



TOWN OF CUTLER BAY

2013

State Legislative Session Funding Request

PROJECT:

**CUTLER BAY ACADEMY OF THE ADVANCE D
STUDIES, CENTENNIAL CAMPUS DRAINAGE
IMPROVEMENT PROJECT
(SW 212TH STREET)**





**FY 2013-14 Senate Bill 1500
Cutler Bay Academy of the Advanced Studies, Centennial Campus
Drainage Improvement Project
(SW 212th Street)**

Water Project Information Form

Water Project Information

The following questions are meant to help the review of requested legislative water project funding within Senate Bill 1500. Please complete the information below and attach any pertinent documents requested. Please circle the correct response for “Yes/No” questions.

PROJECT INFORMATION

Legislative Member(s) Sponsoring Project:

Project Name: Cutler Bay Academy of the Advanced Studies, Centennial Campus
(8601 SW 212 Street) Drainage Improvement Project

City: Town of Cutler Bay

County: Miami-Dade

Total Project Cost: \$569,730 (SB-1500: \$400,000 Town Match: \$169,730)

Water Management District Jurisdiction: South Florida Water Management District

City/County Contact Name: Rafael G. Casals, Town Manager

Email Address: rcasals@cutlerbay-fl.gov

Phone Number: 305-234-4262

- **Please provide a summary and general scope of the proposed project as an attachment.**

See Attached: *“Cutler Bay Academy of the Advanced Studies, Centennial Campus
8601 SW 212 Street Drainage Improvement Project Summary”*

- **Does this project protect the public health or the environment? If so, how and what is the geographic area of the project’s impact?**

The Town of Cutler Bay is located in the southeastern portion of Miami-Dade County between two national treasures: Biscayne National Park and Everglades National Park and is considered by the South Florida Water Management District as one of the most critical watersheds in Florida. The purpose of this project is to reduce nonpoint source pollution and restore verified impaired waterbodies in and around the Town.

Once completed, this project will reduce pollutant loadings to The South Florida Water Management District L-31 Canal by 92.65% for Total Phosphorus (TP), 89.50% for Total Nitrogen (TN), and 90.55% for Total Suspended Solids (TSS). The general public will also benefit from this project through a series of public awareness activities. The Town proposes education and outreach both during and after the construction of this project.

Public Awareness: During the construction phase of this project, the Town will display temporary signage educating the community about the purpose of the project; the elimination of stormwater pollutants. For example signs that read “It All Ends Up in Biscayne Bay” will be an effective way to help residents visually connect the harmful pollutants that can potentially contaminate the basin to the possibility of those harmful pollutants damaging the sensitive ecological environment of Biscayne Bay (a verified impaired body of water).

Demonstration Project (Educate Students of @Centennial High School): @Centennial High School (formerly Centennial Middle School) is a Miami-Dade County Public Magnet School with three academies: COAST Environmental Science, iPrep and Liberal Arts. The Town of Cutler Bay currently has an interlocal agreement with Miami-Dade Public Schools that will allow the Town to work in concert with the COAST Program by organizing a demonstration activity so that the youth will be able to connect their classroom studies regarding watershed and the ecosystem to a real project in which the Town they live in is working to improve a drainage system that is directly tied to Biscayne Bay; a State verified impaired body of water.

- **Has this project, or a portion of this project, received funding in prior year state appropriations? If yes, what year(s) and in what amount(s)?**

Yes

No

- **Does this project implement a plan developed pursuant to the Surface Water Improvement and Management Act created in Part IV of Ch. 272, F.S., other water restoration plans required by law, management plans prepared pursuant to s. 403.067, F.S., or other plans adopted by local government for water quality improvement and water restoration? If yes, please name the specific plan(s) implemented by this project. Also, please indicate any priority ranking the project has received by a local or state agency.**

Yes

No

The intent of this project is to address current flooding issues adjacent to the Cutler Bay Academy of the Advanced Studies, Centennial Campus. The flooding issues occur in Drainage Basin DA-4-5 as previously studied in the TOWN’s Stormwater Master Plan (Saga Bay Sub-Basin 1.2). The planning and design elements of this project are complete.

