

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

Ingenium

SPRING 2021

A PUBLICATION OF EMH&T ENGINEERS, SURVEYORS, PLANNERS, SCIENTISTS



Whitehall's Redevelopment Renaissance

NPDES Small MS4 General Permit Update

Structures Engineering for County Engineers

**Stream Relocation Facilitating
Economic Development**



Good government is one of the most important factors in **economic growth** and **social well-being**.



These words from successful businessman and entrepreneur Joe Lonsdale explain the continued and sustained growth in so many Ohio communities. Leadership in our counties, cities, and townships diligently supports investment in the infrastructure that drives economic growth, which in turn, drives social well-being.

A shining example of good government driving economic development is the City of Whitehall in Central Ohio. Whitehall is a land-locked community, surrounded entirely by the City of Columbus, so economic development comes in the form of re-development. Director of Development Zachary Woodruff and Mayor Kim Maggard are meeting and overcoming the challenges to attract thriving businesses, grow the City's income tax base, and make meaningful public infrastructure improvements. Read about the renaissance of Whitehall beginning on page 10.

An interesting spin on the tale of economic development is unfolding in Dublin, Ohio. The US-33 corridor has seen significant new development over the past several years. The 122-acre Rings Farm Site project is a new development designed to create several shovel-ready sites for a range of facility types for large innovation companies. The City recognized that a stream running through the middle of the site limited potential, so they turned to EMH&T. Our water resources engineers literally moved the stream while ensuring a healthy ecosystem, and maximizing site potential. Read about the Rings Farm project on page 4.

Lastly, please take a moment to refresh your understanding of the new NPDES MS4 General Construction Permit. Ingenium covered the proposed permit in Spring 2020, which has been adopted and became effective April 1, 2021. The clock began ticking for MS4 communities across the state, so the article on page 2 is a must-read.

There are other tales in these pages that I will let you discover on your own. The one thing every story in this issue has in common is the positive message for a bright future.

A handwritten signature in black ink that reads "Sandy". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Sandy Doyle-Ahern

President

Ingenium

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NAVIGATING COMPLIANCE WITH NPDES SMALL MS4 GENERAL PERMIT UPDATE

Time Is Of The Essence With New Requirements

The current version of the general permit for Small MS4 (Municipal Separate Storm Sewer System) municipalities became effective on April 1, 2021 (permit no. OHQ000004). Communities with previous permit coverage are required to obtain coverage under this new permit by submitting a Notice of Intent (NOI) within 90-days of the permit effective date, or **June 29, 2021**, and required to submit their updated Storm Water Management Program (SWMP) to the Ohio EPA with their next annual report submittals due **April 1, 2022**.

While the focus of the general permit for developers is essentially about construction site pollution control, the MS4 Community program is part of a bigger picture effort for local municipalities.

The SWMP addresses requirements for six minimum control measures (MCMs) and is a comprehensive program for municipalities to manage the quality of storm water discharge from the MS4. The six MCMs include:

MCM #1:

Public Education and Outreach on Storm Water Impacts

MCM #2:

Public Involvement/Participation

MCM #3:

Illicit Discharge Detection and Elimination

MCM #4:

Construction Site Storm Water Runoff Control

MCM #5:

Post-construction Storm Water Management in New Development and Redevelopment

MCM #6:

Pollution Prevention/Good Housekeeping for Municipal Operations

EMH&T works with municipal clients on all of these MCMs to ensure they remain in compliance with Ohio EPA regulations, but tend to spend a larger amount of

time assisting with compliance related to MCM #4: Construction Site Storm Water Runoff Control.

The previous general permit required MS4 communities to be aware and use US EPA approved Total Maximum Daily Load (TMDL) reports applicable to their area and watershed when selecting Best Management Practices (BMPs) for each of the six MCM's.

If a TMDL associated with Total Suspended Solids (TSS) or nutrients were established for watersheds within the MS4 community, the following TMDL performance standards are required for MCM #4 resulting from the issuance of the new Small MS4 NPDES General Permit:

- **Construction sites with non-compliance issues are required to be inspected once every 14 calendar days instead of on a monthly basis until compliance is achieved.**

Additional new MCM #4 requirements include:

- **MS4 communities are required to review and update as necessary their ordinance or other regulatory mechanism to ensure they meet the minimum requirements of the Ohio EPA's current NPDES construction storm water general permit (OHC000005).**
- **MS4 communities must use a checklist when reviewing SWP3's to document reviews of the erosion and sediment controls within the plan.**
- **MS4 communities must use a checklist to document construction site inspections for erosion and sediment controls.**

"A developer submits a Storm Water Pollution Prevention Plan (SWP3) to a municipality when their project disturbs an acre or more," said EMH&T's Water Quality Compliance Manager James Akins, CPESC. "As part of an overall community-specific storm water management program, municipalities are required to develop and enforce an erosion and sediment control program



KEY DATES:

**Notice of Intent (NOI) by
June 29, 2021**

**Updated Storm Water
Management Program (SWMP)
with next annual report
submittals due
April 1, 2022**

to ensure that polluted waters from private sites do not end up in natural, open waters or municipal storm sewers.

"The municipality is required to develop the program and to ensure when development occurs, Ohio EPA NPDES permit coverage is obtained, and plans are prepared, submitted, and enforced," he added. "They have responsibility to inspect and monitor construction site activity and to enforce the approved plan."

All of that can be a daunting task for a community. That's where Akins comes in. Specifically, EMH&T's services related to MCM #4 include:

- Regulation, including assisting with the development and adoption of ordinances that require SWP3s to be submitted for review and for developers to install and maintain the Best Management Practices (BMPs) during construction. Also, assist communities with updating ordinances to reflect Ohio EPA's updated NPDES general permit requirements (occurs every five years);

- Enforcement, including assisting communities with the development of an enforcement protocol resulting from the erosion and sediment control inspection. They assist with development of Notice of Violation (NOV) letter templates that communities can issue to developers for noted violations during inspections;
- SWP3 Reviews, including reviewing developer-submitted plans on behalf of the communities to ensure requirements of both city code and Ohio EPA's NPDES general permit requirements are being met;
- Preconstruction Meetings, including attending preconstruction (project kick-off) meetings, with developers, contractors, and community staff. We help ensure the developer/contractor understands its role for ensuring the community approved SWP3 is properly implemented;
- SWP3 Observations, including providing monthly observations during construction activities to ensure that the approved SWP3 is being properly implemented; and,
- Ohio EPA annual reporting.

Fortunately for growing municipalities, EMH&T is familiar with both the public side regulations for municipalities and the private side regulations for contractors and developers.

"We are able to serve as a bridge between the public and the private sides of erosion and sediment control within the development process," said Akins.

EMH&T's knowledge of the regulations helps make for a smoother process for both developers and municipalities resulting in the community benefits of responsible and compliant economic development. ■

To learn more about how EMH&T can assist your large or small MS4 community with erosion and sediment control issues, contact James Akins, CPESC, at 614.775.4389 or email him at jakins@emht.com.



