MAINTAINENCE

MAINTENANCE MEASURES

WEEKLY TASKS:

1. Watering
2. Weeding
3. Inspecting

ANNUAL TASKS:

1. Mulching
2. Pruning
3. Re-planting
4. Removing sediment
5. Soil Testing
6. Harvesting Plants
7. Cleaning of Gutters
8. Replacing materials (stone, landscape fabric)

WEEKLY INSPECTIONS (identify)

1. **Invasive plants and weeds**

- Are there plants other than what was installed present in the rain garden?

2. **Plant health**

- Is the soil around plants moist?
- Do plants show signs of stress?

WEEKLY INSPECTIONS (IDENTIFY)

3. **Runoff Flow (during a rain event)**

- Is runoff entering the garden via the forebay?

- Is there excess sediment, trash or pet waste in the rain garden?

4. **Movement of sediment within the rain garden**

- Are there signs of erosion anywhere within the rain garden
  - around the edges = create berm to discourage flow at that point
  - at the overflow = rain garden is too small, increase size

WEEKLY MAINTENANCE TASKS (ACTION)

1. **Weed**
    1. Keep weeds at bay (but make sure you don't pull rain garden plants!)
    2. Watch out for aggressive invasive species
2. **Water**
    1. Make sure plants get at least 1" of water per week during the first 1-2 growing seasons
3. Remove excess sediment, trash or pet waste
4. Prevent erosion (create berm, increase rain garden size)

WEEKLY MAINTENANCE

- Observe the rain garden during rain events and note any successes

Success: Stormwater runoff picks up oil and grease from the parking lot, flows through a curb cut, and into a rain garden. The rain garden traps the nonpoint source pollutants before they reach the nearby lake.

WEEKLY MAINTENANCE: EROSION INSPECTION

- Observe the rain garden during rain events and note any problems

Problem: Gullying after rain event

Solution: Add a berm, more plants, river rocks, and/or more mulch

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ANNUAL MAINTENANCE: MULCHING

- Add mulch every spring to maintain a three inch mulch layer in your rain garden

ANNUAL MAINTENANCE: PRUNING

- Cut back dead vegetation, flowers, and tattered or unwieldly plants in late winter/early spring

ANNUAL MAINTENANCE: PRUNING

- Directs plant growth
- Improves plant health
- Increases production of flowers + fruit

HOW DOES PRUNING A RAIN GARDEN DIFFER FROM OTHER GARDENS?

- In a rain garden, dense shrub growth is encouraged to provide an increase in filtering capacity

TYPES OF PRUNING

- **THINNING:** This type of pruning removes entire braches back to the main trunk or major branches to the ground.
  - ***Expected result:*** large, open shrub

- **HEADING (HEADING BACK):** This type of pruning removes only part of a branch.
  - ***Expected result:*** growth of multiple branches in place of single branch, thus a more dense shrub.

