

# **Arlington, VA**

## **Green Streets Overview**

**COG Green Streets Workshop**  
**April 8, 2013**

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**Watershed Programs Manager**



# Arlington Watershed Facts



- 2010 Census: 207,627 people
- Phase I jurisdiction
- 26 square miles
- 7,972 persons/square mile
- 42% impervious cover
- 400 miles of storm sewers
- 28.5 miles of perennial streams
- Potomac River watershed





# Chesapeake Bay TMDL & Arlington MS4 permit

Pollutant load reductions from 2009  
baseline:

Nitrogen	-8%
Phosphorus	-14%
Sediment	-18%

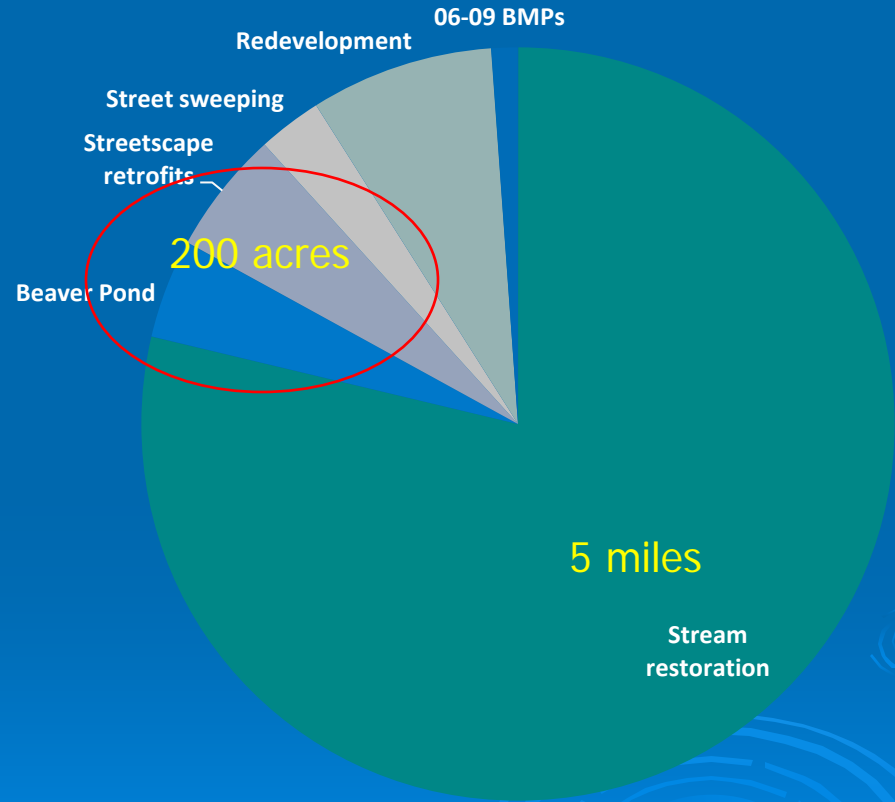
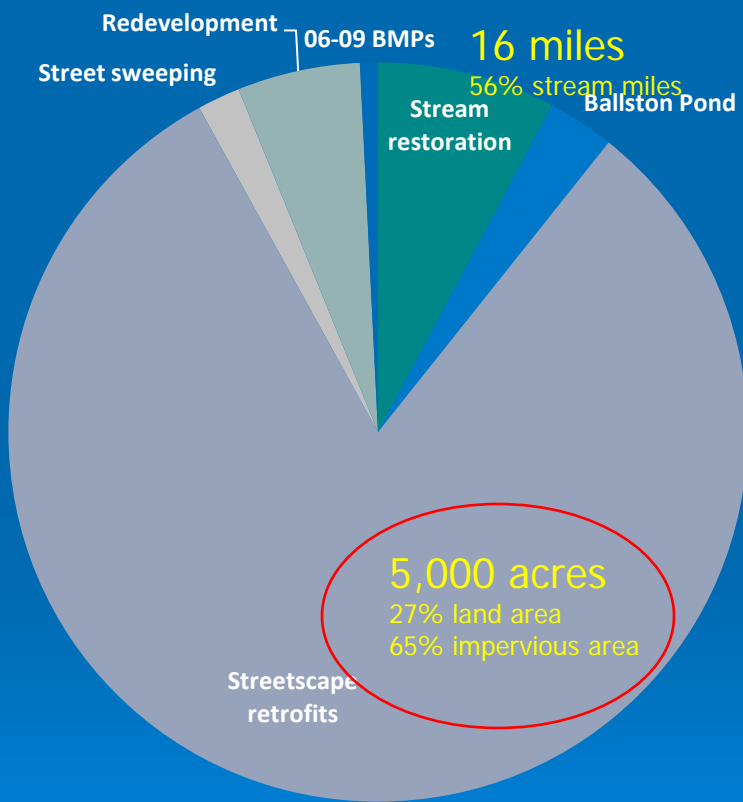
Required load reduction schedule:

