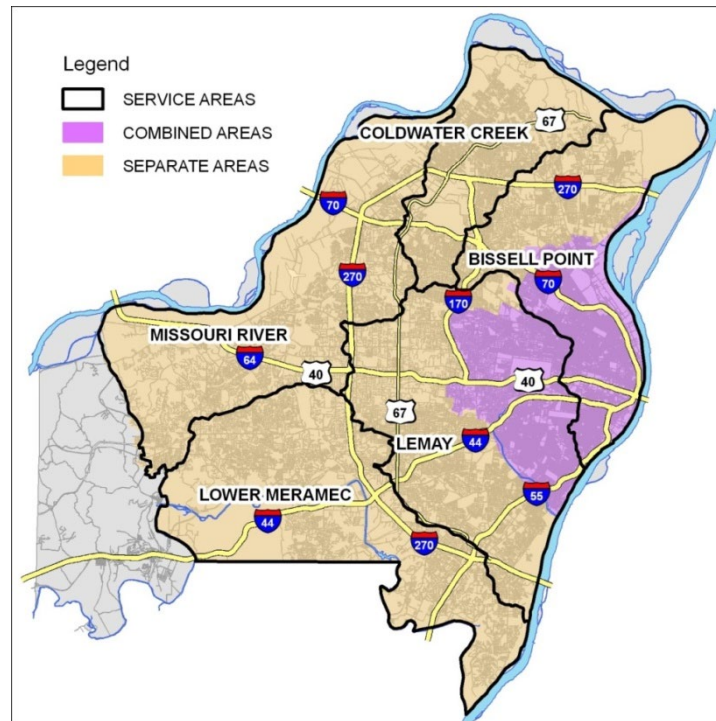


MSD Project Clear Rainscaping Incentive Programs

Midwest Regional Green Infrastructure Symposium
2019-09-23

MSD Overview



- Two utilities in one
 - Stormwater
 - Sanitary
- 1.3 million people
- 520 sq. miles
- 75 sq. mile combined sewer area (storm and waste in same pipe)
- 9517 miles of sewer
- Oldest pipes ~1860s

Get the Rain Out

- 🌊 Stormwater Disconnections**
- 🌊 Rainscaping*
- 🌊 CitySheds Program*
- 🌊 Combined Sewer Separations*

Repair & Maintain

- 🌊 System Maintenance
- 🌊 System Inspection
- 🌊 System Rehabilitation and Replacement
- 🌊 Fats, Oil and Grease Control Program
- 🌊 Emergency Response

