

COVER PAGE

Project Title:

Martin County

Connect to Protect Septic to Sewer

Conversion Nutrient Removal Program



Submitted To:

**Florida Department of
Environmental Protection
for FY2021 319h Grant Application**

Submitted by:

Martin County – Application

Mr. Samuel Amerson, Department Director

Martin County Utilities and Solid Waste

3473 Willoughby Road

Stuart, FL 34997

(772)223-7942 (o)

April 30, 2020

PART I – GENERAL INFORMATION

PROPOSAL FOR GRANT FUNDING CONSIDERATION *(For this project, check all grant funding sources you would like us to consider for this project. Reviewers will evaluate the project for the applicable funding sources in this proposal.)*

- ☒ Federal EPA 319(h)
- ☐ State Water-quality Assistance Grant (SWAG)

PROJECT CATEGORY: *Select One*

- ☐ Stormwater
- ☐ Agricultural Best Management Practice(s) (BMP)
- ☒ Onsite Sewage Treatment and Disposal Systems (OSTDS)
- ☐ Water Quality Monitoring Only *(of installed nonpoint source BMP(s))*
- ☐ Education Only
- ☐ Hydrologic Restoration

PROJECT SUB-CATEGORY: *Check all that apply*

- ☐ Urban Stormwater Runoff
- ☐ Erosion Control
- ☐ Low Impact Development/Green Infrastructure (LID)
- ☐ Indirectly Impacting Coastal Waters
- ☐ Directly Impacting Coastal Waters
- ☐ Protection of Unimpaired Water(s)
- ☐ Protection of Groundwater
- ☐ Education – LID/Green Infrastructure
- ☐ Education – Nonpoint source pollution
- ☐ Education – OSTDS
- ☐ Education – Florida Friendly Landscaping (FFL)
- ☐ Education – Waterfront Property Owners
- ☒ OSTDS Septic Tank Abandonment
- ☒ OSTDS Connecting Property Owners to Sewer, not including main line installation
- ☐ OSTDS Inspection and Education
- ☐ OSTDS Inventory/Update of DOH Database
- ☐ Treatment Train

Enter # of Septic Tanks Eliminated: 750

PROJECT FUNDING STATUS: *Check all that apply*

- ☒ New project that was not previously funded with State or Federal funds through the Department.
- ☒ Part of or whole proposed project pending for federal or state funding through the Department.
- ☐ *If any phase of proposed project is pending selection for State or Federal funds through the Department, provide project name and funding amount (grant and match, if applicable):* _____

☐ Phase of proposed project (or existing/ongoing project) previously funded through the Department.

☐ If any phase of project previously funded with State or Federal funds through the Department, provide project name, funding amount (grant and match, if applicable), and DEP Agreement No.(s): _____

ENTITY/SPONSOR NAME: Martin County

CONTACT INFORMATION:

Name: Samuel Amerson, P.E., Utilities & Solid Waste Director

Street Address: 3473 SE Willoughby Road, Suite 102

City, State, Zip: Stuart, Florida 34997

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(See Attachment A, Letter of Interest from Utilities and Solid Waste Director)

PROJECT NAME: Martin County Connect to Protect Septic to Sewer Conversion Nutrient Removal Program

SHORT PROJECT DESCRIPTION: describe grant and match activities in 500 characters or less.

Martin County (County) is requesting 319(h) grant funding for 750 sewer connections (500 vacuum sewer and 250 grinder pump stations) and the associated 750 septic tank abandonments included in its Connect to Protect Septic to Sewer Conversion Program. The funding request is \$1000 per connection for a total of \$750,000. The County is providing matching funds for a total of \$2,325,000.

PROJECT LOCATION: If the project is covering a large area, please describe the extent of the project area, and include the centroid latitude/longitude. If known, additional latitudes/longitudes may also be included.

Geographic Location of Project (e.g. city, county, street address): The FY2020-2024 vacuum sewer system projects include several sewer system locations within Martin County (see Attachment B map). The FY2020-2024 grinder pump station projects include several locations within Martin County (refer back to map in Attachment B).

Size of Project Impact (area needed to build project): Vacuum Sewer System: ±2291 acres; 4645 connections; Grinder Pump Stations: ±741.6 acres; 2118 connections

Size of Area Being Treated: Vacuum Sewer System: ±2291 acres; (residences connected to vacuum sewer); Grinder Pump Stations: ±741.6 acres (residences connected to grinder system sewer)

Latitude (decimal degrees): 27.167

Longitude (decimal degrees): 80.213

PROJECT FUNDING REQUEST AMOUNT: \$750,000 from FDEP 319h Grant Program

(If request is for more than one Grant type, please breakout the plan (if known) for how the grant funds will be used for each Grant type request in the table below).

