Ingenium

in JEN ee um: Latin. Natural disposition of talents. Root word for "engineer"

SPRING 2024

EMH&T

Demorest Road

Grove City Multi-Faceted Project Requires Multi-Disciplined Team

Comprehensive Planning for Public Infrastructure

A Brief Overview of Guidelines for Federally Funded Project Implementation

Federal Mussel Surveys

"Excellence without effort is as futile as progress without preparation."

William Arthur Ward

The quote above, spoken by the renowned American motivational speaker William Arthur Ward, struck a chord with me as we curated this issue of *Ingenium*, especially considering Ohio's remarkable position as a hub for technological and industrial advancement. Yet, as we witness these leaps in progress, we're reminded that without adequate preparation, such strides can falter.

We find ourselves constantly probing: Are our resources aligned to meet the burgeoning demand? Do we possess the workforce to sustain heightened production levels? Is our infrastructure—housing, utilities, transportation—sufficient to bolster these forward leaps?

Page 6 of this edition delves into the discipline of Comprehensive Planning for communities. EMH&T has been steadfast in supporting comprehensive planning endeavors across Ohio, notably in water management, transportation, and stormwater strategies. A meticulously planned infrastructure lays the groundwork for sustainable growth and advancement.

Throughout this edition, we spotlight various facets of astute preparation for progress. The City of Grove City, for instance, seized the opportunity to rejuvenate a vital corridor, crucial for fostering unity and bolstering the adjacent Park at Beulah community. Similarly, the City of Northwood spearheaded the redevelopment of an abandoned mall, transforming it into The Enclave, a vibrant multi-generational living space. As municipalities access unprecedented federal funding avenues, detailed in the article on page 8, we anticipate future editions of *Ingenium* to showcase a greater number of transformative endeavors.

Before signing off, I wanted to take a moment to welcome four savvy and talented professionals at EMH&T to the ranks of Partnership: Shawn Arden, Mike Brehm, Abby Cueva, and Amy Nagy. The future at EMH&T continues to be exciting and bright!

Sandy

Sandy Doyle-Ahern
President

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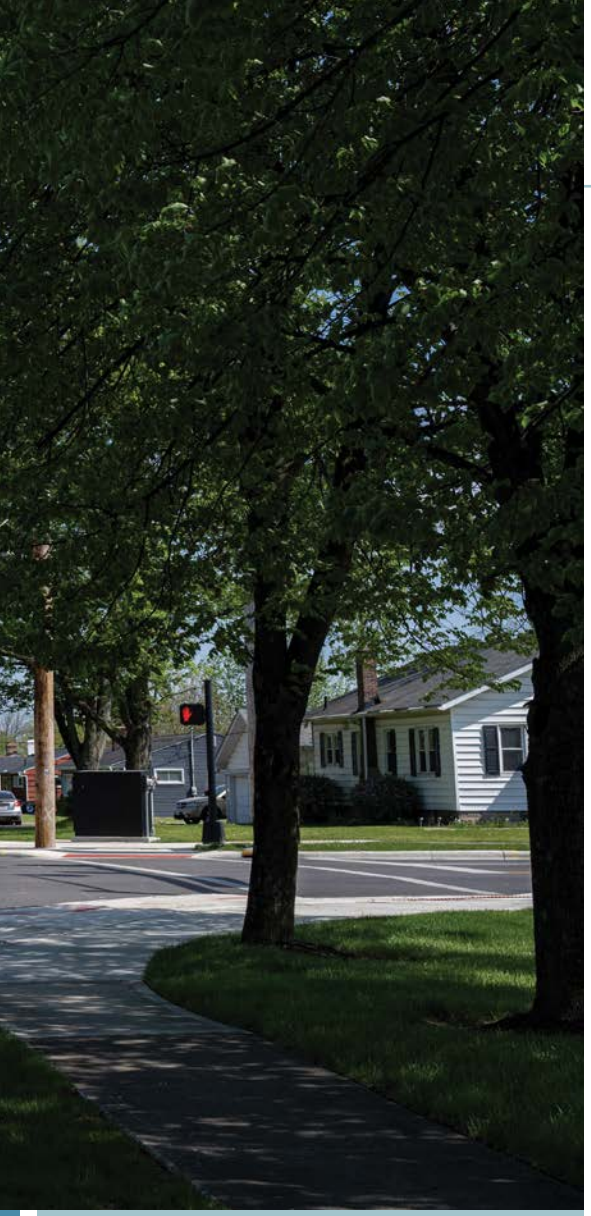

EMH&T-produced rendering of updated conditions.

The Demorest Road project in Grove City, Ohio exhibits every element vital to safe and effective public infrastructure.

The project showcases design for roadway, traffic, water, wastewater, structures, stormwater, floodplain, ecological restoration, and multi-mobility. The project also results in economic development, connectivity, safety, and sustainability.

"The Demorest Road corridor improvements were catalyzed by the general need for an upgrade, along with ongoing development in the area to provide greater transportation efficiency, safety, and environmental wellbeing for the community," said Grove City's Director of Public Service Cindi Fitzpatrick, PE, MPA.

