August 12, 2022

raSmith

CREATIVITY BEYOND ENGINEERING

City of Manitowoc

Utility, Stormwater, and Street Design Services

(262) 781-1000
rasmith.com

W62 N588 Washington Avenue, Suite 201
Cedarburg, WI 53012-2074

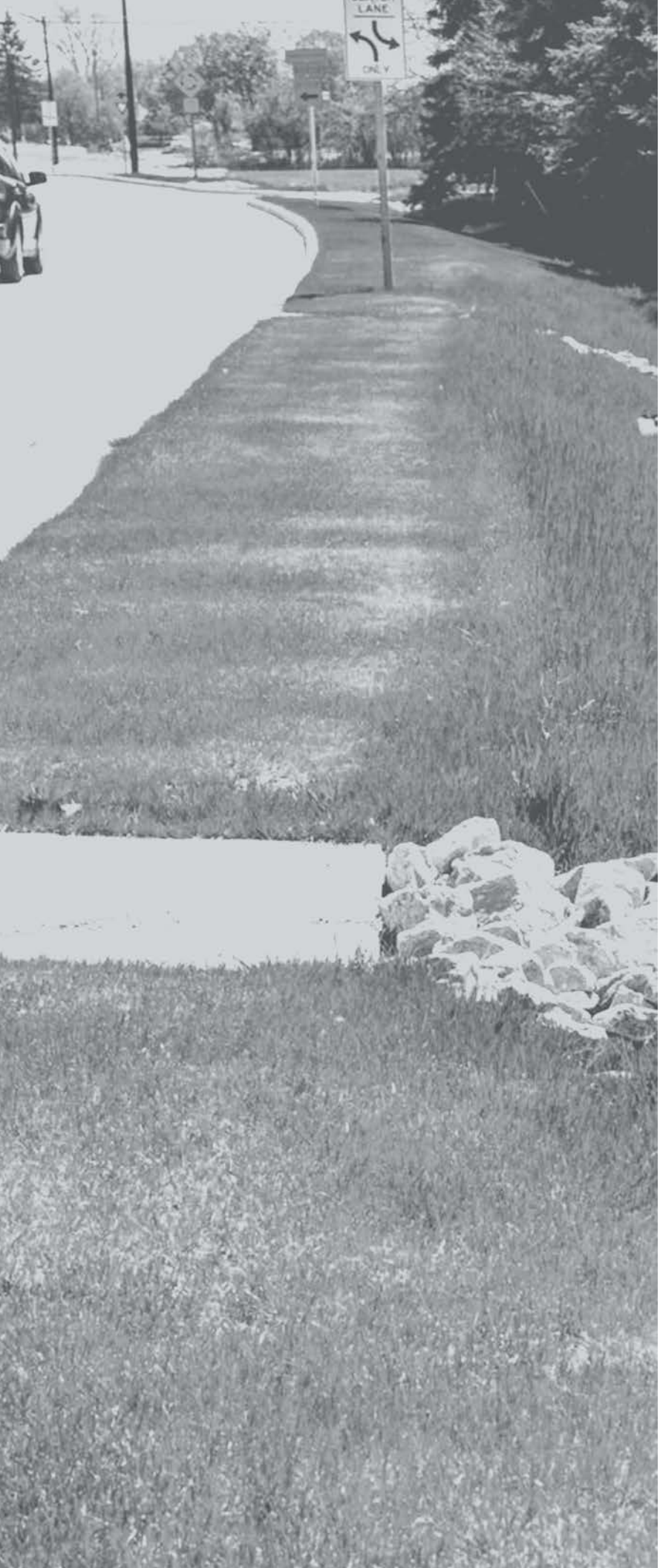


Table of Contents

raSmith

CREATIVITY BEYOND ENGINEERING

Cover Letter

August 12, 2022

Mr. Adam Tegen
City of Manitowoc
Community Development Department
900 Quay Street
Manitowoc, WI 54220

raSmith
CREATIVITY BEYOND ENGINEERING

W62 N588 Washington Avenue, Suite 201
Cedarburg, WI 53012-2074

RE: City of Manitowoc | Viebahn Street and Hecker Road Industrial Park
Proposal for Utility, Stormwater, and Street Design Services

Dear Mr. Tegen:

Thank you for the opportunity to submit our proposal for utility, stormwater, and street design services for the City of Manitowoc. The proposed development is located at the intersection of Viebahn Street and Hecker Road. The site is approximately 90 acres and currently owned by the City.

We are excited about the opportunity to assist the City with this notable development. Our proposal details our company background, our understanding and approach for this project, our experienced team that will work hand-in-hand with the City, and the numerous project examples to highlight our similar experiences. In addition, we have detailed our scope and breakdown of hours for each scope item to ensure we are not missing anything. Lastly, a detailed fee schedule is included that not only breaks down the known services, but also lists numerous other items that could be needed and provides an approximate cost so the whole picture can be seen.

Below we have summarized numerous key components and factors that set raSmith apart and will result in a high quality outcome for the City of Manitowoc.

Key Factors

- Design Team – Our team is what will set us apart. Based on our depth and experience we are second to none. We have assembled an experienced design team that is qualified to complete all of the design and coordination for every facet of the project and has previously worked on the exact same type of projects. As shown on the sampling of business park developments we have worked on, you can see that no one is equal to us in the development of business parks. Items that will set our team apart:

    - With nearly 200 employees to draw experience from, including dozens of surveyors; municipal, utility, and site development engineers; landscape architects; stormwater management, environmental permitting experts; and construction engineers, we will be able to provide not only cost-saving ideas, but also time-saving ideas knowing that this project is a priority for the City. In addition, we have the public/private experience with our site design services division to understand what potential tenants look for when developing a site.
    - With our size, we have the ability to not only jump on this project immediately, but also have the flexibility to adjust schedules and re-start as needed. We know that schedules can be fluid and understand if the starting date moves a little or the project is stalled, we can still meet the milestone dates as required.
    - We are experienced enough to know what to look for and what innovative ideas have success in value engineering a project.
    - We understand that this is a cost-competitive proposal, but more knowledge upfront leads to a more detailed plan. That knowledge, along with our experience, will lead to more savings in the long run during bidding and construction. With a project of this magnitude, flexibility is key in meeting schedule and budgetary needs.

Cover Letter

W62 N588 Washington Ave, Suite 201
Cedarburg, WI 53012-2074

- Commitment to Perform Services – We are proud of our track record of providing exceptional professional consulting services with a high level of personal attention. We are committed to delivering projects on time and within budget and communicating efficiently and effectively to ensure that all parties are aware of the schedule and tasks necessary to maintain the project schedule. As you know, we are very excited and interested in working with the City on this project.

Thank you again for this opportunity. We look forward to being part of this team on this exciting and important project.

Sincerely,
raSmith

Troy Hartjes, P.E.
Senior Project Manager

Project Schedule

Viebahn Street and Hecker Road Industrial Park
Utility, Street and Stormwater Construction
City of Manitowoc

	2022																2023																			
	August				September				October				November				December				January				February				March				April			
WEEK	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Task																																				
Survey, Easement and CSM																																				
Topographic Survey with Utility Locates (Approximately 5,000')																																				
As-Built/Plan/GIS Coordination and City Data Information																																				
Management and Coordination																																				
Project Management																																				
Utility Coordination (Gas, Electric, Telephone, Cable)																																				
DNR Permitting (NOI)																																				
Meetings (4-5 Staff Meetings)																																				
DOT Coordination (Permit to Work in Right of Way)																																				
County Coordination/Town Coordination																																				
Site Analysis/TIF Coordination/Concept Review (Existing Concept)																																				
DNR Sewer/Water Permit																																				
Preliminary Design-thru 90%																																				
Roadway and Typical Section Evaluation/Comments																																				
Intersection Layout (Draft Layout)																																				
Horizontal Geometrics (After Kick-off Meeting and Evaluation)																																				
Vertical Design/Profile																																				
Typical Section/Details																																				
Cross-Sections/Grading																																				
Watermain Design																	Have Plans ready for 60% review by December 1st																			
Sanitary Evaluation (Depths/Feasibility)																																				
Sanitary Design																																				
Stormwater Management Site/Business Park																																				
Hydrology and Hydraulics Business Park																																				
Final Stormwater Management Plan																																				
Roadway Storm Sewer/Ditching																																				
Pond and Storm Infrastructure Design (Business Park)																																				
Erosion Control Plan																																				
Pavement Marking Plan																																				
Traffic Control and Staging																																				
Cost Estimates (30% and 60%)																																				
Draft Specifications																																				
QA/QC																																				
Constructability																																				
90% Submittal																													Submit 90% plan by March 1st to allow a few weeks for review							
Private/Public Coordination (Site Analysis/Services/Drives)																																				
Bid Sets /Final Plans																																				
Update Plan Sets Based Upon 90% Review																																				
Final Cost Estimate																																				
Final Specifications																														final Plans and bid docs ready by April 1st						
CAD Coordination/Transfer Files																																				
Bidding																																				
Bid Documents/Advertising (Quest)																																				
Bidding																																				
Bid opening																															Ready to bid in April if desired					
Construction																																				
Review of Shop Drawings																																				
2023 Construction if Desired																																				
																																	Summer construction if desired			

Milestone Dates
End of August: Award of Design Contract (Potential Date)
September 1st: Kick-off Meeting and Discuss Roadway/Utility Options, Limits and Cross-Section
September 30th: Complete Survey
December 1st: Preliminary Plans Complete
February 28th: Draft Final Plans for Review
April 1st: Final Plans Ready to Bid

Sized at 11x17 for printing/viewing purposes.

raSmith
CREATIVITY BEYOND ENGINEERING

Project Understanding and Approach

Background and Understanding

The City of Manitowoc recently purchased approximately 92 acres from Manitowoc County with the intention of developing the Hecker/Viebahn Industrial Park. The site, as the industrial name implies, is located south of Viebahn Street at Hecker Road. A rough concept of the future industrial park has been developed, and although there have been some discussions with potential users and owners for the site, it is our understanding nothing has been finalized nor has any development or division of any actual parcel within the 92 acres been created yet.

The City, and particularly the Industrial Development Corporation Committee, will provide oversight of the actual development of the industrial park. The site has been rezoned to light industrial and covenants established.

Although the actual industrial park might be in the beginning stages of development, a TIF district was created and it is understood that Viebahn Street and Hecker Road will serve as the main access to the site. We also know sanitary sewer, water main, and stormwater facilities are needed to develop the site. In addition, Viebahn Street, from the I-43 overpass to the west limits of the site (approximately 2,500'), and Hecker Road, from Viebahn Street to the south limits of the site (approximately 2,200' and about the quarry entrance) will both need to be reconstructed. Although the entire 92 acres is located within the City limits, adjacent lands and portions of the right-of-way are located within the Town.

Municipal water has been extended to the intersection of Viebahn Street and Hecker Road, and there is a casing pipe under I-43 and an existing stub just east of I-43. Water will be extended from these existing termini and extended to the limits of the site. Sanitary sewer is located on the north half of Viebahn Street, and there is one crossing of the roadway to the south side. Sanitary sewer will be extended to the limits of the site with the water main.

Stormwater needs will also be evaluated; however, along with the need for any stormwater improvements within the right-of-way to go hand in hand with the roadway (ditches or storm sewer), we will also prepare a stormwater management plan (SWM) for the industrial park.

The SWM plan will include a regional detention pond to be located within the industrial park. We will define the overall drainage basin tributary to the proposed regional pond to determine potential offsite areas, which could be served by the proposed regional detention pond.

Conceptual internal grades within the industrial park will also be determined to identify flow paths to the regional pond. At the end of the day, the intent of this project, and our design, is to provide the necessary off-site improvements and infrastructure, including the internal stormwater management pond, so the entire 92 acres is ready to be developed.

We understand there are many factors to consider when developing the plans for these improvements. This is not just a straightforward roadway reconstruction with utility extensions. We intend to work with the City hand-in-hand to review possible access locations and restrictions to the site, provide insight into the existing concept plan, think about the potential developments and uses of the site, and ultimately determine the best cross-section, intersection improvements, and placement for the utility extensions to best serve the site and set it up for success.

To ensure that the project succeeds, there are many items to consider:

- In order to bring in off-site utilities, the most appropriate route needs to be determined which potentially includes working with private property owners.
- The sanitary sewer appears to provide access to the property, but before extending it further, elevations and future service areas need to be reviewed.
- What type of roadway cross-section will best serve the site? Costs, aesthetics, adjacent town uses, surrounding developments, future developments, and environmental concerns (adjacent wetland) will all be considered. In addition, any vertical or horizontal constraints will need to be evaluated.
- Determine if access or services for the new site shall be placed and discuss the pros/cons of providing any services when the future development locations are not known.
- Provide a SWM Plan that works now but is also flexible for any future building tenants and the different sizes and layouts they may occur.
- DNR permitting. On any project, we understand this can be a cause for concern. In this case, we are aware of the existing wetlands on-site due to the previously completed wetland delineation. Any roadway or utility improvement will be cognizant of the wetland limits and required permitting if the wetland is disturbed.
- The constructability of the site. These roadways currently serve the surrounding properties and setting up a traffic control and staging plan will be necessary to meet the needs of the adjacent sites.
- Ensuring the site is set up for the proper utilities (electric, gas, and communication) is

raSmith
CREATIVITY BEYOND ENGINEERING

also vital. Coordinating with these agencies to make sure their timing is in-line with the cities and any future tenants.

These are just a few of the items that need attention when completing the final planning and design of the "normal" infrastructure. Add in the schedule and the future land development, and you understand why it is key to engage a consultant that has the team, the resources, and the experience to work on this project. raSmith has done this before and understands all of this has to happen simultaneously in order for the project to succeed.

Project Approach

In general, raSmith's objective is to provide the City of Manitowoc with sound planning, ideas, and design services through extensive coordination with City staff and City planners/councils/commissions, various reviewing agencies including DNR and DOT, Manitowoc Public Utilities (light and water), and the many adjacent stakeholders of the City along the corridor of Viebahn Street and Hecker Road.

Our approach will include the following key elements:

- Identify past planning elements (including the aforementioned industrial park concept plan) and determine if past plans missed anything. This will include initiating the first meeting, shortly after any notice to proceed, and meeting with the City to discuss the background and future layouts. It is critical that we get all stakeholders engaged immediately.
- Identify the critical path elements. The true task here is not only to identify the critical path elements, but also be able to keep these elements on the forefront by knowing who to talk to and make sure we follow through with completing the task on each of the critical path items.
- Once everyone is engaged, keep them engaged. We understand that each stakeholder is busy or may not see the urgency of the project; communicating with them is one thing, but following up with them and making sure schedules are understood and kept is critical.
- Working as a team. Our organization chart shows that we are just a piece of a complete team. We will only go so far if we don't proceed as a team.

