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Stormwater Utility timeline overview:

Year 1: Assessment of system and water quality parameters in SMS4 service area. Sampling of SMS4 service area to determine presence and/or absence of illicit discharge pollutants and sources.
Year 2: Planning required for necessary SMS4 system infrastructure and water quality improvements. Allocation of resources for planned improvements.
Year 3 and on-going: Implementation of projects and practices to improve quality of life for customers.

Proposed initial Stormwater Utility staff and responsibilities:

- *Managing Engineer:* Oversee implementation of permit and stormwater utility responsibilities. Analyses and design of upgrades to failing/undersized storm sewer infrastructure. Investigate customer concerns and inquiries and offer potential solutions for customers to consider. Implement a training program for Lancaster County field staff concerning good housekeeping measures for SMS4 compliance.
- *Construction Observer:* Ensure contractors utilize and maintain appropriate Best Management Practices (BMPs) to protect downstream property owners and water quality of our streams.
- *Development Review Engineer:* Assume responsibility of development review of erosion control and other engineering elements associated with infrastructure design and construction.
- *Public Education & Outreach liaison:* Gather public input concerning utility operations and goals. Establish social media forums to communicate with constituents. Pursue environmental education activities in community.
    - It is the intent that Stormwater Utility staff will be cross trained that all share responsibility to meet the goals of permit compliance and customer service.

Future SWU expansion:

Field crew: This crew would be responsible for inspection and assessment of existing infrastructure condition, system maintenance, and minor upgrades of the stormwater utility system within the SMS4 service area. They would also construct and maintain green infrastructure elements to improve water quality. The implementation of a field crew would require an investment in equipment.
Forester/limnologist: This individual would be focusing on design and implementation of elements and practices that improve water quality. They would be working closely with the public, engineering, constractors, and SWU field staff.

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Outline of typical tasks and activities associated with the Panhandle Stormwater Utility

There are many aspects of community compliance with the National Pollutant Discharge Elimination System (NPDES) and the Small Municipal Separate Storm Sewer System (SMS4) programs which can broadly be grouped into six general categories as follows:

1. *Public Education and outreach*
2. *Public participation and involvement*
3. *Illicit Discharge Detection and elimination*
4. *Construction Site runoff control*
5. *Post-Construction site runoff control*
6. *Pollution Prevention/ Good Housekeeping (Municipal Operations)*

Each of these six program goals require specific steps and objectives to meet compliance with requirements from the South Carolina Department of Health and Environmental Control and the federal Environmental Protection Agency. The tasks listed below will be implemented over several years and modified as necessary to meet specific panhandle land use and constituent needs. These measures, tasks, and activities are generally defined as Best Management Practices (BMPs) by the regulatory community.

Goal 1. Public Education and outreach:

- Current pollutants of concern within the SMS4 service area
    - SCDHEC 303d list pollutant: ECOLI, BIO
    - EPA Total Maximum Daily Load (TMDL) pollutant: Fecal Coliform
    - State & federal endangered species Carolina Heelsplitter pollutant: Sediment
- Identify target audiences to minimize pollutants of concern
- Develop a public outreach plan to minimize pollutants
    - Engage stakeholders in planning public outreach campaign
    - Create environmental educational materials for the target audiences
    - Distribute environmental materials to aid understanding of program goals
        - Provide guidance to property owners implementing water quality measures
        - Meet with property owners, HOAs, and civic groups
        - Provide materials for web page updates and expansions
- Assess and adjust public outreach program to fit needs of constituents, land use, and regulations

Goal 2. Public Participation and Involvement:

- Identify, support, participate and/or sponsor community events with booth emphasis on water quality
- Provide public access to SWMP information
- Solicit on-going public input on program objectives, requirements, and implementation

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Goal 3. Illicit discharge detection and elimination:

