Maywood Ave, Toledo
Green Streets Revitalization

GreenTown – Toledo Lucas County

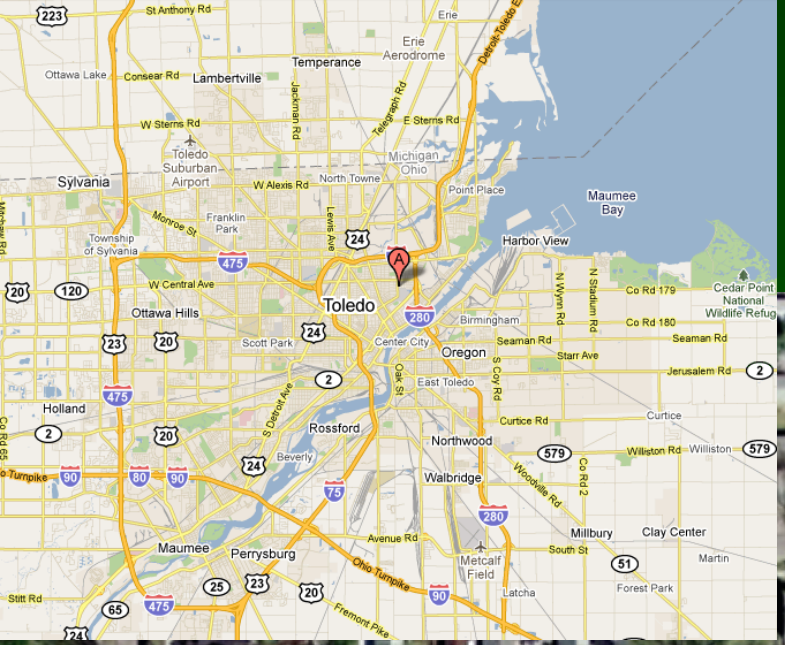
October 26, 2012

Tim Murphy, City of Toledo

Project Goals

- Revitalize the neighborhood
- Community involvement
- Reduce stormwater runoff entering the CSO
- Improve water quality using green infrastructure

Location


Toledo
Sylvania
Ottawa Hills
Holland
Rossford
Oregon
Northwood
Walbridge
Maumee
Perrysburg
Lambertville
Temperance
Erie Aerodrome
Toledo Suburban Airport
Michigan Ohio
Maumee Bay
Harbor View
Point Place
North Towne
Franklin Park
Scott Park
Center City
Birmingham
East Toledo
Beverly
Millbury
Clay Center
Metcalf Field
Forest Park
Cedar Point National Wildlife Refug

Russell Street
Mulberry Street
Maywood Avenue
Stickney Avenue
Ashwood Avenue

Demographics

- Single family residential
- Median home income $25,384 (average income in Toledo $32,546)
- 1/12 acre lots (30 by 120-ft)
- 66 lots (46 with houses)
- 25% Homeowners*

*Based on Lucas County Auditor AREIS Information

Green Streets

- Identify criteria for location of projects
- Review codes and make changes if necessary
- Empower the residents
- Removal of vacant properties
- Coordinate with other neighborhood services

