2010

Long Creek: An Institutional Model (2010 State of the Bay Presentation)

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Long Creek: An Institutional Model

State of the Bay

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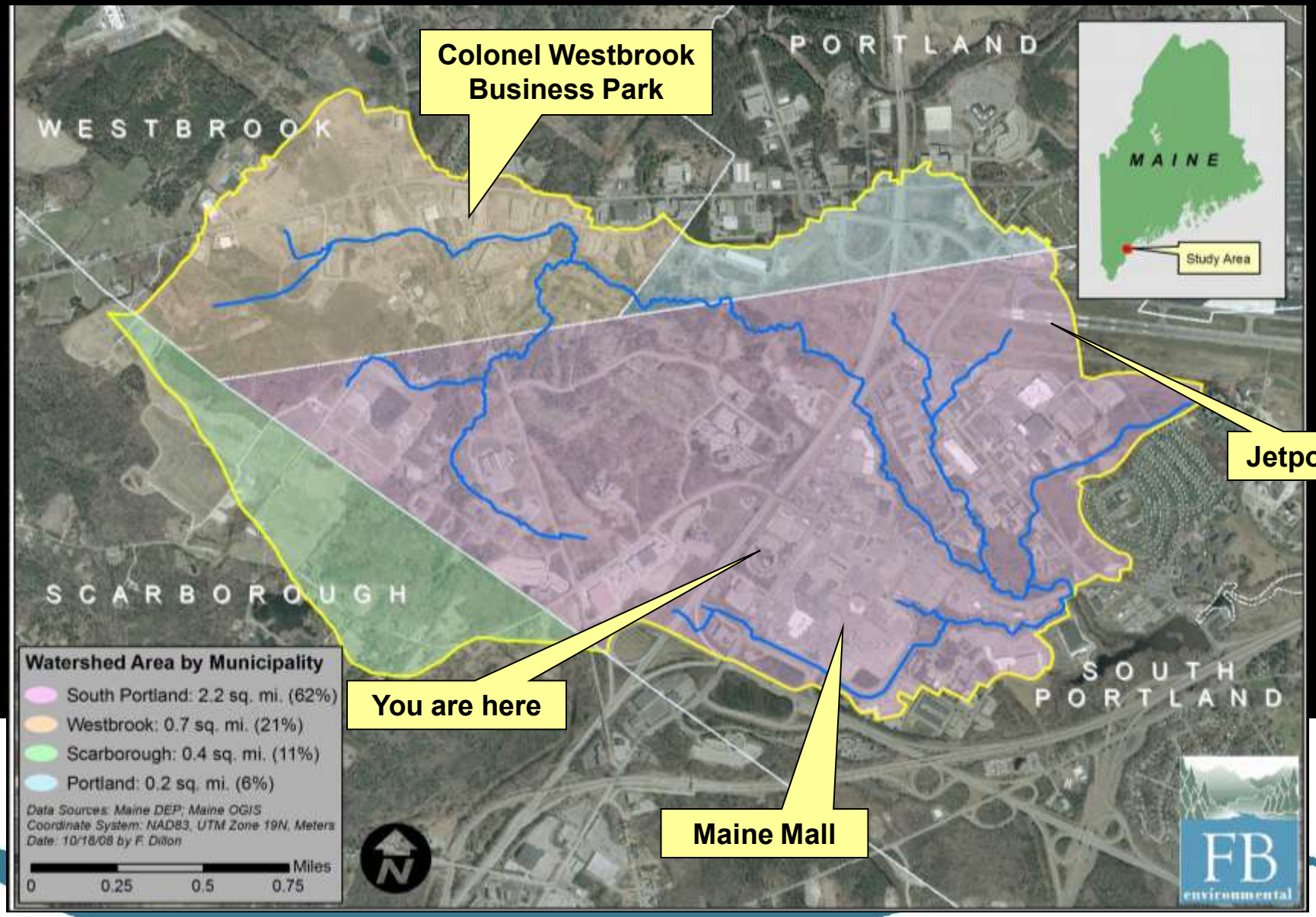
nd County Soil & Water

