



Meeting No. 4
Level of Service Discussion and Special
Considerations
Agenda

1. Meeting 3 Summary: Typical Elements - Level of Service
2. Specific Stormwater Issues in Valdosta
3. Proposed Level of Service for Valdosta
4. Special Consideration: Withlacoochee River
5. Open Discussion

Meeting No. 3 Typical Elements - Level of Service Summary

1. Stormwater Basic Terminology
2. Examples of Level of Service for other communities

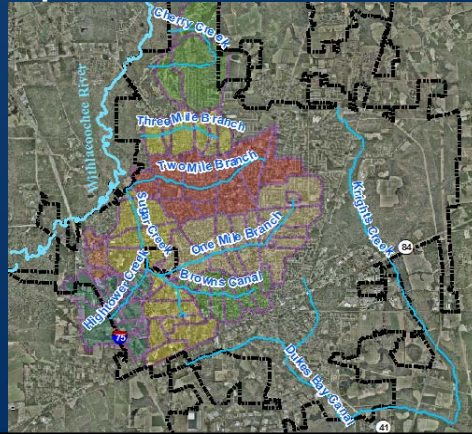


Factors to be considered while determining LOS in Valdosta

- ◆ Subbasins discharging to the Withlacoochee are downstream (tailwater) controlled
- ◆ Local roadway flooding due to aging drainage infrastructure
- ◆ Erosion and sediment control issues
- ◆ Retrofit needed in urban developments to reduce stormwater impacts
- ◆ Stormwater aspect revision of land development regulations (LDR) to address future development/redevelopment

The Withlacoochee River controls the flood levels of many Valdosta streams

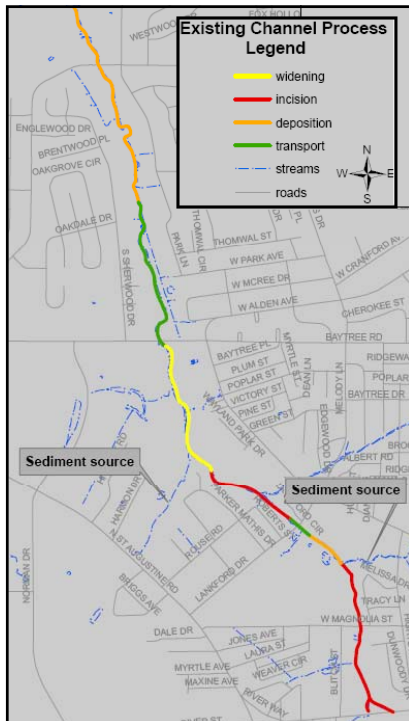
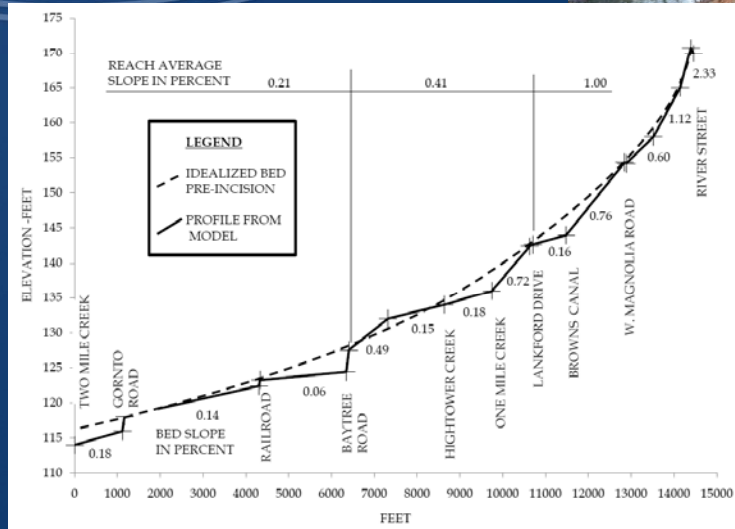
- ◆ Valdosta contribution to the Withlacoochee River is only 1% of the tributary area
- ◆ City can control future development in these areas to manage runoff (pre versus post control)
- ◆ The ultimate solution involves many jurisdictions, and coordination with State and Federal agencies