ORGANIZATION LOCAL FUNDS AND/OR MATCH COMMITMENT AMOUNT: \$

(Match is not required for all Grants but may still be used to evaluate projects for consideration of grant funding. If the project information proposal request is planning for more than one funding source, please breakout the match amount applied towards each funding source in the table below. Note that Match is required for 319(h) grant requests.)

Project Proposal Funding Source Requested	Funding Requested Amount	Local and/or Match Commitment Amount	Local and/or Match Commitment Source
Federal 319(h) Grant	\$750,000	\$2,325,000	Martin County and Residents connecting to sewer
State Water Quality Assistance Grant (SWAG)	\$	\$	

ADDITIONAL DETAIL OF LOCAL COMMITMENT TO THE PROPOSED PROJECT AND FUNDING PARTNERS:

(Provide information to demonstrate your organization's commitment to the project (e.g., required in the BMAP, RA Plan, or Alternative Restoration Plan; other secured funding sources, stormwater fees etc.), if there are any not described in the table above. Include a narrative description for each anticipated source of local funds and/or match committed to the project information proposal request or entire project (e.g., St. Johns River Water Management District \$X, Leon County \$X, City of Tallahassee in-kind contribution equivalent to \$X, etc.).

The County is absolutely committed to their Connect to Protect Program. In March 2019, the Martin County Board of County Commissioners passed a Connect to Protect Grinder Sewer Program Policy to further support and accelerates implementation of the septic tank elimination program (See Attachment C). This Program provides shovel-ready projects for grant funding consideration to assist homeowners with connection costs. MCU has sewer enterprise fund fees and the residential connection fees to cover the remaining cost of these sewer connection projects. The 5 Year list of Vacuum Sewer and Grinder Pump Station System Projects are in Table 1. Martin County FY2020-24 Connect to Protect Septic to Sewer Program Projects (See Attachment D). This 5 Year Plan is for planning purposes only and projects may be added, deleted, or modified to meet the need of the homeowner connections.

- Does the proposal's organization have a dedicated stormwater fee?
Yes ☐ No ☒ Not applicable to this sewer request, but MCU has dedicated sewer enterprise fund fees for this project that will more than cover any matching cost commitments.
If yes, state the monthly fee:

- Is the project expected to be located in or primarily benefit a financially disadvantaged community? (e.g., Rural Economic Development Initiative)? *Information on REDI can be found at the following website:* <http://www.floridajobs.org/docs/default-source/community-planning-development-and-services/rural-community-programs/redi/raomap1.pdf?sfvrsn=2>.

Yes ☐ No ☒

If yes, name the community:

If yes, also find the nearest Census Place Name on the linked spreadsheet, enter the Census Place number in the Afford 1 tab, and check the appropriate calculated Index Number below: <https://floridadep.gov/wra/srf/documents/using-census-places>:

Enter Census Place Name used for calculation: _____

- ☐ Index Number between 00-70
☐ Index Number between 71-85
☐ Index Number between 86-100
☐ Index Number greater than 100

- Does the Proposal Organization have an O&M plan and expected funding identified (including in-kind contributions) that will be needed to operate and maintain this proposed project (mainly for structural projects)?

Projects implementing requirements of a Water Quality Restoration Plan are expected to be maintained for the life of the BMP to retain load allocation credits under the Plan(s). Please identify, if possible, how much time, cost and work will be required to maintain the system and the expected lifetime of the BMPs.

☒ Yes ☐ No

If yes, describe. **MCU has a sewer enterprise fund that will fund part of the sewer capital connection costs and also the operation and maintenance (O&M) of these septic tank conversions to vacuum sewer and grinder pump stations. MCU will be the owner of the grinder pump stations and the vacuum pits and will be responsible for the installation, operation, and maintenance of the grinder stations connections. This will include the grinder pumps, controllers, and discharge mains on residents' property in addition to the infrastructure within the rights-of-way. On the vacuum systems, MCU will own the entire vacuum system except for the lateral from the house to the vacuum pit at the right-of-way. This system will receive recurring long-term maintenance by MCU that results in long term operational success. The lifetime of a sewer system is projected for 50 years and typically reaches this 50 year life.**

- Does the Proposal Organization have a long-term master plan to address all stormwater construction and operations/maintenance needs for their community?