Ultimately, the success of the project will begin and end with communication. We will start with the City staff to discuss the history and past analysis, but engage the other committees (like the Industrial Development Corporation) and the MPU upfront to determine concerns and issues that will impact the timing and budget of the project. Our approach to the actual design project will be cognizant of the following key factors:

1. Appropriate Roadway Reconstruction: Three important parts of the actual road design are the aforementioned cross-section, access to the future sites, and access to the existing stakeholders. We will work with the City to discuss different intersection layouts; roadway alignments, both vertical and horizontal; and cross-sections (a couple of typical sections will be provided at the kick-off meeting) to achieve an ultimate design that will build a road that not only works now, but also aligns itself for the future uses of the site. We will discuss the benefits of different materials and a rural or urban cross-section. We will utilize our construction manager to discuss various construction techniques to build this road in a cost-effective manner, but also mitigates the impacts to the residents, stakeholders, disruption of adjacent properties, environmental concerns (wetlands), stormwater implications, and ultimately the budget.

2. Future Site Coordination: In order to assure a successful project, raSmith will utilize the expertise of our land development division to look at the concept plan and provide some brief thoughts and concerns that will help set up any future access points. This will also allow us to best provide a stormwater management plan, and future drainage ways that work best for the site. Items to consider when looking at the site, and relating to the infrastructure improvements of this project, include a geotechnical report, Phase 1 assessments, easements, temporary sewer/water supply, required permits, zoning, and preliminary engineering of the site.

3. Sewer/Water Infrastructure: It will be critical to obtain accurate information not only from our survey, but also as-builts, to determine depths and sizes to evaluate the future needs and service limits (and limitations). We will provide any utility extension and/or relay that is cost-effective to serve the site and provide recommendations of any necessary lift station or alternative options to avoid a lift station.

4. Mass Grading Integrating with Stormwater Management: Provide a design that will bring the stormwater solutions, final roadway design, and future site grading (by others) together. When producing the stormwater options to address the development, we will be cognizant of the options for future building and lot layouts, the mass site grading, and the road

design. A solution that solves the drainage issue, but is not cost-effective or leads to moving "dirt" twice, or doesn't work with future developments is not beneficial. The design will be cognizant of the urban section and provide a mixed solution of pipes and swales that can ultimately route the 100-year events to the basins.

5. Expedited upfront Design to meet schedule of tenant: Immediately survey the project to start the design process. We would desire to have an upfront "working" meeting with City staff, with our survey in hand, so the various aforementioned decisions can be properly evaluated.

6. Design a product that can be built: We will utilize our construction services team to provide additional quality control and provide a constructability review. This review will ensure the design can be built without costly change orders. In addition, their experience will enable additional design ideas based on observations made during many years in the field overseeing construction projects.

Following the outline of the RFP, and our approach as a guideline, the following scope of services with some exceptions and qualifications are noted.

Scope of Services

A. Survey and Data Gathering
   1. Conduct corridor survey, including existing right-of-way.
      a. Approximately 5,000 feet on Viebahn Street and Hecker Road and 250 feet down the intersection. The corridor will extend 100 feet on either side of the centerline of the roadway.
      b. Control and benchmarks will be established throughout the project limits.
      c. Visible property corner/right-of-way monuments and Public Land Survey System section/quarter section corner monuments will be picked up to help establish the existing right of way (along with using GIS mapping).
      d. Visible utilities will be mapped to the extent feasible, as marked by Digger's Hotline, sewer invert depths, and pipe sizes and directions will be measured at manholes.
      e. Survey of the future industrial park is not needed; we will utilize existing GIS mapping and 1' contours to study and design the stormwater management facilities within the industrial park.
   2. Compile additional City data and GIS information.
   3. Combine and merge survey with GIS data where appropriate. The existing surface will be generated based on merged survey and GIS data.

B. Management and Coordination
   1. We will send out preliminary plans to utilities for confirmation of accuracy and conflicts and provide final plans for any relocates.
   2. DOT Coordination: We will communicate with the DOT about the work at the overpass and anything onsite with stormwater management.
   3. Wetland: The intent is to avoid the wetland and assume no wetland fill permits are needed. If the initial layout requires encroachment into the wetland, we will coordinate any permitting with the DNR and US Army Corps of Engineers.
   4. DNR-NOI: We will prepare the necessary NOI (WRAPP) permit due to the disturbance of more than one acre.
   5. Numerous team meetings with City staff and appropriate committee members, including the initial kick-off (before the survey), post-survey kick-off (to discuss the roadway x-section, intersection layout), agency meetings (assume 1-2 during the process), 30%, 90%, and final design meetings.
   6. Begin initial coordination with local and state reviewing and regulatory agencies. This will include but not be limited to:
      - Manitowoc County
      - DOT
      - MPU
      - Gas
      - Communication utilities
      - PSC (if required. We will work with the city and make some initial calls to determine the need)

This initial coordination will include calls, meetings, and correspondence to make all parties aware of the development, but also determine what requirements are necessary for future permitting (and confirm critical path and schedule). We will utilize the base plans to forward to agencies or utilize at meetings.

raSmith
CREATIVITY BEYOND ENGINEERING

Project Understanding and Approach

C. Preliminary Engineering

1. Prepare preliminary plans (plan view and layout) and initial profile of the following items:
   - Confirm the preliminary layout and cross-section from the initial meetings, and evaluations and move forward with engineering.
   - Develop a master utility plan (sewer and water), including any preliminary easements. Look at the ultimate service area and elevations to determine the necessary future grades.
   - Prepare the initial intersection improvements.
   - Prepare draft specifications.

2. Prepare preliminary cost estimates based on the preliminary designs.
   - Meet with the City to review the costs and improvements and provide value engineering options to assist with any cost-saving measures.

D. Stormwater Management

1. Compile Existing Information and Prepare Base: Task involves collecting and organizing City/ County GIS information, including one-foot contours, for use in the development of the SWM Plan and regional pond engineering plans.

2. Define Overall Stormwater Management: Consultant will develop a SWM Plan for the reconstruction of Hecker Road and Viebahn Street and the construction of a proposed 90-acre industrial park in the City of Manitowoc. The SWM Plan will include a regional detention pond to be located within the industrial park.

   We will define the overall drainage basin tributary to the proposed regional pond to determine potential offsite areas which could be served by the proposed regional detention pond. Coordination with the City will determine any further development of the overall drainage basin SWM Plan.

   A SWM Plan for the roadway reconstruction and industrial park will be developed in conjunction and in consultation with the City. The SWM Plan will include hydrologic and hydraulic modeling to define the regional pond. A SWM Report will be prepared to outline the SWM Plan development and design of the regional pond. The SWM Report will define the maximum development parameters allowed for the industrial park. Conceptual internal grades within the industrial park will also be determined to identify flow paths to the regional pond.

   The SWM Plan will be developed to show the project will conform to the requirements of the Construction Site Stormwater Runoff General Permit No. WI-S067831-6 of the Wisconsin Department of Natural Resources (DNR) and the City peak flow reduction and water quality requirements. All related hydrologic and hydraulic modeling is included in this task.

3. Define Stormwater Management for Roadway Reconstruction: Consultant will define stormwater management requirements for the roadway reconstruction. Task will include the development of stormwater conveyance calculations for the ditches to allow stormwater runoff to be conveyed to the regional pond.

4. Preparation and Permitting of Regional Pond Design: Consultant will develop Final Engineering Plans for the regional pond, located within the industrial park. Task will include grading and erosion control plans, utility plans, details, general notes, and technical specifications.

The Final Engineering Plans will be used to provide a Final Stormwater Management Plan to verify the regional pond can be used to provide stormwater management to meet the requirements of NR 151 for the roadway reconstruction and industrial park. Requirements may include peak flow reduction, water quality improvements, and Infiltration practices.

E. Final Engineering

1. Upon reviews, agency feedback and coordination, and City approvals, we will move into and/or continue with the final design and permitting. This will include the final design computations such as pavement design report (based on conservative soil types and traffic counts) and all stormwater.

2. Final plans will be developed and include:
   - Title sheet, details, cross-sections.
   - Final pavement marking and signage and erosion control plan.
   - Final intersection details and design.
   - Final design including roadway, sanitary sewer, and water main (assume rural roadway for

budgetary purposes), and storm sewer/ ditching.
- Construction staging and phasing plan.
- Prepare final cost estimates and any additional value engineering feedback.

3. Submit the final plans to the City and review the 90% plans with the City. Submit plans to various reviewing agencies and utilities for final feedback and scheduling conflicts.

F. Bid Sets

1. Based upon the 90% final plan review from the City and comments from the reviewing agencies and the utilities, we will update the final plan set and specifications to bid documents.

2. Prepare the final permits for DNR sewer and water and DOT.

G. Bidding Phase (Assume This Is Needed)

1. Prepare a final project bid manual, including plans and specifications, for advertising and bidding (online through Quest). Submit the advertisement to the local paper and trade publications as well.

2. Answer bidder's questions during bidding and prepare the necessary addendums.

3. Attend the bid opening and prepare a final bid tabulation and recommendation of award based upon the low bidder.

H. Contingency Items (not believed to be required at this time; approximate prices are stated in the fee proposal for budgetary purposes)

1. Geotechnical Investigations (off-site, or additional on-site for current moisture conditions of soils).

2. DNR Chapter 30 Permit or wetland disturbance.

3. Public Service Commission permitting.

4. Conceptual layouts of the business park. We will discuss and provide feedback on the existing conceptual layout but do not anticipate any new layouts.

5. Conceptual layouts of various road and intersection options. We will provide a typical section and an initial intersection layout to evaluate with City staff and committees, and discuss the pros/cons of these options, but we do not anticipate an actual alternative analysis with costs and drafted plan layouts.

6. Right of way plat. We assume no acquisition is required within STH 60, nor any easements.

7. Property acquisitions (appraisals or negotiations). We do include costs for legal, exhibits, and staking of potential easements.

Statement of Qualifications

Firm Capabilities

raSmith is a multi-disciplinary consulting firm comprising civil engineers, structural engineers, traffic engineers, land surveyors, development managers, landscape architects, and ecologists.

Our services are focused on our public and private sector clients' needs in design and construction including site design, structural engineering, municipal engineering, transportation and traffic, surveying, construction services, and geographic information systems (GIS). We work on projects nationwide from our seven locations.

Richard A. Smith, M.S., P.E., F.ASCE, founded raSmith in 1978. Richard A. Smith Jr., P.E., (Ricky) leads the firm as president. The firm currently employs a staff of 220.

The design team for the City of Manitowoc utility, stormwater, and street design services will be led by Troy Hartjes, P.E., from our Cedarburg office. In addition, all corresponding meetings and files will come from raSmith's Cedarburg office. Troy will be supported by our multi-disciplinary staff and services in raSmith's Brookfield office, as shown on our organizational chart.

Municipal Engineering

On a daily basis we offer creative solutions to communities as they work to both maintain and improve their roadways, land use (civil site design), structures, water, wastewater and stormwater systems, parks and open spaces, and public safety facilities.

At raSmith, we advocate for practical, cost-effective solutions and provide a seamless approach that meets a range of community needs. We have served local government since 1978, with ongoing relationships in many communities for more than 20 years.

Site Design Services

Our site design services team has a long history of providing site planning and site design on private sector land development projects located nationwide. raSmith's repeat business with local and national developers and owners can be attributed to our real-estate mindset as well as our proven ability to turn a site's "unknowns" into "knowns."

Municipal and site design staff in Wisconsin includes 22 project managers and 45 project engineers and technicians.

DOT/Transportation/Traffic

We are intimately familiar with the distinctive needs and requirements of clients at both the state and local levels whether village or town, city, county or DOT. The team also works with a wide range of clients including local land developers. We are also very familiar with project concerns, conflicts and challenges that arise - from design complexities to public participation and information.

raSmith's staff of traffic engineers analyze and design transportation solutions, which include traffic and safety analysis and traffic signal design, to ensure safe and efficient operations for motorists, bicyclists, and pedestrians.

Our staff includes one of just a few access management experts in the state of Wisconsin. Regardless of the specific traffic issue, uncovering the root of the problem focuses our efforts on creating a solution, not just a deliverable.

Transportation staff in Wisconsin includes 8 project managers, 11 project engineers, and 3 traffic engineers.

raSmith
CREATIVITY BEYOND ENGINEERING

Statement of Qualifications

Construction Services

raSmith's construction inspection and management expertise extends from deep sewers to local roads, state highways, and residential subdivisions. Our resident engineers, construction managers, and inspectors bring their breadth of know-how and foresight to every project. We view a project through the owner's eyes and consider details that are critical to a successful outcome.

We are more than service providers for a specific project; we are our client's eyes and ears. Importantly, we communicate regularly with the public and other project stakeholders and work with the contractor toward completing the project on time and within budget.

Construction staff in Wisconsin includes 2 group managers, 6 project managers, and 18 project engineers and technicians.

Landscape Architecture

Our team of landscape architects all have a background in design and construction – we are reality-based. We understand how to design dramatic outdoor environments while fully understanding how to install and maintain the projects we design. Our landscape architects get projects approved and design to a budget without making it appear there was a budget. We solve problems and we have fun doing it. We're passionate about our work and take pride in exceeding our clients' expectations.

Wisconsin staff includes 4 landscape architects.

Survey & Geospatial

Land Survey

raSmith has a heritage in land surveying and an extensive library of survey records. Dating from 1929, raSmith has completed more than 500,000 surveys for a broad range of projects.

This experience places our survey staff in the expert category when preparing CSMs, plats, and easement exhibits.

LiDAR (3D Laser Scanning)

raSmith uses LiDAR to help clients best understand the as-built environment. As early adopters of LiDAR, our staff uses this powerful technology for an array of projects that involve sites, bridges and other public infrastructure, and buildings.

Unmanned Aircraft Systems (UAS)

Multiple UAS are one of several tools in our survey toolbox. Advantages of using this technology include enhanced data collection on a wide range of projects; ability to better map areas that may otherwise be difficult or unsafe to traverse; and in certain instances, a more cost-effective means of collecting data versus traditional methods.