Build System Improvements

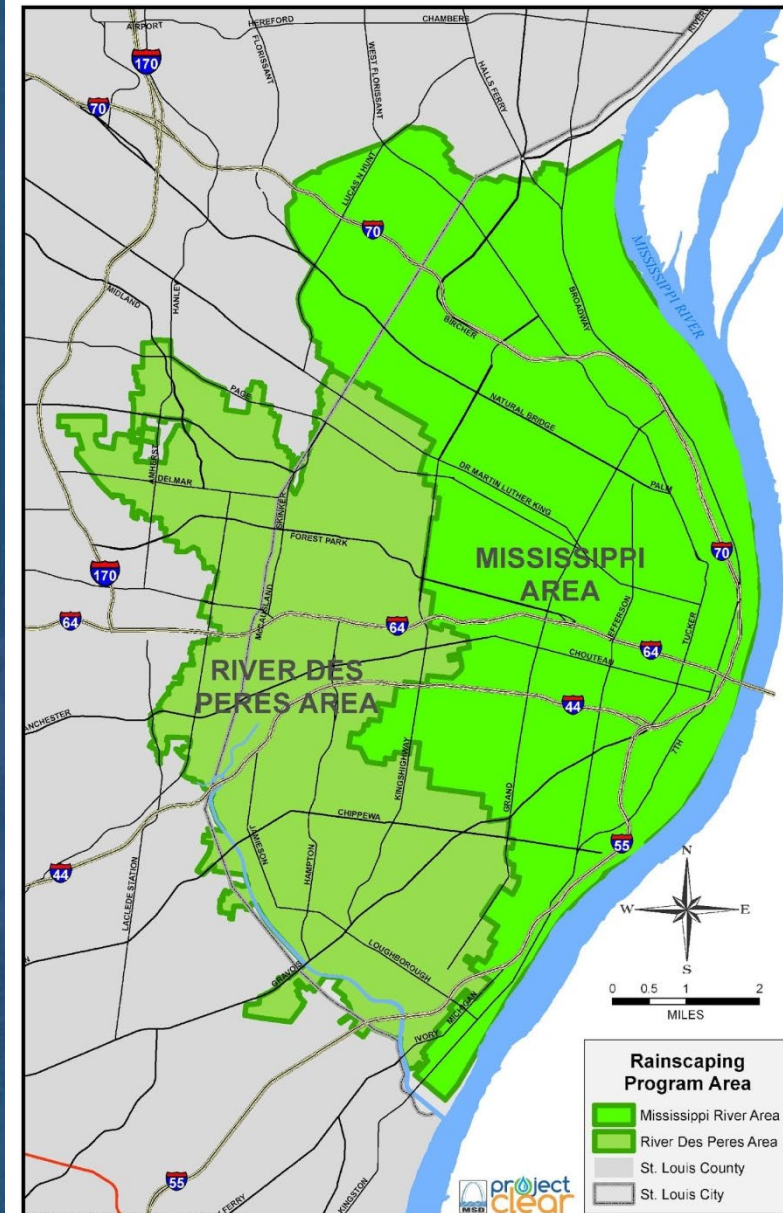
- 🌊 Tunnels
- 🌊 Storage Tanks
- 🌊 Relief Sewers
- 🌊 High-Rate Treatment*

**Combined sewer area only activities*

***Separate sewer area only activities*

Rainscaping (Green Infrastructure)

Rainscaping is any combination of plantings, water features, catch basins, permeable pavement... that manage stormwater as close as possible to where it falls.



Rainscaping Area

- Combined Sewer portions of the Mississippi and River Des Peres Watershed
- Primarily covers the City of St. Louis
- Spend \$120M over 20 years

Rainscaping Program

Indirect Projects

- 💧 Projects with Partners
- 💧 Green Infrastructure Grants
 - Rolling Program \$180,000/ AC drainage area
 - Annual Competition
- 💧 Targeted Partnerships
 - Schools
 - Parks and Rec Centers

Direct Projects

- 💧 MSD Owned Neighborhood Rain Gardens
- 💧 MSD's Facilities
 - Market
 - Pump Stations
 - Detention Basin Retrofits
- 💧 Cityshed Mitigation Program Opportunities
 - Separate program to reduce chronic flooding and backups using buyouts and detention
 - Permanent green space
 - Rainscaping around basins

Small Grants

- 💧 Education & Outreach
- 💧 Small features
- 💧 Individual landowners
- 💧 \$4 Million (max)

Demolitions

- 💧 LRA Partnership
- 💧 \$13.5 Million (max)

Green Infrastructure Program CSO Control Measure Performance Criteria (Minimums)

- Manage 485 Acres with Green Infrastructure (half impervious)
- Reduce the Mississippi River CSO volumes by 98 MG annually
- Spend \$120 Million