☐ Yes ☒ No

If yes, describe. **Not applicable to sewer, but MCU has a long-term septic to sewer master plan, a Capital Improvement Plan (CIP) and implementation plan for its Connect to Protect Septic to Sewer Conversion Program.**

TOTAL COST (Sum of Proposed Project Funding Request and Entity Local and/or Match Commitment Amounts): \$750,000 for 319h Grant Funding request; \$2,325,000 for Martin County and Martin County Residents Match Commitment Amount

Does the total cost shown above equal the total cost of the entire project?
(i.e., project will be fully funded if project is selected for funding with the requested amount and local funds and/or match commitment provided):

Yes ☒ No ☐ **Yes with this 319h Grant Martin County has enough for 750 incentivized septic to sewer connections.**

If no, what is the total cost of the proposed project (e.g., funding request is for a phase of a larger project or there are other expected funding contributing partners): \$

If no, what are the other funding sources for the total cost of this project? List all expected funding sources and amount required to complete the project:

PROPOSED PROJECT READINESS TO PROCEED:

Design Status: (check applicable)

- ☐ Design is not required for this project.
- ☐ Project is 100% designed
- ☒ Project is between 60% and 100% designed
- ☐ Project is partially designed but less than 60%
- ☐ Project is at the conceptual stage, design has not started

Permit Status: (check applicable)

- ☐ Permits are not required for this project
- ☐ Project is fully permitted (100%).
- ☒ Between 50% and 100% of the permits have been obtained
- ☐ Less than 50% of the permits have been obtained
- ☐ Permitting process has begun but no permits have been obtained
- ☐ Permitting process has not started

Project Start Date: (check applicable)

- ☒ Project construction/eligible grant and/or match activities can start immediately after notice of funding award.
- ☐ Project construction/eligible grant and/or match activities can start within 6 months of notice of funding award.
- ☐ Project construction/eligible grant and/or match activities can start within 12 months of notice of funding award.
- ☐ Project construction/eligible grant and/or match activities cannot start until 12 months or more after notice of funding award.

Length of Time Expected to Complete Proposed Project: <48 months (most in 24 months)

How long will the entire project take to complete, if requested amount covers all work for the entire project? If part of a larger project, how much time will be needed to complete all work for the funding requested and local funds and/or match commitment provided? <48 months

Include the estimated timeframe in number of months for each applicable task so that the reviewers will know how much time is needed, regardless of when the project evaluation process takes place. Note that tasks may take place concurrently (e.g., education may take place throughout the entire project period). If tasks are performed concurrently, do not add time to the overall project timeframe unless the task(s) need additional time to complete.

Add applicable tasks if they are not listed below. If a task does not apply for the proposal, mark the task N/A so that reviewers will know that this section was not overlooked.

Do not include the time for work that has already been completed (which is not eligible for grant funds).

No. of Months for Design and Permitting: **8 months (10/01/2020 through 05/31/2021)**

No. of Months for Bidding/Subcontracting: **3 months (07/01/2021 through 09/30/2021)**

No. of Months for Construction: **48 months (10/01/2021 through 09/30/2025)**

No. of Months for Education: **Concurrent with bidding and construction**

No. of Months for Water Quality Monitoring: **Concurrent with construction and concurrent for last 6 months**

No. of Months for Reporting: **Concurrent with bidding and construction and concurrent for last 6 months**

Total No. of Months to Complete: **48 months through construction completion and concurrent for last 6 months through the reporting**

PART II: PROJECT WATERSHED CHARACTERISTICS

WATERBODY ADDRESSED:

1. Provide the name of the waterbody(s) that this project addresses:

The project area drains to the St. Lucie River and Estuary Basin and eventually discharges into the Indian River Lagoon. Both water bodies are impacted by high nutrient concentrations and are considered impaired.

2. Provide the WBID number(s) for the waterbody segment(s) that this project addresses.

Waterbodies are typically divided into segments which are identified by Water Body Identification (WBID) numbers. Water quality impairments are associated with the WBIDs, not the entire waterbody. Here is a link where that information can be found:
<https://floridadep.gov/dear/watershed-assessment-section/content/basin-411-0>

WBIDs 3208B and 3193

3. List the parameter(s) the waterbody is impaired for that this project addresses.

**St. Lucie River and Estuary Basin is impaired for TN and TP, plus BOD
Indian River Lagoon (IRL) is impaired for TN and TP**

4. Does the project treat water that discharges directly into an impaired WBID(s)?

Yes ☒ No ☐

If yes, identify the **WBID(s)** that the treated water directly discharges into.