A collaboration between the City of Grove City and EMH&T, Grove City's longtime contract municipal engineer, improving the Demorest Road corridor entailed three distinct yet interconnected components: providing improvements to the Demorest Road thoroughfare, upgrading the area sanitary and water lines, and renaturalizing West Water Run.

> **"Maintaining public safety was of vital concern during the Demorest Road corridor improvements as a number of factors, including the need to maintain access to a fire station located in the project area, required creative action planning."**
>
> **Cindi Fitzpatrick, City of Grove City**

Phase I

The Demorest Road improvements project took place across two phases. Phase I began with preliminary design in 2020 and focused on the area of Demorest Road between Rockledge Street to the south and Basswood Avenue to the north. The initial task during this phase was a preliminary alignment study for both the roadway improvements and the Mulberry Run Sanitary sewer extension.

During this phase, the Grove City Road and Demorest Road intersection was redesigned to upgrade the intersection with traffic signaling and lane widening. Design improvements included reconstructing the existing two-lane pavement section to three lanes with a center turn lane and lowering the road to incorporate curb and gutter drainage along with a storm sewer. The design also implemented a sidewalk on the west side of the road with a paved multi-use path on the east side of the road, and the addition of LED street lighting along the entire corridor. The Phase I designs called for replacing the bridge near the Anglebrook Drive intersection and extending the West Water Run stream culvert near the Breck Park access road.

Phase I saw the design team implement significant upgrades to the City's public utilities in the corridor, including the extension of the Mulberry Run sub-trunk sanitary sewer and replacement of a water main that had all but exhausted its usable life. The sanitary sewer extension was a long-planned improvement to decommission an aged and deteriorating pump station and improve the overall sanitary capacity for future development. In all, the utility work included replacing the storm sewer with a new 24" line, adding a 21" sanitary line, and a new 12" water main.

"Maintaining public safety was of vital concern during the Demorest Road corridor improvements as a number of factors, including the need

This EMH&T-rendering is one of several created to assist the City with communicating design intent to community stakeholders during public involvement activities.

PROJECT SCHEDULE

1. Preliminary Design – 2020 (Phase I and II)
2. Detailed Design, Phase I – December 2020 to August 2021
3. Funding Applications – September 2020 to August 2021
4. Land Acquisition – Early June 2021
5. Construction Phase I – October 2021 to November 2022
6. Private Utility Relocations – June 2021 to December 2021
7. Detailed Design – April 2022 to January 2023
8. Construction Phase II – March 2023 to November 2023
9. Entire Project Completed on Schedule – October 28, 2023

to maintain access to a fire station located in the project area, required creative action planning," said Cindi. "Both the contractor and the City's project team went to great extents to ensure public safety was maintained at all times."

Significant coordination took place with residents during intermittent utility shut-offs, driveway blockage, access to private property, and to answer any questions with regards to potential inconveniences or safety hazards. During construction, the contractor facilitated continuous access for emergency vehicles, postal service, local waste, and recycling.

During Phase I construction, each EMH&T Resident Project Representative (RPR) oversaw the implementation of over 12,400 square yards of asphalt pavement roadway reconstruction, 2,200 square yards of asphalt pavement resurfacing, installation of 6,200 linear feet of concrete curb and gutter, 20,600 square feet of concrete sidewalk, 162 cubic yards of asphalt shared-use path, 4,000 linear feet of storm sewer, 4,771 linear feet of sanitary sewer, 2,200 linear feet of water main and service connections, removal and replacement of a box culvert structure and extension of a 48" pipe culvert, and the installation of a new traffic signal and street lighting.

Phase II

The Phase II Demorest Road improvements project focused on the area of Demorest Road between Basswood Avenue to the south and Southwest Boulevard to the north. Phase II further extended the improvements of Phase I northward, including roadway reconstruction and lowering the roadway to include three vehicular lanes, adding curb and gutter, installing a new storm sewer, LED street lighting, a sidewalk, and shared-use path.

Prior to the Demorest roadway and water line improvements, West Water Run underwent 4,250 linear feet of significant renaturalization. The restoration of this watercourse reconnects the channel to a natural floodplain, and provides a functional 160-foot wide riparian corridor within a city park. The restored stream channel has a smaller cross-sectional area than the existing 'ditched' channel, which improves sediment transport and promoting access to the re-connected floodplain.

Solutions Delivered

In total, the Demorest Road corridor improvements cost $11,891,670 with a large portion coming from grant funding that was acquired through the assistance of EMH&T's grant writing team. Overall, the improvements of Demorest Road included widening the roadway from two 10-foot lanes to three 11-foot lanes with a center turn lane, upgrading from rural ditch shoulders to curb and gutter, upgraded storm sewer and sanitary service, the addition of a sidewalk and shared-use path, and providing LED street lighting to the entire corridor. The project's upgrades provided Grove City with greater vehicular traffic safety and efficiency, renewed utilities, greater pedestrian connectivity to community amenities, and increased safety throughout this corridor.