- Train Lancaster County field staff concerning illicit discharge detection and elimination
- Develop SMS4 system inventory maps/database with outfalls, public infrastructure condition, receiving waters, etc.
- Identify priority areas with potential illicit discharges
- Identify potential field screening locations
    - Conduct dry weather field screening for illicit discharges
- Develop illicit discharge tracking procedures
    - Conduct field tracking when a pollutant is discernable in receiving waters
    - Eliminate illicit discharges and document investigations and illicit discharge elimination
- Internal pipe cleaning and TV inspections by remote equipment to assess infrastructure condition and/or illicit discharge locations
- Adjust illicit discharge program to specific practices/parameters of concern

Goal 4. Construction site runoff control:

- Develop and adopt a stormwater ordinance
- Implement plan review of proposed development projects
- Specialized training for construction site observation staff
    - Construction site observation, inventory, and record keeping
- Develop enforcement response plans for non-compliant properties
- Establish and implement construction operator training requirements

Goal 5. Post-construction site runoff control:

- Develop a stormwater quality ordinance
    - Evaluate and update ordinances as necessary
- Develop site performance standards to minimize first flush impacts from developed land uses
- Site plan review to ensure water quality standards are considered
- Develop Post-Construction BMP inventory
- Post-construction BMP observations per water quantity and quality benefits
- Develop a long term maintenance plan for site BMPs (ponds, buffer strips, level spreaders, etc.)
- Take and analyze background and impacted water samples to focus restoration efforts

Goal 6. Pollution prevention/ good housekeeping:

- Assess all municipal operations facilities concerning potential pollutant discharges
- Train Lancaster County field staff including: sheriff, fire, inspections, code enforcement, maintenance, and vehicle shop in one or more of the following areas:
    - Illicit Discharge detection and elimination
    - Pollution Prevention/Good Housekeeping
    - Construction and post construction erosion control and water quality BMPs

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Typical responsibilities which may be required of the Stormwater Utility:

1. Act as a resource in Engineering and environmental concerns
    a. Develop and publish "fact sheets" on various environmental and water resource issues
    b. Provide customer service response to citizen requests
    c. Assistance to landowners for retrofit of water quality measures
    d. Provide permitting and engineering assistance to Lancaster County departments
2. Establish and maintain an accurate Stormwater Utility billing database
3. Review all new site development plans in Panhandle for engineering and environmental concerns
4. Develop policies/practices for consideration by Lancaster County Council
5. Develop maintenance activities and inspection schedule for publicly owned BMPs
    a. Pipes, headwalls, junction boxes, curb inlets, ponds, swales, green infrastructure, etc.
6. Establish a priority ranking system: repair/replace/ delay for inadequate storm drainage infrastructure
7. Evaluate/ design/ and observe storm sewer infrastructure Capital Improvement Projects, (CIP)
8. Design/administer stream bank stabilization/restoration projects
9. Design and observe construction of "silt saver" walls or other mechanisms to reduce storm system failures and minimize on-going maintenance requirements
10. Run HEC-RAS software on streams to evaluate cumulative impacts of development to floodplain / floodways.
    a. Evaluate ultimate buildout in HEC-RAS model for watersheds in MS4 area to minimize flooding and assist in future land planning/zoning efforts
11. Evaluate methods of screening and/or removing "gross solids" (litter and rubbish) from panhandle waters
12. Act as program managers for Capital Improvement Projects for storm system improvement projects

Additional information concerning the Lancaster County SMS4 program:

www.scdhec.gov/Apps/Environment/PublicNotices/.../PDF/3318
http://www.scdhec.gov/HomeAndEnvironment/Water/Stormwater/
http://www.scdhec.gov/Environment/docs/Final_SSMS4_Permit.pdf
https://www.scdhec.gov/Agency/docs/water-regs/r61-9.pdf
https://www.epa.gov/npdes/npdes-stormwater-program
https://www.scdhec.gov/HomeAndEnvironment/Docs/tmdl_waxhaw_fc.pdf
http://dnr.sc.gov/swap/supplemental/mussels/carolinaheelsplitter2015.pdf
https://www.fws.gov/endangered/map/state/SC.html