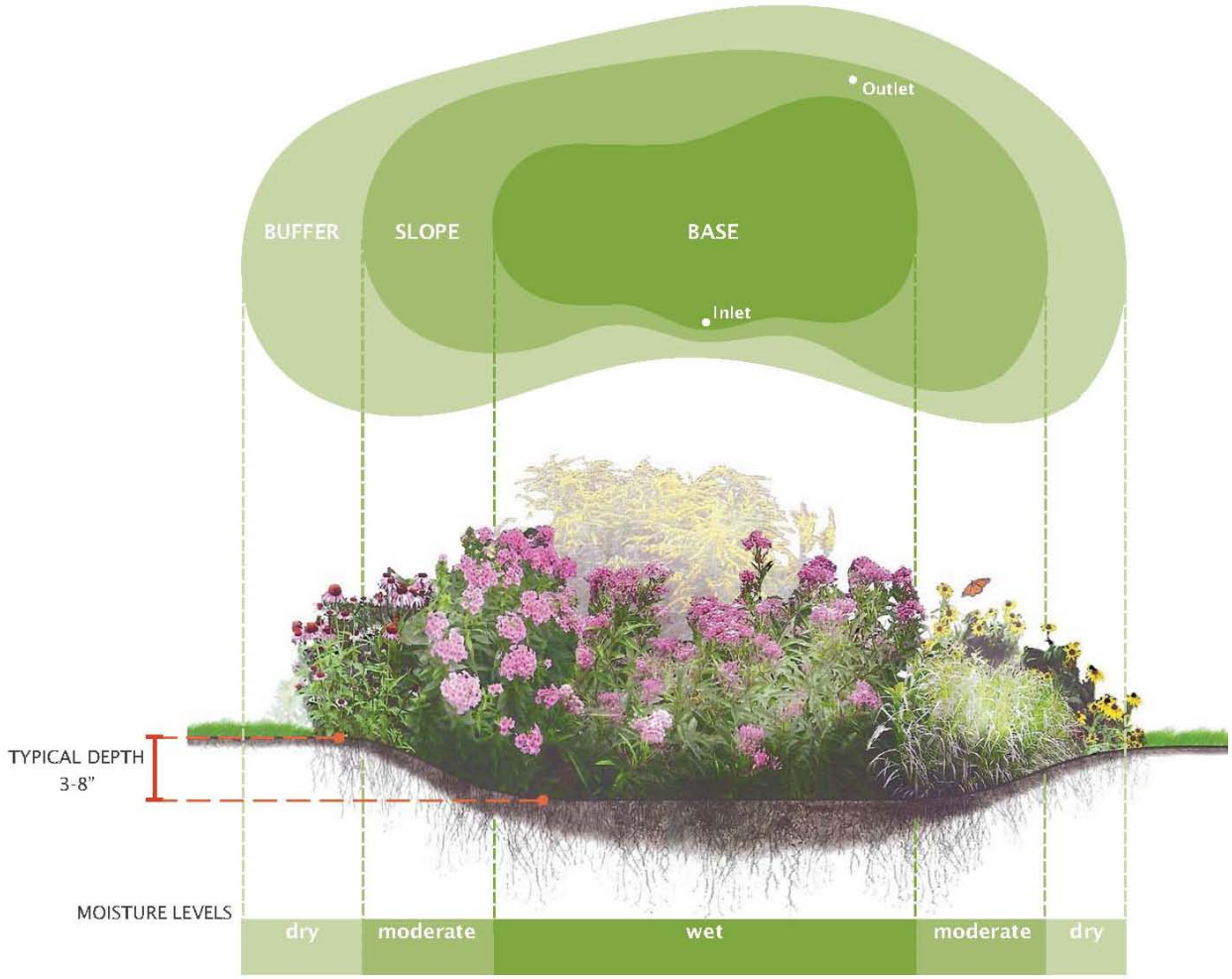
- **DEADHEADING:** This type of pruning removes the spent flowers of an herbaceous plant.
  - ***Expected result:*** increased blooming throughout the season.

WHEN TO PRUNE?

- Prune summer and fall flowering trees and shrubs in the dormant season (late winter/early spring)
- Prune spring flowering trees and shrubs soon after their flowers fade
- **SPECIAL NOTE!** Plants such as hydrangeas, roses and clematis - some of these flower in spring, some in summer or fall, some flower repeatedly
- **BE CAREFUL!** Avoid pruning plants between June 15th – October 15th, as it stimulates new growth that may not be able to withstand the hard frosts in October

ANNUAL MAINTENANCE: REPLANTING

- Remove or replace plant material that did not thrive



ANNUAL MAINTENANCE: REMOVING SEDIMENT

- Since the rain garden serves the purpose of catchment and filtering runoff, sediment will tend to accumulate within the garden. This sediment would have otherwise run directly into the local waterways.

ANNUAL MAINTENANCE: REMOVING SEDIMENT

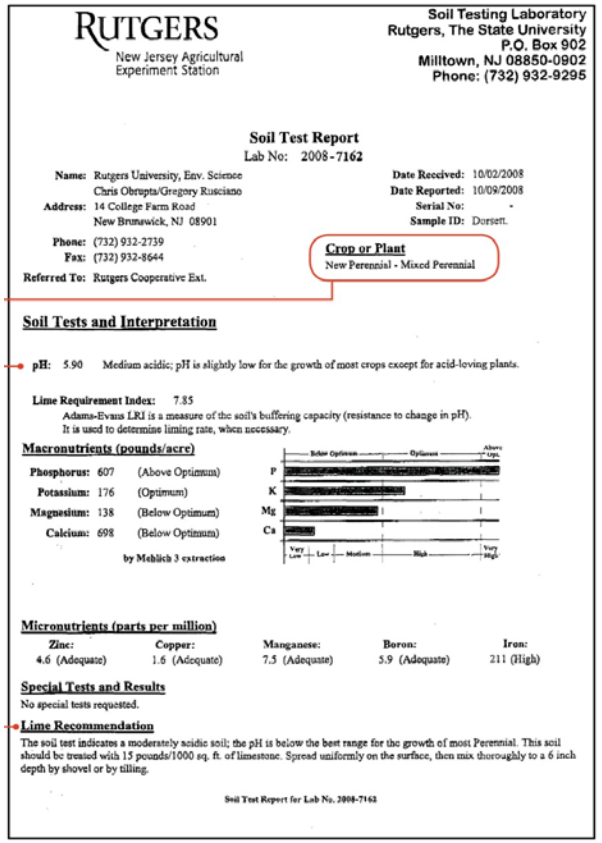
- With a flat shovel, remove soil that has accumulated in the basin. Avoid the vegetation!
- There is no exact schedule for when this should be done, so try to monitor sediment accumulation, especially after all heavy storm events.