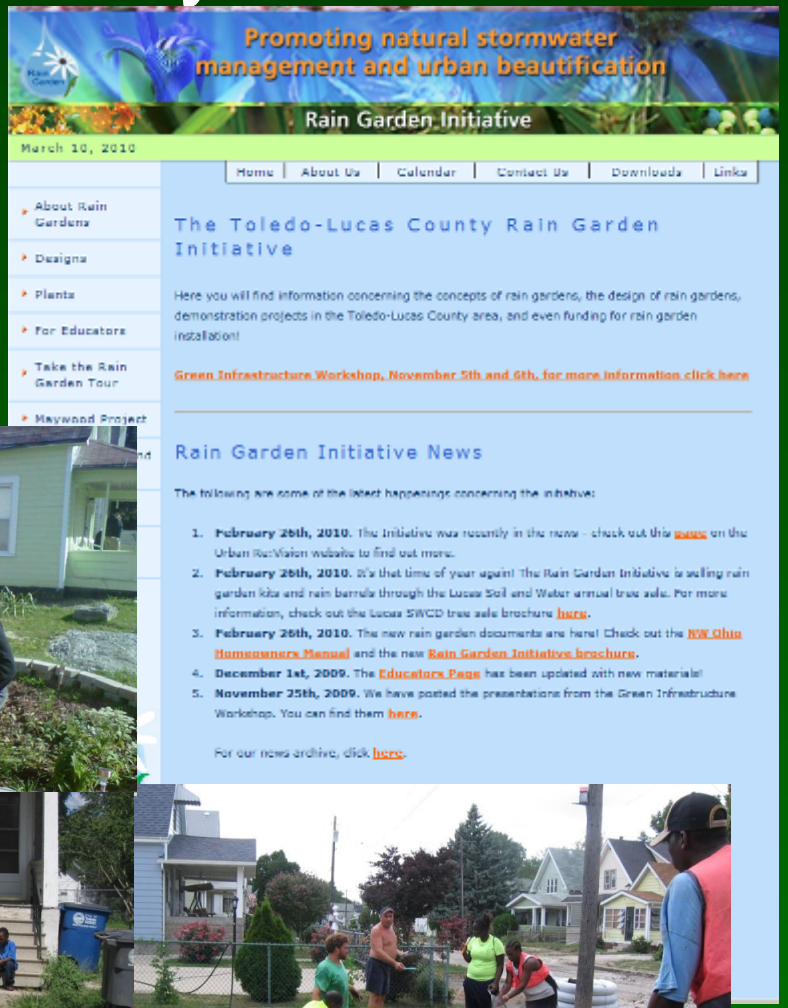
Tree trimming in the alley

Vacant and abandoned property

Postal worker attempting to deliver mail

Community Involvement

- Goal
  - full cooperation from the property owners
  - Connect people in urban areas to their water resources
  - Teach residents to be better stewards
  - Promote environmental education and awareness
- Methodology
  - City official presentations
  - Project factsheets and other literature
  - Website www.raingardeninitiative.org
  - Public Meetings
  - Coordinate with "Toledo Grows" Green Jobs Corps

