

STATEMENT OF QUALIFICATIONS FOR Flood Mitigation for Dry Run Creek

Proposed Pond 3b Floodplain

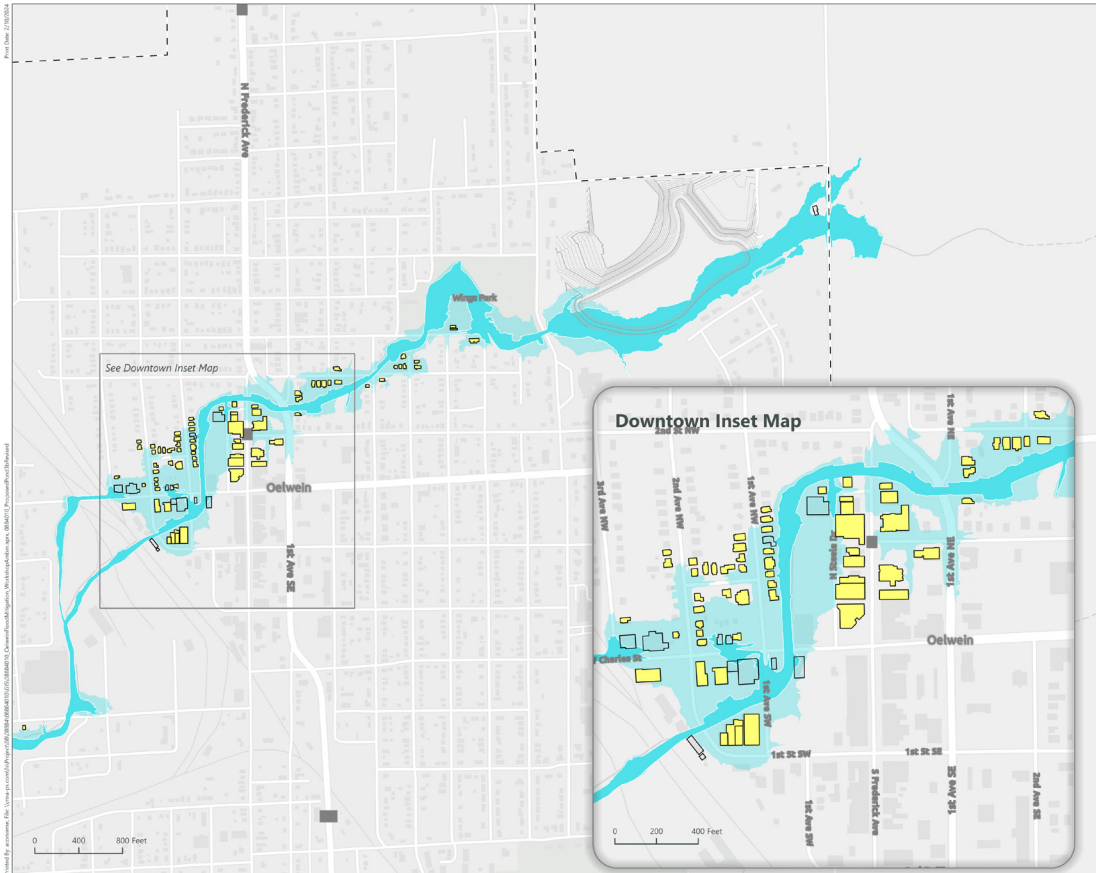
Flood Mitigation Scoping

City of Oelwein
Fayette County, IA

- 1 Oelwein
- Existing 100-yr Floodplain
- With Pond 3b as a Dam, 100-yr Floodplain
- Building within Existing 100-yr Floodplain (83)
- Building Removed from 100-yr Floodplain (71)
- Preliminary Concept Pond
 - 10-ft Contour
 - 2-ft Contour

In this alternative, Pond 3 would be classified as a Dam.

Data Sources:
Municipal Boundary: Fayette County
Floodplain Extents: MSA
Basemap: Esri Community Maps Contributors, Iowa DNR, ©
OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph,
GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,
USDA, USFWS, Esri Community Maps Contributors, Iowa DNR, Esri,
TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,
EPA, NPS, US Census Bureau, USDA, USFWS



Prepared for:
City of Oelwein
July 31, 2024





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July 31, 2024

Dylan Mulfinger
City of Oelwein
20 2nd Avenue SW
Oelwein, IA 50662

Re: Statement of Qualifications for Flood Mitigation for Dry Run Creek

Dear Dylan,

MSA Professional Services, Inc. (MSA) appreciates the opportunity to describe and present our qualifications for flood mitigation efforts at Dry Run Creek. We are confident that we have the proper experience and understand your project needs. MSA plans to take a phased approach to work with the City to secure funding for flood mitigation designs for Dry Run Creek. Once funding is secure, design for the flood retention storage basin and other flood mitigation measures will begin.