Long Creek Watershed ~ 3.5 square miles



Long Creek Impervious Cover by Subwatershed

Portland

Westbrook

B
17%

A 2
20%

C
39%

A 3
11%

A 1
62%

D
31%

E
57%

South Portland

Percent Impervious Cover

- 10 - 15% IC
- 15 - 25% IC
- 25 - 40% IC
- > 40% IC

N

Data Sources: Maine DEP; Maine OGIS
Coordinate System: NAD83, UTM Zone 19N, Meters
Date: 12/19/07 by F. Dillon

0 1,000 2,000 3,000 4,000 Feet

Subwatershed	Acres	Percent IC	Acres IC
A1	105.1	61.8	64.9
A2	284.7	19.5	55.4
A3	620.6	10.6	65.5
B	435.6	16.8	73.2
C	308.5	39.2	120.9
D	109.7	31.4	34.5
E	377.7	57.1	215.5
Totals:	2242		630
% IC for Entire W'shed:		28%	

FB environmental

Management Plan Goal

- Bring the stream up to water quality standards –less expensive, faster, better
- To do this: Develop a cooperative program

Long Creek Planning Project Partners

Municipalities/Quasi-municipal

- City of South Portland
- City of Westbrook
- Town of Scarborough
- City of Portland
- ecomaine
- Cumberland County Soil & Water Conservation District

State Entities

- Maine Department of Environmental Protection
- Maine Department of Transportation
- Maine Turnpike Authority
- Maine NEMO

Businesses/Business Representatives

- Fairchild Semiconductor
- National Semiconductor
- Marriott at Sable Oaks
- The Maine Mall
- CBRE The Boulos Company
- Ocean Properties Ltd.
- Bramlie Development Corp.
- Maine Wetlands Bank
- Portland Regional Chamber
- SP/CE Chamber of Commerce

Nonprofits

- South Portland Land Trust
- Casco Bay Estuary Partnership
- Conservation Law Foundation

What Does Restoration Mean?

Attain water quality standards for:

- Aquatic life
- Habitat
- Dissolved oxygen
- Metals/Chlorides

Restoration Strategies

- Reduce impact from impervious surfaces
  - Good housekeeping - pollution prevention
  - Reduce impervious surfaces
  - Land use planning and policy
  - Education and outreach
- Disconnect impervious areas
- Restore stream and streamside zone

Long Creek Watershed Management Plan
Priority Catchments for Structural Retrofits

Catchment ID	Acres IC Buildings	Acres IC Parking	Acres IC Roads	Total Acres IC	Total Catchment Acres	Percent IC	Directly Connected IC
A1-03	3.8	9.1	1.4	14.4	15.7	91.8	y
A1-05	3.4	10.3	0.0	13.7	14.8	93.1	y
A1-14	0.6	2.5	2.6	5.7	7.9	72.0	y
B-21	4.1	7.8	3.6	15.5	32.8	47.3	y
C-08	10.0	20.2	0.4	30.5	39.6	76.9	n
C-11	2.8	6.7	1.8	11.3	16.8	67.2	y
E-02	3.1	7.8	3.5	14.4	17.5	82.5	y
E-24	14.3	44.9	0.6	59.9	66.1	90.6	n
E-34	2.4	6.7	0.9	10.0	11.1	90.0	n
Totals:	***45***	***116***	***15***	***175***	***222***		

Catchment Retrofit Example

CATCHMENT A1-05

Catchment Characteristics

DEP ID A1-05
Size 14 acres
Impervious Cover Breakdown
Rooftop 25% (3.4 acres)
Parking 75% (10.3 acres)
Roadway 0% (0 acres)

Existing Stormwater Management System – No
Stormwater Infrastructure Ownership – Private