Roadway drainage infrastructure in many areas cannot convey urban runoff



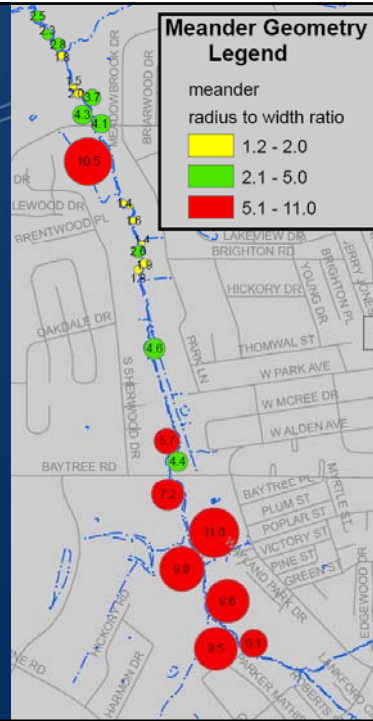
Upstream reaches are unstable and have steep grades



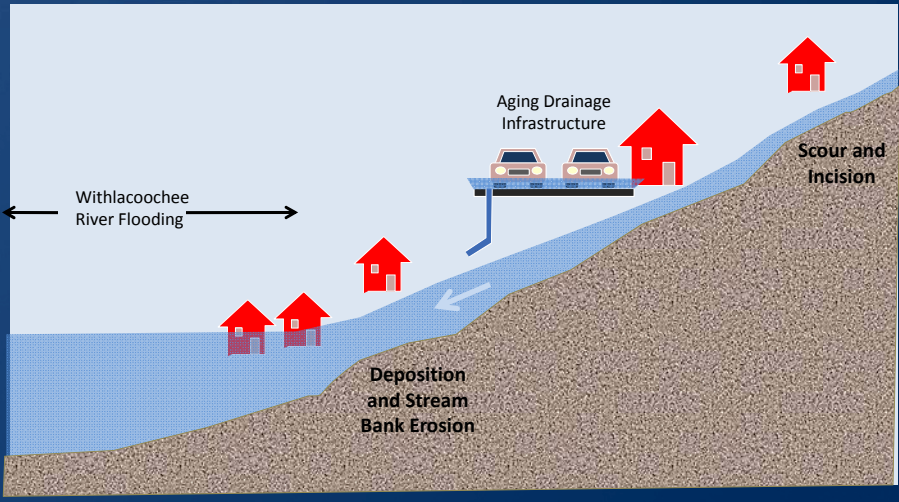
Middle reaches transport sediment and tend to widen



Lower reach deposits upstream sediment loads and meander naturally



There are specific conditions causing each one of the Valdosta problems



Proposed Quantity Level of Service (LOS)