- Is this project ready to proceed with no additional planning, design, zoning, or permitting? If no, then please indicate the status below:

Project Phase	Estimated Percent Completed	Estimated Time to Complete
Planning	100%	Completed
Design	100%	Completed
Permitting	70%	June 2013
Construction	0%	November 2013 (or 180 days after initiation of project)

Are all feasibility studies completed? **(YES)** NO

Are you aware of any potential permitting problems (i.e. wetland impacts, threaten or endangered species, contamination issues, land use/zoning issues, etc.)?

YES (if yes, please explain)

(NO)

- Are you pursuing funding from other sources, specifically including any local funding or funding from the Drinking Water/Wastewater Treatment Facility Construction State Revolving Loan Programs or Small Community wastewater Treatment Grants, and provide the status of any such applications or agreements?

(YES)

Name of Other Funding Source(s): Town Stormwater Utility Fund

Amount of Other Funding Secured or Applied For: \$167,730 of 30% of project

If not secured, what is the current status with the estimated completion date?
Funding is secured.

NO

- Are you providing an equal match to the request for state appropriations?

Match Amount: \$169,730

Match Percentage: 30%

If match is being proposed, please identify whether your project meets one of the criteria listed below: Not Applicable, The Town is providing \$169,730 (30%) match

- The matching requirement may be waived for counties with a population of 75,000 or less and municipalities with a population of 35,000 or less, or any county or municipality not included within a metropolitan statistical area. The match requirement waiver depends on the basis of fiscal hardship or environmental need for a particular project or activity. The applicant must certify that the cost of the match is a fiscal hardship due to one of the following factors, pursuant to s.218.975, F.S., (reduction or Waiver of Permit Processing Fees):
 - Per capita taxable value is less than the statewide average for the current fiscal year;
 - Percentage of assessed property value that is exempt from ad valorem taxation is higher than the statewide average for the current fiscal year;
 - Any condition specified in s. 218.503(1), F.S., which results in the county or municipality being in a state of financial emergency; or
 - Ad valorem operating millage rate for the current fiscal year is greater than 8 mills.

- **Please provide a description of the project and include metrics that will demonstrate the beneficial return on investment to Florida taxpayers. Metrics should identify “before and after scenarios” with supporting documentation to quantify the anticipated return on investment.**

This chart displays the estimated pollutant load reduction provided by the proposed inlet traps, baffle boxes and exfiltration trenches. Impact was estimated using methodology similar to Harvey Harper’s Model and was accepted by the South Florida Water Management District.

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)	Percentage Reduction
Total Phosphorous (TP)	2.38	2.20	.17	92.65%
Total Nitrogen (TN)	18.72	16.75	1.97	89.5%
Total Suspended Solids (TSS)	224.40	203.19	21.21	90.55%

- **Please identify the sustainable revenue source for operating expenses of the project once constructed. This revenue source should not be attained through an increase in fees or taxes without an approved referendum of the increase by the affected taxpayers.**

Sustainable Revenue Source: Town of Cutler Bay Stormwater Utility Fees

Estimated Operating Expenses on an Annual Recurring Basis: \$4,000

Please provide any additional supporting documents as an attachment.

Attachments Provided

1. Cutler Bay Academy of the Advanced Studies, Centennial Campus 8601 SW 212 Street Drainage Improvement Project Summary



**FY 2013-14 Senate Bill 1500
Cutler Bay Academy of the Advanced Studies, Centennial Campus
Drainage Improvement Project
(SW 212th Street)**

Attachment I

Executive Summary



Office of the Town Manager

Rafael G. Casals
Town Manager

Cutler Bay Academy of the Advanced Studies, Centennial Campus 8601 SW 212 Street Drainage Improvement Project Summary

Total Project Cost:	\$569,730
FY 2013-14 SB 1500 Allocation:	\$400,000 (70%)
Town Match Funding:	\$169,730 (30%)

