

Sewerage & Water Board OF NEW ORLEANS

www.swbno.org



Joseph Becker, General Superintendent

Green Infrastructure

- Refers to stormwater management systems that mimic nature by soaking up and storing water
- Uses natural hydrologic features to manage water and provide environmental and community benefits
- Reduces *flooding* and improves *water quality*

S&WB Green Infrastructure Plan

- Per Modified Consent Decree and the LPDES Municipal Separate Sewer Storm Sewer Systems (MS4):
 - Explore and include green infrastructure projects for all of New Orleans
 - Dedicate \$500,000 per year, averaged over the next five years
- Submitted GI Plan to EPA on April 23, 2014

S&WB Green Infrastructure Plan

- Description of the principal goals and objectives for green infrastructure at S&WB
- Understanding of the approach toward achieving the goals
- Establishment of performance measurements
- Policies guiding development of the Plan:
 - Modified Consent Decrees
 - MS4 Permit
 - Greater New Orleans Urban Water Plan(Sept. 2013)
 - CNO Master Plan for the 21st Century: New Orleans 2030 (adopted Aug. 2010)
 - CNO Comprehensive Zoning Ordinance (draft)

2014 S&WB GI RFP

The Sewerage and Water Board of New Orleans issued a request for proposals from teams of qualified environmental professionals including engineers, landscape architects, planners, non-profits, and community organizations to implement a green infrastructure project.

The projects are organized into the following types:

- Type 1:** Plan, design, develop, implement and maintain one or more GI demonstration projects on public land within Orleans Parish.
- Type 2:** Develop a GI educational curriculum to be implemented in Orleans Parish schools.
- Type 3:** Develop GI community outreach for educating neighborhood groups, commercial businesses and professionals concerning their particular area.

Ripple Effect

Type 2

In-School Curriculum

Aron Chang and Claire Anderson, Co-Directors



Green Infrastructure Projects 2014



WATER • DESIGN • TEACHING

rippleeffectnola.com







WATER • DESIGN • TEACHING

rippleeffectnola.com



Parkway Partners

Type 3

Green Keepers

Susannah Burley, Program Director



Green Infrastructure Projects 2014

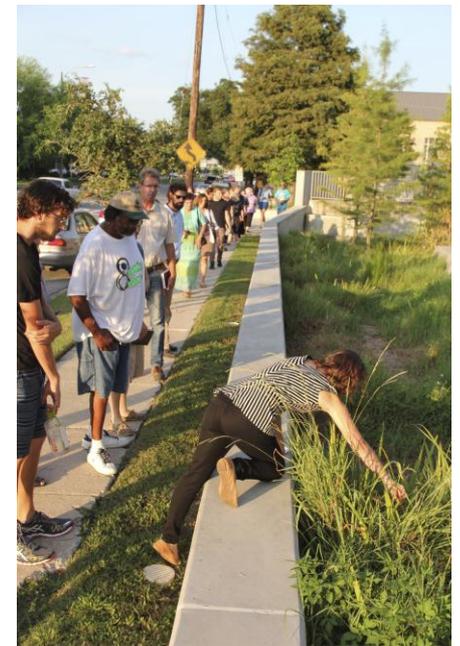
Parkway Partners' GREEN KEEPERS educational series



Day 2 |
• **Green Roofs + Vertical Gardens**
Emily Bullock, Spackman, Mossop + Michaels

Day 1 |

- **Introduction to Green Infrastructure**
Joe Evans, Evans + Lighter Landscape Architecture
- **Plants for Green Infrastructure**
Dana Brown, Brown and Associates



