

Attachment D, Part I - White Clay Creek Watershed Management  
Plan Implementation, Budget and Work Plan Summary, 2017 Funds

**Cooperative Agreement Number CA\_P13AC01266**

**Modification #4**

**1. Program Administration and Support (\$ 59,924)**

Funding under this category covers services provided by the Management Plan Coordinator to implement and oversee implementation of the White Clay Creek Watershed Management Plan. This includes time required to administer the Cooperative Agreement; manage approved projects; and provide staff assistance to the White Clay Creek Management Steering Committee. This also includes travel expenses; operating expenses; continuing education (pre-authorized workshops, professional membership dues, and conference fees); WCWA insurance coverage and indirect costs. Technical and student assistance provided by the University of Delaware Water Resources Agency are part of this budget category.

**Timeline: Ongoing operations throughout the year.**

**1) Management Plan Coordinator**

1272 hours/year @ 35.16/hour =

**\$ 44,724 (Personnel)**

**2) University of Delaware, Water Resources Agency (WRA) Technical Assistance:**

Website support and Geographic Information System Mapping

100 hours @\$50.00/hour =

**\$5,000 (Contractual)**

**3) University of Delaware, Water Resources Agency (WRA) Student Assistance:**

Website and blog support; Creek Fest support; misc. administrative support

140 hours @ \$21.43/hour =

**\$3,000 (Contractual)**

**4) White Clay Watershed Association Insurance:**

**\$2600 (Other)**

**5) Travel:** Management Plan Coordinator, to attend meetings and implement projects, generally within the White Clay Watershed (travel based on average number of trips per month at government mileage rate for private vehicle.

220 miles/month @ \$0.54/mile plus tolls, parking, lodging=

**\$1500 (Travel)**

**6) Indirect Costs:** Office supplies, Internet services, utilities, conference fees, printing, postage, application fees, memberships/dues and subscriptions, annual report design layout and distribution:

**\$ 3,100 (Indirect Costs)**

## 2. Restoration (\$ 22,681 )

Water Quality Monitoring and Improvement Projects, Ecological Restoration Projects, and Historical & Cultural Resource Preservation projects are all represented under restoration. Resource protection and enhancement and restoration of habitat and water quality in the White Clay Creek are primary goals of the White Clay Creek Wild & Scenic Watershed Management Plan. These projects often require multiple funders whose requirements and funding levels never match completely. This budget is geared toward covering the "gap" between funding requirements to insure completion of implementation projects.

Planned project outputs include:

### **Water Quality Monitoring and Research**

Utilize microbial source tracking (MST) to identify potential bacterial sources in the White Clay Creek (Pennsylvania portion) to target best management practices (BMPs) and implementation strategies. Collection and analysis of 60-120 stream water samples as part of water quality monitoring of sites within the PA portion of the White Clay for E. coli and/or enterococcus levels. Real-time PCR (qPCR) assay for host-specific bacterial groups (e.g., *Bacteroides*) will be performed on 10 samples to sort out the potential FIB sources (human, bovine, equine, poultry etc.) and their contribution to specific samples/sites. Samples of potential sources of fecal indicator bacteria in the watershed will also be collected and used to build a library of local sources in the study watershed, so that we can compare the microbial communities in unknown samples to references/sources. A library of local sources could potentially provide us the capability of differentiating among pollution sources (such as farms) within a watershed and benefit future wastewater management and watershed restoration. Lead Partner: Stroud Water Research Center; Other Identified Partners: Delaware Nature Society, USGS, University of Delaware WRA, Jennifer Egan, P.G., Ph.D.(Skelly & Loy, Inc.)

Pilot a new Enviro DIY stream monitoring program. Volunteers to monitor flow and chemical parameters in select tributaries utilizing DIY remote sensors. Lead Partner: Stroud Water Research Center; Support: Save Our Water, Delaware Nature Society

### **Watershed Restoration**

Implementation of a suite of best management practices including, but not limited to, riparian buffer plantings, stormwater retention/filtration practices such as tree trenches and rain gardens, rainwater storage such as barrels and cisterns, and removal of impervious paving within the watershed, targeting suburban developments. The *Resource Management Goals* and *Key Actions* outlined in The White Clay Creek Watershed Management Plan include, under *Existing Water Quality*, the proposed action to "develop strategies . . . to reduce soil erosion into the streams, which comes from constructions disturbance, urban runoff . . . and streambank erosion." And in *Land-Use Effects-Key Actions*, the Plan proposes "work with communities...to develop innovative strategies for stormwater management and promote infiltration. . ." In addition to meeting these goals and key actions, Green Stormwater Infiltration projects can reduce nonpoint source pollution and help White Clay municipalities meet challenging new MS4 stormwater and TMDL permit requirements.

