May River Watershed Action Plan Update & Modeling Report (MRWAP) Implementation Summary

1. MRWAP Background

- *May River Watershed Action Plan Update & Modeling Report* (MRWAP) was completed November 2020.
- Town Council adopted the MRWAP as a supporting document to the Comprehensive Plan in February 2021.
- The Action Plan Update & Modeling Report included the development of watershed-water quality models (WQ Model) for the four (4) May River Headwaters subwatersheds (Stoney Creek, Rose Dhu Creek, Duck Pond, and Palmetto Bluff) where the shellfish impairments are located.
- The purpose of the modeling effort was to better understand fecal coliform (FC) fate and transport in the Headwaters subwatersheds to develop strategies ultimately intended to open all shellfish stations to harvesting. To capture the variety of storm events and environmental conditions, the Project Team developed a continuous simulation of both water quantity and quality.
- The MRWAP included new water quality improvement projects resulting from the WQ Model. Additionally, the potential fecal bacteria reduction benefits of septic to sewer conversion in the four (4) Headwaters subwatersheds were modeled.

2. Septic to Sewer Project Recommendations/Evaluations

Background:

- The MRWAP evaluated four (4) septic to sewer conversion projects in the Rose Dhu Creek and Stoney Creek subwatersheds:
    - Cahill
    - Gascoigne
    - Stoney Creek
    - Pritchardville
- These projects overlap with 42 subcatchments in the Stoney Creek watershed and 11 in Rose Dhu Creek. Based on WQ Model outputs, these projects alone may potentially reduce FC loading by 3.46x1013 FC per year.
- The estimated septic to sewer conversion costs of these projects is $5.5 million.

This space left intentionally blank

Update: Stoney Creek/Palmetto Bluff Sewer Partnership

- BJWSA's 2022 updated cost-estimate for the project from BJWSA increased to $7.2 million + contingencies.
- BJWSA is the Project Manager as the awardee of the RIA-SCIIP grant.
- Next Steps:
    - BJWSA continues with community outreach and design of the system. BJWSA updates can be found at: https://bjwsa.org/251/Go2Sewer-for-a-Cleaner-Stoney-Creek

3. MRWAP Impervious Restoration Water Quality Projects

Task 1: MRWAP Eleven (11) Proposed Projects Background

- Eleven (11) project sites (incorporating various individual BMPs) were selected in consultation with the Town (prioritizing subcatchments with FC bacteria hotspot and/or large impervious areas). These sites were evaluated in terms of the potential benefits gained by retrofitting to meet the 95th percentile storm retention, to the maximum extent possible, under the proposed Impervious Area Restoration/Stormwater Retrofit Program.
- Based on WQ Model outputs, these projects alone may potentially reduce FC loading by
    - 2.99×1014 FC reduction for the Full SWRv (entire sub-basin drainage area catchment).
    - 2.53×1014 FC reduction for the Reduced SWRv projects (impervious area drainage area of sub-basin catchment).
- The estimated Full SWRv projects costs is $32.7 million and the estimated cost of Reduced SWRv projects is $22.6 million.
- Currently the Towns' Impervious Restoration Program is targeting Reduced SWRv for future projects.

Task 1: MRWAP Eleven (11) Proposed Projects Update

- Eleven (11) proposed project sites Rose Dhu Creek (6 projects) and Stoney Creek (5 projects):
    - All geotechnical work, evaluations, site assessments, planning, engineering, and preliminary designs for the 8 original sites is **complete**.
        - Bluffton Early Learning Center (BELC).
        - Boys and Girls Club of Bluffton (BGC).
        - Benton House (BH).
        - Bluffton High School (BHS).
        - Buckwalter Recreation Center (BRC).
        - ~~Lowcountry Community Church (LCC).~~ **Declined to Participate.**
        - McCracken Middle School/Bluffton Elementary School (MMSBES).

    - May River High School.
    - ~~One Hampton Lake Apartments (OHLA).~~ **Declined to Participate.**
    - Pritchardville Elementary School (PES).
    - ~~Palmetto Pointe Townes (PPT).~~ **Declined to Participate.**
- Next Steps:
    - Final Draft of the IRP Policy Document has been submitted and under review for final edits and comments.
    - Upon completion and approval of the IRP Policy Document, staff will collaborate with the Town's Director of Procurement for an agreement with BCSD to construct impervious restoration projects at school sites.

