left

- Culpepper Landing flooding
- Elmwood Landing flooding
- Dismal Swamp Trail overtopped to NW River
- Lake Drummond and Feeder Ditch flooding



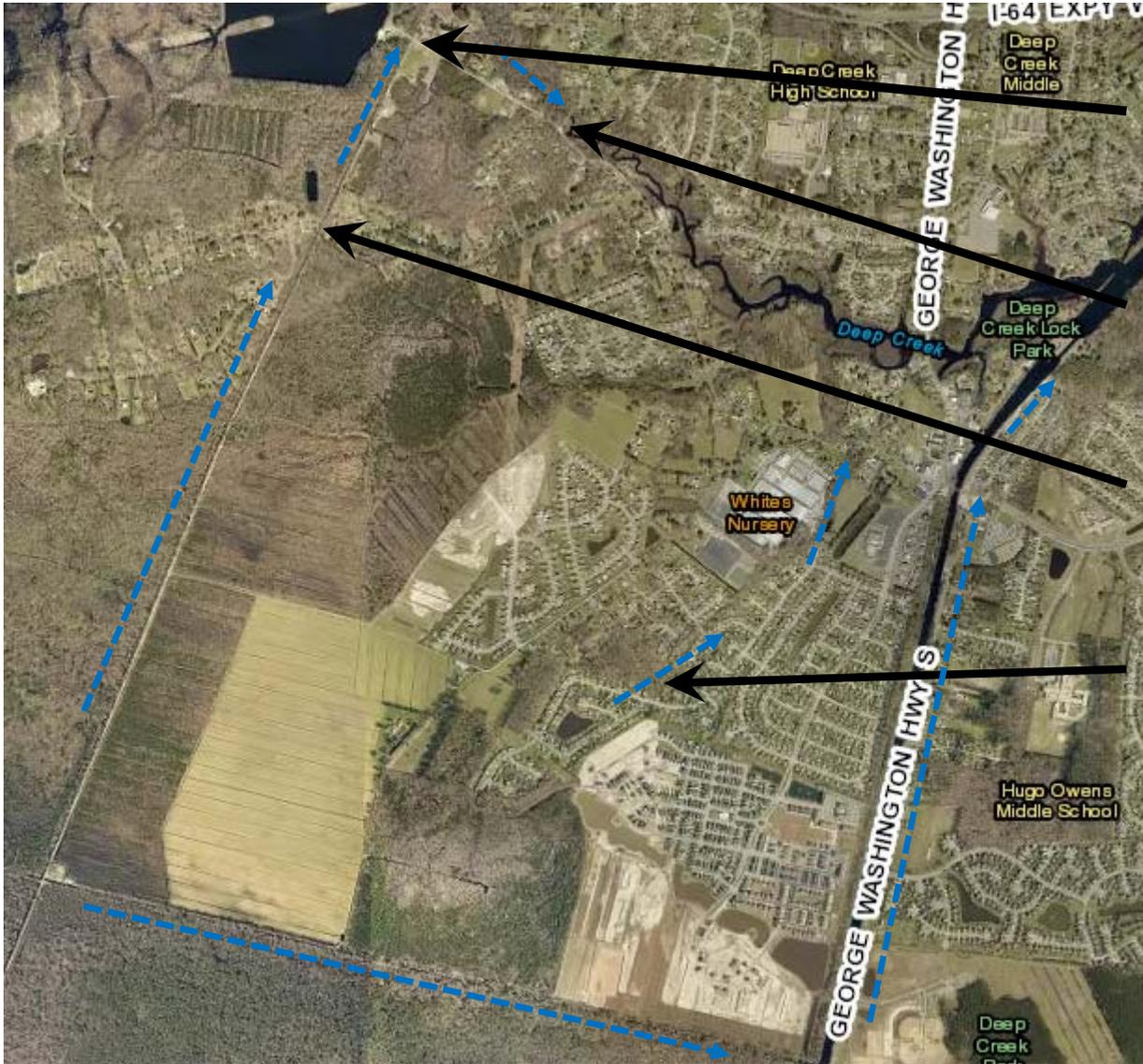




Storm Flooding
Drainage Flow –
looking east



Storm Flooding Drainage
Flow – looking north



**Larger Culvert Crossing @ Cooks Mill Ln.
\$402,000 (grant application)**

**Larger Culvert Crossing and Road
Elevation @ Old Mill Road
\$ 600,000 (City Capital Budget)**

**Larger Culvert Crossing @ Martin-
Johnson Road
\$424,000 (grant application)**

**New Elmwood Landing lake outfall
\$431,000 (grant application)**

Proposed City
Drainage
Improvement Projects

Additional Measures being considered:

- High water overflow weirs near Deep Creek Locks
- “Tide” valves on Culpepper outfalls to the Canal
- Isolation of unused farm ditches
- Modify water control structure at Big Entry ditch / farm irrigation connection
- Berming of areas to divert overland flow

Resources for Storm Preparation

- Sign up for **Chesapeake Alert** (City Emergency Alerts) – link from City Main Webpage or ...

http://www.cityofchesapeake.net/government/City-Departments/Departments/Information-Technology-Department/01chesapeake_alert.htm

- Link to Corps of Engineers Dismal Swamp Canal Flood Gages

<http://www.nab-wc.usace.army.mil/nao/albe.html>

- “Know your Zone - Virginia” Hurricane Evacuation Website

<http://www.vaemergency.gov/hurricane-evacuation-zone-lookup/>

- Go to City of Chesapeake webpage – Fire Department, Emergency Management for lots more preparedness information