

**SEMINOLE COUNTY GOVERNMENT
AGENDA MEMORANDUM**

SUBJECT: Request Authorization to Submit a Department of Environmental Protection 319(h) Grant Application for the construction of the Midway/ IFAS Regional Stormwater Facility

DEPARTMENT: Public Works **DIVISION:** Road Operations and Stormwater

AUTHORIZED BY: W Gary Johnson/pa **CONTACT:** [Signature] **EXT.** 5710
W. Gary Johnson, P.E., Dir. Mark E. Flomerfelt, P.E., Mgr.
Public Works Dept. Road Ops/Stormwater Division

Agenda Date 06/08/04 **Regular** **Consent** **Work Session** **Briefing**
Public Hearing – 1:30 **Public Hearing – 7:00**

MOTION/RECOMMENDATION:

Approve and authorize staff to submit a Nonpoint Source Management Program, 319(h) grant application request to the Department of Environmental Protection for the Midway/ IFAS Regional Stormwater Facility infrastructure improvements.
District 5; Commissioner McLain (Mark Flomerfelt)

BACKGROUND:

Staff has been working with the Florida Department of Environmental Protection (FDEP) to secure the necessary funding for the construction of a regional stormwater facility that would improve water quality and drainage within the Midway basin, including the correction of deficiencies along Celery Avenue.

The Midway/IFAS Regional Stormwater facility will be located on a 65 acre site located north and south of Celery Avenue east of Brisson Avenue, west of Sipes Avenue (see attached exhibit).

The grant application requests \$2,022,000 for the construction of a 25 acre regional stormwater facility as well as associated improvements. The total cost of the project is \$5,423,485, with \$3,401,485 in matching contribution. County contribution is through current grant money (SJRWMD), Seminole County Schools and in-house Project Management services. If completed, this facility will provide an estimated 75 acre-feet of storage capacity, resulting in flood control and water quality improvements to portions of the Midway Basin.

Reviewed by: [Signature]
Co Atty: [Signature]
DFS: [Signature]
Other: N/A
DCM: [Signature]
CM: [Signature]
File No. CPWS01

The grant applications are due to the FDEP by July 12, 2004, with funds available September, 2005.

Attachments: Grant Request application

FY05 SECTION 319(h) PROPOSAL APPLICATION

PROJECT: Midway Regional Stormwater And Recreational Facility

PROJECT FUNDING: \$2,022,000.00 **FY05 319** \$3,401,485.00 **Match**

LEAD ORGANIZATION: Seminole County

CONTACT PERSON: Tom Radzai
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Road Operations/Stormwater Division
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COOPERATING ORGANIZATIONS:

Seminole County Department Of Public Works
Seminole County Trail Section
Florida Department Of Environmental Protection
Seminole District Schools
St. Johns River Water Management District

PROJECT ABSTRACT: A 20+/- acre multi-pond, terraced wet detention system will be constructed on former agricultural property to treat stormwater runoff from approximately 122 acres of primarily agricultural and urban lands. Construction of the facility will begin reducing the non-point source pollutant load to the area's receiving water body, Lake Monroe, which is included on the Section 303(d) List as "impaired" for nutrients and DO. The BMP is estimated to reduce TSS by 60% (18,958 kg/yr), Total N by 31% (101 kg/yr), and Total P by 35% (522 kg/yr). The ponds are sized to provide additional treatment capacity (approximately 157 acres) for potential future basin diversions as funds become available. Post-construction monitoring will be conducted in order to demonstrate the environmental benefits of the project (Appendix A).

Public education on stormwater pollutants and treatment will be promoted through the construction of a bicycle / pedestrian trail around the ponds with a number of educational kiosks located along the way. The site will serve as a trailhead for a future trail that is proposed to be routed around much of Lake Monroe.