WBIDs 3193 (St. Lucie River and Estuary Basin) and WBID 5003A (South Indian River Lagoon)

If no, then describe how the project contributes to reductions of the parameters impairing the WBID(s). (e.g. *does the unimpaired receiving water body discharge into an impaired water body and if so, describe how*)

**Please note, if the project does not reduce non-agricultural nonpoint source pollutants in an impaired waterbody, it may not be eligible to receive funding under the SWAG Grant.*

IMPLEMENTATION OF A WATER QUALITY RESTORATION PLAN(s):

If available, please attach GIS files for the project(s) after completing the proposal request.

5. TMDL Name that project is addressing, if applicable: **St. Lucie River and Estuary Basin**

If addressing a TMDL, identify the pollution reductions and parameters specified in the TMDL: **TN and TP reductions (BOD & Fecal coliform levels will inherently be improved)**

6. Is the proposed project geographically located within and/or associated with a Water Quality Restoration plan (e.g., Basin Management Action Plan, Reasonable Assurance Plan, TMDL Alternative Plan, etc.)? **Yes. Basin Management Action Plan (BMAP)**

If yes, please complete the following. Repeat for each Plan the proposed project is geographically located in and/or associated with:

- a. Enter name of Water Quality Restoration Plan(s): **St. Lucie River and Estuary Basin Management Action Plan**

- b. Identify if this project contributes to pollutant reductions specified in the Water Quality Restoration Plan(s).

☒ Yes ☐ No

- i. If yes, briefly describe the nonpoint source issues or pollutant reductions specified in the Water Quality Restoration Plan(s) that the project is addressing.
Elimination of septic tanks will help eliminate TN and TP levels (BOD & Fecal coliform levels will inherently be improved)

- c. Is your proposed project **listed** in the Water Quality Restoration Plan?
(<https://floridadep.gov/star>)?

☒ Yes ☐ No

If yes, provide the Water Quality Restoration Plan Project Name:
Florida Statewide Annual Report on Total Maximum Daily Loads, Basin Management Action Plans, Minimum Flows or Minimum Water Levels, and Recovery or Prevention Strategies, June 2018

LAND USE and STATUS:

Land Uses of the Area Being Treated:

Enter the land use acreage in the table for the area expected to be treated, not just the area that the proposed project may occupy. The area being treated is the area that is contributing runoff to the treatment system. Please use the information based on the Florida Department of Transportation (FDOT) Florida Land Use Cover and Forms Classification System (FLUCCS) codes (or equivalent) for the most recent available year. Repeat for separate drainage areas if your proposal includes more than one separate and distinct drainage area.

Land Use (Do not alter – All must be filled out; do not add categories; use a 0 for no acres)	Acres	%
Residential Low Density (1100)	2312.0	76.2
Residential Medium Density (1200)	533.7	17.6
Residential High Density (1300)	3.2	0.10
Commercial and Services (1400)	134.2	4.4
Industrial (1500)	49.6	1.6
Extractive (1600)	0	0
Institutional (1700)	0	0
Recreational (1800)	0	0
Open Land (1900)	0	0
Agriculture (2000)	0	0
Upland Non-Forested (3000)	0	0
Upland Forests (4000)	0	0
Water (5000)	0	0
Wetlands (6000)	0	0
Barren Land (7000)	0	0
Transportation, Communication, and Utilities (8000)	0	0
Land Use Totals (Acreage and %)	3032.7	100

NONPOINT SOURCE CONTRIBUTION AREA:

- Are any of the grant or match activities in this project proposal required under a municipal separate storm sewer system (MS4) or stormwater NPDES permit? *Projects implementing requirements of an MS4 permit are not eligible for 319(h) funds. However, elements that are above and beyond what is required in the permit may be eligible. More information on the Phase I and Phase II MS4 permits can be found at the following website: <https://floridadep.gov/water/stormwater/content/municipal-separate-storm-sewer-systems-ms4>*

☐ Yes ☒ No

If yes, describe.

7. Describe the source of the pollutants that are being treated by this proposed project (e.g. urban storm water, septic systems, agricultural runoff, etc.) and indicate in which of the above listed areas the sources are located. *Also describe how the runoff is getting to the proposed project site for treatment, whether the runoff is expected to come primarily from sheet flow or an agricultural canal, or if it will be directed through a major conveyance system (e.g., MS4 ditch or pipe), to help define the source for 319(h) projects.*
The project elimination of 750 septic tanks will help minimize TN and TP pollutants. (BOD & Fecal coliform levels will also be significantly reduced).

- ☐ Agricultural runoff or Urban impervious runoff sheet flow
☐ Urban or Rural impervious runoff directed through an MS4 conveyance system or major pipe (may be ineligible for 319 funding)
☒ Other/Combination described below

Land Ownership Status: (check one)

- ☐ Land necessary for the construction of treatment infrastructure has been acquired. Title is held by:
☐ Land necessary for the construction of treatment infrastructure is under a legal option to buy (please provide documentation of the option-to-buy and funding to execute the purchase).
☒ Land necessary for the construction of treatment infrastructure is under an easement that allows for construction and access.