Improvements were completed within budget and on schedule, ending October 28, 2023.

"The Demorest Road project is a prime example of a necessary and successful public works project," said Cindi. "EMH&T did a great job of bringing the full array of disciplines to bear while also managing the coordination of so many moving parts." ■

For more information on complex roadway reconstruction and multi-modal safety for your community, contact Ryan Andrews at 614.775.4555 or randrews@emht.com.

The project's upgrades include a shared use path and sidwalks, which provide Grove City with greater pedestrian connectivity to community amenities, and increased safety throughout this corridor.

Building the Future

Comprehensive Planning for Public Infrastructure Improvements

Central Ohio and other metropolitan areas throughout the State of Ohio are at a pivotal moment in terms of anticipating population growth and expanding urban areas. Expected growth will increase the demand on existing infrastructure and poses significant challenges in planning and building for the future. At the same time, many communities are dealing with aging infrastructure and regulatory requirements impacting their capital budgets. The business-as-usual approach of addressing these issues based on criticality and available funding is leaving many communities without the resources to properly plan for the future. Comprehensive planning is essential to address these challenges and ensure that Ohio communities remain resilient, sustainable, and prosperous for generations to come.

"Infrastructure forms the backbone of any community, providing essential services and supporting economic activity, social well-being, and quality of life," said Miles Hebert, EMH&T's Director of Infrastructure Pursuits. "From transportation networks and utilities to public facilities and green spaces, infrastructure plays a crucial role in shaping the built environment and influencing how people live, work, and interact within their communities."

Understanding Comprehensive Planning:

Comprehensive planning is a holistic approach to anticipating community development that considers various factors, including land use changes and the impacts on transportation, housing, economic development, environmental sustainability, and social equity. It involves long-term visioning, goal setting, and strategic decision-making to guide growth and development in a coordinated and integrated manner. Comprehensive planning involves elected officials and other community leaders, local planning and engineering staff, and consultants well-versed in the collection and review of data to develop meaningful projections of infrastructure needs. Combining these needs with potential funding sources will define how the plan can be implemented and sets the community on a course to be prepared for future needs while also addressing existing infrastructure deficiencies.

Examples of how comprehensive planning can pay dividends to a community and the larger

region are found in identifying and prioritizing roadway improvements. Addressing immediate safety issues while also considering the future capacity needs of a roadway corridor can allow the community to plan for improvements that will not become obsolete in a short period of time. Replacing or expanding existing water and sanitary sewer systems should also consider potential future users and how that may impact downstream systems, and water and wastewater treatment plant capacity. Addressing individual stormwater and flooding issues should be part of a master planning effort to understand how future development can be factored into resolving existing issues and preventing new issues from occurring as land use density increases.

"Rapid growth presents both opportunities and challenges for infrastructure planning and development," said Miles. "Urban sprawl, traffic congestion, aging infrastructure, environmental degradation, and adequacy of utility services are among the key challenges that need to be addressed through comprehensive planning efforts."

Planning for the Future:

To effectively plan and build infrastructure for the future, communities must adopt a forward-thinking approach that considers long-term population projections, emerging technologies, and evolving community needs. Historically, this process has started with updating land use and zoning plans to identify emerging commercial and residential development areas. This process, by itself, exposes the planning process to input from various stakeholders, including local officials, business owners, and residents, creating a foundation for a more detailed evaluation of infrastructure needs. Sometimes, the planning process is driven by more tangible needs, such as siting of major industrial facilities in close proximity to a metropolitan area. Growth encourages growth and the lack of comprehensive planning can quickly lead to inadequate infrastructure in a robust economic environment.

EMH&T has guided our municipal clients through the planning process by evaluating growth potential through both urban renewal and expanding utility service areas, as well as evaluating transportation corridors on a regional scale to support projected growth. Understanding the intricacies of public infrastructure and the needs of the development community has allowed EMH&T to provide realistic assessments of land use changes and the impact on existing utilities and roadways, while also developing environmental protection measures influenced by established and anticipated regulatory requirements.

"Lack of timely comprehensive planning creates the potential for missed opportunities related to public-private partnerships and other forms of funding collaboration to ensure responsible development coupled with necessary infrastructure upgrades," said Miles. "Managing development and accommodating development are different things; having a playbook will create transparency for community officials and planners when making important decisions that foster growth."

Creating Community:

Open space and park amenities are an essential element of any community. Understanding the interconnectivity of neighborhoods, parks, and business districts through safe pedestrian and bike trails is a quality of life issue that is a vital component of a comprehensive planning process. Providing accessible park spaces and activities catering to a wide diversity of users expresses the compassion of a community. EMH&T places a high priority on understanding the needs of a community for open space, considering the availability of land and the application of park uses that blend with the natural environment. Leveraging grant funding to fully realize the opportunities for open space land acquisition and park enhancement has allowed EMH&T to assist our municipal clients in fulfilling their commitment to provide recreational amenities to their residents.