Rainscaping Small Grants

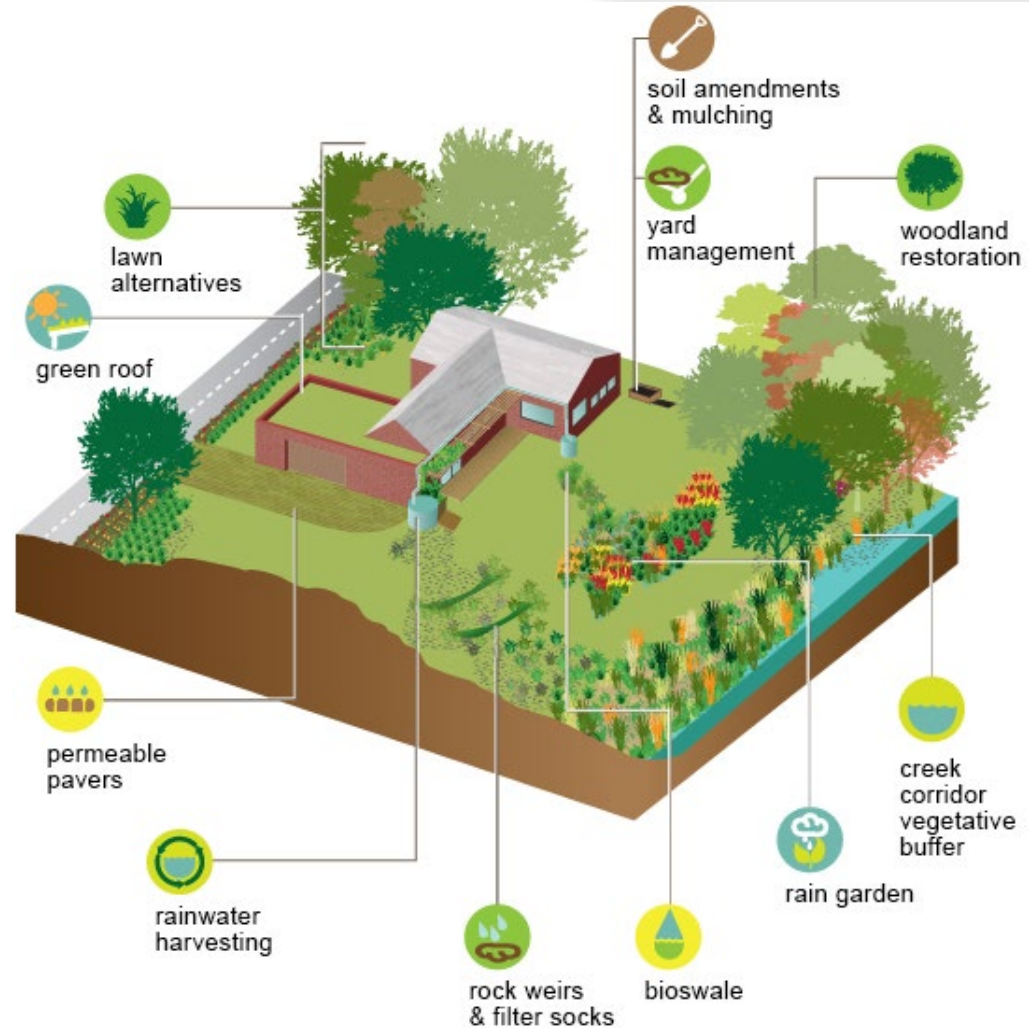


wastewater + stormwater

Rainscaping Small Grants Program

GOALS:

- Educate the public to understand how stormwater impacts the combined sewer system, water quality and other associated issues
- Encourage the use of simple rainscaping techniques by individual landowners
- Build community acceptance of GI



Rainscaping Small Grants Parameters

- \$4.8 Million Total Spend
 - \$4 Million in Mississippi Area
 - 0.8 Million in RiverDesPeres Area
- Partnered with Missouri Botanical Gardens EarthWays Center



