**PROPOSAL FOR PROFESSIONAL ENGINEERING SERVICES** 

# Vadnais Lake Area Water Management Organization

2025 and 2026



VADNAIS HEIGHTS, MINNESOTA | SEPTEMBER 27, 2024



Building a Better World for All of Us<sup>®</sup> Engineers | Architects | Planners | Scientists

### Exhibit B

#### September 27, 2024

Phil Belfiori VLAWMO Administrator phil.belfiori@vlawmo.org

#### RE: Proposal for Professional General Engineering Services for 2025 and 2026 (VADLA 180988)

Dear Mr. Belfiori:

The Vadnais Lake Area Water Management Organization (VLAWMO) is seeking engineering services to support the work you do to protect water resources in the area, which also includes our home office. At Short Elliott Hendrickson Inc. (SEH®), we appreciate the opportunity to have served in this role since 2019. The service areas you are requesting align perfectly with our staff's expertise and the high level of service we offer.

We look forward to the opportunity to continue to serve as an extension of your staff and build on our strong working relationship with you. The following key points highlight our proposal.

**RESPONSIVE SERVICES AND CLEAR COMMUNICATION.** Our team will continue to communicate clearly and respond efficiently to your project needs. As a full-service engineering firm headquartered in Vadnais Heights and located just down the street from the VLAWMO office, we are able to simplify communication and project delivery. While Emily will continue to be a main point of contact, she is excited to further introduce VLAWMO to Mark Christenson and Lily Hock, who will act as technical leads and assistant project manager in their respective roles. These additional contacts will provide VLAWMO with cost-effective communication channels to meet the needs of the watershed.

#### PROJECTS DELIVERED TO MEET THE BEST INTERESTS OF VLAWMO AND CITIES IN THE

WATERSHED. We have assembled an exceptional team of engineers, natural resource scientists, and water quality scientists who are invested in the Vadnais Lake area community and understand the high value of watershed management. By drawing on our familiarity with VLAWMO policies and water resources in the Vadnais Lake area, both through our work for VLAWMO and our experience in Vadnais Heights, White Bear Township, and the City of Gem Lake, we will help you implement policies and updates that reflect the longterm interests of all affected parties.

KNOWLEDGE OF STANDARDS, POLICIES AND PERMITTING REOUIREMENTS. SEH has long-standing. positive working relationships with our regional regulatory agencies, and we know their standards and requirements. We are committed to establishing project details and goals early to provide the groundwork for effective decisions. In addition, we currently assist and serve municipalities within the VLAWMO watershed boundaries. We will continue to leverage the efficiencies that come from our familiarity with the VLAWMO stormwater policy as well as municipal policies, stakeholder expectations and design standards.



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Please feel free to contact Emily at 218.576.7944 or ejennings@sehinc.com with any questions or to discuss the information provided in this proposal.

Respectfully submitted,

### We are happy to have served VLAWMO in this role since 2019 and look forward to future projects in the watershed.



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**EMILY JENNINGS** PE (MN) **ASSOCIATE | CLIENT SERVICE MANAGER** 

Engineers | Architects | Planners | Scientists Short Elliott Hendrickson Inc., 3535 Vadnais Center Drive, St. Paul, MN 55110-3507 651.490.2000 | 800.325.2055 | 888.908.8166 fax | sehinc.com SEH is 100% employee-owned | Affirmative Action-Equal Opportunity Employer

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We are proud to have had the opportunity to serve as a trusted advisor to Vadnais Lake Area Water Management Organization (VLAWMO) staff over the last six years. We welcome the opportunity to continue to provide services that are built upon listening to you and understanding your needs and expectations. When working with SEH, you can continue to expect:

- **Personalized service** that looks out for your best interests and those of the cities within VLAWMO.
- A core team of project and technical leads to serve as a seamless extension of your staff -Emily will be your primary contact, alongside Mark and Lily.
- Approach built on our ongoing efforts to develop and improve our capability to match your needs and expectations.
- Responsiveness that equals your sense of urgency, with resources to respond to shortorder requests as needed.