Conclusion:

The future economic prosperity of a community depends on its ability to plan for and build infrastructure that meets the needs of an expanding and diverse population. By embracing the comprehensive planning process and working collaboratively across sectors, a community can create a framework for sustainable growth that is not limited by a lack of public infrastructure capacity, and reflects vital stakeholder input. ■

To discuss a comprehensive approach to meeting your community's infrastructure planning needs, contact Miles Hebert at mhebert@emht.com or call him at 614.775.4205.

The Enclave: Planned for the Future

The City of Northwood, an eastern suburb of Toledo, is breathing new life into the site of the former Woodville Mall.

The 120-acre site was once a vacant eyesore after the mall failed and quickly fell into a blighted state. Situated near the town's center, the area underwent a significant transformation and is now ripe for redevelopment. The Enclave, as it is now known, will eventually include retail, restaurants, office space, greenspace, and residential. This new mixed-use neighborhood is designed to "age-in-place," meaning it will offer amenities for virtually every stage of one's life.

The Woodville Mall permanently closed in 2012 and remained abandoned for many years until the City stepped in and bought the property for $200,000 with the hopes of revitalizing the area. The City had the former mall demolished and arranged for the asbestos abatement of 18-acres of the site.

THE VISION

Northwood Mayor Ed Schimmel had a vision for the derelict site. It was necessary for the City to take an active role in rehabilitating the site because it was simply too great a financial risk for one developer. The City took on the responsibility of cleaning up the site and preparing it for

redevelopment, which meant the City also took on a large financial burden.

The primary goal was a new neighborhood in the community that offered a variety of amenities along with a "Main Street" town center. The core idea for the site was to offer the community an inclusive place to live, work, and play.

This vision, however, was initially met with residents' skepticism. As the costs associated with the redevelopment were revealed, opposition began to mount because many were uncomfortable with the price projections. The city, for its part, was able to secure a grant from the State of Ohio and private funding to ensure levies, tax increases, and public funding were not needed to make the necessary improvements to encourage private development. The grant was able to cover the entire cost of the mall's demolition and asbestos abatement, while private funding covered the necessary infrastructure improvements, including sanitary sewer, stormwater, watermain, roadways, site clearing, and preparation for development.

City of NORTHWOOD OHIO

REGIONAL MULTIPURPOSE RINK FACILITY

"We wanted to invest in our community and build something that the residents and visitors of Northwood can enjoy and be proud of. With The Enclave, we don't just get a new neighborhood, we now have a destination for the entire community."

City of Northwood Mayor Ed Schimmel

THE CONCEPT

EMH&T's Joe Looby, PLA, LEED Green Associate, was brought on to perform master planning duties for the development in 2018. Joe was chosen for his demonstrable knowledge of both the City of Northwood and Wood County, along with his strong private development experience. Joe successfully met the City's desire to exhibit a strong development conceptualization and effectively see the plan through to completion.

It was not initially clear what should be done with the 120-acre site. Various options were considered including a large manufacturing facility and even a golf course, however, it was Mayor Schimmel's vision that won out– Northwood needed a neighborhood that offered a wide variety of amenities. Northwood has lacked any new housing for over a decade, which resulted in a constrained demand. The development of The Enclave serves to quell this constraint by offering the area fresh housing options located within walking distance to new entertainment, work spaces, and even a community center in an area that offers great schools and low crime.

"We wanted to invest in our community and build something that the residents and visitors of Northwood can enjoy and be proud of it. With The Enclave, we don't just get a new neighborhood, we now have a destination for the entire community," said City of Northwood Mayor Ed Schimmel.

The Enclave provides Northwood with a Main Street town center, which it had always lacked. It also offers the City ample civic and green space to serve as a gathering place for farmers markets, parades and other community events, making it Northwood's place for its residents to gather.

EMH&T designed the layout for The Enclave to feature numerous amenities, including: a new community center, multi-family homes, a traditional platted lot neighborhood, medical and other professional offices, and senior living facilities, in addition to a mix of commercial and hospitality establishments to round out Main Street.

"The Enclave is unique because it is a neighborhood where a recent college graduate can get his or her first apartment, then move to a three, four-bedroom house, and then become an empty nester and relocate to the 55 and older community," said Joe. The Enclave offers residents a long-term residential solution for a wide variety of needs.

THE DEVELOPMENT

Once the mall was demolished and a concept for the development was approved, construction was able to begin. The first thing to take shape was the entryway. Joe and the EMH&T team designed an inviting entryway with stone facades and a bridge over two water features for Main Street which figures prominently in The Enclave. The community center located within the neighborhood sits on Main Street and serves as the anchor for the overall development. It will officially open in May.

The common areas of The Enclave feature brick streets, sidewalks, extensive landscaping, and site furnishings, in addition to a large clock tower that will be located in the center of The Enclave. EMH&T designed a four seasons "ice" rink to function with and without ice to serve as a multi-use shelter house, and an interactive fountain splash pad for residents to utilize in the warmer seasons.

The Enclave design kept diversity and inclusivity in mind. The design of the development takes into consideration myriad tastes, preferences, and needs. "The Enclave is inclusive because it offers housing options with different price points, different floor plans, and it's located near restaurants and a little nightlife but also offers quiet areas," said Joe. "The Enclave has something for everybody."

