

# **COUNTY STORMWATER MANAGEMENT SYSTEM FACILITIES – CANALS AND STRUCTURES**

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**2013 AUIR**  
**STORMWATER MANAGEMENT SYSTEM**  
**FACILITIES SUMMARY**

**Facility Type:** County Maintained System of Secondary Stormwater Management  
Canals & Structures (Category A)

**Level of Service Standards (LOSS):** Varies by Individual Watersheds

The Stormwater Management System Level of Service Standards (LOSS) reflect the performance of the system in collecting and managing stormwater runoff, providing flood protection and water quality treatment. The LOSS is the measure of adequacy of the system's provided capacity, and handling discharges from upstream portions of the watershed while minimizing the degradation of the quality of the receiving waters.

The flood protection measure is the amount of acceptable flooding depth along public roads that is considered not to pose a threat to the health and safety of the community. Management and attenuation of system flow, as well as water quality treatment, is accomplished by insuring that all developed areas meet current surface water management regulations.

Observations of roadway flooding following large storm events are recorded and mapped, targeting areas of concern and potential future system capacity improvements. Hydrologic and hydraulic assessment using computer models simulating stormwater routing of prescribed storm events are a predictive tool used for identifying and quantifying deficiencies in the Secondary System. The capital project investments of the stormwater program funding are focused on the secondary drainage canals and structures. Future system capacity improvements will be based on such analysis.

Another point of program focus is managing the requirements of, and maintaining compliance with, the National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) Permit (Permit ID FLR04E037). Collier County is an MS4 operator. The MS4 is the publicly owned and operated stormwater treatment and conveyance system which discharges stormwater runoff into surface waters of the State. The system must be operated with all appropriate pollution prevention measures in place to reduce the contamination of stormwater runoff and prohibit illicit discharges from privately maintained systems into the county MS4. Significant current NPDES efforts include ongoing updates to the system inventory and drainage atlas GIS database as well as updating the inventory data of all private inputs of the county MS4. This includes field data collection, review of historic site development and roadway plans, field verification, and data input into a GIS database.

The third program focus is an evaluation of the Secondary System water level control structures. The evaluation includes an engineering inspection and assessment of their current ability to function, as well as a cost and time schedule for major maintenance/rehabilitation and/or replacement.

**Long-Range Planning and Implementation of the Watershed Management Plan Initiatives**

Future Stormwater projects are currently being identified and prioritized as part of a long-range stormwater planning process in coordination with implementation of some of the County-wide watershed management plan initiatives. Projects are being evaluated on the potential for acquiring alternate funding sources and grants, environmental restoration, benefit to cost

analysis, stakeholder vetting, and agreement with the recommendations of the watershed management plan.

The secondary system of stormwater management canals and structures is assessed annually to determine existing system capacities, current LOS, identifying the location and nature of any existing deficiencies and proposed needed improvements. This assessment includes the current capabilities of the secondary system to treat and convey stormwater from the tertiary (roadside) system to the primary system, which is maintained and operated by the Big Cypress Basin of the South Florida Water Management District.

**Stormwater Program Summary FY 2013/14 thru FY 2017/18**

Recommended Work Program	\$ 26,732,000
Recommended Operating Costs	\$ 5,885,000
Recommended Revenues	<u>\$ 32,617,000</u>
Surplus or (Deficit) Revenues	\$ 0

**Recommendation:**

That the CCPC forward a recommendation of approval to the BCC for the proposed "Stormwater Management System AUIR for FY 2013/14 – FY 2017/18".

- Attachments: 1. Table – Stormwater Management System Capital Improvement Program and Revenues FY 2013/14 to FY 2017/18
2. CIE Amendment Submittal – Exhibit "A"
3. CIE Amendment Submittal – Appendix "H"

**2013 AUIR FACILITY SUMMARY FORM – Stormwater Management**
**Facility Type:** County Maintained System of Secondary Stormwater Management Canals & Structures (Category A)