Permit cycle #1 (2013 – 2017)	5%
Permit cycle #2 (2018 – 2022)	35%
Permit cycle #3 (2023 – 2027)	60%

# Green Streets CONTEXT:

## Bay TMDL Load Reductions, Two Scenarios

### Portion of target load reductions by BMP type (TP)



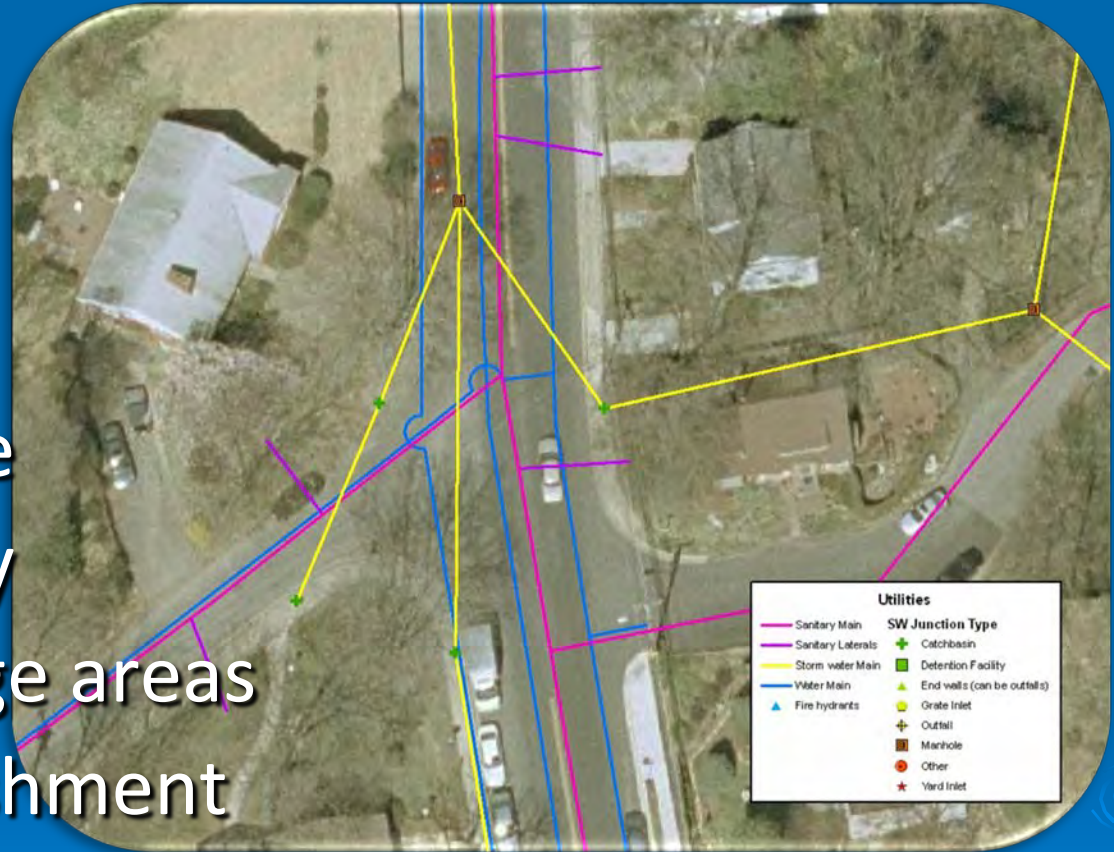
Existing Bay Program credits for stream restoration

