

PROPOSAL PREPARED BY RIVERREACH CONSTRUCTION
FOR DESIGN-BUILD SERVICES FOR:

**THE CITY OF WILLOUGHBY
AND CHAGRIN RIVER
WATERSHED PARTNERS**

**CHAGRIN RIVER FLOODPLAIN
RESTORATION AND TRAIL
CONNECTION PROJECT**

DECEMBER 11, 2024



***RiverReach
Construction***



The City of Willoughby
1 Public Square
Wiloughby, Ohio 44092
440.953.4191

Chagrin River Floodplain Restoration and Trail Connection Project

Dear Ms. Shefelton,

RiverReach Construction, on behalf of our core teaming partners GPD Group and EnviroScience, is pleased to submit the enclosed Proposal for Design-Build Services for the Chagrin River Floodplain Restoration and Trail Connection Project. Our team is very familiar with the site and believes that the goals and objectives of this project as put forth in the Request for Proposal are not only attainable but can be exceeded. In order to achieve these goals, RiverReach has brought together the following:

- RiverReach will serve as the contracting agent as well as construction lead given the bonding requirements of the project, however, GPD Group will serve as the “functional” project manager given their client-focused attention and capacity to expedite project delivery. To serve in that role as project manager is Ivan Valentic, with more than 24 years of leading multidisciplinary teams for restoration efforts across Northeast Ohio, including the Brightwood Dam Removal and Kellogg Creek Restoration in Concord Township, Lake Metropolitan Housing Authority Parkview Place Bank Stabilization, and for the Chagrin River Watershed Partners (CRWP) on various projects. Ivan is a lifelong Lake County resident who grew up in Willoughby Hills, graduated from Willoughby South High School, and now serves on the Planning Commission. He brings a personal connection to the successful implementation and expansion of Daniels Park and its public improvements.
- Twenty-six years of experience in ecological restoration, Julie Bingham of EnviroScience will lead the floodplain and overall restoration for the Team with a focus on designing a functional system that will set a foundation for long-term recovery.
- Strong, local design-build team that brings a 20+ year relationship of successful design-build restoration, enhancement and stabilization projects for streams, wetlands, and other ecological systems. Together this Team has completed over \$40 million in restoration efforts in the last 15 years.

We are excited about this opportunity to assist the City of Willoughby in their efforts to support restoration and public access improvement. We are confident that our restoration and structural engineering experience within public spaces, as illustrated within this proposal, demonstrates our Team’s ability to address the unique requirements of this project scope. We look forward to the opportunity to collaborate with the City and CRWP. Please contact Shannon Carneal at 330.753.4722 or BSCarneal@RiverReachConstruction.com if you have any questions.

Regards,

RiverReach Construction

A handwritten signature in black ink, appearing to read "S. Carneal".

Shannon Carneal

Lead Project Manager/Principal

GPD Group

A handwritten signature in black ink, appearing to read "Ivan Valentic".

Ivan Valentic, PLA, ASLA

Project Manager

EnviroScience, Inc.

A handwritten signature in black ink, appearing to read "Julie Bingham".

Julie Bingham, CERP

Restoration Design Manager



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< Chagrin Streambank Erie Road

A. DESCRIPTION OF CONTRACTOR’S UNDERSTANDING OF THE PROJECT

The RiverReach, GPD Group, and EnviroScience design-build team (Team) describe key aspects of the project understanding as a pre-face to more detailed discussion about specific proposed features in our request for proposal concept developed for the project as shown in Figure 2, Section C. Together, this Team has been collaborating for over 20 years, benefiting the Chagrin River Watershed Partners, City of Willoughby, and other stakeholders from a cohesive team working towards the goals of the project.

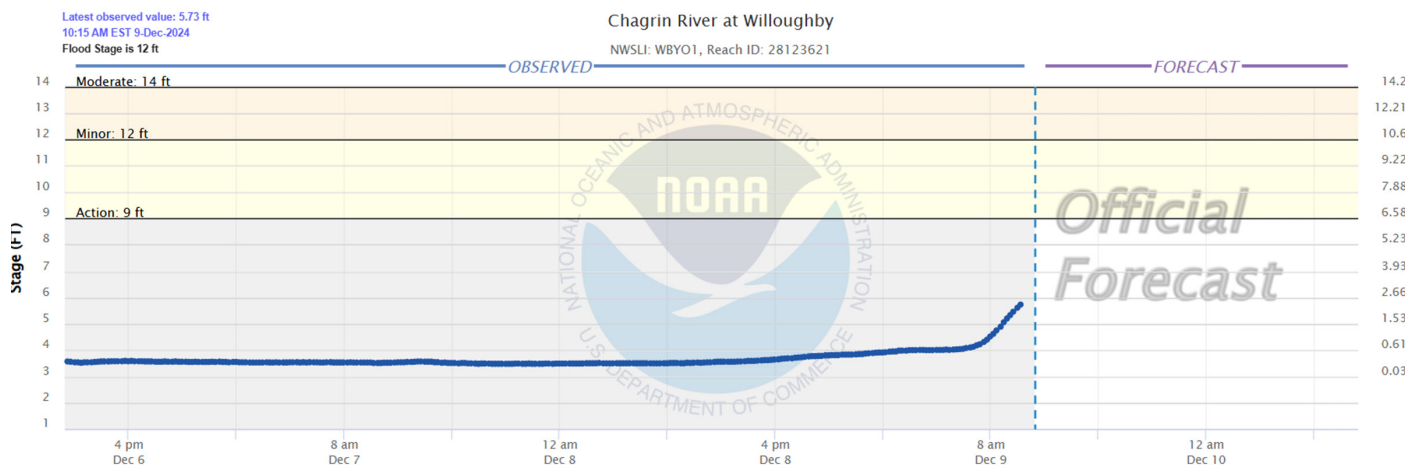
The restoration of this critical habitat will increase climate resiliency for urban coastal communities and public access improvements will contribute to a growing conservation and recreation corridor along the river from downtown Willoughby to Lake Erie.

The team has successfully implemented multiple projects on the Chagrin River, the East Branch and its tributaries and understand the challenges working in a larger high quality river system as we have shown in Section I Relevant Projects of the proposal. The Chagrin River is a coveted high-quality watershed, and adjacent to the project limits at river mile (RM) 4.95, the river is in full attainment of its warmwater habitat (WWH) aquatic life use (ALU) designation. However, the Chagrin watershed continues to undergo stressors from development and a changing climate. A river’s access to its floodplain and flood prone areas is the first line of defense for resiliency against watershed changes. The 105-acre project area is a valuable asset to help combat these stressors. The project is also adjacent to Daniels Park which presents a significant opportunity to enhance public access and recreational opportunities. Stakeholders have identified connectivity between the two sides of the river as a substantial hurdle to integrate this large additional conservation area into a more holistic river and community corridor. Our team analyzed the grant allocations carefully to inform our concept design and approach to this project to ensure that allowable grant dollars get appropriated to specific components.

FUNDING SOURCE	AMOUNT	SUPPORTS
ODNR State Capital	\$294,000.00	Public Access Improvements
ODNR State Capital	\$294,000.00	Public Access Improvements
ARPA Lake County	\$675,000.00	Restoration Construction Only
ARPA Willoughby	\$500,000.00	Restoration/Flexible
USEPA Consent Decree	\$425,000.00	Restoration Consent Decree Area Only
Federal Congressionally Directed FY 23 USEPA Community Grant Award	\$2,323,000.00	Restoration and Public Access Improvements
H2Ohio	\$34,162.00	Restoration Design/Engineering Only
TOTAL AVAILABLE BUDGET	\$4,545,162.00	
NOAA	\$1,200,000.00	Restoration

While the RFP requested a more holistic budget breakdown, our team is cognizant that the project will eventually require an allocation and justification to the above funding source. Given the various funding sources goals and objectives and USAEPA consent decree mandates, it should not be understated that the project is very complex. When confronted with vast complexity, we begin by simplifying to the one unifying project component – Water.

To better understand the degree to which this restoration project can improve water quality and climate resiliency, our team started with an analysis of the gage data located at Daniels Park (USGS 04209000). The intent of the project is to invigorate the floodplain area more often as a product of earth moving, restoration design and reversing many of the hydrologic modifications that occurred while in agricultural use. The gage provides valuable insight into the flood stage height over time at the site. Our team verified the actual elevation of the water surface at a specific time and day to translate the “real world” elevation to stage height. This verification process determined that an elevation of 597.12 equates to a stage height of 3.59-ft. NOAA sets action levels at the gage based on stage height. In Figure 1 below, the flooding action level is set at stage height 9-ft which would then equate to an elevation of 602.53. This simple translation exercise allows our team to evaluate the conceptual design in terms of floodplain activation and improvements by our proposed design. Continuing with the translation, a Minor Action would correspond to a 605.5 elevation, Moderation Action is a 607.5 elevation, and a Major Flood would be a 609.5 elevation.



CATEGORY	STAGE
Major Flooding	16 ft
Moderate Flooding	14 ft
Minor Flooding	12 ft
Action	9 ft

Figure 1: Flooding Action Level

As part of our early due diligence, the team developed a base map in AutoCAD using the best available Lidar topography and data shared during the proposal process for the development of our proposal concept. It should be noted that currently a majority of the site just north of Johnnycake Ridge Road is only activated in a Moderate or Major flooding event (607-609 elevation). As the floodplain progresses north, the floodplain is

activated between a Minor and Moderate (603-605 elevation) Flood Event. Strategically, our team directed a majority of its substantial earthwork in the area immediately downstream of Johnnycake Road bridge to make the most substantial change in the area that is currently the most non-functional.

A majority of the project lies within a FEMA floodway as well as a Zone AE and X areas. The floodway designation is of most concern due to its requirement for a “No-Rise” condition. Locally, the FEMA review and special flood hazard area development permit will move through the local floodplain administrator. It should be noted that the planned improvements for pedestrian bridge crossing over the mainstream will likely result in floodway modifications that would necessitate the need for a Conditional Letter of Map Revision (CLOMR) to implement the bridge project as well as a Letter of Map Revision (LOMR) post project. Lake County Stormwater and/or Soil and Water will require a NPDES permit for Construction Site Storm Water and an applicable SWPPP.

Jesse Rufener, PE, is a certified floodplain manager (CFM) and is very familiar with working in and permitting projects within designated FEMA floodplains. The Team has coordinated the floodplain permits on two projects for the Chagrin River at Todd Field and Lake Metropolitan Housing Authority stabilization projects.

At this time, proposed restoration work is designated to areas above the ordinary high-water mark (OHWM), but should the additional NOAA funding of \$1.2 million be authorized, we acknowledge that proposed improvements below the OHWM will require appropriate permitting for in-water work. The seasonal salmonid restriction will either prevent work from September 15 through June 30 or require a waiver from ODNR. We will need to coordinate with the ODNR Scenic Rivers staff, but in our recent experience this type of work is not averse to their program and will not pose an issue. The in-channel work and placement of fill below the OHWM will require a permit from the USACE and at this time we anticipate a Nationwide 27. The demonstrated ecological uplift will come from the improvement of QHEI scores and reduction of erosion potential from reducing bank heights and creating floodplain. The project also lies within a “purple” zone meaning that it is ineligible for a water quality certification waiver, and it will need reviewed by the Ohio EPA 401 group and/or Director’s authorization which requires a fee of \$2,000. The USACE permitting process also necessitates coordination with the State Historic Preservation Office subject to Section 106 requirements.

Cost effective restoration to lower flood prone elevation and remove past agricultural impairments is often directly proportional to the ability to move and spoil material on a project site. Hauling off material can dramatically reduce the ability to make substantive changes. Our team has selected a spoil site within the “shadow” of the Johnnycake Ridge Road bridge because of its already ineffective flood area in a hydraulic model. This location is almost entirely out of the designated flood way and by removing material out of the flood way and spoiling in this location we feel strongly a “no-rise” certification is possible. The spoil area is estimated to hold as much as 25,000-30,000 CY of material which served as a principal driver for the proposed restoration limits and excavation quantities. This location also serves as safer access to and from Johnnycake Ridge Road not only for construction but possible public access and parking at a future date. The orientation of the spoil along Johnnycake would also facilitate a pedestrian trail access and bridge crossing for connection with Daniels Park or integration into the ODOT bridge replacement project.

The soils in the floodplain at the site consist mostly of Tioga Loam (Th) and Tioga Variant Silt Loam (Tg) which are both classified as non-hydric and the Tioga Loam is well drained below 32 inches. They are both

indicative of “moist floodplains” and have low runoff characteristics. Despite the non-hydric classification, there are wetlands present at the site in both these soil classes based on the shared delineation report. The existing wetlands are in low lying areas or in areas where there is directed runoff or accumulating hydrology. The proposed modifications will accomplish an increase in hydrology, but our team has been careful not to propose deep excavations over 1-ft except in the higher elevations near Johnnycake for this reason. According to the soils, it is ideal to stay within the native silt loam for wetland formation. Removing the well-drained, flat and/or mounded fill associated with the nursery activity along with creating a network of floodplain channels is the goal of the approach. However, even with the proposed modifications, the wetlands which form will not exhibit prolonged hydrologic retention times but rather resemble a “moist” riparian floodplain community.

CRWP and the City of Willoughby desire a consulting partner team that can manage and strengthen the public outreach, communication and education surrounding the project. First and foremost, that begins with selecting a trusted partner. Our team wins that trust by performing sound engineering, design and estimates to so that we are presenting is realistic and a feasible solution. This is why we completed a lot of up front due diligence such as gage verification, quantifying our concepts and performing a budget analysis. Utilizing our early due diligence efforts, we would recommend a meeting early in the design phase with the project team and stake holders as an opportunity to listen, draw and sketch in a charrette/workshop meeting with the objective to understand concerns, opportunities, and goals for the project.