MSA's funding, water resources, and design teams are very passionate about our chosen profession; we are committed to providing excellent service to you and hope to do for you what we enjoy most: working to integrate natural systems into our built environment for the safety and enjoyment of future generations. Please carefully consider our experience as summarized in this proposal. We hope that through our past successes and the information provided in this document, we will gain your confidence in our understanding of FEMA and local funding, flood mitigation design, our ability to deliver a superior product, and our genuine passion for our work.

We look forward to continuing our relationship with the City and discussing this project further. As always, if any questions arise during review of this proposal or additional information is desired, please contact me at (608) 242-6623 or mamundson@msa-ps.com.

Sincerely,
MSA Professional Services, Inc.

A handwritten signature in blue ink that reads "Marie Amundson".

Marie Amundson, PE
Project Manager

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FIRM PROFILE

MSA Professional Services, Inc. (MSA) specializes in the sustainable development of communities. We achieve this by building honest, open relationships that go beyond the project to become a trusted source of expertise and support for immediate challenges and long-term goals. Big or small, we do whatever it takes to meet each need, working to make communities stronger in the process. **It's more than a project. It's a commitment.**

MSA's roots reach back to 1919. Our firm consists of 450+ engineers, architects, planners, landscape architects, funding experts, surveyors, GIS experts and environmental scientists. MSA excels at helping clients identify grant and funding sources and then delivering high-quality, cost-effective solutions.

WE'RE PROUD TO BE 100%
EMPLOYEE-OWNED

450+
TEAM MEMBERS



17
OFFICE
LOCATIONS



POSITIVELY IMPACTING
THE LIVES OF OTHERS SINCE 1919

33

INDUSTRY
AWARDS
EARNED SINCE
2017




\$625+ MILLION
GRANTS & LOW-INTEREST LOANS
We've helped our clients
secure to help offset the cost
of infrastructure projects

CLIENT EXPERIENCE

As part of our ongoing quality assurance program, we periodically request feedback from clients and project stakeholders to create better project outcomes for you.

These easy-to-complete surveys offer you the opportunity to comment on several areas of our performance throughout the duration of your project, which in turn helps us adapt our processes to your unique needs. Your feedback is specific to your project, and is returned directly to the people working with you. We pledge to respond to any issues you identify as the project proceeds.

To the right, you'll find the percentage of clients who say MSA met or exceeded their expectations based on the following categories.

98%
ACCURACY 

96%
HELPFULNESS 

98%
RESPONSIVENESS 

98%
OFFICE
SCHEDULE
LOCATIONS 

99%
QUALITY 

97%
SCOPE & FEES 

AN INTRODUCTION TO MSA'S FUNDING SERVICES

We turn every stone in order to find both public and private sources to help you fund your project. We know the ins and outs of a wide variety of programs to help you maximize funding sources, manage timelines, and take care of the details to satisfy the fund requirements. With MSA's support, you can complete the projects you must, and deliver more of the projects you want, all while getting closer to the balanced, sustainable community you've always envisioned.

TRUST US, WE'RE EXPERTS

Our team partners with you, championing your project vision, advising on what types of projects can be funded, and helping with feasibility studies to analyze your project's potential.

Funding Services

Your community's resource for funding services is MSA. We provide full-service grant writing, grant administration, and public and private funding options. We've been on the community's side of funding projects and understand the complexities of project funding. Our long-standing relationships with agencies allows us to position your projects to be more successful.

Public Engagement

From consulting on special assessments, to creating the case for support and leading crucial conversations, our public engagement skills and capabilities go well beyond what you'd find from most engineering and planning partners.

Maximizing Funds

MSA helps your community explore funding options that go beyond traditional public sources. Our dedicated funding specialists bring to the table a broad knowledge base of public funding sources, and are resourceful when it comes to identifying private, non-profit and other sources of funding. Financing methods and programs such as tax incremental financing (TIF), business districts, and local, state and federal grants and loans **can be packaged** with community resources to complete the must-do projects as well as create or enhance parks, recreational facilities, libraries and other projects that improve the fabric of your community. We help you strategize by combining our knowledge of a variety of funding sources with our expertise in bundling them together to help keep your costs low.



WHAT OUR CLIENTS ARE SAYING

“The biggest asset MSA offers communities is their knowledge of available funding and their ability to acquire outside funding for projects. The City of Abbotsford has received \$1,000,000 from CDBG grants in five years.”

- City Clerk, City of Abbotsford

COMMUNITIES OF PRACTICE

The Funding Community of Practice (CoP) is a group of MSA specialists who have a passion for funding projects. They explore funding options that go beyond traditional public sources. To provide the best client service and experience, they meet and communicate on a regular basis to deepen their funding expertise, build knowledge of regulatory agencies and share resources.