Survey staff in Wisconsin includes 7 survey managers, 22 surveyors/technicians, 1 3D laser scanning manager and 3 LiDAR technicians.

raSmith
CREATIVITY BEYOND ENGINEERING

Statement of Qualifications: Subconsultant

Terracon (If Needed)

Before owners can build highways, dams, buildings and other structures, they need a partner to help determine how the characteristics of the soil conditions on the site will react under the stress caused by the weight of the structure. Terracon is that partner.

Since 1965, Terracon has evolved into a successful multi-discipline firm specializing in environmental, facilities, geotechnical, and materials services.

Terracon serves a diverse portfolio of private and public clients. By being responsive, resourceful and reliable, the firm strives to exceed clients' expectations for service, solutions, quality and speed of delivery. Based on a deep understanding of their clients' needs, Terracon's commitment is centered on these key objectives.

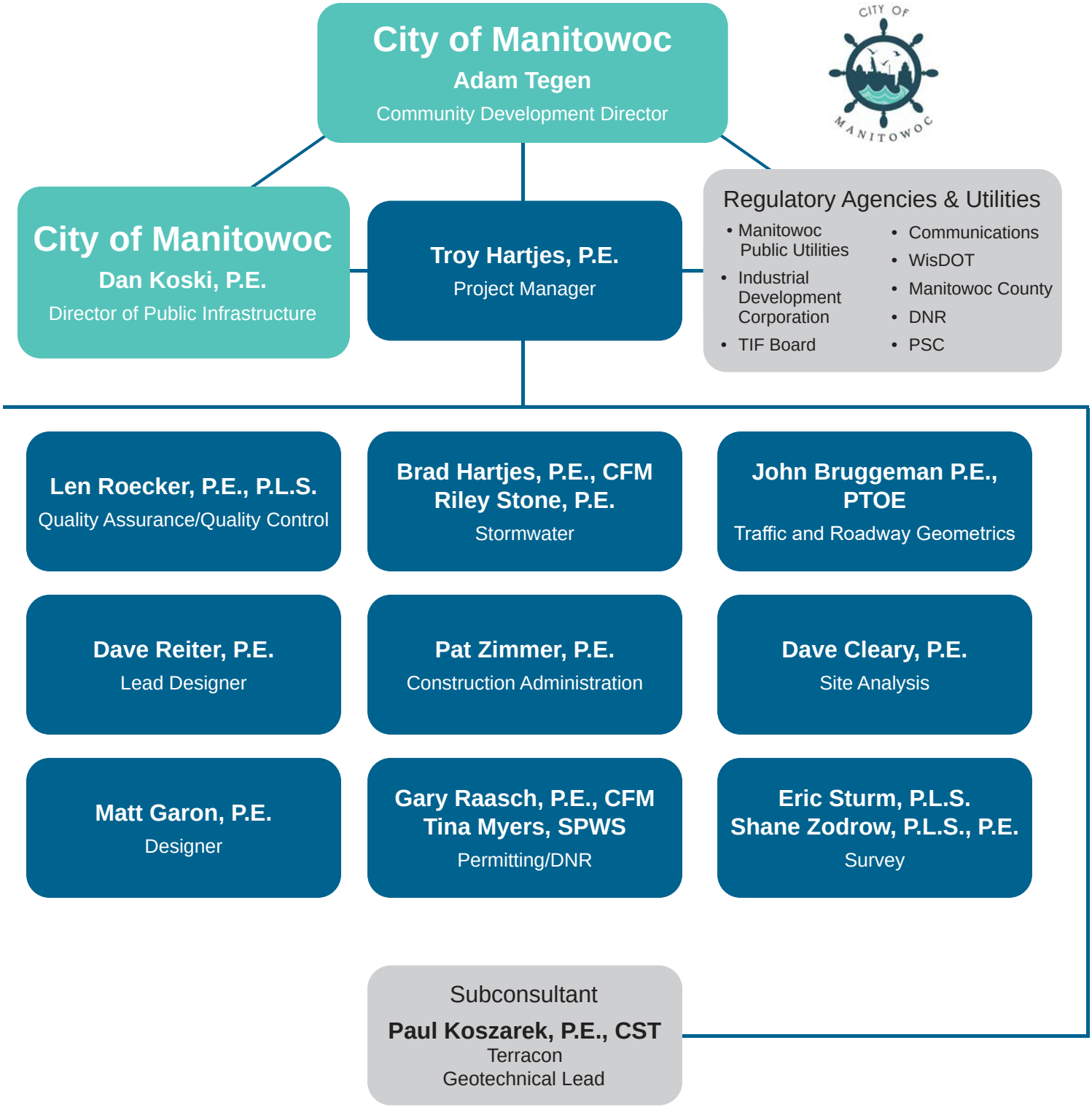
Geotechnical Services

From major highway projects to bridge inspections, Terracon proves itself to be a leader in the transportation sector, providing geotechnical engineering, environmental consulting, construction materials, and pavement-related services. They have a broad range of technical and management experience delivered to both public and private sector clients.

In addition to traditional construction materials, environmental, and geotechnical engineering services, specialized highway and bridge services have included oversight and evaluation of pile dynamic evaluation, load testing of piles and drilled shafts (including statnamic testing) and lateral load testing of driven steel piles. Terracon has also provided extensive instrumentation for settlement observation, pile loading, and slope stability.

Project Team

Team Organizational Chart



Key Project Personnel

Troy Hartjes, P.E. — Project Manager

Troy has nearly 25 years of experience in municipal public works projects. Troy's extensive project experience includes: urban and rural roadway rehabilitation and construction; sanitary sewer and water main system design; stormwater conveyance systems; water and sewer system planning; stormwater management; stormwater utilities; comprehensive drainage plans; and project management for planning and design of business parks.

Troy has experience helping municipal clients to prepare capital improvement budgets, construction specifications, bid documents, public reports and assessment schedules, CMOM reports, NR 216 compliance reports, development reviews, and WISLR road rating updates. Troy also has extensive experience obtaining agency approvals from WDNR, MMSD, and WisDOT and assisting these municipalities in obtaining federal and state loans and grants.

Recent business park projects include:

- **Cedarburg Business Park, City of Cedarburg:** Front-end site development coordination, including planning, layout, and platting of a 60-acre parcel of land as it developed.
- **Germantown Gateway Business Park, Village of Germantown:** Public improvements on a 205-acre corporate park.
- **Viking Business Park, Village of Denmark:** Managed and led design for planning and construction documents of the highly visible 40-acre development.
- **Wausau Business Park, City of Wausau:** Managed the planning and layout for the preliminary engineering, due diligence, and permitting of the 205-acre expansion.

Len Roecker, P.E., P.L.S. — Quality Assurance/Quality Control

Len has more than 35 years of municipal engineering and surveying experience. On both the county and municipal levels, in both rural and urban settings, he has extensive experience in public works management. Len is currently the Village Engineer for the Villages of West Milwaukee and Greendale. He is designated as the Town Engineer for the Town of Wheatland and Village of Salem Lakes, in addition to providing significant engineering assistance to the Kenosha County Department of Public Works.

Len has extensive experience in utility design and construction, transportation facilities design, and construction, and surveying coordination for municipal projects. Len is very involved with the public and attends many Public Works Committee and Planning Commission meetings, coordinating projects and interacting with the members on many levels. He is highly respected for his communication and public relations skills.

Recent business park projects include:

- **Salem Business Park, Salem Lakes:** Design, plan preparation, specifications, permitting, and construction management for two storm water ponds, public utilities, and public roadways.

Brad Hartjes, P.E., CFM — Stormwater

With 25 years of civil engineering experience, Brad has specialized in water resource, municipal, and site development projects. He has focused extensively on water resource aspects, such as hydrologic and hydraulic analysis, comprehensive watershed studies, stormwater management reviews, flood control and flood improvement, and stormwater detention and compensatory storage determination.

From a site development perspective, Brad's projects have included the industrial, residential, and commercial markets for both public and private sectors. He uses his skills in site plan development, stormwater management permitting, grading and earthwork analysis, plan and profiles, utility layout and design, wetland coordination, and geotechnical coordination to ensure success for his clients' projects.

Site development projects with stormwater management considerations include:

- **Sexton Logistics Center, Schiller Park, IL:** 25-acre industrial subdivision requiring site plan layout, stormwater management report for detention facilities, pavement design, grading and earthwork analysis, and storm sewer design
- **Seneca I-80 Railport, Seneca, IL:** 1,600-acre industrial subdivision requiring hydrologic modeling for stormwater detention requirements and hydraulic modeling for relocation of a waterway through the property.

raSmith
CREATIVITY BEYOND ENGINEERING

Key Project Personnel

John Bruggeman, P.E., PTOE — Traffic and Roadway Geometrics

John has 19 years of transportation engineering experience. His expertise includes traffic signal design, traffic impact studies, and traffic analysis. John oversees raSmith's traffic signal design efforts, which has included over 100 traffic signal designs in the last five years. He has managed intersection improvement and traffic signal retiming projects, including WisDOT Highway Safety Improvement Program (HSIP), WisDOT permit projects, and municipal projects.

Additionally, John is actively involved in the transportation engineering profession, providing technical conference presentations, serving on the ITE Wisconsin Section executive board, and teaching transportation engineering courses at Marquette University.

Recent business park projects include:

- **Cedarburg Business Park, City of Cedarburg:** Front-end site development coordination, including planning, layout, and platting of a 60-acre parcel of land as it developed.

Dave Reiter, P.E. — Lead Designer

Dave has 23 years experience in a broad range of civil engineering areas such as utility design, drainage, paving, grading, and preliminary site engineering reports. Dave also has experience as an inspection engineer with the Wisconsin Department of Transportation and private consultants. His inspection experience includes storm sewer, sanitary sewer, water main, paving, grading, landscaping, retaining wall, and curb and gutter installation. In addition, Dave has worked on survey crews using total stationing equipment.

Recent business park projects include:

- **Cedarburg Business Park:** Front-end site development coordination, including planning, layout, and platting of a 60-acre parcel of land as it developed.
- **Salem Business Park, Salem Lakes:** Design, plan preparation, specifications, permitting, and construction management for two storm water ponds, public utilities, and public roadways.

Pat Zimmer, P.E. — Construction Administration

Pat has 38 years of construction services experience. He has been involved with a conservative estimate of more than 1,000 projects ranging from municipal water and wastewater to highways and bridges. For over 30 years, pat has managed an extensive staff of more than 30 engineers, technicians, and field personnel.

Pat is also the internal principal of construction observation, monitoring, management, and materials testing for the Wisconsin Department of Transportation projects, local units of government, and private developments.

Traffic support for planning and design projects include:

- Donges Bay Corporate Park, City of Mequon
- Milwaukee County Research Park Development, Milwaukee
- Commerce Business Park, Village of Germantown
- Cedar Creek Business Park Pavilion, City of Mequon
- Franklin Business Park, City of Franklin
- CTH ES Reconstruction, Waukesha County
- Donges Bay Road Sewer and Water Main Extension, City of Mequon

Dave Cleary, P.E. — Site Analysis

Dave is a senior project manager and the director of the site design services division at raSmith. Dave has more than 24 years of vertical and horizontal private, public, and federal facility development experience. He is skilled at developing project specific approaches and specialized A/E design teams for clients. His ability to fine tune project approaches was developed throughout his career, having worked directly for building contractors, owners, and A/E consulting firms in previous positions.

Dave is focused on owner involvement and participation while maintaining appropriate design team oversight throughout pre-design, design, and construction phases. Dave held positions as director of development and senior project manager at civil engineering firms and as the director of site development at Kohl's Department Stores prior to joining raSmith.

Recent business park projects include:

- **Cedarburg Business Park, City of Cedarburg:** Front-end site development coordination, including planning, layout, and platting of a 60-acre parcel of land as it developed.

raSmith
CREATIVITY BEYOND ENGINEERING

Key Project Personnel

Gary Raasch, P.E., CFM — Permitting/ DNR

Gary has more than 40 years of water resources engineering and project management experience, primarily in the areas of stormwater management and flood control. He has successfully managed feasibility studies, preliminary engineering designs, and preparation of construction plans and specifications for surface water management projects including: sewers, stormwater detention facilities, streambanks, channel modifications, and levees.

He has managed projects for a variety of clients including the Milwaukee Metropolitan Sewerage District, U.S. Army Corps of Engineers, Federal Emergency Management Agency, large and small municipalities, county agencies, other consulting firms, and private businesses.

Stormwater and permitting projects include:

- **Korb Sports Complex, Town of Cedarburg:** Stormwater management for facility and all DNR permitting for filling numerous wetlands that were necessary to complete the mass site grading.
- **Grand Avenue Biofiltration, Menomonee Falls:** Prepared design of regional biofiltration basin and necessary DNR permitting that included wetland fill, avoiding wetlands and storm outfall to the Menomonee River.
- **Stormwater Management Plan Update, City of De Pere**
- **Stormwater Management Plan Reviews, City of Appleton**
- **USH 41 Stormwater Planning, WisDOT:** Planning analysis to address stormwater quality management practices for highway expansion in Winnebago and Brown Counties.

Tina Myers, SPWS — Permitting/DNR

Tina's contribution to natural resources projects includes 20 years of extensive experience in multidisciplinary ecological work. She is recognized as a Senior Professional Wetland Scientist (SPWS) by the Society of Wetland Scientists and is a WDNR Professionally Assured Wetland Delineator. Her experience includes wetland determinations and delineations; wetland and waterway permit applications; wetland mitigation plan preparation, maintenance and site monitoring; wetland functional assessments; environmental corridor mapping; vegetation surveys including rare species surveys, plant community mapping and assessment; natural resource protection plans; feasibility studies; environmental assessments; upland habitat restoration; and biological monitoring of streams, wildlife surveys, and wildlife habitats.

Tina has worked on a multitude of projects including many large-scale projects such as business and industrial parks, major transportation and utility corridors, and large commercial sites. She has held the role of project manager on numerous projects, and has been a lead scientist on countless other projects regularly performing quality assurance/quality control. Tina works closely with a wide variety of clients for commercial, governmental, industrial and municipal projects, as well as for private landowners.

Stormwater and permitting projects include:

- **Cedarburg Business Park:** Front-end site development coordination, including planning, layout, and platting of a 60-acre parcel of land as it developed.
- **Salem Business Park, Salem Lakes:** Design, plan preparation, specifications, permitting, and construction management for two storm water ponds, public utilities, and public roadways.
- **Korb Sports Complex, Town of Cedarburg:** Stormwater management for facility and all DNR permitting for filling numerous wetlands that were necessary to complete the mass site grading.