WATER RESOURCES ENGINEERING

STREAM RELOCATION MAXIMIZES DEVELOPABLE LAND

Creating Shovel-Ready Lots on Re-imagined Site

While major development in the downtown core and surrounding urban areas continues to draw attention, the development of the outer ring of Columbus also continues at a rapid pace, even in the lingering COVID-19 environment. As has been the case for many years, the City of Dublin continues its expansion into areas north and west of its historic center along the Scioto River.

One of these areas is the US-33 corridor, which has seen significant new development over the past several years. Within it is the approximately 122-acre Rings Farm Site project. As part of Dublin's West Innovation District, this new development provides shovel-ready sites for a range of facility types for large innovation companies. The

City's goal for the site is to create several development lots to accommodate multiple different end-users.

Making Way for Development

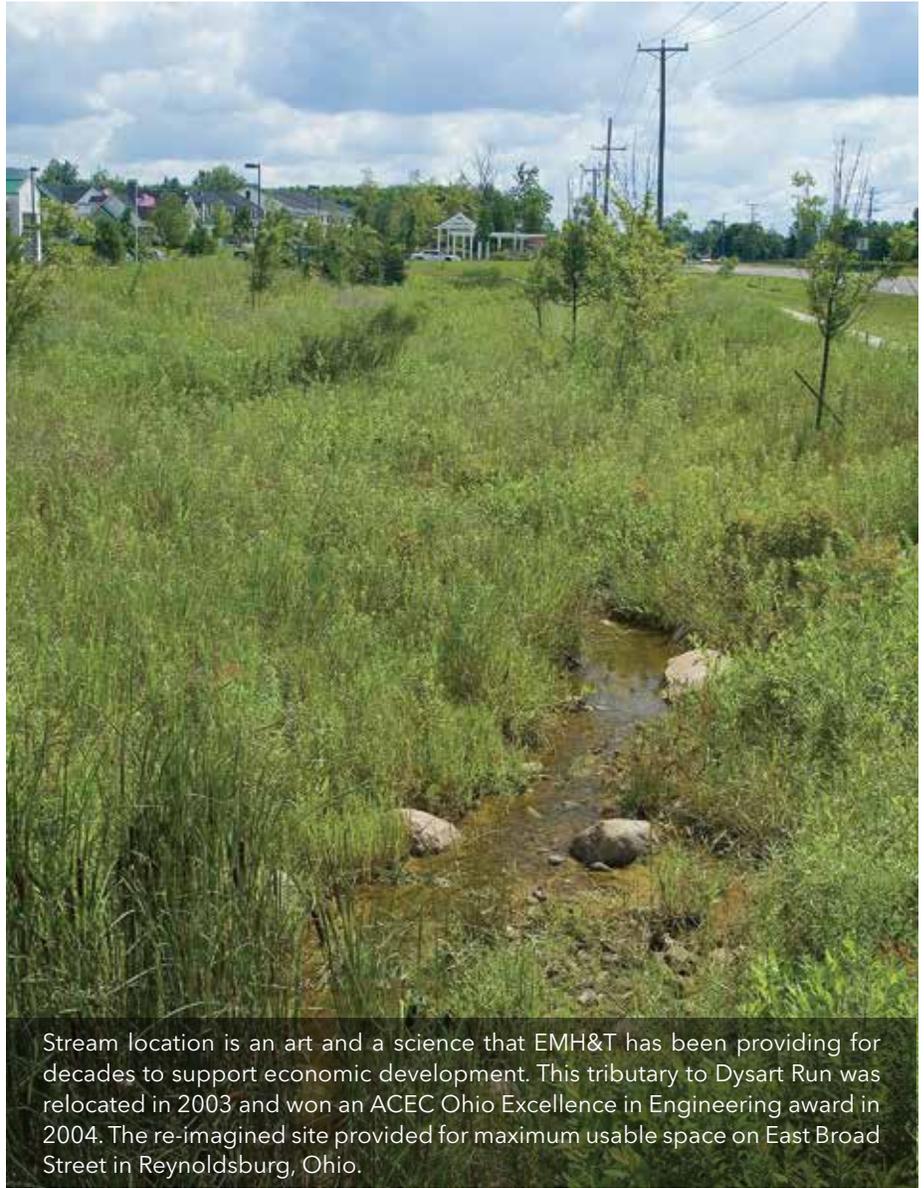
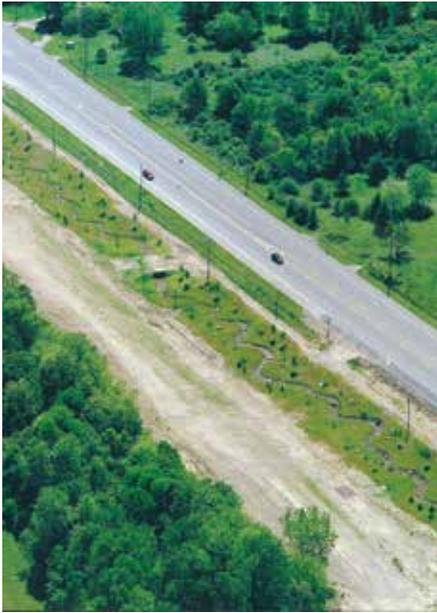
In order to accomplish their goal and maximize the site's developable land with the necessary roadway and utility infrastructure, the City of Dublin needed to move a stream running through the center of the property.

This stream, known as Cosgray Ditch, was likely constructed as part of Franklin County's ditch maintenance program dating back to the late 1800s or early 1900s. As Ohio became more populous and developed, the need to drain and control the wetlands throughout the state was necessary to allow for the

homesteading and farming that was fueling the state's economy.

"While the term ditch has negative connotations today, historically that term was not a negative and these important man-made channels were a way to provide adequate drainage outlets for agricultural fields and growing towns, moving the stormwater runoff into nearby natural streams or rivers," said Miles Hebert, PE, EMH&T's Director of Water Resources Engineering.

According to EMH&T Environmental Scientist Heather Dardinger, moving the stream was the starting point for the City's goal to create this new district for development. "The stream relocation was the first step necessary to create a site that would be not only viable for development, but desirable as well," said Dardinger.



Stream location is an art and a science that EMH&T has been providing for decades to support economic development. This tributary to Dysart Run was relocated in 2003 and won an ACEC Ohio Excellence in Engineering award in 2004. The re-imagined site provided for maximum usable space on East Broad Street in Reynoldsburg, Ohio.

A significant portion of the ditch ran through the middle of the site, requiring an approximately 2,900-foot section to be moved. In order to open up this portion of the site for development and create the largest swath of buildable area, the stream was moved to the southern edge of the site then reconnected to its original course near the far southeast corner of the site.

Another of the City's project goals and a benefit gained by moving the stream channel was the creation of a buffer between the development site and the existing residential neighborhoods to the south.

The stream's new location provides an enhanced natural buffer for these homes from the commercial development of the site. The relocated stream channel is preserved by an Ohio EPA

environmental covenant so in addition to being an amenity it will be maintained in perpetuity.