PART III: DETAILED PROJECT DESCRIPTION

Include a full description of the proposed project. Project elements that are described on other submitted attachments but are not described in PART III, PART IV and/or PART V may not be considered as part of the project when evaluating the proposal for funding consideration.

8. **Description of only the proposed grant funded and (where applicable) local funds and/or match commitment activities:** *Provide sufficient detail so that the project evaluators will know exactly what is being constructed/implemented and how it will function. For treatment trains, include how the BMPs are connected and function as a train.*

- a. Provide a detailed description of all project activities and best management practices (BMPs) the grant and match funding is expected to be used for, including but not limited to, description of each activity and BMP, type of BMP(s), approximate size of each BMP, number/type of structures in each BMP, pond residence time, etc.

Martin County is requesting grant funding and providing matching funds for their Connect to Protect Septic to Sewer Program for both vacuum sewer and grinder sewer systems within its Service area. The County would like grant assistance for 500 vacuum sewer connections in the FY2020-2024 Connect to Protect Septic to Sewer Program. There is a total of 4645 connections available for connection in the vacuum sewer system through 2024. The applicant, Martin County is seeking 319h grant funding to connect 500 of the potential vacuum septic to sewer applicants to the MCU sewer system. The total cost for vacuum sewer connections in Martin County ranges from \$17,000 to \$22,000 per connection. The estimated cost for each vacuum sewer lateral connection to the Vacuum Pit and septic tank abandonment is \$2,500 per household. This request is for \$1,000 per connection for these 500 connections and septic tank abandonments, for a total of \$500,000. The match for this request is the 500 connections at \$1,500 per connection and septic tank abandonment for a total of \$750,000 in matching funds.

As part of this application Martin County (MC) is requesting grant funding and providing matching funds for 250 grinder pump station connections and related septic tank abandonments for the FY2020-2024 Connect to Protect Septic to Sewer Program. The total cost for grinder pump station connections in Martin County are estimated at \$11,400 per connection. MCU currently has 2118 homes available for grinder pump station connection through 2024. The estimated cost for each sewer connection and septic tank abandonment is \$7,300 per household. MCU is requesting \$1000 per connection for 250 grinder pump stations and septic tank abandonments, for a total of \$250,000. The local match is 250 grinder systems at \$6,300 per connection for a total of \$1,575,000 in matching funds.

The Martin County total 319h grant request is for \$750,000, with a match commitment of \$2,325,000 for 750 septic to sewer connections. The Martin County matching commitment share is 76%, and the 319h grant share is 24%; therefore, the County-Homeowner match is more than 3 times the grant request.

- b. Describe how the project is expected to treat nonpoint source pollution or improve water quality.

Project will eliminate septic tanks that will remove TN/TP/BOD/Fecal pollution sources and thereby improve water quality.

- c. If the project proposal includes green infrastructure/low impact development features, highlight the expected BMPs or practices and what benefits will be added by including these features. *If known, describe if there are multiple uses and benefits provided by the LID such as expected value added to community use, if there is support by the community for LID implementation, added safety, nutrient reductions, long-term cost savings, etc.*

Project will eliminate septic tanks and connect residents to the MCU sewer system which inherently improves the environment especially adjacent to water bodies. This

Connect to Protect Septic to Sewer Conversion Program provides significant value to the community and each resident both environmentally and financially. The community and Board of County Commissioners both support this project. The project will result in significant nutrient reductions to impaired waters and will result in added safety for the community associated with removal of pollution that causes the health issues associated with algal blooms.

- d. Describe educational activities that are part of the project in Part V of this project information proposal, if applicable. **Not applicable. Educational activities are not part of this grant request, but the County has and continues to invest in education of the public and associated program branding related to septic to sewer implementation throughout the sewer service area.**

9. **Objective:** Explain how the activities and BMPs in the grant and local funds and/or match funded project proposal will reduce nonpoint source pollution. Include how they will benefit the associated impaired water and, if applicable, implement the Water Quality Restoration Plan(s) or how they will protect unimpaired waters.

The removal of septic tanks is one of the most reliable and effective methods for removal of nutrients and other pollution sources from the St. Lucie River and Estuary Basin and the Indian River Lagoon. Removal of these septic tanks will result in significant and measurable water quality improvement to these water bodies.