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, Transportation and Municipal Emphasis, University of Wisconsin–Milwaukee, 1995

Professional Registrations

Professional Engineer: Wisconsin

Professional Affiliations

American Society of Civil Engineers
American Council of Engineering Companies

American Public Works Association

Professional Awards

American Young Leader, ACEC, 2006

Presentations

Association of Metropolitan Milwaukee Area (AMMA) Public Work

Administrators & Engineers, Fall 2013, Fall 2012

Institute of Traffic Engineers, Regional Conference, 2019

Troy T. Hartjes, P.E.

Project Manager

Troy has nearly 20 years of experience in municipal public works projects. Troy's extensive project experience includes: urban and rural roadway rehabilitation and construction; sanitary sewer and water main system design; stormwater conveyance systems; water and sewer system planning; stormwater management; stormwater utilities; comprehensive drainage plans; and residential subdivision site design.

Troy has experience helping municipal clients prepare capital improvement budgets, construction specifications, bid documents, public reports and assessment schedules, CMOM reports, NR 216 compliance reports, development reviews, and WISLR road rating updates. Troy also obtained agency approvals from WDNR, MMSD, and WisDOT. Additionally, Troy helped these municipalities obtain federal and state loans and grants.

Project Experience

Cedarburg Business Park, City of Cedarburg, WI: Managed all planning, layouts, preliminary, and final design of 60-acre business park along STH 60. Initial planning and design included wetland exemptions and mitigation, new access to state highway, ALTA surveys, geotechnical and certified survey maps, and coordination for future roadways to the surrounding parcels. Final design for the business park included 20,000' of new roadway, off site extensions of utilities to the site, all sewer, water, and storm sewer designs, new Booster Station and PSC approvals, environmental permitting, and all mass grading and stormwater management.

Wausau Business Park, City of Wausau, WI: Provided project management for a site master plan on a 205-acre expansion of the business park located on the west side of the City of Wausau. Design team worked with planning, engineering, and economic development staff to develop the plans for the initial phase of 2017 construction.

Viking Business Park, Village of Denmark, Brown County, WI: Managed and led the design for the planning and construction documents for the development of this business park. The highly visible 40-acre development on I-43 was one of the remaining open areas with an interstate interchange in Brown County. The site included extensive DNR permitting due to environmental concerns including a navigability determination, crossing of the waterway, and wetland delineations. The site directly abuts the interstate so coordination with the DOT was also required. The final site was left flexible for future uses but the development included sewer and water utilities, dry utilities, and all surveying.

Oostburg Industrial Park, Village of Oostburg, Sheboygan County, WI: Assisted with the design and planning of over 120 acres and multiple phases for an industrial park development. Included master planning, street and utility layouts, surveying, cost estimating, feasibility analysis, and all DNR and DOT permitting. This site was directly adjacent to I-43.

raSmith
CREATIVITY BEYOND ENGINEERING

Troy T. Hartjes, P.E.

Project Manager

Northeast Interceptor Sewer, Village of Germantown, WI: Project included the delineation of sanitary sewer service areas, updates to the regional plan commission service areas, modeling and sizing of the new interceptor sewer in the northeast area of the Village, and the abandonment of an existing lift station. Final design included over two miles of 10" thru 18' sanitary sewer, microtunneling, wetland crossings, railroad crossings, and DOT permitting.

Jacobson Road Reconstruction, Village of Menomonee Falls, WI: Managed a six-block urban to urban reconstruction project, including all utilities (sewer, water, and storm). Project included all survey, utility, and permit coordination, along with staging and traffic control in a residential setting.

Calhoun Road Reconstruction, City of New Berlin, WI: raSmith provided design services for the City of Brookfield and the Wisconsin Department of Transportation (WisDOT) for a two-mile section of Calhoun Road from CTH M (North Avenue) to WIS 190 (Capitol Drive) in the City of Brookfield in Waukesha County. This roadway reconstruction project was one the largest and most complex WisDOT Local Program projects in the state.

The project included the design of a cast-in-place twin-cell box culvert to convey an unnamed tributary of the Fox River under Calhoun Road. The culvert consisted of two 10-foot wide by 6-foot deep cells with an overall box length of nearly 143 feet. In addition to the structural design, the box culvert design included a hydrologic and hydraulic (H&H) analysis to size the structure. The structural plans were developed to account for a staged construction in order to maintain bidirectional traffic flow on Calhoun Road at all times throughout construction. The structural design and plans were prepared in accordance with AASHTO and WisDOT BOS standards and specifications.

Private Lead Service Line Replacement Program, Village of Menomonee Falls, WI: Provided all oversight and private property coordination for over 200 lead service replacements on private property. This included the initial coordination and mailers, scheduling with each individual property owner, and obtaining private entry agreements, bid documents, and permitting.

Blue Stem Subdivision, Village of Grafton, WI: Managed all layouts and design for an over 80-acre, 120 parcel subdivision with multiple phases and all roadway, utilities, stormwater management, and grading.

Goldendale Road and Holy Hill Road Interceptor Sewer and Transmission Main, Village of Germantown, WI: Provided management for determining all service areas and drainage basins for northwest part of the Village along the I-41corridor and the ultimate flow modeling and sizing for the sanitary interceptor sewer to serve the northwest portion of the Village. Final design included nearly two miles of 15" to 24" sanitary interceptor sewer and 12" to 16" water main. Project required wetland delineations, wetland permitting, easement acquisitions, multiple phases, and coordination with the County and adjoining communities for future extensions.

Beres Road Reconstruction, City of New Berlin, WI: Provided project management for one-mile rural road reconstruction that included innovative stormwater design solutions including low flow piping and ditching. Project included replacement of large culverts and a navigable waterway and all permitting and construction permits.

East Trunk Relief Sewer, City of Mequon, WI: The East Trunk Relief Sewer (ETS) project consisted of approximately 8,500' of 48" sanitary sewer and 3,500' of 24" sanitary sewer, mostly installed by trenchless technology (micro-tunneling). The project provides relief from basement backups for many residents within Mequon. Design included the analysis of a route alignment, modeling of the sewer system, all design and contract documents for the project, and all permitting including Union Pacific Railroad, Wisconsin Department of Transportation, Ozaukee County, Milwaukee Metropolitan Sewer District, and Wisconsin DNR.

Menomonee River Parkway Renewal, Milwaukee County, WI: Provided project management from concept to final construction and served as technical lead for the revitalization of the four-mile Menomonee River Parkway, from the north terminus to the Village of Wauwatosa. The parkway was in dire need of a transformation, as the original intent of a scenic and pedestrian roadway had become more of a commuter route. While a main objective was to reconstruct the deteriorating roadway, the opportunity to reconstruct the road also enabled the roadway to be renewed to its original intent of a parkway featuring trees, landscaping, and pedestrian facilities. The project included multiple concepts, public meetings and involvement, roadway traffic calming elements, green infrastructure with bio-filtration swales and basins, and other sustainable elements. raSmith provided grant applications that assisted in securing over $300,000 from MMSD and the DNR.

raSmith

CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, University of Wisconsin-Platteville, 1985

Professional Registrations

Professional Engineer: Wisconsin

Wisconsin Registered Professional Land Surveyor

Professional Affiliations

National Society of Professional Engineers

Wisconsin Society of Professional Engineers

Honors

2005 – Named “Engineer of the Year” by the Waukesha Chapter of the Wisconsin Society of Professional Engineers

Leonard J. Roecker, P.E., PLS

Quality Assurance/Quality Control

Len has more than 35 years of municipal engineering and surveying experience. On both the county and municipal levels, in both rural and urban settings, he has extensive experience in public works management. Len is currently the Village Engineer for the Villages of West Milwaukee and Greendale. He is designated as the Town Engineer for the Town of Wheatland and Village of Salem Lakes, in addition to providing significant engineering assistance to the Kenosha County Department of Public Works.

Len has extensive experience in utility design and construction, transportation facilities design and construction, and surveying coordination for municipal projects. Len is very involved with the public and attends many Public Works Committee and Planning Commission meetings, coordinating projects and interacting with the members on many levels. He is highly respected for his communication and public relations skills.

Project Experience

Municipal Services

- Design, specification preparation, bidding, and contract administration of sanitary sewer, water main and storm sewer systems, curb and gutter, sidewalk, and road reconstruction.
- Plan review of both subdivision and commercial development plans. Reviews include grading, utilities, roadway design, stormwater management erosion control, landscape, lighting, details and as-built drawings, as well as certified survey maps, subdivision plats, developer’s agreements, and traffic reports.
- Engineering studies, cost estimates, and implementation of various public works projects, including pavement improvements.
- Interaction with developers and citizens to resolve questions related to drainage problems, zoning, mapping, wetlands, floodplain, erosion control, etc.
- Presentation of review comments at public works committee, planning commission meetings, and Town and Village Board meetings.
- Coordination with regulatory agencies.

Municipal Clients

Town Engineer Designee-Wheatland (1991-Present)

- Roadway, drainage, and development reviews

Kenosha County Department of Public Works (1989-Present)

- Engineering assistance to highway, parks, and golf divisions and facilities management
- Petrifying Springs Park, Pike River Fish Passage dam removal

Village Engineer Designee—Salem Lakes (1990–Present)

- Roadway, drainage, and development reviews
- Annual street rehabilitation program
- Stormwater management planning

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, University of Wisconsin–Platteville, 1994

Professional Registrations

Professional Engineer: Wisconsin (No. 45256-6), Illinois (No. 062-053274)

Certifications

Certified Floodplain Manager, Association of State Floodplain Managers

Professional Affiliations

NorthEast Wisconsin Stormwater Consortium (NEWSC) Chair – Building and Development Committee

Brad Hartjes, P.E., CFM

Stormwater

With 27 years of civil engineering experience, Brad has specialized in water resource, municipal, and site development projects. He has focused extensively on water resource aspects, such as hydrologic and hydraulic analysis, comprehensive watershed studies, stormwater management reviews, flood control and flood improvement, and stormwater detention and compensatory storage determination.

From a site development perspective, Brad's projects have included the residential, commercial, and industrial markets for both the public and private sectors. He uses his skills in site plan development, stormwater management permitting, grading and earthwork analysis, plan and profiles, utility layout and design, wetland coordination, and geotechnical coordination to ensure success for his clients' projects.

Municipal projects include: industrial subdivision stormwater management analysis, land planning, and utility coordination; drainage studies for roadway extensions and reconstructions; regional stormwater management planning and design; and DNR and Erosion and Sediment Control.

Project Experience

Southpoint Commerce Park Expansion, City of Appleton, WI: 115-acre industrial subdivision located in the City of Appleton. Project manager responsible for 30% engineering feasibility analysis and design including hydrologic and hydraulic analysis of a regional detention pond to determine if it satisfies the City of Appleton Stormwater Ordinance along with analysis to provide stormwater runoff conveyance through the subdivision to the regional pond. Also included lot division for future development, utility layout, proposed budget, and 30% grading design of the subdivision.

Sexton Logistics Center, Schiller Park, IL: 25-acre industrial subdivision consisting of a cross-truck-docking facility. Responsibilities included site plan layout using AutoCAD, pavement design, grading and earthwork analysis, cost estimate, stormwater management report for detention facilities, and storm sewer design. The project was located on a landfill, which added to the complexity of the design in order to keep minimum cover requirements over the landfill. Project contained multiple retaining walls and sound walls to minimize impacts to adjacent residents.

Seneca I-80 Railport, Seneca, IL: 1,600-acre industrial subdivision. Responsibilities included hydrologic modeling for stormwater detention requirements, hydrologic and hydraulic modeling of offsite tributary areas and culverts under adjacent roadways to determine bypass through the site, and coordination with intermodal site engineer to avoid impacting the culvert crossings under adjacent roads with the site layout. Responsibilities also included hydrologic analysis for approximately 340 acres of wetland mitigation and preservation, and hydraulic modeling for relocation of Rat Run through the property.

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

M.S. Engineering & Urban Planning, University of Wisconsin-Milwaukee, 2009

B.S. Civil Engineering, Marquette University, 2004

Professional Registrations

Professional Engineer: Wisconsin, 2008; Illinois, 2016

Professional Traffic Engineer: CA, 2015

Professional Traffic Operations Engineer: 2010

Professional Affiliations

Institute of Transportation Engineers (ITE) Midwestern District

- Annual Conference planning committee, 2005-present
- Section Board Representative, 2013 Wisconsin Section
- Executive Board Member, 2009-2013
- Administrator, 2014-present

Martin Bruening Award Committee, 2007-2008

Harvey Shebesta Award Committee, 2012-present

American Council of Engineering Companies (ACEC) Future Leaders Institute, 2011-2012

Transportation Research Board (TRB) International Roundabout Conference Presenter, 2011

Awards

2018 - ITE Distinguished Service Award

2012 - ITE Young Consultants Award

2009 - ITE Martin Bruening Technical Paper Award

John Bruggeman, P.E., PTOE

Traffic and Roadway Geometrics

John has 19 years of transportation engineering experience. His expertise includes traffic signal design, traffic impact studies, and traffic analysis. John oversees raSmith's traffic signal design efforts, which has included over 100 traffic signal designs in the last five years. He has managed intersection improvement and traffic signal retiming projects, including WisDOT Highway Safety Improvement Program (HSIP), WisDOT permit projects, and municipal projects.

Additionally, John is actively involved in the transportation engineering profession, providing technical conference presentations, serving on the ITE Wisconsin Section executive board, and teaching transportation engineering courses at Marquette University.