FEMA GRANT EXPERIENCE

MSA has extensive past experience working directly with the Federal Emergency Management Agency (FEMA) to facilitate and maximize FEMA Public Assistance funding for communities struck by natural disasters. In addition to FEMA funding, MSA has assisted affected communities in applying for and managing Community Development Block Grants – Emergency Assistance Program (CDBG-EAP) Funding and Natural Resource Conservation Service (NRCS)/U.S. Department of Agriculture (USDA) Emergency Funding.

MSA's experience with FEMA is a distinct advantage of a firm our size specializing in small communities. We know small communities are limited in the number of staff to dedicate to an endeavor of this magnitude. We also know MSA must act as a partner and provide daily assistance and coordination to work through the FEMA process.

PARTIAL LISTING OF FEMA GRANT EXPERIENCE

FEMA HMGP - \$7,260,907.91

Acquisition/Demolition of Flood-Prone Properties

<u>Community</u>	<u>Grant Amount</u>
Sumner, IA	\$3,165,267.60
La Valle, WI	\$2,333,949.45
Elroy, WI	\$1,293,344.49
Kendall, WI	\$468,346.37

FEMA PDM – Now BRIC

Advanced Assistance Stormwater Analysis and Planning

<u>Community</u>	<u>Grant Amount</u>
La Valle, WI	\$103,260.00

FEMA Public Assistance

Derecho

<u>Community</u>	<u>Grant Amount</u>
Ely, IA	\$193, 567.10
Hiawatha, IA	\$911,979.93
Atkins, IA	Admin Assistance Only
Fremont, IA	Admin Assistance Only

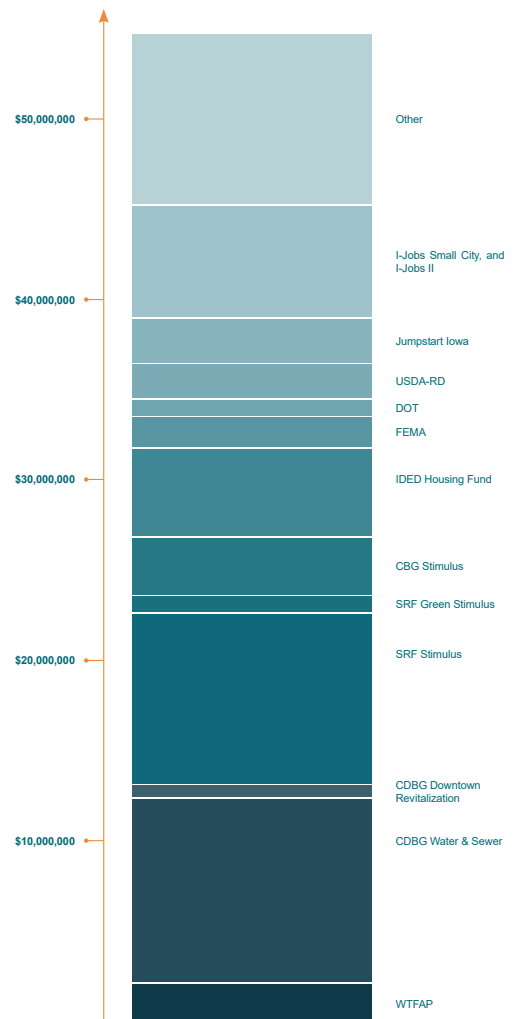
Flooding

<u>Community</u>	<u>Grant Amount</u>
La Valle, WI	\$511,140.46



IOWA GRANT FUNDING SUCCESS

\$59,000,000 AND COUNTING!





Marie Amundson, PE

PROJECT MANAGER

Marie is a project manager with MSA's Water Resources team and has 13 years of engineering and project management experience. She has knowledge of hydrologic and hydraulic modeling, stream restoration, floodplain mapping, coordinating with review agencies for plan and permit approvals, and managing teams to provide project completion on time and within budget.

Similar Project Experience

- Watershed & Flood Mitigation Study, Oelwein, IA
- FEMA Mitigation Assistance, La Valle, WI
- Watershed and Lake Flood Elevation Analysis, Lake Colechester, IA
- South Skunk River Floodplain Analysis, Story City, IA



Eric Thompson, PE

QA/QC MANAGER

Eric leads MSA's Water Resources team of 10 professionals. He has 31 years of experience in water resources engineering and has experience working on projects throughout the United States. His experience includes planning, study, and design of water resources system at all levels.