10. COST EFFECTIVENESS:

Describe how this project is cost effective for reducing pollutants contributing to water quality impairments and/or restoring water quality. For non-structural projects, describe how the cost effectiveness of the project will be measured, including the methods used (e.g., surveys, monitoring changes in behavior, etc.).

The removal of septic tanks is one of the most cost-effective methods for removal of nutrients and other pollution sources. By residents connecting to the sewer system, septic tank system related nutrient contributions will be removed thereby restoring water quality.

- 11. Project Effectiveness Evaluation:** Describe how the success of the project will be evaluated, such as water quality monitoring, surveys, etc. Provide sufficient detail to indicate which activities and BMPs will be monitored and how.

Note: Effectiveness evaluation is required for all 319(h) projects.

MCU has done hundreds of septic tank conversions in the recent past resulting in a significant reduction in nutrient contributions to nearby water bodies. There is an accurate understanding that septic tank removal equates to a significant reduction Total Nitrogen (TN), in the range from 9 to 45 lbs TN per year per septic tank based on cited documentation. There is also a significant reduction in Total Phosphorus (TP) attributed to septic tank removal, in the range 2 to 5 lbs TP per year per septic tank based on the prior studies cited in the references. The grant application basis for the Martin County calculation is 22.5 lbs TN per year per septic tank and 4.15 lbs TN per year per septic tank. MCU has significant background monitoring well data in and around these septic service areas and they will do additional sample testing after the

vacuum sewer and grinder pump station connections are installed to quantify the reduction in total nitrogen and total phosphorus associated with the vacuum and grinder system connections to the County's sewer system. The reduction in nitrogen, and phosphorus will be measured in the monitoring wells and through modeling using ArcNLET to correlate the results of the septic to sewer conversion successes.

12. Project Funding and Timeline: for *ONLY* the Grant and Committed Local Funds and/or Match Funded Portions of the project proposal request.

In the table below, provide the estimated funding amounts and timeline for each grant and committed match funded step in the proposed project. Examples of typical descriptions have been provided but can be edited as needed.

Note that for the State Water Quality Water-quality Assistance Grant project proposals, grant funds are expected to be used for construction of capital projects and match is not currently required to receive funding.

Note that for 319(h) project proposals, grant funds may be used towards construction, education, monitoring, and reporting. All tasks identified below may be considered to apply towards match for the 319(h) grant.

Task Name	Grant Funding	Match Funding
500 Vacuum Sewer Connections 319h	\$500,000	\$750,000
250 Grinder Pump Station Connections 319h	\$250,000	\$1,575,000
	\$	\$
Project Totals	\$750,000	\$2,325,000

- a. Estimated Project Start Date: **10/01/2021**
- b. Estimated Project End Date: **09/30/2025**

13. Additional Information (optional): Include other relevant information about the project that has not been addressed in the previous questions (e.g., the presence of protected species at the site)

This Martin County Connect to Protect Septic to Sewer Conversion Program is extremely important to the health of the St. Lucie River and Estuary Basin and the IRL.

Implementation of this program will improve water quality and IRL vital signs evaluated as part of the IRL restoration program including: seagrasses, filter feeders, contaminants, legacy loads, wastewater, impaired waters, biodiversity, species of concern, forage fishes, fisheries, harmful algal blooms, marinas and boating, emergency response, monitoring and data, distinctive lagoon communities, and the overall state of the IRL.

Implementing program projects is extremely urgent to the Martin County Board of County Commissioners as evidenced by approval of a board directed policy on 3/26/19 (Refer back

to Attachment C) to accelerate the conversion of existing homes from onsite sewage treatment and disposal systems (septic tanks and drain fields) to County sewer infrastructure via individual grinder stations. The policy for this voluntary connection program establishes procedures, fees, and perpetual MCU maintenance obligations for these new grinder systems.

14. Does the project use innovative technologies/BMPs?

For example, stormwater projects that include an extensive treatment train such as a combination of retention ponds, exfiltration trenches, and swales; or enhancements such as denitrification walls, alum and other polymer treatments, electrostatic panels, and parameter specific filters, etc., will be considered more innovative than projects that install a single conventional BMP.

☐ Yes ☒ No Martin County has taken a strong comprehensive approach rather than an innovative one with the goal of providing a cost-effective connection of any potential residential septic tanks to the central sewer system through gravity sewer, vacuum sewer, and grinder pump stations (See Attachment E for the Martin County Connect to Protect Poster).

If yes, please explain how the BMPs are innovative.