Project Experience

WisDOT Traffic Signal Design

- WisDOT Southeast Region On-Site Signal Design Support, WI, 2009-2014, 2021-present
- WIS 31 and WIS 20 Interconnect, Racine County, WI, 2017
- WIS 164 and WIS 190 Interconnect, Waukesha County, WI, 2016
- WIS 318 Interconnect, Waukesha County, WI 2018
- Milwaukee/Waukesha County Traffic Signal Replacements, WI (WisDOT), 2014-2015
- Milwaukee/Waukesha/Ozaukee County Traffic Signal Replacements (WisDOT), WI, 2017-2019
- Ozaukee/Walworth County Traffic Signal Replacements, WI (WisDOT), 2017-2019
- I-43 North-South, Milwaukee County, WI (WisDOT), 2019
- WisDOT Holiday Traffic Signal Timings, Racine, Waukesha and Milwaukee Counties, WI, 2017-2018
- WIS 20 and Red Cloud Drive, Racine County, WI, 2019
- US 12 and County H, Walworth County, WI, 2018
- WIS 20, Village of Waterford, WI, 2019
- WIS 50, Kenosha County, WI, 2014-2021
- WIS 36, Racine County, WI, 2017-2020
- US 51/WIS 59 Signal Modifications, City of Edgerton, WI, 2013-2016
- Oneida Street, City of Appleton, WI, 2016-2018
- Greenfield Avenue, City of Milwaukee, WI, 2016-2018
- Calhoun Road, City of Brookfield, WI, 2018-2021
- La Crosse HSIP, City of La Crosse, WI, 2019-2022
- Lincoln Avenue HSIP, City of West Allis, WI, 2019-2021
- Silver Spring Drive HSIP, City of Glendale, WI, 2020-2021

County/Municipal Traffic Signal Design

- County O/Brookfield Square Mall, Waukesha County, WI, 2020-2021
- 68th Street, Wauwatosa, WI, 2021
- WIS 60 and 12th Avenue, Grafton, WI, 2021-2022
- Holy Hill Road and Goldendale Road, Germantown, WI, 2021-2022
- County A and County H Traffic Signal Inspection, WI, 2021
- County O and County I, Waukesha County, WI, 2018-2019

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, Marquette University, May 1998

Professional Registrations

Professional Engineer: Wisconsin, 2003

E.I.T. Certificate, 1997

Professional Affiliations

American Society of Civil Engineering

Dave Reiter, P.E.

Lead Designer

Dave has 23 years experience in a broad range of civil engineering areas such as utility design, drainage, paving, grading, and preliminary site engineering reports. Dave also has experience as an inspection engineer with the Wisconsin Department of Transportation and private consultants. His inspection experience includes storm sewer, sanitary sewer, water main, paving, grading, landscaping, retaining wall, and curb and gutter installation. In addition, Dave has worked on survey crews using total stationing equipment.

Project Experience

Cedarburg Business Park, Cedarburg, WI: Design, plan preparation, and specifications for the grading, utility, and roadway phases of the 60-acre Cedarburg Business Park. Work included earthwork analysis, design of two storm water ponds, 5,850 linear feet of public storm sewer and erosion control, 4,950 linear feet of public sanitary sewer, 4,900 linear feet of public water main, and 2,100 linear feet of new public roadway.

Salem Business Park Infrastructure Improvements, Salem Lakes, WI: Design, plan preparation, specifications, permitting, and construction management for two storm water ponds, public utilities, and public roadways. Work included designing of the vertical and horizontal alignment of 3,400 linear feet of new public roadways, 2,000 linear feet of public sanitary sewer, 3,000 linear feet of public water main, 4,800 linear feet of public storm sewer, erosion control, storm water design, pavement marking, and permanent signage.

Sunset Oaks Manor Subdivision Drainage Improvement Project, Salem, WI: Design, plan preparation, specifications, permitting, and construction management of 2,750 linear feet of public storm sewer for a retro fit drainage system in an existing subdivision with drainage issues.

Timber Lane Subdivision Drainage Improvement Project, Salem, WI: Design, plan preparation, specifications, permitting, and construction management of 2,250 linear feet of public storm sewer and a 850 linear feet drainage channel for a retro fit drainage system in an existing subdivision with drainage issues.

S. 41st Street Redevelopment District Public Utilities & Public Street Improvements Projects, West Milwaukee, WI: Design and plan preparation for public utilities and public roadways improvements. Work included designing of the vertical and horizontal alignment of the public roadways, public utilities, erosion control, traffic control staging, pavement marking, and permanent signage. Infrastructure: 2,000 linear feet of public storm sewer, 370 linear feet of 12” public water main, 1,200 linear feet of 8” public water main, 600 linear feet of 12” public sanitary sewer, 400 linear feet of 8” public sanitary sewer, and 1,700 linear feet of public roadway.

CTH Q, Kenosha County, WI: Design and plan preparation for a roundabout intersection, 2,600 linear feet of roadway, 1,600 linear feet of new storm sewer, and a stormwater pond.

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, University of Wisconsin Milwaukee, 1988

Professional Registrations

Professional Engineer: Wisconsin

Professional Affiliations

Wisconsin Transportation Builders Association

Wisconsin Asphalt Pavers Association

American Water Works Association

Wisconsin Underground Raw Materials Suppliers

Presentations

“Integrating Native Landscape & Stormwater,” 2014

“Planning Communities for Generations,” 2011

Continuing Education

10-Hour OSHA Training for Construction

Teaching Experience

Chairman of the Planning Committee for the Milwaukee Metropolitan Sewerage District (MMSD)

Inspection Seminar, 1991–1995 and 2003–2006

raSmith training program, 1988–present

Member of the Organizational Committee for the MMSD Inspection Seminar, 1989–present

Inspection Seminar, Updates in the Standard Specifications for Sewer & Water Construction in Wisconsin, MMSD, 2003 and 2004

Pat Zimmer, P.E.

Construction Administration

Pat is gaining his 38th year of experience in construction services. In those years, he has been involved with a conservative estimate of more than 1,000 projects ranging from municipal water and wastewater to highways and bridges. For over 30 years, Pat has managed an extensive staff of more than 30 engineers, technicians, and field personnel.

Pat is also the internal principal of construction observation, monitoring, management, and materials testing for Wisconsin Department of Transportation projects, local units of government, and private developments.

Project Experience

- Cedarburg Business Park Phase 1 Grading, Phase 2 Utilities, Phase 3, Cedarburg, WI
- Great Water Alliance, Supply Line and Return Flow System in Waukesha, New Berlin, Milwaukee, Muskego, and Franklin, WI
- 7th Street Reconstruction and Wet Utility Replacements, City of West Bend, WI
- Webster Avenue Utilities, City of Cedarburg, WI
- Prairies Edge North, City of Port Washington, WI
- 2021 Utility and Paving Reconstruction, City of Port Washington, WI
- Village at Fox River, City of Waukesha, WI
- 2021 Paving Program, Town of Cedarburg, WI
- Wrenwood North Development, Village of Germantown, WI
- The Murphy Site Development, Village of Germantown, WI
- Village of Menomonee Falls Lead Service Abatement, Menomonee Falls, WI
- Hayes, Madison and Main Water System replacement, Village of Menomonee Falls, WI
- Edgewood Preserve Development, Village of Menomonee Falls, WI
- Pilgrim Landing Development, Village of Menomonee Falls, WI
- Evergreen Fields Development, Village of Menomonee Falls, WI
- Warren Street Industrial Utilities, Village of Menomonee Falls, WI
- Hartford Road and James Street Utilities and Paving, Village of Slinger, WI
- WIS 175, Washington St, Utilities and Paving, Village of Slinger, WI
- Stonefield Terrace Development, Village of Slinger, WI
- Woodland Trails Development, Phase 1, Village of Sussex, WI
- Woodland Trails Development, Phase 2, Village of Sussex, WI
- Vista Run Development Phase 1, Village of Sussex, WI
- WIS 60, Jackson to Cedarburg, WisDOT
- Prairies Edge Center, City of Port Washington, WI
- Roger Avenue Water System, Village of Menomonee Falls, WI
- The Woods at White Pines Surface Course, City of Port Washington, WI
- Greystone Addition No 1, City of Port Washington, WI
- Gateway Court Industrial Development, Village of Germantown, WI

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, University of Wisconsin-Milwaukee, 1992

Professional Registrations

Professional Engineer: Wisconsin, Indiana, Minnesota, Michigan, and North Dakota

Professional Affiliations

Wisconsin Healthcare Engineering Association

International Council of Shopping Centers (ICSC)

Dave Cleary, P.E.

Site Analysis

David is a senior project manager and the director of the site design services division at raSmith. Dave has more than 24 years of vertical and horizontal private, public, and federal facility development experience. He is skilled at developing project specific approaches and specialized A/E design teams for clients. His ability to fine-tune project approaches was developed throughout his career, having worked directly for building contractors, owners, and A/E consulting firms in his previous positions.

Dave is focused on owner involvement and participation while maintaining appropriate design team oversight throughout pre-design, design, and construction phases. Dave held positions as director of development and senior project manager at civil engineering firms and as the director of site development at Kohl's Department Stores prior to joining raSmith.

General Responsibilities

- Plans, develops, coordinates, and directs large and small private and federal sector projects
- Manages and tailors pre-design services specific to internal development manager and client needs
- Maintains liaison with clients and organizations outside of the company
- Assumes ultimate responsibility for client management, forecasting client needs, and positioning the firm to meet those needs
- Interacts with all company business units, administration, and accounting departments to ensure project's success and continuity
- Manages and evaluates regional preferred sub-consultants
- Supervises and coordinates the work of internal civil technicians, surveyors, and project engineers

Selected Project Experience

- Design Build Civil Engineering – numerous light industrial facilities
- Nationwide Retail Store Expansion – Kohl's Department Stores
- Destination Retail – Cabela's, Richfield, WI
- Grocery – Sendik's, Roundy's, Kohl's, and Sentry Food Stores
- Retail adaptive reuse – ABC Supply
- VA Medical Centers – Danville and North Chicago, IL; Milwaukee (Zablocki) and Tomah, WI; St. Cloud and Minneapolis, MN; Indianapolis, IN; and Iron Mountain, MI
- Community Living Centers – Danville, Zablocki, St. Cloud and Tomah Veterans Affairs Medical Center
- Federal – LEED® Gold Walker Ranger District Office, USDA Forest Chippewa National Forest
- Historic Preservation/106 Consultation – Zablocki Veterans Affairs Medical Center
- Fisher House – Zablocki Veterans Affairs Medical Center
- Aquatic Organism Passage – Ozaukee County Milwaukee River Fish Passage

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, University of Wisconsin–Platteville, 2003

B.S. Environmental Engineering, University of Wisconsin–Platteville, 2003

Professional Registrations

Professional Engineer: Wisconsin

Matthew J. Garon, P.E.

Designer

Matt is a project engineer with more than 15 years of experience in municipal public works projects. His project experience includes: roadway design for municipal clients and the Wisconsin Department of Transportation (WisDOT); utility design, including storm sewer, water main and sanitary sewer; stormwater management plans; and site development.

Additionally, Matt has experience in the preparation of cost estimates, project specifications, and bidding documents; review of municipal clients' design plans to ensure concurrence with local ordinances and specifications; and preparation of local and state permits, including WDNR Water, Sanitary, Chapter 30, WRAPP, MMSD Water Connection, and MMSD Chapter 13. Matt also has experience with construction inspection and surveying.

Project Experience

East Trunk Relief Sewer, City of Mequon: The East Trunk Relief Sewer (ETS) project consisted of approximately 8,500' of 48" sanitary sewer and 3,500' of 24" sanitary sewer, mostly installed by trenchless technology (micro-tunneling). The project provides relief from basement backups for many residents within Mequon. Design included the analysis of a route alignment, modeling of the sewer system, all design and contract documents for the project, and all permitting including Union Pacific Railroad, Wisconsin Department of Transportation, Ozaukee County, Milwaukee Metropolitan Sewer District, and Wisconsin DNR.

Northeast Interceptor Sewer, Village of Germantown: Project included the delineation of sanitary sewer service areas, updates to the regional plan commission service areas, modeling and sizing of the new interceptor sewer in the northeast area of the Village, and the abandonment of an existing lift station. Final design, included over two miles of 10" thru 18' sanitary sewer, microtunneling, wetland crossings, railroad crossings, and DOT permitting.

Utility Relays, Village of Grafton, Ozaukee County: Lead project engineer for design of 5,500 linear feet of sanitary sewer relay, 6,300 linear feet of water main relay, and 6,000 linear feet of road reconstruction.

Sanitary Sewer Relay, Village of Whitefish Bay, Milwaukee County: Designed 7,200 linear feet of sanitary sewer relay on various streets throughout the Village.

Honey Lane Sanitary Sewer Relay, City of New Berlin, Waukesha County: Lead project engineer for design of 1,500 linear feet of sanitary sewer relay with additional sanitary sewer rehabilitation, including CIPP lining and test and seal grouting.

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

M.S. Water Resources Engineering, University of Wisconsin-Milwaukee, 1979

B.S. Civil and Environmental Engineering, University of Wisconsin-Madison, 1975

Professional Registrations

Professional Engineer: Wisconsin, No. E-18894

Professional Engineer: Illinois

Certified Floodplain Manager, Association of State Floodplain Managers

Drainage Engineer, Wisconsin DATCP

Professional Affiliations

American Society of Civil Engineers

National Society of Professional Engineers

Wisconsin Society of Professional Engineers

Association of State Floodplain Managers

Wisconsin Association for Floodplain, Stormwater, and Coastal Management

Honors

Alumnus of the Year, University of Wisconsin – Milwaukee, College of Engineering & Applied Science, Civil Engineering & Mechanics Department, 2004

Engineer of Year, Wisconsin Society of Professional Engineers, Waukesha Chapter, 1996

Young Engineer of Year, Wisconsin Society of Professional Engineers, Waukesha Chapter, 1985

Gary Raasch, P.E., CFM

Permitting/DNR

Gary has more than 40 years of water resources engineering and project management experience, primarily in the areas of stormwater management and flood control to solve surface water problems in the Midwest.

Gary has successfully managed feasibility studies, preliminary engineering designs, and preparation of construction plans and specifications for surface water management projects including: sewers, stormwater detention facilities, streambanks, channel modifications, and levees. He has managed projects for a variety of clients including the Milwaukee Metropolitan Sewerage District, U.S. Army Corps of Engineers, Federal Emergency Management Agency, large and small municipalities, county agencies, other consulting firms, and private businesses.

Project Experience

Cotter Street Stormwater Detention, City of Appleton, WI: Managed the XP-Storm analysis of street flooding and design of storm sewers and wet detention basin to alleviate flooding and provide public and private stormwater pollutant reduction for the City.

Bay Lane Drive Reconstruction, City of Muskego, WI: Stormwater management planning for a 0.75 mile segment of a 2-lane rural roadway. The design consisted of a green infrastructure system funded by MMSD's Green Infrastructure program.

Grand Avenue Bioretention Basin, Village of Menomonee Falls, WI: Designed bioretention facility to treat public road runoff prior to discharge in Menomonee River.

Stoney Hill Road Bridge Replacement over Flume Creek, Portage County, WI: Managed replacement of an existing 13-foot-long by 14-foot-wide steel and concrete bridge that had deteriorated beyond traffic use. Final bridge design consisted of a 30-foot-long reinforced concrete slab-span bridge structure on driven piles.

Merryland Drive Bridge Replacement over Tomorrow River, Town of Sharon, Portage County, WI: Designed double 12-foot by 5-foot precast concrete box culverts as replacement of deteriorated steel and concrete bridge.