Opportunity Overview

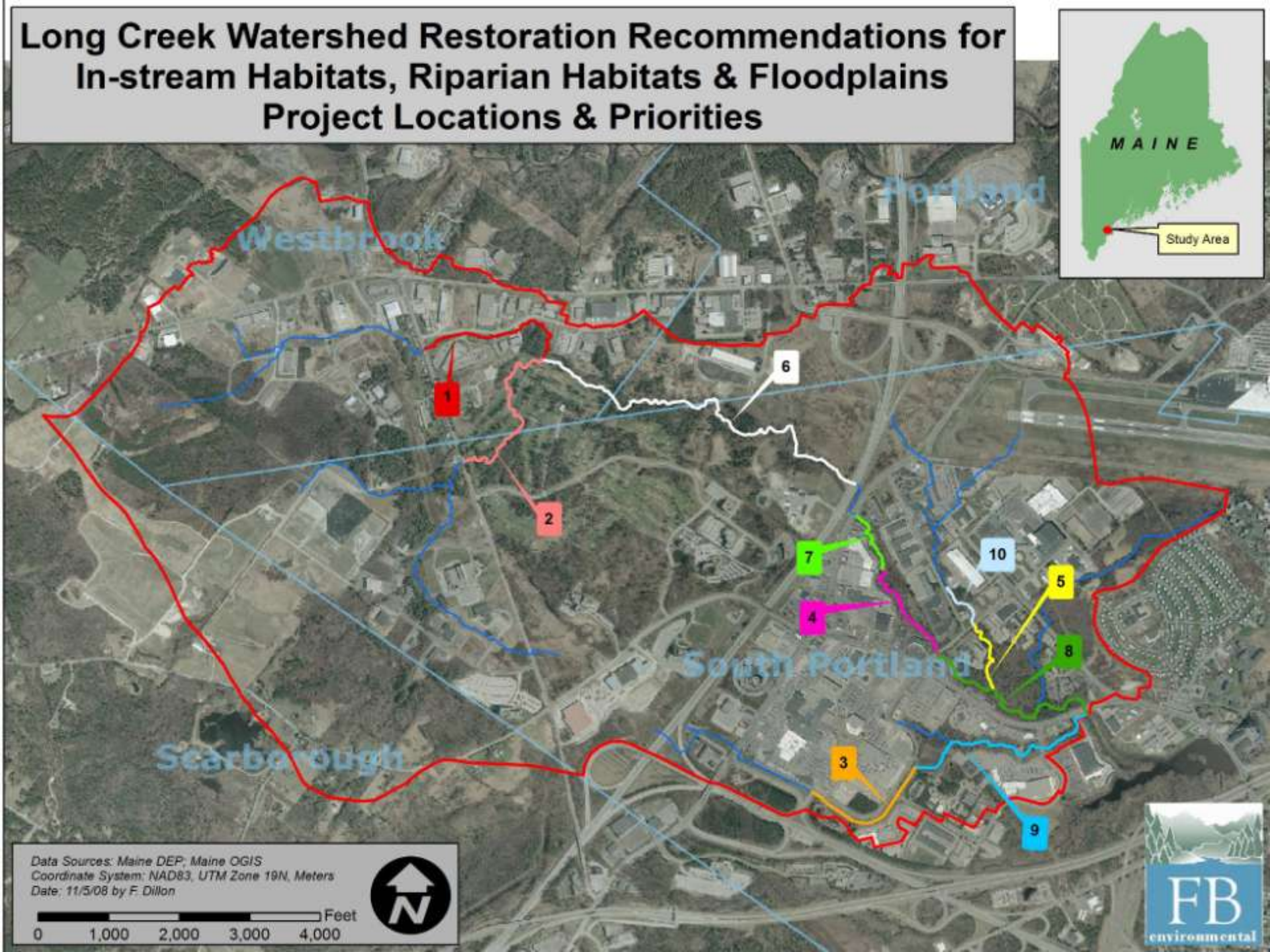
Tier 1: Provide "end of the pipe" below grade storage and filtration for primary catchment area. Include development of surface soil media filter during construction of below grade system in same location.
Tier 2: Implement additional water quality retrofits in other portions of catchment area to enhance function of Tier 1 system.
Tier 3: Integrate Tier 1 and Tier 2 designs to reach ideal treatment threshold for entire parcel. Install soil media filter for Dick's rooftop runoff (currently outside of catchment area).

Tier	Retrofit ID#	Estimated Cost
1	SPO_006 SPO_039	$460,000
2	SPO_001 SPO_002 SPO_003 SPO_005	$165,000
3	Integration of Tier 1 and Tier 2 SPO_007	$170,000

Considerations

Detailed survey and engineering evaluation of existing storm drain infrastructure near outlet will be necessary to determine appropriate options for stormwater treatment system in this area. SPO_005 assumes sufficient depth of adjacent storm drain to install a below grade water quality filter system.