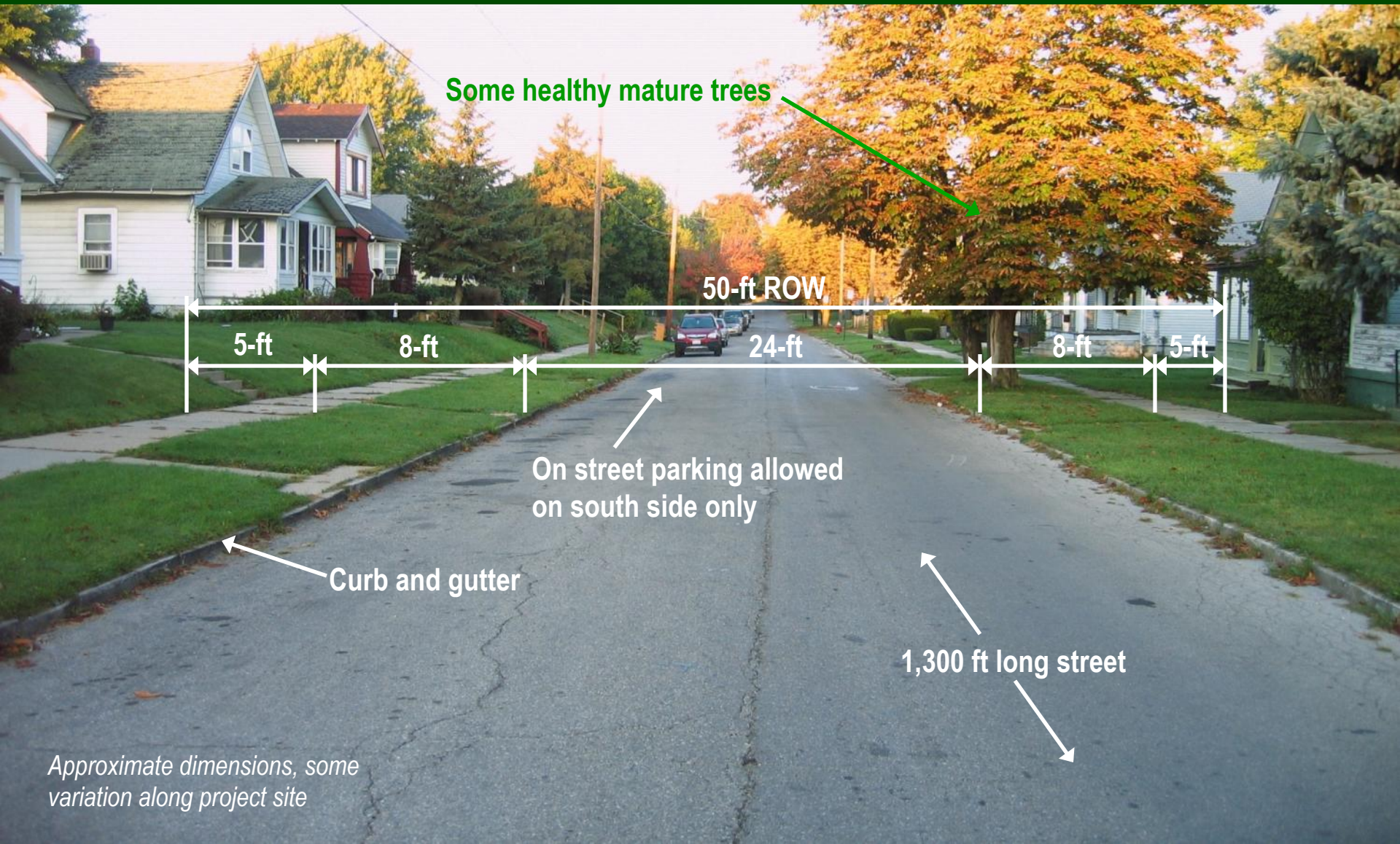


Funding Source

- Approached various government agencies
- Received 100% principle forgiveness subsidy

  Water Pollution Control Loan Fund (WPCLF) Green Reserve (20% Set Aside) American Recovery and Reinvestment Act (ARRA) Stimulus Funds