Parkway Partners' GREEN KEEPERS educational series

Day 2 |

- Concrete + Permeability

Dana Eness, The Urban Conservancy



Day 3 |

- Green Infrastructure at Community Gardens + Urban Farms

Dan Etheridge, Colectivo

Tony Lee, Magellan Street Garden

Parkway Partners' GREEN KEEPERS educational series



Day 4 |

- Bio Swales + Rain Gardens

Dana Brown, Brown and Associates



Day 5 |

- Large and Small Scale Water Catchment

Joe Evans, Evans + Lighter Landscape Architecture
Hilarie Shackai,



Louisiana Urban Stormwater Coalition

Type 3

Educational Series

Dana Brown, Treasurer



Green Infrastructure Projects 2014



DANA BROWN & Associates



PROFESSIONAL
GROUNDS
MAINTENANCE

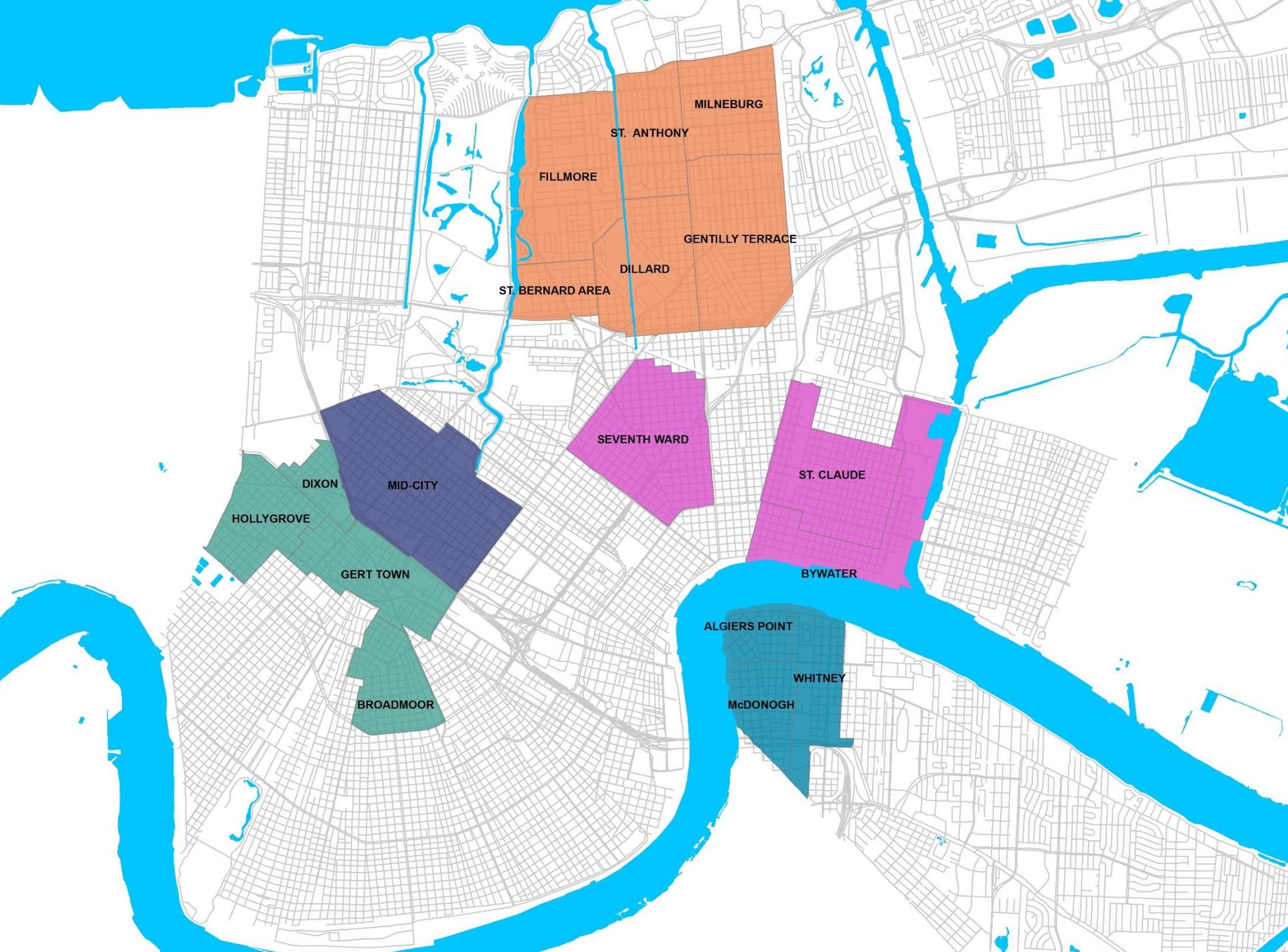


PUBLIC EDUCATION PROGRAM



PROFESSIONAL EDUCATION PROGRAM





MILNEBURG
ST. ANTHONY
FILLMORE
GENTILLY TERRACE
DILLARD
ST. BERNARD AREA

SEVENTH WARD

ST. CLAUDE
BYWATER

DIXON
MID-CITY
HOLLYGROVE
GERT TOWN
BROADMOOR

ALGIERS POINT
WHITNEY
McDONOGH

Groundwork New Orleans

Type 1, 2, 3

Lower 9th Ward Earth Lab

Alicia Neal, Executive Director



Green Infrastructure Projects 2014

Lower 9th Ward Earth Lab



Let It Flow Environmental Education



Central City, Bywater & L9th Ward Stormwater Education Workshops