CSN interim credits for stream restoration



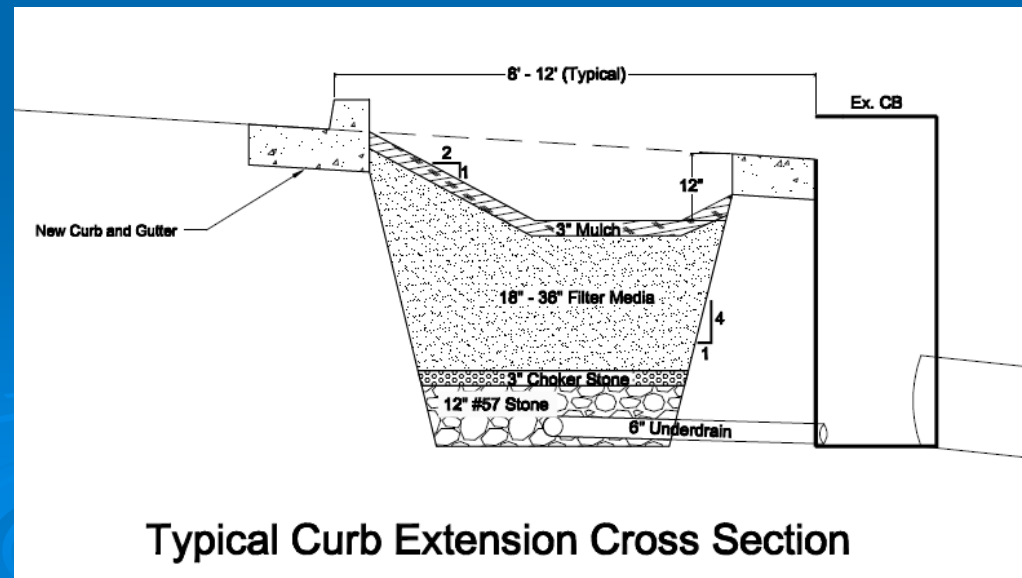
# Green streets challenges

- Utilities
- Utilities
- Parking
- Limited space
- Inflow energy
- Small drainage areas
- Plant establishment
- Community acceptance



# Design, learn, design

- Design in streetscape more complicated
- High inflow energies, utilities, and safety for all transportation modes key constraints
- Choose good designs and then learn from field performance



# Green streets opportunities

- Plants will grow
- More than a filter:
  - Stormwater volume
  - Aesthetics
  - Habitat
  - Traffic calming
  - Urban heat island
- A core 'Green Infrastructure' element



*Visible reminder of our stormwater impacts*  
*Visible part of the solution*



Patrick Henry – Dominion Hills  
JUNE 2011









JUNE 2012



06/06/2012

SEPT 2012



09/13/2012



Albemarle Green Street  
APRIL 2012





Albemarle Green Street  
September 2012



09/13/2012



# Create a plan – think long term

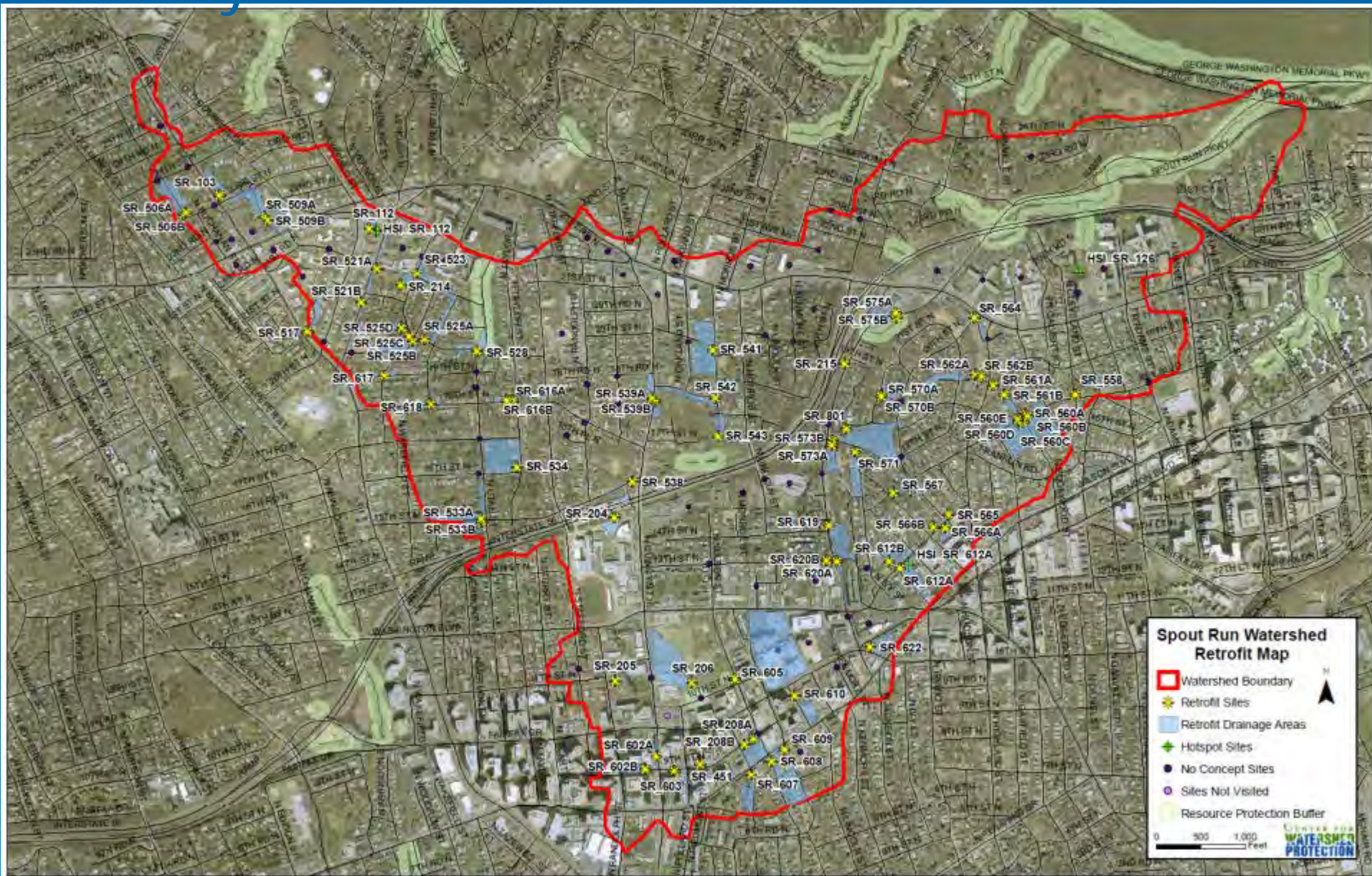
- Contract with Center for Watershed Protection for retrofit inventory of all watersheds
- Inventory of ~1200 stormwater retrofit projects throughout Arlington County
  - Potential treatment = ~10% of County impervious area
- Projects scored and ranked by watershed
- Most are Green Street projects
- CIP funding for long-term implementation

