

**Chautauqua County  
Soil & Water Conservation District**

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# FINAL REPORT

Contract Number C306472

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## LEWPA YEAR 2 EPF FY 2017

January 2020



**Report prepared by:**

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**Lake Erie Watershed Hydroseeding Initiative**  
*Projects were completed May 2019 – October 2019*

LEWPA funds allocated through the hydroseeding program provided road ditch and post construction soil stabilization at no cost to municipalities who have roadways located in the Lake Erie Watershed. This helped stabilize 10.91 acres of roadside ditches, outlets, banks, slopes and other sensitive areas within the watershed. All hydroseeding projects have been monitored to ensure vegetation established and to verify that erosion hadn't occurred.

All of the projects that were funded through LEWPA were also hydroseeded upon completion of the project. Other areas that were hydroseeded included roadside ditches that had just been cleaned out by the local highway departments. Many of our local highway departments understand the importance of established vegetation in the roadside ditches. Grassed Waterways/Gully Stabilization typically has a lifespan of 4 years.

***LEWPA Funds: \$19,680.00***



<b>Annual Tons of Sediment Reduced</b>	<b>Annual Pounds of Phosphorous Reduced</b>	<b>Annual Pounds of Nitrogen Reduced</b>	<b>Lifespan Tons of Sediment Reduced</b>	<b>Lifespan Pounds of Phosphorous Reduced</b>	<b>Lifespan Pounds of Nitrogen Reduced</b>
1,275.1	1,275.1	2,536.2	5,100.4	5,100.4	10,144.8

## **Smith Mills Dam Removal – Silver Creek, Hanover**

*Project was undertaken August 2018 – March 2019*

LEWPA funds were utilized to fund a hydrologic analysis of Silver Creek pre and post dam removal. Due to NYS DEC Dam Safety requirements and the threat of impacts downstream to the Village of Silver Creek, a hydrologic analysis was needed before any work could be done on reducing the dam. The study needed to assess the current conditions of flow around the dam as well as the future condition with the dam structure reduced and detention wetlands in the reservoir area. With the analysis completed, all documentation, data and designs have been submitted to NYS DEC and US ACOE permitting for 2020 construction of a stabilized waterway, constructed wetland and dam reduction.

***LEWPA Funds: \$3,318.84***

***Local Leveraged Funds: \$26,232.16***



**Walnut Creek Rehabilitation – Walnut Creek, Arkwright**

*Project was constructed October 2018*

LEWPA funds were used to assist a private landowner along Walnut Creek in the Town of Arkwright. Due to short duration, high intensity storms that are becoming more regular to the area, the bed and banks of the stream have experienced an accelerated rate of erosion. With the existing railroad crib wall failing, the stream continued to erode towards the landowner’s residence. To prevent further erosion, the landowner partnered with the CCSWCD to do an emergency intervention into the stabilizing the system. After construction, stone toe protection along the banks and grade stabilizers will prevent erosion and headcutting of stream. Willow cuttings were incorporated at the top of the stabilization, and large native trees were added to replace dead/dying trees that were removed during construction. Streambank stabilization projects typically have a lifespan of 10 years.

**LEWPA Funds: \$12,209.03**

**Local Leveraged Funds: \$7,000.00**



<b>Annual Tons of Sediment Reduced</b>	<b>Annual Pounds of Phosphorous Reduced</b>	<b>Annual Pounds of Nitrogen Reduced</b>	<b>Lifespan Tons of Sediment Reduced</b>	<b>Lifespan Pounds of Phosphorous Reduced</b>	<b>Lifespan Pounds of Nitrogen Reduced</b>
109.0	109.0	218.0	1,090.0	1,090.0	2,180.0

## **Fish Passage Rehabilitation – Chautauqua Creek, Westfield**

*Project was constructed July – September 2019*

LEWPA funds were used to stabilize an eroded streambank along Chautauqua Creek, a popular steelhead spawning stream. This project partnered with the Chautauqua County 2% Bed Tax Program as well as funding from NYS DEC Water Quality Improvement Program and US Fish & Wildlife – Great Lakes Initiative. An engineered rock riffle was added downstream of the existing railroad culvert to prevent headcutting of the stream and still allow fish migration to upstream reaches of the Creek. Rock riprap was installed across the stream and positioned into a ramp structure. The rock was pinned into the shale bedrock with iron rods. Streambank stabilization projects typically have a lifespan of 10 years.