**Table 1 - FY 14 - FY 18**

Plan Year	1	2	3	4	5	5 - Year
Fiscal Year	FY 14	FY 15	FY 16	FY 17	FY 18	Totals
<b>Proj. No. Current Multi-Year Commitments</b>						
51018 Gordon River WQ Park Monitoring and Main. *		25 M	25 M	25 M	25 M	100
51101 LASIP *	1,668 DRC	2,960 DRC				4,628
51144 Stormwater Master Planning		100 P	100 P	100 P	100 P	400
60121 NPDES MS4 Program	150 P	150 P	150 P	150 P	150 P	750
<b>Infrastructure Maintenance Projects</b>						
51029 GG City Outfall Replacements	1,000 DC	500 DC	1,500 DC	1,500 DC	1,500 DC	6,000
60094 Secondary System Repair	100 M	100 M	100 M	100 M	100 M	500
60123 28th Ave SE Culvert Crossing over Miller Canal	50 DR					50
60124 Eagle Creek Weir Replacement	325 DA	350 DA	200 C			875
60103 Winter Park (Halderman #2) Weir Replacement	150 DA		800 C			950
60119 Pine Ridge Canal Weir 1 Replacement	800 DC					800
60126 Pine Ridge Mockingbird Lake Outfall	100 DA	250 RC				350
<b>System Capacity Projects</b>						
60122 Vanderbilt Drive Swale Rehabilitation (Coord. W Utilities)	500 C					500
TBD Palm Springs Outfall Improvements			60 D	200 C		260
TBD Naples Park Swales (Coord. W Utilities)			800 DC	800 DC	1,600 DC	3,200
<b>Watershed Management Plan Projects</b>						
60127 North Golden Gate Estates Flowway Restoration **	300 DC	550 PDR	500 PDC			1,350
TBD North Belle Meade Spreader Swale **			700 DRA	1,350 DRA	2,200 DRA	4,250
<b>Water Quality Improvement Projects</b>						
60102 Gordon River Ext. Burning Tree Drive Diversion		90 A	150 C			240
TBD Griffin Road Outfall			180 DR	1,250 C		1,430
<b>Total Projects</b>	<b>5,143</b>	<b>5,075</b>	<b>5,265</b>	<b>5,475</b>	<b>5,675</b>	<b>26,633</b>
Reserves		35	33	16	15	99
<b>Total Commitments</b>	<b>5,143</b>	<b>5,110</b>	<b>5,298</b>	<b>5,491</b>	<b>5,690</b>	<b>26,732</b>
Stormwater Operating	1,177	1,177	1,177	1,177	1,177	5,885
<b>Total Program Cost</b>	<b>6,320</b>	<b>6,287</b>	<b>6,475</b>	<b>6,668</b>	<b>6,867</b>	<b>32,617</b>

\* CIE Projects

\*\* Denotes Projects that must still undergo detailed planning, coordinating, and matching fund efforts with SFWM/BCB

P = Planning, D = Design &amp; Permitting, R = Right-of-Way Acquisition, C = Construction, M = Maintenance/Monitoring, A = Advance Funding

- Notes:
1. All numbers are in thousands of dollars.
  2. 2014 outlay actual budget proposed, subsequent years proposed/estimated based on info supplied by OMB, subject to change.
  3. Const. funding level indicated for 28th Ave SE, NGGE Flowway, Northern Belle Meade and Henderson Creek requires 50% SFWM match.

**Program Revenue (Fund 325)**

Plan Year	1	2	3	4	5	5 - Year
Fiscal Year	FY 14	FY 15	FY 16	FY 17	FY 18	Totals
Interest/Misc	35	35	35	35	35	175
Trans fm 001 Gen Fund	4,730	5,204	3,742	3,785	3,134	20,595
Trans fm 111 Gen Fund	1,300	1,050	2,700	2,850	3,700	11,600
Carry Forward	256					256
Revenue Reduction (less 5% required by law)	(1)	(2)	(2)	(2)	(2)	(9)
<b>Total Program Revenue</b>	<b>6,320</b>	<b>6,287</b>	<b>6,475</b>	<b>6,668</b>	<b>6,867</b>	<b>32,617</b>

## **2013 AUIR Stormwater Project Descriptions**

August 20, 2013

Prepared By:

Stormwater Planning Section, Natural Resources Department, Growth Management Division,  
Collier County Government

### **Current Multi-Year Commitments**

1. Gordon River WQ Park (Freedom Park) (P/N 51018)  
Maintenance and Monitoring - Recurring maintenance efforts of the man-made wetlands & filter marsh stormwater treatment train; collection and laboratory analysis of surface water intake and discharge samples for water quality treatment monitoring, tracking the effectiveness of the system.
2. LASIP (P/N 51101)  
Major improvements to the Lely Canal, Lely Branch Canal, and Lely-Manor Canal Systems in the East Naples area. The Environmental Resource Permit to construct Lely Area Stormwater Improvement Project (LASIP), which was issued jointly by the US Army Corps of Engineers and the South Florida Water Management District, will expire on July 25, 2015.
3. Stormwater Planning (P/N 51144)  
Long range strategic planning for future program progression, capital improvement project identification and prioritization, specific basin issue evaluation and funding appropriation analysis.
4. NPDES MS4 Program (P/N 60121)  
Continued development of and compliance with the federally mandated National Pollutant Discharge Elimination System (NPDES) permitting program for the County operated Municipal Separate Storm Sewer System (MS4).