"The new alignment created a landscaping amenity along the southern edge of the property, adjacent to Shier-Rings Road. Equally important to the goal of increasing developable land area was the goal of enhancing the stream channel from a common ditch design to more of a natural channel that included riparian plantings," said Hebert.

Step one in this extensive process was for EMH&T's Water Resources and Environmental divisions to sit down with the City's development professionals to create a schematic plan for the stream relocation and restoration to optimize the site's layout. This exercise resulted in a couple alternatives, which were thoroughly reviewed before a

final decision was made for the best alternative to achieve the development goals.

The stream relocation required an Individual Section 404 Permit from the U.S. Army Corps of Engineers (USACE) and an Ohio EPA Section 401 Water Quality Certification. EMH&T obtained the permit for the City, which was a year-long process involving extensive agency coordination and review.

For the stream relocation and restoration, EMH&T's engineers and environmental scientists applied the criteria used for any project of this type. The stream's channel was physically relocated to the designated new location and upgraded to create a bankfull channel with a well-connected floodplain that also included a planted riparian corridor along its length.

The stream's channel was physically relocated to the designated new location and upgraded to create a bankfull channel with a well-connected floodplain that also included a planted riparian corridor along its length.



are developed, stormwater collected in retention ponds can be discharged into the improved stream without disturbing the planted riparian corridor.

According to Dardinger, purchasing off-site in-lieu fee stream mitigation would have been cost prohibitive, exceeding \$1 million on top of the cost of construction of the onsite stream improvements. By properly sizing the new channel and floodplain, implementing a robust planting plan, and preserving the corridor within an environmental covenant, the project was determined to be largely "self-mitigating," minimizing the amount of in-lieu fee mitigation required.

"In addition to our permitting and engineering work, EMH&T installed

willow live stakes and provided construction consultation throughout the process of building the relocated stream. Going forward, the Environmental Division will provide monitoring of the stream and riparian corridor, reporting results to the Ohio EPA and the City by means of annual monitoring reports. We will continue this for a minimum of five years, until the project is deemed successfully implemented by Ohio EPA and the USACE," said Dardinger.

Step One Quickly Progresses to Step Two

Once the stream relocation was underway, it wasn't long until interest for a project in the area was piqued and that meant more EMH&T divisions soon become involved.

The Transportation Division was next up. With the reimagined development site now emerging, the ability to access the site become vital. Mike Brehm, PE, EMH&T's Director of Transportation Partnerships and his group of professionals joined the development process by analyzing and planning the roadway access.

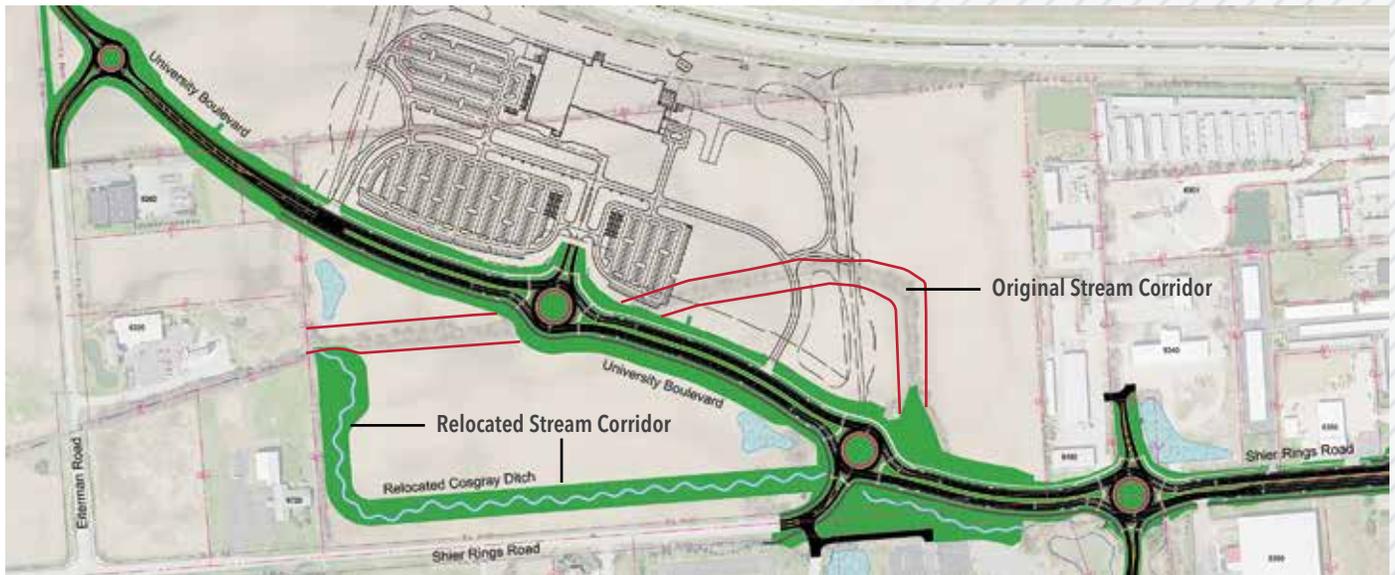
"The City had already imagined a realignment of Shier-Rings Road as part of past thoroughfare planning, so we used that as the starting point for our work. We considered the stream realignment and conceptual site layouts to identify an

"Since Cosgray Ditch is not always a flowing channel, we were not able to create the riffles and pools that are generally part of a relocation and restoration project like this one," said Hebert, "but we were able to strategically place natural materials to create an environment within the stream that mimics the kind of healthy stream ecosystem that is necessary to achieve ongoing success for the relocation," he added.

The relocated channel will also serve to convey stormwater as the various areas of the site are developed in the future. As part of the project, EMH&T designed stormwater outfalls within the stream corridor so as additional lots



OSU Wexner Medical Campus Dublin
Rendering courtesy of DLR Group



Site plan shows the relocated stream no longer divides the site.

optimum location for the new roadway," said Brehm.

The final roadway alignment chosen by the City resulted in design and construction of a new roadway called University Boulevard that bisects the site to provide access to all the future lots. The final design includes 7,000 linear feet of roadway, drainage, and utility improvements totaling more than \$15 million in infrastructure investment.

Designed in coordination with the first development site, the roadway project includes four roundabout intersections, a traffic signal, three stormwater management basins, sanitary sewer and water main extensions, shared-use paths, sidewalks, street lighting, and landscaping.

Construction of University Boulevard began in March and initially will stretch from Avery Road across the site to Eiterman Road.

"Future phases of University Boulevard design and construction will be development driven," said Brehm.

Eventually, University Boulevard is anticipated to continue northwest until it reaches the Ohio University Dublin campus where it will terminate at SR-161.

The Development Begins

The development's first project, which is now under construction, is the OSU Wexner Medical Campus Dublin. OSU's Wexner Medical Center is creating a network of ambulatory care centers across Columbus as part of its expansion plans. EMH&T's Development Division is another part of this multi-disciplinary project and provided site/civil engineering to OSU on this project.