**LEWPA Funds: \$16,457.13**

**Local Leveraged Funds: \$93,592.47**



<b>Annual Tons of Sediment Reduced</b>	<b>Annual Pounds of Phosphorous Reduced</b>	<b>Annual Pounds of Nitrogen Reduced</b>	<b>Lifespan Tons of Sediment Reduced</b>	<b>Lifespan Pounds of Phosphorous Reduced</b>	<b>Lifespan Pounds of Nitrogen Reduced</b>
20.2	20.2	40.4	202.0	202.0	404.0

## **Lake Erie Boat Steward Program**

*Project was conducted during the 2018 boating season*

LEWPA funds were utilized to support a Chautauqua County-wide Boat Stewards Program. This initiative was funded through a Senator Young appropriation for launches on Bear and Cassadaga Lakes, Chautauqua County 2% Bed Tax funds for launches on Chautauqua Lake and LEWPA funding for the two Lake Erie launches: City of Dunkirk and Town of Westfield. Boat stewards were trained to survey boaters and inspect boats. For the season, boats were inspected, and the stewards interacted with visitors. Any boats that were found to have an aquatic invasive species were addressed. The stewards also surveyed boaters on what previous waterway they visited prior to launching into Lake Erie. This data all supports a larger collaborative in order to better track the spread of aquatic invasive species and provide preventative interaction with the potential vectors for transport. For 2018, due to construction at the City of Dunkirk launch site and dredging in Barcelona Harbor in the Town of Westfield, efforts were focused on making handouts and promotional items available across the Lake Erie shoreline.

***LEWPA Funds: \$2,000.00***

***Local Leveraged Funds: \$0.00***



## **National Flood Insurance Program (NFIP) Community Rating System Engagement Program**

Communities in the Lake Erie Watershed have experienced significant flood events over the last number of years. These flood events have caused millions of dollars of damage to homes, businesses, infrastructure and other natural resources. The Federal Emergency Management Agency (FEMA) is called upon to administer the National Flood Insurance Program, which offers “reasonable” priced flood insurance in communities that comply with minimum standards for floodplain management. The NFIP Community Rating System is a program that recognizes community efforts to move beyond the minimum standards and offers potential costs savings along the way. LEWPA engaged municipalities and assisted where possible to go beyond the minimum standards for floodplain management, improve planning for large scale flood events and become more resilient to a changing climate.