Task 2: Identify Fifteen (15) New Project Sites Background

- Identify 15 new project sites for Town of Bluffton Impervious Restoration/BMP Retrofit Projects.
- The Town wishes to identify an additional 15 project sites located within the municipal limits of Bluffton for the Impervious Restoration/BMP Retrofit Program. However, the criteria for site selection will be considered to be more "low hanging fruit" based on the following:
    - Within Town of Bluffton Municipal limits.
    - Soils – sandy soils with high infiltration rates offer the biggest bang for the buck for water quality treatment/improvement. Utilizing soil survey and other information target sites where infiltration can be maximized on-site.
    - Public or governmental agency land/property owner (not SCDOT RoW).

Task 2: Identify Fifteen (15) New Project Sites Update

- Site evaluations at the 15 sites have been completed.
- Concept design development for the sites identified below ongoing:
    - Dominion Energy Engineering Office
    - Rose Dhu Equestrian Center
    - St. Gregory Catholic Church/School
    - River Ridge Academy
    - MC Riley Early Childhood Center
    - MC Riley Elementary School
    - MC Riley Sports Complex
    - Bluffton Middle School
    - Red Cedar Elementary School
    - Seagrass Station Road Site determined to be not feasible, low cost/benefit.
    - Bluffton Pkwy West (170 to Buckwalter)
    - Buckwalter Pkwy (Hampton Hall to May River Road)
    - Persimmon St/Sheridan Park Cir/Pennington Dr

  - Vaden Nissan Hilton Head
  - ~~NHC Healthcare/Bluffton (Healthcare, Rehab, Assisted Living)~~ **Declined to Participate**
- Next Steps:
  - Finalize Concept designs and proposed SWrv/Water quality benefit.

Task 3: MRWAP Impervious Restoration Policy Documents Background

- MRWAP Section 5.4.4. Stormwater BMP Retrofit Projects of the May River Watershed Action Plan Update and Model Report identifies potential Impervious Restoration/BMP Retrofit projects located on Public and Private Land. As mentioned earlier, one of the primary site selection criteria, at time of report development, was to identify sites with large impervious areas so that pollutant load reductions could be estimated and the benefits of such projects on stormwater quality quantified/estimated, if implemented into construction. Generally, Public Funds are not expended to improve private property nor is Town of Bluffton funding generally expended on Public Land owned by another government entity. In order for such projects identified in Section 5.4.4. to move forward in the interest of improved water quality and for the overall benefit and welfare of the constituents of the Town of Bluffton, Policy Documents need to be formulated that establishes the parameters of such a Program to be initiated and implemented.

Task 3: MRWAP Impervious Restoration Policy Documents Update

- Impervious Restoration Program Policy Document Draft submitted and under review. Fee-in-Lieu Program Policy Document - Adopted into the FY26 Master Fee Schedule at the July 2025 Town Council Meeting.
- As Adopted:
  - As part of the SoLoCo Stormwater Design Manual, developers may submit for MEP when the proposed development site has constraints or limitations to which prevent SoLoCo Stormwater Design Manual requirements from being met, specifically stormwater retention volume (SWRv) requirements. SWRv is the volume of stormwater runoff that a stormwater management system can store and treat to improve water quality. The MEP submittal must provide documentable evidence of the process the applicant has performed that demonstrates the restrictions to the use and implementation of the Best Management Practices (BMPs) to meet the SWRv requirements.
  - When a development project cannot accommodate the required SWRv due to on-site constraints identified in the approved MEP analysis, the developer could opt to pay a Fee-In-Lieu (FIL) to the Town of Bluffton for the shortfall according to the FIL fee schedule to be adopted as part of the FY26 budget Master Fee Schedule. Funds collected through FIL payments would then be used by the Town to fund

other qualified uses that protect water quality within the same watershed as the original project including:

- The construction and maintenance of impervious restoration program water quality BMPs;
- Purchase of land for increased conservation areas, application of Better Site Design to the approved Master Plan, buffers, undisturbed open space, and natural resource of significance areas, and
- Purchase of development rights.

- FIL payment would be based and equal to a unit of SWRv in cubic feet or designating a conservation area/easement area that protects a qualified natural resource that would otherwise require the same SWRv treatment if developed. The monetary value for a unit of SWRv would be based on the current and typical costs for land as well as associated costs for design, construction, construction management, Town program management, post-construction inspection, and ongoing maintenance of water quality BMPs. The SWRv FIL rate would be found as part of the Town's Master Fee Schedule, under Section VII "Stormwater Management Fees,", allowing for annual review and updates as needed based on the Consumer Price Index (CPI) or based on updated information regarding the cost of water quality BMP construction and maintenance, changes in the construction industry, availability of supplies, etc. If the developer and/or private property owner take responsibility for maintaining the BMP or provide land, then the associated cost for a unit of SWRv could be lessened accordingly.