Another interesting aspect of the multi-disciplinary project was the discovery of a 19th-century cemetery in one corner of the site. The environmental permit required for the stream relocation triggered a required cultural resources investigation for the development area, which resulted in the discovery. As part of the conditions of the permit, this cemetery will be preserved. It will be walled off and a monument will be erected along with an educational park-style sign that will present the site's history. It will be maintained by the City of Dublin and will be accessible via the walking path system within the development. For more information on this aspect of the project, please see the article on this historic find in the Fall 2020 issue of Ingenium. ■

For more information on EMH&T's Water Resources Engineering, please contact Miles Hebert, PE, Director of Water Resources Engineering at 614-775-4205 or by email at mhebert@emht.com. For more information on Environmental Services, contact Heather Dardinger at 614-775-4523 or by email at hdardinger@emht.com. For information on Transportation Partnerships, contact Mike Brehm, PE, at 614.775.4616 or by email at mbrehm@emht.com.



Washington Gladden Social Justice Park

Columbus, OH



On January 18, 2021, Martin Luther King Day, a new sculpture was dedicated at the Washington Gladden Social Justice Park in downtown Columbus. The park, which opened to the public in October 2018, is the first park in the nation dedicated to the theme of social justice.

Members of EMH&T’s structures team and members of the firm’s development team provided the civil engineering for the park, including the centerpiece—a large, curved, cast-in-place retaining wall. Subsequently, EMH&T provided the design detail for the foundation of the new sculpture.

“This park is a place to learn, reflect, and honor,” said EMH&T Structures Engineer Robert Weger, PE. “Being a part of the design team—playing a role in bringing the park design to life—is something I’ll always appreciate.”

The new sculpture is by internationally recognized artist team Adriana and Julian Voss-Andreae. Julian Voss-Andreae studied experimental physics and pursued graduate research in quantum physics. His work is heavily influenced by his science background and he is widely known for his striking large-scale public and private commissions that often blend figurative sculpture with scientific insights into the nature of reality.

The Gladden Social Justice Park sculpture, titled “A Single Garment of Destiny” is inspired by a quote



from Rev. Dr. Martin Luther King, Jr. The quote comes from a letter he wrote from a Birmingham, Alabama, jail and reads, in part, “We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly.”

The three-ton sculpture brings these words to life, serving as a metaphor for how we are all part of one ecosystem and how a group of unified people can bring about change. It is comprised of metal “slices” that depict a group of individuals, both adults and children, modeled after actual people. According to the artist, the sculpture represents a diverse group of individuals that become a cohesive whole.

The orientation of the metal slices is such that much of the sculpture “disappears” when viewed straight on... just like people who bear the brunt of social injustice—they are invisible in plain sight. As you change your perspective by moving to its sides, the silhouette of the sculpture takes form.

The park’s sponsor, The First Congregational Church, United Church of Christ of Columbus, Ohio, is committed to social justice as a principle of its faith and dedicated 18,000 square feet of its property for use by the Washington Gladden Social Justice Park and has also provided leadership and financial support for the park’s development. The sculpture was funded by donations from Loann Crane and family, and the Crane Group. ■

“The park is to be an oasis of hope where past achievements for social justice are recognized and current struggles are revealed. The park is open to all, regardless of beliefs and views, who are willing to offer open minds to seek understanding of diverse interests and values and to promote the common good. It is to be a safe haven for those feeling oppressed as well as a starting point for all to build the path to a better future.”

Park Mission Statement

WHITEHALL'S REDEVELOPMENT RENAISSANCE



EMH&T's Ryan Andrews (left) and Director of Development for the City of Whitehall Zachary Woodruff discuss the City's booming redevelopment.
Photo by Shane Flannigan/ThisWeek News

As Central Ohio's population continues to boom, housing is becoming increasingly scarce and developers across the region are scrambling to keep up with seemingly endless demand. While expansion into unincorporated areas and annexation is an option for some communities, the area's inner-ring, land-locked suburbs seldom have that option. But some communities, like the City of Whitehall, are embracing the challenge by reimagining the space they do have through redevelopment and reinvestment into previously underutilized areas. In fact, of all these "cities within the city," Whitehall is at the front of the pack when it

"We chose to embrace the idea of developing density within these redevelopments and giving these demographic groups a reason to choose Whitehall as a location to find what they are looking for."

Zach Woodruff
Director of Development

comes to encouraging the kind of redevelopment that breaks the mold: fostering density and urbanism while also embracing inclusionary housing policies. EMH&T is here to help make their redevelopment renaissance a reality.

An Unlikely Example of Development Success

Based on its geography and prior decades of economic stagnation, new development doesn't just happen for a community like Whitehall. It takes a concerted effort to attract thriving businesses, grow the City's income tax base and make meaningful public infrastructure investments to ignite

Whitehall's renaissance. These efforts have been led by Director of Development Zachary Woodruff, who's been supported by elected officials, like three-term Mayor Kim Maggard, who is done accepting the status quo.

"Shifting demographic trends mean a rising number of empty-nesters and millennials, in addition to the migration of newcomers to Central Ohio," noted Director Woodruff. With their housing preferences in mind, Whitehall is working first on redeveloping areas that lend themselves to the kinds of live-work-play environments these demographic groups find desirable.

"Knowing what we do about the local and regional growth trends, we recognized several years ago that the underutilized and problem areas within the City could be repurposed and made attractive for investment, employment, and residential opportunities," said Woodruff.

"We chose to embrace the idea of developing density within these redevelopments and giving these demographic groups a reason to choose Whitehall as a location to find what they are looking for. We are land-locked here so we have to grow up, not out," said Woodruff.

The City has had a lot of examples to learn from according to Woodruff. "Dublin's Bridge Park, the downtown area of New Albany, and even areas of Columbus like the Short North and Franklinton served as examples of how to redevelop areas into places people want to be," he added.

And while it is land-locked, Whitehall can actually count its location as an advantage. The community abuts John Glenn Columbus International Airport, is within a half-mile of Columbus I-270 and is less than a 20-minute drive from Downtown Columbus. This multimodal location makes it ideal for easy access to downtown Columbus and any number of locations within a 500-mile radius of Central Ohio.

The City's strong desire to redevelop aging properties, combined with a variety of job creation/retention tax credits, real property tax

abatements, and other tax incentive benefits designed to promote investment, are another factor that make Whitehall a desirable location for businesses and residential development.

Another key factor in Whitehall's expansion success story is the use of public-private partnerships (3Ps) to encourage development. The Whitehall Community Improvement Corporation (WCIC) is the non-profit development arm of the City and has been in existence for 30 years. This quasi-governmental entity allows for a quicker, more nimble approach to acquisition and other business processes the City undertakes. It has played a key role in the City's ability to acquire property to tee it up for redevelopment. Combined with tools the City can provide (such as tax increment financing (TIFs), bonds and inter-government grants, the WCIC and City has helped to make multiple transformative redevelopment projects economically feasible.

"The WCIC has saved the City significant amounts of time and money and has been key to making these projects work. It is a partnership critical for development success," said Woodruff.