50
year

Arterial Road Flood
Frequency

10
year

Collector Road Flood Frequency

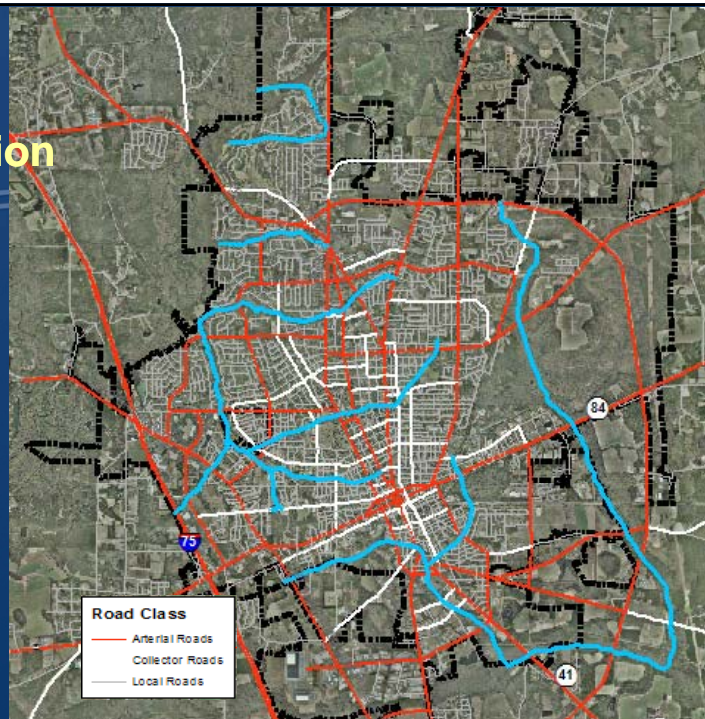
5
year

Local Road Flood Frequency

100
year

New Home Flood Frequency

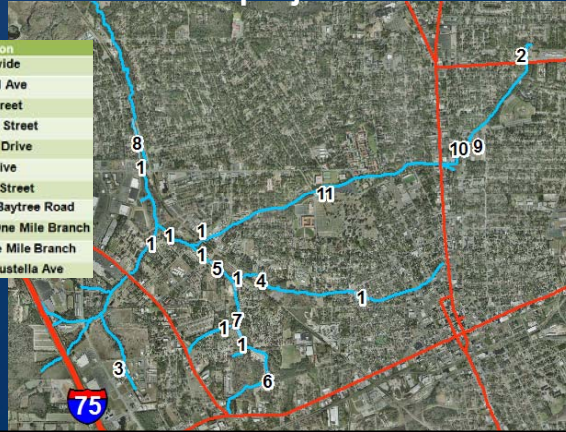
Valdosta Roadway Classification



Older areas need retrofit to reduce urban runoff impacts

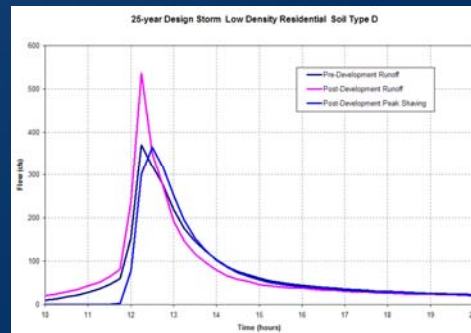
- ◆ The ultimate solution will include a series of projects including regional facilities, grade control structures, and stream restoration projects.

| No. | Project | Location |
|-----|-----------------------------------|------------------------------------|
| 1 | 16 Grade Control Structures | Basin wide |
| 2 | 1.0 Acre Regional Facility | Lakeland Ave |
| 3 | 2.5 Acre Regional Facility | River Street |
| 4 | 2.5 Acre Regional Facility | Hightower Street |
| 5 | 2.5 Acre Regional Facility | Lankford Drive |
| 6 | 3.0 Acre Regional Facility | End Drive |
| 7 | 2.0 Acre Regional Facility | Magnolia Street |
| 8 | 3,000 LF of Stream Rehabilitation | Downstream of Baytree Road |
| 9 | 42 inch Baffle Box | Vallotton Drive at One Mile Branch |
| 10 | 30 inch Baffle Box | Lee Street at One Mile Branch |
| 11 | Two 30 inch Baffle Boxes | VSU parking Sustella Ave |



Upcoming Development should be controlled by a comprehensive set of rules

- ◆ Areas along the Withlacoochee River are prone to flooding, and special considerations might be necessary
- ◆ In addition to enforce Georgia requirements, the City might consider controlling total runoff volume discharged by new developments.