15. For Agricultural BMP Project Proposals: Check all that apply and attach supporting documentation, if applicable

- ☐ Project is supported by both state and local grower associations.
☐ Project complements an existing BMP project or U.S. Department of Agriculture (USDA) program. **Not Applicable**

PART IV – PROPOSED PROJECT ESTIMATED POLLUTANT LOAD REDUCTIONS

16. This proposal is for a structural BMP project.

☒ Yes ☐ No (If no, go to next question).

- a. If the answer is yes, then enter the estimated load reductions and event mean concentrations (EMCs) in the Pollutant Load Reduction table for each BMP. *To check recommended BMP efficiencies, refer to the following link:* <https://floridadep.gov/dear/water-quality-restoration/documents/statewide-best-management-practice-bmp-efficiencies>
- b. Describe how the estimated reduction(s) were determined, including the name of the model used: *For consistency, the Department recommends using the University of Central Florida BMPTrains Model.* <http://stars.library.ucf.edu/bmptrains/>
- c. What are the estimated residence times of any ponds, swales, etc. **Not Applicable**

17. This proposal is for a nonstructural BMP project, such as demonstrations, or effectiveness evaluations.

☐ Yes ☒ No

- a. If the answer is yes and you are unable to fill out the Pollutant Load Reduction table, please describe below how the project will reduce pollutant loads.

POLLUTANT LOAD REDUCTIONS: Enter in the table below the load reductions of the impaired parameters that the above described project is estimated to achieve in the affected waterbody. Repeat table as needed for load reduction per BMP implemented. Enter amounts in pounds/year (lbs./yr.).

18. If the grant and match commitment work is part of a larger project:

- a. Are the reductions for the larger project: ☒ Yes ☐ No

Note that if the reductions are for the larger project, you will also need to break out the reductions for just the grant and match committed portion. **Yes the reductions are broken out for the septic to sewer connections and related costs.**

- b. Are the reductions for the grant and match committed portion only: ☒ Yes ☐ No

BMP Name: Martin County Vacuum Sewer Septic to Sewer Connections

BMPs Installed	TSS lbs./yr.	TP lbs./yr.	TN lbs./yr.	Sediment lbs./yr.	BOD lbs./yr.	Mercury lbs./yr.	Fecal Coliform lbs./yr.
Load Reduction	-	2,075	11,250	-	-	-	-
% Reduction	-	99%	99%	-	-	-	-

BMP Name: Martin County Grinder Pump Station Septic to Sewer Connections

BMPs Installed	TSS lbs./yr.	TP lbs./yr.	TN lbs./yr.	Sediment lbs./yr.	BOD lbs./yr.	Mercury lbs./yr.	Fecal Coliform lbs./yr.
Load Reduction	-	1,038	5,625	-	-	-	-
% Reduction	-	99%	99%	-	-	-	-

TOTALS

BMPs Installed	TSS lbs./yr.	TP lbs./yr.	TN lbs./yr.	Sediment lbs./yr.	BOD lbs./yr.	Mercury lbs./yr.	Fecal Coliform lbs./yr.
Load Reduction	-	3,113	16,875	-	-	-	-
% Reduction	-	99%	99%	-	-	-	-

PART V: ADDITIONAL QUESTIONS FOR PROPOSALS WITH EDUCATION COMPONENT(s)

Include a full description of the proposed project, if not described in PART III.

PROJECT INFORMATION: Please provide responses to the questions below. The questions in the section pertain to only the grant funded and local funded and/or match funded activities unless otherwise specified.

19. Will the proposal entity be partnering with any other organization? Describe below and identify who will lead efforts for various project aspects. **Martin County is not requesting grant funding for Education purposes in this application. Though educational activities are not part of this grant request, Martin County has and continues to invest in education of the public and associated program branding related to septic to sewer implementation throughout the sewer service area.**

Martin County is open to partnering and working to share the information that they have with the local governments in the region and adjacent to the Indian River Lagoon.

20. What is the subject matter of the education outreach?
Not applicable to this Martin County septic to sewer connections request
21. What are the methods and frequency of outreach?
Not applicable to this Martin County septic to sewer connections request
22. What is the size and type(s) of the target audience for each method of outreach?
Not applicable to this Martin County septic to sewer connections request
23. Does any of the outreach described above include education on low impact development (LID)?
Not applicable to this Martin County septic to sewer connections request
24. Describe any materials, not already listed, that will be developed or published under this project and the associated outreach method they will be used in.
Not applicable to this Martin County septic to sewer connections request
25. Please describe how the proposed project is expected to reduce pollutant loads and/or protect unimpaired waters.
Not applicable to this Martin County septic to sewer connections request

PROJECT OVERVIEW: *Provide a more detailed narrative description of the project education components, keeping in mind the following items to address in the description (limit to 2 pages).*