Our initial reaction to the Smith Group and Biohabitats concept questioned the reality and feasibility of the concept. It is difficult to win public support when images presented are not based in terms of quantities and how to manage that volume of earth, and in particular when everyone will ask; where does it go? Our team has managed and engaged the Public on many projects, some of which have been controversial projects. Early, honest communication rooted in facts is important along with listening to the public’s concerns. Ultimately, it is tax dollars being spent on these improvements and it is our function to maximize the benefit of those dollars on a scientific, engineered and well-constructed project approach.

B. PROPOSED PROJECT MANAGER, PROJECT TEAM, AND ORGANIZATIONAL CHART

RiverReach Construction, along with our design-build partners GPD Group and EnviroScience, appreciates this opportunity to present our credentials and experience for providing design-build services to the City of Willoughby for the Chagrin River Floodplain Restoration and Trail Connection Project.

PROPOSED PROJECT MANAGER



Ivan Valentic delivers over 24 years of experience focused primarily on urban ecological restoration, including geomorphologic assessments, design of in-stream structures, bioengineering solutions for bank stabilization, and planting design. Ivan has successfully served as the Project Manager for the Brightwood Dam Removal and Kellogg Creek Restoration in Concord Township, Lake Metropolitan Housing Authority Bank Stabilization in the City of Willoughby on the Chagrin River and for the Lake Metroparks on the Grand River Bank Stabilization project, both of which are similar in scale and scope. His substantial experience managing highly developed urbanized watershed stream restoration in confined, limited access residential areas will be key to delivering project success. Additionally, Ivan is serving as the Project Manager for the Cleveland Metroparks Garfield Park Pond and Stream Restoration Project. Similar to the Chagrin River Floodplain Restoration and Trail Connection Project, this project requires coordination in a very active park, with new park trails and amenities, along with the improved habitat and water quality. His extensive knowledge and history as a resident of Lake County and the Willoughby area will prove invaluable to establishing an efficient, constructible, and maintainable solution that considers future improvements.

PROJECT TEAM

Team organization and communication structure is critical to the success of this project. First, members of this Team have been working together for 20+ years on the successful design and construction of similar restoration projects, and together for 15 years via design-build project delivery. The benefit to the City is an experienced, efficient, seamless and well-integrated project team.

THE RIVERREACH, GPD, AND ENVIROSCIENCE TEAM HAVE WORKED TOGETHER FOR 20+ YEARS.



- +72,659 LF OF STREAM RESTORATION IN THE PAST 10 YEARS**
- OVER 65 ECOLOGICAL RESTORATION PROJECTS**
- \$24M IN STREAM RESTORATION DESIGN**

Second, members of the team bring forward a successful project management methodology from such projects as the Chagrin River Bendway Weir Restoration, City of Willoughby, Ohio. Given the project management requirements of the Streambank Stabilization Project, RiverReach, as contract holder, will abdicate project management responsibilities to GPD Group, in essence naming them as the “functional” project manager for the effort. The benefit to the Chagrin Watershed is experienced project management that efficiently delivers on project requirements.

EnviroScience will provide expertise in the area of ecological restoration design, construction oversight, and planting. Finally, River Research and Design will support this team as a technical advisor for instream and bank structures.

RIVERREACH CONSTRUCTION

RiverReach Construction is a specialized construction contracting company with experience in the repair, remediation, and construction of streams, rivers, wetlands, and lakes of varying size. Our management team has expertise in working closely with ecological design teams and project owners to see that their vision becomes reality. As a local Northeast Ohio firm located less than an hour from the project site, RiverReach Construction has the local knowledge and contacts to find creative and cost-effective avenues for every type of situation that might arise. RiverReach has maintained a small specialized group that has certain advantages over large construction contractors not focused on ecological restoration objectives. The primary advantage is education specific to the specialty field of restoration construction. The project crew consistently delivers quality work, particularly in river restoration, because the crew is well versed to implement complex restoration tasks with minimal impact to the surrounding environment.



GPD GROUP

GPD Group (GPD) is a full-service engineering firm based in Northeast Ohio with over 800 employees. We have been providing consulting services to public and private sector clients for 63 years. Today, we are more than “just a firm from Akron,” representing one of the area’s largest and most diverse consultancies, with over 450 professionals in our Akron and Cleveland offices.

GPD houses the largest stormwater experienced resource base in the state. Over 60 professionals deliver planning, design, and construction services to private and public sector clients locally and throughout the country. Our integrated water, site, public works, and transportation teams are experienced with executing a diverse portfolio of design services, many of which align perfectly with the key design tasks that are anticipated for your project. Our services include ecological, stream, floodplain and wetland restoration, green infrastructure (GI) and low impact development, dam and flood control structure evaluation and rehabilitation, bank stabilization, culvert and bridge rehabilitation and design, H&H modeling, landscape architecture, stormwater management, storm sewer improvements, traditional site/civil engineering, environmental services, jurisdictional permitting, geotechnical engineering, surveying, roadway restoration, planning and zoning, land acquisition, and easement development.

ENVIROSCIENCE

EnviroScience, Inc. is a team of over 100 expert biologists, engineers, geologists, and environmental scientists. Since 1989, we have provided stream and wetland restoration, reforestation, endangered species surveys, and other biomonitoring services to federal, state, municipal governments and private clients. EnviroScience’s ecological restoration department is recognized as one of the best. Our biologists and licensed engineers design natural and integrated restoration projects based on sound science and extensive data collection and analysis. We provide high-quality stream and wetland restoration design-build services, and nationally-recognized ecological services and environmental compliance for freshwater mussels, bats, fisheries, aquatic surveys, stormwater and streams, and wetlands. Since 2012, EnviroScience has completed nationwide surveys of streams, rivers, coastal areas, and other aquatic resources under the five-year National Aquatic Resource Surveys (NARS) contract with USEPA.

EnviroScience functions as the creative design, permitting, and implementation quality control for all our team’s restoration projects. EnviroScience is a strong advocate of environmental education, and our staff is encouraged to develop and attend workshops to advance the general knowledge of the public, clients, and regulators.

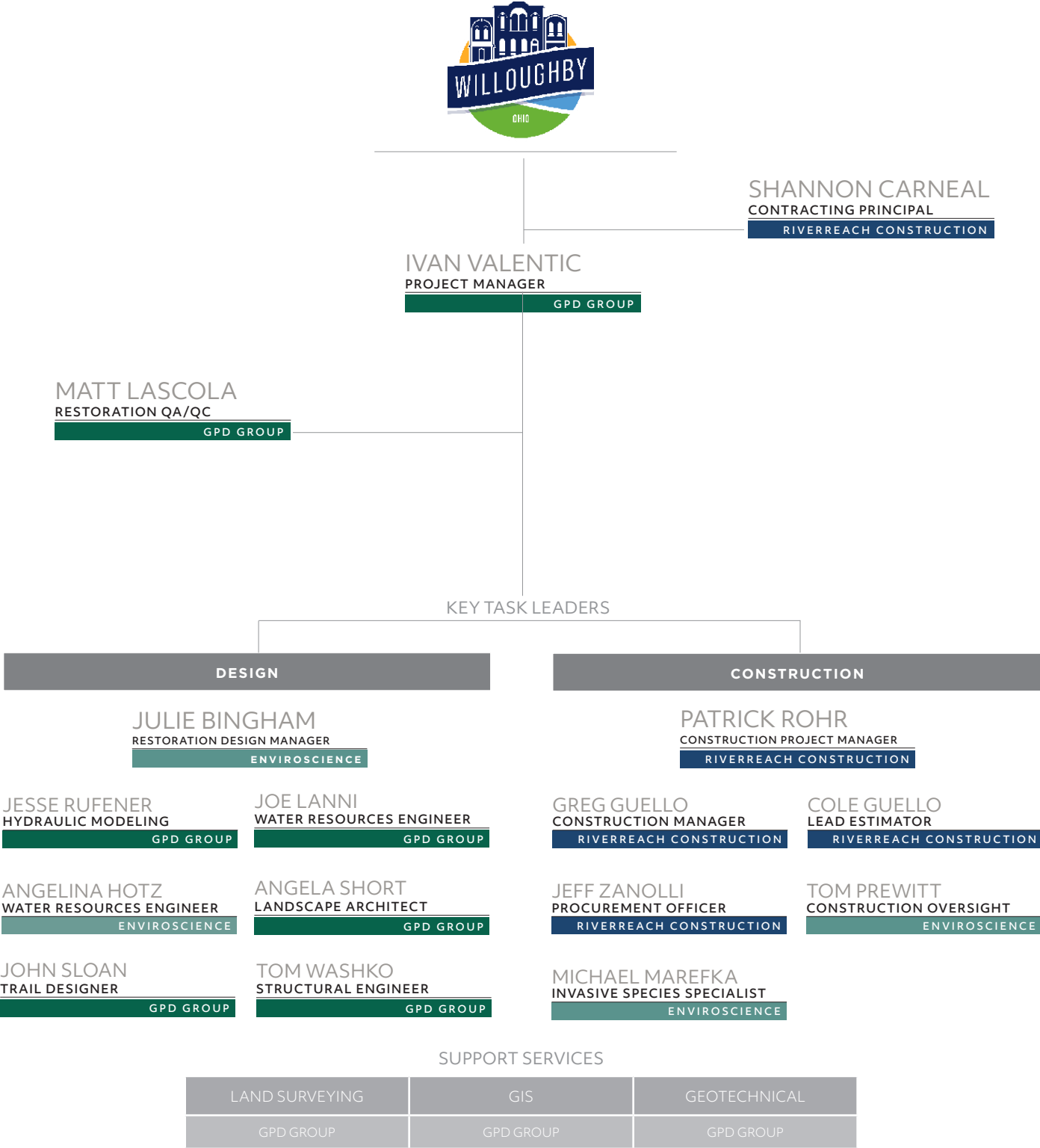
PROJECTS TEAM HAS PREVIOUSLY WORKED ON TOGETHER

The RiverReach Team has a successful history of delivering design-build restoration and site improvements similar to your project. A summary of our Team's overall experience is provided below.

PROJECT NAME	CLIENT	DELIVERY METHOD	% COMPLETE	WATERSHED	PROJECT COST	SUMMARY
WEST CREEK RESTORATION AND BANK STABILIZATION	NEORS	DESIGN-BID-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$6.5M	REMOVAL OF CONCRETE FLUME AND RETAINING WALL STRUCTURES; NATURAL STREAM RESTORATION AND BANK STABILIZATION WITHIN 6,500 LF REACH
BEECHERS BROOK, PEPPER CREEK, BALDWIN CREEK	NEORS	DESIGN-BUILD	100%	CHAGRIN RIVER AND ROCKY RIVER WATERSHEDS	\$4.75M	THREE STREAM RESTORATION AND BANK STABILIZATION PROJECTS TOTALING APPROX 2,300 LF
CUYAHOGA FALLS RIVER RESTORATION AND DAM REMOVAL	CITY OF CUYAHOGA FALLS	DESIGN-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$970K	REMOVAL OF 2 100-YEAR OLD DAMS WHILE STABILIZING ADJACENT STRUCTURES, RIVER RESTORATION AND BANK STABILIZATION
AURORA BRANCH CHAGRIN RIVER RESTORATION	CITY OF AURORA	DESIGN-BUILD	100%	CHAGRIN RIVER WATERSHED	\$830K	RESTORATION OF 7,500 LF OF STREAM, FLOODPLAIN AND WETLAND AREAS
SHELLY MATERIALS SHALERSVILLE OPERATION STREAM AND WETLAND RESTORATION	THE SHELLEY COMPANY	DESIGN-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$950K	MITIGATE STREAM AND WETLAND IMPACTS FROM AGGREGATE MINING ACTIVITIES. 5,554 LF OF STREAM CONSTRUCTED, AND 8.1 ACRES OF WETLAND WAS RESTORED/CREATED
LITTLE CUYAHOGA RIVER RESTORATION PHASE I	CITY OF AKRON	DESIGN-BID-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$2.9M	DESIGN AND CONSTRUCTION OVERSIGHT OF RESTORATION OF 2,100 LF OF THE LITTLE CUYAHOGA RIVER
MILL CREEK RESTORATION AT HIGHLAND PARK GOLF COURSE	NORTHEAST OHIO REGIONAL SEWER DISTRICT	DESIGN-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$1.7M	RESTORATION OF APPROX 3,900 LF OF STREAM, IN ADDITION TO DAM REMOVAL AND WETLAND ENHANCEMENT
MILL CREEK RESTORATION AT PATTERSON PARKWAY	WEST CREEK CONSERVANCY	DESIGN-BUILD	50%	CUYAHOGA RIVER WATERSHED	\$300K	RESTORATION OF APPROXIMATELY 500 LF OF STREAM AND FLOODPLAIN EXPANSION
MILL CREEK RESTORATION AT HARVARD BLVD	WEST CREEK CONSERVANCY	DESIGN-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$433K	RESTORATION OF APPROXIMATELY 800 LF OF STREAM AND FLOODPLAIN EXPANSION
CORNING LAKE AND STREAM RESTORATION	HOLDEN ARBORETUM	DESIGN-BUILD	100%	CHAGRIN RIVER WATERSHED	\$2.2M	DREDGING AND RESTORATION OF CORNING LAKE AND LOTUS POND, RESTORATION OF ~750 LF OF STREAM AND CONSTRUCTION OF MULTIPLE BRIDGES AND BOARDWALKS
HARPER'S DITCH STREAM AND WETLAND RESTORATION	SHELLY COMPANIES	DESIGN-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$1M	RECONSTRUCTION OF 5,500 FEET OF NATURAL CHANNEL AND NEARLY 8.5-ACRES OF CONSTRUCTED WETLANDS
HARMON PROPERTY RESTORATION	CITY OF AURORA	DESIGN-BUILD	100%	CHAGRIN RIVER WATERSHED	\$460K	RESTORATION OF 3,100 LF OF STREAM, 6.53 ACRES OF WETLAND, AND 17.5 ACRES RIPARIAN CORRIDOR
STOW MUD BROOK	CITY OF STOW	DESIGN-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$442K	RESTORATION OF 2,100 FEET OF FLOODPLAIN AND STREAM AND 1.75 ACRES OF RIPARIAN PLANTINGS
KENSTON LAKE STREAM RESTORATION	CHAGRIN RIVER WATERSHED PARTNERS	DESIGN-BUILD	100%	CHAGRIN RIVER WATERSHED	\$206K	RESTORATION OF 1,600 LF OF COLD WATER STREAM AND WETLANDS TOTALING 1 ACRE
CHAGRIN AT JACKSON FIELD RESTORATION	CLEVELAND METROPARKS	DESIGN-BUILD	100%	CHAGRIN RIVER WATERSHED	\$376K	BANK RESTORATION 800 LF OF INCORPORATING GRADE CONTROLS, BENDWAY WEIRS, ROCK KEYS, LIVING DIKES, AND BIOENGINEERING MATERIALS
GRAND RIVER PROJECT	LAKE METROPARKS	DESIGN-BUILD	100%	GRAND RIVER WATERSHED	\$308K	RESTORATION OF ~300 LF OF STREAM BANK
EUCLID CREEK LACUSTRINE REFUGE RESTORATION	CUYAHOGA SOIL & WATER CONSERVATION DISTRICT	DESIGN-BUILD	100%	CUYAHOGA RIVER WATERSHED	\$1.1M	RESTORATION OF ~1,100 LF OF HISTORIC OXBOW ALIGNMENT OF EUCLID CREEK

ORGANIZATIONAL CHART

The Team’s organizational chart is designed to name the single point of contact between the RiverReach Team and the City of Willoughby for the Project. The chart also serves to identify task leaders who are committed to delivering key services requested by the Project.