Freistadt Road Bridge Replacement, City of Mequon, WI: Designed and permitted precast concrete box culverts as replacement for deteriorated bridge over Little Menomonee River.

Joanne Drive Crossing Replacement, City of Brookfield, WI: Managed design and permitting for precast concrete box culverts as replacement for nine deteriorating metal culverts at a public road crossing of Deer Creek.

Clover Drive Crossing Replacement, Village of Sussex, WI: Managed design and permitting to replace three deteriorated corrugated metal pipe culverts with 20-foot Conspan precast structure over Sussex Creek.

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Biological Aspects of Conservation, University of Wisconsin–Milwaukee

Professional Affiliations

Society of Wetland Scientists

Wisconsin Wetlands Association

Professional Certifications

Senior Professional Wetland Scientist, #1444, Society of Wetland Scientists

WDNR Professionally Assured Wetland Delineator

Kane County, IL Qualified Wetland Review Specialist #W-058, Kane County SMC

Lake County Certified Wetland Specialist #C132, Lake County SMC

McHenry County Certified Wetland Specialist

WDNR-Certified Karner Blue Butterfly HCP Monitor

Professional Training

Critical Methods in Wetland Delineation, UW-Extension— 2018, 2017, 2016, 2015, 2014, 2013, 2010, & 2006

Advanced Wetland Delineator Training,
UW-Extension, 2013

Regional Supplement Seminar & Field Practicum, WTI, 2012

WDNR Natural Heritage Inventory Online Training, 2012

WDNR Karner Blue Butterfly HCP Monitoring Training, 2007, 2012, & 2018

Tina Myers, SPWS

Permitting/DNR

Tina's contribution to natural resources projects includes 20 years of extensive experience in multidisciplinary ecological work. She is recognized as a Senior Professional Wetland Scientist (SPWS) by the Society of Wetland Scientists and is a WDNR Professionally Assured Wetland Delineator. Her experience includes wetland determinations and delineations; wetland and waterway permit applications; wetland mitigation plan preparation, maintenance and site monitoring; wetland functional assessments; environmental corridor mapping; vegetation surveys including rare species surveys, plant community mapping and assessment; natural resource protection plans; feasibility studies; environmental assessments; upland habitat restoration; and biological monitoring of streams, wildlife surveys, and wildlife habitats.

Tina has worked on a multitude of projects including many large-scale projects such as business and industrial parks, major transportation and utility corridors, and large commercial sites. She has held the role of project manager on numerous projects, and has been a lead scientist on countless other projects regularly performing quality assurance/quality control. Tina works closely with a wide variety of clients for commercial, governmental, industrial, and municipal projects, as well as for private landowners.

Project Experience

WisDOT

- USH 10 Wetland Investigation, Wisconsin Department of Transportation (WisDOT), Wood County, WI
- STH 59 Wetlands Investigation, New Berlin, WI
- USH 41 Wetlands Investigation, Fond du Lac, WI
- USH 151 Wetlands Investigation, Fond du Lac, WI
- Mukwonago Bypass Mitigation Site Search, Mukwonago, WI
- USH 45 Mitigation Site Search and Permitting, Milwaukee, Waukesha, and Racine County, WI
- Burlington Bypass Wetland Delineation and Permitting, Racine and Walworth Counties, WI
- Oconomowoc Bypass Wetland Delineation and Mitigation Design, Jefferson County, WI
- STH 11 from I-94 to West Sturtevant Limits Wetland Investigation, Mount Pleasant, WI
- USH 41 Oconto to Peshtigo Wetland Functional Assessment, Oconto and Marinette Counties, WI
- I-43 and Moorland Road Wetlands Investigation, New Berlin, Waukesha County, WI
- I-94 Corridor Wetland Investigation, Racine and Kenosha Counties, WI
- 27th Street Preliminary Wetland Determination, Franklin and Oak Creek, WI

Residential

- Pabst Farms Apartments, City of Oconomowoc—wetland delineation
- Woodleaf Reserve Residential, City of Pewaukee – wetland delineation and permitting
- Locante Bloomfield Residential, Town of Bloomfield – wetland delineation and permitting

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

Associate Degree, Northeast Wisconsin Technical Institute, Green Bay, 1987

Professional Registrations

Professional Land Surveyor: Wisconsin, 1996

Professional Land Surveyor: Illinois, 1999

Professional Affiliations

Wisconsin Society of Land Surveyors, Southeast Chapter

President: 2006–2008, 2012–2014

Vice President: 2000

Editor: 1996–2004, 2009–2014

Appointments

Village of North Prairie, Plan Commission, 1999–2007

Presentations

Boundary Conflict in Vilas County, WI; Wisconsin Society of Land Surveyors Annual Institute, 2014

Continuing Education

ASCE EWRI World Environment & Annual Surveyors Institute, Wisconsin Society of Land Surveyors, Stevens Point, 1995–2019

Eric Sturm, P.L.S.

Survey

Eric has more than 32 years of experience in a wide range of land development surveying projects for residential, commercial/industrial, and roadway projects. He has prepared numerous subdivision, condominium and right-of-way plats, annexation, rezoning, Certified Survey Maps, easement exhibits, ALTA/NSPS Land Title surveys, topographic maps, and legal descriptions.

Eric is responsible for project research and setup, calculations, plan review, and quality control. He manages multiple projects including coordination with design engineers, field crews and drafting technicians, and handling client communications. Eric plans and supervises the survey tasks for the design and development of these projects, while overseeing the survey services division of 33 employees.

Project Experience

Government

- Clement J. Zablocki Medical Center, Correct FCA Sanitary Deficiencies, Milwaukee, WI
- City of Waukesha Water Utility, Waukesha, WI
- Milwaukee County Surveying Services for update of county-wide GIS and topographic data, LiDAR and aerial mapping, Pictometry International Corp.
- City of New Berlin Limited Sanitary Sewer Evaluation Study (LSSES), New Berlin, WI
- Town of Caledonia, WI
- Village of Salem Lakes, WI
- City of Wauwatosa, WI
- Village of Menomonee Falls, WI
- City of St. Francis, WI
- Village of Mount Pleasant, WI
- Village of Genoa City, WI
- Ville du Parc Water Utility, Mequon, WI
- Town of Raymond, WI
- Town of Eagle stream relocation, WDNR
- Jesse Brown VA Medical Center, Chicago, IL

Right-of-Way Layout/Plats

- West Frontage Road, City of Kenosha, WI
- Roosevelt Road, City of Marinette, WI
- Carter Street, Village of Genoa City, WI

Commercial Property Surveys

Providing site surveys for a variety of commercial property purchase and development projects in Illinois and Wisconsin, several of which are listed below:

- U-Haul
- Woodman's
- Roundy's
- Discount Tire
- Walmart

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Education

B.S. Civil Engineering, Magna cum Laude, University of Wisconsin-Milwaukee, 2005

Professional Registrations

Professional Land Surveyor: Wisconsin, Number S-2869

Professional Engineer: Wisconsin, Number E-40471

Courses Instructed

Civil Engineering – Surveying, UWM School of Continuing Education, 2018-Present

Surveying (CE Refresher Course), UWM School of Continuing Education, 2016-Present

Professional Affiliations

Wisconsin Society of Land Surveyors

National Society of Professional Surveyors

American Society of Civil Engineers

Awards

2016 - ACEC-WI Leadership Institute

2008 - 3rd Place, WSLS Annual Map/Plat Competition

2007 - 2nd Place and 3rd Place, WSLS Annual Map/Plat Competition

Publications

“(The Need For) The Changing Face of Surveying Education,” Wisconsin Professional Surveyor, June 2007

Shane Zodrow, P.L.S., P.E.

Survey

Shane has 16 years of survey and engineering experience in both the public and private sectors, including experience in most aspects of civil and infrastructure project development. Both field and office experience include areas such as computer aided drafting, surveying, construction layout, engineering design, construction inspection, LiDAR scanning, and 3D modeling. Most recently, Shane has been responsible for all facets of survey project management. Shane is also an adjunct instructor at the UWM School of Continuing Education.

Shane has field experience utilizing the latest survey technology including GPS, robotic total station, and LiDAR scanning equipment. Shane also has extensive office experience creating and coordinating deliverables utilizing various software platforms, including unmanned aircraft systems, LiDAR scanning, and 3D modeling for construction. Survey projects have ranged from boundary, ALTA/NSPS Land Title, land subdivision, certified survey map, easement/property exhibits, legal descriptions, topographic, engineering, as-built, construction staking, electric/gas utility, hydraulic, right-of-way, 3D modeling, and LiDAR scanning surveys.

Project Experience

- I-94 N-S Freeway, Milwaukee/Racine/Kenosha Counties, WI
- I-94 aerial targeting, Dane/Jefferson/Waukesha Counties, WI
- Zoo Interchange, Milwaukee County, WI
- Hoan Bridge and Lake Freeway, Milwaukee County, WI
- Lakefront Gateway, Milwaukee County, WI
- Mitchell Interchange, Milwaukee County, WI
- ATC General Unescorted Substation Access Training, 2018
- I-894 ATC/WE easement staking, Milwaukee County, WI
- Somers Substation, Kenosha County, WI
- West Central Lateral 75-mile gas transmission pipeline, NW WI
- Transmission Line 9752 Rebuild, Fond Du Lac County, WI
- Transmission Line 8032 Rebuild, Washington County, WI
- Bain Substation and Transmission Line Easement Acquisition, Kenosha County, WI
- STH 20 Willow Road/UPRR Bridges, Racine County, WI
- STH 181, Milwaukee County, WI
- STH 36, Racine County, WI
- Harley Davidson Product Development Center – LiDAR scanning for mechanical laboratory equipment redesign
- STH 67 mobile LiDAR survey, Walworth County, WI
- STH 36 Fox River Bridges, Racine County, WI
- Runway reconstruction, Mitchell International Airport, Milwaukee County, WI
- County KR Interchange, Racine/Kenosha Counties, WI
- I-94 state line, Kenosha County, WI
- First Place Condos, Milwaukee County, WI
- Milwaukee County Regional Medical Complex, Milwaukee County, WI
- Pabst Farms, Waukesha County, WI

raSmith
CREATIVITY BEYOND ENGINEERING

Resumes

Paul Koszarek, P.E., CST

Geotechnical Lead (Subconsultant)

Paul Koszarek currently serves as department manager of geotechnical services located in the Franklin, Wisconsin, Terracon office. Paul manages geotechnical projects within Wisconsin, Michigan, Illinois, and Indiana.

Paul has over 23 years of experience as a geotechnical engineer, working on projects with geotechnical fees ranging in size from $750 to in excess of over $1,000,000. He was a district manager* of a branch office that performed geotechnical engineering, construction material testing, and environmental engineering services. Paul's technical expertise is in geotechnical engineering and construction material testing. Paul has also been trained to use the pressuremeter by Jean Louis Briaud, the original inventor of the Texam pressuremeter. Paul is a registered Certified Soil Tester (C.S.T.) within Wisconsin.

Education

B.S. Geological Engineering, University of Wisconsin–Madison, 1997

Professional Registration

Professional Engineer: Wisconsin (No. E-36708-06), Minnesota (No. 44442), Illinois (No. 062-058563)

Certified Soil Tester: Wisconsin No. 1263130

Professional Affiliations

American Society of Civil Engineers

Project Experience

GE Healthcare Research Park, Milwaukee, Wisconsin*: Project Manager and Senior Geotechnical Engineer for the subsurface exploration, soil sampling, laboratory testing and foundation engineering design program for a 4-story, 442,000 sf structure. Project included 32 borings varying in depths up to 60 feet to evaluate shallow and deep foundation options and a detailed in-situ pressuremeter testing program. Based on the pressuremeter program, we were able to increase the allowable soil bearing pressure, which resulted in significant cost savings to the owner.

Uline Distribution Centers and World Headquarters, Pleasant Prairie and Kenosha, Wisconsin*: Project Manager and Senior Engineer for this two Distribution Centers and two world headquarters. These structures included more than 2 million square foot pavement area. Challenges included soil stabilization using chemical additives including lime kiln dust, quick lime and Portland cement. A bench study was completed in order to determine the recommended amount of chemicals to be used for the planned source of chemical.

Kohl's Stores Proposed Worldwide Headquarters, Woodlands Campus and Downtown Milwaukee Campus*: Project Manager and Senior Geotechnical Engineer on the proposed campus grounds for the new headquarters of Kohl's Stores. The corporate offices were planned to include four 10 to 12-story towers and six parking structures with below grade levels significantly below the water table and in contaminated soils. Project included comprehensive subsurface exploration, soil sampling, laboratory testing, pressuremeter testing, deep foundation engineering recommendations and comprehensive dewatering recommendations.

** Work performed prior to joining Terracon.*

Similar Project Experience

Cedarburg Business Park

Cedarburg, WI

The Cedarburg Business Park on State Highway 60 is a longtime vision of City officials. This 60-acre business park will serve as the headquarters for Wilo USA LLC, a worldwide manufacturer of pumps and pump systems used for water supply and air conditioning.

raSmith collaborated with project stakeholders to plan and design the first phase of the business park while considering future development needs. Tasks included working with local and state agencies on wetland-mitigation plans, obtaining related permits and similar matters, and building the project on a quick enough schedule to accommodate Wilo's plans for opening.

Crews also had to extend sanitary sewer and water mains about 1,500 feet from Sheboygan Road to the site's eastern edge, provide a new entrance to the site from State Highway 60 and make improvements to a downstream-receiving lift station. Additionally, raSmith provided a property survey and topographic survey for the division and design of the site along with providing on-site engineering for mass grading, roadways, sewers, and water and stormwater management.

Client

City of Cedarburg

Project Team

Troy Hartjes, P.E.
Dave Reiter, P.E.
John Bruggeman, P.E., PTOE
Matt Garon, P.E.

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience

TID No. 1 – Red Cloud Drive Roadway & Utilities

Mount Pleasant, WI

The Village of Mount Pleasant had a large amount of undeveloped land along the well-traveled WIS 20 corridor. In 2006, the Village created Tax Incremental District (TID) No. 1 (495 acres), with the goal of developing this land along WIS 20 that stretches west to I-94.

raSmith has been working with the Village, providing civil design and construction administration services for the business park. The site design included extending a new north-south 1,800-linear-foot divided urban roadway and associated storm sewer, water main and sanitary sewer needed to service the area. Sanitary sewer and water main were extended by 2,900 feet through the site's proposed Kilbourne Drive.

