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## APPLICATION FOR POLLUTION RECOVERY FUND ASSISTANCE

DATE OF APPLICATION: August 1, 2005

### A. BASIC ASSISTANCE

1. Applicant: The legal name of the applicant/organization, the organizational unit and the complete mailing address of the applicant.

Name: Institute of Food and Agricultural Sciences

Organization: University of Florida – Institute of Food and Agricultural Sciences

Indian River Research and Education Center

Address: 2199 South Rock Road,  
Fort Pierce, FL 34945

2. Project Manager Information: Give name and title of the representative of the applicant who will be the Environmental Protection Commission's principle contact concerning this application

Name Brian J. Boman

Title Associate Professor of Agricultural Engineering

Address 2199 South Rock Road, Fort Pierce, FL 34945

Phone Number (772) 468-3922, ext 122

Project Title Agriculture Best Management Practice Implementation Project

Project Time Start: August 2006 End: August 2009

Total Cost of Project \$ \$1,180,000

Total EPC share requested \$ 150,000

3. Assistance Type: **New or Renewal** (check one)

New - Award of funds for initial request within the project period.

Renewal - Award of funds for a project beyond the current project period.

4. Project Location: The specific location(s) of the project. (Attach Site Map)

Hillsborough County Agriculture Production Areas

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5. Is the Project for:

Restoration of a polluted area

Mitigation of the effects of pollution

Pollution Control Activity to prevent or minimize pollution

Educational

6. Is the Project directed toward restoring an identified "polluted area" (a geographic area destroyed or altered by dredging or filling or contaminated by an emission or discharge), or toward terminating an identified pollution source?

Identify and explain:

Agricultural Best Management Practices (BMPs) can be effective in reducing the amount of pollutant loads carried in surface stormwater runoff. The focus of this program is the implementation and demonstration of water quality/quantity BMPs for Hillsborough County Producers. The end result should be a reduction in pollutant loadings from agricultural land uses to water bodies in Hillsborough County.

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7. Is the harm or potential harm to health, safety or welfare of the public or wildlife actual or potential? Does the project seek to alleviate actual or potential harm and what is the severity of the harm and the causal relationship between the "pollution" and the harm?

Identify and explain:

Regulatory agencies have documented increased nutrient loadings in water bodies throughout the State of Florida. These nutrient levels may cause environmental problems in rivers and estuaries. Agricultural nonpoint source

pollution can be a contributing factor to these problems. The implementation of BMPs is a scientifically acceptable method of reducing agricultural nonpoint source pollution.

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8. How long has the pollution existed or how long before any harm will be evident?
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Undetermined

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9. Identify and describe how the project proposes to alleviate the pollution (addressing technical, practical, and cost effectiveness issues):

This program is directed at the implementation and demonstration of water quality/quantity BMPs for Hillsborough County agricultural producers. The BMP effort is focused on achieving environmental goals in partnership with growers. The use of accepted BMPs will assist farmers in minimizing impacts to water quality while maintaining profitable crop production.

The BMP Implementation Team will provide guidance to growers on effective BMP selection and use and will work in coordination with other existing programs to demonstrate and further refine BMP recommendations. In addition, a coordinated program of educational events will be implemented to make farmers aware of what BMPs are, why they are necessary, and how they should be utilized.

It is expected that the educational and BMP implementation efforts conducted by this project will lead to reduced nutrient and pesticide runoff and leaching, improved irrigation management, and reduced off-site sediment transport, and overall reduced off-site impacts of the farming operations.

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10. Is the polluted area one which has previously been subject to commission enforcement and, if so, when and what was the result?

Not Applicable

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11. If no actual pollution exists and no prior commission enforcement action has occurred, does the project otherwise enhance pollution control activities within the County?

Agricultural nonpoint source pollution has been identified as a contributing factor to pollution loading to water bodies, which has had a negative impact on water quality. The implementation of BMPs will lead to reduced off-site impacts from farm operations. This will reduce the need for pollution control compliance and regulatory activities for these uses.