- Green Jobs Corps Youth Program-U.S. Dept. of Agriculture, NRCS and Lucas County funds

Site Characteristics



Approximate dimensions, some variation along project site

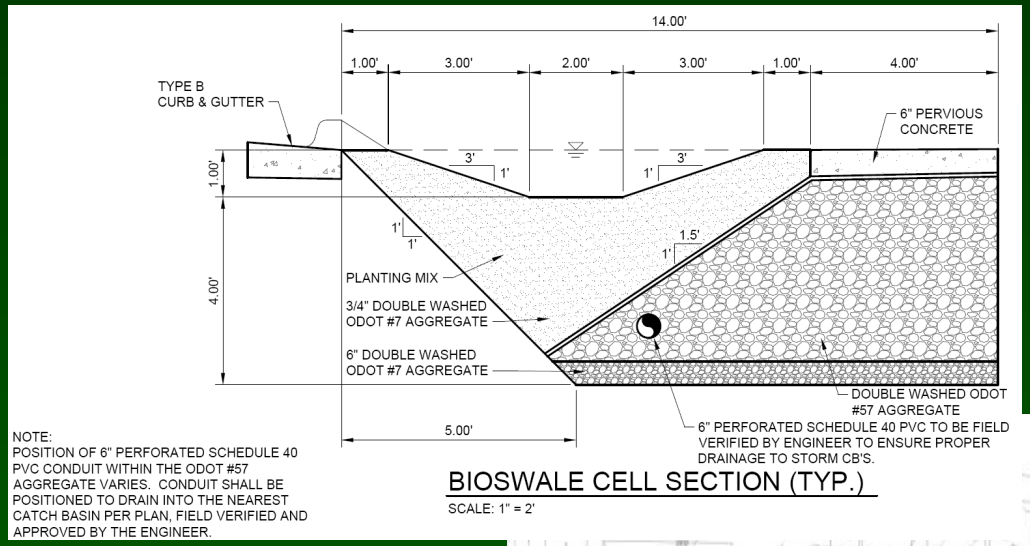
Some dirt/gravel driveway and alleys
Some driveways off Maywood others accessed from alley behind the houses

