



MINUTEMEN STORMWATER LID AND STREETSCAPE IMPROVEMENTS

SUCCESSES AND LESSONS LEARNED

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MINUTEMEN CAUSEWAY SW LID AND STREETScape

GOALS

- Decrease discharge volume to the lagoon
- Reduce pollutant load to the lagoon
- Increase surficial aquifer recharge
- Beautify a 1950's urban corridor
- Create a more welcoming public use space



MINUTEMEN CAUSEWAY SW LID AND STREETScape

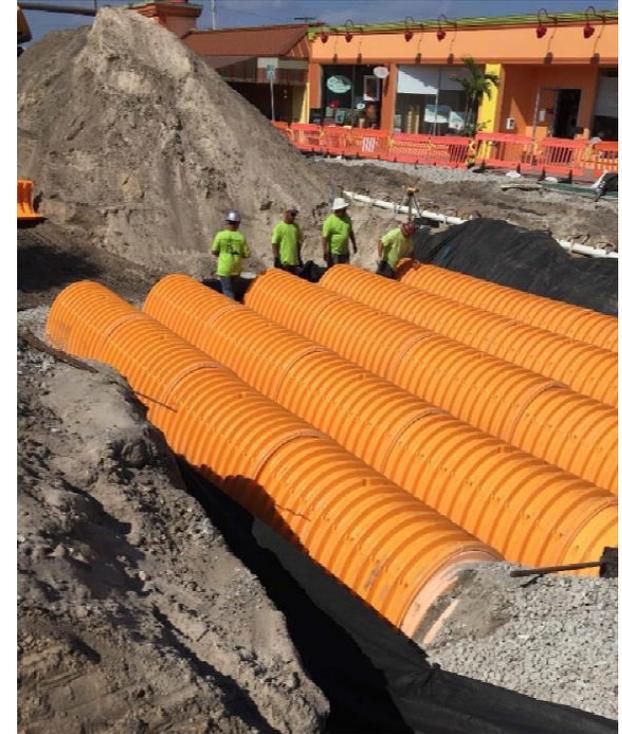
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GSI BMPS IMPLEMENTED

- Rain Gardens
 - 30
- Permeable Pavers
 - 28 on-street parking spaces
- Underground Storage
 - Under 3 blocks
- Tree Boxes
 - 43- palms and buttonwoods
- Biosorption Activated Media (BAM)
 - Under select BMPs as a comparison



<https://gsi.floridadep.gov/cocoa-beach-minuteman-stormwater-lid-improvement/>



COST AND FUNDING

- Design & Engineering- \$265,000
- CEI- \$ \$452,000
- Construction Cost- \$5.1M
 - FDEP/EPA 319- \$1.8M
 - FDOT- \$1.4M
 - FDEP SRF- \$1.1M
 - CoCB SW Utility- \$1M
 - Brevard County- \$189,000
 - IRLNEP/SJRWMD- \$50,000



BEFORE AND AFTER

BLOCK 1



BEFORE AND AFTER

BLOCK 2



BEFORE AND AFTER

BLOCK 3



BEFORE AND AFTER

BLOCK 4



BEFORE AND AFTER

BLOCK 5



MINUTEMEN CAUSEWAY SW LID AND STREETScape

RESULTS

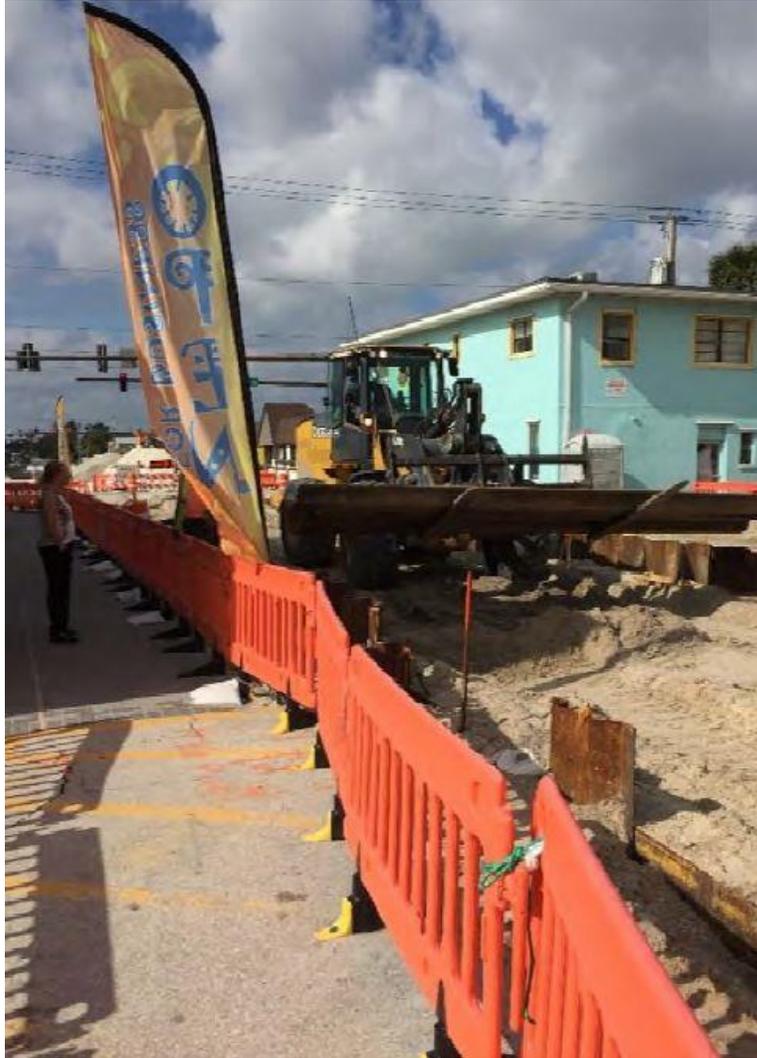
- Reduced Runoff and Nutrient Loads
- Utility upgrades
- Increased pedestrian usage and safety
- Revitalization of businesses
- Traffic Calming