The Whitehall/EMH&T Partnership

Another important partnership integral to the City's success has been its relationship with EMH&T. The City is an EMH&T Contract Community, meaning the firm serves in the role of City Engineer, providing professional civil engineering

and land survey services. These services are led by Ryan Andrews, PE, in the firm's Public Works Division.

"EMH&T has worked with the City in this contractual arrangement for over 50 years now and I have been leading our work there for the past 13 years," said Andrews.

"Specifically, EMH&T provides the City with civil engineering for various public infrastructure improvements, such as roadway and sidewalk

projects as well as water, wastewater, and stormwater projects. More recently, the firm has become involved with the City's redevelopment efforts," Andrews added.

Working with the City on these redevelopment efforts means EMH&T is involved with the 3P projects and infrastructure improvements that support the City's development goals. Chief among EMH&T's tasks has been assisting the City in preparing applications



Whitehall is just a 20-minute drive to downtown Columbus. Image courtesy of Infinite Impact.

for grants and other infrastructure funding. To date, EMH&T has helped Whitehall obtain funding from the Mid-Ohio Regional Planning Commission (MORPC), Ohio Department of Transportation (ODOT), and the Ohio Public Works Commission (OPWC).

Redevelopment Projects Poised to Change the City

The City's latest focus for redevelopment is the East Broad Street and Hamilton Road area. East Broad Street and Hamilton Road are intersecting roadways that represent two of the busiest thoroughfares in the City, and with close access to I-270, they provide viable areas for private redevelopment. EMH&T has been working with the City for the last five years on various improvements in that area in support of these private development projects.

The first project, Norton Crossing, came to life at the southwest corner of the intersection. The new mixed-use development sits on the site of the former blighted Commons at Royal Landing Apartments, which the City purchased and demolished. This development represents a \$50 million investment and includes 360 new luxury apartments, a dedicated restaurant space, and a new community park, complete with a pavilion for outdoor concerts, movies, farmers markets and more, which opened in May. Future phases of the project will bring retail and office space. EMH&T helped the City see Norton Crossing to fruition by providing plan review



Norton Crossing represents a \$50 million investment and includes 360 new luxury apartments, a dedicated restaurant space, and a new community park, Kelley Green, complete with a pavilion for outdoor concerts, movies, farmers markets, and more.

and inspection services, resulting in a project that has completely transformed this major gateway into the community.

On the northeast corner of the intersection, another significant mixed-use development, led by Miami-based N. R. Investments and world-renowned urban design firm DPZ, is nearly out of the planning stages.

The 50-acre site is the location of the former Woodcliff Condos, which stretch east along Broad Street and north along Hamilton Road and the former Four Seasons Golf Center, which was closed in 2017. The Woodcliff site is currently fenced off, waiting for the start of demolition of the many condo buildings there. Prior to its closing, the development was cited multiple times for nuisance conditions and was the focus of at least five police calls every day for a range of issues, including shots fired, people with a gun, and even calls for a wanted person.

According to Woodruff, this project represents a transformational, once-in-a-generation opportunity. The reimagining of this key intersection and its

redevelopment will bring \$250 million in capital investment and have a \$4.7 billion economic impact over the next 30 years. The project will create/support 12,000 jobs (3,000 related to its construction) and represent \$387 million in tax revenue to multiple jurisdictions over the next three decades.

As this project gains speed, EMH&T is positioned to help the City with the significant infrastructure improvements, literally forming the foundation for the redevelopment. Already, preliminary work

including due diligence (studies, preliminary survey, and environmental work) is underway to prepare the site. As the project progresses, EMH&T will provide the engineering design for construction of the roadways and utilities that will support the new neighborhood.

"It has been many years since the City has had a single site this large to redevelop," said Woodruff.

The site's new \$250 million project is anticipated to begin construction next year and will bring about 250,000 square feet of office space, 75,000 square feet of restaurant and retail space, and 1,000 residential units to Whitehall. The housing component will include for-sale and for-rent options with a mix of apartments, condos, and single-family homes, with 20% being workforce housing (affordable to up to 80% of the area median income).

Other proposed amenities include a pedestrian street, waterfront amphitheater,



English inspired cottage bakery Knosh Columbus is just one of the vendors participating in "Market on the Green" held at Kelley Green Tuesdays at 4 p.m. beginning June 1, 2021.

and integration points into the City's adjacent 80-acre Whitehall Community Park, which has just undergone its own renovation of sorts, now sporting six acres of wildflower meadows, two access points to Big Walnut Creek, miles of trails, playground equipment, and a disc-golf course.

Even just these two redevelopment projects alone require a significant commitment to infrastructure renewal, especially in an aging area like Whitehall, not just to support the development but also to improve the area surrounding it.

Working with the City, EMH&T provided infrastructure upgrade projects in this area to do just that. EMH&T supported the City on these projects by providing conceptual engineering and feasibility studies as well as engineering and landscape architecture design for the roadway and utility improvements.

These infrastructure projects include:

- North Hamilton Road Improvements project where EMH&T worked with the City to design a new gateway entry feature with a decorative, landscaped median as well as underground utility upgrades, roadway pavement reconstruction, new sidewalks and street lighting, and two new traffic signals.
- East Broad Street/Hamilton Road Intersection Improvement, which is currently in design and slated for construction in 2022. In support of the coming mixed-use

development on this prominent corner, these intersection improvements will aid right-of-way and access to this new development while improving traffic flow at one of the most important, high-traffic intersections in Central Ohio. EMH&T assisted the City in the acquisition of over \$10 million in Federal and State funding for this improvement, which will completely cover the cost of the improvements with no need for a local match from the City.

Between the City-led and developer-led projects, there is approximately \$25 million in public infrastructure improvements in these two projects alone. Of that total, EMH&T has helped the City acquire over \$14 million in grant and loan funding.

EMH&T Integral to the Task

EMH&T is integral to the task of redevelopment in Whitehall, according to Woodruff. A big reason for that is the firm's deep understanding of how the public and private sides of the development equation work. This knowledge makes EMH&T an excellent liaison between the City and the private developers who are bringing about the growth and change.

As the City's engineer, the firm is involved in all conversations about how to make the redevelopment and growth happen. EMH&T is always available to discuss issues and determine how best to solve any problems they present.

"Ryan and EMH&T are an extension of the City and a member of our team," said Woodruff. "Yes, we have a contracted relationship with

EMH&T, but Ryan and EMH&T are as valuable to the City as anyone we have on the payroll."