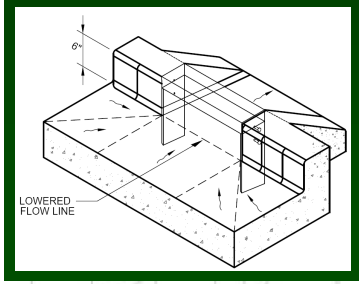
Oil stained pavement

Community Garden
Maywood Avenue Garden
TOLEDO GROWs
Gardens Revitalize Our World

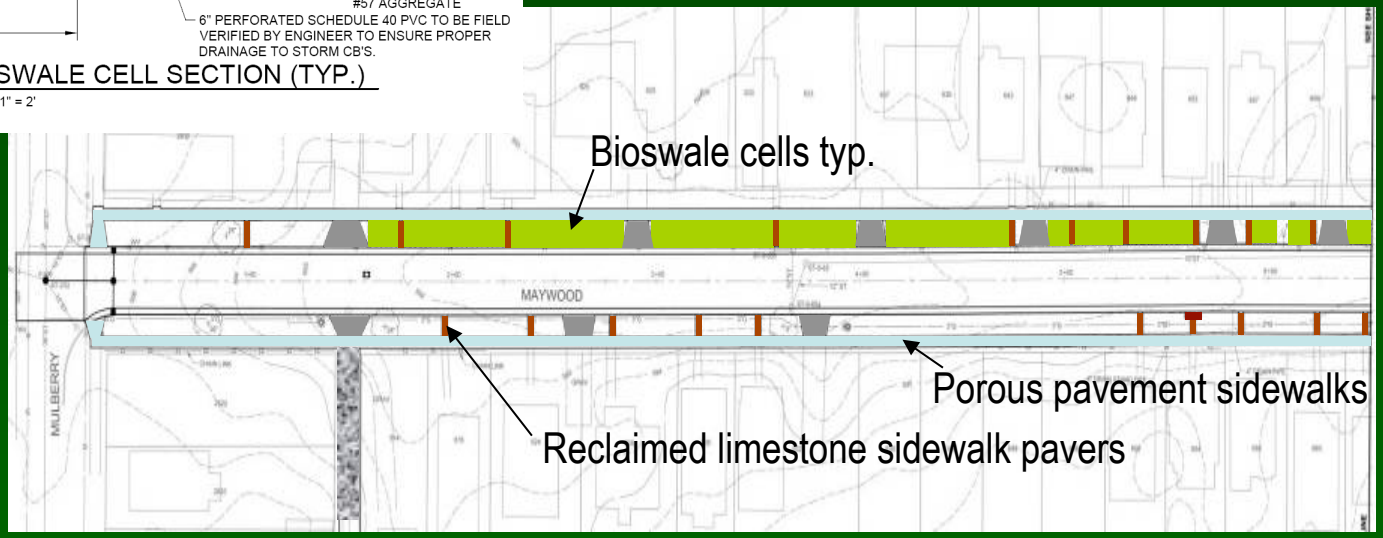
Roof drains discharge on lawns

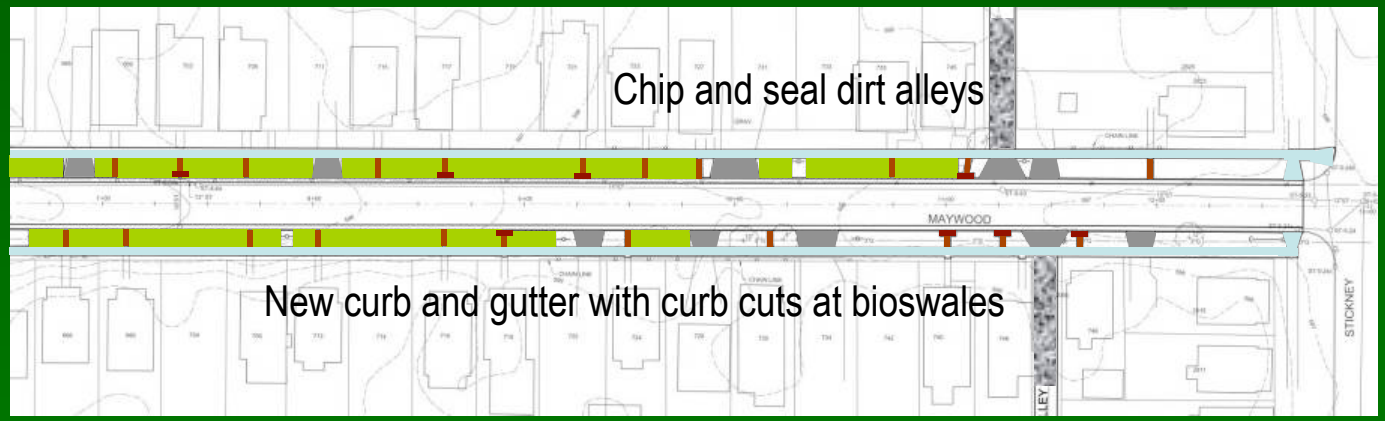
Design

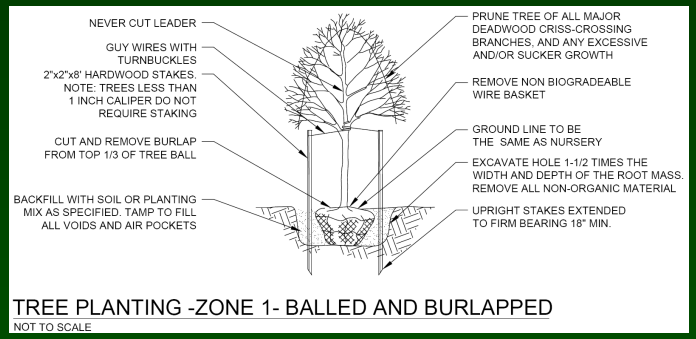




- Bioswales
  - Curb cuts
  - Underdrain
- Pervious Concrete Pavement
  - Sidewalks
  - Driveway apron