Long Creek Watershed Restoration Recommendations for In-stream Habitats, Riparian Habitats & Floodplains Project Locations & Priorities



Restoration Strategies

Clean Water Act Refresher

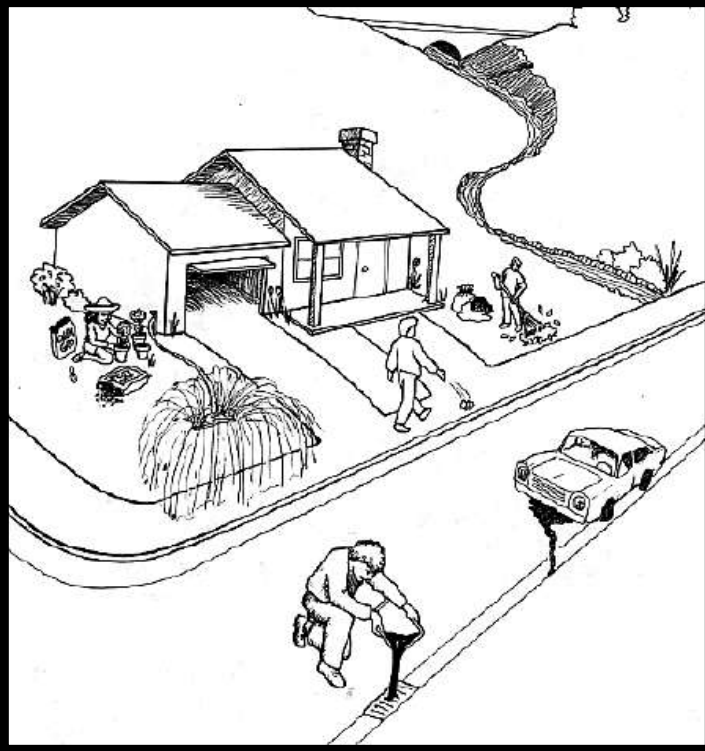
Past permits

Point source - discharged from pipe

Present permits

Polluted runoff from many smaller, diffused sources

- Municipal and industrial sources
- Clean Water Act allows individuals to petition to designate other pollution sources that are



Residual Designation Authority

- Conservation Law Foundation petitioned EPA in March of 2008
- EPA preliminary decision to designate published in Federal Register on 12/31/08
- Final decision published 10/30/09

Residual Designation Authority Requirements

- Maine DEP to administer program
- Requires permits for discharges from parcels with at least 1 acre of impervious cover
- Owners of designated parcels need a permit
  - Two options exist:
    - Individual permit
    - General permit

Potential Cost of Individual Permits

ESTIMATED COSTS PER ACRE IMPERVIOUS COVER		
	Low	High
Capital Costs	$30,000	$50,000
Annual Payments - 10 Year Loan at 5%	3,885	6,475
Good housekeeping and reporting	1,500	3,500
Water quality monitoring	500	1,000
Stream restoration fee	345	435
Total Annual Costs for Individual Permit	$6,230	$11,410

Collaboration Allows for Pooling of Resources to Solve Collective Problem

- Stormwater treatment systems for multiple parcels more efficient than those for individual parcels
- Fund cost-effective options before less cost-effective ones
- Track progress on a watershed basis

How much will it co$t?

Annual fee $3000 per impervious acre per year

Initial annual fee supports

- $1200 – Construction & Maintenance
- $900 – Pollution Prevention & Good Housekeeping
- $720 – Administration
- $180 - Monitoring

Interlocal Agreement provides Legal Structure

- Long Creek Watershed Management District established through interlocal agreement between watershed municipalities
- Allows for public and private governing board members who will oversee plan implementation

Management District Oversight Structure

- Governing board oversees implementation of the Plan and is appointed by municipal councils

	Municipal	Public	Private	Nonprofit	
South Portland	2		4	1	7
Westbrook	1		2		3
Portland	1		0-1	0-1	2
Scarborough	1	0-1	0-1		2
MDOT		0-1			0-1
MTA		0-1			0-1
		0-3	6-8	1-2	14-16