The Enclave exhibits a great deal of collaboration between the City of Northwood, the planner to spur economic development, and the site designer to bring the project to fruition. EMH&T provided concept and site design as a catalyst for development. In all, EMH&T provided master planning, detailed design for the community center, streetscape design, landscape architecture, structural detailing of the entryway, and rendering and visualization as a means for community outreach.

With necessary infrastructure installed, all a developer has to do is come in stake what they want and begin to build. In total, The Enclave is projected to generate a $40-$50 million investment. ■

To learn more about EMH&T's planning and landscape architecture services, contact Joe Looby at jlooby@emht.com or 614.775.4706.

In all, EMH&T provided master planning, detailed design for the community center, streetscape design, landscape architecture, structural detailing of the entryway, and rendering and visualization as a means for community outreach.

HOW TO SPEND FEDERAL MONEY

A Brief Overview of Guidelines for Federally Funded Project Implementation

There is more infrastructure funding available to communities than ever before.

Signed into law in 2021, the Infrastructure Investment and Jobs Act (IIJA) provides funding for a wide range of infrastructure projects, which are divided into five categories of improvements: transportation, water, energy, broadband, environmental infrastructure, and resilience and disaster mitigation. The bill increases federal spending on infrastructure projects by $550 billion over the next 10 years. This influx of financial resources means that many projects that were previously ineligible or left unfunded may now receive funding and many communities are being exposed to the guidelines and restrictions of federally funded projects for the first time. While specific guidelines may vary depending on the nature of the project and the agency responsible for administering the funds, there are some general guidelines that communities awarded federal funds should follow:

Federal funding takes many forms.

Project funding may be in the form of a grant or award of many names, and as the recipient, you need to know the name of the program, the awarding agency, and the source for the funds. Transportation funds, for example, may be awarded through the Ohio Department of Transportation, but are actually federally-allocated dollars for certain programs such as the Highway Safety Improvement Program. In addition, all agencies have different nuances in requirements for obtaining a release of funds

Consultant procurement is a fair process.

Quality Based Selection (QBS) is the process by which communities procure a professional services consultant through an open and transparent process. QBS requires the community to publicly issue a Request for Qualifications (RFQ) through its website, newspaper notice, or project search engine such as BidSync or GovWin. Responses are then reviewed and officially ranked based only on qualifications. Project fees or price quotes are not included with the response for an RFQ and cannot be the basis for professional services selection.

Federal funding comes with requirements for transparent and accountable use of funds.

Communities must ensure that their projects comply with all specific federal funding requirements. This may include meeting certain eligibility criteria, adhering to specific funding allocations, and following any regulatory guidelines and reporting guidelines set forth by the relevant federal agencies or federal programs. Communities are expected to use federal funds transparently and accountably. This includes maintaining accurate records of expenditures, providing regular updates on project progress, and adhering to any reporting requirements specified by the funding agencies.

Projects must address environmental and social considerations.

The National Environmental Policy Act (NEPA) is a cornerstone environmental law enacted in 1970, serving as the fundamental framework for integrating environmental considerations into federal decision-making processes, including infrastructure projects. The act mandates an analysis of a project's impacts to the human and natural environment, and compliance with an array of other federal laws. Projects must demonstrate an analysis of alternative actions and allow for public participation in the decision-making process. NEPA compliance includes environmental assessments, engaging with stakeholders and public involvement activities, and mitigating any adverse effects on the environment or local communities.

It is vital to consider and initiate the NEPA process as early as possible in the project timeline due to the fact that both environmental and social considerations may have design impacts. Additionally, there typically are other agencies, such as the US Fish and Wildlife Service, that will need to conduct reviews and provide approvals prior to NEPA clearance. In addition, Final Design and Right of Way acquisition cannot be started until environmental clearance is obtained.

Collaboration and partnerships provide a win for you and for your project.

Collaboration and partnerships with other stakeholders, including local governments, businesses, nonprofit organizations, and community members, can enhance the success of the project. In addition to being a key element of the NEPA process discussed above, a robust public involvement program can assist in community buy-in and ownership of a well-communicated project.

These projects require effective project management.

Effective project management is essential for federally funded projects. If communities are not familiar with the federal requirements, it is critical to either hire a knowledgeable consultant with federally funded project experience, or ensure that in-house staff is well-versed in the requirements of the project's specific funding agency. An experienced consultant will help communities develop clear project plans, establish realistic timelines, and ensure the project meets all obligations in order to obtain the awarded funds.

Overall, communities awarded federal funds from any agency or program should approach their projects with a commitment to transparency, accountability, equity, and efficiency to ensure that the funding is used to address critical infrastructure needs and promote economic growth and prosperity. The penalty for not complying (loss of funding, project delays, public frustration, etc.) may jeopardize future federal funding opportunities. ■

For more information on implementing your project, contact our NEPA and federally funded project experts Christy Pirkle at 614.775.4516 or cpirkle@emht.com, or Mike Krokonko at 614.775.4509 or mkrokonko@emht.com.