***LEWPA Funds: \$3,500.00***

***Local Leveraged Funds: \$0.00***

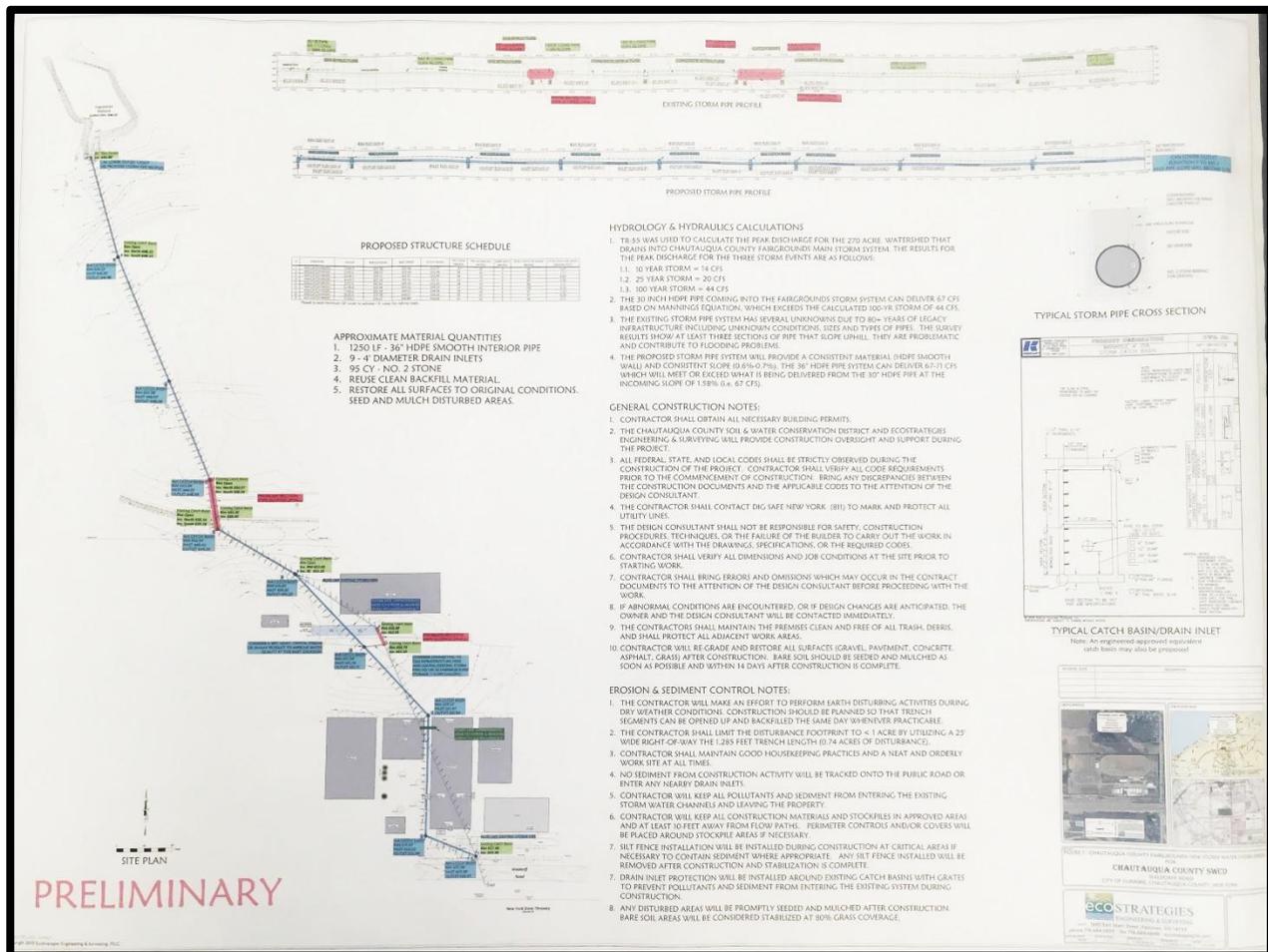
# Engineering Feasibility Study: Chautauqua County Fairground Climate Resiliency – City of Dunkirk

Project was conducted November 2018 – February 2019

LEWPA funds were used to develop a feasibility study for water quality improvements at the Chautauqua County Fairgrounds. Based on a prior bathing beach report done by Chautauqua County Department of Health and Human Services, the outlet of Crooked Brook is a concern for water quality at the Point Gratiot bathing beach. One of the potential sources of pollution in this watershed is the County Fairgrounds. Over the years, a variety of culvert pipe has been installed to address stormwater at the site. The failure or inadequate sizing of the pipe has caused water to pond in the animal area. Potential transport of bacteria and other contaminants can occur down the Crooked Brook watershed. This study determined the feasibility of addressing both water quality concerns and cost-effective solutions. The study determined right sizing of the pipe and installation of stormwater retention BMP's throughout the fairgrounds would be the most cost-effective solution. By commissioning this study, the project can be better suited for funding through NYS Consolidated Funding Application or funds from the Environmental Protection Agency.

**LEWPA Funds: \$5,000.00**

**Local Leveraged Funds: \$0.00**



# **Engineering Feasibility Study: Crooked Brook Rehabilitation – Town of Dunkirk**

*Project was conducted November 2018 – January 2019*

LEWPA funds were used to develop a feasibility study for water quality improvements along NYS Route 60 at Crooked Brook. Based on a prior bathing beach report done by Chautauqua County Department of Health and Human Services, the outlet of Crooked Brook is a concern for water quality at the Point Gratiot bathing beach. One of the potential sources of pollution is stormwater runoff from the Route 60/Vineyard Drive developments. Over the years, development and restricted and channelized the main branch of Crooked Brook. What used to be a stream has now been restricted to function as a road ditch. Potential transport of bacteria and other contaminants can occur down the Crooked Brook watershed. This study determined the feasibility of addressing both water quality concerns and cost-effective solutions. The study outlines the creation of a stormwater detention wetland along Crooked Brook. By commissioning this study, the project can be better suited for funding through NYS Consolidated Funding Application or funds from the Environmental Protection Agency.