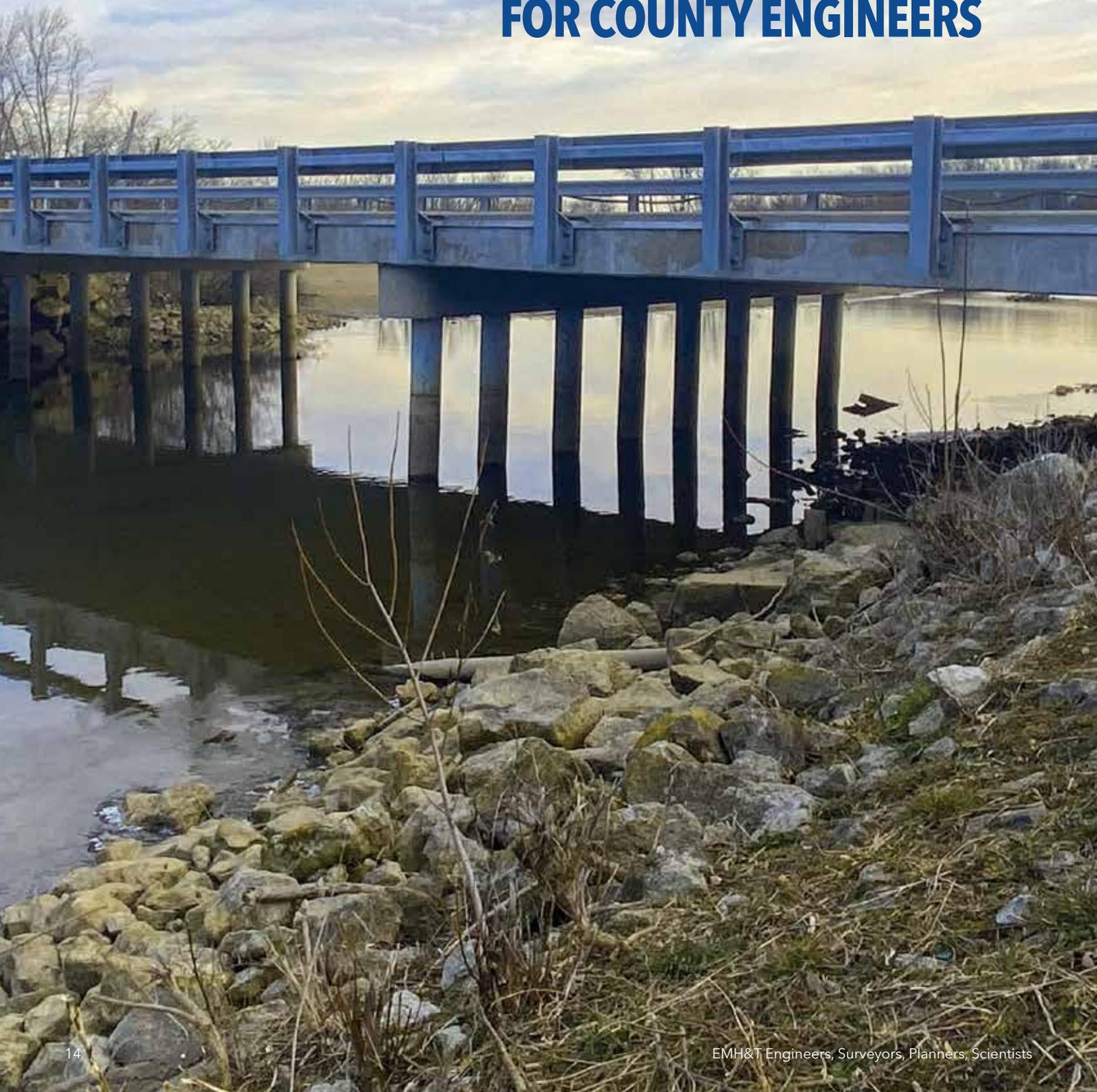
"They understand what they need to do and make it happen. They bring a strong desire to work together and embrace the City's culture. Nothing we have done or plan to do would be possible without them EMH&T team. Their contribution is vital to the City's success," said Woodruff. ■

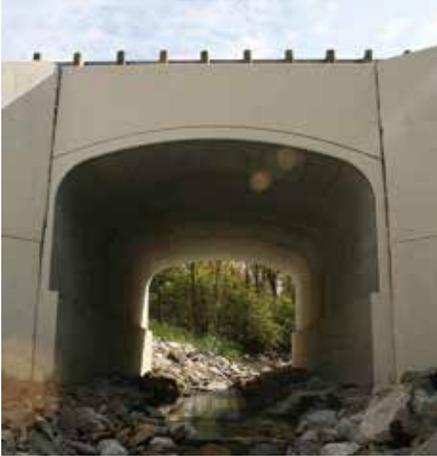
For more information on how EMH&T assists the City of Whitehall with their engineering needs and how we might help your city or town, please contact Ryan Andrews, PE, at 614.775.4555 or by email at randrews@emht.com or contact the director of EMH&T's Public Works Division, Mike Keller, PE, at 614.775.4207 or by email at mkeller@emht.com.



This former Woodcliff Condos—closed after years of nuisance conditions—will be demolished. Redevelopment of this 50-acre site represents a transformational, once-in-a-generation opportunity. Image courtesy of Infinite Impact.

DELIVERING STRAIGHTFORWARD STRUCTURAL DESIGNS FOR COUNTY ENGINEERS





In addition to bridge rehab and replacement design, EMH&T structures engineers design a variety of culverts and retaining walls.

EMH&T can deliver any scale of structural project from simple retaining walls to complex interchange bridges and we have streamlined our processes to provide solutions that meet project needs. Our in-house staff provides the majority of services needed for bridge design work including structural, survey, environmental, transportation, traffic, and water resources tasks. One of our main target markets is bridge replacement and rehabilitation for counties across Ohio. We strive to work with our clients to recognize the design priorities that will meet the needs of the county and stipulations of potential funding sources, while considering the future maintenance requirements, budget, and schedule.

Craig Schrader, PE, leads EMH&T's structural group and manages many of EMH&T's county bridge projects. The structures group serves the entire firm, which has gained them experience with delivery for various counties, Ohio Department of Transportation, municipalities, universities, and private agencies under both traditional and alternative deliveries. They have completed work on 26 bridges in the past three years for clients all over the state of Ohio, including several County Engineers' Offices.

"Most county bridge projects are simplistic in nature," he said, adding, "There is no value for the client if we overcomplicate a simple project." Key decisions are typically focused around limiting initial cost and minimizing future maintenance.

Schrader worked closely with Madison County Engineer Bryan Dhume, PE, PS, to evaluate the existing condition of the Columbus Road Bridge which was slated for replacement. EMH&T refined and reduced the scope of the project to include needed repairs for structural adequacy, as opposed to the originally proposed full replacement. This effectively reduced the project complexity and total construction cost to the County.

Dhume said, "I appreciated Craig's openness to discussing out of the box ideas and brainstorming to come up with a solution for the Columbus Road Bridge project that worked best."

As both project manager and design lead, Schrader "is not just managerial" but can speak to the technical side also. He thinks that having the project manager as the technical expert, "is the best delivery option for less complex bridge projects as decisions are made more quickly-streamlining the critical path and reducing overall design efforts".

Schrader and his staff offered a simple approach as part of the Lock Road Bridge in Knox County a project that was delivered in less than three months. EMH&T's staff reviewed the project and determined that the replacement structure would better accommodate the site in the long-term if the bridge was shifted to the east and skewed to better align with the channel.