Item/Description	Fee
Fee-In-Lieu (FIL) For projects with an approved Maximum Extent Practicable (MEP) submittal, the FIL amount is calculated based on an applicant's shortfall, in cubic feet (CF), of the required Stormwater Retention Volume (SWRv).	$151.92/CF of SWRv

- ToB CIP Project Impervious Restoration Program & incentives – Draft document in process.
- ToB SWrv Credit Trading Program - (under evaluation)

4. Other, Related MRWAP Recommendations

Background:

- The Town should incorporate volume reduction BMPs (those that encourage infiltration) within existing and future CIP projects to the maximum extent practical (MEP), especially for project locations with well-drained soils (HSG A or B).

Other, Related MRWAP Recommendations Update:

- Town is in progress of incorporating volume reduction BMPs within existing and future CIP projects to the MEP. Specific projects currently in progress include:
    - Bridge Street Streetscape Project
        - Water quality monitoring has been completed
    - Pritchard Street Drainage Improvement Project
        - Incorporated Infiltration BMPs within the project to capture and treat 1.95" of rainfall over impervious surfaces within the project area, prior to discharge into Heyward Cove.
        - Submitted Section 319 Grant proposal to DHEC to cost-share cost of construction of proposed BMPs. Pre-proposal was accepted, and Full Proposal was requested by DHEC. Under Review.
        - Coordinated approval for proposed improvements with Beaufort County School District and Beaufort County on pool operation impacts. Updated Bid Ready submittal from consultant 7/9/25 pending.
        - Easement acquisition documents have been finalized, and easement acquisitions have been initiated.
        - Follow-up/complete permitting submissions.
        - Project anticipated to be advertised for construction in July 2025.

5. MRWAP Water Quality Program Recommendations Update

Background:

- Section 5.0 of the MRWAP included recommendations for the Town of Bluffton to improve upon their existing monitoring program (concentration and source typing) and flow.

MRWAP Water Quality Program Recommendations Update:

- 5.1.1 In-House Microbial Source Tracking:
    - Staff have collaborated with Dr. Tye Pettay and the USCB Microbial Source Tracking (MST) Laboratory to develop new markers for tracking fecal contamination in the May River Watershed. The primary goal is to identify the sources of bacteria and establish effective mitigation plans. The human genetic marker remains the main focus of the Town's MST sampling program, as it poses the greatest risk to human health.
    - With the introduction of the new MST markers, Town staff have initiated a targeted MST sampling program, starting with the Crooked Cove subwatershed. This area was chosen because of its proximity to the South Carolina Department of Environmental Services (SCDES) Shellfish Harvesting Station 19-24, which has experienced rising levels of fecal coliform concentrations. The Town has now expanded this program into the Heyward, Huger, and Verdier Cove subwatersheds. The MST Program examines multiple potential sources of contamination, including human, dog, deer, horse, and bird waste.

Staff are collecting samples during five (5) wet weather events and five (5) dry weather events to characterize each subwatershed.
    - Based on the results of this MST sampling, staff has begun targeted education efforts in the Crooked Cove subbasin for dog bacteria and will continue in the other areas of study.
- 5.1.2 Future (New) Bacteria Monitoring Locations & 5.1.3 Future (New) Water Flow Monitoring Locations
    - Water Environmental Consultants (WEC) removed the water elevation meter from the Duck Pond subwatershed (it was located on the Palmetto Bluff overpass). This monitor was installed to provide 6 months of water elevation data for stormwater model calibration, as there is no channelized flow into the Duck Pond.
    - A final report from WEC for this work has been submitted and reviewed.
    - Town staff have finalized all bacteria and flow monitoring data collection efforts recommended in sections 5.1.2 and 5.13 of the May River Watershed Action Plan Model Report. These efforts aim to improve/calibrate the Town's stormwater model with a comprehensive dataset.
    - Town staff are working with the original Project Team that developed the Town's May River headwaters stormwater model in 2020.
    - The scope of work to update/calibrate the Town's May River headwaters stormwater model is currently in progress.
    - The Town has Fiscal Year 2026 (FY26) funding for this work.