**LEWPA Funds: \$4,485.00**

**Local Leveraged Funds: \$0.00**



## **Water Quality Monitoring – Program Development**

The NYS Department of Environmental Conservation contracted with the US Geological Survey (USGS) to conduct baseline water quality monitoring including sediment and nutrient sampling at 19 sites in the Niagara River/Lake Erie Watershed. LEWPA will conduct pathogen monitoring at those same 19 sites. A Quality Assurance Project Plan (QAPP) was developed in the first round of funding to parallel the USGS baseline water quality monitoring program utilizing the state-certified Erie County Health Laboratory to monitor for *E. coli*, total coliform, and fecal coliform bacteria. For Year 2's budget portion, monitoring equipment and supplies were purchased so sampling could begin at the start of Year 3.

***LEWPA Funds: \$4,000.00***

***Local Leveraged Funds: \$0.00***

**Dunkirk High School Flood Mitigation – Crooked Brook, Dunkirk**

*Project was constructed November 2018*

LEWPA funds were utilized to address a significant erosion site on Crooked Brook in the City of Dunkirk in the previous year of EPF funding. Due to intense storm events in 2015 in the Lake Erie region of Chautauqua County, a culvert was removed from Crooked Brook when it was compromised in the storm. With the banks not stabilized at the time of the removal, the stream continued to erode towards the Dunkirk High School baseball field. To prevent the fencing of the field from being compromised, the school district partnered with the CCSWCD to do an emergency intervention into the stabilizing the system in 2017. After construction, stone toe protection along the banks and grade stabilizers were installed to prevent erosion and headcutting of stream. Due to a later storm event, woody debris plugged a downstream culvert and water pooled back to the previous project site. To protect the culvert from scour and the existing project from erosion, work was done during this round of funding to remove the woody debris to stabilize Crooked Brook. This will allow the original project to meet the lifetime expectation of 10 years and shows commitment to maintaining LEWPA projects.

***LEWPA Funds: \$0.00***

***Local Leveraged Funds: \$962.00***

<b>Annual Tons of Sediment Reduced</b>	<b>Annual Pounds of Phosphorous Reduced</b>	<b>Annual Pounds of Nitrogen Reduced</b>	<b>Lifespan Tons of Sediment Reduced</b>	<b>Lifespan Pounds of Phosphorous Reduced</b>	<b>Lifespan Pounds of Nitrogen Reduced</b>
8.5	8.5	17.0	85.0	85.0	170.0

**Chautauqua County LEWPA Year 2 Summary**

<b>Projects</b>	<b>Totals</b>
Lake Erie Watershed Hydroseeding Initiative	\$19,680.00
Smith Mills Dam Removal – Silver Creek, Hanover	\$3,318.84
Walnut Creek Rehabilitation – Walnut Creek, Arkwright	\$12,209.03
Fish Passage Rehabilitation – Chautauqua Creek, Westfield	\$16,457.13
Dunkirk High School Flood Mitigation – Crooked Brook, Dunkirk	-
Lake Erie Boat Steward Program	\$2,000.00
NFIP Community Rate System Engagement Program	\$3,500.00
Chautauqua County Fairground Climate Resiliency – City of Dunkirk	\$5,000.00
Crooked Brook Rehabilitation – Town of Dunkirk	\$4,485.00
Water Quality Monitoring – Program Development	\$4,000.00
<b>Total LEWPA Funding</b>	<b>\$70,650.00</b>
<b>Outside Match Funds</b>	<b>\$127,786.63</b>
<b>Total Project Implementation Dollars</b>	<b>\$198,436.63</b>

<b>Annual Tons of Sediment Reduced</b>	<b>Annual Pounds of Phosphorous Reduced</b>	<b>Annual Pounds of Nitrogen Reduced</b>	<b>Lifespan Tons of Sediment Reduced</b>	<b>Lifespan Pounds of Phosphorous Reduced</b>	<b>Lifespan Pounds of Nitrogen Reduced</b>
1,412.8	1,412.8	2,811.6	14,128.0	14,128.0	28,116.0

*For all Chautauqua County LEWPA Year 2 Projects*