"Craig and I collaborated closely on the Lock Road Bridge scope," said Knox County Engineer Cameron Keaton, PE, PS. "He met my goals for the bridge and did an excellent job meeting the accelerated schedule."

Schrader and his team make it a practice to itemize potential "extras" (upgraded railing, formliner, bridge painting, etc.) so they are bid as alternates by contractors along with the base plans. By doing this, the client is provided with bid pricing for items on a "pick list" which can be directly added to the scope as the budget allows. This additive alternate sale often leads to favorable pricing on work when compared to field changes or later upgrades.

"Our staff shares a client satisfaction goal and it's a great feeling when we deliver a project on time, under budget, and with negligible comments or construction concerns," Schrader said. ■

For more information about our structural group and how they can help with future projects, please contact Craig Schrader at 614.775.4632 or his email of cschrader@emht.com.

◀Columbus Road Bridge, Madison County, OH



GENERATIONS OF DESIGN

**Brake has followed this project
for more than 45 years**

It is rare that a utility designer not only designs a booster station, but 45+ years later, participates in the upgrades; but that is familiar territory for EMH&T's Everett "Andy" Brake.

For over 17 years, Andy has been a part of the EMH&T team. During this time, he has served a range of clients from the City of Columbus to other area municipalities to ODOT. He is currently a Resident Project Representative (RPR) with the firm's Construction Services Division where he provides field supervision, job progress monitoring, negotiations with contractors, and field inspections to assure compliance with contract documents.

"Most folks close a project and move on to the next, never looking back," said Andy. "I've been around long enough to see the next generation of design on my original projects."

Andy recently began construction services work on a significant booster station upgrade project for the City of Columbus, Ohio. Interestingly, Andy was one of the original designers of the facility going back to the mid 1970's!

In 1977, the City of Columbus Division of Water dedicated this new booster station, designed to serve the growing area around Gahanna and New Albany, Ohio. Andy, who at that time worked for the project's design firm, was responsible for the project's design, which he had started about a year and a half earlier. The original project included the pump station and a new elevated water tank located a few miles north of the site.

"There wasn't much in this area at the time, just farmland and fences along two-lane country roads," said Andy. "But

the City of Columbus has always been about setting the stage for economic development and this booster station was going to make the area ripe for growth."

Looking back, Andy's start in the engineering business was kismet. After serving in the Army for two years as an MP at the end of the Korean War, he returned home and needed a job. A friend pointed Andy to a possible opportunity working on construction of a Buckeye Lake sewer project.

"The fellow that I was introduced to asked me what I knew about sewers," said Andy. "I told him that all I knew about sewers is that water runs downhill. Must have been the right answer, because he hired me on the spot. That was more than 63 years ago and I'm still at it."

Andy became very interested in engineering and started taking courses on his own. He earned a position in the original company's office and started providing drafting and layout work. "I worked my way up to Engineering Designer and got very interested in the hydraulics of plant flow and pump stations, which eventually led to pump station design.

Over the 45-plus years since the original design, Andy has had the opportunity to revisit design for upgrades to the pump station four times, representing three different design firms (with installment of new pumps happening at the time of this publication). EMH&T is providing construction services to the City for this fourth rehabilitation of the pump station and includes the removal/replacement of two pumps, replacement of all piping inside the station, and some electrical upgrades.

Other projects at the site prior to the current upgrade included an addition to increase capacity and a new connection to support the growing New Albany area, an increase in size for two pumps, and the addition of an electrical room.

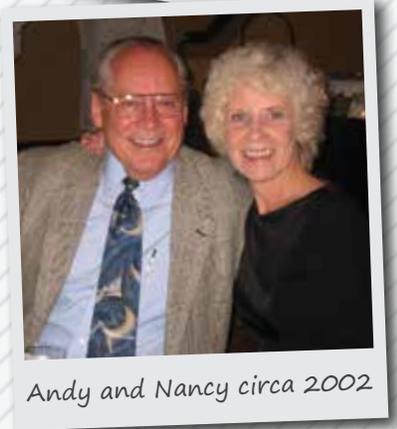
Andy has designed both new pump stations as well as existing station rehabilitations. In addition to water supply system pump stations, Andy has designed pump stations for highway projects and floodwall systems. He has designed projects in Ohio, Michigan, and Illinois.

Andy's free time is just as fascinating. He is avid in the lapidary arts and is a Master Cutter of Gem Stones, earning his Graduate Gemologist degree from the Gemological Institute of America. As part of the hobby, he enjoys jewelry making and metalsmithing. He has also been a member of Vaud-Villities—an entertainment organization putting on a Musical Variety Show annually—for over 25 years.

With a career spanning 64 years, one wonders when Andy will retire. "People are always asking me why I am still working," Andy said. The answer I usually give is "as long as I enjoy what I'm doing, and my health is good, and as long as I'm an asset to the company, I have no desire to retire any time soon."

Andy truly is an asset to the company.

Andy has been married to his wife Nancy for 63 years. They share two children, two grandchildren, and two great-grandchildren. ■



Geospatial Solutions Services

Information Management

- Digital Mapping
- Instant Records Access
- Data Visualization
- Map Editing
- Documentation and Distribution of Information

Records Management

- Scanning and Document Management
- Digital Permitting and Digital Submissions

- Automated Forms

Maintenance Management

- Work Order Automation
- Map-Based Reporting
- Customer Service Request Tracking
- Task Planning, Budget Tracking, Measurement, Accountability

System Management

- Forecasting Infrastructure Trends
- Modeling | Analysis
- Asset Optimization
- Infrastructure Trends, Proactive Maintenance, Cost Saving Alternative, Regulatory Compliance

EMH&T is an ESRI Business Partner. ESRI is the leading provider of GIS software and solutions.



IT IS TIME

Establishing GIS for Your Community

If your community does not have a robust GIS system in place, it is time to make that investment. This is your call to action.

An estimated 90 percent of community information relates to a point in space. Consider these typical community service areas and the amount of data that can be mapped:

- Facility and Asset Management
- Building and Code Enforcement
- Customer Service
- Inspection, Licensing and Permitting
- Planning and Community Development
- Public Health
- Public Safety
- Public Works
- Transportation

Mapping those elements and correlating them to data is a Geographic Information System (GIS).

"GIS has many different definitions but is generally a computer-based system to capture, store, edit, display, plot, and analyze geographically referenced data," explained Derek Mair, MISM, EMH&T's Director of GIS Services. "In short, GIS is high tech mapping, with tons of information. It is at the intersection of

technology utilization and operational excellence."

The result of a well-thought-out system is streamlined information access, reduced operational costs, and increased prioritization planning for your organization. All of this will raise the level of service to your citizens and result in a higher quality of life.

When a community chooses to make this investment, EMH&T's approach is composed of three stages to prepare for full implementation: needs assessment, implementation planning, and pilot program (or proof of concept). We have developed an approach that allows us to analyze and then integrate existing systems and create data stores as pieces within an organizational application solution. Our approach transforms information into knowledge—empowering full management of assets so you can become an efficient digital enterprise.