Similar Project Experience

- Watershed & Flood Mitigation Study, Oelwein, IA
- FEMA Mitigation Assistance, La Valle, WI
- Flood Reduction Project, Lamont, IA
- Levee Repair, Cascade, IA
- Flood Mitigation Planning and Design, Elkader, IA



Amber Converse

LEAD GIS ANALYST

Amber is a geographic information systems (GIS) professional with 16 years of experience. Amber is a member of MSA's Water Resources engineering team and integral to all our work on all stormwater modeling projects, utilizing GIS technologies for data handling in the development of modeling input and processing of output.

Similar Project Experience

- Watershed & Flood Mitigation Study, Oelwein, IA
- FEMA Mitigation Assistance, La Valle, WI
- Flood Reduction Project, Lamont, IA
- Levee Repair, Cascade, IA



Brittney Mitchell

FEMA FUNDING LEAD

Brittney leads MSA's Funding team. She has 10 years of experience helping clients obtain and manage grants and funding for projects and coordinate source requirements. Her experience with funding includes FEMA BRIC, CDBG, EDA, and Rural Development Grants.

Similar Project Experience

- 2018 Flooding Damage Repairs and Clean-up, La Valle, WI
- Substation Floodwall, Elroy, WI
- Advanced Assistance Planning and Stormwater Analysis, La Valle, WI
- Acquisition and Demolition of Substantially Damaged Properties, Kendall, WI



Tara Walters, CGA

LOCAL FUNDING LEAD

Tara is a member of MSA's Funding team with almost 10 years of experience with urban and regional planning and planning/community development. Her experience with funding includes grant writing and administration, community and economic development, and public engagement.

Similar Project Experience

- 2020 Derecho Damage Repairs and Clean-up, Hiawatha, IA
- 2020 Derecho Damage Repairs and Clean-up, Ely, IA
- 2020 Derecho Damage Repairs and Clean-up, Atkins, IA



Jake Huck, PE

SENIOR PROJECT ENGINEER

The majority of Jake's experience involves serving as project engineer and project manager for an array of engineering projects including stormwater facilities, urban streets, and utility planning and design. Jake's primary responsibilities have involved leading project teams throughout the completion of commercial, institutional, residential, and recreational site planning, as well as associated grading, utility coordination.

Similar Project Experience

- Stormwater Master Plan, Asbury, IA
- Althaus Channel Restoration Design, Asbury, IA
- Neighborhood Drainage Improvements Plans, Asbury, IA
- West 32nd Street Dam Design, Dubuque, IA



Nick Lange, PE

PROJECT ENGINEER

Nick serves project engineer and project manager for a variety of municipal, commercial and residential engineering projects. His experience includes surveying, plat development, utility design, street design and stormwater management. In these projects, his responsibilities have included project management, design and coordination with the owner or project manager throughout the project from start to finish.

Similar Project Experience

- Farley 11th Avenue RISE Industrial Development, Farley, IA
- Farley 9th Avenue RISE Industrial Development, Farley, IA
- North Watermain Looping, Raymond, IA
- East Sanitary Sewer & Watermain Extensions, Peosta, IA



Nichole Sungren, PE

SENIOR PROJECT ENGINEER

Nichole is a municipal design engineer who leads the Municipal team in our Ankeny office. Her project experience has been in the areas of planning, engineering and client services including project management, project design, construction plan preparation, construction staging and traffic control layout, construction administration services, and the coordination of franchise and municipal utilities.

Similar Project Experience

- Carter Street Reconstruction Project, Elkader, IA
- S. West Reconstruction - Phase 1 - Watson to Rippey, Baxter, IA
- 2nd Avenue Reconstruction from 1st Street to 4th Street, Collins, IA



Palen Stream, EIT

ENGINEER

Palen's experience includes concept plan design of stormwater managements systems, multidisciplinary building assessments, zoning analysis, master specifications, parking lots, site investigation reports, cost estimates, erosion and sediment control design, and on-site inspections.

Similar Project Experience

- Walnut Street Stormwater Improvements, Sumner, IA
- Water System Evaluation, Central City, IA
- Phase I Roadway Reconstruction, Wesley, IA



Jeron Johnson, EIT

ENGINEER

Jeron's experience includes working on water resources projects including flood mitigation and stormwater improvements for client communities.