C. PROJECT APPROACH

Our design ethic is rooted in setting a foundation for ecological recovery. Inherent to this ethic is the design and construction of both the form and function of the system. To accomplish this the design approach will acquire a thorough understanding of the slopes, topography, sediment, energy forces, etc. acting upon the system. Until that time, it is our initial understanding that aspects of the morphology and river function have negative consequences on the river health through accelerated erosion from the past dam failure and issue with the morphologic function of the reach. These issues are impacting the habitat potential of the reach and threatening infrastructure associated with Daniels Park and Johnnycake Ridge Road.

Fundamentally, the approach began with assessing the current level of flood prone access to the project area by analyzing the USGS Gage. The area at the south end of the site adjacent to Johnnycake Ridge Road has limited accessibility to flood waters except during Moderate and Major Action Level storm events (Stage 14- – 16-ft elevation 607-609). As the site continues northward, the accessibility becomes slightly lower to Minor and Moderate Action levels (Stage 12- –14-ft elevation 605.5-607.5). Design strategies were implemented to get flood waters into the southern end of the site at lower elevations and KEEP the water moving and interacting with the floodplain. These depressions and flood relief channels will also trap runoff and set a new stage for the storm water entering the site from the road and eastern development. Storm water runoff and headwater stream modifications keep with the same ethic of encouraged interaction with the floodplain. Other floodplain enhancements include the decompaction and reforestation of large areas between and around the floodplain wetlands and relief channels. All this restoration will become the backdrop to an extensive trail network boasting nearly 2 miles for public access. The new trails including numerous crossings consisting of box culverts, bridges and boardwalks create a feature where pedestrians can experience the winding trails with the meandering flow path of the numerous wetland floodplain enhancements.

Based on our site observations, preliminary measurements, extensive team experience and knowledge of river processes, our Team has developed a feasible and budget conscious approach to implement the floodplain restoration and wetland enhancement project (Figure 2 on the following page). The proposal concept identifies various restoration and public improvement features throughout the city owned property and within the defined project area. To explain the details of the approach and concept, the project area is segmented into nine (9) improvement Features, each specific to key restoration elements or public access feature. The Features are also prioritized 1 to 9 with Feature 1 having the greatest priority. It is our Team's intent to solicit feedback from all stakeholders in order to understand the priority of goals as it relates to available budget so that we can design a successful project that meets all expectations and comes in on budget and schedule.

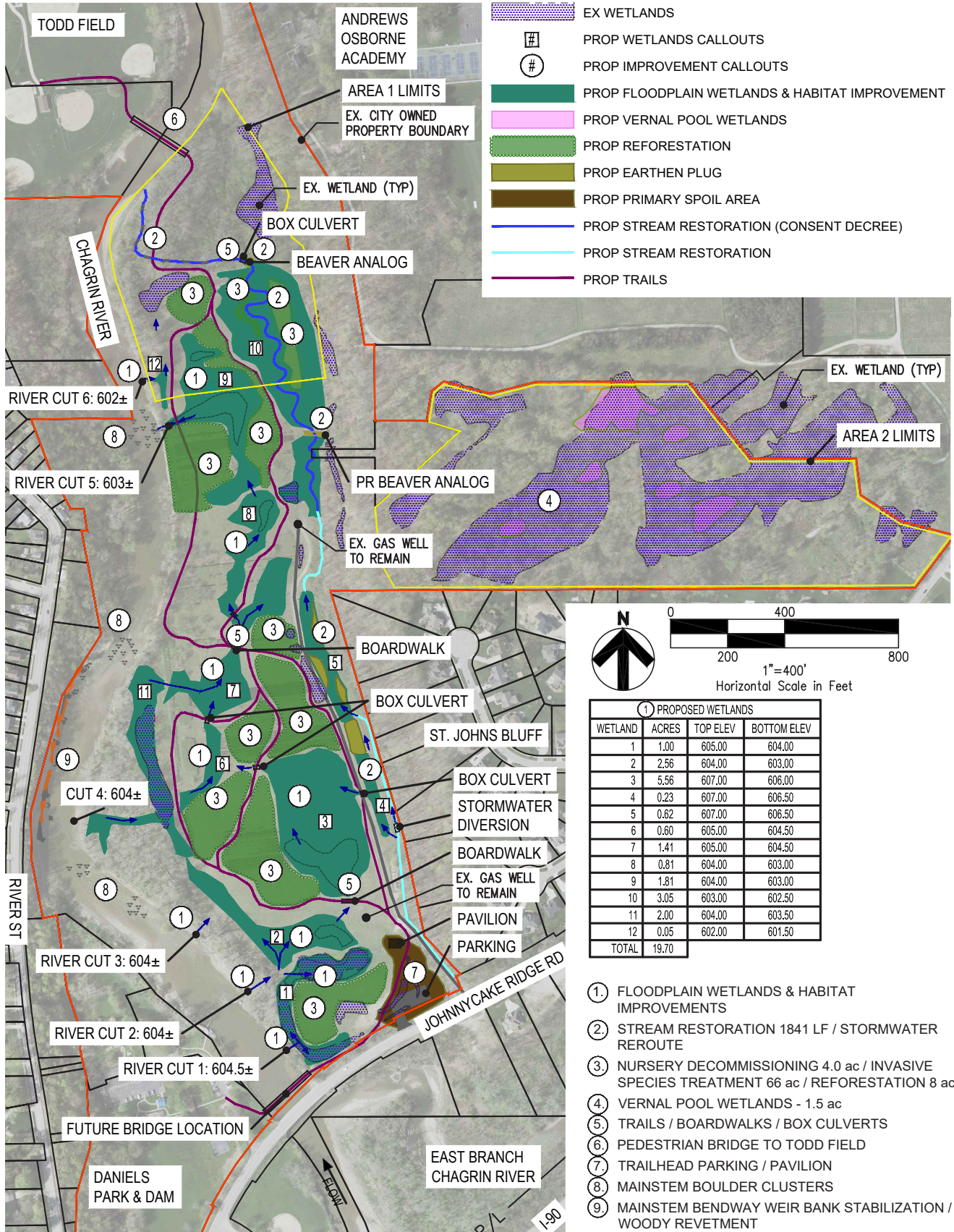


Figure 2: Concept Map

Feature 1 – Floodplain Wetlands & Habitat Improvements

The floodplain improvements begin with a series of “river cuts” which is a lowering of the berm/fill at strategic areas along the river corridor to supply hydrology to the network of wetland and floodplain channels. Lowering the elevation from 608 and 609 to 604.5/605 near Johnnycake Ridge Road will lower the Action Level from Major to 0.5-ft below a Minor level. Figure 3 below depicts the gage history from 2022 to December 1, 2024, showing only five times did the stage get into the action levels and at no time did the project site flood above the 605 elevation “Minor Action Level.” In the proposal concept, the site would see water at about 0.5-ft below the Minor Action level at this first river cut below the bridge. Other river cuts downstream go as low as 602 and 603 elevation, which would bring the interaction level down to between Action and Minor Flooding Levels.

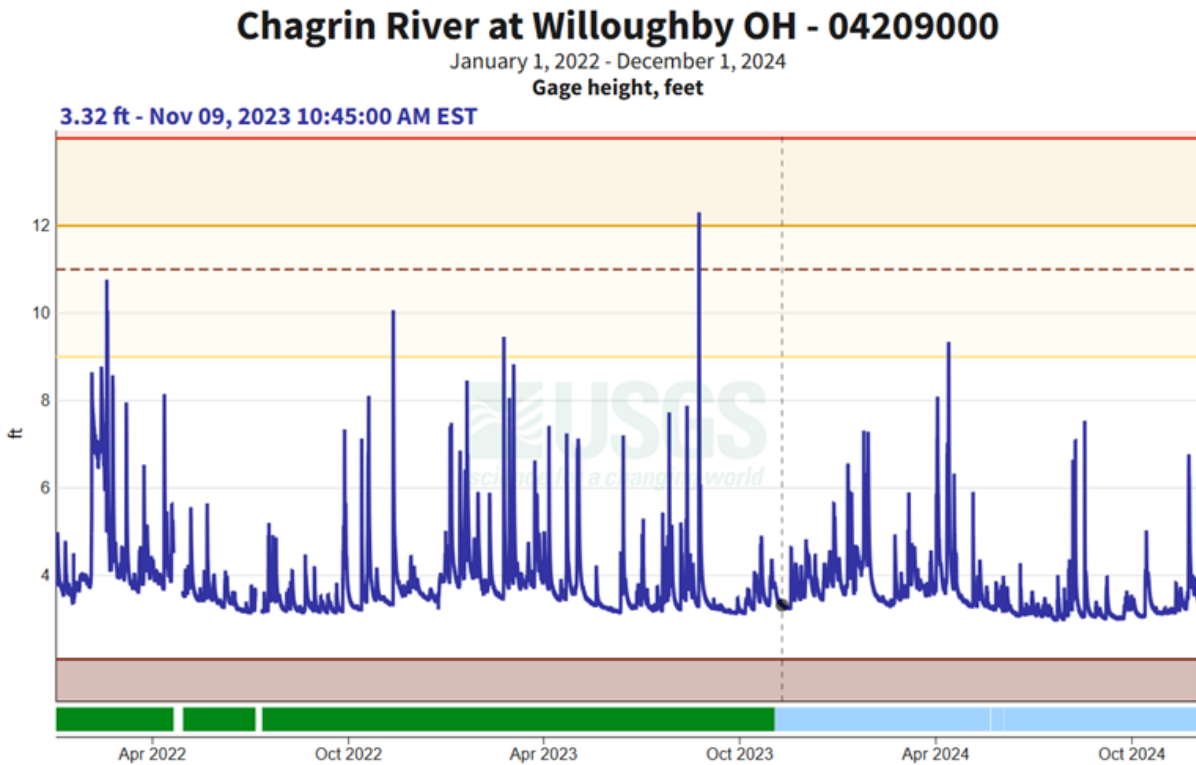


Figure 3: Gage History

Once the water enters the site through one of the six river cuts, the flood water would flow through a series of connected wetland floodplain channels totaling 19.7-acres. Some of these wetlands expand upon existing wetlands which will improve wetland quality due to the additional hydrology, microtopography and enhanced riparian plantings. Other wetlands target existing nursery plants or areas of past fill or modification. The expansiveness of the site allowed for the development of a concept plan that will preserve many existing native trees. As stated previously the heaviest cut volumes are associated with Wetlands 1 and 2 near Johnnycake Ridge Road. The remaining wetlands are designed to be scrapes of the existing 0.5-1.0-ft topsoil, roughening and decompacting the existing topography and/or creating depressional features for water retention. Without describing the flow path for each wetland, Wetland 5 is a good example of the interactive flow path and strategic earthwork conceptualized for the site.

Wetland 5 is a large 5.56-acre area that can receive high flow flood waters from Wetland 2 but will also receive runoff from the small stream along the eastern edge of the property. A designed riffle will divert

stormwater runoff into the existing open water feature. This open water feature will be bifurcated with an earthen plug which will enact to raise the water to a 607 elevation. This water will then flow into Wetland 5 which has a similar existing 607 elevation through an installed box culvert crossing. Water will then flow westward after a long retention period and turn northward into Wetland 7. The interaction between the stream, wetland 5, wetland 2 and wetland 7 exemplifies our approach to create “tiers” of water control and interactive nature having ability to keep water on the floodplain, at which point, the water will either keep moving through the system or be absorbed into the groundwater and discharge slowly to the river. In either case, it is positive for water quality.

Feature 2 – Stream Restoration/Stormwater Reroute

A jurisdictional headwater stream is present along the eastern toe of the valley slope. At the time of the site visit it was dry and was separated from a linear open water feature which runs next to the gas well access road. This stream has obviously been manipulated and channelized historically for agriculture. Nonetheless, this feature presents an opportunity to bring flow and stormwater runoff into the site. Once downstream of the earthen plug previously discussed in association with Wetland 5, the stream will be diverted into the remaining linear open water feature. Here an alternating bars of earthen in-fill will be installed to create a flowing linear wetland that will be allowed to self-develop over time. The stream will move back into its original alignment for a short distance to avoid close interactions with the existing gas well. Once past the gas well, this stream re-alignment will start the proposed 1841-lf of stream restoration to satisfy the 1,750-lf goal. The channel will be re-meandered off-line of the existing alignment 275-lf to the first of one of two beaver analog structures. This structure combined with a low earthen berm will look to truly function like a wetland stream and raise the water level from a 602 to a 603 elevation to set up the transition to a different alignment downstream of the analog. Lifting the water out of the existing ditch is necessary to create a better interaction with the site and Area 1. The stream and wetland here will also incorporate the outfall discharge from the development to the east and Area 2 of the consent decree.