Timing

CLF Petition – March '08

Long Creek Restoration Project/Program

Jan '07 – June '09 Develop Plan

July '09 Approve Plan

Program Start Up Period (Jan 2009 – June 2010)

Seek grants, conduct landowner outreach

Develop legal structure – interlocal agreement

Develop landowner agreement

Finalize program design, fees

Enrollment April – June 2010

Coordinated program begins

Stimulus! March 2009

Permitting Process Timeline

July 2009 Draft general permit issued

Permit comments considered, final permit issued Oct 2009

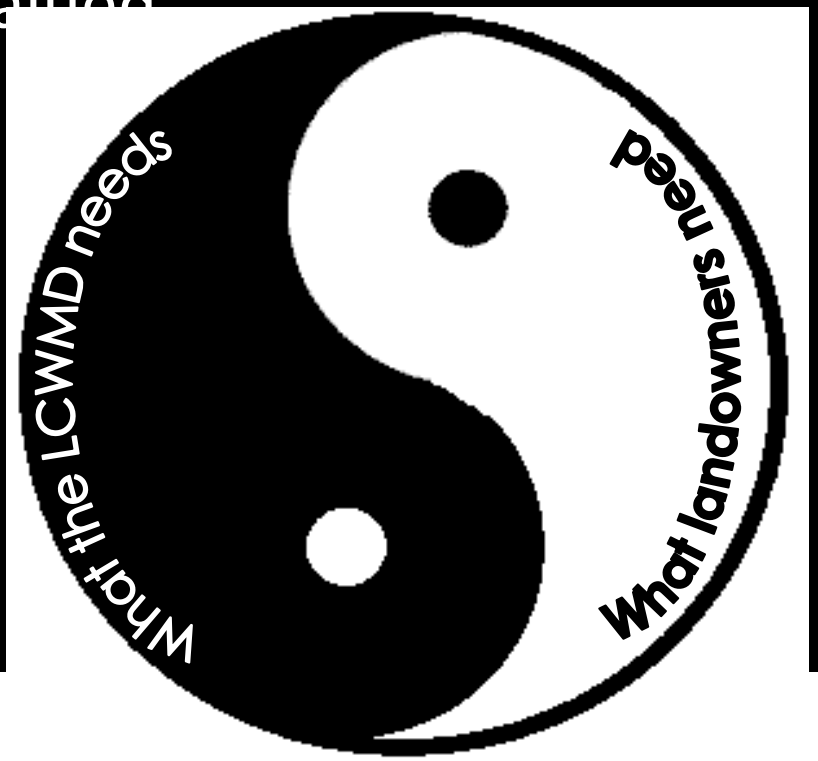
December 2009 Designated landowners notified, 180 days to decide whether to file for individual permit or participate in coordinated program

Notice of Intent due June 2010

Designated landowners opt in or file for individual permit

Creating an Agreement that Meets the Needs of Private Businesses and Public Entities

- Doors into and out of the Watershed Program
- Assuring participation will be valued
  - Addressing the concern that landowners with redevelopment plans feel they may "pay twice"
- Predictability of fees
- Fairness: everyone – public and private – needed



Landowner Obligations

- Pay Initial and Annual Assessments by due dates
- Provide Easements over Parcel:
  - Easements for BMPs identified in Plan – Participating Landowner required to provide
  - Easements for BMPs added to Plan – Participating Landowner has veto authority

Easements on Private Land for Public Purpose

Needed to address:

- Potential to redevelop property and either remove or relocate the installed BMP and associated easement
- Liability of the landowner

Assessment Structure

- $3,000/impervious acre/yr
- Cap on increase in Assessment (CPI plus 2%)
- Credits provided for stormwater treatment and good housekeeping activities on own parcel
- Services can be provided in Lieu of Payment
  - Need approval by the Governing Board
  - Only applied after the service is provided

Where are we now?