Similar Project Experience

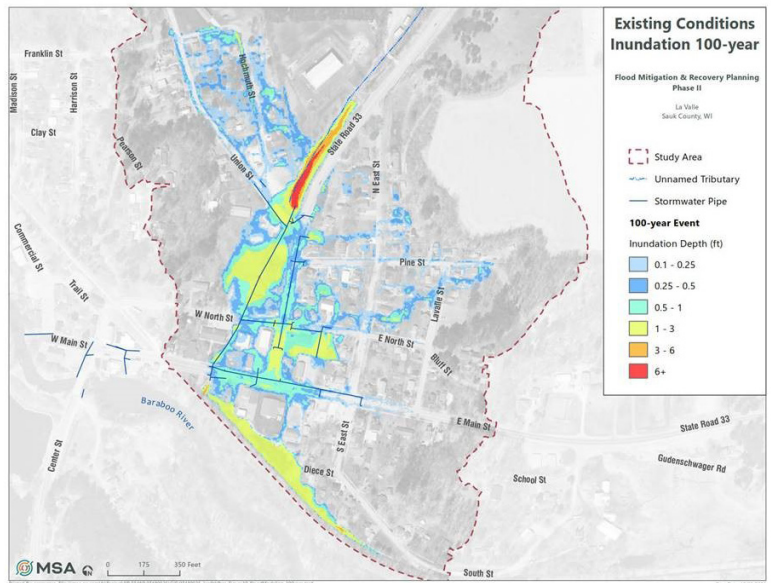
- Flood Mitigation Scoping, Oelwein, IA
- Cox Springs Road Trail Extension, Peosta, IA
- Mt. Joy Road Reconstruction and Stormwater Improvements, Scott County, IA

FEMA MITIGATION ASSISTANCE

LA VALLE, WI

The Village of La Valle, located on the Baraboo River, has sustained significant damage in several presidentially declared flooding disasters over the years, including in 2007, 2008 and 2018. In 2018, the river's levels crested at just over 22 feet, readily surpassing the community's moderate flood stage level of 17 feet and major flood stage mark of 19 feet. Many residential, commercial and village-owned properties and infrastructure were adversely impacted by each of these declarations. As a result, the Village has been diligently working to mitigate future impacts from flooding.

The Village's most recent focus is to acquire and demolish substantially damaged properties, with 23 property owners already applying for assistance since the 2018 flooding disaster. This aggressive buyout project is reflective of the community's desire to take positive, purposeful strides toward revitalizing affected neighborhoods and businesses. In support of the project, the Village created a Revitalization Committee and is partnering with several area agencies including the Sauk County Development Corporation, Sauk County Emergency Management and the University of Wisconsin-Extension to maximize efforts. Since the 2018 flood, the Village has struggled to financially balance flood-related repairs and needs. While it received some initial relief through FEMA, the community also needed to raise taxes, borrow funds and drain existing accounts to meet obligations and continue to make progress. The impacts have also been detrimental to businesses, with some proprietors closing up shop and others choosing to relocate outside of the floodway, which in some cases, means leaving La Valle entirely.



In 2020, MSA assisted the Village with the compilation of a scope, cost estimate, schedule and application for a FEMA FFY19 Pre-Disaster Mitigation Grant in collaboration with Wisconsin Emergency Management. La Valle was successful in being awarded a \$106,260 Advance Assistance Grant through the program and was the only community in Wisconsin to receive this award in 2020; all other awards went to counties of the state for hazard mitigation planning efforts.

These funds are being used for a Recovery Plan which will model the floodplain to determine flood damage flow rates and elevations for the Baraboo River and determine peak runoff rates and volumes from upland flooding sources. After documenting current issues, several alternatives will be explored to address flooding due to these two sources. One alternative that will be explored is the potential relocation of Village assets outside of the floodplain and flood fringe. To envision what this might look like, MSA partnered with UW-Extension to hold a two-day design charrette with the Village. Advance Assistance grant funds will be applied to mitigation efforts and also used to update the Village's Comprehensive Plan and incorporate recommendations from the Recovery Plan. The funds will also support review and updating of the Village's ordinances to ensure zoning and building codes align with mitigation efforts, and ensure compliance with DNR's model floodplain ordinance and the National Floodplain Insurance Program.

In June 2021, the community received notice of being selected to receive over \$1 million in grant funding through the FEMA Hazard Mitigation Grant Program to assist with the demolition of five flood-prone properties along the Baraboo River, reducing La Valle's vulnerability to future flooding events. The Village has plans to transform the former properties into open public green space and is making great progress toward community resiliency and revitalization in the face of tremendous challenges.

FLOOD REDUCTION PROJECT

LAMONT, IA

The City of Lamont has suffered numerous flood events in its history – floods occurred early in 2014 as well as in May 2013, July 2010 and May 2008. Flooding in the City comes from two main sources: Lamont Creek (watershed area of 8.4 square miles) and a tributary to Lamont Creek and an associated unnamed drainageway along an old railroad bed (combined watershed area of 3.8 square miles). MSA conducted a study in 2013 which determined what level of flooding would likely cause damage to homes and other buildings (termed a “damage event”) and provided conceptual solutions for reducing flooding to levels below these damage events.



Flooding from Lamont Creek was shown to cause damage during floods more frequent than the 5-year flood. Several watershed-level management solutions were proposed by the study, ranging from the construction of several 10- to 20-acre ponds throughout the watershed (to reduce flood flows by 20% and therefore reduce the incidence of damage to 5-year frequency) all the way up to a concept for a 300-acre wetland restoration (to reduce flood flows by 75% and therefore reduce the incidence of damage to 100-year frequency). Some stream capacity improvements were also conceptualized – most significantly the idea of removing bridges that are an obstruction to flooding.