# Score and Rank Projects

100-Point Scoring System for Donaldson Run Retrofits				Site: <i>Example</i>
Screening Factor	Value	Score (0-10)	Weight	Weighted Score
<b>PRIMARY SCREENING FACTORS</b>				
Phosphorus Removal (lbs/year) (10 pts per pound of phosphorus removed) <sup>1</sup>	1	10	2.5	25
Impervious Area Acreage (5 pts per impervious acre, 10 points for 2 acres) <sup>1</sup>	5.00	10	2.0	20
Potential Utility or Site Constraints (High = 0 pts; Med = 5 pts; Low = 10 pts)	Low	10	1.5	15
Property Ownership (Private = 0 pts; School = 4 pts; Street ROW = 7 pts; Park or gov't land = 10 pts)	Park	10	1.5	15
<b>SECONDARY SCREENING FACTORS</b>				
Potential for Quick Implementation or Coincides with Planned Construction (No = 0 pts; Yes = 10 pts)	Yes	10	1.0	10
Existing Drainage Problem/Hotspot (No = 0 pts; Yes = 10 pts)	Yes	10	0.5	5
County Maintenance Burden (High = 0 pts; Med = 5 pts; Low = 10 pts)	Low	10	0.5	5
Education Opportunity ( for signage = 5 pts; Parks = 8 pts; Schools = 10 pts)	School	10	0.5	5
TOTAL				<b>100</b>







### Spout Run Watershed Retrofit Map

- Watershed Boundary
- ★ Retrofit Sites
- Retrofit Drainage Areas
- + Hotspot Sites
- No Concept Sites
- Sites Not Visited
- Resource Protection Buffer

0 300 1,000 Feet

**WATERSHED PROTECTION**



# Partnerships are Key

- Master Transportation Plan
  - Includes policy goal to reduce stormwater runoff from street network
  - Green Streets facilities a key implementation tool to achieve this goal
- Neighborhood Conservation Program
  - Local street/pedestrian improvement projects
  - Major opportunity to partner



# Maintenance!

- Initially, after any large storms
- Thereafter, quarterly
- Remove sediment
- Weed, inspect, replant, prune plants
- Remove trash
- Make sure underdrain, overflow, all pipes, and catch basins working correctly

# Conclusions

- Green streets a key urban tool for long-term , cumulative watershed restoration
- Think 50+ years, as part of a comprehensive green infrastructure plan
- Private property & redevelopment also key pieces, along with other programs like stream restoration
- Maintenance obligations and costs will grow with the number of projects
- No better time than the present to get started





Questions?