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12. Can this Project be divided into separate and independent parts, and if so,

a) what are they? \_\_\_\_\_

Most of the activities (farm evaluations, BMP demonstrations, and educational activities, etc.) will be conducted simultaneously. Monitoring activities will not begin until the second year.

b) how would the costs be allocated between them? \_\_\_\_\_

80% devoted to implementation activities and 20% to post-implementation monitoring.

c) would the applicant be willing to accept only partial funding? \_\_\_\_\_

Yes

13. Are other funding sources committed to the project? Yes

How much and for what? \_\_\_\_\_

This project is part a larger state-wide effort to assist farmers in implementing BMPs. A grant administered through FDEP will allow a vegetable/row crop BMP Implementation Team to begin operation early in 2006. Funding for this BMP Implementation Teams comes from EPA 319 funds, with non-federal match coming from SFWMD, SWFWMD, and FDACS. Total funding from these sources from these agencies for BMP implementation efforts is about \$343,000 per year for the next 3 years.

14. What other funding sources may be available and how much? \_\_\_\_\_

There is a Nursery BMP Implementation Team that has just begun operation that will service growers in Miami-Dade, Broward, and Palm Beach counties. Additional funds may be available in the future through FDACS to assist with BMP implantation efforts for container nursery operations throughout the state.

15. Why do you believe that this Project is of sufficient importance to justify the expenditure of Pollution Recovery Funds? \_\_\_\_\_

Agriculture remains a major land use in Hillsborough County, encompassing 30% of the county's land area. The use of BMPs will assist farmers in minimizing impacts to water and sediment quality while ensuring profitable crop production. This project will accelerate BMP adoption and increase the number of farmers implementing BMPs. By expending Pollution Recovery Funds for this project, EPC will have an assurance that agricultural land uses have a minimal impact on the environment.

16. Will the project enhance the value of private property, and if so, whose? \_\_\_\_\_

Not Applicable

## **B. ATTACHMENTS**

**All applicants must submit responses to the following as attachments corresponding to the indicated numbers:**

1. Please provide a detailed map of the project site.
2. Principal Investigator and Key Personnel - Present a biographical sketch of the principal Investigator incorporating the following information: Name, Address, Phone Number, Education, Background and other qualifying experience for the project.
3. Project Narrative - Please provide a narrative statement describing the project that includes the following:
  - a) Objectives of this Project - Describe the principal and subordinate environmental objectives of the project. Pinpoint any relevant physical, economic, social, financial, institutional or other problems requiring solution.
  - b) Results and/or Benefits Expected - Identify specific environmental results and/or benefits to be derived from the project. Include all primary and secondary benefits accruing to the grantee, to the pollution served, and in general, to the public and environment.
  - c) General Project Information - Discuss the criteria that will be used to evaluate the results and successes of the project as well its relationship to other work planned, anticipated or underway.
4. Scope of Work – Provide a detailed scope of work for the proposed project. List in chronological order a schedule of accomplishments, progress, or milestones that are anticipated over the length of the project.
5. Budget Information – Please itemize expenditures necessary to perform project using the following format:

### C. SUBMITTAL OF APPLICATION

Please submit a total of five (5) applications (one original and four (4) copies / one of which can be in electronic format as a CD) to:

Environmental Protection Commission of Hillsborough County  
Environmental Resources Management Division  
Attn: Tom Ash / Pollution Recovery Fund  
3629 Queen Palm Dr., Tampa, Florida 33619

***Completed applications must be received at the above address by  
5:00pm (EDT), August 1, 2005.  
Late applications and email applications will not be considered.***

[www.epchc.org](http://www.epchc.org)

E-Mail: [epcinfo@epchc.org](mailto:epcinfo@epchc.org)

AN AFFIRMATIVE ACTION – EQUAL OPPORTUNITY EMPLOYER

## Attachments:

### Principal Investigator and Key Personnel

Name: Brian Boman

Title: Associate Professor of Agricultural Engineering

Address: University of Florida – IFAS  
Indian River Research and Education Center  
2199 South Rock Road  
Fort Pierce, FL 34945

Phone: (772) 468-3922, ext 122

Education: **Ph.D.** Utah State University, Agricultural and Irrigation Engineering, 1985  
**M.S.** Colorado State University, Agricultural Engineering, 1983  
**B.S.** North Dakota State University, Agricultural Engineering, 1976