- Include more details on the subject matter for each type of outreach listed above (if not described in detail in previous responses).
Not applicable to this Martin County septic to sewer connections request
- How will you encourage public participation?
Not applicable to this Martin County septic to sewer connections request

26. **Project Effectiveness:** Measuring project effectiveness is a requirement under the 319(h) grant. Describe how the effectiveness of the education components of the proposed project will be measured. *Provide a detailed description of the method(s) used. Include estimated number of participants in the effectiveness measurement (limit to 2 pages). Examples of methods: surveys, monitoring changes in behavior.*
Not applicable to this Martin County septic to sewer connections request

PART VI – CERTIFICATION, ATTACHMENTS, AND REFERENCES

I, the undersigned Authorized Representative of the Project Proposal, hereby certify that all information contained herein and in the attached is true, correct, and complete to the best of my knowledge and belief. I further certify that I have been duly authorized to file the proposal for consideration of funding and to provide these assurances.

Authorized
Representative


(Signature)

Samuel Amerson, PE
(Name typed)

Signed this 30th _____ Day of April _____, 2020

List the file names for all attachments that are included with this project proposal (such as maps, design plans, GIS files, letters of support, operations and maintenance plan, etc.), a description of what the attachment contains, and the total number of attachments submitted, including the project proposal.

Filename: **MC_FDEP 319h Grant Application_Connect to Protect_043020_FINAL**
Description: **FDEP 319h Grant Application request by Martin County**

Filename: **MC_FDEP 319h Grant Application_Attachment A_Letter of Interest**
Description: **Martin County Letter explaining Connect to Protect Program and need for 319h Grant**

Filename: **MC_FDEP 319h Grant Application_Attachment B_Septic to Sewer Service Area Map_2019**
Description: **Map showing the Martin County Connect to Protect Sewer Service Area**

Filename: **MC_FDEP 319h Grant Application_Attachment C_Connect to Protect Grinder Sewer Program Policy**
Description: **List of Martin County 5 Year Plan of Connect to Protect Vacuum & Grinder Projects**

Filename: **MC_FDEP 319h Grant Application_Attachment D_FY2020-24 Connect to Protect Septic to Sewer Program Projects**
Description: **Martin County BOCC directed policy to implement septic tank program**

Filename: **MC_FDEP 319h Grant Application_Attachment E_Connect to Protect Poster**
Description: **Martin County Poster discusses Connect to Protect and showing residential connection**

Total Number of Files Submitted (include the project proposal in the total number): 6

Cited References (if applicable):

- 1) **Final Martin County Watershed to Reef Septic Study, by Harbor Branch Oceanographic Institute, March 2016.**
Provided a value of 18 lbs. TN/person/yr on septic, which was an average value for all of the septic tanks in the region (9 lbs TN/person/yr is half of value) at 2.5 persons/ERC.
[18 x 2.5 = 45 lbs TN/yr/septic tank]
[9 x 2.5 = 22.5 lbs TN/yr/septic tank]
Provided a value of 1.66 lbs TP/yr. /person/yr on septic, which was an average value for all of the septic tanks in the region (.83 lbs TP/person/yr half of value) at 2.5 persons/ERC.
[1.66 x 2.5 = 4.15 lbs TP/yr/septic tank]
[0.83 x 2.5 = 2.08 lbs TP/yr/septic tank]
- 2) **Brevard County Save Our Indian River Lagoon Project Plan, Tetra Tech, July 2016.** *Document cites a value of 27 lbs TN/yr/septic tank for properties within 55 yards of the IRL waterways.*
- 3) **Estimation of Nitrogen Load from Removed Septic Systems to Surface Water Bodies in the City of Port St. Lucie, the City of Stuart, and Martin County, Ming Ye and Huaiwei Sun, Sept 2013.**
- 4) **Numerical estimation of nitrogen load from septic systems to surface water bodies in St. Lucie River and Estuary Basin, Florida, Ming Ye and Huaiwei Sun, & Katie Hallas, 2017.** *Document cites a value of 9.7 lbs TN/yr/septic tank.*
- 5) **Martin County reference documentation attached to this Grant Application as Attachments A-E as provided by Martin County Utilities Department.**

ATTEST:

BOARD OF COUNTY COMMISSIONERS
MARTIN COUNTY, FLORIDA

CAROLYN TIMMANN, CLERK OF THE
CIRCUIT COURT AND COMPTROLLER

HAROLD E. JENKINS II, CHAIRMAN

APPROVED AS TO FORM & LEGAL SUFFICIENCY:

SARAH W. WOODS, COUNTY ATTORNEY