Coordination between Racine County, WisDOT, Aurora Health Care and the WDNR was completed within the design process in order to balance the construction of Aurora's new hospital, WisDOT's Washington Avenue (WIS 20) highway reconstruction and expansion project and integrated signal corridor.

Particular attention was required for the hospital's helipad and its helicopter arrival and departure zones. Proposed lighting and landscaping within the public right of way were adjusted based on these zone requirements, which then required additional attention to the proposed storm sewer.

Permitting included WDNR stormwater and erosion control, wetland fill, sanitary and water extension, and WisDOT right-of-way. Construction cost was $4 million.

Client

Village of Mount Pleasant

Project Team

Jason Feucht, P.E.
Pat Hawley, P.E., PTOE, RSP
Paul Schafer, P.E.

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience

Salem Business Park Infrastructure Improvements

Salem Lakes, WI

raSmith provided design, project and construction coordination, plan preparation and specifications, as well as landscape architecture, construction management and UAS (drone) services for the 80-acre Salem Business Park. This is the Village of Salem Lakes' first large-scale business park project, and is designed for mid-size industrial and manufacturing facilities.

raSmith engineers designed two stormwater management ponds, master site grading, erosion control, approximately 3,350 linear feet of new roadway, 5,300 linear feet of new public storm sewer, 430 linear feet of new 12-inch public sanitary sewer, 1,800 linear feet of new 10-inch public sanitary sewer, 440 linear feet of new 8-inch public sanitary sewer, 3,500 linear feet of new 12-inch public water main, lighting, pavement marking and permanent signage.

Also designed for the business park was a 3,500-foot-long and 10-foot-wide multi-use pathway. The pathway will provide opportunities for employees of the various park properties to walk or bike during lunch and break times. The pathway will eventually connect and be coordinated with the Kenosha County bike system plan.

Client

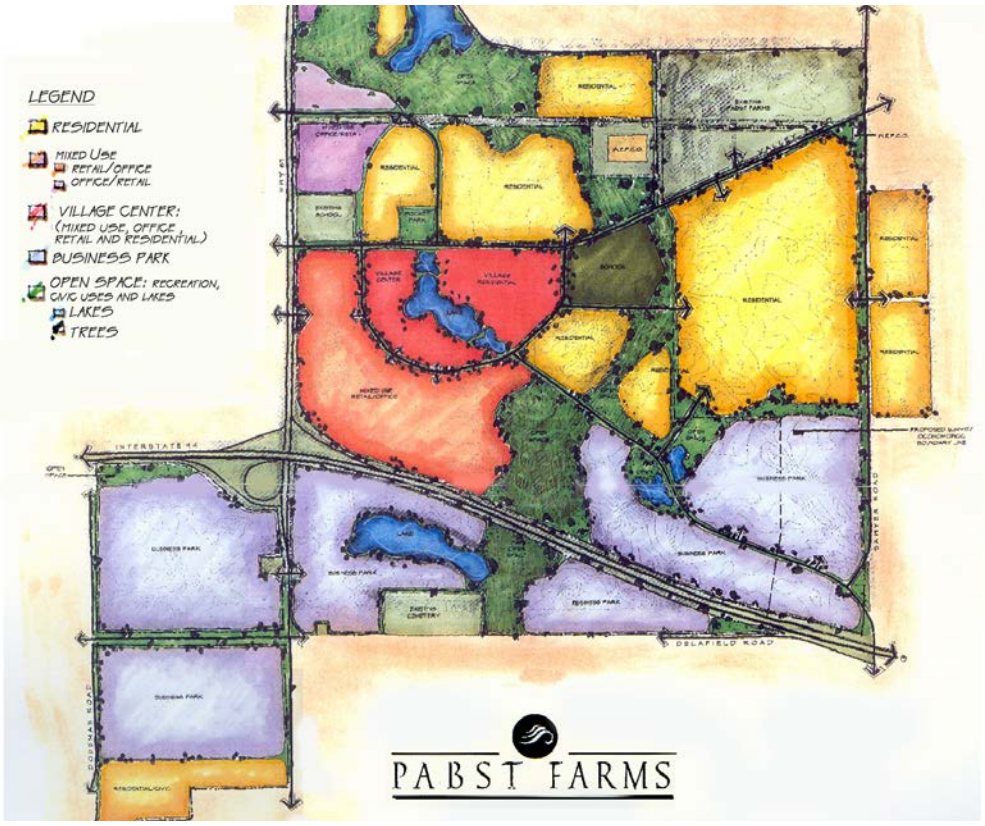
Village of Salem Lakes

Project Team

Len Roecker, P.E., PLS
Paul Arend, P.E.
Ryan Mann
Dave Reiter, P.E.

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience



Pabst Farms Development

Oconomowoc, WI

raSmith has provided site planning, surveying and civil engineering for the majority of the projects constructed to date in the master planned 1,500-acre Pabst Farms development.

As part of the site planning effort, conceptual development plans were further developed into workable preliminary designs, considering typical constraints such as zoning and access, as well as constraints such as topography, limits on basement depths, and other factors that would drive up earthwork and utility costs.

Planning incorporated future flexibility, as market changes often drive site plan changes. Restraints such as required open space and stormwater requirements were incorporated into the plans as site amenities, with realistic sizing for more accurate land planning.

Client

Various

Project Team

Paul McIlheran, P.E., CPSWQ
Bob Harley, P.E.
Scott Dunn
John Casucci, PLS

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience

Germantown Gateway Business Park

Germantown, WI

The Village of Germantown was waiting for the right opportunity to develop an approximate 225-acre business park at its northwest gateway, conveniently located off USH 41 and Holy Hill Road. Little did they know that it would come out of the blue and require an expedited schedule to meet the demands of the intended anchor tenant for the first phase, in this case Briggs & Stratton. The Village needed about 7,000 feet of sewer and water utilities from offsite. It was necessary to obtain numerous easements and coordinate with WisDOT and the County for permitting on their roads to obtain access.

Meanwhile, the anchor tenant was proceeding with site design (by others) and intended to break ground and grade the site to meet their deadline. Master site grading and roadways were built, offsite utilities were extended and building construction commenced simultaneously to meet the Briggs & Stratton move-in date.

raSmith worked with the site consultant and the Village to design all public infrastructure, approximately 7,500 feet of offsite sewer and water, DNR waterway and wetland permitting, 2,600 feet of roadway and storm sewer, wetland delineations, booster station and water tower (the latter two designed by FOTH). Beyond engineering, our team provided the geotech and various utility routing options through private sites.

We provided costs and exhibits to the Village to negotiate easements for off-site utility extensions (and gained geotech approval before easements were in-hand). Final legal documents were also prepared. DNR permitting and County approvals were obtained expediently to meet the bidding schedule, and construction administration and staking were performed. Ultimately, the road was built and sewer and water extended to the site in time for Briggs & Stratton's spring 2019 deadline. Phase 2 is currently out to bid and waiting to commence construction with the water tower.

Client

Village of Germantown

Project Team

Troy Hartjes, P.E.
Matt Garon, P.E.
Michael Gasper, P.E.
Greg Bolin, P.E. (FOTH)

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience

Woodman's Lakemoor

Lakemoor, IL

This grocery store project is the largest development to date in the Village of Lakemoor, Illinois. Woodman's developed a 75-acre parcel, designating 20 acres for their 242,000-square-foot grocery store, a gas station/convenience store, car wash and lube center. The remaining acreage was set up as outlots for future businesses.

Overall site improvements included the installation of a roadway through the parcel to provide access, mass grading to set up the future lots for development, and the creation of over 10 acres of stormwater management ponds to meet the drainage challenges of the project. Floodplain fill was required, so the conversion of an adjacent 30-acre parcel into compensatory floodplain storage was included in the scope of services.

raSmith successfully integrated a number of its civil engineers, traffic engineers, landscape architects, surveyors and construction services staff to complete this project. The firm provided services from entitlement through construction, including site planning, stormwater management, grading, utility design, road improvements, landscape architecture, survey, and construction services.

This project was completed in fall 2019.

Client

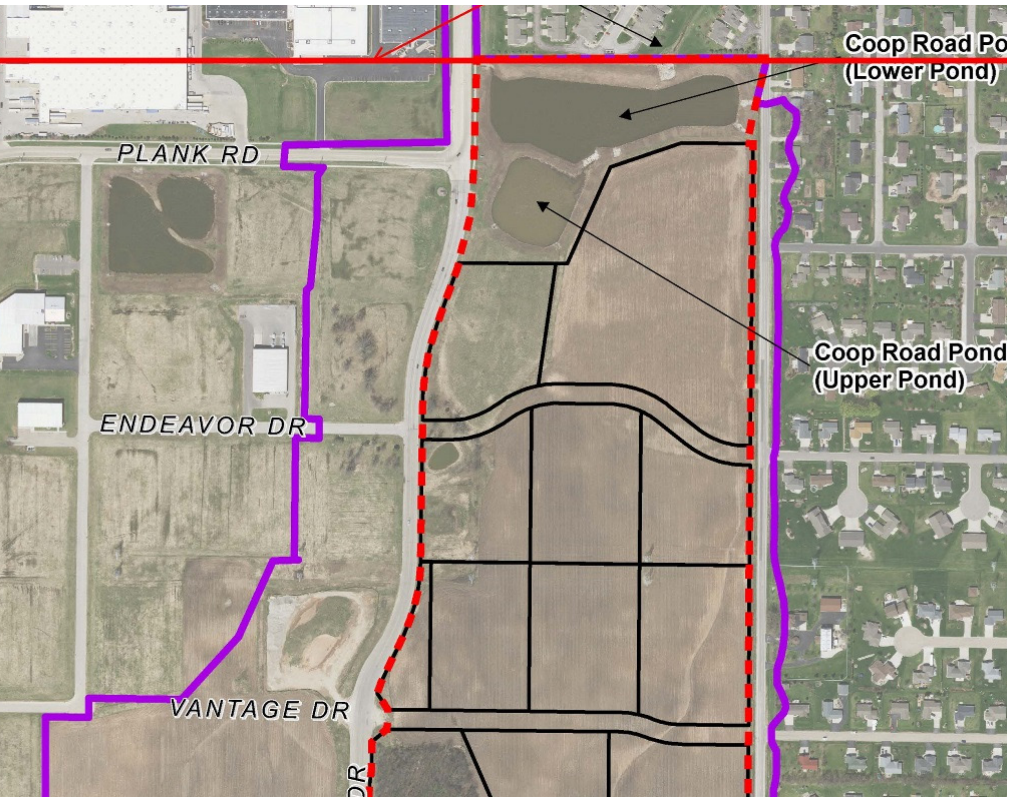
FoxArneson

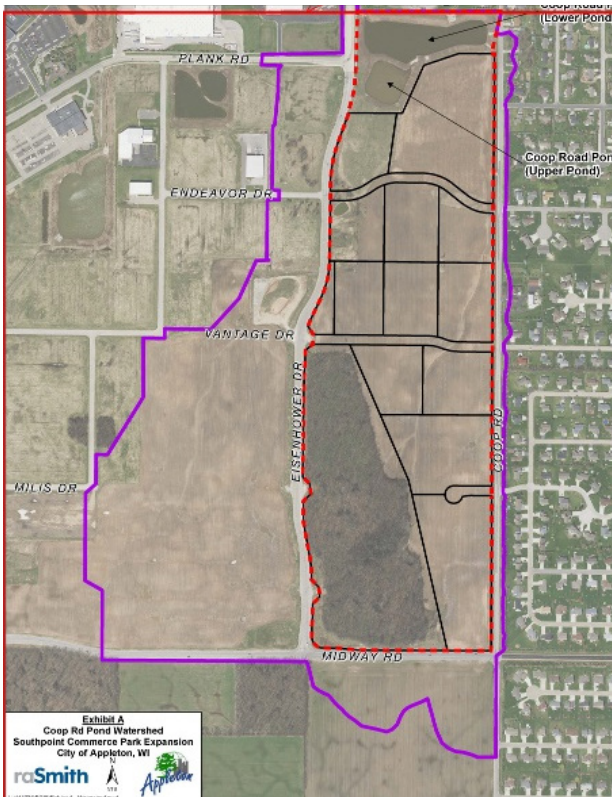
Project Team

Paul McIlheran, P.E., CPSWQ
Paul Arend, P.E.
Tina Myers, PWS
Eric Sturm, PLS

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience





Southpoint Commerce Business Park Expansion

Appleton, WI

This project is a 115-acre expansion of the Southpoint Commerce Park located in southeast Appleton, Wisconsin. raSmith provided the geometric layout of the property's expansion, consisting of 12 industrial lots ranging from 3.48 acres to 12.59 acres, internal roadways, a regional detention pond, wooded wetland preserve, trailhead and parking area.

Before the engineering even began, raSmith's assured delineators completed a wetland delineation, which allowed us to achieve an understanding of any permitting issues that might surface. Engineering tasks included horizontal layout of the roadway and utilities, roadway plan and profile and engineer's opinion of probable costs. The master site grading plan addressed ditching at appropriate locations to manage drainage with flexibility of lot layouts. The storm sewer design served as the mainline backbone that could work in conjunction with future lot layouts and the master site grading and stormwater management plans. The project also included the preliminary design for the urbanization of Coop Road, the adjacent connecting roadway to the site that will provide access from the east.

A hydrologic and hydraulic analysis of the regional detention pond addressed water quantity, water quality, wetland hydrology and infiltration. The watershed tributary to the pond is approximately 245 acres and includes the entire 115-acre property expansion and the portion of Coop Road proposed to be urbanized.

The project was designed to approximately 60% while anchor tenants are sought so the land can be marketed as shovel-ready for any developer.

Client

City of Appleton

Project Team

Gary Raasch, P.E., CFM
Brad Hartjes, P.E., CFM

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience

Franklin Business Park

Franklin, WI

raSmith provided surveying, site planning, engineering design and construction management/on-site inspection for this 425-acre business park. This $25 million expansion, later valued over $100 million, was phased over an eight-year period.

Franklin was looking for financing strategies and alternatives that rendered the expansion of the business park feasible without depleting the City's general revenue fund nor increasing taxes. raSmith coordinated the efforts of investment bankers, legal and bond counsel, real estate consultants, land appraisal specialists and planning specialists to address the City's financial concerns. A tax incremental finance (TIF) district was developed and a Community Development Authority was formed.