Malacologist Jordan Myers, MS

EMH&T Now Conducts Federal Mussel Surveys

EMH&T's Environmental Services Division personnel recently obtained a Federal Recovery Permit from the U.S. Fish and Wildlife Service (USFWS) that will allow our talented team of professional malacologists to expand mussel survey services to include a variety of mussels with the Federal "threatened and endangered" designation.

Native freshwater mussels, whether endangered or common, are protected by state law in Ohio. Ohio is also known to be within the range of twelve mussel species designated as federally "threatened" or "endangered," with more proposed to be listed in the future. "The mussel survey and relocation process is a critical component to many projects that will impact an Ohio waterway," said Senior Environmental Scientist Christy Pirkle, MS, Principal. Regardless of the client or funding, if work could potentially impact a waterway inhabited by mussels in Ohio, a mussel survey and relocation is required to be performed prior to any in-stream construction work. Mussels possess only limited mobility, and so it is crucial that they are relocated prior to construction work to avoid losing populations of these animals.

Mussel survey work is highly collaborative and physically demanding. It often requires long, arduous days in the field, spending hours in water. In addition, mussels are a challenging animal taxon to learn how to identify and the training, testing process, and experience requirements to become a state and/or federally certified mussel surveyor is extensive. Despite this, individuals that perform mussel surveys have a passion for the work, and mussel survey season is something that EMH&T Environmental Division team members look forward to each summer.

"According to the Ohio Mussel Survey Protocol (OMSP), which dictates how all mussel surveys are performed in the state, all streams are split into one of five groups: Groups 1, 2, 3, 4, or unlisted," said Environmental Scientist and Malacologist Jordan Myers, MS. Groupings are determined by stream size and the expected presence of federally listed species. The expected presence of federally listed mussels in any stream is derived from historical data. Groups 1 and 2 are smaller order streams, whereas Groups 3 and 4 are larger order streams. Groups 1 and 3 are streams not expected to contain federally listed species, whereas Groups 2 and 4 are streams that are expected to contain them. The OMSP contains an extensive Ohio Mussel Stream List, which organizes stream names and group assignments by County. Each year, a revised OMSP is released by ODNR, in collaboration with the USFWS.

The system of groupings helps to protect threatened or endangered species that are expected to be present in Group 2 and Group 4 streams by ensuring those systems are adequately surveyed using more thorough techniques. In many situations, Group 2 and Group 4 streams are going to maintain special habitats conducive to the survival of those federally listed mussel species. It is important, as a surveyor, to be aware of that and be on the lookout for the correct habitat types for the different possible species in that watershed.

The Olentangy River illustrates the differences how the expectation of federally listed mussel species can change within even one stream. The Olentangy River is considered a Group 1 stream in Franklin County. So that means it is not expected to contain federally listed species. But go a few river miles upstream into Delaware County, and the stream is a Group 2 stream—there it has records of federally listed species. So, doing mussel work on the Olentangy requires only a state certification in Franklin County but a federal recovery permit in Delaware County.

Ohio offers a rich diversity of mussel species compared to many other states because it is located between the Ohio River and Great Lakes drainage basins. "While Ohio does contain a large number of mussel species, mussels overall are not doing well. More and more are being added to the Federal Endangered and Threatened list, as well as state level listing, meaning that over time, the need for Group 2 and Group 4 surveys is only going to increase," said Jordan.

Mussels have a bizarre life cycle that can make their distribution difficult to visualize. During a mussel's larval stage, they attach to the gills of fish or sometimes salamanders and parasitizing, but causing little to no harm to the host. Once mature, the mussel will drop off the host and wherever it lands is generally where it will live, unless other environmental factors cause it to relocate. Mussels can be found in all stream and ditch substrate types—from mucky silts to clean cobbles—and can be found in varying densities, from isolated individuals to dense "mussel beds" (where hundreds to thousands of mussels may exist in one area).

Prior to our staff's acquisition of the Federal Recovery Permit, EMH&T was only able to lead mussel surveys in Group 1 and Group 3 waterways because federally listed species were not expected to be present. However, with a federally permitted malacologist now on staff, EMH&T has gained the ability to conduct mussel surveys on every waterbody across the entire state. ■

To learn more about EMH&T's Environmental Division and mussel survey capabilities, please contact Christy Pirkle at cpirkle@emht.com or 614.775.4516.

Round Hickorynut
Obovaria subrotunda

THE FUTURE CONTINUES TO BE EXCITING AND BRIGHT

EMH&T is pleased to announce the newest company shareholders: Shawn Arden, Amy Nagy, Abby Cueva, and Mike Brehm. These individuals have exhibited strong leadership, superb client service, understand the depth and breadth of the firm, and possess the business acumen necessary to maintain the company's forward trajectory. We are thankful for all these four have done for the firm during their career and appreciate their willingness to serve EMH&T in this capacity. There is no higher achievement at EMH&T and we believe this group is more than deserving. The EMH&T future continues to be exciting and bright!