Hangin' Gardens

Type 1, 2

*Rabouin International High School
Green Infrastructure Lab*

Anthony Mayer, CEO



Green Infrastructure Projects 2014

Hanging Gardens LLC

International High School
Green Infrastructure Lab





HANGING GARDENS

Milwaukee, WI

International High School
Green Infrastructure Lab

727 Carondelet
New Orleans, LA
70134

PROJECT PHASE
Design Development

ISSUE DATE
7/30/2014

SHEET TITLE
SITE REDESIGN

SHEET NUMBER

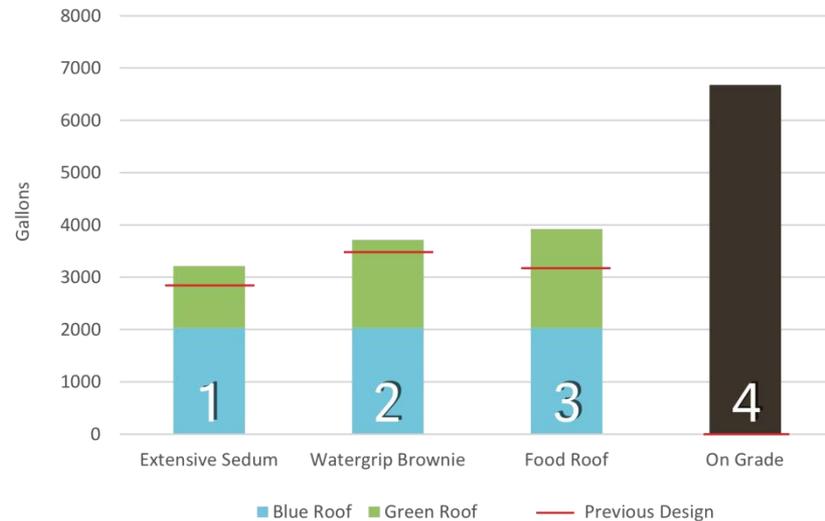
HG I



- 1 Extensive Sedum Roof
- 2 Watergrip Brownie Roof
- 3 Food Roof
- 4 On Grade Stormwater

Design based on assumptions that structural load capacity for the 2nd floor roof is the same as the 5th floor roof (35 psf). Structural analysis is being completed and if this is not the case, a redesign can be done to increase the area of 5th floor blue roof & increase the depth of the on grade to maintain stormwater holding capacity and remain within budget.

Max Stormwater Holding Capacity



Previous Design: 9,603 Gallons

Current Design: 17,500 Gallons



Our Stormwater Catchment System offers a vegetated roofing system that maximizes stormwater retention while simultaneously allowing for design creativity.