- 125 designated parcels
  - 110 (93% impervious acreage) - General Permit
  - 8 - have not acted yet
  - 4 - individual permits
  - 3 - working to get under 1 acre
- American Recovery & Reinvestment Act projects are substantially complete

Mall Plaza Phase I Priority Retrofit

SITE CHARACTERISTICS

Impervious Cover:

Rooftop - 25% (3.4 acres)

Parking - 75% (10.4 acres)

Impervious Cover Treated: 11 acres

PROJECT COST

Engineering & Oversight:	$ 99,471
Construction:	$ 578,959
Legal & Administration:	$ 22,388
Total	**$ 700,818**

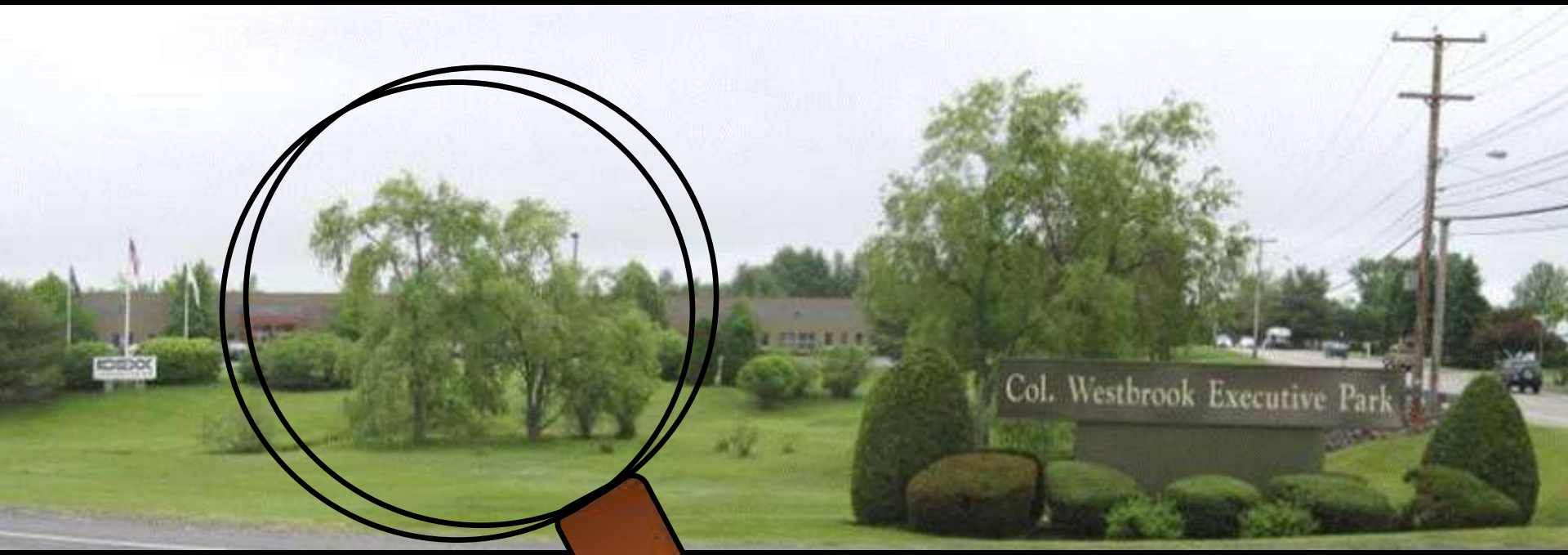
Completed Soil Media Filter – cost /acre treated $63,711

Soil Media Filter - After a 3.75” rainstorm

What's Next?

- Operation and Maintenance plans are being developed for all participating parcels
- Vacuum sweeping and cleaning out of all catch basins to occur through November
- Education programs to be developed for landowners, property managers and landscapers

Streamside Restoration Planned for Spring '11



Streamside Restoration Planned for Spring '11

Streamside Restoration Planned for Spring '11

Lessons Learned

- It can be good to have a gorilla in the closet
- Bringing people in early and often
- Managing stormwater across properties
- Learning to appreciate business
  - Eager to be good corporate citizens
  - Need to show a benefit to their business
  - Seek a strong measure of certainty

Ongoing Challenges

- Winter maintenance
- Landowner expectations
  - Retrofit maintenance
  - WQ data
  - Implementation schedule & progress
- Balancing ideals of implementation with existing local and state requirements

Ongoing Challenges

For More Information
www.restorelongcreek.org

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