Background: **1986-present:** *Assistant and Associate Professor*, University of Florida, Indian River Research and Education Center  
**1983-1985:** *Graduate Research Assistant*, Utah State University  
**1983-1985:** *Water Management Consultant* - New Mexico  
**1979-1983:** *Civil Engineer*, U.S. Bureau of Reclamation, Farmington, NM  
**1977-1979:** *Drainage Engineer*, U.S. Bureau of Reclamation, Bismarck, ND  
**1976-1977:** *Design Engineer*, Wahpeton Canvas Co., Wahpeton, ND

#### Other Experience:

Serves as coordinator of a statewide program promoting the use of best management practices, or BMPs by growers and residents. In this capacity, Boman serves as a liaison between the UF, state agencies and grower organizations to oversee development of BMPs. He coordinates research and demonstration projects around the state to enhance water quality and natural resources.

# Project Plan

## PROJECT DESCRIPTION:

Agriculture production is a major land use in Hillsborough County. At the present time, several Best Management Practice manuals have been developed or are in the process of being developed that will have possible application in Hillsborough County.

This program is directed at the implementation and demonstration of water quality/quantity BMPs for Hillsborough County agricultural producers. The BMP effort is focused on achieving environmental goals in partnership with growers. Implementation of appropriate BMPs should decrease the off-site effects of agricultural production systems on water quality.

This proposal is designed to accelerate BMP implementation by providing funding assistance to assist in implementation and quality assurance crucial to the BMP process. The proposed team will work in coordination with other existing programs to demonstrate and further refine BMP recommendations. In addition, a coordinated program of educational events will be implemented to make growers and grove workers aware of what BMPs are, why they are necessary, and how they should be utilized.

The funding requested in this proposal will be used to begin BMP implementation and education efforts in Hillsborough County. The funds will be used to augment existing Implementation Teams and hire additional personnel who will focus specifically on Hillsborough County. The local person will be assisted by other Implementation Team members throughout the state when needed. Funds will be used over a 3-year period to contract with the Institute of Food and Agricultural Sciences BMP Implementation Teams to facilitate BMP implementation and to assist in evaluating BMP effectiveness.

The BMP Implementation Team will provide guidance to growers on effective BMP selected and use, demonstrate BMP practices, provide quality assurance for BMP implementation, develop training materials, and conduct training programs for all levels of farm operations.

## AGRICULTURAL LAND USES WITH APPLICABLE ADOPTED BMP MANUALS WITHIN THE PROJECT AREA:

Commodity	Acres	Farms
Vegetables	13,500	181
Strawberries	7,900	121
Aquaculture	1,450	82
Ornamental Horticulture (Container Grown)	3,000	125
Forestry	97,500	Not Available

These are estimates based on 2002 Agriculture Census Data and other data available from the Hillsborough County Cooperative Extension Service and Agriculture Industry Development Program

## POLLUTION REDUCTION STRATEGY:

It is expected that the educational and BMP implementation efforts conducted by this project will lead to reduced nutrient and pesticide runoff and leaching, improved irrigation management, and reduced

off-site sediment transport, and overall reduced off-site impacts of the farming operations.

## **PROJECT OBJECTIVES:**

Specific objectives of this project are to:

1. Help fund a BMP Implementation team focused on providing guidance to growers/managers for BMP implementation in commercial farms. This team will conduct evaluations of physical features and production practices and then provide recommendations for changes and improved operation and management.
2. Through partnerships, establish demonstrations of unfamiliar BMPs on commercial sites and conduct evaluations of their effectiveness to reduce off-site impacts of farming operations.
3. Provide educational opportunities (workshops, demonstrations, field days, etc.) to demonstrate and discuss BMPs for all levels within the production system, from upper management to laborers.
4. Work with the Hillsborough County Agriculture Partnership to identify new BMPs or improvements to existing BMPs that can result in practical solutions for improving water quality and the sustainability of agricultural production. In addition, the Implementation Team will provide information on the status of BMP implementation to interested agencies and the general public.
5. Review pertinent research relating to BMPs and develop summaries in formats suitable for dissemination to growers.