We offer both root barrier or non-root barrier systems, dependent on whether your vegetative roof's waterproof membrane is root resistant. The remaining components of the system are as follows:

- ... Capillary protective fleece **HG 3330**
- ... Semi-Intensive drainage/retention board **HG 3630**
- ... Extensive filter fleece **HG 3710**
- ... 6" combination of Fertile Roof Lush Extensive Growth Media **HG 4110** and Watergrip Media **HG 4135**
- ... Perennial Plugs (One 72 count plug/S.F. average) **HG 6100**:

... Common Genus Availability:

Allium, Andropogon, Aquilegia, Asclepias, Bouteloua, Echinacea, Eryngium, Geum, Helianthus, Iris, Liatris, Lobelia, Oenothera, Phlox, Rudbeckia, Solidago, Tradescantia, & Viola

... Biodegradable erosion/wind netting **HG 3490**

* Landscape architect approved plant palette available upon request.



STORMWATER CATCHMENT



*Graphic provided as a relative comparison between green roof systems and does not show actual values for price, water storage or weight. Please see Terms and Conditions on how to receive pricing for your projects.

PACKAGING

Root Barriers and Capillary & Filter Fleeces come in rolls, Drainage Boards in palette sections, Growth Media in Supersacks and Perennial Plugs in 72 cell flats.

TECHNICAL DATA

System Type:
Monolithic/Contiguous/Extensive

Total Saturated Weight:
35.09 lbs/Square Foot

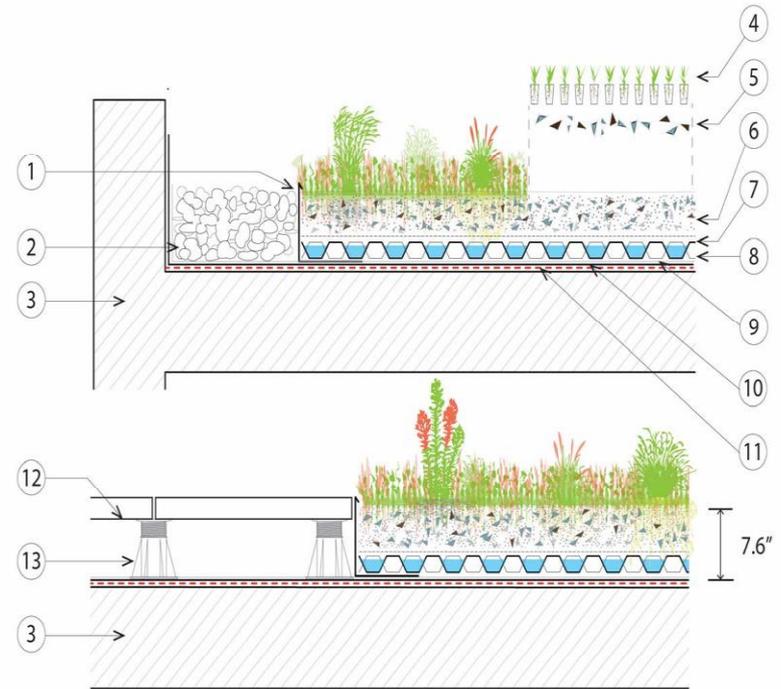
Total Water Storage Capacity:*
4.68 in³ per in²

Total System Depth:
7.6 Inches

Irrigation Requirements:
Temporary Irrigation system required for first two years —Permanent Recycled Stormwater Irrigation System recommended for Lush Conditions.

Maintenance Level:
High for first 1-2 years. Low from that point forward.

Materials:
PVC or Recycled HDPE for root barriers, PES for capillary fleece, recycled HDPE for drainage board, recycled polypropylene for filter fleeces. See media & perennial plugs datasheet(s) for those specific products' material data information.