Flooding from the tributary was also shown to cause damage during floods more frequent than the 5-year flood; however, the study clearly identified the Henderson Street road crossing as a significant obstruction to creek flows and suggested a new bridge structure and some channel improvements that would alleviate flood damage incidence up to 100-year frequency. In the same vicinity, there is a drainageway parallel to an old railroad bed which contains several detention-basin areas. The study determined that while conveyance and storage capacity was generally adequate, the basin outlets were susceptible to blockage from debris and lacked suitable ‘emergency’ flow paths. Therefore, debris-protection measures and a modification of road profiles (which blocked emergency flow routes) were suggested.

LEVEE REPAIR

CASCADE, IA

In March 2013, the City of Cascade received a letter from the Rock Island District of the U.S. Army Corps of Engineers (COE) declaring the condition of the City’s levee to be unacceptable as defined by Public Law (PL) 84-99. Unless the levee is returned to an acceptable condition, the City is ineligible for an 80% federal cost-share for rehabilitation of the levee, should it be damaged by a flood event.

MSA conducted an inspection of the levee and confirmed that the condition of a pair of culverts that allowed runoff to pass through during low-flow conditions was very poor. We then conducted a topographic survey and developed plans to repair the culverts.



Repair plans and methods needed to accommodate the possibility of flooding occurring during construction activities. MSA required the contractor to close the gap in the levee any time crews were not on site and incorporate suitable temporary erosion control practices to protect the waterward side of the levee, should flooding occur while the levee was temporarily closed.

Additionally, MSA’s design incorporated two features to improve operability of the levee. The most important was the inclusion of a portable pump access ramp to improve the ease and safety of deploying a trailer-mounted pump system, used to drain water trapped behind the during high-flow conditions.

FLOOD MITIGATION PLANNING AND DESIGN

ELKADER, IA

Like many other Iowa communities, the City of Elkader sustained damage from severe flooding in 2008. Since that time, the City has bought out flooded properties and assessed an existing levee. The City hired MSA as a first step to protecting the community from similar, future flooding. MSA began by investigating the feasibility of several mitigation alternatives, which included improving the levee, constructing a floodwall and improving the channel.

MSA developed new flood frequency estimates for the river – the existing estimates were approximately 30 years old. Additionally, MSA improved the hydraulic model with additional survey data and LiDAR flight data. This provided assurance that the most current information was being used in the assessment of possible mitigation strategies.

Our team considered nine mitigation alternatives, including levees, floodwalls, stream channelization, hydraulic improvements to a downstream bridge, and modifications to an existing dam in the community. We took into consideration how many homes and businesses would be protected by each mitigation alternative.

MSA also checked floodway impacts to make sure that an improved situation for some people would not come at the expense of others. Ultimately, our team determined that constructing a floodwall and improving the existing levee could protect downtown structures, without violating FEMA or Iowa rules regarding flood elevation impacts.



MSA determined that the City needed to replace two stone retaining walls along the river and incorporate new retaining walls at two lift stations to raise them above the floodplain. Each condition was unique, necessitating three different types of walls: cantilevered concrete, restrained concrete, and partially restrained steel sheet piling. Various funding sources required that each project be bid separately.

MSA coordinated the project design with the Army Corps of Engineers and Iowa DNR to secure permit authorizations prior to starting construction.



WEST 32ND STREET STORMWATER DETENTION FACILITY

DUBUQUE, IA

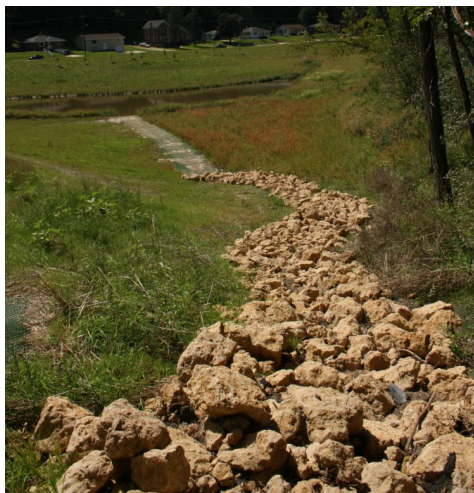
Following the devastating floods of the 1990s, the City of Dubuque authorized a comprehensive study to plan systemic improvements to their stormwater management system to address the widespread flooding they experienced. The resulting [Bee Branch] Drainage Basin Master Plan was prepared in 2001 and recommended three projects to eliminate risk from flood damage in the watershed, one of which was the West 32nd Street Detention Basin. The City hired MSA to prepare detailed design and construction plans for this 90-acre-foot stormwater detention facility to serve approximately 1,200 acres of Dubuque. It was necessary that our design be integrated with improvements for other phases of the project being designed by other consultants.