PROJECT LOCATION AND WATERSHED CHARACTERISTICS: The project site (Figure 1 of Appendix B) is located in Sections 29 and 32, Township 19 South, Range 31 East within the Midway Basin in Seminole County, Florida. More specifically, the site is located north and south of Celery Avenue and is bounded on the north by Lake Monroe, on the south by 20th Street, on the West by Brisson Avenue, and on the east by Sipes Avenue. The watershed is approximately 122 acres and is comprised primarily of urban, agricultural, and open/rangeland land uses. Stormwater from the watershed is conveyed through a series of ditches and discharges to Lake Monroe and then to the St. Johns River; both Outstanding Florida Waters.

Watershed Name: Midway Basin
Latitude: 28.80
Longitude: 81.23
Hydrologic Unit Code(HUC): 3080101

Land Uses within the Watershed (acres and percentages of total):

Land Use	Acres	%
Residential	28.10	23.00
Agricultural	59.60	48.60
Commercial	4.50	3.60
Open Land/Rangeland	28.00	22.80
Water/Wetland	2.40	2.00
Land Use Totals (Acreage and %)	122.60	100.00

POLLUTION REDUCTION STRATEGY: The watershed's receiving water, Lake Monroe, is listed as an impaired water on the Section 303(d) list. It is listed for excessive nutrients and low dissolved oxygen. The County is undertaking multiple projects to reduce the pollutant load to the lake. The Midway regional stormwater facility will remove pollutants through a series of ponds and an existing wetland prior to reaching the lake. Pollutant load reduction will also be encouraged by educating the local public through the use of educational kiosks along a pedestrian / bike trail around the facility.

PROJECT OBJECTIVE(S): Lake Monroe is included on the Section 303(d) list of impaired water bodies for nutrients and dissolved oxygen. Records indicate that total nitrogen and total phosphorus concentrations in the lake have been increasing over the most recent two year sampling period. The objective of the proposed project is to reduce pollutant loads to the lake including nutrient, suspended sediments, organic matter, and metals and contribute to the improvement of the receiving water quality in Lake Monroe and downstream in the St. John's River.

PROJECT DESCRIPTION:

Current Problem: As mentioned above, the receiving water for the subject watershed is Lake Monroe which is included on the Section 303(d) list as impaired for nutrients and dissolved oxygen. This project is intended to contribute to the improvement of the lake's water quality by reducing the pollutant load.

Site Ownership and Rehabilitation: The subject site is owned by the State of Florida Division of Lands but currently not in use due to soil contamination. The State has agreed to remediate the site and enter into a lease with Seminole County. A letter to this effect is included in Appendix C. The University of Florida Institute of Food and Agricultural Sciences (IFAS) formerly operated the site for the purposes of agricultural chemical testing. As a result, soil contaminants remain on site creating potential human health and ecological hazards. Runoff from the site may be contributing additional pollutants to Lake Monroe. The FDEP has recently approved a remedial action plan for the removal of the contaminants and the State expects to have completed the site rehabilitation by the end of 2004. Since the regional ponds will be constructed after site remediation, the County will coordinate excavation efforts so as to realize any cost savings in pond excavation.

Stormwater Treatment Ponds: The project involves the construction of four ponds ranging in size from approximately 2 to 10 acres. Figures 2, 3, and 4 present the general layout of the project components. Three of the ponds (#1, #3, and #4) each will have control structures and provide stormwater treatment. The watershed draining to the facility is approximately 122 acres. The ponds, however, have been sized to accommodate a significantly larger drainage area (more flood attenuation and water quality treatment) than will drain to the facility at the time of construction. In the future, the County intends to implement a number of additional projects to optimize the use of this additional capacity to further improve the quality of water discharging to Lake Monroe. These will primarily involve the diversion of neighboring sub-basins to the RSF. A number of potential additional sub-basins are shown on Figure 2. Specific details for each of the ponds are included in Table 1 of Appendix C.

Public Outreach: The facility will also incorporate recreational and educational components. An unpaved pedestrian / bike trail will be constructed around the ponds (see Figure 3 for a conceptual plan). A number of educational kiosks will be placed along the trail graphically presenting subjects such as local water quality, stormwater pollutants, and the role of regional treatment ponds in the reduction of non-point source pollutants. Park amenities will also include ball fields and picnic benches. The site is intended to serve as a trailhead for a future trail along the lakeshore. This is expected to encourage traffic through the facility and increase the education potential. The County will also host a number of neighborhood meetings to involve them in the design process.