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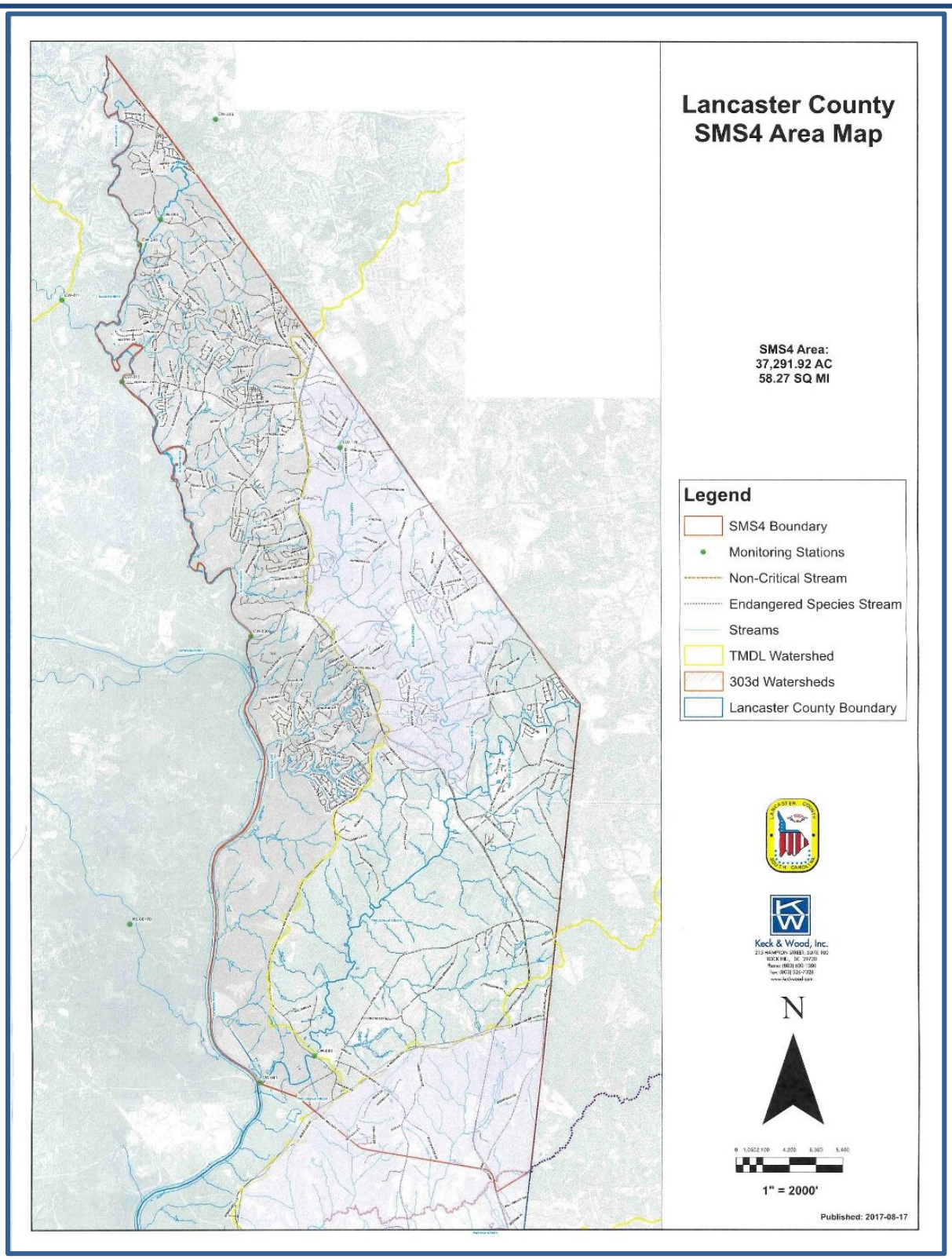

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Water quality of unnamed tributary of Sugar Creek @ Old Bailes Road on August 9th, 2017