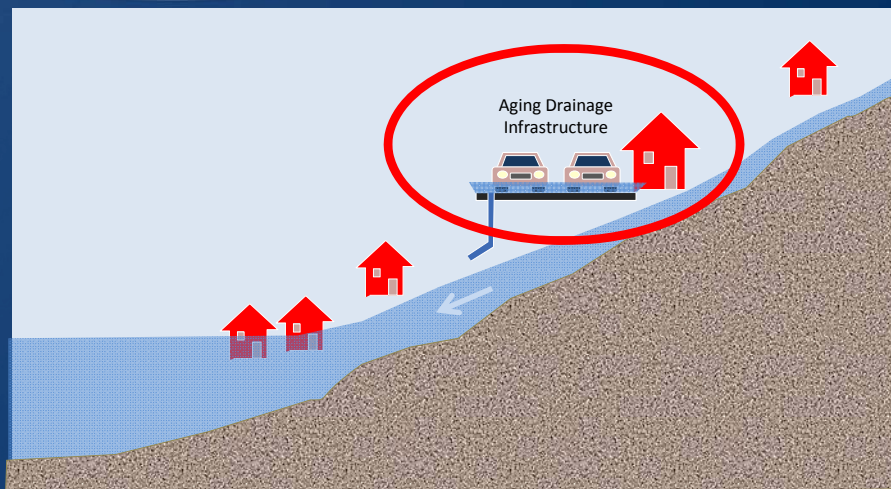


Most roadways currently meet the Level of Service (66%)

| Stream | Number of Crossings | | | Total | Not meeting LOS |
|-------------------|---------------------|-----------|--------------|------------|-----------------|
| | Local | Collector | Arterial | | |
| One Mile Branch | 4 | 4 | 5 | 13 | 6 |
| Two Mile Branch | 7 | 2 | 8 | 17 | |
| Three Mile Branch | 1 | 1 | 1 | 3 | |
| Sugar Creek | 4 | 2 | 4 | 10 | 3 |
| Hightower Creek | 2 | 1 | 7 | 10 | 3 |
| Dukes Bay Canal | 8 | 4 | 10 | 22 | |
| Cherry Creek | 3 | 0 | 0 | 3 | |
| Knights Creek | 2 | 2 | 8 | 12 | |
| Browns Canal | 7 | 2 | 2 | 11 | 3 |
| | | | Total | 101 | |

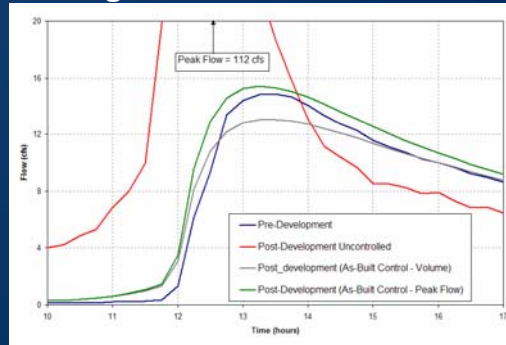
Preliminary Results from ongoing stormwater master plan

Many of the Solutions to Meet the Level of Service will be Infrastructure Projects in the Urban environment



Volumetric Control: A potential approach for tail water controlled sub-basins

- ◆ Require new development to retain runoff within the property ensuring that the volume discharged between hour 10 and 17 is not greater than in the pre-existing condition.
- ◆ By implementing volumetric control about 10% of the parcel area will be dedicated to storm-water control



Proposed Quality Level of Service (LOS)

- ◆ EPD is already requiring 1.2 inch treatment volume for new urban developments
- ◆ City has been proactive in addressing water quality
- ◆ The current master plan update is identifying areas sensitive to erosion
- ◆ Stormwater superintendent is addressing bacteria issues
- ◆ Department of Utilities has a citywide master plan to eliminate sewer leaks

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year

New Home Flood Frequency

Proposed LOS for Committee Consideration



Stormwater Committee (SWC) Meeting Dates

- ◆ Nov 17 2009 – Introduction
- ◆ Dec 1 2009 – Regulations and Existing Program
- ◆ Jan 19 2010 – Typical Elements - Levels of Service (LOS)
- ◆ Feb 23 2010 – Special Considerations and LOS Discussion
- ◆ Mar 23 2010 – Recommendations to Council
- ◆ Apr 20 2010 – Extra Meeting (if necessary)
- ◆ April 2010 – Final Recommendations to Council