Moving downstream, a new stream alignment is proposed through Wetland 10 (3.05 acres). The stream will be an important hydrology source for Wetland 10. Here it is envisioned that the root wads, logs and other structures will be designed and installed in the wetland and along the stream. The stream will move to the second beaver dam analog and then transition into the existing channel alignment where restoration will take place as a Priority 1 raise grade by installing riffles and grade controls on this incised channel.

Feature 3 – Nursery Decommissioning/Invasive Species Treatment/Reforestation

The approximately 32-acre nursery will be decommissioned through the mulching and/or harvesting of undesirable vegetation, primarily *Arborvitae* spp into proposed reforestation areas to help limit competition and encourage tree growth/recruitment. Some Woody material will be reincorporated. The remaining nursery vegetation totals approximately 4.0 acres according to aerial photography. Mulching will be conducted using heavy machinery, including but not limited to forestry mulchers, as well as handheld power tools such as chainsaws and brushsaws, as needed. Mulched debris will be spread into the reforestation areas to limit competition and help encourage growth and recruitment. Other woody material will be reincorporated into the restoration design where applicable. The remaining stems and root structures of nursery vegetation will be treated with an herbicide concentrate to prevent regrowth.

Invasive vegetation management includes the treatment of all undesirable vegetation throughout 51 acres of existing wetlands, proposed wetlands, floodplain, and upland by Ohio Department of Agriculture Certified

Commercial Applicators. Treatment will be conducted prior to construction activities to mitigate the potential for invasive establishment via seed bank, root, and rhizome. Treatment is also proposed following the completion of construction activities to allow for the long-term success of the project site.

Primary woody target species include Arborvitae spp., bush honeysuckle (*Lonicera* spp.), and Asiatic bittersweet (*Celastrus orbiculatus*). Woody species will be controlled during the dormant and growing seasons immediately prior to the start of construction activities using a combination of foliar and cut-stump treatment methodologies. Foliar application will be conducted during the growing season on dense, monocultural populations of undesirable shrubs that are not adjacent to native vegetation. Cut-stump application will be conducted during the dormant season on mature stands of invasive trees and monocultural populations of undesirable shrubs.

Primary herbaceous target species include Japanese knotweed (*Reynoutria japonica*), common reed (*Phragmites* spp.), reed canary grass (*Phalaris arundinacea*), common teasel (*Dipsacus* spp.), and Canada thistle (*Cirsium arvense*). Herbaceous species will be controlled during the growing season immediately prior to the start of construction activities using the foliar treatment methodology. Foliar application will be conducted via a combination of backpack, spray tank, and drone application. This low volume to high-volume herbicide application spectrum can be calibrated on an invasive population basis, considering factors such as coverage, maturity, hardiness, and adjacency to desirable, native vegetation.

By utilizing different treatment methodologies over the course of the dormant and growing seasons, our approach prioritizes the susceptibility of target species to systemic herbicides and so that all invasive populations are effectively controlled within an advantageous timeline.

The woody species will be cut, and the stumps will be treated with a 50% solution of aquatic approved glyphosate-based herbicide. The cut-stump method is more targeted than a foliar herbicide application and will avoid damage to non-target native plants. During the spring, Celandine and butter burr were pervasive throughout the site. These species will be foliar sprayed with a 5% glyphosate solution in the spring and early summer. *Phragmites* have been established in the low-lying wetter areas and in the confluence area. *Phragmites* monocultures will be sprayed with a 5% glyphosate solution in late July/August. *Phragmites* that are growing adjacent to native plants cannot be foliar sprayed without damaging the native plants. These will be cut in June/July and sprayed when they regrow and are short enough to not invade the “crowns” of the native shrubs.

The overall vegetative habitat objective of restoration activities is the reforestation of floodplain via the installation of live stakes, bare roots, and containerized trees. 1,350 live stakes will be installed along 1,841 LF of stream at 3-ft centers. An additional 2,000 live stakes will be installed throughout 8 acres of proposed PSS wetland at 250 stems per acre. 1,600 bare roots and 400 containerized trees will be installed in approximately 8 acres proposed reforested floodplain also at 250 stems per acre. Bare roots and containerized trees will be protected to ensure successful establishment. A combination of tree tubes and galvanized wire caging will be constructed around plantings to protect from wildlife activity.

Feature 4 – Vernal Pool Wetlands

Above the eastern valley slope, Area 2 consists of a wooded mosaic of wetland under a mature forest canopy. Interestingly, the drainage and runoff flows to the north and east away from the top of valley slope. This drainage pattern likely facilitated the extent and type of wetlands that currently exist. Invasive treatments

are slated for all the existing wetlands as part of the scope. However, to further enhance this area and meet the consent decree requirements vernal pools will be designed and constructed. A total of 1.5 acres of vernal pools are recommended to be constructed within the existing wetlands as enhancement features, otherwise the surrounding forest and ecology may become too degraded with an additional 1.5 acres of upland conversion. The proposed vernal pools consist of six (6) separate wetland enhancements within the property south of Andrews Osborne Academy in the upper bluff terrain accessible from Johnnycake Ridge Road. The vernal pool activity would entail deepening the designated acreage as well as adding woody debris which is important for amphibian breeding. Excavated material would be removed or spoiled nearby in upland areas or used on the down slope side of the pool to retain water. Vernal Pool 2, a proposed 0.65-acre pool has a slightly different approach as there is an opportunity to seal/plug a drainage opening to deepen and retain hydrology.

Feature 5 – Trails/Boardwalks/Box Culverts

Our proposal concept depicts a proposed trail network that provides users with a variety of routes, views for approximately 2 miles of trails for exploration. Trails will be established at different elevations and some could be accentuated with fill to become more accessible during times of flooding. Our Team has maintained the current access road to the east and continued access to both gas wells as part of the proposal concept design.

The trails have numerous crossings consisting of a combination of culverts and boardwalks primarily dictated by span length and potential for volumes of water. Each crossing location can also become a point of water control for the project to implement strict elevation and/or volume control. We wanted to provide a mix of different levels of accessibility but realize the intent is to meet Americans with Disabilities Act (ADA) requirements. The relatively flat nature of the site makes meeting the ADA requirements a reality. Many of the trails will exist in open areas until the new reforestation plantings will take hold while other trails take advantage of many of the preserved native stands of trees that have developed or been allowed to develop on the site. Not specifically shown in the proposal concept plan but included as a part of our vegetation budget discussed above are meadow areas (3 acres). These meadow areas provide a good opportunity for perennial grasses and forbs to enhance not only the habitat but also a recreational users experience.

Feature 6 – Pedestrian Bridge

Connectivity from existing park and preserved land to this new piece of the Chagrin corridor will be an important and worthwhile challenge for the project. The RFP states the possibility and desire for two bridges, one in the south crossing at Daniels Park and one in the north coming from Todd Field. The length of span (~200ft), ground elevations, regulatory permitting, cost of materials and type of bridge(s) are just some of the hurdles to overcome. Our team is looking forward to helping overcome these hurdles in the future design. We have presented a potential option for a bridge near Todd Field on the proposal concept. The proposed bridge is located on higher ground to span over the Chagrin River and potentially avoid some of the hurdles. We believe there is a potential location for another bridge at our proposed spoil location off of Johnnycake Ridge Road. The location could be integrated into a connection from Daniels Park whether that is a new standalone bridge crossing or coordinating with the future improvements by the anticipated ODOT bridge expansion. This location in terms of elevation is high enough to remove most risk from Major Flood Action level as the elevations sits today.

Feature 7 – Trailhead Parking/Pavilion

This area shall be utilized for onsite placement of excavated spoil material and shall be elevated for drive and parking access from Johnnycake Ridge Road. Although unknown at this time, material amendment and placement methods will be performed in conformance with geotechnical recommendations for stability.

Besides the construction benefits of keeping earthwork on site for the budget, our team believes the proposed earthen spoil and staging area could have some substantial long-term benefits for the project, namely because of its proposed level equal to Johnnycake Ridge Road. This over 1-acre area can provide a nice overlook and setting for future parking or small pavilion or shelter. The area would also be outside of potential flood impacts during larger storm events. This area shall provide an additional river cut and enhancement of existing low quality floodplain wetland.

Feature 8 – Mainstream Boulder Cluster

Should additional NOAA funding be made available, or the stake holder direction would prefer allocation of some budget toward the river we have included some potential locations for boulder enhancements. Large stable habitat is not as readily available in the lower Chagrin and the addition of these structures can turn long stretches of sometimes featureless or homogeneous sand and gravel substrate into more variability with respect to depth and flow. The bedrock prevalent in this reach can also further limit substrate habitat types. Large boulders act to break up surface and sub-surface flow and re-distribute and sort mobile sand and gravel. Boulders, similar to figure 4, placed in clusters can have a more widespread benefit to an area by expanding their influence and complexity of the habitat. Boulders of varying sizes, numbers and orientation would be designed and installed. Large boulder clusters could also be used to hold down or act to collect woody debris to further enhance areas.



Figure 4: Boulder Clusters

Feature 9 – Mainstream Bendway Weir Bank Stabilization

Should additional NOAA funding be made available, or the stakeholder direction would prefer allocation of some budget toward the river we have included some potential locations for bendway weirs. We noticed the high shale terrace along River Street and also understand there is a concern about continued erosion. Bendway weirs are singular structures which can act together if spaced appropriately to help divert both baseflow and more importantly flood flow away from streambanks. They also can add habitat value by focusing the thalweg off the end of the structure while providing slack or still water behind the structure. Figure 5 to the right is a pertinent example where our team installed three of these structures at Todd Field which is the northern limit of the project.



Figure 5: Bendway Weirs

The additional NOAA funding of \$1.2 million would not be entirely used for Features 8 and 9, but we are including these as an example of potential additional items that would be favorable to NOAA since their goals are typically aligned with floodplain restoration largely in association with fish habitat improvement. GPD Group and EnviroScience used NOAA funding with a large-scale restoration project on the Cuyahoga River for Summit County Metroparks. They were amenable to these types of features to align with the funding goals. For your project, we would also anticipate the proposed concept to grow in scale in terms of earth work and plantings should the NOAA funding become available.

D. DESCRIPTION OF SERVICES TO BE PERFORMED

The following services will be provided along with the scope of services in Section C of the RFP to deliver the project approach described above.

COMMUNICATION WITH THE PROJECT TEAM

Maintaining constant collaboration with stakeholders throughout the entire design-build process is a key tenant of our strength and success as a team. Our design-build partnership strongly advocates the value of a multidisciplinary approach in addressing project constraints and opportunities. CRWP, City of Willoughby and other stakeholder's knowledge base and experience are viewed as a valuable asset that will be integrated into the multidisciplinary approach both during the design and construction of the projects.

We plan to maintain consistent communication between our team and CRWP and the City, beginning with a kickoff meeting after project award through design and construction. Our team has spent considerable due diligence and time to develop a feasible and functional concept alternative, and we would use the opportunity of the kickoff meeting to solicit valuable feedback to continue the momentum forward. We have also included a proposed schedule that was developed with appropriate milestones and meetings to keep the project on schedule for successful delivery of the project goals. Following the kickoff meeting, we would anticipate regular bi-weekly meetings to maintain that constant collaboration and communication.

SITE ASSESSMENT

The Design-Build Team will conduct an extensive site survey and morphologic survey of the Chagrin River through Daniels Park to Todd Field in the proposed restoration reach. This survey will be informed by the anticipated survey efforts by the City's sub-contractor referred to during the RFP stage. The survey is closely aligned with refining a design and supporting HEC-RAS modeling. It is unavoidable that additional survey data will be necessary. We will perform multiple cross-section and longitudinal profile surveys of the stream both upstream and downstream of the park. Our team will use this information and other existing research and data to refine our proposal concept and inform our 30% design approach for the project. Other data may include the analysis of a "reference reach" of more natural Chagrin River floodplain. In this instance a reference reach can inform the design team with respect to planting communities, position and orientation of riparian wetlands and performance expectations as the project matures. We have already performed a preliminary analysis of the USGS gage at the site, but we would also anticipate performing an analysis of the gage data to accurately determine the bankfull discharge and bankfull elevation. A soils analysis will be conducted in existing wetland areas on-site to look at those characteristics and depths of horizons to inform design and strategize for wetland development in the Thioga Silt Loam series. Soil borings and geotechnical evaluation will also be completed to support the restoration design and reuse of the existing materials. Finally, a base map of the starting invasive populations will also be conducted to help target populations and demonstrate treatment effectiveness.

30% CONSTRUCTION DOCUMENTS

Following feedback from the kickoff meeting, site assessment and preliminary design meetings with the stakeholder team, we shall develop a 30% plan set for project area based on the refined concept.

Work items shall include refining the Chagrin River bank stabilization, creation of floodplain wetlands, reforestation, vernal wetland pools, trails, boardwalks, a pedestrian bridge to Todd Field, fill placed for future improvements, and extensive habitat features. The documents include developing cross sections and profiles, refining design plans, preparing a 30% design plan set, 30% renderings and assisting with responses to the client or regulatory questions and comments. Due to the large group of funding stakeholders and complexity associated with the site, it is our experience that a design-charrette/workshop meeting should be held where the design team and representatives for all the stakeholders can come together. The design team will walk through the design plan details listen to concerns, and highlight opportunities to facilitate a better understanding of the project. A hallmark of our Team’s design process is the physical stake out of the design features in the field to allow the design team and stakeholders to better visual the location and scale of design features. This field stake out has been vital to verify design elements and garner “buy-in” or solicit feedback at this early stage. We have performed this methodology for many projects both small and large.