Planned project outputs include: 2 public workshops, refinement of a web-based program describing the step by step construction of the green infrastructure projects in a suburban

context including applications, landowner soil and percolation tests, sourcing options for construction labor and materials, construction details for installation, site visits, site reports with concept plan, follow-up/maintenance requirements, and BMP cost share incentives. Lead Partner: Brandywine Conservancy; Other Identified Partners: Chester County Conservation District, Delaware Nature Society, Delaware Center for Horticulture

Potential project outputs include:

Riparian Buffer Plantings utilizing the Riparian Gap Analysis Maps developed by Brandywine Conservancy. Lead Partner: Brandywine Conservancy

Implementation of best management practices on agricultural lands. Lead Partner: Brandywine Conservancy; Other Identified Partners: Chester County Conservation District, Chester County Planning Commission

Assistance with development of a pollution reduction plan involving multiple municipalities along with private, non-profit, and government partners, to design collaborative, regulatory compliant, equitable and affordable, water quality restoration programs to improve water quality in the White Clay watershed. Project Lead: Ellen Kohler, PLC; Other Identified Partners: Brandywine Red Clay Alliance, Chester County Water Resources Authority, University of Delaware WRA, Chester County Conservation District, Stroud Water Research Center, Brandywine Conservancy, White Clay Watershed Municipalities, PA DEP, DNREC, EPA.

### **3. Education & Outreach (\$1,895)**

Education funding will be used for School Programming and Community Outreach. Community Outreach will be supported by graphic design and marketing assistance. As the WCCWSP program grows and implements more projects, there is a growing need for graphic design support to assist in efforts to introduce and educate the public about the White Clay watershed. The objective is a professional looking, consistent branding and messaging associated with the White Clay Creek National Wild & Scenic River.

Planned projects:

- Coordination with Delaware Nature Society and Stroud Water Research Center to provide Stream Field Study programs for schools in the watershed. The goal is to raise awareness of the program funding and get either 3 schools (fourth through twelfth grades) or 500 students to participate this year. WCWA will send letters to the principals at all schools in the watershed at the start of the school year (2016-17) notifying them of the potential for scholarships. Transportation will be included as part of the program fees unless the schools can provide their own.
- Event planning and hosting of the annual White Clay Creek Fest. This is our largest outreach event, co-sponsored with Delaware State Parks and SUEZ, focusing on the natural, cultural and recreational assets of the White Clay Creek Valley. This event reaches approximately 1,200 - 1,400 residents of the Newark area and watershed at large with interactive exhibits, information on the Wild & Scenic watershed, and ways residents can help protect the creek.
- Support for lectures, workshops, municipal newsletters, and outreach materials and promotion of education efforts in the White Clay. WCWA distributes approximately 50 emails per year for our partners announcing events and activities that promote awareness of White

Clay's natural and cultural resources and encourage action and stewardship on the part of the audiences.

#### **4. Land Preservation (\$3,046)**

Natural Lands Trust (NLT) and Brandywine Conservancy (BC) will initiate potential land preservation projects within the White Clay Creek Wild and Scenic program area through outreach to appropriate landowners. This includes initial meetings with private landowners to discuss direct preservation through conservation easement or fee purchase. In addition, this project allows NLT and BC to evaluate potential funding scenarios for acquisition including grant writing to secure necessary funds.

Planned project outputs include:

- Meet with four new landowners and initiate new projects with two of them.

Potential projects include:

- NLT: 8.3 acres in New Garden Twp; 6.7 acres in New Garden Twp

#### **5. Land Transactions (\$7,454)**

Conservation transactions are challenging in requiring multiple funders whose requirements and funding levels never match completely. The White Clay Creek land preservation funds are geared toward covering the “gap” between funding requirements to ensure completion of acquisition projects.

Planned project outputs include:

1. Closing on at least one project approved by the White Clay Creek Management Committee
2. Advancing negotiations on at least two priority projects

Priority parcel targeted for conservation include, but are not limited to:

- NLT: Reynolds (178 acres, New Garden Twp), St. Anthony's (137 acres, New Garden Twp, Christie (4.2 acres, New Garden Township)

**White Clay Creek National Wild & Scenic River**

**Work Plan for Cooperative Agreement P13AC01266 MOD4, FY17 Oct 1, 2017-Sept 30, 2018)**

Expense Itemization	Total
<b>Administrative Staff Salaries</b>	
Management Plan Coordinator (\$35.16/hour - 1272 hours/year)	<b>44724</b>
<b>Fringe Benefits</b>	<b>0</b>
<b>Travel</b>	
Travel - Administrator's mileage @2760 miles/year at \$0.54/mile	1490
Travel - Other mileage (volunteer monitoring, project support) @625 miles/year at \$0.54/mile	338
Travel - tolls, parking	10
<b>Subtotal Travel</b>	<b>1838</b>
<b>Supplies</b>	<b>4050</b>
<b>Contractual</b>	
UD WRA Tech Assistance	5000
UD WRA Student Assistance	3000
Water Quality Projects	14051
Education Programs/Outreach	1245
Land Preservation	2938
Land Transactions	7454
<b>Subtotal Contractual</b>	<b>33688</b>
<b>Other</b>	
Catch the Rain Program	5000
WCWA Insurance	2600
<b>Subtotal Other</b>	<b>7600</b>
<b>Total Direct Costs</b>	<b>91900</b>
<b>Indirect Costs</b>	<b>3100</b>
<b>Total</b>	<b>95000</b>