Contact Person: Rafael G. Casals, Town Manager
Town of Cutler Bay
10720 Caribbean Blvd., Suite 105
Cutler Bay, Florida 33189
Office: 305-234-4262 ~ Fax: 305-234-4251
Email: rcasals@cutlerbay-fl.gov

Project Abstract:

The Cutler Bay Academy of the Advanced Studies, Centennial Campus Drainage Improvement Project is located at 8601 SW 212th Street in the Town of Cutler Bay, Florida. The project will consist of drainage improvements, exfiltration trench for water quality treatment, new outfall pipe connection, roadway resurfacing, pavement markings, and site restoration. The sub-basin is completely developed with single family residential land use and is located directly across from a public high school. Drainage from this project flows into the South Florida Water Management Districts L-31 Canal and ultimately to the Biscayne Canal (C-1).

The proposed BMP's will reduce non-point source pollutant load to the L-31 and Biscayne Canal (C-1); a verified impaired body of water. This project will implement a stormwater treatment train that will include;

- Installation of manatee grates
- Installation of outfall pipes with headwall
- Construction and/or Repair Manholes
- Installation exfiltration trench
- Installation pollution retardant baffles

The purpose of these proposed improvements is to restrict the discharge of pollutants to Town's Canals and provide water quality and quantity treatment. These improvements are anticipated to reduce pollutant loadings to the L-31 Canal 92.65% for Total Phosphorus (TP), 89.50% for Total Nitrogen (TN), and 90.55% for Total Suspended Solids (TSS). Meetings will be held with neighborhood groups in the area prior to the start of construction. The purpose of the meetings will be to education the public about the proposed project specifically and stormwater pollution and treatment in general.

Project Location:

Cutler Bay Academy of the Advanced Studies, Centennial Campus 8601 SW 212 Street Drainage Improvement Project is located within the Saga Bay 1.2 Sub-Basin. This Sub-Basin was studied during the preparation of the Town's adopted Saga Bay Section 1.2 is located north of SW 198th Terrace, south of SW 196th Street, east of SW 81st Court and west of SW 78th Avenue and is part of the DA-4-4 (Centennial) Basin.

Project Background:

The Town of Cutler Bay is a community incorporated in November, 2005 of approximately 9.7 square miles located along Biscayne Bay in southern Miami-Dade County. In 2007, the Town of Cutler Bay began the process of establishing a Stormwater Master Plan for the purpose of identifying opportunities to protect surface water quality and reduce flooding within the limits of the Town. The **Town of Cutler Bay Stormwater Master Plan** was adopted via Resolution No. 08-50. This Stormwater Master Plan includes the following components:

- A review of existing stormwater and drainage data, reports, and plans available through SFWMD, Miami-Dade County, and Town sources
- A field inventory of existing drainage structures
- A drainage atlas including the type, size, and general location of drainage infrastructure elements
- Basin and Sub-basin delineations based on available survey data and other sources
- Hydrologic and hydraulic modeling analysis of the existing systems and their capacity to handle the 5-year/24-hour, 10-year/24-hour, 25-year/72-hour, 50-year/72-hour, and 100-year/72-hour storm events



- Identification and analysis of alternatives for improvements needed to alleviate deficiencies identified in the hydrologic and hydraulic modeling phase
- Development of an optional Capital Improvement Plan (CIP) to implement the identified improvements

Existing Conditions of Sub-Basin:

The sub-basin consists of approximately 23.5 acres of existing detached single family development with approximately 4,800 linear feet of roadway. The drainage system in this sub-basin consists of isolated French drains and catch basins. Roadside swales also provide some water quality pre-treatment and storage of roadway run-off.

The Town's engineering consulting, Kimberly-Horn and Associates, Inc. (KHA) observed flooding across the roadway in the roadway in multiple locations within this sub-basin.