60% AND FINAL CONSTRUCTION DOCUMENTS

The design team shall further refine 30% design plans based on feedback received from CRWP, the City, and project partners to develop detailed 60% and Final Construction Documents. This shall include modifications to the stream and floodplain wetland restoration approach, refining the stream sections and profiles, reviewing the hydraulic model report, refining restoration details within the plans, and assisting with responses to client or regulatory questions and comments on the 60% design.

The design team will also lead 60% design review meetings with the stakeholders to review design features and establish buy-in prior to finalizing the construction documents.

HYDROLOGIC AND HYDRAULIC MODELING

The team will perform a detailed hydrologic and hydraulic (H&H) assessment during design. This assessment allows for evaluating the flow rate and river stage based on regression analysis and HEC-RAS modeling. H&H modeling is performed on both the existing and proposed post-restoration condition. The post-restoration model is rerun throughout the design process, as necessary, if significant design changes occur that might alter the modeling results.

H&H modeling on projects like this is an important safety check for analyzing risk to flood prone areas (in this case, the park), inundation of the proposed floodplain wetlands, shear stresses on the banks, sizing of crossings, and how excavation of floodplain may reduce or affect that risk. All of this information will be utilized to refine the 30%, 60%, and final design from which we can proceed to construction on a design-build basis. As part of the 30% and 60% design plan sets, a Stormwater Pollution Prevention Plan (SWPPP) will also be prepared to guide water quality protection efforts throughout the construction process.

The H&H assessment will also support the FEMA process for a Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) if it is required.

LANDSCAPE PLAN

The Team will create a native planting plan for the revegetation of the site following construction activities. The plan will focus on native floodplain herbaceous and woody species, trees, and seed. The landscape plan will be designed to lay the foundation for both the recovery of the restored areas and future park amenities. Planting lists of species will be developed for the 30% submittal for approval of the proposed species by

the stakeholders. During the 60%, those approved species will be allocated to different planting mixes and types of plants (i.e. live stake, containerized, seed etc.) and quantities will be generated for the many different planting areas on the landscape plan. More details on the preliminary acreages and type of planting approach can be found in the Design Approach section. The health of the plantings post construction will be evaluated every year for the warranty period.

The overall vegetative habitat objective of restoration activities is the reforestation of floodplain via the installation of live stakes, bare roots, and containerized trees. 1,350 live stakes will be installed along 1,841 LF of stream at 3-ft centers. An additional 2,000 live stakes will be installed throughout 8 acres of proposed PSS wetland at 250 stems per acre. 1,600 bare roots and 400 containerized trees will be installed in approximately 8 acres proposed reforested floodplain also at 250 stems per acre. Bare roots and containerized trees will be protected to achieve successful establishment. A combination of tree tubes and galvanized wire caging will be constructed around plantings to protect from wildlife activity

PERMITTING

We anticipate the following agencies to obtain required permitting:

- USACE (Nationwide permit)
- Ohio EPA Water Quality Certification (WQC)
- OEPA (Notice of Intent)
- ODNR (coordination related to protected wildlife)
- USFWS (coordination regarding federally protected species)
- City of Willoughby (Floodplain Permit)
- FEMA (CLOMR/LOMR)

Permit documents and applications will be sent to stakeholders for review prior to submittal. Included is all required fees to obtain permits or agency authorizations to proceed. No work shall commence until the permits are secured. The site lies within a “purple” zone and therefore is ineligible for a WQC waiver such that the project will need a WQC review after the Nationwide Permit is received for work on the intermittent stream. Furthermore, if the project expands to included in-water work in the Chagrin River with the additional NOAA funding additional permit requirements would follow, including a mussel survey, potential in-water work waiver for warmwater and/or seasonal salmonids.

PRE-CONSTRUCTION MEETING

Due to the sensitivity of the area and public access, the Design-Build Team will coordinate and lead one pre-construction meeting with the stakeholders to review our construction approach, key milestones, assumptions and timeline. We will lead a site walk to discuss locations of site access and restoration features to verify the stakeholders are informed and up to date on the construction approach.

INVASIVE SPECIES TREATMENT (51 AC AND 15AC IN AREA 1)

EnviroScience performed a preliminary assessment of invasive vegetation in the project area. Primary woody target species include former nursery stock *Arborvitae* spp., bush honeysuckle (*Lonicera* spp.), and Asiatic bittersweet (*Celastrus orbiculatus*). Primary herbaceous target species include Japanese knotweed (*Reynoutria japonica*), common reed (*Phragmites* spp.), reed canary grass (*Phalaris arundinacea*), common teasel

(*Dipsacus* spp.), and Canada thistle (*Cirsium arvense*). Invasive vegetation management will be conducted pre- and -post construction to ensure the long-term success of the site. Ohio Department of Agriculture Certified Commercial Applicators will perform the management via an authorized combination of backpack, UTV/ARGO-mounted spray tank, and drone-mounted spraytank applicators. Treatment methodology will be calibrated based on the size and maturity of invasive populations and their proximity to desirable vegetation. All measures will be taken to mitigate the chance of damaging native species in the project area

Area 1 will see a similar approach as stated above but will focus on the existing wetlands as a method of enhancement. Targeting woody species as well as common reed which was prevalent in some of these wetlands. Per the RFP we have budgeted for control and treatment of undesired and invasive plant species (two times annually for three years and as necessary in wetland enhancement areas, created wetlands, and the restored stream during establishment).

MONITORING

The design team understands that project monitoring components are separated between the consent decree areas and the larger floodplain project. With respect to consent decree areas we are in agreement with Items 1-8 outlined in the RFP. EnviroScience maintains the necessary staff and expertise to manage this component. Specifically, our vegetation management group within the Restoration Practice Area maintains ten full-time staff along with 4-5 seasonal staff for both the invasive management and planting needs.

Similarly, for the larger floodplain project, EnviroScience has experts on-staff to conduct the QHEI and ORAM for the pre and post restoration phases. Vegetation management services will perform the post restoration assessment of target plant species and invasive species. Due to the expansive nature of the site, invasive monocultures or dominant plant colonies will all be marked. Sample plots will be randomly assessed for presence of target species and small proportions of invasives.

COST CONTROL DURING PRE-CONSTRUCTION

Construction feasibility and value engineering opportunities will be analyzed throughout the project and at each of the design milestones based on collective input from the design-build team and the project partners. Our goal, without exception, is to strive to deliver the optimal scope within the project budget.

The team will identify all physical site elements, material specifications, special conditions, and construction instructions on the restoration plans. At each identified progress submittal and project milestone period, our designers and construction specialists will conduct internal meetings to review the plans, including sequences, operations, and material quantities. As a result, the lead construction estimator is able to progressively develop the construction cost estimate through a series of checks and balances amongst the design-build team.

The initial task pricing shown in Exhibit A will serve as a baseline for construction of this project. Progress estimates during the 30% Design Phase will allow the team and client to make informed decisions to manage costs. This will facilitate analysis of changes in the project construction budget as design refinement occurs.

Acceptance of the 30% design plan and class 3 estimate will initiate the 60% Design Phase. Our team will utilize the baseline estimate during the continued design modifications as a tool to measure impact of the design changes upon the baseline construction budget. Through this ongoing process of progress budget analysis and preparation of the 60% design, the class 2 estimate will provide a more detailed estimate of the project cost.

COST CONTROL DURING CONSTRUCTION

Documentation of the actual cost of construction will begin with the utilization of the detailed final construction estimate that was developed for the construction phase. This estimate will provide sufficient detail to assess labor rates, equipment rental, and subcontracts along with any other items necessary to complete the construction portion of the project. Actual construction costs will be compared to this estimate utilizing the same format and provide reference for the management of the construction costs as they relate to the proposed budget.

Timely updates identifying construction progress and the related cost budget will support cost control and make visible any potential deviations from the final estimate. The mechanism for providing this information to the City will be consistent with the contract language and managed to provide clarity and efficiency in reporting.

E. ASSUMPTIONS AND EXPECTATIONS

- Based on the RFP exhibits, the RiverReach team believes that the current budget will be insufficient to complete proposed features and amount of restoration described by the RFP. Specifically, the RiverReach team does not believe it will be possible to include 2 pedestrian river crossings over the Chagrin River within the available budget, and instead we have proposed only 1 crossing in our conceptual design. However, we believe it is possible to complete the prioritized scope of work included in our conceptual design with an emphasis on designing to the project budget. Upon further due diligence, the team will evaluate site conditions in more detail early in the project to confirm the amount of possible restoration. Future in-depth analysis of conditions within the project area may affect the total amount of restoration possible. Priority shall be allocated to meet the requested proposal scope required within Area 1 and Area 2. Other restoration activities may be less or more than those initially proposed.
- Access and permission to conduct on-site activity, including topographic/morphological surveys, subsurface investigation, and construction work to be provided by the City of Willoughby.
- Design-Build team may self-perform any required scope of work during construction that they are qualified to perform without requiring a formal bidding process.
- All excavated material to be spoiled on-site. Site is to be a balanced site.
- A floodplain development permit shall be executed with the City of Willoughby. FEMA involvement will depend on the final design elements included in the project. The Design-Build team believes that the proposed stream and floodplain restoration improvements, including park amenities, can be implemented while still achieving the required No-Rise for work in a FEMA Zone AE floodplain with floodway. If a bridge or multiple bridges are added over the river, a No-Rise will be difficult to achieve and at a minimum a Letter of Map Revision (LOMR) from FEMA would be required. If a No-Rise cannot be achieved, a Conditional Letter of Map Revision (CLOMR) will be required pre-project and LOMR would be required after construction is complete. The Design-Build team has included the effort for both the CLOMR and LOMR, however, if one or neither ends up being required, the funds will be utilized to enhance the restoration.
- No contamination is anticipated to be found in the project area and no soil testing for contaminants has been included in this proposal.
- No property boundary survey or title commitment is included in this proposal. Property title commitment for representation of existing easements and/or encumbrances to be provided by others if applicable. Additionally, survey base mapping of the project area shall be provided by the City.
- All pertinent data/files and information regarding project area shall be available for use.
- Delays relating to weather, river flow rates, agency review and/or issuance of required project permits will be considered beyond the control of the Design-Builder.

-
- Design-Build Contractor has not included budget for an independent accountant for purposes of developing any cost or budget related reports. It is assumed that all reports shall be generated by Design-Build Contractor.
 - Design-Build Contractor has included budget for anticipated freshwater mussel reconnaissance survey and ODNR coordination and report, but has not included budget for mussel relocation if a translocation is required. If required, additional funding or an adjustment to project scope may be necessary.
 - Our Design-Build team feels that a shared risk attitude toward the schedule and completion of this project would be the most appropriate and equitable arrangement and would like to recommend that a schedule be viewed as a goal and that any liquidated damages language be removed from the contract. We do not feel that damages should be due if the contractor can demonstrate a good faith effort was made to meeting or exceeding the project completion date.
 - The Design-Build Contractor will submit plans at a 30%, 60%, and Final Plan phase. A 90% Design Phase submittal has been excluded from the scope of work to reduce the design schedule.

F. BID GUARANTEE



Bid Bond

CONTRACTOR:
(Name, legal status and address)
 Akron Building & Outdoor
 Maintenance, Inc. dba RiverReach Construction
 92 - 31st Street NW
 Barberton, Ohio 44203

SURETY:
(Name, legal status and principal place of business)
 Ohio Farmers Insurance Company
 P.O. Box 5001
 Westfield Center, Ohio 44251-5001

OWNER:
(Name, legal status and address)
 City of Willoughby
 One Public Square
 Willoughby, Ohio 44094

BOND AMOUNT: \$ 5% of Base Bid Plus All Add Alternates

PROJECT:
(Name, location or address, and Project number, if any)

Chagrin River Floodplain Restoration and Trail Connection Project
 Design Build
 Willoughby, Ohio

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

ADDITIONS AND DELETIONS:
 The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.


Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

init.


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Signed and sealed this 25th day of November, 2024




(Witness)



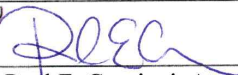
(Witness)

Akron Building & Outdoor Maintenance, Inc. dba
RiverReach Construction



(Contractor as Principal) (Seal)

(Title)

Ohio Farmers Insurance Company
(Surety) (Seal)


(Title) Paul E. Cruciani, Attorney-in-Fact

General
Power
of Attorney

POWER NO. 3402102 02

**Westfield Insurance Co.
Westfield National Insurance Co.
Ohio Farmers Insurance Co.**
Westfield Center, Ohio

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint **PAUL E. CRUCIANI, THERESA GUISER, JANET L. ROBERTS, CARLY MUSSEY-WIDENER, DARREN FAYE, JOINTLY OR SEVERALLY**

of **NORTH CANTON** and State of OH its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship**

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact, may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"Be it Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their **National Surety Leader and Senior Executive** and their corporate seals to be hereto affixed this **02nd** day of **JANUARY** A.D., 20**20**.

Corporate
Seals
Affixed



WESTFIELD INSURANCE COMPANY
WESTFIELD NATIONAL INSURANCE COMPANY
OHIO FARMERS INSURANCE COMPANY

By: **Gary W. Stumper, National Surety Leader and Senior Executive**

State of Ohio
County of Medina ss:

On this **02nd** day of **JANUARY** A.D., 20**20**, before me personally came **Gary W. Stumper** to me known, who, being by me duly sworn, did depose and say, that he resides in **Hartford, CT**; that he is **National Surety Leader and Senior Executive** of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial
Seal
Affixed



David A. Kotnik, Attorney at Law, Notary Public
My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio
County of Medina ss:

I, **Frank A. Carrino**, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this **25th** day of **November** A.D., 20**24**.



Frank A. Carrino, Secretary

BPOAC2 (combined) (06-02)

Financial Statement

Ohio Farmers Insurance Co.