#### STORMWATER MANAGEMENT

SEH offers diverse experience on water resources projects – from small, localized flooding analyses to large-scale hydraulic models in both rural and urban settings. Our professional services include, but are not limited to the following:

- Project management
- Both traditional and unique best management practice (BMP) design
- $\circ$   $\;$  Erosion and sediment control plans
- Watercourse rehabilitation and streambank stabilization

- Wetland and environmental services
- Hydrologic and hydraulic modeling
- Local, state, and federal stormwater and floodplain permitting
- Lake management planning

We know that achieving stormwater compliance is more complex than it appears at first glance. SEH provides expert guidance to facility owners, developers, and contractors to navigate and comply with local, state, and federal stormwater regulations.

Our stormwater design, compliance, and inspection services include, but are not limited to:

- **Highly trained, experienced, and/or certified personnel** to perform inspections in accordance with applicable local and state regulating authority
- Structural stormwater BMP design to meet the post-construction local and state stormwater treatment requirements
- Stormwater management plan review and development
- Construction observation services and reporting
- Audit services to uncover potential permit violations, identify solutions that minimize risk and provide a clear approach to stormwater compliance
- Education and training services specially designed for land and construction management

Our water resources and hydraulic engineers provide comprehensive approaches to hydrologic and hydraulic analyses across multiple modeling platforms, from traditional one-dimensional (1D) steady flow analyses of urban drainage or riverine systems to two-dimensional (2D) unsteady flow analyses as part of complex hydraulics projects. Our team has the ability to fit the model to the project. We do this by selecting from a myriad of modeling programs to ensure the most appropriate model and modeling methodology is utilized for the given application. In addition to the technical aspects, we have a long history of interpreting and navigating the FEMA regulations for floodplains.

Our advanced hydrologic and hydraulic modeling services include:

- Floodplain analysis to estimate flood levels along lakes and streams and evaluate proposed projects
- Analysis of existing stormwater management systems and evaluation of proposed projects
- Hydrologic and hydraulic modeling studies, including 1D/2D modeling of watersheds, stormwater networks, and open channel systems
- Design of spillways and outlet works
- Analysis and design of channels and channel structures
- Design of flood risk management systems including levees, floodwalls, and interior drainage systems
- Water quality analysis, including pollutant loading and removal estimation



#### PUBLIC DRAINAGE MANAGEMENT

SEH understands the complexities of navigating public drainage. Our staff initiates projects by assembling experts to effectively understand and organize the governing jurisdiction, design standards, and regulations. We excel at bringing agencies together to address these issues and deliver successful projects.

#### **FEASIBILITY STUDIES**

SEH staff listens to our clients' needs and goals to customize a feasibility approach specific to each study. Our technical and support staff have extensive experience in developing thorough and useful feasibility studies. We leverage our vast project experience to provide realistic estimates for engineering efforts and construction costs, detailed scheduling and timelines, and early identification of obstacles that may threaten a project.

Additionally, we use professional connections with local, state, and federal organizations to incorporate all-encompassing information within our studies. We are flexible and willing to pivot to leave no stones unturned when performing preliminary engineering to find the best possible solution for our clients' needs.

#### **DESIGN ASSISTANCE**

Our team has vast experience designing various projects where stormwater management was either the focus of the work, or a necessary component of another project type. Through our experience with these designs, we have adapted to varying regulatory frameworks, site conditions, and client expectations. We have designed numerous stormwater projects which balance a multitude of requirements such as:

- Water quality
- Water quantity

- Recreational and aesthetic values
- Economic considerations

Members of our team have worked closely with various watershed organizations and clients to successfully design the following types of projects:

- **Traditional BMPs** such as raingardens, infiltration and filtration basins, constructed and restored wetlands, wet ponds, and dry detention basins
- Innovative BMPs such as enhanced filtration, multi-cell systems, and green infrastructure techniques
- **Ultra-urban BMPs** such as pervious pavement and pavers, tree trenches/boxes, infiltration trenches, and underground infiltration and storage
- Watercourse restoration and streambank stabilization
- Invasive species management
- Temporary and permanent erosion and sediment control devices/systems
- Gray infrastructure such as storm sewer conveyance systems
- Water quality data collection programs
- Aquatic restoration

#### **PROJECT MANAGEMENT**

Emily will continue to be the contract project manager and the main point of contact. She will work closely alongside Mark Christenson and Lily Hock, who will act as technical leads and assistant project manager in their respective roles. These additional contacts provide VLAWMO with costeffective communication channels to meet the needs of the watershed. We understand that a collaborative management approach requires the open exchange of ideas, expedited decisions,

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and regular monitoring and updates to the team, including progress, budget, and schedule throughout the course of the project.

Our core team will focus on:

- Aligning the appropriate support team members with each project
- Establishing a project specific schedule and budget
- Maintaining communication with VLAWMO
- Ensuring quality assurance/quality control is included at each project milestone

We are prepared to provide our project management expertise and work alongside VLAWMO's team of project managers. We will discuss these needs as they arise and develop project management plans accordingly.

#### **GRANT APPLICATIONS**

SEH offers a dedicated staff of engineers, scientists, and grant writers experienced in providing technical support for grant applications and other funding sources. This team has successfully generated hundreds of millions of dollars in grant money for clients throughout the country. They also have experience with legislative appropriations and grant applications both on local and state levels as well as federal funding. We will apply this experience to find the right sources for your projects. Our close relationships with our clients allow us to effectively work together and provide the necessary technical guidance to prepare successful grant proposals.

We have the resources and knowledge to know which types of funding and grants a project may qualify for, whether it be Board of Water and Soil Resources (BWSR) grants, Minnesota Department of Natural Resources (DNR) Flood Damage Reduction program, or new or recently established funding programs. In 2024, SEH has assisted several cities throughout the state with successful grant applications for the Minnesota Pollution Control Agency (MPCA) community planning grants for stormwater, wastewater, and community resilience, totaling more than \$320,000 in funds.

#### UNDERSTANDING VLAWMO STORMWATER POLICY

Our work for the last six years has involved serving as an extension of your staff to understand and implement the VLAWMO Stormwater Policy in your improvement projects, applying your policies, and working towards meeting your goals. We are committed to continuing to work with you towards your policy to protect human health, safety, welfare, and natural resources within the watershed.

SEH has the added experience of working for numerous clients as their city engineers. Each of these clients has small differences in their design standards, goals and policies. Because of this, our staff understands the importance of becoming familiar with each client's policies and design standards. We pride ourselves on being able to provide personalized service that meets the needs of our diverse clientele.

We have additional familiarity through the perspective of our work serving neighboring municipal clients in the Vadnais Lake area. SEH has significant experience in assisting communities with the development of their own policies that effectively capture and encircle existing workflow while meeting the intent of agency requirements. We believe that this upfront knowledge and background in the development of policies will help VLAWMO seamlessly enforce and update your policy as needed in the future.

#### **MEETING ATTENDANCE**

SEH understands the importance of collaboration, information sharing, and soliciting the input of the VLAWMO staff, Board of Directors, and Technical Commission. Our team is flexible when it comes to meeting formats. We offer the capabilities to continue leveraging our technical abilities to host and attend meetings virtually; we will also continue to attend and present at in-person meetings when that is preferred.

SEH's corporate office is located just down the street from the VLAWMO office in Vadnais Heights. This proximity allows VLAWMO to save on the cost of consultant travel time and expense for in-person meetings – we do not charge travel time and expenses to attend VLAWMO meetings and visit nearby VLAWMO project sites.

#### STORMWATER MANAGEMENT REVIEW OF DEVELOPMENT APPLICATIONS

SEH has significant current and past experience in reviewing development plans for private developers within the watershed including, but not limited to, the City of Vadnais Heights, Gem Lake, and White Bear Township. We understand the importance of a detailed development review through all phases of planning and design and even all the way through construction.

With our knowledge of stormwater within the area, we are aware of the local MS4 expectations alongside the Watershed Management Organization, as well as other pertinent stormwater considerations including the MPCA, Minnesota DNR, Minnesota Department of Transportation (MnDOT), and U.S. Army Corps of Engineers (USACE). We are able to review construction documents and present developers with clear and concise stormwater

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design expectations to meet the intent of all regulators within the project area.

### **OTHER SERVICES**

SEH offers a diverse portfolio of water resources project experience which also includes service areas outside of those listed in the VLAWMO request for proposals. Our team has the experience and knowledge to help VLAWMO with the following additional services:

- Watershed plan development and implementation
- Floodplain management, including estimating and communicating flood risk
- Public and private BMP inspections, both surface and subsurface facilities using human or special equipment entry
- Environmental consulting including wetland services and preparation of environmental documents
- Water quality analysis and report preparation with recommendations for improvements
- **Full range of surveying services,** whether it be on the ground surveys or higher level with our drone capabilities

In addition to the project team mentioned in this proposal, we have convenient access to experts across various disciplines. Our teams specialize in highways, traffic, transportation planning, structures, construction services, civil engineering, water/wastewater engineering, aviation, architecture, public engagement, and surveying. Additionally, we have a dedicated team of GIS specialists who support data collection and management.

## Primary Contacts and Key Personnel

SEH has established a project team that provides the experience required to manage projects, the relationships to promote agency support, and the technical skills to provide technically sound analysis and design. Many of these team members have experience on VLAWMO projects and know how to effectively work with your staff. The billing rates provided are proposed contract rates for the term of the contract (2025 and 2026).

#### **Primary Contacts**



#### **EMILY JENNINGS**

PE (MN) Contract Project Manager and Primary Contact for Water **Resources Engineering** Billing Rate: \$235/hr

Emily will continue to serve as the contract project manager and one of the primary points of contract for VLAWMO. She is a professional engineer (MN) specializing in municipal, industrial, and construction permitting, hydraulic and hydrological analysis, and stormwater conveyance modeling and design including roadways, ditches and BMPs. Emily's project experience includes stormwater planning, culvert hydraulics analysis, stormwater management design. stormwater conveyance modeling and design, Stormwater Pollution Prevention Plan (SWPPP) design and Municipal Separate Storm Sewer Systems (MS4) program coordination and design.

Mark is a professional engineer (MN) and a Certified

Ecological Restoration Practitioner in-training through the Society for Ecological Restoration. He also currently sits

on the technical committee for the Partnership for River

**Emily, Mark and Lily are** your core team for this proposal. They will serve your contractual and technical needs over the course of this contract. Please know you can count on them!



#### MARK **CHRISTENSON** PE (MN)

Water Resources **Engineer Technical** Lead (Restoration and Water Quality) and Assistant **Project Manager** Billing Rate: \$162/hr



### LILY HOCK FIT

Water Resources Engineer Technical Lead (Compliance and Stormwater Management) and Assistant **Project Manager** 

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Restoration and Science in the Upper Midwest (PRRSUM). Mark's project experience includes stream restoration, hydraulic and hydrologic modeling, green stormwater infrastructure design, water quality analysis, watershed analysis, riparian hydraulics, fluvial geomorphology, and regulatory compliance. Lily is a dedicated graduate water resources engineer with experience in hydrologic and hydraulic modeling. She excels in designing stormwater infrastructure and BMPs to ensure regulatory compliance. Lily's expertise includes site design, preparation of detailed construction site plans and specifications, and the development of erosion and sediment

control plans. She regularly coordinates with regulators

permit applications to ensure project adherence to

and project stakeholders to ensure project success. She is

also proficient in performing site inspections and reviewing

**PRIMARY CONTACT INFO** 

Emily	651.302.7669	ejennings@sehinc.com
Mark	651.765.2938	mchristenson@sehin.com
Lily	651.490.2130	lhock@sehinc.com

Billing Rate: \$162/hr

environmental standards.

#### **Key Personnel**



#### JEREMY WALGRAVE PE

(MN, IA, MO, OK, SD, TX), CFM Senior Water Resources Engineer and Secondary Contact for Water Resources Engineering

Billing Rate: \$250/hr



#### BRAD WOZNAK PE (MN, CO,

IA, IN, NE, SD, WI), PH, CFM Water Resources Regional Practice Center Leader

Billing Rate: \$260/hr



LISA BREU PE (MN, WI) Sr. Water Resources Engineer and Green Stormwater Specialist Billing Rate: \$230/hr



**ERICKA MASSA** CMWP Aquatic Ecologist and Fisheries Biologist *Billing Rate:* \$150/hr



**REBECCA BEDUHN** PWS, CMWP Aquatic Ecologist and Fisheries Biologist *Billing Rate: \$180/hr* 



LAUREN OSOWSKI GIS Analyst Billing Rate: \$190/hr Jeremy is a senior water resources engineer who is experienced in stream restoration, hydraulic and hydrologic design of detention basins, stormwater conveyance systems, hydraulics for streams and rivers, and regulatory compliance. Jeremy's project experience includes preparation of detailed plans and specifications, constructability reviews, aquatic construction, risk assessments, environmental assessments, hydraulic letters, project representation, environmental permitting, and project management.

Brad is a professional engineer, principal, and the current client service manager for VLAWMO. He assists Emily in her project manager role with staffing and resource allocation based on the project type and underlying schedules. Brad serves as the Regional Practice Center Leader for our central water resources group and has more than 25 years of experience. Recently, he has taken a lead role at SEH in the climate resiliency market to ensure SEH remains current with the industry, and he can draw upon his gained knowledge and experience as need arises. Brad's project experience includes hydraulic and hydrologic analysis, flood hazard mitigation planning, flood mitigation studies, watershed modeling, floodplain analyses, and preparation of detailed plans and specifications.

Lisa has 12 years of experience in H&H and water quality modeling, rural and urban drainage design, and green infrastructure permitting and design. Her projects range from feasibility and conceptual design to final design and construction administration. Lisa excels at complex problem solving and collaborating with multidisciplinary teams to develop sustainable solutions that are cost-effective and maintainable. She is dedicated to ensuring multi-beneficial green designs are utilized to improve habitat or create amenities where practical.

Ericka is an aquatic ecologist and fisheries biologist who regularly coordinates with the MPCA for Clean Water Act Section 401: Water Quality Certification and Anti-degradation Assessments to ensure projects protect water quality standards for Minnesota. Prior to SEH, Ericka worked as a researcher for the Thousand Islands Biological Station and routinely conducted water quality assessments, which included measuring physical and chemical parameters, nutrient sampling, and plankton and algal surveys. Ericka also has experience with statistical analysis and interpretation of water quality data.

Rebecca is a professional wetland scientist and Minnesota-certified wetland delineator with an extensive background in wetland science, wetland regulatory administration, environmental review, and policy. Rebecca primarily provides wetland services such as delineations, permitting, and quality assessments. She has worked directly with VLAWMO on several projects throughout the watershed, including the Vadnais/Sucker Park Wetland Assessment project in which SEH completed a delineation and community guality assessments for 41 wetlands within the project area.

Lauren is an experienced GIS analyst who specializes in data management, analysis, integration and conversion, and map and app creation. Lauren's project experience includes watershed and data analysis implementing web maps and apps for field data collection using GPS devices, GPS and app training, figure and report production, conversion and integration of nonspatial data into GIS, data formatting, prep and creation, and assisting with various flood and surface analyses.

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HEATHER CUNNINGHAM EIT Civil Engineer Billing Rate: \$155/hr



**THEO BROWN** LS (MN, WI) Land Surveyor Billing Rate: \$190/hr



CARSON WEBB EIT Water Resources Engineer and Drone Pilot

Billing Rate: \$160/hr

Heather is a civil engineer with eight years of experience in municipal construction projects. She has provided support for the municipal design for a variety of project types, including roadways, drainage, utilities, and Municipal State Aid. Her duties have included on-site inspection, shop drawing review, feasibility report preparation, cost estimates, and preparation of project plans, detail sheets, and specifications. Heather is fluent in industry-specific software applications including AutoCAD Civil3D.

Theo has extensive experience in the survey profession in various capacities and roles. He has spent time in both the private and public sector, and he has worked on a wide base of project types in both the field and the office. As a land surveyor (MN, WI) he has spent the bulk of his time in the office working on right-of-way, design surveys, ALTA/ACSM, Geodetics, GIS/survey integration, and QA/QC of techniques for greater accuracy and precision. Completing jobs for all levels of government agencies and commercial developments has kept him well-rounded for all survey types.

Carson is a graduate water resources engineer and drone pilot with experience in municipal and urban drainage, bridge and riverine hydraulics, and floodplain analysis. Carson has experience working as an resident project representative (RPR) on a floodwall and levee project that included storm and sanitary sewer and site grading. As a drone pilot at SEH, Carson uses drones to provide construction documentation, multiple mapping capabilities, and flood documentation.

#### SEH Water Resources Staff continue to participate in the

Adopt-a-Drain program and have removed more than 700 pounds (and counting!) of sediment and debris from the catch basins and

gutters outside of our office.





SEH has had the opportunity to serve VLAWMO with general engineering services for the past six years. Over this period of time, VLAWMO and SEH have continued to collaborate on several small and large projects. Additionally, SEH has continued to work on several successful projects for the communities within the VLAWMO area, including Vadnais Heights, Gem Lake, White Bear Township, Shoreview, Ramsey County, and Washington County.

Our team continues to enjoy strong working relationships with VLAWMO project partners in addition to demonstrated skills and expertise on relevant projects. SEH's portfolio of relevant projects includes local experience as well as similar work outside of the watershed. In past years, we have highlighted project experience that shows our skills and expertise both within and outside of the watershed. However, for this proposal, we want to highlight some of our more recent project experience. The following projects show our ability to serve a range of client types and needs.

> SEH offers diverse experience on water resources projects – from small, localized flooding analyses to large-scale hydraulic models in both rural and urban settings.

#### MCGREGOR LAKE HABITAT REHABILITATION AND ENHANCEMENT PROJECT - USACE ST. PAUL

PRAIRIE DU CHIEN, WISCONSIN AND MARQUETTE, IOWA



This Habitat Rehabilitation and Enhancement Project (HREP) project consisted of constructing 45 acres of floodplain forest features with the use of sand material and fine material placement up to a maximum elevation of 620 feet. Sand material was used from channel dredging associated with the channel maintenance program. Fine material was utilized from dredging portions of the backwater locations, as identified in the McGregor Lake HREP Feasibility Report and Integrated Environmental Assessment Report, with the goal of benefiting 270 acres of aquatic habitat. Floodplain forest features provide longterm protection of McGregor Lake from degradation due to break-through flows from the East Channel. The project also includes erosion protection features, as well as an overtopping rock spillway. It includes creating an emergent wetland feature, benefiting over 21 acres of emergent wetland: a flow control structure: and Timber Stand Improvement (TSI) for existing floodplain forest areas.

SEH prepared plans, design drawings, construction specifications, and the cost estimate for the McGregor Lake HREP project. These were prepared in accordance with outlined footprints, areas, and elevations developed by the government, as identified in the McGregor



HREP Feasibility Study and Integrated Environmental Assessment Report. SEH attended meetings with agency partners including the U.S. Fish & Wildlife Service (USFWS) and incorporated changes and additional features into the design documents. The design documents were assembled into one complete set of construction bidding documents for contract award in fiscal year 2020.

The design included: design plans and drawings depicting top elevations, side slopes, materials used, and low control pool water elevations. The drawings for dredging operations included staging areas dredging locations, bottom elevations, access points and alignments. Mass balance calculations were provided to ensure that material dredged would be adequate for construction of the project features.

#### REFERENCE

Angela Deen, Design Branch, Civil Section USACE – St. Paul District, St. Paul, MN 651.290.5293 angela.m.deen@usace.army.mil

#### HUTCHINSON NORTH RESILIENCY ASSESSMENT AND ACTION PLAN

**HUTCHINSON, MN** 



SEH assisted the City of Hutchinson in developing a successful grant application and obtaining grant funds from the MPCA's grant program for Surface Water Management, Climate Change, and Resiliency Planning. This project entailed large-scale planning for the northern half of the City of Hutchinson, detailed storm sewer modeling, evaluating climate change scenarios, conducting a flood vulnerability analysis, and developing a resiliency assessment and action plan. SEH used climate change scenarios and environmental justice area mapping of areas of high flood risk. This effort helped identify the vulnerable populations within the north portion of the city that may be exposed to flood risk, which then helped to prioritize potential improvement projects. The potential improvement projects will be used for Capital Improvement Planning within the city to address flooding risk and protect the population and infrastructure within the city. This project was completed in late spring 2024. SEH and the city are currently undertaking a similar study in the southern half of the city.



#### REFERENCE

John Paulson Project/Environmental **Regulatory Manager** 320.234.5682 jpaulson@hutchinsonmn.gov

#### **1ST AVENUE SOUTH ROADWAY RECONSTRUCTION** AND GREEN STORMWATER INFRASTRUCTURE

MINNEAPOLIS. MN



#### In Progress

This project involved the preliminary and final design engineering services for the reconstruction of 1st Avenue South to improve existing conditions and safety, replace the 1st Avenue bridge over the Midtown Greenway, add a two-way bicycle facility, and incorporate green stormwater infrastructure practices along the corridor. It also included extensive engagement with neighborhood groups and public agency stakeholders to produce a City Council-approved conceptual layout and secure the necessary State Aid design variances to move into final design.

The green stormwater infrastructure included infiltration and filtration facilities integrated into the streetscape as well as a large regional detention facility located underground to maximize pollutant removals prior to discharge from the project area. Long-term operation and maintenance considerations were included in design, including functional pre-treatment, landscaping to sustain a range of flows through the corridor, and accessible features for inspection and maintenance. This project is currently in construction.

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#### CITY OF GLENWOOD STORMWATER UTILITY (SWU) EVALUATION

GLENWOOD, MN



This project involved evaluating the City of Glenwood's current stormwater utility (SWU) program to make updated recommendations to the city so they could meet their funding needs, yet maintain a balance from utility fees charged to residential and business properties alike. The project included developing a parcel database, creating a revenue forecast for various billing scenarios, and providing a recommendation to the city for an updated utility fee and framework. SEH staff presented this evaluation to the city in late summer 2024.



David Iverson City Administrator 320.634.5433 davei@ci.glenwood.mn.us

REFERENCE

#### BRAEMAR GOLF COURSE RECONSTRUCTION

EDINA, MN



SEH completed wetland delineations and permitting for the reconstruction and consolidation of the Braemar Golf Course from 27 to 18 holes. The project included wetland delineations, functions and values assessments, and permitting for minor wetland impacts. A six-acre wetland and floodplain mitigation site was designed along the South Fork of Nine Mile Creek, as was the establishment of upland buffer and oak savanna to integrate ecological enhancement within the course design.

The project also had to meet Nine Mile Creek Watershed District requirements that included upland buffers, floodplain management, surface water treatment, and restoration of oak savanna habitat. SEH assisted with oversight of the SWPPP and construction of the natural resource features, and has been monitoring the site with annual reviews by the Nine Mile Creek Watershed District.

The integration of natural resources into the course design allowed for the creation and restoration of many acres of high quality habitat, while also supporting a new course layout and enhanced playability.

REFERENCE

Joseph Abood Braemar Golf Course 952.903.5754 jabood@edinamn.gov

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## Building a Better World for All of Us®

Sustainable buildings, sound infrastructure, safe transportation systems, clean water, renewable energy, and a balanced environment. Building a Better World for All of Us communicates a company-wide commitment to act in the best interests of our clients and the world around us.

We're confident in our ability to balance these requirements.

JOIN OUR SOCIAL COMMUNITIES