Abby Cueva, PE, leads as the Director of EMH&T's Transportation Planning and Design Division, leveraging over two decades of expertise in transportation solutions. Her role encompasses guiding preliminary engineering efforts through final design phases for large-scale, multi-million-dollar projects, serving ODOT and municipal clients across Ohio. Supported by a seasoned team of transportation and structural engineers well-versed in ODOT criteria and practices, Abby exhibits exceptional leadership not only within project teams but also as a mentor for her Division and a pivotal member of the firm's highest echelon. Her steadfast dedication to enhancing the firm's transportation engineering services has resulted in some of the highest ODOT consultant evaluations in the state.

Shawn Arden, PE, CFM, LEED AP, is the Director of EMH&T's Water Resources Division, boasting a distinguished professional trajectory spanning over two decades dedicated exclusively to the realm of stormwater and floodplain management. Shawn has a wealth of expertise in a myriad of domains, including riverine hydraulic studies, waterfront infrastructure design, flood risk assessment and mitigation, as well as safety enhancements for dams and levees. His portfolio also encompasses streambank stabilization initiatives and the orchestration of ecological restoration projects, underscoring his holistic approach to environmental stewardship. Shawn's unwavering commitment extends to the development of sustainable solutions tailored to address the multifaceted challenges inherent in infrastructure management.

Amy Nagy, PE, is a Senior Project Manager in EMH&T's Commercial Development Division. Her expertise permeates every phase of project development, from conceptualization to construction, ensuring seamless execution throughout the project lifecycle. With a wealth of experience spanning diverse market sectors, including healthcare, commercial/industrial, mixed-use, high-density residential, and corporate offices, Amy brings a versatile skill set to the table. Amy's leadership extends to managing multiple interdisciplinary design teams, orchestrating the intricate coordination of public infrastructure improvements vital for project support, and on-site infrastructure enhancements essential for seamless integration. Her adeptness at navigating and adhering to jurisdictional requirements ensures timely approvals and propels her projects forward with unwavering momentum.

Mike Brehm, PE, is EMH&T's Director of Transportation Partnerships. With an unwavering commitment to excellence, Mike has cultivated a sterling reputation for unparalleled client service, distinguished by his adeptness in shepherding projects seamlessly through the intricate phases of planning, programming, and design. Leading a dedicated team of transportation engineering experts, Mike has spearheaded the successful delivery of a myriad of projects spanning diverse clientele, including state agencies, private enterprises, municipalities, and county engineers. His portfolio is distinguished by its breadth, encompassing endeavors that traverse multiple jurisdictions and funding sources, with a steadfast focus on fostering economic development and infrastructural advancement.

Shorts

NEORSD General Engineering Services (GES) IV Win

Earlier this year, EMH&T was awarded a five-year GES contract with the Northeast Ohio Regional Sewer District (NEORSD). Our firm has provided professional engineering and environmental consulting services to NEORSD since 2018 in support of NEORSD's implementation of their Regional Stormwater Management Program. Through this contract, EMH&T will continue to provide stormwater planning and design services to address urban flood risk, improve water quality, and stop stream channel erosion. Services may be provided for projects that include: stream restoration, flood control, stormwater conveyance, stormwater infrastructure, floodplain restoration, erosion control, and bank stabilization improvements.

MWCD Tappan Lake Area 4 Campground Win

EMH&T's Planning and Landscape Architecture Studio is leading a project for the Muskingum Watershed Conservancy District (MWCD) for design services for the Tappan Campground Area 4 Development project in Harrison County, Ohio. Project Manager and Director of EMH&T's Planning and Landscape Architecture Studio, Jim Dziatkowicz will lead the team with 32 years of experience strengthening the connections between people and the places they share. This campground project will provide upgrades to one of the park's current campground facilities, while maintaining strict sensitivity to the site's natural features consisting of an established stream corridor, mature tree canopy, significant topography, and other natural features serving as focal points. The timing of this project is significant to note as the same team recently completed the planning, design, engineering and construction of the Caesar Ford Park campground project for the Greene County Parks & Trail District.

SWACO GES Contract Win

Another win for the Public Works Division was the Solid Waste Authority of Central Ohio (SWACO) civil-related General Engineering Services (GES) Civil Engineering and Surveying contract. The SWACO district includes Franklin County and five adjacent counties that operate a Subtitle D sanitary landfill with an allowable maximum daily capacity of 8,000 tons and two waste transfer stations with a combined capacity of approximately 2,000 tons per day. EMH&T will provide GES as needed at SWACO's facilities through 2026.

ODNR London Fish Hatchery Renovation

EMH&T's Public Works Division was recently awarded by the Ohio Department of Natural Resources (ODNR) the London Fish Hatchery Renovation project. The state operates six fish hatcheries and the London location is over 80 acres in Western Madison County, with 33 ponds totaling eight water acres. The hatchery project is an infrastructure renewal project for the outdated facility with aging infrastructure that produces a variety of fish (muskellunge, rainbow, and brown trout) year-round. EMH&T will work with ODNR throughout the design and construction phases of the project to achieve the goal of replacing aging water supply piping within the allocated construction budget, while also maintaining on-site fish production.