Westfield Center, Ohio 44251-5001

December 31, 2023

**OHIO FARMERS INSURANCE COMPANY
BALANCE SHEET**

12/31/23
(in thousands)

Assets	
Cash, cash equivalents, and short term investments	67,229
Bonds	458,406
Stocks	51,905
Subsidiaries	2,500,474
Real estate	170,424
Premiums receivable	161,198
Other assets	188,624
Total assets	3,598,260
Liabilities	
Reserve for unearned premiums	251,057
Reserve for unpaid losses and loss expenses	389,353
Reserve for taxes and other liabilities	185,868
Total liabilities	826,278
Surplus	
Surplus to policyholders	2,771,982
Total surplus	2,771,982
Total liabilities and surplus	3,598,260

State of Ohio

ss:

County of Medina

The undersigned, being duly sworn, says: That he is National Surety Leader - Surety Operations of Ohio Farmers Insurance Company, Westfield Center, Ohio; that said Company is a corporation duly organized, existing and engaged in business as a Surety Company by virtue of the Laws of the State of Ohio and authorized to do business in the State of ...Ohio..... and has duly complied with all the requirements of the laws of said State applicable to said Company and is duly qualified to act as Surety under such laws; that said Company has also complied with and is duly qualified to act as Surety under the Act of Congress approved July 1947, 6 U.S.C. sec. 6-13; and that to the best of his knowledge and belief the above statement is a full, true, and correct statement of the financial condition of the said Company on the 31st day of December, 2023.

Attest:

Frank Carrino

Frank A. Carrino
Group Legal Leader, Secretary

Gary W. Stumper

Gary W. Stumper
National Surety Leader
Senior Executive



Sworn to before me this 14th day of February A.D. 2024.

David A. Kotnik

David A. Kotnik
Attorney at Law
Notary Public – State of Ohio



My Commission Does Not Expire
Sec. 147.03 Ohio Revised Code

BD5402 B

Office of Risk Assessment
50 West Town Street
Third Floor - Suite 300
Columbus, Ohio 43215
(614)644-2658
Fax(614)644-3256
www.insurance.ohio.gov

Ohio Department of Insurance

Mike DeWine - Governor
Judith French - Director

Certificate of Compliance



Issued 06/13/2024

Effective 07/01/2024

Expires 06/30/2025

I, Judith French, hereby certify that I am the Director of Insurance in the State of Ohio and have supervision of insurance business in said State and as such I hereby certify that

OHIO FARMERS INSURANCE COMPANY

of Ohio is duly organized under the laws of this State and is authorized to transact the business of insurance under the following section(s) of the Ohio Revised Code:

Section 3929.01 (A)

- | | |
|-----------------------------------|------------------------------------------|
| Accident & Health | Inland Marine |
| Aircraft | Medical Malpractice |
| Allied Lines | Multiple Peril - Commercial |
| Boiler & Machinery | Multiple Peril - Farmowners |
| Burglary & Theft | Multiple Peril - Homeowners |
| Collectively Renewable A & H | Noncancellable A & H |
| Commercial Auto - Liability | Nonrenew-States Reasons (A&H) |
| Commercial Auto - No Fault | Ocean Marine |
| Commercial Auto - Physical Damage | Other Accident only |
| Credit Accident & Health | Other Liability |
| Earthquake | Private Passenger Auto - Liability |
| Fidelity | Private Passenger Auto - No Fault |
| Financial Guaranty | Private Passenger Auto - Physical Damage |
| Fire | Surety |
| Glass | Workers Compensation |
| Group Accident & Health | |
| Guaranteed Renewable A & H | |

OHIO FARMERS INSURANCE COMPANY certified in its annual statement to this Department as of December 31, 2023 that it has admitted assets in the amount of \$3,598,259,569, liabilities in the amount of \$826,277,599, and surplus of at least \$2,771,981,970.

IN WITNESS WHEREOF, I have hereunto subscribed my name and caused my seal to be affixed at Columbus, Ohio, this day and date.

Judith L. French

Judith French, Director



INS7230(Rev.6/2003)

Accredited by the National Association of Insurance Commissioners (NAIC)

G. TASK PRICING SCHEDULE

Chagrin River Floodplain Restoration and Trail Connection Project
Request for Proposals
November 6, 2024







Exhibit A: Task Pricing Schedule Template

Chagrin River Floodplain Restoration and Trail Connection Project							
TASK PRICING SCHEDULE							
Item No.	Description	QTY	Unit	Unit Price		Total Unit Cost	Total Cost
				Labor	Material		
1	SITE ASSESSMENT	1	LS	\$ 117,105.44	\$ 6,163.44	\$ 123,268.88	\$ 123,268.88
2	DESIGN AND ENGINEERING	1	LS	\$ 460,949.35	\$ 9,407.13	\$ 470,356.48	\$ 470,356.48
3	PERMIT PREPARATION AND SUBMITTAL, PERMIT MONITORING, AND REPORTING	1	LS	\$ 100,000.00	\$ 30,000.00	\$ 130,000.00	\$ 130,000.00
4	SITE PREPARATION	1	LS	\$ 206,795.54	\$ 68,931.84	\$ 275,727.38	\$ 275,727.38
5	STREAM AND WETLAND RESTORATION, STORMWATER IMPROVEMENTS	1	LS	\$ 1,026,327.61	\$ 256,581.90	\$ 1,282,909.51	\$ 1,282,909.51
6	VEGETATIVE PLANTINGS	1	LS	\$ 123,750.00	\$ 123,750.00	\$ 247,500.00	\$ 247,500.00
7	INVASIVE PLANT TREATMENT	1	LS	\$ 74,250.00	\$ 8,250.00	\$ 82,500.00	\$ 82,500.00
8	PUBLIC ACCESS IMPROVEMENTS	1	LS	\$ 804,594.86	\$ 658,304.89	\$ 1,462,899.75	\$ 1,462,899.75
9	DEBRIS REMOVAL	1	LS	\$ 10,500.00	\$ 4,500.00	\$ 15,000.00	\$ 15,000.00
10	UTILITY ALLOWANCE	1	LS	\$ -	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00
11	ALL DELIVERABLES UNDER CONTRACTOR SCOPE OF SERVICES, SECTION B	1	LS	\$ 297,500.00	\$ 127,500.00	\$ 425,000.00	\$ 425,000.00
TOTAL CONTRACT BID PRICE ITEMS 1 THROUGH 11							\$ 4,545,162.00
<p>AMOUNTS SHALL BE SHOWN IN FIGURES. THE TOTAL CONTRACT BID PRICE AS LISTED ABOVE IS FOR INFORMATION ONLY AT THE TIME OF OPENING BIDS. IF THERE IS A DISCREPANCY, BETWEEN THE TOTAL UNIT COST AND THE TOTAL COST BID ON ANY ITEM, MATHEMATICAL MISTAKES WILL BE RESOLVED BY MULTIPLYING THE SUM OF THE INDIVIDUAL UNIT PRICES GIVEN FOR LABOR AND MATERIAL TIMES THE ESTIMATED QUANTITY FOR EACH BID ITEM. THE TOTAL SUM OF THE INDIVIDUAL ITEMS SHALL GOVERN.</p> <p>THE BIDDER AGREES TO THE FOLLOWING CONTRACT TERMS:</p> <ul style="list-style-type: none"> • COMPLETION DATE: THIS PROJECT MUST BE COMPLETE NO LATER THAN JULY 31, 2029. • LIQUIDATED DAMAGES: \$500.00 FOR EACH DAY BEYOND JULY 31, 2029. • FUNDING AND CLOSEOUT PAPERWORK: JULY 31, 2029. 							
NAME OF BIDDER: RiverReach Construction				DATE: 12/11/2024			
SIGNATURE OF BIDDER: 				Vice President			

*CLOMAR/LOMAR Cost have been allocated to the permitting line item. This cost is approximately \$90,000.00
 *Breakdown of Labor and Materials is approximate and will need to be further refined for during design.

H. PROPOSED PROJECT SCHEDULE

Our Team feels the schedule put forth in the RFP can be met. Itemized below are several tasks and the approximate duration to complete each task.

PROJECT TIMELINE	NTP	SITE ASSESSMENT	30% DESIGN	PERMITTING	60% TO FINAL DESIGN	INVASIVE CONTROL	CONSTRUCTION	LANDSCAPE	MONITORING
DEC 2024									
JAN 2025									
FEB 2025									
MAR 2025									
APR 2025									
MAY 2025									
JUN 2025									
JUL 2025									
AUG 2025									
SEPT 2025									
OCT 2025									
									
									
THROUGH DEC 2027									
JAN 2028 THROUGH									
									
									
JUL 2029									

CURRENT WORKLOAD

Our Team is available and ready to work on your project. Team projects currently underway are shown below.

PROJECT NAME	Client	Stage	% Complete	Completion Date	Project Cost
SUMMIT STREET DAM REMOVAL	CITY OF WARREN	CONSTRUCTION	95%	WINTER 2024	\$3M
RED BROOK & SUNNY LAKE	THE NATURE CONSERVANCY	PERMITTING	15%	WINTER 2025	\$1.15M
VETERANS LEGACY WOODS	CRWP	DESIGN-BUILD	95%	MAR 2025	\$1,200,000
HEMLOCK CREEK RESTORATION	NEORS	CONSTRUCTION	95%	MAR 2025	\$287,000 (est)
SHAWNEE LOOKOUT	THE NATURE CONSERVANCY	PERMITTING	15%	FALL 2025	\$2.6M
CUYAHOGA VALLEY NATIONAL PARK RIVERBANK STABILIZATION	NATIONAL PARK SERVICE	DESIGN/CONSTRUCTION	90%	SPRING 2025	\$17.2M
DOAN BROOK RESTORATION	NEORS	DESIGN	60%	2026 (est)	\$1,700,000
ERIE SWCD MILL CREEK FLOODPLAIN RESTORATION	ERIE SWCD	DESIGN	30%	SPRING 2026	\$794,000
LEAVITTSBURG DAM REMOVAL	TRUMBULL COUNTY METRO PARKS	PRE-CONSTRUCTION	15%	SPRING 2026	\$4.6M

TEAM AVAILABILITY

The team members identified in this section are immediately available to respond and provide professional services requested for this project. All of the individuals in key leadership positions will be available for the total life of the project. Should a personnel change in this leadership be necessitated for any reason, RiverReach will immediately discuss the proposed personnel change with the City of Willoughby to obtain approval.

NAME	ROLE	COMMITMENT TO PROJECT
RIVERREACH CONSTRUCTION		
SHANNON CARNEAL	CONTRACTING PRINCIPAL	25%
GREG GUELLO	CONSTRUCTION MANAGER	30%
PATRICK ROHR	CONSTRUCTION PROJECT MANAGER	35%
JEFF ZANOLLI	PROCUREMENT OFFICER	40%
COLE GUELLO	LEAD ESTIMATOR	35%
GPD GROUP		
IVAN VALENTIC	PROJECT MANAGER	35%
MATT LASCOLA	RESTORATION QA/QC / ENGINEER OF RECORD	10%
JESSE RUFENER	HYDRAULIC MODELING	30%
JOE LANNI	WATER RESOURCES ENGINEER	30%
ANGELA SHORT	LANDSCAPE ARCHITECT	15%
JOHN SLOAN	TRAIL DESIGNER	40%
TOM WASHKO	STRUCTURAL ENGINEER	30%
ENVIROSCIENCE		
JULIE BINGHAM	RESTORATION DESIGN MANAGER	40%
ANGELINA HOTZ	WATER RESOURCE ENGINEER	20%
TOM PREWITT	SURVEY/CONSTRUCTION OVERSIGHT	30%
MICHAEL MAREFKA	INVASIVE SPECIES SPECIALIST	30%

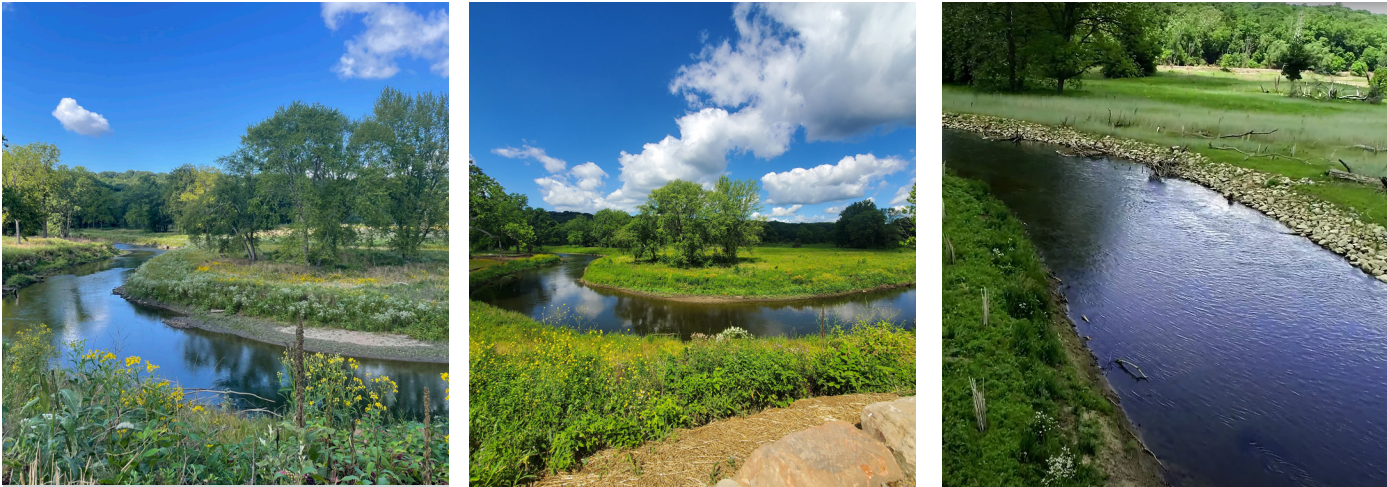
I. RELEVANT PROJECTS

VALLEY VIEW PHASE 1 AND 2 STREAM AND WETLAND RESTORATION, AKRON, OHIO

The Summit Metro Parks contracted EnviroScience, supported by RiverReach and GPD Group, to perform stream and wetland restoration for the Valley View Phase 1B and Phase 2 restoration projects, located within the Cascade Valley Metro Park of Summit Metro Parks. The site, which was previously Valley View Golf Course before being purchased by Summit Metro Parks, is located along the Cuyahoga River, downstream of its confluence with the Little Cuyahoga River, between the Ohio & Erie Canal towpath trail and Cuyahoga Street in Akron, Ohio. The objective of Phase 1B was to restore site hydrology through the daylighting of existing storm sewers and underdrains, natural stream channel and riparian corridor design, wetland restoration design, disruption of field tile, the use of natural springs and runoff for wetland restoration, and native re-vegetation planting. The Phase 2 objective was to improve and increase capacity and floodplain connectivity of the Cuyahoga River, improve in-stream habitat, and reforestation of the restored floodplain.