Needs Assessment

Many organizations' existing data sources were created by individual departments, creating silo systems with a culture that supports its development and use. During needs assessment,

EMH&T studies the cultures that support the current individual systems and develops a solution to consolidate into the recommendations for your centralized system.

"During the assessment, we also complete a source material inventory and review of any desired record archives and hardcopy source material," said Mair. "This will allow us to prepare budget estimates for conversion and loading of that source into the new system."

Through these steps, a full picture of what data exists and what data is needed is defined.

Implementation Planning

A key to the Implementation Plan is flexibility to adjust to future advancements in hardware and software technology, changes in the municipalities' needs and priorities, and budget. The implementation plan is a working blueprint to guide and measure specific actions in logical phases for the complete development of a fully functioning GIS program.

The plan is actionable in that it is basic and straightforward in nature, and based on results of situation assessment and needs report. Each phase includes aspects of data development, application development, and maintenance. Key to the format is lining up future applications with future data needs while assigning cost estimates to help with annual sequencing and budgeting.

(Pilot Program) Proof of Concept

With a needs assessment complete and an implementation plan fully vetted, the pilot program can be developed.

An essential element of the pilot is the records management system (RMS), which is set up to store and manage the scanned and existing digital data records in an organized, efficient, and accessible manner.

"Using the data of the RMS, we then configure an advanced Web GIS application that is a full-featured system designed for infrastructure feature viewing and access," said Mair. "This is where all of the data becomes accessible and useful for the users."

Once the application is configured, it will be the landing page for much of the other future functionality that can be built into it. Ideally, the final application is designed to work from any device (office or field) that has internet access and a web browser. Output from the system can be simply printed, or it can be captured electronically and then emailed or inserted into desktop application software such as Microsoft Office®.

Of course, a complete GIS program includes specific training on its use and maintenance with the client. The pilot program is a time of refining needs and output before proceeding on to a full-scale, phased implementation for the full GIS community. ■

Let us provide you with more information on how to become a more efficient "Digital Community". Please contact our Director of Geospatial Solutions, Derek Mair, MISM, at 614.775.4280 or via e-mail at dmair@emht.com.

Gathering data is as important as mapping it.

EMH&T can gather, transform, and configure your community's data.

Shorts



Rendering courtesy of DLR Group/Westlake Reed Leskosky

New Albany Amphitheater Creates Cultural District

The Charleen & Charles Hinson Amphitheater, located across from the new Rose Run Park in New Albany, OH, broke ground in February of 2020. Construction has continued since then and the new facility is on schedule to be complete July 2021. EMH&T provided professional site/civil engineering for the \$7 million project, which was designed by DLR Group/Westlake Reed Leskosky. The amphitheater seats 800 people and fulfills plans developed over two decades ago by the City's civic leaders for this type of venue in the community. The amphitheater sits on land owned by the New Albany School District and will be operated and maintained by the Columbus Association for the Performing Arts (CAPA). The new amphitheater helps create a "cultural district" in this area of the City with the McCoy Center, home of the New Albany Symphony Orchestra and other arts organizations, next door; as well as the New Albany Market District within easy walking distance.

Whitehall's Community Park YMCA is the winner of the 11th Annual Governor's Award for Parks and Recreation presented by Ohio Parks and Recreation Association.

The Governor's Award is selected from the first place award winners in the various categories. Last fall the Whitehall Community Park YMCA project received first place in the competition's "Capital Improvement Projects - \$2.5 Million and Up" category.



"This project is an amazing example of the work that parks and recreation professionals do on a daily basis," said OPRA Executive Director Woody Woodward. "The team in Whitehall identified a clear need in their community, they found a like-minded partner, and they created something that will change thousands of lives in their city for years to come."

EMH&T provided site civil engineering for the YMCA building as well as landscape architecture for the Whitehall Community Park.



Continued work with BGSU

Congratulations to Project Manager Travis Eifert, PE, SI, and his team for winning the Bowling Green State University (BGSU) Administration Building Demolition project. In the initial phase, the Administration Building will be demolished in the most efficient manner to reserve funds for restoration of the site, which may include such features as a plaza and campus gateway monument, and a potential roundabout at the "T" intersection leading to this western gateway entrance to the University's main campus in Wood County, Ohio.



Task Order Awarded by NEORS

Shawn Arden, PE, CFM, LEED AP, CPESC, Principal and Senior Project Manager in EMH&T's Water Resources Division, and his team do a lot of work in northeast Ohio, primarily the greater Cleveland area. In 2017, the team won their task order contract with the Northeast Ohio Regional Sewer District (NEORS) and they recently received the next iteration of that contract. NEORS is responsible for managing the regional stormwater system of watercourses, conveyance structures, and stormwater control measures within their service area. Through this contract, EMH&T will continue to provide stormwater planning and design services to address urban flood risk, water quality, and erosion concerns.

People In The News

New Associates

EMH&T is pleased to recognize three new Associates as firm leaders for 2021. Associates are those who have demonstrated that they actively foster the values of the company and promote the development of the business. Please join us in congratulating Mike Krokonko, Senior Environmental Scientist, (Environmental), Joe Walker, Project Manager (Urban Design), and Josh Cummings, Project Manager (Urban Design).



M. Krokonko

Mike joined the Environmental Division of EMH&T in 2012. He has been actively involved in significant projects throughout the company and has played a lead role with our oil and gas environmental compliance work and a lead and support role with our public clients.



J. Walker

Joe joined EMH&T in 2013. He has managed and supported projects that cover a spectrum of development and has specifically taken a lead role with Ohio State University redevelopment, student housing and innovative campus expansions. Joe has also been involved in other urban projects including the Columbus Downtown Hilton.



J. Cummings

Josh joined EMH&T over eight years ago bringing development experience to EMH&T. Josh has supported or served as Project Manager for several urban projects and has provided significant support for Nationwide Realty, The Ohio State University, and the Columbus Crew Stadium amongst other downtown Columbus projects.

Joining the Team



H. Brendlinger

EMH&T welcomes new Project Manager Heath Brendlinger, PE. Heath has nine years in the consulting engineering field, and 13 years working for the Pennsylvania Department of Transportation. Heath earned his BS in Civil and Environmental Engineering at the University of Pittsburgh, and he has a Bachelor of Natural Science and Mathematics from Indiana University of Pennsylvania. He will lead multi-disciplinary teams for EMH&T's public clients to design and deliver quality transportation projects.



M. Kelnhofer

Mike Kelnhofer joined EMH&T as Designer in Public Works. Mike has over 28 years of experience working in the civil engineering industry, in the field of site development, plan review, site inspections, and recorded deeds and easements. Mike is also an adjunct faculty member of Columbus State Community College where he provides instruction in AutoCAD and Bentley Microstation.



Contact Us

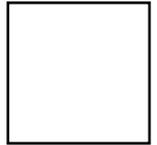
Contact EMH&T's Director of Business Development **Linda Peck** today to schedule a visit at your office. You can reach Linda directly at **(614) 774-1270** or by email at **lpeck@emht.com**.

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





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