Effectiveness Monitoring: Performance monitoring will be conducted in order to demonstrate the environmental benefits of the project. A preliminary monitoring plan is included in Appendix A.

ESTIMATED POLLUTANT LOAD REDUCTION:

Bmp's Installed		TSS kg/yr	TP kg/yr	TN kg/yr	Sediment kg/yr	BOD kg/yr	Other kg/yr	Other kg/yr
Pond 1								
Pollutant Loads	Pre-Project	31506.00	213.00	1481.00		4569.00		
	Post-Project	12548.00	112.00	958.00		3720.00		
	Load Reduction	18958.00	101.00	522.00		849.00		
	% Reduction	60.00	31.00	35.00		19.00		
Pond 2								
		TSS kg/yr	TP kg/yr	TN kg/yr	Sediment kg/yr	BOD kg/yr	Other kg/yr	Other kg/yr
Pollutant Loads	Pre-Project							
	Post-Project							
	Load Reduction							
	% Reduction							
		TSS kg/yr	TP kg/yr	TN kg/yr	Sediment kg/yr	BOD kg/yr	Other kg/yr	Other kg/yr
Pollutant Loads	Pre-Project							
	Post-Project							
	Load Reduction							
	% Reduction							
		TSS kg/yr	TP kg/yr	TN kg/yr	Sediment kg/yr	BOD kg/yr	Other kg/yr	Other kg/yr
Pollutant Loads	Pre-Project							
	Post-Project							
	Load Reduction							
	% Reduction							

MODEL USED: The pollutant load reductions provided by the regional stormwater facility were estimated using a Geographic Information System (GIS) spreadsheet model developed by Singhofen & Associates, Inc. The methodology is similar to Harvey Harper's model. The model employs the use of annual runoff volumes and local event mean concentrations (EMCs) to estimate pollutant loads for each parameter. The land use coverage in the GIS is linked to the EMC table for the calculation of loading values for each discrete land use area. The model involves the calculation of gross pollutant loads (without any form of treatment) and the estimation of net pollutant loads based on (1) existing BMPs (pre-project) and (2) proposed BMPs (post-project). Average annual rainfall in the County, EMCs and BMP pollutant removal efficiencies were based

on local values developed by the County as part of the NPDES permit program.

OUTPUTS/DELIVERABLES: Task 1: Construction Plans and Permitting - Construction plans and design specifications will be prepared for the proposed stormwater facility. The plans will include detailed sediment and erosion control plans. The design efforts will be coordinated with the remediation contractor, the FDEP, Seminole County district Schools, the Parks and Recreation Department, and the St. Johns River Water Management District (SJRWMD). An Environmental Resource Permit (ERP) will be obtained.

Task 2: Public Involvement - A number of neighborhood meetings will be conducted to educate the local residents in the stormwater facility design process. Concerns of the residents will be addressed prior to the final construction documents. Information kiosks will be installed along the pedestrian / bicycle trail around the stormwater ponds. Recreational traffic through the area is expected to be encouraged by establishing the site as a trailhead and through the future construction of the trail along the shores of Lake Monroe.

Task 3: Remedial Action Plan (RAP) Development - This task involves the assessment of the horizontal and vertical extent of the contamination on site, an analysis of contaminant human health and ecological risks, and the development of a plan to rehabilitate the site by remediating the contaminants exceeding regulatory thresholds. At the time of this application, the RAP was approved. A RAP report is available for review.

Task 4: Site Remediation - Soil contaminants on site will be remediated to meet regulatory criteria. Earthwork will be coordinated with the proposed pond grading to minimize work efforts and provide overall project cost savings. At the completion of the site remediation, the FDEP will issue a letter indicating that the site has been rehabilitated to specified regulatory criteria.

