The Institute

SUCCESS STORY

By: The Institute

Conserving Wild Wonders

SUMMARY

Our project provided a comprehensive design study to assess and recommend interventions that will help us restore our one-acre pond. It is currently in vulnerable physical condition—collapsing berms, insufficient circulation/aeration and nutrient accumulations. The design study provides recommendations that will restore the pond functionally and aesthetically. This restored pond will be a feature of The Institute's community nature center that will provide improved natural habitat, study areas for educational engagement, bird/wildlife watching and natural beauty.

CHALLENGE

In October of 2021, The Institute purchased a 40-acre property, currently under development as a community nature center. A one-acre pond on the property was identified early as a valuable feature that will support educational and recreational activities, provide habitat for critters and enjoyment by visitors for its aesthetic beauty. The pond is functionally challenged with eroding banks, a berm breach through which water is leaking around an existing water level regulator and suffering from insufficient circulation and accumulated nutrients. Preliminary investigations confirmed that interventions are needed to correct these functional vulnerabilities. A South Mountain Partnership Mini Grant provided support for completion of a pond restoration design study to assess existing conditions and make professional recommendations for restoring the pond to functional stability, improve habitat conditions and stabilize a valuable nature center feature that will help fulfill The Institute's mission of guiding the people of the Cumberland Valley region to become stewards of their natural and cultural worlds.

FUNDING

Grant Award:
$16,000

Total Project Cost:
$32,000

PARTNERSHIP IS KEY

Triad Engineering provided a key partnership with professional expertise in creating wetland delineation and hydrology studies, engineered construction drawings and a PA Chapter 105 permit need assessment. This work was provided with a pro bono contribution of 25% of the project cost.

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SOUTH MOUNTAIN
PARTNERSHIP

SOLUTION

Our completed design study provides recommendations to restore our pond in a way that's aligned with our goals for introducing sustainable solutions as we strive to preserve/enhance natural habitats. Engineered construction drawings will support the project. Phase two of our project, the actual restoration, will replace an impaired riser with naturalized stepdown pools. A submerged aeration system will be operated by a solar powered pump. Berms will be restored to correct slopes. A beneficial vegetative buffer of native plants will stabilize banks, provide shade/cooling and natural habitat. Signage will interpret the ecological importance of pond ecosystems.

RESULTS

Completed deliverables for this project include: 1.) A Feasibility Study—Wetland Delineation Update, Geotechnical and Civil Engineering Site Visits/Inspections and a Report of Findings; 2.) Construction Plans—Survey of Details, Grading and Erosion Control Plans, Hydrology and Hydraulics Study/Report and Chapter 105 Impact Permit Assessment.

These deliverables prepare us to proceed with the construction project to restore the pond's structural integrity and introduce conservation features that will support Wild Wonders at our nature center.

Project partner Billie Swailes of Triad Engineering, Inc. shared, "Triad enjoys the opportunity to work with organizations such as The Institute who are preserving our natural resources and using them as education tools for the community. Returning this pond to stable condition allows this resource to be used safely by all who visit and will provide a renewed aquatic resource."

The pond is a key feature of The Institute's outdoor classroom (photo bottom right) and landscape. Institute Facilities Committee Chair Bill Hofmann adds, "The design study for our pond is a vital component of myriad puzzle pieces to complete our nature center landscape. The Committee is grateful to have this piece completed and ready for construction."

Contact

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