- | | |
|---------------------------|--|
| 1 ALUMINUM EDGING HG 3900 | 9 PROTECTION FLEECE HG 3300 |
| 2 DRAINAGE STONE | 10 MEMBRANE / ROOT BARRIER HG 3100 & HG 3200 |
| 3 PARAPET & ROOF DECKING | 11 LEAK DETECTION HG 1300 |
| 4 PERENNIAL PLUGS HG 6200 | 12 PAVERS HG 5300 |
| 5 WATERGRIP MEDIA HG 4135 | 13 PEDESTALS HG 5100 |
| 6 GROWTH MEDIA HG 4000 | |
| 7 FILTER FLEECE HG 3700 | |
| 8 DRAINAGE BOARD HG 3600 | |

*drawing exploded slightly to show detail

Dana Brown & Associates

Type 1

Central City Project

Gaylan Williams, Senior Associate



Green Infrastructure Projects 2014

Central City Project, 2423/2427 S. Galvez double lot Proposed Site, Google Aerial



Central City Project, 2423/2427 S. Galvez double lot

Schematic Design, Rendering



Land Trust for Louisiana

Type 1

The WEB

Marisa Escudero, Development Director



Green Infrastructure Projects 2014

What is it?

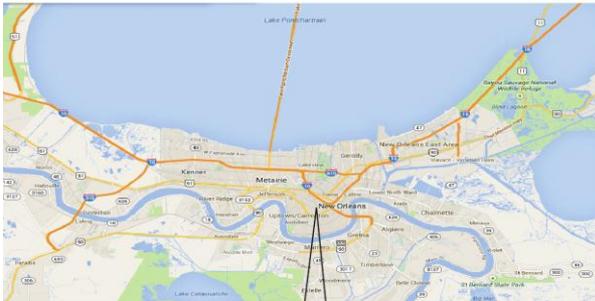
The WEB: Water Effectiveness in Broadmoor

- * Type I Pilot project demonstrating best management practices (BMP) for localized flooding and water quality enhancement for vacant lots. Retains, detains and filters upwards of 6,000 cubic feet of stormwater, fully infiltrating surface water within 30 hours of a storm event.



Status/Location

LOCATION MAP

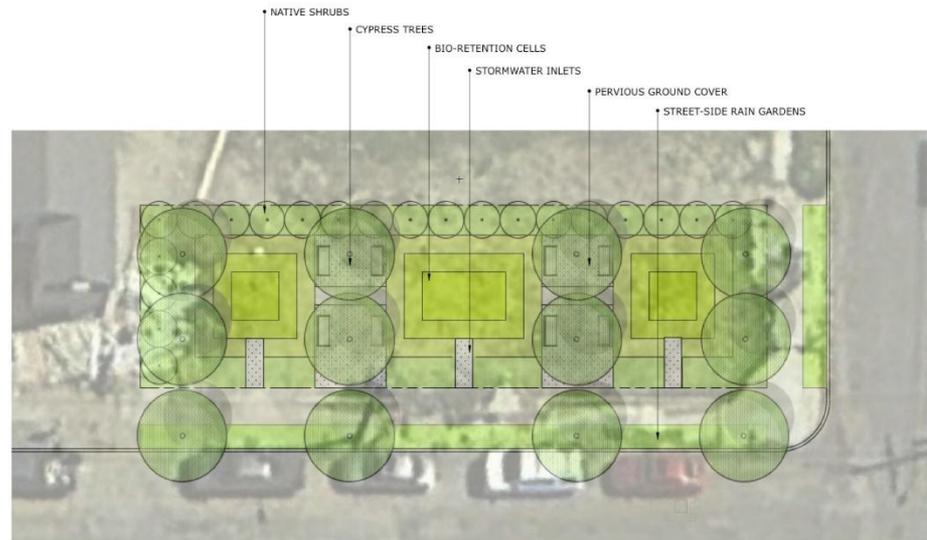


VICINITY:
NEW ORLEANS, LA



LOCATION:
3601 GENERAL TAYLOR ST. NEW ORLEANS, LA 70125

- * Location: 3601 General Taylor
- * Planning/Development Stage
- * Continued Community Outreach



Future Goals/Milestones

Planning/Development

Present—December 2015

Implementation/Construction

January 2015—March 2015

Operations/Maintenance

March 2015—November 2017



Sewerage & Water Board OF NEW ORLEANS

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Thank You