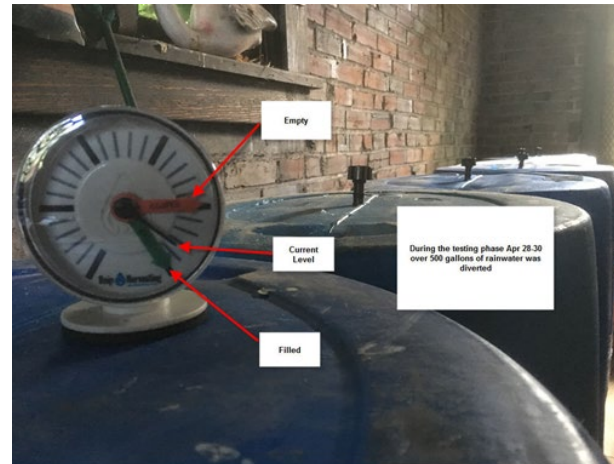
Rainscaping Small Grants Parameters



- Open to property owners within the GI Program Area
- Grants up to \$4000 for rainscaping features
- Schools and churches up to \$10,000

Rainscaping Small Grants Eligible Features

- Rain garden
- Lawn alternative
- Permeable pavers
- Rain barrel(s) or cisterns
- Bioswale
- Green roof



Small Grants Results

	Planting Dates	Orientation Attendance	# of Applications	# of Grants Awarded	Total Grant Requests Awarded
Model Round	Fall, 2014	10	8	8	\$ 19,764.99
Round 1	Spring/Fall, 2015	127	66	52	\$ 135,553.15
Round 2	Fall 2016/ Spring 2017	156	81	66	\$ 165,014.94
Round 3	Fall 2017/ Spring 2018	314	162	113	\$ 305,329.96
Round 4	Fall 2018/ Spring 2019	185	90	80	\$ 225,000.00
Round 5	Fall 2019/Spring 2020	Grant Budget: 80 in Mississippi CSO Area 30 in River Des Peres CSO Area			\$ 440,000.00?

Coming Soon...

- Stormwater Quality Rainscaping Small Grants Program
 - Separate sewer area
 - Tied to our MS4 permit
 - MCM I. Public Education and Outreach
 - MCM II. Public Involvement and Participation
 - First round in 2020, \$200,000
 - Additional rounds TBD

Rainscaping Large Grants

Large Grants

- Annual Call for Application
 - Now Open! Through 10/31/2019
- Development Review Grant
 - Year-round rolling application

Large Grants



Eligible Project Elements

- Impervious area reduction
- Porous pavement
- Reinforced turf
- Amended soils
- Planter boxes
- Bioretention/Rain gardens
- Impervious area sheet flow to buffer
- Green roofs
- Blue roofs
- Green streets