ANNUAL MAINTENANCE: REMOVING SEDIMENT

- Be sure that sediment is not churning up from exposed areas of the rain garden
- Flow should be dissipated to avoid these situations, which are likely to occur in the early stages of stabilization.
- Core aerate or cultivate bare areas annually if surface becomes clogged with fine sediments.

ANNUAL MAINTENANCE: SOIL TESTING

- Soil should be tested every 3 years
- pH should be in the acidic range
  - If pH is <5.2, apply limestone
  - If pH is >7.0 to 8.0, add aluminum sulfate or sulfur to reduce pH according to recommendations
- Soil amendments should only be added when no storms are expected
- **Do not fertilize the rain garden**



RUTGERS
New Jersey Agricultural Experiment Station

Soil Testing Laboratory
Rutgers, The State University
P.O. Box 902
Milltown, NJ 08850-0902
Phone: (732) 932-9295

Soil Test Report
Lab No: 2008-7162

Name: Rutgers University, Env. Science
Chris Obrupta/Gregory Rusciano
Address: 14 College Farm Road
New Brunswick, NJ 08901
Phone: (732) 932-2739
Fax: (732) 932-8644
Referred To: Rutgers Cooperative Ext.

Date Received: 10/02/2008
Date Reported: 10/09/2008
Serial No: -
Sample ID: Dorsett

Crop or Plant
New Perennial - Mixed Perennial

Soil Tests and Interpretation

pH: 5.90 Medium acidic; pH is slightly low for the growth of most crops except for acid-loving plants.

Lime Requirement Index: 7.85
Adams-Evans LRI is a measure of the soil's buffering capacity (resistance to change in pH). It is used to determine liming rate, when necessary.

Macronutrients (pounds/acre)

Phosphorus:	607	(Above Optimum)
Potassium:	176	(Optimum)
Magnesium:	138	(Below Optimum)
Calcium:	698	(Below Optimum)

by Mehlich 3 extraction

Micronutrients (parts per million)

Zinc:	Copper:	Manganese:	Boron:	Iron:
4.6 (Adequate)	1.6 (Adequate)	7.5 (Adequate)	5.9 (Adequate)	211 (High)

Special Tests and Results
No special tests requested.

Lime Recommendation
The soil test indicates a moderately acidic soil; the pH is below the best range for the growth of most Perennial. This soil should be treated with 15 pounds/1000 sq. ft. of limestone. Spread uniformly on the surface, then mix thoroughly to a 6 inch depth by shovel or by tilling.

Soil Test Report for Lab No. 2008-7162

ANNUAL MAINTENANCE: HARVESTING PLANTS

- Collect seeds and cuttings from successful plants in the rain garden and use them in other parts of your landscape

ANNUAL MAINTENANCE: CLEANING GUTTERS

- Make sure that any gutters connected to the rain garden are clear of debris
- You may have to clean the gutters more frequently if you have large trees in close proximity

ANNUAL MAINTENANCE: REPLACING MATERIALS

- Add more river rocks, if necessary
- Re-position river rocks that may be diverting rainwater flow
- Add mulch
- Re-seed the berm if there are areas of exposed soil

BEFORE and AFTER MAINTENANCE

BEFORE

AFTER

A RAIN GARDEN OVER TIME

At time of installation

Springfield Township Municipal Annex Building
Springfield, NJ

First growing season

Second growing season

Third growing season

Fourth growing season

REMEMBER: rain gardens are LOW maintenance gardens, not NO maintenance gardens!