



# ECOLOGICAL SERVICES

# CAPABILITIES AND EXPERIENCE

## Stream monitoring and assessment

Assessing geomorphology and biological features of streams to determine stability, restoration potential, and/or restoration success.

## Ecological restoration

Restoring unstable stream, river, and wetland systems through natural channel design processes to restore, enhance, preserve, and protect naturally-provided ecosystem functions of these systems.

## Streambank stabilization

Stabilizing streambanks to protect adjacent land and utilities while also providing environmental benefits.

## Water quality protection

Protecting streams, rivers, wetlands and other natural systems from pollution from stormwater runoff and other urban sources using BMPs.

## Riparian / buffer zones

Designing planting plans to establish and/or protect riparian areas consisting of species native to the area and for removal of invasive/non-native species.

## Stream and wetland mitigation

Providing mitigation designs to accomplish compensatory mitigation for unavoidable impacts resulting from development activities from localities and private developers.

## Construction oversight

Providing knowledgeable construction oversight during stream and wetland restoration projects.

## Erosion & sediment control

Creation of erosion and sediment control plans specifically designed to protect stream restoration implementations and performing inspections to ensure the integrity of stream and wetland areas during restoration projects.

## Stormwater BMP / Low Impact Development (LID) / Permaculture Design

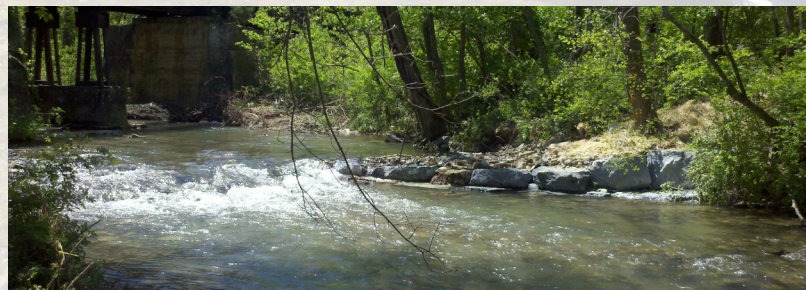
Sustainable design for managing stormwater runoff and pollutant removal using the runoff reduction approach by utilizing healthy soils, native vegetation, and green infrastructure (rain gardens, wetlands, bioretention, rainwater harvesting, permeable pavement, vegetated swales, etc.) for permanent stormwater control.



## OVERVIEW

Mattern & Craig has extensive experience in monitoring, design, and inspection of a variety of stream and wetland related projects. Our capable staff has completed the Level I-IV Rosgen River Restoration and Natural Channel Design courses, as well as numerous other stream restoration design and stream restoration construction training courses. Mattern & Craig also has a certified Permaculture designer on staff. In addition to stream restoration design, Mattern & Craig has provided:

- construction oversight for stream and wetland restoration projects
- hydrological determinations on watercourses
- designed erosion and sediment control and stormwater management plans
- developed vegetation/planting plans for stream and wetland projects
- designed wetland mitigation sites
- conducted morphological, hydrological, and biological monitoring for stream restoration sites
- performed fieldwork, including surveying for numerous stream, wetland, BMP, and erosion and sediment control projects.



# Engineering solutions for change and growth.

## STAFF CERTIFICATIONS

Rosgen Level IV Trained (Natural Channel Design)

### DEQ

Stormwater Management Inspector / Plan Reviewer  
ESC Inspector / Plan Reviewer

### TDEC

Erosion Prevention and Sediment Control  
Fundamentals (TDEC Level I EPSC)

Design Principles for Erosion Prevention and Sediment  
Control for Construction Sites (TDEC Level II EPSC)

Stormwater Control Measures Design using TNRRAT

NCDOT Erosion & Sediment Control/Stormwater  
Certification Levels I , II, & III

Certified Floodplain Manager (CFM)

Permaculture Design Certified



## PROFESSIONAL LICENSES

Professional Engineer (PE)

Certified Professional in Erosion & Sediment Control  
(CPESC)

Qualified Hydrologic Professional for Hydrologic  
Determinations (QHP)

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