Genesee & Wyoming Contract Win

EMH&T's Industrial and Logistics Division has recently won a contract with Genesee and Wyoming Railroad Services, Inc. (GRSI), a subsidiary of Genesee & Wyoming, Inc. (G&W), to provide General Engineering Services (GES) for various state and federally-funded railroad track and bridge projects across the G&W system. G&W recently celebrated its 125th anniversary, and owns or leases more than 100 regional or shortline railroads worldwide. The majority of the railroads are located in North America, where EMH&T will perform various railroad engineering and environmental services on an as needed basis throughout the Midwest and Northeast United States.

Giving Back

EMH&T continues its commitment to give back to the communities where we live and work. The firm offers employees paid time off so they can participate in a wide variety of charitable efforts. Here's a look at how some of our staff have recently given back:

Homeport for the Holidays

EMH&T's annual ugly sweater contest raises money to support the Homeport Winter Wishes Program, providing winter clothes and necessities for those in need. Employees donate their time and talent to craft a sweater to be bid on amongst staff throughout the office. This year, thanks to the team, we were able to donate $6,000 to Homeport for this important cause!

Ronald McDonald House

Laura Sparks, Cara Tammaro (Human Resources), and Lisa Balch (Receptionist) donated their time and talent by volunteering to help with various tasks at the Ronald McDonald House.

South-Western Career Academy

EMH&T showcased several different career fields the company has to offer to students at South-Western Career Academy. Brandon Bihlman (Construction Services), Brandon King (Survey), and Cory Svatosky (Public Works) presented their expertise within their fields, and discussed the importance of internships to over 20 students of the Engineering and Robotics class.

Annual Coat Drive

Each year EMH&T's Development I Division holds a Coat Drive to collect and donate coats to an organization that is in most need. The Coat Drive began as a historic function of EMH&T, and today Anthony Rhodes and Derick Moseley lead the Coat Drive collection efforts. Once donations begin rolling in, Anthony and Derick perform quality control to ensure that all the coats are fit to be donated by inspecting each coat for any defects, including any holes and all the zippers are functional.

The team accepts collections year-round but only donate three times a year—typically November, December, and January. To date the group has collected 2,050 coats since 2005 with no plans to wind down because coats will always be in need. The Coat Drive has become something of a tradition at EMH&T as it speaks to our culture of giving back and assisting where we can. It also plays a role in bringing divisions together to interact and collaborate for a worthy cause.

People In The News

Jennifer Brown, CCM, Promoted to Director of Construction Services

Join EMH&T in congratulating Jennifer Brown's promotion to Director of Construction Services. Jennifer has 19 years of experience in the construction field with significant knowledge of project inspection, project and records management, report generation, and client services. She received her Certified Construction Manager (CMAA) accreditation in 2020. Certified by the American National Standards Institute National Accreditation Board (ANAB), Jennifer understands effective management techniques to the planning, design, and construction of a project from inception to completion, improving the delivery of the built environment. She has 20 years of experience working for consulting engineering firms in Ohio, always holding a construction services role for public and private clients. When Jennifer isn't working she enjoys spending time with her 4-legged babies, outdoors camping/hiking, and taking road trips.

Contact Us

Contact EMH&T today to schedule a visit at your office. You can reach us at **614.775.4500** or by email at **info@emht.com.**

You are also welcome to contact any of the experts identified at the end of each article in this issue of *Ingenium*.

Follow us on LinkedIn

Joining the Team

K. Hiatt

Kari Hiatt, PLA, ASLA, brings more than a decade of experience as a Landscape Architect to EMH&T. Kari earned her Master of Landscape Architecture from The Ohio State University and she has a Bachelor of Science in Advertising and Photography from Grand Valley State University.

A. Brandon

Amanda Brandon, AICP, joined EMH&T as an Urban Planner. Amanda earned her Master's of Science in Urban and Regional Planning (with a specialization in Environmental Planning), at Florida State University. She also has a Bachelor of Science in City and Regional Planning from The Ohio State University.

J. Miller

Jennifer Miller, PE, has been hired as a Senior Engineer with EMH&T's Transportation Planning and Design Division's Structures Group. Jen has 25 years of public agency bridge expertise. She earned her Bachelor of Science in Civil Engineering from The Ohio State University and is currently enrolled at Ohio University to earn her Master of Science (MS) in Civil Engineering.

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OHIO stormwater conference 2024

May 8-10, 2024
Kalahari Resort and Conference Center
Sandusky, OH

Thursday, May 9, 2024 | 4:30 p.m. to 5:30 p.m.

Municipal Waterways Maintenance Program Development and Implementation

James Akins, CPESC

The City of Dublin, Ohio, has instituted a Waterways Maintenance program addressing the removal of stream blockages, channel erosion, and riparian corridor enhancements. This presentation will focus on how the City has successfully developed this program and provide a summary of the maintenance projects planned and implemented to date.

Visit us at Booth 401