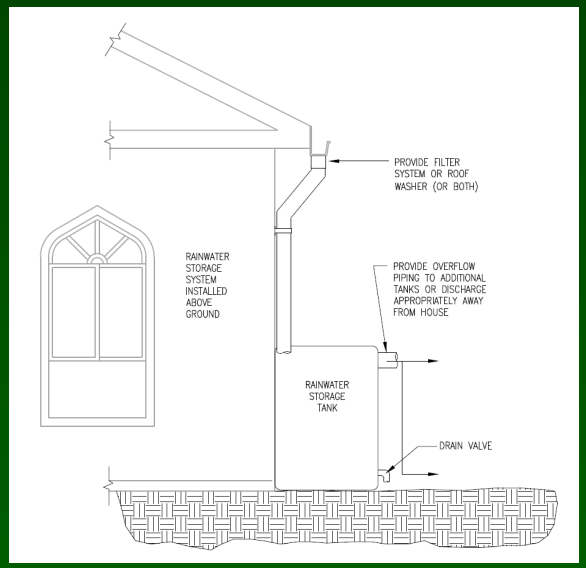
Plants and Soil

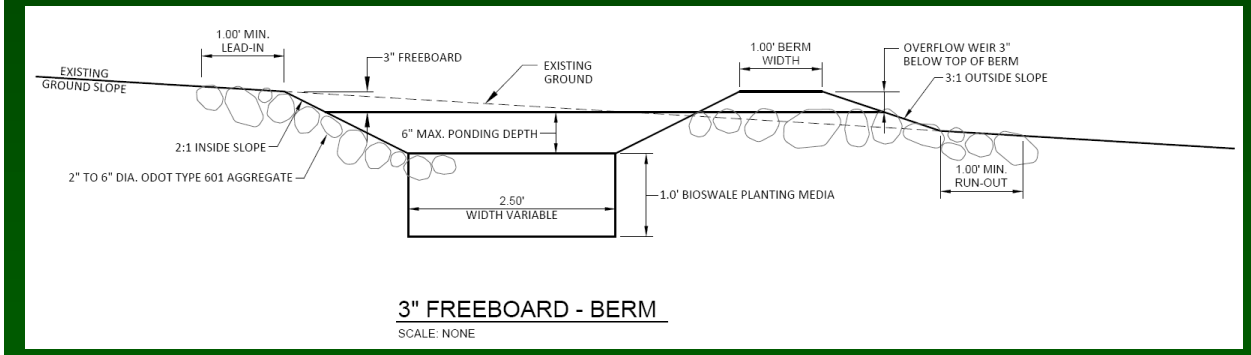
- City Forester tree assessment
- Trees (2.5” caliper, 30-ft spacing)
  - Honeylocust
  - Black Cherry
  - Shingle Oak
- Ground Cover
  - Buffalo Grass

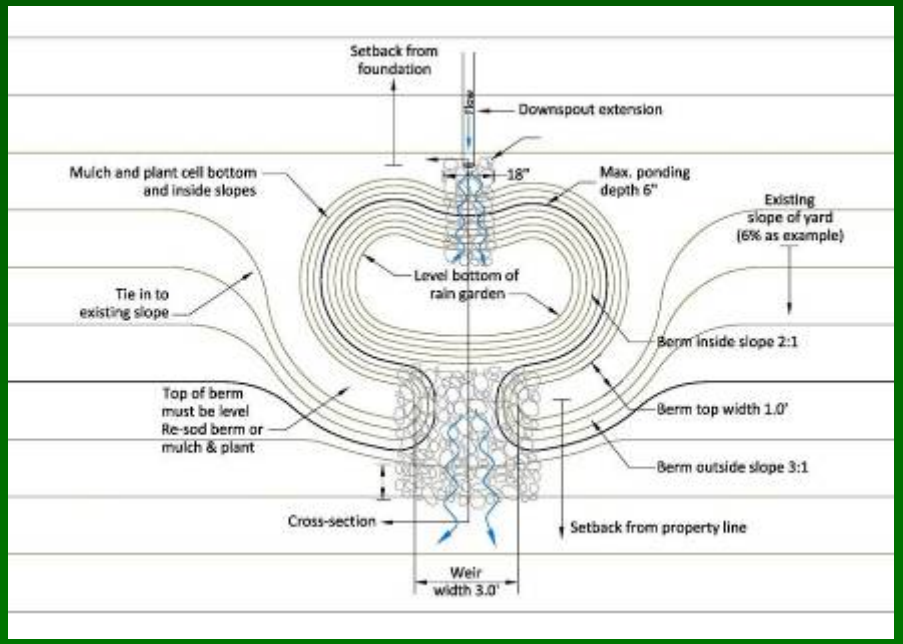
Planting Soil Mixture

- 50% sand
- 30% topsoil (<5% clay)
- 20% leaf compost

Residential rain gardens and rain barrels







Cost

- Total Cost
  - ~$500k total project (swales, sidewalks, driveway approaches, curb and gutter, plantings, etc.)
  - ~$278k green infrastructure
- Highlights
  - Bioswales ~ $150/lf
  - Pervious concrete sidewalk 6-inch ~ $5/sf