Task 5: Construction of the Regional Stormwater Facility - Construction of the project will take place following the completion of the construction plans and the receipt of all necessary permits. The County will provide construction inspection in order to assure that the project elements are constructed in a manner that is consistent with the plans and specifications. Record drawings will be prepared and certified by a Florida Professional Engineer.

Task 6: Construction of the Trailhead with Educational Kiosks - Construction of these educational components will be conducted concurrent with the regional stormwater facility.

Task 7: Report Documentation - Following construction, a report will be prepared documenting the design development, permitting, and photographic log of the construction process. The report will also include selected sheets from the set of record drawings. After the Department has had a chance to review and comment on the draft report, a final report will be prepared and submitted.

Task 8: Effectiveness Evaluation - Performance monitoring will be conducted to demonstrate the actual environmental benefits of the project. A preliminary monitoring plan is included in this proposal in Appendix A. A detailed water quality monitoring plan will be developed and submitted for review within three months of the grant award.

Task 9: Project Administration - Seminole County staff will be responsible for administration of the project. This includes selection and management of consultants and construction firms, review and direction on design development, coordination with permitting agencies, funding agencies, project partners, and the FDEP and the remediation contractor. Administrative efforts also include financial accounting and grant reporting.

PROJECT MILESTONES:

Task	Activity	Start	Complete
1	Construction Plan Development And Permitting	9/2003	12/2004
2	Public Involvement	6/2003	12/2004
3	Remediation Plan Development	-	5/2004
4	Site Remediation	7/2004	12/2004
	Grant Award	9/2005	9/2005
5	Bidding And Construction Contract Awards	10/2005	12/2005
5	Construction Of Stormwater Facility	12/2005	9/2005
6	Construction Of Trailhead	12/2005	9/2005
7	Draft And Final Project Report	9/2005	10/2005
8	First Year Effectiveness Evaluation	9/2005	9/2006
8	Second Year Effectiveness Evaluation	9/2006	9/2007
9	Project Administration	9/2003	10/2005

PROJECT BUDGET:

Project Funding Activity	319 (h) Amount	Matching Contribution	Match Source *
Staff		\$166,000.00	Seminole County Public Works
Travel			
Equipment			
Supplies			
Contractual		\$252,816.00	Sjrwmd, Seminole County Public Works
BMP Implementation	\$2,022,000.00	\$300,000.00	Seminole District Schools
Monitoring		\$50,000.00	Seminole County Public Works
Public Education		\$132,669.00	Seminole County Public Works And Seminole County Trails Section
Other: Site Remediation		\$2,500,000.00	Fdep
Total:	\$2,022,000.00	\$3,401,485.00	
Total Project Cost:	\$5,423,485.00	\$5,423,485.00	

*If a stormwater utility or other dedicated recurring fee is contributing, put that information in the following table.

MATCH SOURCE INFORMATION:

Match Source Name	Description	ERU/Fee
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Seminole County Dept. Of Public Works	Primary Sponsoring Agency ; The County Stormwater Division Has Been Allocated An Annual, Dedicated Funding Of \$446,500.00 For Capital Stormwater Projects Indefinitely.	
Seminole County Trails Section	Seminole County Trails Section Will Contribute Funds Toward The Construction Of The Trailhead And Informational Kiosks	
Seminole District Schools	The School Board Will Contribute Funds Toward The Construction Of The Rsf In Order To Utilize The Southern Portion Of The Site As A Public School.	
Fdep	Providing State Funds For The Site Remediation	
St Johns River Water Management District	The Water Management District Has Contributed Funds For The Construction Plan Development And Permitting.	

OTHER INFORMATION: If this is a multi-year project, have you requested sufficient funds to complete the project (assuming funds requested herein are provided)? (State yes or no, and, if no, provide an explanation):

The Lead Organization, as listed on the first page of this form, agrees to comply with all requirements specified in the guidance package and in the federal grant regulations. Checking “no” or “yes, except” will cause the project to have a lower ranking than similar projects by lead organizations that agree to the requirements:

Yes: No: Yes, except: (Note: List exceptions below.)

Exceptions:

REFERENCES CITED: