



PROPOSAL

Cowan Lake Sewer Project

PROFESSIONAL ENGINEERING SERVICES

Prepared for:
Grattan Township

Proposal Date:
7/30/2018



Contents

1	Background on Firm
2	Why Prein&Newhof?
3	Project Scope & Work Plan
13	Project Team
30	Experience
46	References
47	Schedule
48	Cost
A1	Appendix A: Map
B1	Appendix B: Insurance Certificates



At P&N, our goal is to serve our clients wisely—meeting their infrastructure needs with a combination of experience, integrity, creativity, and common sense.

For nearly 50 years, Prein&Newhof has been serving township, municipal, and private clients across Michigan. Because every situation is different, we put a high value on personal attention. And because needs change over time, we are dedicated to crafting flexible, long-term solutions rather than quick fixes.

History

Begun by Tom Newhof and Ed Prein in 1969, P&N was founded on the belief that each engineer should take personal responsibility for meeting his or her clients' needs—building long-term relationships and managing each project from preliminary design to final construction. Today, we are the engineer of choice for over 50 communities across Michigan.

Employees

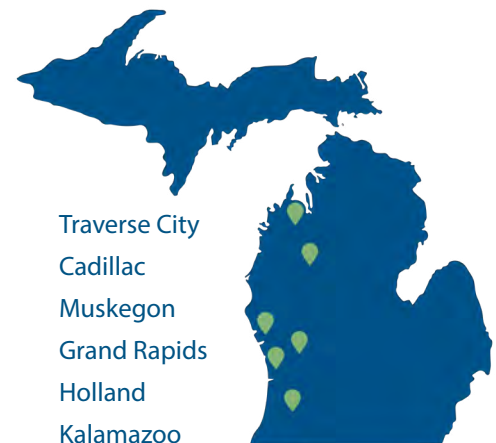
Prein&Newhof is 100% employee-owned, with over 140 full-time professionals, including engineers, surveyors, drafters, geologists, chemists, communication specialists, and support staff. Our strength lies not only in our degrees and technical skills, but in our dedication to thinking ahead, building lasting relationships, and crafting long-term solutions. These are our greatest assets, our competitive advantage.

Professional Services

At Prein&Newhof, we are constantly developing our services to serve our clients better. Our primary services include

- Municipal Engineering
- Water & Wastewater
- Stormwater Management
- Roads & Trails
- Airports
- Private Development
- Asset Management
- Landscape Architecture
- Environmental Consulting
- Laboratory Testing
- Structural Engineering
- Geotechnical Engineering
- Surveying
- GIS & Mapping

Locations



Our Values

Invest Wisely

Develop Relationships

Take Responsibility

Build Expertise

Support Community

Our strength lies not only in our degrees and technical skills, but in our dedication to thinking ahead, building lasting relationships, and crafting long-term solutions. These are our greatest assets, our competitive advantage.

Why Prein&Newhof?

- A client told us once: “You design a project in less than a year. We live with it for 50 years.” P&N’s engineers look beyond today – we **see farther**. The long-term viability of a project and how it benefits your community’s future is important to us. Every decision we make considers your long-term needs.
- P&N is familiar with your community and its history. We have worked with Grattan Township since the early 1990’s on its wastewater system. We just completed an inventory, condition assessment, and Asset Management Plan for your entire wastewater system under your SAW grant. We are familiar with the Cowan Lake project as we have done studies going back to 2002 and we have updated cost estimates as recently as June 2018.
- We are familiar with the Grattan Wastewater Treatment Facility, which will be used as the treatment for Cowan Lake. We have previously worked on your irrigation system, which is to be added onto as part of this project.
- We have worked on your NPDES groundwater discharge permit and hydrogeological studies previously and very familiar with the hydrogeology of the area.
- We have worked with Infrastructure Alternatives, your system operator on several projects, and we are including them on our team to help with value engineering and input into the project.
- We are familiar with your grant for this project. The reimbursement is similar to the recently completed SAW grant program.
- Our in-house communications specialists can produce easy-to-understand public information products throughout the project for residents and businesses. Examples include flyers, postcards, temporary web pages, and public meeting materials.

Based on our experience with similar lake sewer projects, a well-thought-out design and approach that fits your schedule is our number one goal. We will concentrate on completing a design that minimizes disruption to lake residents.

Project Understanding

This project is a significant undertaking for Grattan Township. Cowan Lake needed sewers decades ago. Prein&Newhof published our first Cowan Lake Sewer Feasibility Study in 2002. We updated it in 2016 and again in June 2018. Congratulations on bringing this project to reality!

You are planning on a low-pressure, small-diameter force main around Cowan Lake, fed by grinder stations at each of the 60-70 existing homes in the service district. The small-diameter force main empties into a wastewater pump station, which sends domestic sewage to Grattan's Pump Station #1 (PS#1) at Big Pine Island Lake.

You also want to include development of your reserve irrigation area to accommodate the additional customers. As alternatives, we include costs for designing:

- Generator additions at the proposed new Cowan Lake pump station and at your existing PS#1 at Big Pine Island Lake.
- One (1) 8-inch water well with one (1) fire hydrant to fill Grattan Township Fire Department's tankers.

Challenges

This project is a large undertaking, and it presents many challenges. Some of them include:

Financing

Prein&Newhof helped Grattan Township secure a \$2 million Significant Public Health Risk Project (SPHRP) grant from the Michigan Department of Environmental Quality (MDEQ). The first page of your Grant Agreement shows the grant end date is October

We will concentrate on finishing the design on time and coordinating construction to minimize disruption to lake residents.

Prein&Newhof helped Grattan Township secure a \$2 million Significant Public Health Risk Project (SPHRP) grant from the Michigan Department of Environmental Quality (MDEQ).



2018. You'll need a final, signed grant agreement to ensure this funding is available.

We understand Grattan Township will finance the balance of the project by issuing bonds. You have already started this process by having a bond attorney and financial consultant, so you are well on your way.

Work on Private Property and Coordinating with Property Owners.

You must finalize which homes around Cowan Lake will be connected to the sewer system. Your RFP shows your Special Assessment District (SAD) with 64 existing home sites in Grattan and Oakfield Townships and 11 vacant lots in the two Townships. However, your RFP's Appendix A map shows over 90 sites around Cowan Lake.

Your request for proposal did not mention whether you were planning to include work on private property to install grinder pumps, decommission existing septic systems, and make the connection to the collection system. In your June 11 board meeting attended by Barbara Marczak, you indicated that this would be the responsibility of the property owner. Because you have a 50% matching grant up to \$2,000,000, however, we encourage the Township to consider doing this work and then turning it over to the property owner at completion for ownership and future maintenance. The current estimated construction costs indicate that it will not reach the \$4,000,000 maximum without the private portion. Therefore, to maximize use of the grant funds, we recommend you consider doing some of this private work.

Because you favored grinder pumps with a low pressure force main, the contractor must dig at each property to install tanks and pumps and connect piping between buildings and the pressure sewer.

Grattan Township will need to do the following:

1. Finalize which homes around Cowan Lake will be connected to the sewer system. Your RFP shows your Special Assessment District (SAD) with 64 existing home sites in Grattan and Oakfield Townships and 11 vacant lots in the two Townships. However, your RFP's Appendix A map shows over 90 sites around Cowan Lake.
2. Construction of grinder pump stations and piping connections will require a temporary access easement for construction that each property owner will sign. We can help you with the agreement documents, but you'll need to get property owners to sign them. We can help you with this

process if you wish. We've written and acquired thousands of easements and helped our clients work with property owners to explain them and get their consent. We believe in open and direct communication. It can be confusing and upsetting to people to have construction work on their property. We always listen to them and we are sensitive to their concerns. While you cannot honor all requests from property owners, we try to bring a practical and common sense approach to conflicts.

We've written and acquired thousands of easements and helped our clients work with property owners to explain them and get their consent.

Maintaining communication with residents during construction.

Keeping homeowners informed helps a project go smoothly. We can create several communication strategies to help you engage and inform them. You will see an example from past projects on page 11.

Collaborating with township and county representatives, your attorney, a financial consultant, the Cowan Lake Association and the MDEQ during both design and construction.

There will be a lot of coordination and planning before this project gets built. This is normal for most of our projects, so we're used to working with multi-party professional teams.

We do our best work rising to meet challenges—they make projects interesting and often spark unique solutions.

Keeping homeowners informed helps a project go smoothly. We can create several communication strategies to help you engage and inform them.

Work Plan

Design starts after your Township Board awards the design and construction engineering contract. We will bring the project team together to set the overall project schedule and coordinate activities to ensure a successful project. Throughout the design, we will keep you informed on our progress by holding major progress meetings at 25%, 50%, 90%, and 100% design completion. Prein&Newhof will coordinate and document these meetings and publish detailed meeting minutes to keep everyone on task. We will also attend two public meetings to update residents and receive their input. We will attend additional meetings as requested, at an additional cost of \$600 per meeting, plus preparation time and expenses.

Accurate and detailed base maps make a project easier for us to design. They also help reduce construction conflicts, making it less likely for you to see construction cost overruns.

Early in the design phase, review material and equipment selection with Infrastructure Alternatives (IA) to ensure standardization with your sewer system.

It is in the design phase where we really look for ways to keep costs down. We will treat this overall project as multiple concurrent design projects:

- Low pressure force main system around Cowan Lake.
- Cowan Lake Pump Station and force main to Grattan PS#1 along with generators at the Cowan Lake Pump Station and PS #1.
- Additional irrigation acreage design and permitting at the Grattan WWTF.

The design process shown below is similar for each component of the design:

1. **Topographic survey** – We plan to develop a base map using aerial photography and mapping. The information our survey crews gather adds to the aerial photography and mapping, giving us the level of detail we need to prepare construction plans. We will use aerial photography and mapping for the public right-of-way. The aerial mapping will naturally show the adjacent private properties, but we will do a detailed topographic survey only in public rights-of-way.

Accurate base maps make a project easier for us to design. They also help reduce construction conflicts, making it less likely for you to see construction cost overruns.

2. **Soil Evaluation** – We always take soil borings at construction sites and along proposed pipeline routes. Contractors bid confidently when they know what's underground. Planning in design reduces construction conflicts. Accurate information reduces their risk and lowers your bids.
3. **Construction Plans and Specifications** – We will:
 - Review and confirm piping routes, materials of construction, needed permits, etc.
 - Draw construction plans showing the extent and scope of the project.
 - Write technical specifications to go with the construction plans.

- Early in the design phase, review material and equipment selection with Infrastructure Alternatives (IA) to ensure standardization with your sewer system. We include fees in this proposal to pay IA for their input so there are no additional operational costs for you.
 - Use existing site plans for designing the reserve irrigation area similar to the additional area that was developed a few years ago. Infrastructure Alternatives will prepare much of the design as they did with the other fields.
 - An additional monitor well and a hydrogeologic study will be needed to get this site permitted, and we have included this in our work plan and costs.
4. **Bidding Documents** – Besides the construction plans, we will assemble a full bidding document package using EJCDC forms, which is P&N's standard practice.
 5. **Cost Estimates** – Pre-design project cost estimates were provided in a June 5, 2018 letter from Barbara Marczak, PE to Frank Force. We will update the cost estimates based on the final design.
 6. **Permitting** – Prein&Newhof will finish the required permitting for the project. Your proposed project team has experience working with all major private utility companies and the MDEQ.
 7. **Financing Assistance** – The RFP indicates we would be expected to assist in preparation of any documentation relative to application and processing for financing (the bond issue) the Township's portion of the total project cost. We include a \$5,000 time and materials allowance in our proposal to cover this.
 8. **QA/QC (Internal)** – A thorough in-house plan review helps decrease your overall project cost. Our QA/QC goal is to give you a better project at lower cost with fewer construction challenges. A good set of construction plans and bid documents provides clarity, produces better bids by reducing unknowns, allows for quick construction, minimizes change orders, and requires a lower level of construction services. An experienced Prein&Newhof peer takes a critical look at the design and plans before we release them for bidding.

A good set of construction plans and bid documents provides clarity, produces better bids by reducing unknowns, allows for quick construction, minimizes change orders, and requires a lower level of construction services.



We use experienced design engineers to review contractor submittals.

- 9. QA/QC (External)** – As part of our QA/QC process, we plan to ask your current wastewater system operator, IA, to look at our plans and offer input on constructability and system operations. We include fees in this proposal to pay IA for their input so there are no additional operational costs for you.
- 10. Meetings** – We'll meet at 25%, 50%, 90%, and 100% design completion to look at plans, concepts and cost estimates.
- 11. Public Meetings** – We will present updates and receive input at two public meetings.
- 12. Mapping for SAD** – We will prepare a map of the properties to be serviced, which will be used as part of the Special Assessment District (SAD) process.

Deliverables:

- Minutes for all design meetings
- Topographic survey and base mapping
- Cowan Lake low pressure force main system preliminary design plans
- Cowan Lake pump station and force main preliminary design plans
- Grattan WWTF irrigation expansion preliminary design plans
- 50% Complete plans / specifications for Township review
- 90% Construction plans / specifications
- Updated cost estimate at 90% complete design
- Permit submittals
- Final Bidding documents for all contracts
- SAD Map

Bidding Phase

After we finish our design, we will produce the construction plans, details, schedules, and specifications for bidding.

- 1. Advertising** – We help you advertise the project to contractors through our own plan room and statewide contractor plan rooms. We also produce and deliver paper or electronic copies of the plans.
- 2. Pre-bid Meeting** – We will lead the pre-bid meeting at your desired location and time. We will publish meeting minutes

and share them with plan holders and stakeholders as a project addendum.

3. **Bidding Assistance** – During bidding P&N will collect and answer bidders' questions under the procedures explained in our contract documents. Should bidders' questions trigger clarification to the contract, P&N will write and send addenda as explained in our contract documents.
4. **Bid Summary** – P&N will review all bids, look at the unit costs for discrepancies indicating an unbalanced bid, and create a bid spreadsheet to confirm all bids are correct. Once we confirm the low bidder, P&N will check their references to verify the contractor is qualified. You will get a letter summarizing our findings.

Deliverables:

- Pre-Bid Meeting and Minutes
- Bidding Assistance and Bid Summary Letter

Construction Administration (Off-site & On-site)

1. **Contract Administration** – P&N will handle contract administration from award through record drawing reviews. We allow twenty weeks in this proposal based on our estimate of the construction schedule.
2. **Shop Drawing Review** – We expect to see a few shop drawings for this project. We will review them and other contractor submittals and check them for compliance with the plans and specifications. We use experienced design engineers to review contractor submittals.
3. **Requests for Information (RFIs)** – We will respond to contractor information requests about the design intent or to clarify the plans and specifications and keep a log of all questions and answers.
4. **Preconstruction and Progress Meetings** – Before starting construction, we will meet with project stakeholders and the contractor to look at schedules, talk about their concerns, and discuss any potential utility concerns. We allow for six (6) progress meetings over the course of the project (one per month). We plan to hold these meetings on site. P&N will produce minutes of each meeting for distribution.

Complicated projects often need public input and/or approval. Making sure people understand and feel heard reduces project opposition and saves time and money.



5. **Construction Staking** – P&N will do the staking for the sewer system improvements.
6. **Construction observation** – We will provide on-site construction observation during pipe installation, pump station construction, and irrigation system upgrades. This is typically full-time during an estimated 20 weeks of underground work and part-time during above-ground work. Infrastructure Alternatives will assist with start-up of generators, irrigation system, and pump station.
7. **Project Closeout** - We will create a punch list and have your staff review and confirm their acceptance after the project walk-through. We will follow up with the contractor to resolve any outstanding issues before recommending final payment.

Deliverables:

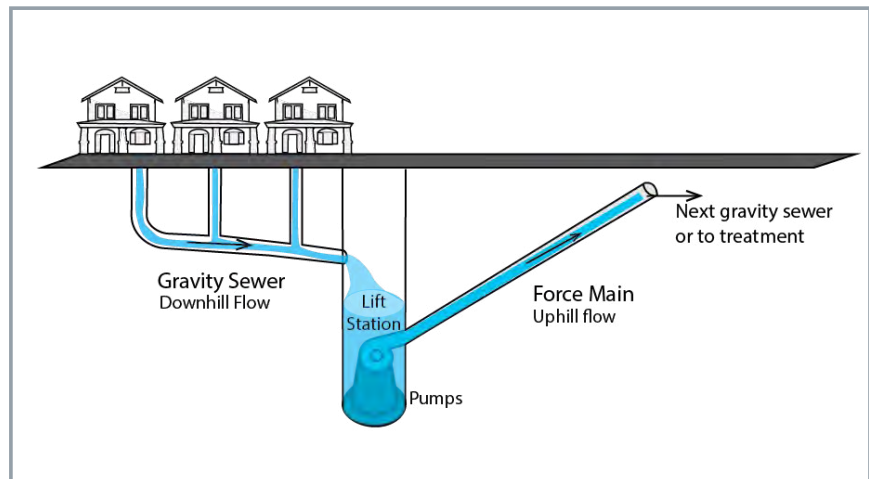
- Pre-construction and progress meetings and minutes
- Approved shop drawings
- Construction administration
- Project observer
- Recommended contractor payment applications
- Punch list at substantial completion
- Record plan documents
- Other project close-out documents

8. Value-Added Services

Complicated projects often need public input and/or approval. Making sure people understand and feel heard reduces project opposition and saves time and money. From efficient web survey distribution to mass mailings, posters, videos—we're equipped to do whatever it takes to make sure your community is on board.

Construction Updates – P&N Project Managers know how to keep residents of nearby construction informed, engaged, and happy despite the disruption to their neighborhoods. From weekly Project Manager e-mails to the day-to-day communication with responsible and friendly construction observers, P&N makes community members feel at ease.

This is a diagram that was used in a newspaper article for another client.



We also can post and store updates on temporary pages via our website, which you can share on your communication platforms (website, Facebook page, newsletters) with a simple link.

Flyer Construction Notices – We can create flyers or postcards to send in the mail to communicate upcoming or ongoing construction to residents in the affected areas. Visually stimulating notifications will catch the readers’ attention. We can handle designing, ordering, and issuing these mailings to make your job easier.

News Publications – We can write informative articles for your local newspaper to communicate the problem, solution, the plan of action, and result. The public doesn’t always understand the details of what’s underground. We create graphics that explain complicated infrastructure concepts so they can feel more confident supporting projects. Images are helpful as a supplement to articles and mailings.

J AVENUE CONSTRUCTION UPDATES – CHARTER TOWNSHIP OF OSHTMO

SEPTEMBER 26, 2017

- Balkema and the City of Kalamazoo will be on site continuing to test the new water main.
- Balkema will also have a crew on site preparing driveways for paving and will continue working on property restoration.
- SWT has completed the installation of service leads within Maple Hill Estates and are working their way south on 2nd Street. Once they have completed the south end of 2nd Street, SWT will then move back to J Ave.
- SWT will only be installing service leads to the homes at this time. Installation from the service lead to the homes will be scheduled at a later date.

Updates from the Construction Observer: There has been some question about the remaining stumps. Handley Tree Service will be onsite within the next week to remove the remaining stumps. As the project continues to move forward SWT, Balkema and Handley Tree Service will be working in different locations along the shoulder of the road. With the work that is being performed one of the lanes may become blocked for a short period of time.

This is a typical construction progress report for stakeholders.



Proposal Alternatives

1. Natural Gas Generators

Design and construction services for a natural gas generator and switch gear at each of the new Cowan Lake Pump Station and the existing PS #1 at Big Pine Island Lake.

These generator additions can be designed most efficiently if done in conjunction with the Cowan Lake Pump Station design; therefore, we included the costs in the overall design and construction engineering services.

2. Water Supply Well

Design and construction services for one (1) 8-inch well and fire hydrant to supply water for Grattan Township Fire Department tankers. Construction cost estimates and engineering fees were included in our June 6, 2018 Proposal for Professional Engineering Services for future Fire Station No. 2. We suggest keeping this as an entirely separate project.

3. Private Property Grinder Stations and Connections

As stated earlier, your request for proposal did not mention the portion of work that will need to be done on private property. This includes installing a grinder station, an electrical connection to the home, and piping to the right of way line where it will connect to the public sewer. The board indicated in its June 11 meeting, attended by Barbara Marczak, that it did not want to participate in the private portion of this construction. However, as stated earlier, we believe that it will benefit the residents if the balance of the grant that is not used for the public portion of the project is used to assist with work on the private side. Once the system is constructed, it can be owned and maintained by the homeowners.

In order to save on engineering costs for the private side work, we recommend that a generic access agreement be prepared that can be used for all properties. Prein&Newhof could prepare the document and the township could then get all residents to sign these. The bidding documents would be set up so that the contractor would be responsible for coordinating with each homeowner on the location of the grinder station and the electrical connection at the house.

Prein&Newhof and Infrastructure Alternatives would specify the material of construction and the grinder pumps to be used. Because the line of the property would be installed by directional drilling, there would be limited surface disturbance.

We would be happy to discuss costs for this portion of the work with you once the scope and level of involvement is defined.

Annual Revenue of Firm

Prein&Newhof is a 49-year old private company and we do not disclose our annual revenues. We employ 140 people.

Number of personnel for this project

Primary team members are listed below. We may use additional staff as needed to complete the work

Kevin Gritters, PE, Project Manager

Kevin will actively engage with the proposed team under this contract to make sure the Township's expectations are met. He is a Township Engineer for several municipalities in northeast Kent County, and has worked on numerous water transmission and distribution projects; wastewater collection construction, replacement, and rehabilitation improvements; and stormwater management systems. Responsibilities as Township Engineer include site plan reviews, stormwater permitting, public utility capital improvement planning and master planning.

Barbara Marczak, PE, Irrigation Design, Permitting and Hydrogeological Study

Barbara will manage and direct the hydrogeological investigation. She will develop and implement evaluation criteria for selecting potential drilling sites, prepare bidding documents for test well drilling, evaluate the test results, and conduct comparative cost analyses. Barbara has helped over a dozen communities explore and develop new wells. She has over 27 years of experience in well development, groundwater studies, and wellhead protection projects.

Mark Prein, PE, QA/QC

Mark is the team leader for our treatment process design group. He has designed and managed major wastewater process projects totaling over \$80 million over the last 10 years. Mark's greatest asset, besides his strong technical capabilities, is in project planning and management. He will help on the initial planning phases and then provide QA/QC review. Mark's projects exceed client expectations, including both their schedules and budgets.

Steve Taplin, PE, Project Engineer

Steve is a project engineer who assists Kevin with his design and construction projects. He has designed wastewater collection systems, water distribution projects, and road reconstructions.



Nate Ver Heul, PE, Pump Station and Generator Design

Nate is an experienced process engineer who works with Mark frequently. He has worked on major design and construction projects, including the \$25 million Worth Township sanitary sewer system and the North Kent Sewer Authority's \$50 million PARCC Side Clean Water Plant. Nate has developed into an excellent designer in his own right, and he will help make the process design efficient and cost-effective

Survey, Drafting, and Geotechnical

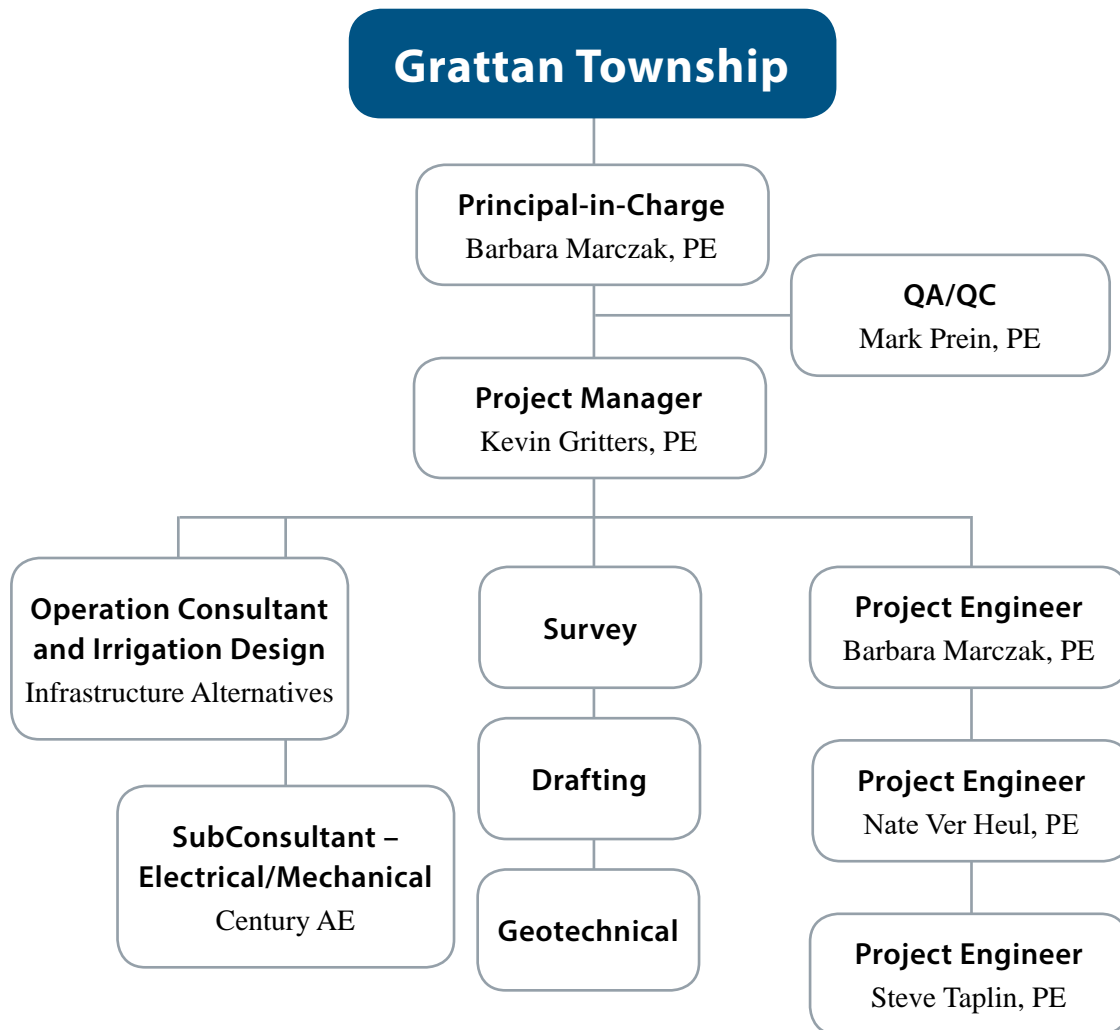
Prein&Newhof has complete survey, drafting, and geotechnical teams in-house that will be used during design and construction.

Subconsultants

We will partner with **Infrastructure Alternatives, Inc. (IA)** during preliminary design for help with equipment selection. We intend to use standardized equipment consistent with your overall wastewater system. We also will use IA for a preliminary design and quality control review. Finally, we will rely on IA's experience and operational knowledge of the sewer system during system start-up.

Century A&E will provide electrical design services. We team with them frequently on projects. They were also part of our team during your SAW project.

Team Chart





Barbara E. Marczak, PE

Senior Project Manager

Since joining Prein&Newhof in 1987, Barbara has participated as a project engineer and project manager for a variety of civil and environmental engineering projects involving municipal water supplies and distribution, wastewater treatment facilities, road reconstruction, storm water management and sites of environmental contamination. She has worked with municipal and industrial clients and is experienced with many municipal funding mechanisms including the State Revolving Fund (SRF), Rural Development finding, MDOT local agency funding and assessments. She is currently the team leader for our Muskegon Office and is a member of Prein&Newhof's corporate Board of Directors and the Executive Committee.

Barbara also has extensive experience in environmental compliance for water, solid/hazardous waste and underground storage tanks, along with environmental issues associated with real estate transactions. She has been involved with many projects involving groundwater, including hydrogeologic studies for municipal and private water supplies, treatment of drinking water, remediation of contaminated groundwater, and wellhead protection.

Education

M.S. Civil Engineering
University of Michigan, 1985

B.S. Civil Engineering
University of Michigan, 1984

License

PE Michigan, 1990

Certification & Training

40-Hour HAZWOPER Training
ASTM Risk Based Corrective
Action

Certified Industrial Storm Water
Operator, Michigan

Risk Assessment Methodology for
Water Security (RAM-WSM).
AWWA & Sandia National
Laboratories, 2003.

Certified Underground Storage
Tank Professional, Michigan

Community Activities

United Way of the Lakeshore

Professional Activities

American Water Works Association
Water Environment Federation

Grand Rapids Chamber of
Commerce (Environmental
Quality Committee)

West Michigan Water Works
Association

Awards

Roosevelt Road Reconstruction and Groundwater Removal System, City of Roosevelt Park

Project of the Year, 2016

American Public Works Association, Michigan Chapter

American Society of Civil Engineers, West Michigan Branch

State Street Reconstruction, City of Hart

Quality of Life, 2015

American Society of Civil Engineers, West Michigan Branch

Ludington State Park Water and Utilities Improvements

Quality of Life Award, 2013

American Society of Civil Engineers, West Michigan Branch

City of Big Rapids

Exemplary Wellhead Protection Program Award, 2009

American Water Works Association

Representative Projects

Village of Ravenna

- Village-wide wastewater and stormwater system evaluations, 2014-2017
- North and south lift station replacements, 2017- 2018
- USDA Rural Development Loan, 2018
- Lakeshore Drive reconstruction, 2018
- Water System Asset Management Plan, 2017
- Water System Reliability Study, 2017
- Muskegon and Webster road and infrastructure improvements, 2015

City of Montague

- Water system asset management plan, 2017
- Water system reliability studies
- 2017-2018 New DPW building, water supply well and water distribution system improvements
- USDA rural development funding for 2017-2018 water system improvements
- Wastewater grinder pump evaluations, 2002
- Over 30 infrastructure projects for City since 1999

City of Roosevelt Park

- Roosevelt Road reconstruction and wastewater system groundwater removal, 2015-2016
- Water Asset Management Plan, 2017
- Water System Reliability Study, 2017
- Broadway Avenue and Lambert Road, road and infrastructure improvements, 2017-2018

City of Muskegon

- City-wide wastewater and stormwater system evaluations, 2014-2017
- State Revolving Fund(SRF) Project Plan for over \$20 M wastewater improvements, 2018

Ottawa County Road Commission, Public Utilities Department

- West Central Ottawa wastewater collection and treatment system evaluation, 2014-2017
- Southwest Ottawa County Landfill treatment system improvements, 2006-2009

Grattan Township

- Cowan Lake, Feasibility Study for wastewater collection and treatment, 2002 and 2016
- Wastewater treatment system irrigation system, 1995
- NPDES permit applications and monitoring

Muskegon County

- Whitehall site, former treatment plant assessment and closure plan
- Water System Reliability Study, 2017

City of Hart

- City- wide wastewater and stormwater system evaluations, 2016-2019
- Water System Asset Management Plan, 2017
- Water System Reliability Study, 2016



Kevin L. Gritters, PE

Project Manager

Kevin started his engineering career in construction observation for a variety of municipal improvement projects with Prein&Newhof. He soon obtained his PE and became a Project Engineer. Kevin is now a Project Manager and Township Engineer for several municipalities in northeast Kent County. He has worked on numerous water transmission and distribution projects; wastewater collection construction, replacement, and rehabilitation improvements; and stormwater management systems. Responsibilities as Township Engineer include site plan reviews, stormwater permitting, public utility capital improvement planning and master planning.

Education

B.S. Engineering
Calvin College, 2005

License

PE, Michigan, 2009

Certification & Training

ACEC Project Management Bootcamp
MDEQ Transportation and the
Environment
Certified Storm Water Operator
Confined Space Training,
NASSCO PACP, MACP & LACP
NASSCO ITC Program for Manhole
Rehabilitation

Professional Associations

American Society of Civil Engineers
Branch President, 2012–2013
American Water Works Association
Michigan Water Environment
Association

Professional History

Prein&Newhof, 2002–present

Publications

Smith, T. and K. Gritters. "Ottogan
Intercounty Drain Flood Damage and
Reconstruction." MACDC Pipeline
Magazine. 2nd Quarter 2010.

Awards Won

Edmund Friedman Young Engineer Award for Professional Achievement, 2017

American Society of Civil Engineers, Michigan Section

Representative Projects

- **Plainfield Charter Township:** Scott Creek Trunk Sewer Reconstruction, Infiltration & Inflow Study, Comstock Park Area Sewer Reconstruction, 10 Mile / Childsdale Area Sewer Replacement, Northerly Trunk Inverted Siphon Replacement
- **Alpine Township:** Strawberry Creek, York Creek, and Mill Creek Trunk Sewer Reconstruction
- **City of Ludington:** Tinkham Street Utility Replacement
- **North Kent Sewer Authority:** PARCC Side Clean Water Plant, S2 Grant and SRF Loan acquisition for lift station replacements and new generator and sewers
- **Mason County DPW:** North Main Street Lift Station & Forcemain
- **City of Ludington:** Gaylord Avenue and Foster Street Utility Replacement & Road Reconstruction, Infiltration & Inflow Study
- **City of Big Rapids:** Wastewater Collection System Modeling and Inflow/Infiltration Study
- **University of Notre Dame:** South Quad Sewer Improvement Study



Mark R. Prein, PE

Senior Project Manager,
Vice President

Mark has worked as a Project Manager and Project Engineer on a variety of civil and environmental engineering projects, including wastewater treatment and collection, water treatment and distribution, landfill, groundwater remediation, and underground storage tanks. He has managed over \$90 million in projects during the last 10 years.

Mark has extensive experience with the preparation and administration of grants and loans, including SRF and DWRP funding for municipal improvement projects.

Mark is Prein&Newhof's lead wastewater system engineer. He has developed an understanding of, and expertise in the remediation of pipes and structures exposed to hydrogen sulfide. He has also designed and improved several wastewater treatment plants, including design and construction of a Biological Nutrient Removal (BNR) Membrane Bioreactor (MBR) wastewater treatment plant for the North Kent Sewer Authority.

Professional Awards

James R. Rumsey Award, "Meeting a Phosphorus Limit of 0.03. Yes, 0.03!" 2016

Michigan Water Environment Association

James R. Rumsey Award, "Oxidation Reduction Potential Improves Operational Efficiency," 2013

Michigan Water Environment Association

Environmental Consultant of the Year, 2010

Michigan Water Environment Association

Young Engineer of the Year, 2007

Michigan Society of Professional Engineers, Western Chapter

Young Engineer of the Year, 2002

American Society of Civil Engineers, Michigan Section

Representative Projects

WASTEWATER

- **Cannon Township:** Pump Station Retrofits
- **City of Charlevoix:** Wastewater Treatment Plant Improvements

Education

M.S. Civil Engineering
Northwestern University, 1994

B.S. Civil Engineering
University of Notre Dame, 1993

License

PE Michigan, 1997

PE Indiana, 2010

Certification & Training

Certified Storm Water Operator

Confined Space Training

40-Hour Engineering Management
Series, Aquinas College

Soil Erosion and Sedimentation Control

Professional Activities

American Membrane Technology
Association

American Society of Civil Engineers

American Water Works Association

Michigan Society of Professional
Engineers

Michigan Water Environment
Association

Professional History

Prein&Newhof, 1994–present

- **GRSD Sewer Authority:** Biosolids System Study, Odor Investigation & Odor Control Facility
- **Holland Township:** Concrete Sewer Rehabilitation
- **Kent County Dept. of Public Works:** Belmont By-Pass Sanitary Sewer, Corrosion/Odor Study
- **Muskegon County:** Treatment Plant Improvements, Collection System Improvements, 60" Force Main Replacement, Pump Station C Replacement, Northern Interceptor, Collection System Consolidation, C Gap Cell Leachate Station
- **North Kent Sewer Authority:** PARCC Side Clean Water Plant Feasibility Study and Design, West River Trunk Sewer Reconstruction, Membrane Bioreactor Investigation, Four-Mile Lift Station Replacement, Treatment Plant Floodplain Permitting, Grand River Crossing & Willow Trunk Reconstruction
- **Plainfield Charter Township:** Boyd Avenue Lift Station Elimination & Sanitary Sewer, 5-Mile Water Transmission Main and Booster Station
- **Roskam Baking Company:** NPE-IPP Assistance
- **University of Notre Dame:** South Quad Stormwater & Sewer Improvements (Study & Preliminary Design)
- **Village of Pentwater:** Clean Water Plant

WATER SUPPLY

- **City of Allegan:** Water Treatment Plant
- **City of Holland:** Water Treatment Plant Transfer Pump
- **City of Holland / City of Wyoming:** Transmission Main, Valve & Meter Station
- **Plainfield Township:** Water Distribution System Improvements

- **City of Rockford:** Iron Removal Filter Evaluation & Performance Assistance, Hydraulic Evaluation & Improvements
- **City of Wyoming:** Transmission Main Repair
- **Holland Charter Township:** Water Supply System
- **Nestle Nutrition:** Gerber Soft Water Mixing System
- **Meijer:** Store 127 Drainage Issues, Store 113 & 248 Water Softeners, Gas Station #248 Softener Failure

Project Awards

Clean Water Plant Improvements, City of Charlevoix

Quality of Life Certificate of Merit, 2016
American Society of Civil Engineers

PARCC Side Clean Water Plant, North Kent Sewer Authority

Eminent Conceptor Award, 2010
American Council of Engineering Companies, Michigan
Outstanding Civil Eng. Achievement Award, 2009
American Society of Civil Engineers, Michigan Section
Award of Excellence (Mechanical), 2009
Assoc. Builders & Contractors, Western Michigan Chapter
Award of Excellence (Construction), 2009
Assoc. Builders & Contractors, Western Michigan Chapter

Pump Station C, Muskegon County WMS

Award of Excellence (Process Piping), 2009
Assoc. Builders & Contractors, Western Michigan Chapter

Four Mile Lift Station, North Kent Sewer Auth.

Public Works Project of the Year (Structural), 2005



Nathan A. Ver Heul, PE

Senior Engineer

Nate has experience in municipal and process engineering, with a focus on pump stations and wastewater treatment. He has been involved in the design of more than 40 pump stations and several wastewater treatment plants, including the award-winning PARCC Side Clean Water Plant.

Nate's municipal design experience includes stormwater collection, water supply, wastewater collection, earthwork, roads, parking lots, and sidewalks. His experience as field engineer on large, complicated projects has helped him become a detailed, yet practical, design engineer.

Education

Master of Business Administration
Grand Valley State University,
2009

B.S. Engineering
Calvin College, 2003

License

PE Michigan, 2008

Certification & Training

Confined Space Training
Professional Liability for Design
Professionals – 2007, 2008, 2009

Professional Activities

Michigan Society of Professional
Engineers
Michigan Water Environment
Association

Professional History

Prein&Newhof, 2001–present

Representative Projects

- **North Kent Sewer Authority:** PARCC Side Clean Water Plant, Grass Lake and Rogue River Pump Stations
- **City of Charlevoix:** Wastewater Treatment Plant
- **Village of Pentwater:** Clean Water Plant
- **Cannon Township:** Pump Station Conversion/Retrofits
- **Muskegon County Wastewater Management System:** Laketown & Sullivan Pump Stations
- **Holland Charter Township:** PS 1, PS 16, PS 21, PS 23, Can Pump Station Improvements, Submersible Pump Station 17 Replacement
- **Ottawa County Road Commission:** 12th Avenue Pump Station and Forcemain
- **Plainfield Township:** Forest Ridge, Belmont, Northland, Spruce Hollow, North Park and Balsam Pump Stations Conversion/Retrofits
- **City of Stanton:** Irrigation Pump Station Improvements
- **Oceana County:** Pentwater Clean Water Plant
- **Mason County:** Gravity Sewer, Force Main, & Submersible Lift Station, Grinder Lift Station & Force Main

Awards

Young Engineer of the Year Award, 2016

Michigan Society of Professional Engineers Western Chapter

Clean Water Plant Improvements, City of Charlevoix

Quality of Life Certificate of Merit, 2016

American Society of Civil Engineers



Steve Taplin, PE

Engineer

Steve joined Prein&Newhof in 2014 as an entry level engineer and now works as a project engineer, primarily assisting with design and construction management of water and wastewater system improvement projects. He has field and design experience on a variety of project types including utility installation, road reconstruction and geomembrane installation projects. Steve also assists with site plan reviews for several municipalities in the greater Grand Rapids area.

Steve has also assisted in the collection and evaluation of wastewater system data for several communities' asset management plans, and has assisted in the development of wastewater system capital improvement plans.

Education

B.S. Engineering, Civil/
Environmental Concentration
Calvin College, 2014

License

P.E. Michigan, 2018

Certification & Training

Confined Space Training, 2014
MDOT - Certified Troxler Nuclear
Gauge Operator

Professional Activities

American Society of Civil
Engineers (ASCE)
Michigan Water Environment
Association (MWEA)

Professional History

Prein&Newhof, 2014–present

Representative Projects

Wastewater System Improvements

- City of Whitehall – Slocum Street
- Plainfield Charter Township – Comstock Park Trunk Sewer Reconstruction, 10 Mile/Childsdales Sewer Reconstruction and Northerly Trunk Inverted Siphons Reconstruction
- Cannon Township – Belding Rd Trunk Sewer Reconstruction
- Georgetown Charter Township – Chicago Drive and Rush Creek Trunk Sewer Reconstruction

Water System Improvements

- City of Kentwood – Water Supply System Improvements
- Plainfield Charter Township – Jericho Avenue, Lamoreaux Drive Reconstruction, Chadwick Avenue and Bell Avenue Reconstruction, Wolven Service Drive
- Alpine Township – Meryton Avenue, Foxcroft Avenue and Shadowood Street Reconstruction

Asset Management Plans (SAW Grant)

- Plainfield Charter Township
- Alpine Township
- Cannon Township
- City of Rockford
- North Kent Sewer Authority

Infrastructure Alternatives (IAI)

BACKGROUND/EXPERIENCE

Contact Information

Full Name: IAI Holdings, Inc. DBA Infrastructure Alternatives

Tax ID: 383535922

Address: 7888 Childsdale Ave NE
Rockford, MI 49341

Contact: Kent S. Trierweiler, P.E.

Title: Vice-President, Contract Operations

Office: 616-866-1600 ext. 14

Mobile: 616-437-5918

email: kentt@iaewater.com

Organization

Infrastructure Alternatives is organized as an employee-owned, privately-held, S-Corporation in the State of Michigan. It was formed in April 2000 and has been providing full service contract operations under the name of Infrastructure Alternatives since that time. The company has never been owned by another entity or operated under any other name. The company is referred to as IAI for ease of use, but the legal name of the firm is "IAI Holdings, Inc. doing business as Infrastructure Alternatives."

We are focused on providing operations and maintenance services to small to medium size water and wastewater utilities principally in Michigan and Wisconsin.



but also throughout the Midwest. IAI has been in business for 18 years, but our water and wastewater contract operations roots go back 35 years. We offer a very experienced and staff with a diverse background in utility operations.

Client List

We can write tirelessly about our technical strengths, our partnering approach to the utility business, and our commitment to excellence in serving our clients. However, the critical piece of information to help you make your service provider selection is how our clients feel about us. We believe that our clients will testify that we operate with integrity and commitment.

We strongly encourage you to contact any of our clients to verify our technical capabilities and commitment to making your utility operations successful. Selection of a utility partner committed to the long-term success of your facilities is critical and should not be done without you “kicking the tires” so to speak.

In your evaluation process should you desire to contact our clients we will provide you a matrix that includes client listing, names of contact persons, and a description of the facilities we operate so that, with minimal effort, you can pick up the phone and hear it what our clients say about IAI.

PREIN & NEWHOF/IAI RELATIONSHIP

Prein & Newhof and IAI enjoy a collaborative relationship and work together on strategic projects where we believe the strengths of each of companies proved our clients with a better approach and solution to their water and wastewater needs.

We enjoy a similar business approach and philosophy. We are custom service based relying on experience, expertise, integrity and doing things the “right way”.

In our opinion, utilizing the engineering expertise of Prein & Newhof coupled with the operations and maintenance experience of IAI performing on-going QA/QC focusing on long term operability and reliability will provide Grattan Township with the best overall value.



KENT TRIERWEILER, P.E. | VICE-PRESIDENT

kentt@iaiwater.com | 616.437.5918

PROJECT RESPONSIBILITIES

Kent Trierweiler, P.E. will provide engineering support, value engineering, and QA/QC review to Prein&Newhof for the Grattan Township/Cowan Lake project.

PROFESSIONAL EXPERIENCE SUMMARY

Mr. Kent Trierweiler serves as Vice-President for the Contract Operations division of IAI. Kent has 40 years of experience in civil engineering, with a focus on water and wastewater systems. He joined the IAI team in 2001, and since then, has been instrumental in the growth of the company's Contract Operations and Engineering Divisions.

EDUCATION

- B.S. Civil Engineering, Michigan Technological University, 1978

CERTIFICATIONS

- Michigan registered Professional Engineer
- Ohio registered Professional Engineer

ENGINEERING EXPERIENCE

General Civil Engineering

Managed storm water drainage improvements, sanitary sewer improvements, and water main extensions in Reed City, Union City, Bronson, Hudson, Metamora, Pierson, Mio, Cheboygan, Rockwood, Muskegon, Menominee, Grand Rapids, Pierson, Kinross, Covert and Oscoda Townships, Michigan and in Allegan and Montcalm Counties in Michigan. These services were provided in the conventional design/bid/build method as well as the design/build service delivery method.



KENT TRIERWEILER, P.E. | VICE-PRESIDENT

Wastewater Pump Stations

Managed wastewater pump station improvement projects in Muskegon, Union City, Bronson, Tawas City, and Menominee, Mio, Metamora, Lowell, Leslie, Cascade, Kinross, and Pierson, Michigan. Some projects were delivered in the conventional design/bid/build method and some in the design/build service delivery method.

Wastewater Treatment Plants

Managed wastewater treatment plant improvement projects in Cheboygan, Mio, Metamora, Pierson, Essexville, Hartland, Leslie, Leland, Metamora, Alpena, Middleville, Paw Paw, Tawas City, Hillsdale, Sturgis, and Constantine, Michigan and Toronto, Ohio, and Covert and Grosse Ile Townships, Michigan, Gardener, Maine, and Berkeley Heights, New Jersey. Some of these improvements were delivered through the conventional design/bid build method, and some in the design/build service delivery method.

Water System Improvements

Managed water system extensions in Cheboygan Armada, and Paw Paw, Michigan, Blair and Baldwin Townships, Michigan, Gardner, Massachusetts, and Gardener, Maine. Managed elevated and ground water storage tank improvements projects in Cheboygan, Tawas, East Tawas, Oscoda, and Mio, Michigan, and in Baldwin and Blair Township's, Michigan. Managed a wellhead protection plan preparation project in Reed City, Michigan.

Street, Roadway & Bridge

Managed street, intersection, and bridge improvement projects in Caledonia, Grand Haven, Muskegon, Kentwood, Grand Rapids, Portland, Union City, Grosse Ile, Paw Paw, Portage, Portland, and Pierson, Michigan.

Industrial Engineering

Managed contracts involving operation and maintenance of remediation systems in two states at more than 20 sites owned by municipal governments, industry, and commercial establishments. Remediation systems including air stripping, soil vapor extraction, bioremediation, low-temperature thermal oxidation, filters, free product removal, biological treatment (activated sludge), carbon adsorption, ultraviolet oxidation, iron removal, and catalytic incineration were included. Flows ranged in size from 50 gallons per day to one million gallons per day and were discharged to surface water, ground water, storm sewer, and sanitary sewers.



SARA SOLEAU, P.E. | PROJECT MANAGER

SSOLEAU@IAIWATER.COM | 616.450.4526

PROJECT RESPONSIBILITIES

SARA SOLEAU WILL PROVIDE ENGINEERING SUPPORT TO THE PREIN&NEWHOF FOR THE IRRIGATION IMPROVEMENTS FOR THE GRATTAN TOWNSHIP WASTEWATER FACILITY.

PROFESSIONAL EXPERIENCE SUMMARY

MS. SOLEAU SERVES AS A DESIGN ENGINEER AND PROJECT MANAGER FOR ENGINEERING/TECHNICAL SERVICES AT IAI. SARA HAS 12 YEARS OF GENERAL CIVIL ENGINEERING, TECHNICAL AND DRAFTING EXPERIENCE IN PRIVATE DEVELOPMENT AND MUNICIPAL PROJECTS THROUGHOUT UPPER AND LOWER MICHIGAN, AND WISCONSIN. SHE IS RESPONSIBLE FOR PLANT DESIGN AND IMPROVEMENTS, FACILITY EVALUATION REPORTS, PROJECT DRAFTING, AND CONSTRUCTION INSPECTION.

EDUCATION & CERTIFICATIONS

- BSE, CIVIL & ENVIRONMENTAL ENGINEERING, UNIVERSITY OF MICHIGAN, 2006
- MICHIGAN REGISTERED PROFESSIONAL ENGINEER

SELECTED PROJECT EXPERIENCE

GENERAL CIVIL

WASTEWATER AND WATER TREATMENT DESIGN AND IMPROVEMENTS

COLLABORATED ON PROJECTS IN BRIGHTON, CALEDONIA, GRAND HAVEN, GRANT, GRATTAN, GREENVILLE, KALAMAZOO, LEONI, LESLIE, LOWELL, MENOMINEE, AND PORTER, MICHIGAN, AND ANTIGO, WISCONSIN.

WATER AND SANITARY SEWER MAPS AND DETAILS

DRAFTED SYSTEMS IN CALEDONIA, GRAND HAVEN, GRATTAN, LEONI, LESLIE, LOWELL, MENOMINEE, AND PORTER, MICHIGAN.

DRAFTING SERVICES FOR DREDGING PROJECTS

DRAFTED SYSTEMS IN TOLEDO, OH, LYERLY, GA, TAMPA, FL, AND SYRACUSE, NY.



SARA SOLEAU | PROJECT MANAGER

PRIVATE AND COMMERCIAL SITE DESIGNS

ASSISTED ON PROJECTS IN GRAND RAPIDS, PLAINFIELD TOWNSHIP, GRANT, GRATTAN, GREENVILLE, KALAMAZOO, LEONI, LESLIE, LOWELL, MENOMINEE, AND PORTER, MICHIGAN, AND ANTIGO, WISCONSIN.

DOWNTOWN DEVELOPMENT

ASSISTED ON PROJECTS FOR CANTON TOWNSHIP.

WASTEWATER TREATMENT PLANTS

DESIGNED AND DRAFTED IMPROVEMENTS FOR WASTEWATER TREATMENT PLANTS AND COLLECTION SYSTEMS

APPLE CARR VILLAGE MANUFACTURED HOME COMMUNITY (MHC), BRIGHTON GFS DISTRIBUTION CENTER, CITY OF ANTIGO, CITY OF GRANT, CITY OF LESLIE, CITY OF MENOMINEE, DEERFIELD VILLAGE MHC, GRATTAN TOWNSHIP AND GRATTAN/VERGENNES, LAKESIDE MHC, LEONI TOWNSHIP, PORTER TOWNSHIP, RIVER HAVEN MHC, ROYAL ESTATES MHC, ALPINE MEADOWS MHC, VILLAGE OF BALDWIN, BEAR CAVE CAMPGROUND, COOK NUCLEAR WWTP, CITY OF GRANT, HIDDEN RIDGE CAMPGROUND.

PREPARED ASSESSMENT OF FACILITIES REPORTS AND EVALUATIONS FOR THE WASTEWATER TREATMENT FACILITIES AND COLLECTION SYSTEMS

APPLE CARR VILLAGE MHC, CITY OF ANTIGO, GRATTAN TOWNSHIP AND GRATTAN/VERGENNES, PORTER TOWNSHIP, ROYAL ESTATES MHC, VILLAGE OF CALEDONIA, AND VILLAGE OF SPARTA.

COLLABORATED ON FEASIBILITY STUDY REPORTS

CITY OF ANTIGO ANAEROBIC DIGESTER, LOWELL TOWNSHIP LIFT STATION, AND CITY OF GRANT WASTEWATER TREATMENT IMPROVEMENTS.

DRAFTED THE ANNUAL GROUNDWATER CONTOUR MAP

CITY OF MENOMINEE LANDFILL GROUNDWATER REMEDIATION SYSTEM

VERIFIED AND DRAFTED CORRECTIONS AND ADDITIONS

APPLE CARR MHC, DEERFIELD VILLAGE MHC, AND RIVER HAVEN MHC.

PREPARED CONSTRUCTION PERMIT APPLICATIONS AND DISCHARGE PERMIT APPLICATIONS WASTEWATER TREATMENT FACILITIES

BIG PINE LAKE, BRIGHTON GFS, COLUMBIA LAKES ESTATES, LAKESIDE MHC, LESLIE, LEONI, ONE LAKE TERRACE, ORLEANS TOWNSHIP, RIVER HAVEN MHC, AND SUNSET RIDGE MHC, BEAR CAVE CAMPGROUND, CRICKLEWOOD MHC, FRESH SOLUTION FARMS, CITY OF GRANT, HIDDEN RIDGE CAMPGROUND, OAKS OF ROCKFORD.

CENTURY A&E

Facilities Design

Company Profile

DESCRIPTION Century A&E Corporation is an engineering and architectural consulting firm specializing in facilities design primarily for industry. Design and construction services include Civil, Architectural, Structural, Electrical, Mechanical, Chemical Process, and Construction Management.

Our office is located in Grand Rapids at:

277 Crahen Avenue NE
Grand Rapids, Michigan 49525-3459

Telephone: (616) 456-5227
Facsimile: (616) 456-5228
Website: www.centuryae.com

OUR HISTORY Century A&E was established in February 2000 by partners Daniel J. Esch, P.E., Darrell M. Mason, AIA, William T. Rose, P.E., and Matthew A. Tipping, P.E. Since then a new partner, Stephen F. Aman has joined them. The firm has grown steadily.

Century A&E has performed design and construction management work on hundreds of projects for over a hundred clients in Michigan. Experience includes industrial, institutional, health care and commercial projects in the form of new facilities, building additions, and system renovations alike. Although the firm is relatively new, our employees bring with them many years of experience in facilities design consulting.

PHILOSOPHY Century A&E's philosophy is reflected in its goals. Century A&E was founded on several goals. The first goal is that our success is dependent upon our customer's satisfaction. To achieve this, Century A&E strives to develop close working relationships with our clients here in west Michigan.

It is also our goal and philosophy to be a full service company, offering all design disciplines from one firm. Because of this, we can provide single source accountability to our clients. This eliminates the finger pointing and uncertainty that can come with a firm's hiring of sub-consultants unknown to the owner.

Another goal is to offer clients the services of high caliber and highly skilled professionals who are experienced, knowledgeable, and responsive. In accomplishing this goal Century A&E has assembled a team of "top notch" experts who have the education and knowledge to skillfully apply to our clients' projects.

Century A&E is dedicated to creating a work environment that fosters employee satisfaction. To this end Century A&E is structured as an employee owned company which we believe nurtures devoted and reliable employees who are focused on our success and our clients.

Prein&Newhof's professionals design many private and municipal wastewater collection and treatment facilities. Whether it is a small community or larger city/township system, P&N's wastewater and process engineers help clients pursue common-sense and cost-effective solutions to meet their wastewater needs. We also consider your long-term plans and needs for the area.

Below you can read brief descriptions of relevant P&N projects done in the last 10 years. Most of them include challenges and processes you expect to see with your proposed project. The projects range from small to large and show our successes with a wide range of projects. You will notice that several are from the West Michigan area showing our familiarity with the area.

Longer descriptions of these projects start on page 23.

Worth Township – Wastewater Collection and Treatment System

Worth Township has a lot of seasonal homes along a lake with aging and failing septic systems. After years of reviewing what to do, how to do it, and how to pay for it, this project is finally under construction. Prein&Newhof provided a second opinion on previous work that had been done and was able to prepare an efficient solution. The project includes a wastewater collection system and a lagoon treatment facility to serve homes and businesses. This \$23 million project is being funded by a combination of USDA Rural Development and Michigan State Revolving Fund loans and grants.

Idlewild and Paradise Lakes – Wastewater Collection System, Yates Township, Newaygo County

This project was constructed to serve homes on two lakes in Newaygo County. A new wastewater collection system consisting of a combination of gravity sewer, grinder pumps and pressure forcemain was constructed to replace aging and failing septic systems. The project was funded with USDA Rural Development grants and loans.

P&N's wastewater and process engineers help clients pursue common-sense and cost-effective solutions to meet their wastewater needs.



Prein&Newhof provided a second opinion on previous work that had been done and was able to prepare an efficient solution.



Village of Pentwater–Clean Water Plant

This project shows P&N's ability to work with the MDEQ to resolve treatment plant issues. Pentwater hired Prein&Newhof for a second opinion of a project that had languished in design for many years. P&N recommended going in a different direction, and designed a new plant, which included fine screening, membranes, chemical systems, and ultraviolet disinfection. Our design team also saved Pentwater \$1,000,000 by re-locating their proposed discharge point and helping get a NPDES Permit. The construction contract included a detailed sequence of events to decrease Owner and Contractor risks, minimizing project unknowns and resulting construction costs. This project received USDA Rural Development funds.



Grace Adventures – Wastewater and Water Systems

Grace Adventures' camp on Upper Silver Lake recently added to their facilities by constructing Recreational Vehicle family campground. Prein&Newhof assisted Grace Adventures' architect with site design and designed the wastewater collection and water distribution systems. All lots now have full hook up services, and a septic treatment system treats the wastewater. Prein&Newhof also assisted with all state and health department campground permits.



Muskegon County Wastewater Management System

Muskegon County operates the largest wastewater lagoon and irrigation system in the State. Prein& Newhof has assisted the county on over \$30 million of design and construction work for the last 20 years. Projects have included 10 miles of 66-in. forcemain, new aeration equipment in the lagoons, new wastewater pumping stations, closure of its northern county facility, consolidation at its main plant, and many other smaller projects. Many of these projects have used State Revolving Fund (SRF) loans for financing.





Completion Year

Ongoing

Project Team:

Mark Prein, PE, Project Manager

Nate Ver Heul, PE

Tom Newhof, PE

Project Cost

\$23 Million

Funding Sources

USDA-RD, MDEQ, SAW

Wastewater Collection and Treatment System

Worth Township

In 2004, the Michigan Department of Environmental Quality (MDEQ) tested Lake Huron water in Worth Township and found fecal coliform and E. coli bacteria. Worth Township and the MDEQ negotiated and agreed to build a sewage collection and treatment system by June 1, 2008. By 2007, Worth Township had not built the promised system due to lack of funding. Supervisor Ed Smith estimated the system would cost about \$30,000 per household. MDEQ reported worsened Lake Huron bacteria levels in 2006 and 2008 and successfully sued Worth Township, compelling them to move forward with a project.

After township appeals, the Michigan Supreme Court ruled in July of 2014, ordering the township to replace privately-owned septic systems with a new sewer system. Thereafter, Worth Township hired Prein&Newhof to design a \$23 million project to keep sewage from leaking septic systems out of Lake Huron.



Worth Township bought 72 acres for a new wastewater lagoon system. They chose lined lagoons over a traditional wastewater treatment plant, reducing the project cost from \$32 million to \$23 million. Sewage will flow into the first lagoon where solids will settle, then pumped into the second lagoon for final treatment. Their MDEQ permit allows them to release treated water twice a year into a local creek.



Worth Township's sewer district includes 11 pump stations. P&N helped them get a \$20.2 million loan from the U.S. Department of Agriculture and \$3.7 million in MDEQ grants to pay for the project. The USDA-RD loan carries a 2.125% interest rate over a 40-year term, and users will pay the cost to own and maintain the system and retire the debt.



Village of Pentwater

Clean Water Plant

The Village of Pentwater's wastewater treatment facility was formerly a lagoon system with spray irrigation, meaning the water was treated in lagoon cells and then discharged to water farm crops. The Village received an Administrative Consent Order (ACO) from the Michigan Department of Environmental Quality, requiring Pentwater to improve its wastewater treatment. Its discharge irrigation system was overloading the farm fields with phosphorous. Direct discharge to Pentwater Lake was not possible as it was also overloaded with nutrients. Not sure how to bring its facility into compliance, the Village of Pentwater hired Prein&Newhof to give them a second opinion.

The challenge: getting the level of treatment needed to meet compliance at an affordable cost. P&N was certain that membrane filtration could bring the plant into compliance, and described to the Village how they might accomplish this feat. The Village of Pentwater subsequently asked P&N to design the facility upgrades.

There are multiple membrane system types and each has its own specific characteristics. P&N determined that a flat plate membrane was the best solution for Pentwater. "The plant uses state of the art technology in a cost effective manner," says Project Manager, Mark Prein, PE "For example, the water is filtered through the membranes and discharged to a creek by gravity to help minimize operating costs associated with pumping."

Pumps in the pumping stations were designed to be more energy-efficient than the existing pumping system. The discharge to Pine Creek required a very high degree of treatment for the wastewater plant. This level of treatment can be met with a membrane bioreactor system.



Completion Year

2014

Construction Cost

\$3,285,182

Project Team

Mark Prein, PE, Project Manager

Matt Hulst, PE

Barbara Marczak, PE

Tom Newhof, PE

Nate Ver Heul, PE





Completion Year

Ongoing

Project Team

Mark Prein, PE, Project Manager

Peter Brink, PE

Cathy Prein, PE

Nate Ver Heul, PE

Barbara Marczak, PE



Collection System Improvements

Muskegon County Wastewater Management System

Since 1991, Prein&Newhof has worked with the Muskegon County Wastewater Management System (MCWMS) to repair and strengthen the county's 55 million gallon-per-day system. Projects have included:

- Pump Station Improvements
- Collection System Consolidations
- Forcemain & Gravity Sewer Extensions
- Corrosion Consultation
- Street Repair Recommendations & Design
- Force Main Replacements

CELL NO. 2 IMPROVEMENTS (2014)



Shortly after design work commenced to modify and split lagoon Cell No. 2, a local industry indicated that additional capacity would be required. Cell No. 2 improvements included replacement of six aeration units, electrical distribution replacement to twelve locations, upgrade of three Motor Control Centers with provision for future improvements, addition of a septage receiving pad, installation of a septage receiving drive and culvert system, and a Capacity and Cost of Service Analysis. P&N designed these elements and also did topographical survey, electrical investigation, basis of design revisions, hydraulic modeling, construction plans and specifications, MDEQ permit application, bidding assistance, and construction administration.

FORCE MAIN MONITORING (2009)

Muskegon County operates 11 miles of 66-inch PCCP force main between Pump Station C and the Metro Wastewater Treatment Plant. The force main had failed catastrophically five times over 40 years. When the force main had failed for the fifth time in March 2007, the County asked P&N to find other potential problems in the pipeline. P&N designed a replacement force main, which included 8.3 miles of 60-inch ductile iron pipe and an additional mile of smaller force main. The new force main has a corrosion monitoring system and isolation valves at various points along the route to prevent future catastrophic failures. P&N worked with Pure Technologies to install a fiber-optic-based acoustic monitoring system that can detect the sound of a pre-stressed wire breaking in the PCCP. MCWMS gets a notification each time a wire breaks. In the first year, 17 breaks were recorded. The County then worked with P&N and Simpson Gumpertz & Heger to develop a risk analysis. The project came in under budget, saving Muskegon County over \$500,000.



FINAL EFFLUENT PUMP STATION STRAINER (2008)

The Muskegon WWTP operates a 38 MGD final effluent pump station for pumping effluent from their lagoons to their crop irrigation system. The pump station operates at high pressure (80 psi) and pumps the effluent through miles of pipeline/irrigators.

Due to the location of a nearby landfill and the nature of lagoon effluent, solids and debris were entering the final effluent pumping system. This resulted in the irrigator rigs being clogged and algae blooms in the lagoons interfering with the absorption of water by the soil. To remedy this, P&N designed new effluent strainers to be retrofitted onto the existing pumps. The strainers are self-cleaning automatic backwash strainers. Each strainer is rated for 5,000 gpm and has its own control panel and automatic backwash valve.





Completion Year

2016

Project Team

Barbara Marczak, PE, Project Manager

Matt Hulst, PE

Amy Malek, PE

Ed Dempsey, GISP

DK Design Group

Professional Fees

\$82,000



RV Campground Design

Grace Adventures

Grace Adventures, an organization that offers recreation and camp experiences for youth and families, planned to create a family Christian campground called Dunes Harbor Family Camp near Silver Lake. The campground features 152 modern sites (including 129 full hookup sites), three bath houses, a pool with water slide, full-size basketball court, full-size beach volleyball court, Ga-Ga Pit, children's playground, and hammock village.

Prein&Newhof completed the design, survey, and construction survey for this project, which included:

- Wastewater Treatment System: a 13,300 square foot 12 zone time-dosed pressurized onsite septic system
- Well design and pump specifications for two wells
- Water distribution system design and construction assistance for 11,000 ft. of 1-in. through 4-in. water piping and 153 site service connections
- Sanitary sewer collection system for onsite buildings and 129 site connections, including a sanitary lift station and 12,000 feet of 4-in. through 8-inch sanitary sewer
- A single-lane dump station.

- Site design consisting of grading, drainage, site layout details, and a digital model for the contractor's use to grade the site.
- Permits: NPDES Onsite Wastewater Discharge Permit, MDEQ Campground Construction Permit, Septic Permits, and Well Permits.

This project's closeness to Lake Holiday meant a high groundwater table and the need to keep an undisturbed vegetative buffer between the campground and the lake.

The size of the septic system was a challenge to work through the various permitting agencies. To meet their rules, the septic system had added storage to handle periodic higher flows.

P&N's design minimized tree loss by surveying as many trees as we could in the topographic survey. Once designed and staked, our client and engineer met onsite to tweak road alignments and move utilities to avoid trees.



**Completion Year**

2013

Professional Fees

\$385,000

Construction Bid

\$1.43 Million

Construction Cost

\$1.36 Million

Idlewild and Paradise Lakes Sewer Systems

Yates Township

Part of Yates Township's Master Plan was to construct sanitary sewer around the in the community's lakes to protect natural resources. P&N designed and provided construction administration for 2.75 miles of 8-in. sanitary sewer, one mile of 2-in. forcemain, and four duplex grinder pump stations.

This project was Phase 2b and 3 of the Township's Master Plan. The Township did not have funding for Phase 2b, so P&N suggested combining the two phases and obtaining funding through the USDA Rural Development program, which funds critical infrastructure in rural communities, usually with a 25% match.

The pump stations were designed to utilize the same equipment. All items are interchangeable, resulting in less inventory and easier maintenance. The new design also eliminated runoff and pollution to the lakes and groundwater. In addition, P&N studied the master plan and revised the sanitary layout and depth to reduce the amount of planned pump stations in order to save money.

Two P&N engineers, Mike Fuller and Kevin Kieft, had done design work in the area, gaining the community's trust in P&N's ability to solve problems and get funding.

There was a change in leadership at the Township, which often creates challenges in the continuity of a project, but P&N's experience and emphasis on communication and taking responsibility kept things running smoothly.

P&N also designed the project in a short period of time per the Township's request, maintaining access to the area for the community and accommodating the residents with special needs. The contractor had two community cookouts to spread awareness and goodwill for the project, and also employed persons of the community.



Spray Irrigation Wastewater Treatment Plant

Grattan Township

The Michigan Department of Natural Resources required Grattan Township to renew its National Pollutant Discharge Elimination System Permit. The Township hired Prein&Newhof to conduct a hydrogeological study and evaluation of the wastewater treatment system.

P&N's investigation indicated that the township's stabilization ponds were of adequate size and did not leak, but that its irrigation system (used for discharge from the ponds) needed repair. The project team evaluated several options for the repairs, and then recommended a fixed-head irrigation system.

The new system allowed for even distribution of wastewater over a site where crops are grown. The crops serve as a "polishing step" in the wastewater treatment process by removing nutrients and preventing groundwater contamination.

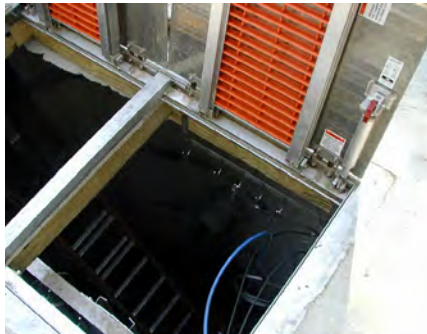


Completion Year

1996

Project Team

Barbara Marczak, P.E.; Project Manager



Completion Year

2008

Total Project Cost

\$860,000

Funding Sources

User-Funded

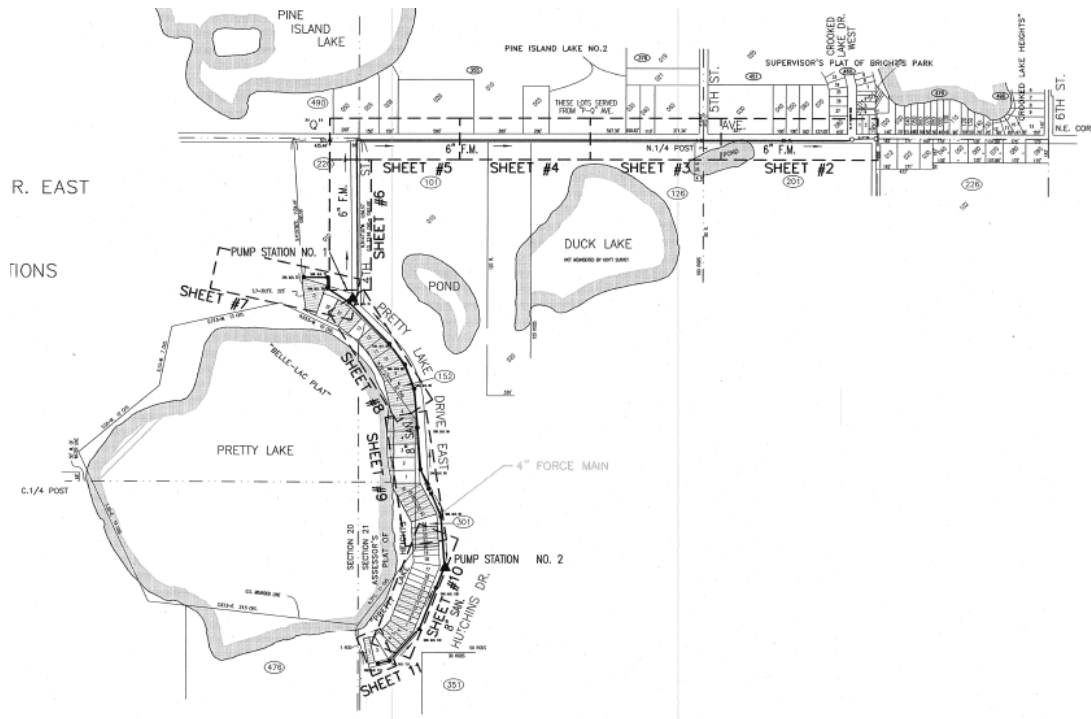


Sherman Lake Sanitary Sewer

Gull Lake Sewer & Water Authority

The Sherman Lake YMCA camp was in a major growth period and its added wastewater flow overwhelmed their on-site sewage disposal system. The Y-Camp approached the GLSWA about the possibility of connecting to public sanitary sewer and GLSWA asked Prein&Newhof to study its feasibility and propose a solution.

Due to severe topographic features and varying demographics on the lake, they opted for a pressurized collection system using individual grinder pumps to serve each home. Using funds from the Y-Camp and the GLSWA, this project did not trigger an up-front resident assessment. Users will pay when they connect.



Pretty Lake Sanitary Sewer System

Texas Charter Township

Residents around polluted Pretty Lake in Texas Township created a Special Assessment District to build a sanitary sewer system. The township collaborated with Prein&Newhof to connect the properties around Pretty Lake to the public sewer system. The project included 5,100 ft. of 6-in. forcemain, 600 ft. of 4-in. forcemain, 3,700 ft. of 8-in. gravity sewer, and two pump stations. Design challenges included an adverse grade and narrow private roads around the lake area.

The project team designed Variable Frequency (VFD) motor drives in one of the pump stations. VFDs provide continuous flow control by matching motor speeds to the incoming sewage flow.

Special project features included 2,000 ft. of pile-supported ductile iron pipe over poor soils; insulated sewers in several areas of low ground cover; and 2,000 ft. of directionally drilled 6-in. forcemain under existing wetlands.

Completion Year

1995

Construction Cost

\$896,000

Funding Sources

Special Assessment District
Funds



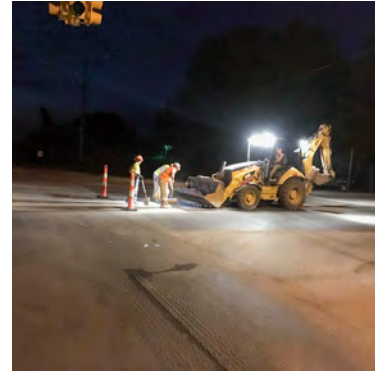
Completion Year
2000



Indian Lake-Pickerel Lake Sanitary Sewer

South County Sewer & Water Authority

In 2000 the residents around Indian Lake and Pickerel Lake in Brady and Pavilion Townships petitioned Kalamazoo County to build a sanitary sewer system. They experienced ongoing pollution from leaking septic systems. The South County Sewer and Water Authority (SCSWA) formed and hired Prein&Newhof to design and oversee the system's construction. This project involved 29,000 ft. of 4- to 10-in. sewage forcemain; 26,500 ft. of 8-in. sewer; 5,800 ft. of 10-in. sewer; 11,100 ft. of 12-in. sewer; 6,500 ft. of 15-in. sewer; 5 bore and jacks under railroad tracks; one bore and jack under a highway; 200 manholes; and ten pumping stations.



Belding Road Trunk Sewer Replacement

Cannon Township

Cannon Township's Capital Improvement Plan had a project to replace trunk sewer in Belding road from Wolverine Boulevard to Blakely Drive in 2017. The project was split into two sections that touched three Townships: Courtland, Cannon, and Plainfield. Prein&Newhof was hired to:

- Develop construction plans and specifications
- Prepare bidding documents
- Obtain soil borings
- Coordinate with project partners (Plainfield, Cannon, and Courtland)
- Work with Consumers Energy related to power pole conflicts
- Submit permit applications; MDOT, Wetland, Part 41, and SESC

P&N also assisted during bidding, led the preconstruction meeting, offered construction engineering and resident observer services, administered the contract, approved pay applications, reviewed shop drawings and responded to RFIs. Other services included compaction testing, progress meetings, construction staking, acceptance testing, and record drawings.

The Capital Improvement Plan showed that the project could occur at the same time as an MDOT reconstruction project, saving some of the cost of reconstructing the road over the trunk sewer. Prein&Newhof coordinated with MDOT for contract issues and project sequencing.

Completion Year

2017

Project Team

Mark Prein, PE, Project Manager

Kevin Gritters, PE

Kendra Altena, EIT

Construction Cost

\$1,031,053

Client Contact

Cameron Van Wyngarden, Manager

(616) 364-8466

Steve Grimm, Supervisor

(616) 874-6966





Northerly Trunk Sewer River Crossings

Plainfield Township

The Northerly Trunk Sewer is an 18-inch diameter sewer that extends about 2.5 miles from Belmont to northeast Plainfield Township. It was originally constructed in the 1960s and follows an old railroad path that crosses the Rogue River in six locations. The river crossings were constructed of cast iron pipe and were accomplished using inverted siphons.

Completion Year

2017

Project Team

Mark Prein, PE

Kevin Gritters, PE

Funding Source

Michigan Department of
Environmental Quality State
Revolving Fund (SRF)

Construction Cost

\$3,138,000

Client Contact

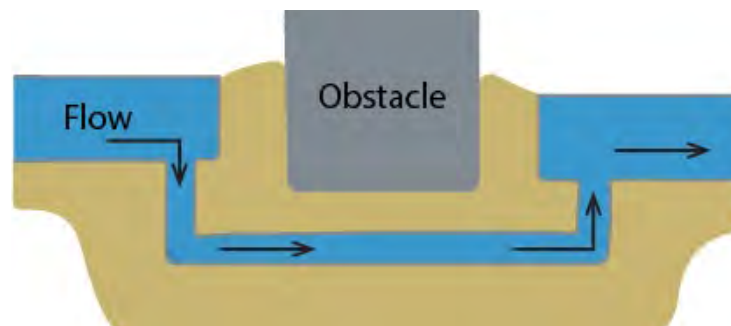
Rick Solle, PE, Director of Public
Services
(616) 363-9660

WHAT'S AN INVERTED SIPHON?

Inverted siphons are used to carry sewage or stormwater under streams, highway cuts, or other depressions in the ground. In an inverted siphon, the liquid completely fills the pipe and flows under pressure, as opposed to the open-channel gravity flow that occurs in most sanitary or storm sewers.

In the late 1990s, the portions of trunk sewer between the river crossings were reconstructed, but the river crossings were not included in that project. The siphon pipes were exposed in the river bed in one location, and there was significant concern over the cast iron sewer pipes with minimal cover under the Rogue River, which is designated as a DNR Natural River and a trout stream.

Plainfield Township elected to be proactive by replacing the six river crossings with triple-barrel, HDPE siphons and new inlet and outlet chambers to minimize the potential for a sewer break near or in the river. Access to the river crossing sites was extremely limited due to hilly terrain and few public streets. Soil borings showed inconsistent soils, and previous project experience



Inverted Siphon

indicated the presence of rocks, cobbles and large boulders in the Rogue River bed. As a result, typical river crossing techniques such as directional drilling and bore and jacking were not viable alternatives.

Open trench construction through the river was determined to be the most likely for success. However, the DNR required that each crossing be completed in two days to minimize impact to the river system. The contractor selected a methodology to preassemble on shore the three HDPE pipes (one 8" and two 12") inside a 30" steel casing.

Day 1: At sunrise, the contractor began excavating the trench, then with two (or sometimes three) excavators, lifted the casing and pipe assembly, ranging from 97' to 165' long, and lowered it into the river. Trenches had to be backfilled with washed gravel and topped with heavy riprap.

Day 2: The contractor made the sewer tie-ins and stabilized the river banks. Old railroad bridge pilings had to be removed during one of the crossings.

All six crossings were completed successfully within the time restrictions.



We hope you contact our client and contractor references. We trust they will confirm any claims you see in this proposal.

NORTH KENT SEWER AUTHORITY

Steve Grimm, NKSA Board Chairman
Cannon Township Supervisor
(616) 874-6966
sgrimm@cannontwp.org

Scott Schoolcraft, Director, NKSA
(616) 363-0702 Ext. 1
jschoolcraft@nksa.us

MUSKEGON COUNTY WASTEWATER MANAGEMENT SYSTEM

Mark Eisenbarth, County Administrator
(231) 724-6504
eisenbarthma@co.muskegon.mi.us

PLAINFIELD TOWNSHIP

Rick Solle, PE, Township Engineer
(616) 363-9660
soller@plainfieldmi.org

Cameron Van Wyngarden, Manager
(Superintendent)
(616) 364-8466
vanwyngarden@plainfieldmi.org

MILESTONE	APPROXIMATE COMPLETION
Engineer Selection by Township	September 01, 2018
Coordination meeting with Township	September 15, 2018
Information gathering and field survey	November 15, 2018
Aerial photo flight	December 01, 2018
Hydrogeological Study submittal to DEQ	December 01, 2018
Design of transmission, lake sewers and pump station	April 01, 2019
Permit submittal to DEQ	April 01, 2019
Bid Opening	June 01, 2019
Start construction	August 01, 2019
Construction Completion	August 01, 2020

Note: Easement acquisitions could delay timeline.

Description	Estimated Construction Cost	Total Engineering	Total Project
Low pressure force main around Cowan Lake*	\$550,000	\$118,000	\$668,000
Transmission forcemain, lift station and generators	\$1,558,000	\$215,500	\$1,773,500
Irrigation system**	\$250,000	\$40,500	\$290,500
Water Supply Well/Hydrant	Provided previously under separate proposal		
Generator at PS 1***	\$50,000	\$0	\$50,000
Total****	\$2,408,000	\$374,000	\$2,782,000

Notes:

* Does not include engineering for private property work

** Includes hydrogeological study for permitting of new irrigation area.

*** Engineering for generators is included in lift station and generators scope

**** Construction costs do not include private property work or construction contingency

Appendix

A



GRATTAN TOWNSHIP
Kent County, MI
COWAN LAKE
PROPOSED WASTEWATER COLLECTION SYSTEM
Prein&Newhof

NOTE: This is a concept/preliminary sketch only and
not intended to represent final SAD.



SCALE: 1" = 500'

Appendix

B

**CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY)

10/31/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Linkfield & Cross Agency 1600 E. Beltline NE, Suite 211 Grand Rapids, MI 49525 Kevin J Cross		CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS: PRODUCER CUSTOMER ID #: PREIN-1	
INSURED PREIN & NEWHOF, INC. 3355 EVERGREEN NE GRAND RAPIDS, MI 49525		INSURER(S) AFFORDING COVERAGE INSURER A : WEST BEND MUTUAL INS. CO. INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :	
		NAIC # 15350	


COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY			A215224	12/31/2016	12/31/2017	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 200,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ 5,000
							PERSONAL & ADV INJURY \$ 1,000,000
							GENERAL AGGREGATE \$ 2,000,000
							PRODUCTS - COMP/OP AGG \$ 2,000,000
GEN'L AGGREGATE LIMIT APPLIES PER:							
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC						
A	AUTOMOBILE LIABILITY			A215224	12/31/2016	12/31/2017	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input checked="" type="checkbox"/> ALL OWNED AUTOS						BODILY INJURY (Per accident) \$
	<input checked="" type="checkbox"/> SCHEDULED AUTOS						PROPERTY DAMAGE (PER ACCIDENT) \$
	<input checked="" type="checkbox"/> HIRED AUTOS						
	<input checked="" type="checkbox"/> NON-OWNED AUTOS						
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR			A215224	12/31/2016	12/31/2017	EACH OCCURRENCE \$ 5,000,000
	<input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE						AGGREGATE \$ 5,000,000
	<input type="checkbox"/> DEDUCTIBLE						
	<input type="checkbox"/> RETENTION \$						
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			A220942	12/31/2016	12/31/2017	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y <input type="checkbox"/> N	N/A				E.L. EACH ACCIDENT \$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ 500,000
							E.L. DISEASE - POLICY LIMIT \$ 500,000
A	ALL RISK PROPERTY			A215224	12/31/2016	12/31/2017	CONTENTS 800,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

SAMPLEO SAMPLE CERTIFICATE SAMPLE STREET SAMPLE CITY	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

10/30/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Professional Underwriters, Inc 39475 13 Mile Road, Suite 106 Novi MI 48377	CONTACT NAME:	
	PHONE (A/C, No, Ext): 248-553-8300	FAX (A/C, No): 248-553-8305
INSURED PREIN-1 Prein & Newhof, Inc. 3355 Evergreen Drive, N.E. Grand Rapids MI 49525	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A: Travelers Casualty and Surety	
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
INSURER F:		
NAIC #		

COVERAGES

CERTIFICATE NUMBER: 1126064639

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	\$
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
							PRODUCTS - COMP/OP AGG	\$
								\$
	GEN'L AGGREGATE LIMIT APPLIES PER:							
	<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC							
		AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)
<input type="checkbox"/> ANY AUTO							BODILY INJURY (Per person)	\$
<input type="checkbox"/> ALL OWNED AUTOS		<input type="checkbox"/> SCHEDULED AUTOS					BODILY INJURY (Per accident)	\$
<input type="checkbox"/> HIRED AUTOS		<input type="checkbox"/> NON-OWNED AUTOS					PROPERTY DAMAGE (Per accident)	\$
								\$
	UMBRELLA LIAB	<input type="checkbox"/> OCCUR					EACH OCCURRENCE	\$
	EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE					AGGREGATE	\$
	DED <input type="checkbox"/> RETENTION \$							\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATU-TORY LIMITS	OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y / <input type="checkbox"/> N					E.L. EACH ACCIDENT	\$
	If yes, describe under DESCRIPTION OF OPERATIONS below		N / A				E.L. DISEASE - EA EMPLOYEE	\$
							E.L. DISEASE - POLICY LIMIT	\$
A	Professional Liability Pollution Liability Claims Made Basis			106581103	9/5/2017	9/5/2018	Per Claim Aggregate	\$1,000,000 \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

"FOR PROPOSAL PURPOSES ONLY"

*
* * *

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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