Stream design includes detailed profiles and typical sections, identifying key elevations and slopes along the streams, and specifying materials, depths, and quantities for stream substrates and floodplains. The comprehensive ecological restoration design of Phase 1B consisted of approximately 14 acres of wetland and 2,250 LF of stream and riparian corridor design. EnviroScience also designed approximately 21 acres of wetland restoration within the project area. Phase 2 entailed floodplain expansion along 5,000 LF of the Cuyahoga River, creating 8 acres of active floodplain, reforestation of approximately 50 acres, and installing over 400 in-stream habitat structures. The grading design goal was to balance the site earthwork, using all excavated materials from the streams and floodplain to fill existing ponds, create additional wetland areas, and build up the future park access road alignment. The wetlands are interconnected with the restored stream segments, providing critical floodplain areas during storm events, riparian habitat, and nonpoint pollutant attenuation.

Services provided: Stream and Wetland Design, Stormwater Management



CLIENT:	SUMMIT METRO PARKS			CLIENT CONTACT:	MIKE JOHNSON (330) 867-5511 X221 MJOHNSON@SUMMITMETROPARKS.ORG				
START DATE:	2015	COMPLETION DATE:	2020	ENGINEERING BUDGET	\$50,000	CONSTRUCTION BUDGET:	\$420,000	ACTUAL CONSTRUCTION:	\$420,000
PROJECT RELEVANCE:	FLOODPLAIN EXPANSION, TRAIL CONNECTIVITY, WATER QUALITY, HABITAT IMPROVEMENTS								
PROPOSED FIRMS INVOLVED:	RIVERREACH CONSTRUCTION, GPD GROUP, ENVIROSCIENCE								

BEECHERS BROOK RESTORATION , NORTH CHAGRIN RESERVATION, GATES MILLS, OHIO

The goal of Beechers Brook Restoration is to restore 350 lineal feet of stream and stabilize the erosion areas on both the right and left banks on the existing mainstem downstream of the box culvert. The stabilization areas were combined with angular rock toe protection, grading, and bioengineering to promote an integrated rock and vegetative slope. Natural channel designed streams move in small steps through the land geometry, which is the result of sediment erosion and deposition.

The riparian corridor is a vital ecological component for a healthy stream and watershed. The Beecher’s Brook site will continue to exist in a largely shaded and forested corridor. Upstream the forested riparian zone will continue to deliver carbon and organic input for macroinvertebrate food base. The riparian restoration approach within the project area will be two-fold: target invasive species as well as supplement the forest with additional trees and promote near bank woody vegetative growth.

This design is highly focused on fish passage by using a rough corrugated culvert at a lower slope. The restored stream provides a natural riffle complex approach for species to move through the system. Limiting the capacity of the fish passage culvert to lower recurrence storm intervals creates the necessary hydraulics for fish to continuously utilize the culvert while the reduced capacity ultimately lowers the risk of damage to the restored channel.

Services provided: Restoration Design, Construction Oversight, Permitting



CLIENT:	CLEVELAND METROPARKS				CLIENT CONTACT:	SEAN MCDERMOTT, PE 216.635.3251 SEM1@CLEVELANDMETROPARKS.COM			
START DATE:	2020	COMPLETION DATE:	2021	ENGINEERING BUDGET	\$66,000	CONSTRUCTION BUDGET:	\$100,610	ACTUAL CONSTRUCTION:	\$100,610
PROJECT RELEVANCE:	NEW BRIDGE FROM TRAILHEAD LOT TO PARK TRAIL NETWORK, BANK STABILIZATION, HABITAT IMPROVEMENTS								
PROPOSED FIRMS INVOLVED:	RIVERREACH CONSTRUCTION, ENVIROSCIENCE								

BRATENAHL WETLAND AND VERNAL POOL MITIGATION, NINE MILE CREEK WATERSHED, BRATENAHL, OHIO

EnviroScience, Inc. performed the environmental permitting and mitigation restoration activities for the Dugway Storage Tunnel for the Northeast Ohio Regional Sewer District (NEORS D). The project entailed both on-site and off-site permittee-responsible wetland mitigation to compensate for losses associated with a large underground CSO tunnel storage project.

The wetland mitigation occurred in three areas, with two being on-site and one off-site. The off-site mitigation occurred on private property immediately to the north of the site adjacent to I-90 in one of the last remaining mature remnant forests in Bratenahl. Here, EnviroScience evaluated the topography and recreated a vernal pool to host the Jefferson salamander. The monitoring for the success of the breeding pool was coordinated with Case Western University. Long-term monitoring indicated successful breeding and utilization of the vernal pool by the Jefferson salamander.

The on-site restoration occurred in two phases, with the last phase completed in 2019 when the storage tunnel was complete and operational. Both of the on-site mitigation wetlands were designed to create forested wetland habitat. The first phase constructed in 2014 is performing well; however, heavy deer browse set back the tree growth and recruitment in 2018. The site constructed in 2018 was installed with various strata of trees and a perimeter fence to combat deer browse.

Services provided: Mitigation Plan Development, Wetland Restoration Design, Construction Oversight, Invasive Species Control



Vernal Pool Restoration



Wetland Restoration and Reforestation

CLIENT:	NORTHEAST OHIO REGIONAL SEWER DISTRICT				CLIENT CONTACT:	MICHAEL BLAIR, PROJECT MANAGER 216.881.6600 x6110			
START DATE:	JAN 2015	COMPLETION DATE:	AUG 2019	ENGINEERING BUDGET	\$25,000	CONSTRUCTION BUDGET:	\$215,000	ACTUAL CONSTRUCTION:	\$215,000
PROJECT RELEVANCE:	WETLAND RESTORATION DESIGN; COMPLETED IN CORRELATION WITH THE NINE-MILE TUNNEL PROJECT								
PROPOSED FIRMS INVOLVED:	RIVERREACH CONSTRUCTION, GPD GROUP, ENVIROSCIENCE								

J. RESUMES



AREAS OF EXPERTISE:

Project Management, Design Phase Construction
Feasibility, Cost Estimating/Budget Control Monitoring,
QA/QC, Contract Administration

YEARS OF EXPERIENCE:

With RiverReach, 17 years
With other firms, 30 years

EDUCATION:

Bachelor of Science, Industrial Management, 1986,
The University of Akron

TRAINING/CREDENTIALS:

40 Hour HAZWOPER Training
CSX Contractor Safety Training
E-Railsafe Training
Drug/Alcohol Training 2011

Shannon Carneal is a co-founder of RiverReach Construction and has over 25 years of construction experience encompassing many different aspects of the construction industry. He is an experienced project manager for RiverReach Construction and is responsible for project oversight including cost estimating, critical path scheduling and quality assurance. He has a proven track record of completing difficult projects with tight budgets on schedule. Construction feasibility during the design phase of each design-build project is another important aspect that Shannon is responsible for. He is involved in project development from the conceptual design phase all the way through construction. Value engineering is a tool he often uses to bring in a successfully completed project on budget and on time.

CONTRACTING PRINCIPAL SHANNON CARNEAL

RIVERREACH CONSTRUCTION

Alternate Contact

SMP, Valley View Stream & Wetland Restoration, Akron, OH. *Contracting Principal.* Two phase project restoring a former golf course for Summit Metroparks. NOAA funded project that saw a dramatic increase in floodplain storage, extensive in-stream fish habitat on over a mile of the Cuyahoga, ~3000 LF of headwater tributary restoration, wetland restoration and 50 acres of tree plantings.

Beechers Brook Restoration , North Chagrin Reservation, Gates Mills, OH. *Contracting Principal.* The Beechers Brook Restoration restored 350 lineal feet of stream and stabilize the erosion areas on both the right and left banks on the existing mainstem downstream of the box culvert. The stabilization areas were combined with angular rock toe protection, grading, and bioengineering to promote an integrated rock and vegetative slope. The first phase constructed in 2014 is performing well; however, heavy deer browse set back the tree growth and recruitment in 2018. The site constructed in 2018 was installed with various strata of trees and a perimeter fence to combat deer browse.

Bratenhal Vernal Pool and Wetland Mitigation, Bratenhal, OH. *Contracting Principal.* This Project entailed both on-site and off-site permittee-responsible wetland mitigation to compensate for losses associated with a large underground CSO tunnel storage project. The wetland mitigation occurred in three areas, with two being on-site and one off-site. The off-site mitigation occurred on private property immediately to the north of the site adjacent to I-90 in one of the last remaining mature remnant forests in Bratenahl. The first phase constructed in 2014 is performing well; however, heavy deer browse set back the tree growth and recruitment in 2018. The site constructed in 2018 was installed with various strata of trees and a perimeter fence to combat deer browse.



PROJECT MANAGER IVAN VALENTIC, PLA, ASLA

GPD GROUP

Primary Contact

AREAS OF EXPERTISE:

Project Management, Site Development, Watershed Management, Waterway Restoration, Master Site Planning, Stormwater Management, Sustainable Design, Erosion/Sediment Control and Stormwater Best Management Practices Stream Restoration, Bank Stabilization, Landscape Architecture, Green Infrastructure

YEARS OF EXPERIENCE:

With GPD Group, 10 years
With other firms, 14 years

EDUCATION:

Bachelor of Science, Landscape Architecture, 2000, The Ohio State University

REGISTRATION/CREDENTIALS:

Registered Landscape Architect, State of Ohio, 2005

Ivan Valentic delivers over 24 years of experience focused on ecological restoration including all aspects of stream and wetland restoration including geomorphologic assessments, design of in-stream structures, bioengineering solutions for bank stabilization, and planting design with knowledge in native plant material. He brings strong skills in directing and leading the assembly and development of construction documents and is an experienced construction administrator, site inspector and field observer.

PROJECT SPECIFIC EXPERIENCE

NEORS, Beechers Brook Bank Stabilization and Stream Restoration, Cleveland, OH. *Project Manager.* Beechers Brook drains approximately 1.2 square miles at the project site, and consists of suburban, urban and industrial land. The project is stemming from significant channel incision, stream bank erosion, threat to infrastructure and continuous maintenance concerns at the SOM Center Road/SR 91 culvert. The project area has been identified as a 700-foot reach upstream of the culvert, encompassing an area of slope instability approximately 170 linear feet. In addition to the stabilization needs of Beechers Brook, a recreational trail is proposed along the north side of the valley. A critical design area of this trail alignment is located within the slope failure area. It is understood that the Village would like this trail to connect with other recent trail improvements to both the SOM Trail to the east and the Greenway Trail to the west.

Parkview Place Bank Stabilization, Lake Metropolitan Housing Authority. *Project Manager.*

The Chagrin River Bank Stabilization project restored approximately a 500-foot section of the bank along the Chagrin River. A section of river through this area was impaired due to eroding banks either from action by the river, or upper slope erosion due to the steep bank angles. The west bank in particular, was approximately 16-feet high and was threatening the sidewalk and buildings on the Lake Metropolitan Housing Authority (LMHA) property. To stabilize the eroding conditions, GPD used bioengineering solutions along the toe and the embankment of the river, as well as various stream stabilizing techniques. Temporary access grading was provided for access during construction but was removed and restored to its original conditions post construction.

NEORS, West Creek Stabilization and Restoration, Cleveland, OH. *Project Manager.* Project focused on the restoration of 1,000 linear feet of the channelized West Creek, 5-acre wetland estuary type habitat at the confluence with the Cuyahoga River. The improvements create a variety of aquatic habitats that increase the habitat diversity and dramatically increase the species diversity.



AREAS OF EXPERTISE:

Ohio EPA Biocriteria, Stream Fluvial Geomorphology, Restoration Design, Construction Oversight

YEARS OF EXPERIENCE:

With EnviroScience, 24 Years
With other firms, 2 Years

EDUCATION:

Master of Science, Biology, 2015,
The University of Akron

CERTIFICATIONS AND TRAINING:

Certified Ecological Restoration Practitioner (CERP)
Rosgen Applied Fluvial Geomorphology Levels I, II, III and IV, OEPA Qualified Data Collector Fish and QHEI Level 3, Ohio EPA's ORAM version 5.0 May 2005, 40 Hour HAZWOPER Training, MSHA Mine Safety Training

PROFESSIONAL AFFILIATIONS:

American Fisheries Society, Society of Ecological Restoration, Great Lakes Chapter

Julie Bingham will serve as the Restoration Design Manager. She is well-known in the industry for her ability to analyze existing conditions and develop predictive habitat and biological performance criteria for restoration designs. With years of experience focused in morphological assessment, restoration, design and implementation, Julie understands each stage of restoration projects including the actual construction implementation where her experience in heavy equipment operation and oversight makes the restoration design a reality. She is well-known in the industry for her ability to analyze existing conditions and develop predictive habitat and biological performance criteria for restoration designs.

RESTORATION DESIGN MANAGER/ RESTORATION LEAD

JULIE BINGHAM, CERP

ENVIROSCIENCE

Alternate Contact

PROJECT SPECIFIC EXPERIENCE

SMP, Valley View Stream & Wetland Restoration, Akron, OH. *Restoration Design Manager.* Two phase project restoring a former golf course for Summit Metroparks. NOAA funded project that saw a dramatic increase in floodplain storage, extensive in-stream fish habitat on over a mile of the Cuyahoga, ~3000 LF of headwater tributary restoration, wetland restoration and 50 acres of tree plantings.