MSA's initial investigation found that the design proposed by the drainage basin master plan was not achievable as originally conceived; to achieve the desired storage volume, an extremely tall dam structure would have been required which would have necessitated the closure of West 32nd Street - the major traffic corridor for the area. MSA's proposal was based on an innovative approach to construct two smaller dams in series that maximized storage within the valley while minimizing the amount of excavation necessary to construct the facility. A side benefit of this configuration was that the structure received only a moderate hazard classification.

MSA's design included landscape architecture which served to make the basin as attractive as it is functional. The basin covers approximately 15 acres and includes islands, peninsulas, and a meandering baseflow channel, with native vegetation throughout the area. Our design included additional beneficial features including a 2.0-acre wet detention cell that can capture approximately five years of sediment load from the upstream watershed. The City can drain the basin and dewater the sediment prior to excavation. The basin will refill with water, hiding the evidence of the maintenance activities. Upon completion, the City was so impressed with the appearance of MSA's design that we were awarded another contract to add pedestrian trails, park benches and interpretive signs along the perimeter of the facility.

The project was finished in 2010 at a total construction cost of \$2.1 million. MSA and the City of Dubuque received the Iowa ACEC Chapter 2010 Honor Award for Engineering Excellence in the Special Projects category for this project.



FLOOD CONTROL BASINS

SUMNER, IA

The City of Sumner in Bremer County, Iowa, has experienced multiple flood events over the past several years. In 2018, the City hired MSA to complete a comprehensive study of one of the major watersheds draining the City and to design a stormwater management system to protect downstream areas of the City from 100-year flooding. MSA's study of the system identified that most of the flows originate from two primary subwatersheds: a northern watershed confined to a narrow valley and an eastern watershed that collected runoff in a wider, flatter expanse.

MSA's design of the proposed solution worked with the natural topography of the northeast quadrant of the City to create three separate detention basins. Stormwater from an approximately 263.5-acre watershed is captured by the stormwater detention system. The three basins combined cover approximately 17 acres and provide approximately 95 acre-feet of storage. The basins were constructed in 2020.

A temporary connection allows the detention basin system to slowly drain into an existing 30" storm sewer that runs under Walnut Street. Design has been completed on permanent discharge from the three-cell stormwater detention basin system using a combination of drainage ditches and box culverts to convey stormwater to the Little Wapsipinicon River and MSA is currently assisting the City in acquiring funding to complete the final phase of the project.



DERECHO ASSISTANCE

IA

During the Derecho event of 2020, MSA assisted the communities of Ely, Hiawatha, Atkins, Springville and Freemont Township, IA with funding applications, processes and clean-up.

RECENT FEMA PROJECTS

IA

- Cambridge, WI Emergency Generator - HMGP
- Hurley, WI Lift Station Generator - HMGP
- Elroy, WI Substation Floodwall - LPDM
- La Valle, WI Advanced Assistance Planning and Stormwater Analysis - HMGP
- La Valle, WI Acquisition and Demolition of Substantially Damaged Properties - HMGP
- Kendall, WI Acquisition and Demolition of Substantially Damaged Properties - HMGP
- Elroy, WI Acquisition and Demolition of Substantially Damaged Properties - HMGP
- La Valle, WI 2018 Flooding Damage Repairs and Clean-up – FEMA Public Assistance
- Hiawatha, IA 2020 Derecho Damage Repairs and Clean-up - FEMA Public Assistance
- Ely, IA 2020 Derecho Damage Repairs and Clean-up - FEMA Public Assistance
- Atkins, IA 2020 Derecho Damage Repairs and Clean-up – admin only - FEMA Public Assistance
- Fremont, IA 2020 Derecho Damage Repairs and Clean-up – admin only - FEMA Public Assistance

PROJECT APPROACH

MSA is planning a two-phase approach.

PHASE I - FUNDING APPLICATION ASSISTANCE

- MSA will update the FEMA model of Dry Run Creek developed in 2020 and published in March 2024 to accurately model the impacts of the conceptual pond for both HMSEM.
- MSA will update the BCA Toolkit from May 2024 in preparation for the FEMA funding application.
- Application assistance for FEMA BRIC grant funding.
- Application assistance for HMSEM grant funding.
- Consideration of funding for bridge removal through the DOT Bridge Program.

PHASE II - FLOOD MITIGATION DESIGN

- Design for flood retention storage basin.
- MSA will update the FEMA model of Dry Run Creek developed in 2020 and published in March 2024 to accurately model the impacts of the designed pond.
- Look at feasibility of removal of Charles Street Parking Lot and 1st Avenue SW bridge.
- Update the BCA Toolkit from May 2024 for proposed designs.
- Design timeframes, phases, and cost estimates.
- Design and analysis report.

FUNDING SCOPE OF WORK

MSA recently assisted the City of Sumner through requirements for the Hazard Mitigation Grant Program (HMGP). MSA has worked with the City of Sumner from the application process through the award and now through construction. The proposed project offered a self-contained solution to a persistent stormwater problem for the City. Combined detention basins, along with improved stormwater infrastructure, will now protect the City of Sumner at the 100-year flood event level. The City initiated the process by starting preliminary engineering for the entire project, along with land acquisition. The City also moved forward with the construction of detention basins (Phase 1) while the HMGP funding for the stormwater infrastructure was being processed.

The HMGP application development process is a very lengthy and involved process that must be completed, or funding can be denied. The process requires a collaboration between City staff, the City's planning organization (COGs), Iowa Homeland Security and Emergency Management Department (HSEMD) and MSA to prepare and review all of the required documentation that must be reviewed and submitted to FEMA. This process can be time-consuming and can take several iterations. MSA has a good working relationship with the local HSEMD representative and will be able to collaborate on solutions to any issues that might arise during the application process for the City of Oelwein.

A significant part of the application process is the development of the Benefit Cost Analysis (BCA). The BCA needs to show that the project cost will outweigh the future risks. FEMA provides a detailed guide to assist. BCA costs must include maintenance costs, historic and future, engineering administrative costs, and estimated construction costs. The City must also provide a letter stating that they will agree to maintain the proposed infrastructure that would be constructed as a part of the project.

The Scope of Work (SOW) is the most crucial part of the application process. The City must provide a summary of the work to be performed. Everything that could be a part of the potential project should be included at this time. Procurement for engineering services for design (unless done previously) and construction services (administration and inspection) should also be included, as they cannot be added after the project award. Land acquisition can be included but can delay the process due to the additional requirements by FEMA. As a part of the SOW submittal, a set of preliminary plans and design calculations, including the hydrologic model, will be required. Any alternatives that were considered will also need to be provided. The SOW needs to detail mandatory building codes and engineering practices followed along with the level of protection for the proposed improvements. Once the SOW has been submitted, it can only be changed by a request for scope change that can take up to 6 months. Any deviations from the original SOW without an official request for scope change can result in loss of funding.

The Environmental, Historical, Preservation (EHP) process can be the most time-consuming of all of the HMGP processes. FEMA has required forms but follows the NEPA process. Cities must perform all environmental, archaeological, floodplain, and SHPO reviews and provide adequate documentation. The review and comment process with FEMA and other permitting agencies is where any time delay in this process can occur.

The final step in the HMGP application process is completion of the application in the HSEMD database, the submission of a City Assurance Letter, and execution of signature documents. A completed FEMA Review Checklist will also be required.

MSA will be a partner with the City of Oelwein during the entire process, from application to post-award, with engineering, contractor procurement and project management services. We believe we have the right experience with the process to help you succeed and are excited to be your partner in the journey toward implementation of the Dry Run Creek Flood Mitigation project.

	ESTIMATED HOURS	ESTIMATED \$/HR	TOTAL ESTIMATE
Funding Applications Assistance	280	\$175	\$49,000
Engineering for Engineering Analysis Report	1,055	\$200	\$211,000
Benefit Cost Analysis	30	\$200	\$6,000
Environmental and Other Assessments	50	\$180	\$9,000
GRAND TOTAL:			\$275,000

ASSUMPTIONS

- Funding application assistance includes updated H&H modeling and BCA Toolkit for the conceptual flood retention pond, FEMA and HMSEM coordination, and assistance with the funding applications.
- Engineering includes preliminary design and plan set, timelines, and cost estimates; topographic survey of the parcel; H&H modeling of the preliminary flood retention pond design; the Geotechnical Assessment and report; and permitting assistance with Iowa DNR and ACOE for the pond and stream channel realignment.
- City will apply for other funding sources, such as CDBG or SRF to assist with Environmental and Other Assessments. MSA will assist with the funding applications.
- Property acquisition and easement costs are not included.
- EMA will assist with filling out the BCA Toolkit.
- The latest versions of the BCA Toolkit from May 2024 and FEMA FIS H&H model from March 2024 will be used for the funding application and preliminary plans.
- MSA will attend one (1) City Council/Board meeting in person to present the findings of the Engineering Analysis Report.
- This project budget is a draft cost estimate and based on assumptions which will need to be discussed with the City before finalizing.

IT'S MORE THAN A PROJECT. IT'S A COMMITMENT.
FLOOD MITIGATION FOR DRY RUN CREEK | OELWEIN, IA | JULY 31, 2024