## **SCOPE OF WORK:**

- 1) Implement a program for assessment of present grower practices and to recommend specific BMPs to implement. To tailor the BMP program to individual farming operations, the BMP Manuals will be used to assess production units and provide growers with guidance regarding which BMPs should be implemented for their specific conditions. Initial visits will focus on evaluations and getting growers to enroll in the BMP program by filing a Notice of Intent to implement BMPs with FDACS. These assessments will also provide information on implementation status of BMPs and identify areas to target with educational programs. Subsequent visits to farms will allow the Team to track progress and success of the BMP implementation program.
- 2) BMP demonstrations and evaluations on commercial farms. The BMP Implementation Team will work with selected farms to demonstrate recommended BMPs. These sites will demonstrate proper implementation of BMPs, their effectiveness and practicality, and will make excellent educational sites for field days. Demonstrated practices may include BMPs that require outside funding (cost share programs) to be economically feasible. In addition, the Team will provide assistance to growers such as: conducting demonstrations on drip systems to assess water movement during irrigations; demonstration of controlled release fertilizers on seepage irrigated fields, and assessments of off-site water quality discharges at selected sites.
- 3) Provide education and guidance on the implementation of BMPs. Education is the key to success of voluntary BMP programs. Grower awareness of the voluntary BMP program will be achieved through numerous educational activities. Educational presentations will take the form of one-on-one discussions; workshops and seminars; field days; and on-farm demonstrations targeting production managers, owners, caretakers, and foremen. Successful implementation of BMPs not only requires managers to "buy into" the program, it also requires that farm workers be trained to carry out the intent of the BMPs. These training sessions will explain why BMPs are necessary, what the BMPs are intended to achieve, and many will include hands-on demonstrations of proper procedures

4) Quality assurance of grower BMPs implementation. While assessing grower use of BMPs and recommending further BMPs for implementation, the technicians of the BMP Implementation Team will also document grower use of individual BMPs. This process will allow tracking of BMP implementation progress over time and help identify areas where additional educational programs, cost sharing, and BMP modifications are required.

**OUTPUTS/DELIVERABLES:**

- Develop procedures, forms, and data bases to conduct farm assessments and track BMP adoption and implementation.
- Conduct on-farm evaluations and recommend BMPs to implement
- Report on the BMP implementation activities:
  - Number of farms visited and acres evaluated
  - Summary of BMPs adopted
  - Data collected from BMP demonstration sites
  - Summary of educational activities
- Conduct workshops and field day demonstrations
- Conduct field worker training sessions

**PROJECT TIMELINE:**

<b>Task</b>	<b>Activity</b>	<b>Start</b>	<b>Complete</b>
1	Hiring of new personnel and acquisition of equipment	Month 1	Month 6
2	Team technicians will assess the growers' use of BMPs and will recommend priority BMPs for implementation in each farm visited. Team members will provide information on efficiently implementing BMPs. Data will be collected on BMP implementation including number of acres managed utilizing each BMP.	Month 3	Month 36
3	Technicians of the BMP Implementation Team will work with farm managers to establish sites for demonstrations and BMP evaluations. These sites will be used for grower meetings such as field days, and may be used for collecting water quality data to evaluate BMP effectiveness.	Month 3	Month 36
4	Technicians of the BMP Implementation Team will document grower use of individual BMPs. Data will be routinely summarized and made available to all concerned agencies.	Month 6	Month 36
5	Preparation of final report. Data from this and related projects will be summarized and assessed.	Month 32	Month 36
6	Conduct literature review and develop extension publications	Month 6	Month 36
7	Quarterly Progress Reports.	Month 3	Month 33

**Budget**

**BUDGET CATEGORIES<sup>2</sup>**

	<b>PRF Funds</b>	<b>Federal</b>	<b>Applicant</b>	<b>State</b>	<b>Other</b>
<b>a. Personnel</b>	\$124,500	\$400,000		\$200,000	
<b>1.</b>					
<b>2.</b>					
<b>b. Administrative</b>	\$7,500			\$70,400	
<b>c. Materials</b>	\$18,000	\$110,000		\$104,000	
<b>d. Contractual</b>					
<b>e. Construction</b>					
<b>f. Other</b>		\$55,000		\$91,000	
<b>g. Total Direct Charges (Sum of a. to f.)</b>	\$150,000	\$565,000		\$465,000	

<sup>2</sup>Non-PRF funds are for state-wide BMP Implementation activities funded by EPA 319 funds (federal) and SWFWMD, SFWMD, and FDACS (state) sources