Beechers Brook Restoration , North Chagrin Reservation, Gates Mills, OH. *Restoration Design Manager.* The Beechers Brook Restoration restored 350 lineal feet of stream and stabilize the erosion areas on both the right and left banks on the existing mainstem downstream of the box culvert. The stabilization areas were combined with angular rock toe protection, grading, and bioengineering to promote an integrated rock and vegetative slope. The first phase constructed in 2014 is performing well; however, heavy deer browse set back the tree growth and recruitment in 2018. The site constructed in 2018 was installed with various strata of trees and a perimeter fence to combat deer browse.

Bratenahl Vernal Pool and Wetland Mitigation, Bratenahl, OH. *Restoration Design Manager.* This Project entailed both on-site and off-site permittee-responsible wetland mitigation to compensate for losses associated with a large underground CSO tunnel storage project. The wetland mitigation occurred in three areas, with two being on-site and one off-site. The off-site mitigation occurred on private property immediately to the north of the site adjacent to I-90 in one of the last remaining mature remnant forests in Bratenahl. The first phase constructed in 2014 is performing well; however, heavy deer browse set back the tree growth and recruitment in 2018. The site constructed in 2018 was installed with various strata of trees and a perimeter fence to combat deer browse.



REST. QA/QC/ ENGINEER OF RECORD
MATT LASCOLA

GPD GROUP

Matt Lascola has 30 years of civil engineering experience, specializing in site development, watershed management and ecological restoration project types. Matt has extensive project experience involving sustainable design practices, erosion/sediment control practices, and natural stream restoration practices. He has a strong passion for preservation and restoration of our natural resources. Focusing on these objectives, he is an experienced project manager dedicated to the industry of stream and wetland restoration projects. Matt is a key team leader within the GPD Water Practice and provides management leadership to establish superior project production, Quality Assurance/Quality Control, and client delivery.

PROJECT SPECIFIC EXPERIENCE

- Summit Metro Parks, Valley View Stream and Wetland Restoration, Akron, Ohio
- Chagrin River Bendway Weir Restoration, City of Willoughby, Ohio
- Parkview Place Bank Stabilization, Lake Metropolitan Housing Authority
- Aurora Branch Chagrin River Restoration, City of Aurora, Ohio



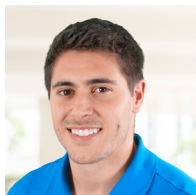
HYDRAULIC MODELING
JESSE RUFENER, PE, CFM

GPD GROUP

Jesse Rufener brings 21 years of civil engineering experience to the GPD team. His experience includes, but is not limited to, the design, permitting and construction administration for various site development projects, modeling riverine systems for restoration projects, floodplain studies, watershed studies, dam breach analysis, and sanitary/stormwater conveyance projects. Jesse has significant experience with numerous modeling platforms including HEC-RAS 1D/2D, HEC-HMS, and PCSWMM. He leads the team of modelers at GPD on all projects where modeling is involved. Jesse has worked on projects that required coordination with FEMA, state floodplain agencies, and local floodplain administrators.

PROJECT SPECIFIC EXPERIENCE

- Summit Metro Parks, Valley View Stream and Wetland Restoration, Akron, Ohio
- Aurora Branch Chagrin River Restoration, City of Aurora, Ohio
- Chagrin River Bendway Weir Restoration, City of Willoughby, Ohio
- Mill Creek Stream Restoration and Dam Removal at Highland Park Golf Course, Cleveland, Ohio



WATER RESOURCES ENGINEER
JOE LANNI, PE

GPD GROUP

Joe Lanni offers seven years of engineering experience and has been involved in many projects designing streams, rivers, and bank stabilization, sanitary sewers, storm sewers, and water mains. Joe primary focus has been on river and stream restoration projects. His experience has grown to include design, communication with clients and contractors, and coordinating design team members to keep projects on schedule and keep the design/plans of a project current. Building a strong background in plan development has allowed Joe to communicate effectively with others when questions or concerns arise, especially during the construction phase of projects. Joe’s experience also includes plan reviews, permitting, stormwater pollution prevention planning, and site inspections.

PROJECT SPECIFIC EXPERIENCE

- Mill Creek Stream Restoration and Dam Removal at Highland Park Golf Course, Cleveland, Ohio
- NEORS, West Creek Stabilization and Restoration, Cleveland, Ohio
- Parkview Place Bank Stabilization, Lake Metropolitan Housing Authority
- NEORS, Beechers Brook Bank Stabilization and Stream Restoration, Cleveland, Ohio



WATER RESOURCES ENGINEER
ANGELINA HOTZ, PE, ENV SP

ENVIROSCIENCE

Angelina Hotz is a registered engineer in Ohio and part of EnviroScience’s Restoration team, where she manages the design, engineering, and plan development of restoration projects. Since 2017, she has been the project engineer on numerous restoration projects, in both a design-build and design-bid capacity. With over 12 years of consulting experience, Angelina is versed in site civil design and grading, stormwater management plan development, MS4 compliance, hydrologic and hydraulic modeling, cost estimating, and project management. She is an advocate for implementing green infrastructure and sustainable designs in restoration and stormwater projects.

- PROJECT SPECIFIC EXPERIENCE**
- Cleveland Metroparks, Beecher’s Brook Restoration, Gate Mills, Ohio
 - Wetland and Vernal Pool Mitigation, Nine Mile Creek Watershed, Bratenahl, Ohio
 - Chagrin River Bendway Weir Restoration, City of Willoughby, Ohio
 - Chagrin River Restoration at Jackson Field, Moreland Hills, Ohio



LANDSCAPE ARCHITECT
ANGELA SHORT, PLA, ASLA

GPD GROUP

Angela Short’s primary expertise is in horticulture and site design, plan preparation for various trails and parks, restoration, retail, office, school, and green infrastructure projects. She specializes in creating outdoor spaces, native landscaping, and trail design. When designing a trail or park, she considers the user experience a top priority, including elements such as safety, aesthetic, wayfinding and interpretive signage, both the history and future of an area, energy of the space, and how the user connects from one place to another. She enjoys working with our clients and their community to create unique designs and collaborating with other professionals to create comprehensive designs that translate through the surrounding site and landscape. With her prior experience in the field, she is conscious about maintenance and functional landscapes in her designs.

- PROJECT SPECIFIC EXPERIENCE**
- Chagrin River Public Access, Erie Road Park, Eastlake, Ohio
 - Parkview Place Bank Stabilization, Lake Metropolitan Housing Authority
 - NEORS, West Creek Stabilization and Restoration, Cleveland, Ohio
 - Maple Highlands Trail, Chardon and Middlefield, Ohio



TRAIL DESIGNER
JOHN SLOAN

GPD GROUP

John Sloan has 14 years of experience performing design tasks for the construction of outdoor spaces. His primary focuses are in landscape design, archaeology, ecological restoration, and historic landscape interpretation. John has a diverse background working in various practices including ecological restoration, campgrounds, government, healthcare, retail and education. He has assisted with the completion of construction submittals, specifications, opinion of probable costs, earthwork analysis, utility pipe networks, corridor grading surfaces, construction details, site layout, site grading, landscape design, master planning, site development, and stormwater management.

- PROJECT SPECIFIC EXPERIENCE**
- RiverReach Construction, Inc., Chagrin Streambank Erie Road, Eastlake, Ohio
 - RiverReach Construction, Inc., NPS CUVA Bank Stabilization, Peninsula, Ohio
 - RiverReach Construction, Inc., WCC Cuyahoga River-Riverwood, Akron, Ohio
 - Northeast Ohio Regional Sewer District, West Creek Stabilization, Brooklyn, Heights, Ohio



STRUCTURAL ENGINEER
TOM WASHKO, PE

GPD GROUP

Thomas Washko joined GPD in 1990 after four years of co-op experience. He offers professional expertise in the field of structural engineering, including the design and rehabilitation of bridges, retaining walls, wastewater treatment plant structures, and other unique structures. He qualifies as a Level 2 Bridge Engineer with the Ohio Department of Transportation. Tom is also experienced in bridge waterway hydraulic analyses and public works projects including the design and review of civil site plans, stormwater detention, and the preparation of bidding and contract documents for municipal clients.

- PROJECT SPECIFIC EXPERIENCE**
- NEORSD, West Creek Stabilization and Restoration, Cleveland, Ohio
 - Pedestrian Bridges for Portage Hike and Bike Trail, Kent, Ohio
 - Cleveland Metroparks, Lake Link Trail, Cleveland, Ohio
 - Summit Metro Park, PPG Towpath Bridges, New Franklin and Barberton, Ohio



CONSTRUCTION PROJECT MANAGER
PATRICK G. ROHR

RIVERREACH CONSTRUCTION

Patrick Rohr is a valued member of our team, responsible for maintaining RiverReach Construction’s accounting, safety programs, project budgets and acts as a secondary point of contact for review, cost analysis and oversight/coordination of construction on all projects. Patrick effectively assists Shannon Carneal in the day to day operations of RiverReach Construction and Demolition Box and has expanded construction capabilities as a result.

- PROJECT SPECIFIC EXPERIENCE**
- SMP, Valley View Stream & Wetland Restoration, Akron, Ohio
 - Beechers Brook Restoration , North Chagrin Reservation, Gates Mills, Ohio
 - Chagrin River Restoration at Jackson Field, Moreland Hills, Ohio
 - Chagrin River Bendway Weir Restoration, City of Willoughby, Ohio
 - Highland Park Golf Course Restoration, Highland Hills, Ohio



CONSTRUCTION MANAGER
GREGORY M. GUELLO

RIVERREACH CONSTRUCTION

Greg Guello is an experienced construction manager for RiverReach Construction. He is responsible for project management, equipment scheduling and the on-site logistics of personnel and machines. Greg has overseen substantial dredging, stabilization and restoration projects including moving Euclid Creek back into its historic alignment and raising grade on Laurel Creek in Twinsburg. He has completed projects on time including complete home builds and commercial build outs along with site work and design-builds. Greg has a “hands-on” management approach and strives to follow every detail of each project for timely delivery of a successful construction project.

- PROJECT SPECIFIC EXPERIENCE**
- SMP, Valley View Stream & Wetland Restoration, Akron, Ohio
 - Beechers Brook Restoration , North Chagrin Reservation, Gates Mills, Ohio
 - Bratenhal Vernal Pool and Wetland Mitigation, Bratenhal, Ohio
 - Lampson Reservoir, Wetland Restoration, Ashtabula, Ohio
 - Aurora Branch Chagrin River Restoration, City of Aurora, Ohio



LEAD ESTIMATOR
COLE GUELLO

RIVERREACH CONSTRUCTION

Cole Guello has over six years of in-field construction experience with RiverReach. Since joining RiverReach full time in 2019, Cole’s role in the company has shifted towards project development, project management, estimating, and in-field quality control. His responsibilities include locating, estimating, and managing projects for RiverReach. Cole is also responsible for implementing and operating RiverReach’s use of GNSS equipment for project layout and constructed accuracy.

- PROJECT SPECIFIC EXPERIENCE**
- SMP, Valley View Stream & Wetland Restoration, Akron, Ohio
 - Beechers Brook Restoration , North Chagrin Reservation, Gates Mills, Ohio
 - Akron CSO Program Little Cuyahoga River Bank Stabilization, Akron, Ohio



PROCUREMENT OFFICER
JEFFREY ZANOLLI

RIVERREACH CONSTRUCTION

Over his 24 years of construction experience, Jeffrey Zanolli has developed impeccable skills in commercial construction. He is a dedicated, conscientious employee with the ability to complete your project in a professional manner while staying on budget.

- PROJECT SPECIFIC EXPERIENCE**
- SMP, Valley View Stream & Wetland Restoration, Akron, Ohio
 - Beechers Brook Restoration , North Chagrin Reservation, Gates Mills, Ohio
 - Aurora Branch Chagrin River Restoration, City of Aurora, Ohio



CONSTRUCTION OVERSIGHT
TOM PREWITT, M.N.R., CERP, CWB

ENVIROSCIENCE

Tom Prewitt is a Restoration Biologist at EnviroScience, where he uses his extensive experience to manage and oversee a wide variety of projects. His experience in biology, habitat management, construction, restoration, design, and implementation make him a valuable team member. Tom is a Certified Ecological Restoration Practitioner and Certified Wildlife Biologist using an ecosystem approach when implementing management and restoration projects. He has been integral in all aspects of restoration from design, permitting, implementation, reporting, and monitoring.

- PROJECT SPECIFIC EXPERIENCE**
- Wolf Creek Floodplain Restoration, Liberty Township, Ohio
 - Weisgerber-Pohlman Nature Preserve Restoration, Springfield Township, Ohio
 - Rush Run Stream Restoration and Stabilization, Shreve, Ohio



INVASIVE SPECIES SPECIALIST
MICHAEL MAREFKA

ENVIROSCIENCE

Michael Marefka provides project management and technical expertise for the vegetation components of environmental restoration projects, including the surveying and control of invasive species, Ohio Department of Natural Resources State Listed Plant Species identification, non-listed native vegetation identification and installation, as well as consultation for the conservation of sensitive natural areas such as bogs and fens. The diverse nature of his work demands proficiency with issues related to ecosystem identification, herbicide application, spatial analysis, and all things related. Michael’s ability to craft treatment methodologies that best reflect the challenges of unique ecosystems, while operating in a safe, efficient, and cost-effective manner, makes him an integral part of the EnviroScience team.

- PROJECT SPECIFIC EXPERIENCE**
- ODNR State Listed Plant Species Identification, Cleveland Museum of Natural History, 12,000 acres
 - Invasive Vegetation Mgmt., Long Lake Fen
 - Invasive Vegetation Mgmt., Native Vegetation Identification and Installation, Herbicide Application

K. REFERENCES

References are included on each project in Section I.