### **Infrastructure Maintenance Projects**

5. Golden Gate City Outfall Replacements (P/N 51029)  
Sequential replacement including planning, design and construction of antiquated system of stormwater structures and outfall pipes located within the public right-of-ways and drainage easements of an existing, four square mile, developed area known as Golden Gate City.
6. Secondary System (Emergency) Repair (P/N 60094)  
Planning and execution on an as-needed or contingency basis of unexpected necessary system infrastructure repairs or replacements; These efforts are characteristically slightly more complex than typical operation and maintenance repairs, needing some basic planning, permitting, design and construction oversight.
7. 28th Ave SE Culvert Crossing Over Miller Canal (P/N 60123)  
Existing Miller Canal culverts at the 28th Ave SE roadway crossing are undersized creating a restriction to flow. Right of way needs to be purchased and new culverts need to be installed restoring sufficient canal flow.
8. Eagle Creek Weir (P/N 60124)  
Due to documented structural and mechanical deficiencies as well as operational and maintenance issues (2012 CH2MHill Report), this project is being initiated to first evaluate the existing conditions of the basin, verifying peak discharge rates and stages, and based on findings, recommend the degree of necessary remediation. Subsequent efforts will include design, permitting and construction activities necessary for either weir gate mechanism replacement or entire weir replacement.
9. Halderman Creek & Winter Park Weirs (P/N 60103)  
Due to documented structural and mechanical deficiencies as well as operational and maintenance issues (2012 CH2MHill Report), this project is being initiated to first evaluate the existing conditions of the basin, verifying peak discharge rates and stages, and based on findings, recommend the degree of necessary remediation. Due to the weir's proximity to the Winter Park weir, as well as a similar current conditional rating, evaluation of the WP weir is also included. Subsequent efforts will include design, permitting and construction activities necessary for weir repairs, removal of one weir, weir replacement, or combination thereof.

10. Pine Ridge Canal Weir No.1 Replacement (P/N 60119)

The weir has current documented structural and mechanical deficiencies as well as operational and maintenance issues (2012 CH2MHill Report). This project is being initiated to first evaluate the existing conditions of the basin, verifying peak discharge rates and stages, and based on findings, recommend the degree of necessary remediation. Subsequent efforts will include design, permitting and construction activities necessary for weir replacement.

11. Pine Ridge Mockingbird Lake Outfall (P/N 60126)

Resume effort to investigate options available to remedy the failed stormwater outfall for Mockingbird Lake located in the Pine Ridge subdivision.

**System Capacity Projects**

12. Vanderbilt Drive Swale Rehabilitation (P/N 60112)

In coordination with the Utilities Division water main replacement, this project consists of reconstruction of the roadside stormwater management system along the east side of Vanderbilt Drive between Vanderbilt Beach Road North to 111th Ave.

13. Palm Springs Outfall Improvements (P/N TBD)

Upgrades are necessary to one remaining, unimproved section of the surface water management conveyance system for the Palm Springs area. Easements and existing ditch improvements are necessary for an approximately 1,000 foot-long section.

14. Naples Park Swales (Coord. W Utilities) (P/N TBD)

In coordination with the Utilities Division water main and possibly sanitary sewer collection system replacements, this potential project is consideration of roadside swale reconstruction in conjunction with utility replacement work, should funds become available; includes all east-west streets in the Naples Park Subdivision.

**Watershed Management Plan Projects**

15. North Golden Gate Estates Flowway Restoration (P/N 60127)

Development of plans to restore the Northern Golden Gate Estates (NGGE) Flowway by redirecting surface water flows currently conveyed to the canal system into surrounding low-lying wetland areas. The work includes analysis of potential linking of areas by multiple culvert installation under estates roads.

16. North Belle Meade Spreader Swale (P/N TBD)

Further development of plans to redirect an appropriate amount of flow from the Golden Gate Main Canal into the North Belle Meade area providing environmental benefit for Naples Bay and the wetlands of North Belle Meade, increased ground water recharge improving the neighboring public water supply well field sustainability.

**Water Quality Improvement Projects**

17. Gordon River Ext. Burning Tree Drive Diversion (P/N 60102)

This effort is the evaluation phase of a potential project which may result in the diversion of additional surface water flow into areas adjacent to the Gordon River Extension to provide additional water quality treatment prior to discharge into the Gordon River.

18. Griffin Road Outfall (P/N TBD)

The Griffin Road Stormwater Improvement Project is located near the southwestern terminus of Griffin Road in the East Naples area of Collier County off of US41 Tamiami Trail and Barefoot Williams Road. The project includes construction of a water quality treatment area on Rookery Bay National Estuarine Research Reserve property. The focus of the project is to provide water quality treatment facilities and an adequate stormwater outfall for the area.



**Legend**

**Commissioner District Boundaries**

	DISTRICT 1		DISTRICT 4
	DISTRICT 2		DISTRICT 5
	DISTRICT 3		