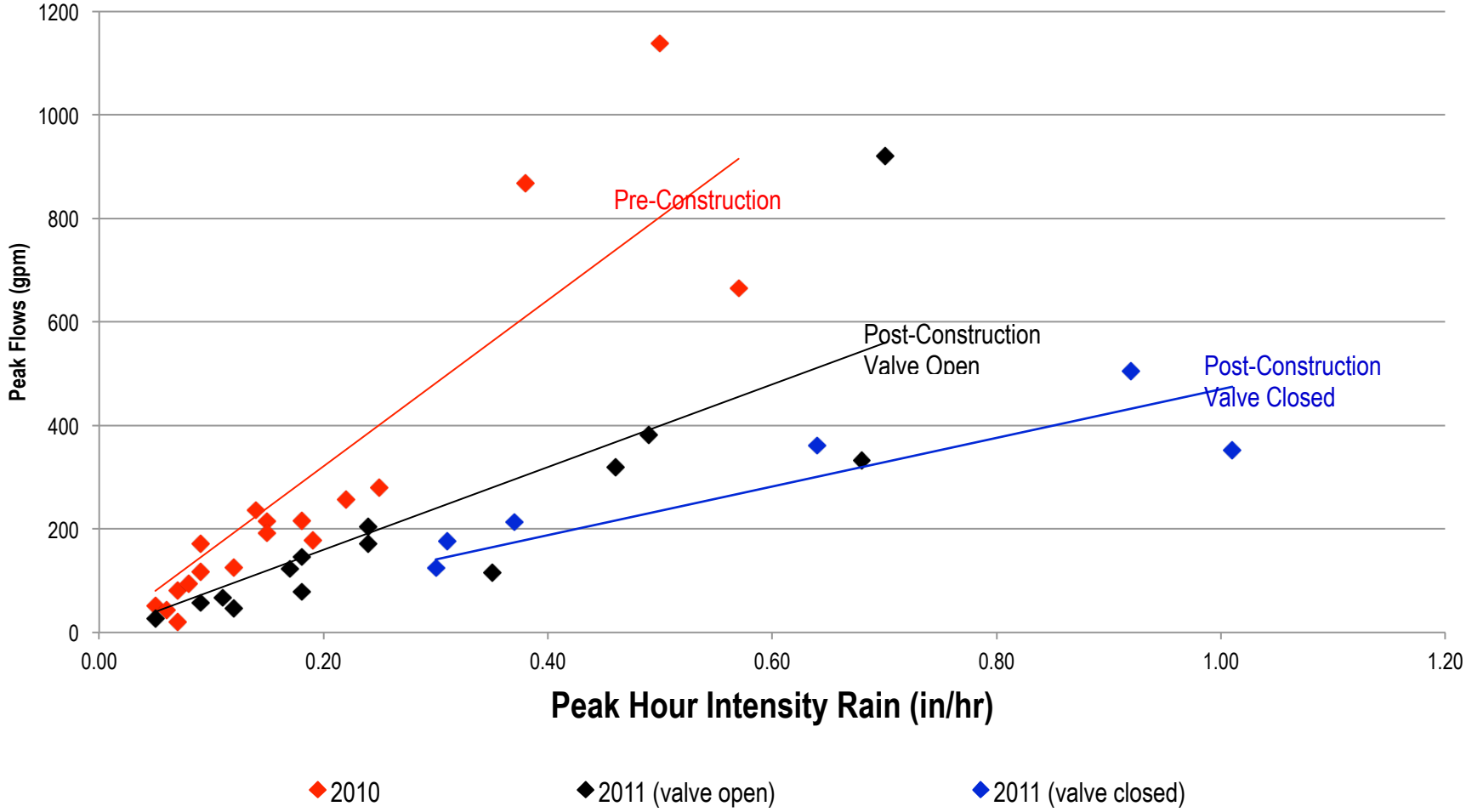
Belt

EARLY APRIL 2011

Mid-June 2011

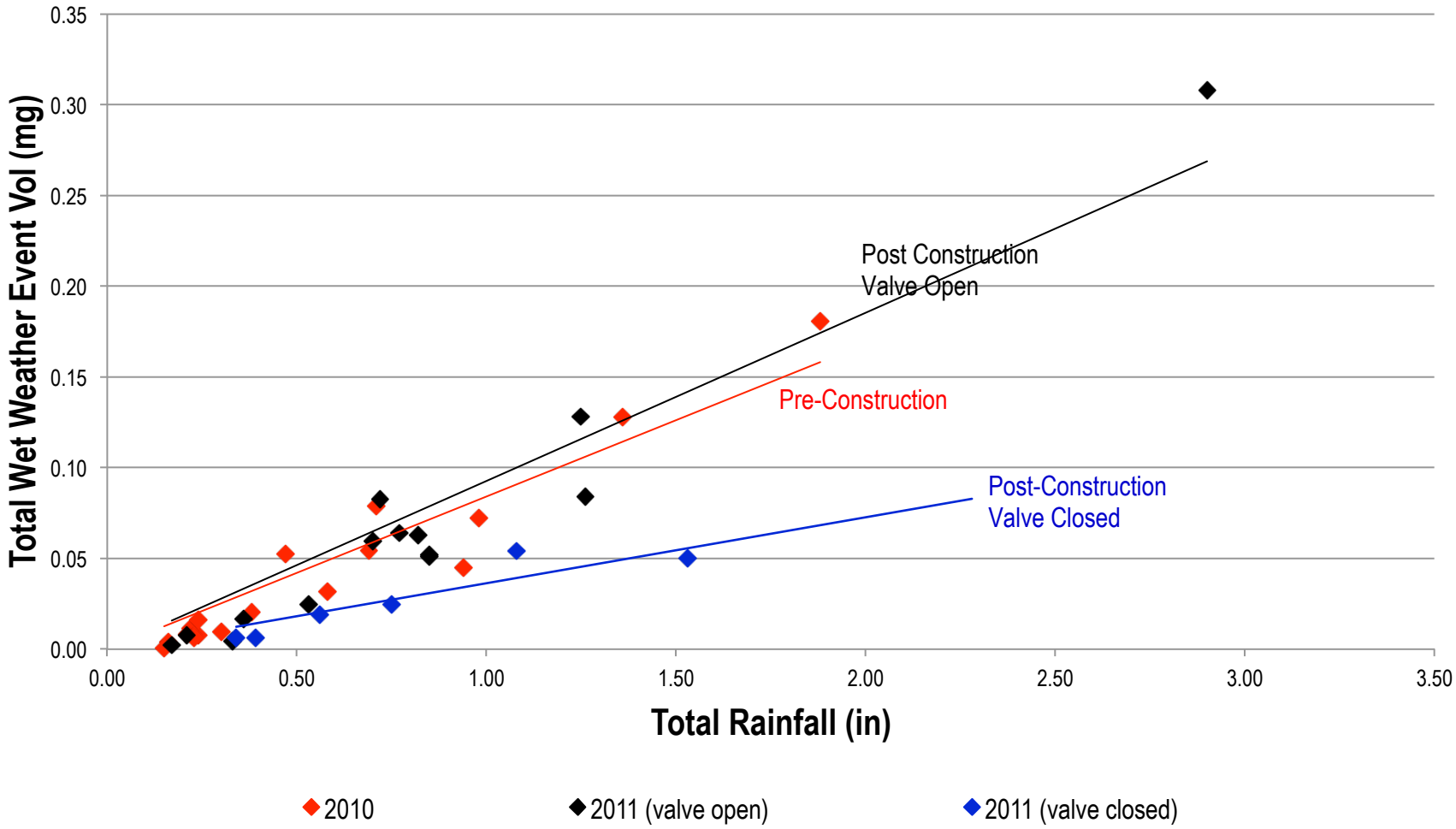
How much Stormwater was Stored/Infiltrated?

Peak Flow



How much Stormwater was Stored/Infiltrated?

Runoff Volume



Summary of Results

- Long-term simulations using US-EPA SWMM indicates an annual average reduction of runoff volume of approximately 64%.
- Peak flows reduced by 60% to 70% at equivalent rainfall intensities.

Next Steps

- Continue monitoring through the Fall and Winter months to evaluate effectiveness year round.
- Implement the findings in the City's overall collection system model to further evaluate green infrastructure for CSO control.

Summary

- Early neighborhood involvement
- Coordinate with other agencies and departments
- Low Maintenance (mostly mowing grass)
- 0.58-in storage (of runoff, not rainfall)

Contact

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Questions