Maintenance: Several basins in this sub-basin were observed to be filled with debris and sediment blocking or highly restricting flow. The French drains have most likely been adversely impacted due to lack of maintenance. Since the study was conducted, the Town cleaned out the sub-basin; however, this did not provide sufficient relief of flooding after typical South Florida storms.

Inadequate Drainage Infrastructure: Based on the hydrologic and hydraulic calculations for this sub-basin, the existing drainage infrastructure does not discharge adequate runoff to meet the desired performance criteria. The capacity of the existing swales and French drains is not sufficient to discharge the volume of runoff outlined in the performance criteria during the modeled storm events. Improvements to drainage infrastructure will be needed to address these inadequacies.

Lack of Positive Outfall: None of the areas within this drainage sub-basin connect to an outfall to the lake. The proposed project will construct a new outfall along SW 87th Avenue.



Return on Investment:

This chart displays the estimated pollutant load reduction provided by the proposed inlet traps, baffle boxes and exfiltration trenches. Impact was estimated using methodology similar to Harvey Harper's Model and was accepted by the South Florida Water Management District.

Pollutant	Existing Load (kg/yr)	Reduction (kg/yr)	Proposed Load (kg/yr)	Percentage Reduction
Total Phosphorous (TP)	2.38	2.20	.17	92.65%
Total Nitrogen (TN)	18.72	16.75	1.97	89.5%
Total Suspended Solids (TSS)	224.40	203.19	21.21	90.55%

Match Funding Available:

The Town currently has a 5 year Interlocal Agreement with Miami-Dade County for stormwater utility. This was formally adopted and implemented by the Town of Cutler Bay via Resolution No. 12-39 on August 15, 2012. This has allowed the Town to budget \$169,730 to pay 30% of the total estimated cost of \$569,730. This funding is obtained through "Stormwater Utility Fees" in accordance with the Town's adopted Stormwater Master Plan. This fee is assessed on the utility bill of each residential or commercial property. This fee has not been increased for the purpose of funding this project.

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Town of Cutler Bay
 FY 2013-14 Senate Bill 1500
 Cutler Bay Academy of the Advanced Studies, Centennial Campus
 8601 SW 212th Street Drainage Improvement Project

Project Timeline

Task		Start Date	Deadline	Duration in Days (Based on Contract Scope)
Design Process				
0	Project Survey, Geotechnical, Schematic Design	Completed		
1	Design Development Plans	Completed		
2	Drainage Design	Completed		
3	Permitting (70% Completed)	2/1/2013	3/3/2013	30
4	Final Construction Plans and Contract Documents	3/3/2013	4/2/2013	30
Bid Process				
5	Advertise and Contractor Selection	6/1/2013	8/30/2013	90
Contract Award				
6	Award and Execute Contracts	8/30/2013	9/13/2013	14
Construction				
7	Construction Phase	9/13/2013	3/12/2014	180
Est. Total Project Duration (Days)				344

Town of Cutler Bay
 FY 2013-14 Senate Bill 1500
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 8601 SW 212th Street Drainage Improvement Project

Project Budget

Description	Estimated Quantity	UNIT	Est. Unit Price	Fy 2013-14 SB 1500 Request	Town Match
Construction Costs					
Mobilization	1	LS	\$50,000	\$50,000	
Maintenance of Traffic	1	LS	\$20,000	\$20,000	
Storm Water Pollution Prevention	1	LS	\$7,500	\$7,500	
Clearing and grubbing	1	LS	\$12,000	\$12,000	
Mill and dispose existing asphalt, 1-inch	10000	SY	\$5	\$45,000	
Furnish and place 1-inch (minimum) asphalt concrete pavement – FDOT SP 9.5 (fine mix)	10000	SY	\$12	\$120,000	
Furnish and install manholes (Type P-7)	6	EA	\$4,000	\$24,000	
Connect manholes to existing RCP system	3	EA	\$3,000	\$9,000	
Furnish and install outfall pipe headwall	1	EA	\$8,000	\$8,000	
Furnish and install polyethylene pipe (18" Pipe)	1100	LF	\$60	\$33,000	\$ 33,000
Furnish and install exfiltration trench (18" Pipe)	570	LF	\$120	\$35,000	\$ 33,000
Signing and Pavement Markings	1	LS	\$25,000	\$16,000	\$ 9,000
Advanced Utility Exploration (Soft Digs)	4	EA	\$500	\$0	\$ 2,000
Site Restoration	1	LS	\$30,000	\$15,000	\$ 15,000
Allowances	1	LS	\$10,000	\$5,000	\$ 5,000
Total Construction Costs				\$400,000	\$ 97,000
Project Management					
Town Employee (Salary and Fringe for Alfredo Quintero In-Kind Town Match)					\$ 18,000
CEI/Project Coordination (Town's Consulting Engineer estimated at 9% of total total construction costs)					\$ 44,730
Regulatory Agencies Permitting Costs (Miami-Dade County/SFWMD)					\$ 10,000
Total Administrative Costs					\$ 72,730
Grand Project Total (\$569,730):				\$400,000	\$ 169,730



**FY 2013-14 Senate Bill 1500
Cutler Bay Academy of the Advanced Studies, Centennial Campus
Drainage Improvement Project
(SW 212th Street)**

Attachment II

Letter of Support for Project (Principal Yamila Carballo)

The Town of Cutler Bay maintains open communication with residents, businesses and schools within the Town limits. This project is a direct result of complaints received from residents and faculty at Cutler Bay Academy of the Advanced Studies, Centennial Campus (formerly known as Centennial Middle School). The following is a letter of support from the Principal at Cutler Bay Academy of the Advanced Studies, Centennial Campus, Ms. Yamila Carballo.



Miami-Dade County Public Schools

giving our students the world

Superintendent of Schools

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Raquel A. Regalado

May 1, 2013

Ralph Perkins
Senior Governmental Analyst
Executive Office of the Governor
Office of Policy & Budget – Environmental Unit
1801 The Capitol
Tallahassee, Florida 32399-0001

RE: Cutler Bay Academy of the Advanced Studies, Centennial Campus
Drainage Improvement Project

Dear Mr. Perkins:

The faculty and staff of Cutler Bay Academy of the Advanced Studies, Centennial Campus are pleased to support the Town of Cutler Bay's Legislative Water Project Funding Request to be used for drainage improvements along SW 212th Street. Our students and parents have been directly impacted by the heavy flooding created by poor drainage in this area. The Town's Council and Staff have been sympathetic to the complaints from the community regarding this and have worked diligently to identify a solution. This funding will allow the Town to move this project from planning and permitting to full implementation.

We are excited to have the opportunity to have this project serve as a demonstration project for students enrolled in the Centennial Ocean Academy of Science and Technology (COAST) program. C.O.A.S.T. focuses on the advancement of marine and environmental conservation through scientific research, literacy and mathematics education, leading to responsible stewardship and the sustainability of our natural marine resources. As a part of this curriculum, educators work to teach students the cycle of watershed and the effects of untreated pollutants on surrounding bodies of water that receive storm water runoff. This project works hand in hand with this classroom lesson by providing youth with real life experience related to storm water maintenance and the potentially hazardous impact of flooding and poorly treated storm water on the Biscayne Bay ecological system.

The school wholeheartedly supports the Drainage Improvement Project which will directly impact our campus. Please do not hesitate to contact me at (305) 235-2097 with any questions or concerns.

Very truly yours,


Yamila Carballo



**FY 2013-14 Senate Bill 1500
Cutler Bay Academy of the Advanced Studies, Centennial Campus
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(SW 212th Street)**

Attachment III

Photographs of Existing Conditions

The following photographs depict the heavy flooding that occurs following a typical South Florida afternoon rain event. The flooding occurs in front Cutler Bay Academy of the Advanced Studies, Centennial Campus. This impairs driving for parents/buses picking up youth as well as transportation of residents driving to their homes located around the school. Additionally, the poor drainage conditions cause vehicles to hydroplane resulting in loss of steering or braking control.