The project entailed 25,000 linear feet sanitary sewer, 40,000 linear feet water main, 30,000 linear feet storm sewer, 2.5 million cubic yards material for rough and fine site grading, 40,000 tons asphaltic binder course, 34,000 linear feet concrete curb and gutter, irrigation systems, a new bridge and detention ponds.

Design challenges included cleaning up an environmentally contaminated site and using the site to build a four-acre pond for stormwater and aesthetic purposes. Additionally, the main access road through the site was designed as a boulevard with median openings at selected locations to facilitate traffic movement during peak traffic periods.

Client

City of Franklin

raSmith

CREATIVITY BEYOND ENGINEERING

Similar Project Experience

Milwaukee County Research Park

Milwaukee & Wauwatosa, WI

raSmith's responsibilities included the preparation of site plans, contour grading plans, erosion control plans, paving plans, utility plans, technical specifications, surveying and construction services. A stormwater management plan, along with four water quality basins, was prepared for the entire site.

The Research Park includes a Technology Innovation Center, the park's self-supporting 137,000-square-foot high-technology business incubator; GE Healthcare global headquarters, a multi-functional, 506,000-square-foot building; Mayfair Woods, a four-story, 170,742-square-foot multi-tenant office building, along with a parking structure and surface parking lot featuring a sustainable design incorporated throughout; Wood Lake Business and Technology Center Phases I, II, and III, a multi-tenant building totaling 157, 230 square feet; and Oakwood Center, an 87,320-square-foot building containing certain technology functions of the Children's Wisconsin system for support services.

Client

Milwaukee County Research Park

raSmith

CREATIVITY BEYOND ENGINEERING

Similar Project Experience

RidgeView Corporate Park, Pewaukee

raSmith provided engineering studies for this site of hills, woods, fields, and wetlands. The engineering design and development into a large-lot corporate park proceeded in four phases. Grading and hydrology were challenging due to steep topography and the abundance of natural and wetland areas that could not be developed. Four different detention ponds were ultimately constructed. The firm also coordinated roads and utilities with and through the adjoining We Energies development.

Woodsview Commerce Center, Pewaukee

raSmith provided civil engineering services for this 154,000-square-foot office and warehouse facility on 28 acres. Wetlands comprised nearly half the property. raSmith provided site layout and design services that preserved and showcased the wetlands while also achieving smooth traffic flow for large trucks.

The design team's site engineering services included grading, erosion control, utilities, entrance, parking lots, loading docks, and stormwater management facilities. Permit approvals were coordinated with the Wisconsin Department of Commerce, Wisconsin Department of Natural Resources, and Waukesha County.

Foxconn Spec Building

Foxconn Spec Building, Mount Pleasant

raSmith provided the sitework engineering and surveying for a 155,840-square-foot industrial facility. Situated on 9.5 acres, the building became the first in the Foxconn development. Site design included a water quality swale, paving, grading, storm sewer, and water/sanitary sewer services.

Delafield Business Park, Delafield

raSmith provided site layout and design for this 50-acre business park. Services provided included a boundary survey and engineering plans for grading, erosion control, drainage, utilities, and paving.

RidgeView, Pewaukee

Significant grading changes from steeply sloped areas to relatively flat areas provided an opportunity to create a design that would match the existing landscape contours and minimize the impact of grading. Grading changes also meant having to design sanitary sewer plans using gravity to reach a lift station, where the sewage was pumped to a nearby public system. Because there was no public water servicing the site, a high-capacity well was designed to provide enough water to serve this development. The well had to be properly located to minimize construction costs of the water distribution system.

Oshkosh Corp. World Headquarters, Oshkosh

raSmith provided comprehensive due diligence and site design services for a new 194,665-square-foot corporate office building in Oshkosh. raSmith worked extensively with the client and architect to analyze and qualify the site for suitability for the development. raSmith also worked collaboratively with the design team to locate the building and develop the site plan for the corporate campus. The corporate headquarters is located at US 41 and Hwy 21 just south of Lake Butte des Morts.

Oshkosh Corp.

raSmith

CREATIVITY BEYOND ENGINEERING

Similar Project Experience

Services provided by raSmith included site analysis, surveying, site planning, site work engineering, landscape architecture, hardscape design, irrigation design, and ecological services.

The site was very complex due to its close proximity to the lake. Challenges included working with the fluctuating lake water elevation, meeting existing utility locations, and working within local design code constraints.

Diversey Distribution Center

Diversey Distribution Center, Sturtevant

raSmith provided survey, site work engineering, sustainable site design, and landscape architectural services to Liberty Property Trust for this 552,000 square-foot, $21 million facility.

The flat topography of the 38-acre site presented an engineering challenge for handling stormwater. To minimize the use of conventional storm sewers, a system of swales and ditches to convey flow, which once flowed across the building site, were designed around the one-quarter-mile-long building.

Importantly, the landscape design does not require permanent irrigation, eliminating the use of potable water or subsurface water resources on or near the site. The design uses a large percentage of plantings native to the Midwest, including trees, shrubs, evergreens, meadow grasses, and wildflowers. Native meadow grasses greatly reduce maintenance costs and procedures. Large open areas in the back of the site were seeded with a non-mow fine fescue to avoid the need for weekly mowing and chemical use.

Liberty Corporate Preserve III, Oak Creek

raSmith provided civil and structural engineering, landscape architecture, and ecological services for Liberty Corporate Preserve III, a 172,000-square-foot Class A industrial building in Oak Creek. This is the

Liberty Corp. Preserve III

third phase of a corporate campus that raSmith began designing in 2006.

Wausau Business Park, Wausau

raSmith worked with the City of Wausau on a site master plan for the 205-acre expansion of its business park located on the City's west side. raSmith's design team worked with planning, engineering, and economic development staff to develop plans for the initial phase of 2017 construction.

The site's large wooded area, its sloped terrain and its aquatic resources needed to be considered in the master plan design. This would meet the City's objective of having the business-park-in-a-forest theme.

The master plan identifies roadways, access, development sites/lots, and infrastructure for ongoing, future light industrial and commercial development. Lot sizes are flexible and can be divided and combined depending on future needs.

In the master plan report, raSmith also identified cost estimates, alternatives, phasing, and recommendations for the City of Wausau.

Prairie Highlands Corp. Park, Pleasant Prairie

Prairie Highlands is a 450-acre development along the thriving I-94 corridor that features manufacturing, technology, and health care facilities, as well as space for offices and other commercial developments. Some of the corporate park's tenants include Advocate Aurora Health Care, HARIBO of America, and Nexus Pharmaceuticals.

As part of a large construction inspection services contract, raSmith incorporated UAS to help monitor the progress of all public

raSmith
CREATIVITY BEYOND ENGINEERING

Similar Project Experience

infrastructure and site grading. During the 2018 and 2019 construction seasons, raSmith's FAA Part 107 certified remote pilots utilized UAS to aid in the weekly inspection of nearly two miles of silt fence and to capture topography before, during, and after the mass grading operations. Mass quantity topography was collected relatively fast at milestone intervals to create 3D surfaces and contours of existing conditions to help verify that grading operations and ponds were being completed per plan.

Prairie Highlands Corp. Park

Our site construction staff performed daily observations on all aspects such as grading certification, utility installation, and bridge and roadway installation. Construction management of the $18 million project included daily coordination with the contractor, RFIs, submittal review, pay requests, and change orders.

TID No. 4, Phase 2 – Globe Drive & Red Cloud Drive Extensions, Mount Pleasant

The Village of Mount Pleasant established Tax Incremental District (TID) No. 4 in 2015, which overlaps a large portion of TID No. 1 (260 acres). Phase 2 of TID No. 4 encompasses a portion of undeveloped land along the well-traveled WIS 20 corridor south of I-94.

The firm provided public and private civil design, topographic survey, and construction administration services for the public 1,200-foot urban road extension, state highway connection, and improvements for the business park. Site design included public sanitary sewer, water main, storm sewer, rough site grading, and stormwater management for the 30-acre site.

TID No. 4, Phase 2

Permitting included WDNR stormwater and erosion control, sanitary and water extension, and WisDOT right-of-way and road reconstruction. Construction cost was approximately $4 million.

raSmith

CREATIVITY BEYOND ENGINEERING

Level of Effort

Future Business Park Utility, Stormwater and Street Design
City of Manitowoc

Level of Effort (hours)

Task Number	Task Description	Project Manager Troy Harjes, P.E.	Quality Assurance/Control Len Roecker, P.E.	Lead Design Dave Reiter, P.E.	Stormwater/Environmental (DNR Permitting) Lead Gary Raasch, P.E./Tina Myers, SPWS	Roadway Geometrics John Bruggeman, P.E., PTOE	Engineering Technician Ryan Mann	Stormwater Brad Harjes, P.E., CFM	Stormwater Riley Stone, P.E.	Site Analysis Dave Cleary, P.E.	Designer Matt Garon, P.E.	Survey Lead/CSM Eric Sturm, P.L.S.	Field Survey - 2 man crews	Construction Analysis Pat Zimmer, P.E.	Admin	TOTAL
A	**Survey**	**3**	**-**	**4**	**-**	**-**	**2**	**-**	**4**	**-**	**-**	**4**	**66**	**-**	**-**	**83**
1	Topographic Survey with Utility Locates (Approximately 5,000')	2		2								4	66			74
2	As-Built/Plan/GIS Coordination and City Data Information	1		2			2		4							9
B	**Management and Coordination**	**31**	**2**	**6**	**-**	**-**	**12**	**8**		**8**	**26**	**-**	**-**	**-**	**-**	**93**
3	Project Management	14						6								20
4	Utility Coordination (Gas, Electric, Telephone, Cable)	1									12					13
5	DNR Permitting (NOI)										8					8
6	Meetings (4-5 Staff Meetings)	12		4				2								18
7	DOT Coordination (Permit to Work in Right-of-Way)										6					6
8	County Coordination/Town Coordination	2		2												4
9	Site Analysis/TIF Coordination/Concept Review (Existing Concept)	2	2							8						12
10	DNR Sewer/Water Permit						12									12
C	**Preliminary Design-thru 90%**	**40**	**16**	**118**	**8**	**12**	**44**	**22**	**92**	**8**	**22**	**2**	**-**	**22**	**6**	**412**
11	Roadway and Typical Section Evaluation/Comments	4		2		4										10
12	Intersection Layout (Draft Layout)	1		2		4										7
13	Horizontal Geometrics (After Kick-off Meeting and Evaluation)	1		16												17
14	Vertical Design/Profile	1		24												25
15	Typical Section/Details			2			8									10
16	Cross-Sections/Grading	2		8			24									34
17	Watermain Design			14							16					30
18	Sanitary Evaluation (Depths/Feasibility)	1									6					7
19	Sanitary Design			12												12
20	Stormwater Management Site/Business Park							2	16							18
21	Hydrology and Hydraulics Business Park							4	16							20
22	Final Stormwater Management Plan	2						4	16							22
23	Roadway Storm Sewer/Ditching							6	12							18
24	Pond and Storm Infrastructure Design (Business Park)							6	28							34
25	Erosion Control Plan						4									4
26	Pavement Marking Plan					4	4									8
27	Traffic Control and Staging	2		6			2							4		14
28	Cost Estimates (30% and 60%)			12												12
29	Draft Specifications			20					4						4	28
30	QA/QC	22	12		8							2				44
31	Constructability	2	4											18		24
32	90% Submittal	2					2								2	6
33	Private/Public Coordination (Site Analysis/Services/Drives)									8						8
D	**Bid Sets /Final Plans**	**9**	**-**	**26**	**-**	**-**	**18**	**-**	**-**	**-**	**-**	**-**	**-**	**4**	**4**	**61**
34	Update Plan Sets Based Upon 90% Review	4		12			12							4		32
35	Final Cost Estimate	1		6												7
36	Final Specifications	2		6											4	12
37	CAD Coordination/Transfer Files	2		2			6									10
E	**Bidding**	**5**	**-**	**6**	**-**	**-**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**-**	**6**	**19**
38	Bid Documents/Advertising (Quest)	1		2											4	7
39	Bidding	2		4					2						2	10
40	Bid Opening	2														2
	PROJECT TOTALS	**88**	**18**	**160**	**8**	**12**	**76**	**30**	**98**	**16**	**48**	**6**	**66**	**26**	**16**	**668**
	Contingency Items: Estimated Level of Effort, Final LOE to be determined based upon final task/scope requested.	**-**	**-**	**-**	**-**	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Public Service Commission															-
	Geotech Exploration															-
	Wetland Permit (if Roadway Encroaches)															-
	Conceptual Layouts of Business Park															-
	Intersection Concepts with Costs															-
	R/W Plat															
	Multiple Roadway Geometric Layouts/Options (Various X-Sections)															-

Sized at 11x17 for printing/viewing purposes.

raSmith
CREATIVITY BEYOND ENGINEERING

Detailed Budget

	Viebahn Street and Hecker Road Industrial Park Utility and Street Reconstruction with Stormwater Management Fee Schedule	
	Task-see level of effort and scope for inclusions	Fee
A	**Survey**	$12,100.00
B	**Management and Coordination**	$7,000.00
C	**Preliminary Design**	$29,000.00
D	**Stormwater Management**	$16,900.00
E	**Bid Set/Final Plans**	$6,400.00
F	**Bidding**	$3,500.00
	Base Total Fee	**$74,900.00**
	Add-Ons/Credits/Reimbursable Expenses	
	Estimated Reimbursable Fees (NOI-$350; Mileage-$400)	$750.00
	Public Service Commission Application *	$8,000.00
	Geotech Explorations**	$10,000.00
	Wetland Permit	$2,500.00
	Conceptual Layouts For Business Park***	$3,000.00
	Intersection Concepts****	$2,500.00
	R/W Plat	$8,000.00
	Multiple Roadway Options/Geometrics*****	$3,500.00
	Traffic Study	$4,500.00

*Base fee includes confirming PSC is not needed; but if needed the application cost is provided.

**Geotech explorations include staking and completing, with a full report, 10 borings up to 15' depth, along with two (2) borings at the Pond.

***Our base fee will include evaluation of the existing concept for the business park and using to help determine services/design issues, but if additional concepts and layouts are desired we can complete these.

****We can provide intersection layouts with costs for each alternative if roundabouts or similar are needed/desired.

*****Our base fee includes providing a typical section for a rural and urban cross-section for Viebahn and Hecker, and discussions with City staff and committees on the pros/cons of each, but we did not include drafting full concepts nor cost estimates to do a full analysis. Our base fee assumes a rural, asphalt road and matching into the existing roadway at the terminus.

raSmith
CREATIVITY BEYOND ENGINEERING