Food Roof Farm, Urban Harvest STL



Food Roof Farm, Urban Harvest STL





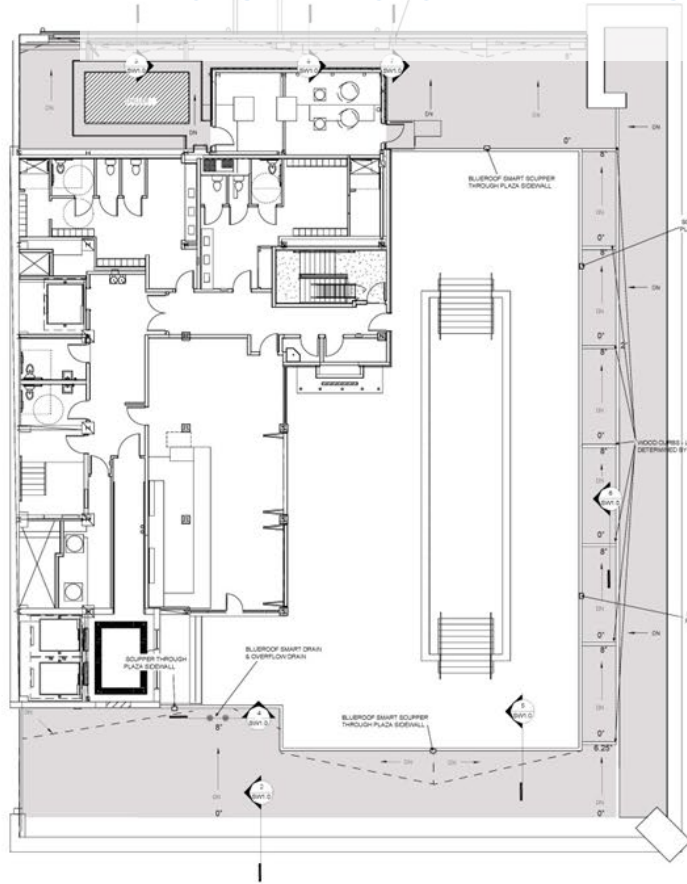
HANGING GARDENS

office 877.266.0015
fax 414.877.0049

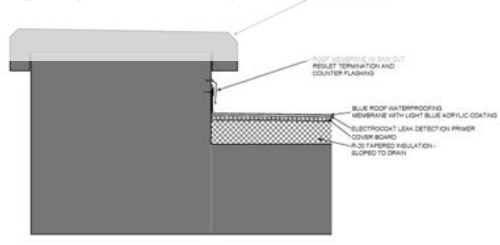
technical@hanging-gardens.com

STORMWATER RETENTION EXTENTS
STORMWATER RETENTION

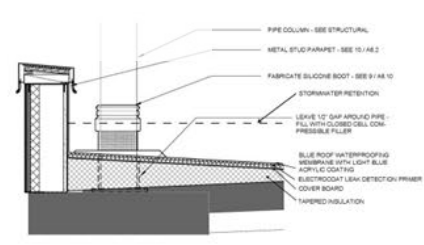
Blue Roof - The Last Hotel



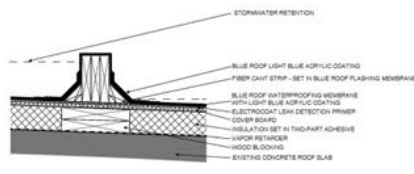
1 LEVEL 11 LOW ROOF STORMWATER PLAN
SW 1/1 1/2" = 1'-0"



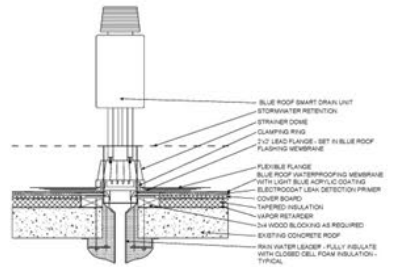
2 DETAIL AT LOW ROOF TO EXISTING PARAPET - TYP
SW 1/1 1/2" = 1'-0"



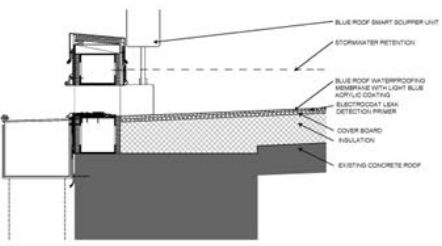
3 DETAIL AT STEEL FRAME TO EXISTING PARAPET
SW 1/1 1/2" = 1'-0"



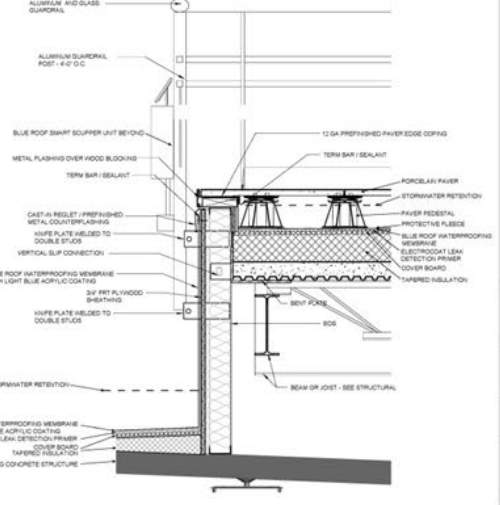
4 BLUE ROOF DETAIL AT WOOD CURB
SW 1/1 1/2" = 1'-0"