OVERCOMING OBSTACLES

PEOPLE

- Sequencing
- Businesses
- Traffic



OVERCOMING OBSTACLES

UNEXPECTED

- Old Infrastructure
- Underground Utilities
- Hurricane
 - Matthew
 - Irma



LESSONS LEARNED

- Rain Gardens
 - Curb-cuts
 - Mulch
 - Right Plant Right Place
- Plan for Maintenance
 - Rain Gardens
 - Pavers



LESSONS LEARNED

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GSI Maintenance and Planting Manual



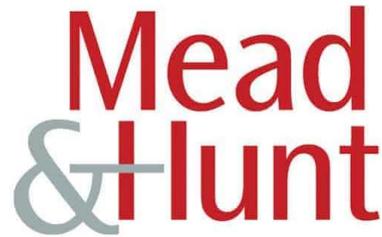
UF | IFAS
UNIVERSITY of FLORIDA
Department of Agricultural
and Biological Engineering

UF | IFAS Extension
UNIVERSITY of FLORIDA

Florida-Friendly
Landscaping PROGRAM

RECOGNITIONS AND PARTNERS

- National Scenic Byway
 - Indian River Lagoon
- Awards
 - EPA Clean Water SFF PISCES
 - Honorable Mention 2018
- Partners



HONORABLE MENTIONS

<p>PROGRAM: FLORIDA SRF REGIENET: CITY OF COCOA BEACH PROJECT: STORMWATER/STREETSCAPE IMPROVEMENTS</p> <p>The City of Cocoa Beach constructed an urban stormwater project that will reduce nutrients from entering into the Banana River Lagoon, which is part of the Indian River Lagoon system, a designated Estuary of National Significance. This project treats stormwater from an 8.34-acre watershed by using Low-Impact Design (LID) best management practices which include native landscape bioswales/tree filters, underground exfiltration, and pervious pavement. Sorption media was also used to further reduce nitrogen and phosphorus from seeping into the groundwater. The total construction costs for this project were \$5.2 million of which the CWSRF financed \$1.8 million that was used to match a 219 Nonpoint Source grant. This large green infrastructure project reduced nutrient loading for the Indian River Lagoon and has also added an aesthetic value along City streets which is said to have attracted new businesses to the area.</p>	<p>PROGRAM: IDAHO DEQ REGIENET: CITY OF NAMPA PROJECT: TREATMENT PLANT UPGRADE</p> <p>The City of Nampa, with its population of approximately 91,000, showed foresight and determination to address their wastewater quality needs by committing to \$165 million in financing from the Idaho Department of Environmental Quality's State Revolving Fund. These funds will be used to upgrade the existing wastewater treatment facility to meet the future standard phosphorus limit of 0.1 milligrams per liter by 2026 and to also meet summer seasonal temperature limits. With such a large project for a city of this size, a three-phase funding approach was adopted to fund the City's Capital Improvement Plan over a 30-year period with an interest rate of 1.68 percent. It is estimated that the City will save \$38 million by using these flexible SRF terms and by avoiding the market's transaction costs and other various fees. For the three phase upgrades, Phase I will include a primary effluent pump station, a third aeration basin, an anaerobic digester, and a solids handling facility. Phase II will bring a fourth aeration basin, tertiary filtration, ultraviolet disinfection, side-stream phosphorus removal, a new primary thickening process, a fifth anaerobic digester, and expand the solids handling facility. Phase III will include individual pump stations and pipelines for irrigation and industrial conveyance, along with internal mixed liquor return pumps for the activated sludge process.</p>
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PISCES
Recognition Program
2018
Compendium

EPA