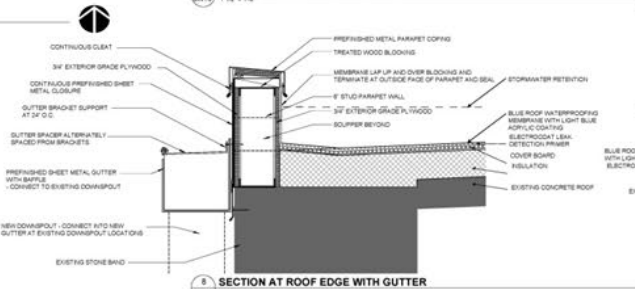
5 DETAIL AT SMART ROOF DRAIN UNIT
SW 1/1 1/2" = 1'-0"



6 DETAIL AT SMART ROOF SCUPPER UNIT
SW 1/1 1/2" = 1'-0"



5 SECTION AT PLAZA LOW WALL TO ROOF
SW 1/1 1/2" = 1'-0"



4 SECTION AT ROOF EDGE WITH GUTTER
SW 1/1 1/2" = 1'-0"

THE LAST HOTEL
INTERNATIONAL SHOE BLDG

1501 Washington Ave.
St. Louis, MO
63103

DRAWN BY **JMS**

PROJECT PHASE
SHOP DRAWINGS

ISSUE DATE
12/10/18

SHEET TITLE
LOW ROOF PLAN & DETAILS

SHEET NUMBER

SW 1.0

Large Grants



Annual Call for Applications

- Competitive
- No set maximum reimbursement rate
 - Projects are reviewed for cost effectiveness
- Creativity Encouraged

Large Grants



Development Review Grants

- **Streamlined Process**
 - Application with information typically submitted to Development Review with plans and follows Development Review procedure and timing
 - Additional documents – Program Application, Itemized Cost Estimate, Program Agreement
 - Not competitive and ongoing
- **Maximum Reimbursement Rate**
 - Currently \$180,000/acre of total drainage area managed

Average Time from Plan
Submittal to
Reimbursement:

2 years

Large Grants Results

- Annual Call for Applications
 - 50 projects awarded grants
 - 22 of those 50 have been reimbursed
 - 82 Acres Treated
 - 17 MG CSO removed
 - \$12.6M paid out to date
- Development Review Grants
 - 52 projects awarded grants
 - 12 of those 52 have been reimbursed
 - 80 Acres Treated
 - 17 MG CSO removed
 - \$1.4M paid out to date

<https://www.projectclearstl.org/>



The screenshot shows the Project Clear website interface. At the top left is the Project Clear logo. To its right is a blue box with white text: "MSD Project Clear is the initiative to improve water quality and address concerns in the St. Louis region. It will invest billions of dollars in designing, and building community rainscaping, system improvement, and a program of maintenance and repair." Below the logo is a navigation bar with four buttons: "Get the Rain Out", "Repair & Maintain", "Build System Improvements", and "FAQ". A dropdown menu is open under "Get the Rain Out", listing: "Stormwater Disconnections", "Rainscaping" (with a sub-menu), "Cityshed Mitigation Program", and "Rainscaping Large Grants Program" (highlighted in green). The sub-menu under "Rainscaping" includes "General information", "Rainscaping Small Grants Program", and "Rainscaping Large Grants Program". The main content area features a large "project clear" logo and the text "by the numbers". Below this is a section titled "Project Clear By the Numbers" with a sub-heading "Jefferson Barracks Turbidity". The text below reads: "MSD Project Clear involves significant work across the Saint Louis City and County area, to build system improvements, repair and maintain the existing system, and to get excess rainwater out of the system." The page also includes a map of the St. Louis area and a circular inset showing a close-up of a rainwater filter.

Sewer Blocked by a Large Pooh



Questions?



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