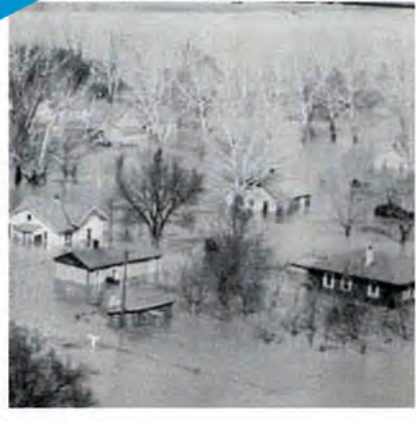


Proposal for professional engineering services for an updated
Multi-Jurisdictional Multi-Hazard Mitigation Plan
for the Papio-Missouri River Natural Resources District





October 1, 2014

Papio Missouri River NRD
Attn: John Winkler, General Manager
8901 South 154th Street
Omaha, NE 68138

RE: Request for Proposals for the Multi-Jurisdictional Multi-Hazard Mitigation Plan Project Professional Services

Dear Mr. Winkler and Selection Committee Members:

We are thrilled to submit our proposal for professional services to assist the Papio-Missouri River Natural Resources District (P-MRNRD) in updating their Multi-Jurisdictional, Multi-Hazard Mitigation Plan. Having completed the current plan, Olsson Associates (Olsson) has again joined forces with Dennis Lawlor, now with Ecology and Environment, Inc., to form a consistent and comprehensive team that combines the best local experts on natural disasters, with the best regional experience in completing Multi-Hazard Mitigation Plans.

As demonstrated throughout our proposal, Olsson will capitalize on our strengths listed below to engage all eligible participants within the District and help develop opportunities to reduce or eliminate the risk posed by natural disasters.

- **Build on Past Hazard Mitigation Success.** The P-MRNRD has a tremendous history of being a catalyst for reducing risk and for getting projects completed, even before the term "Hazard Mitigation" was adopted. The P-MRNRD was able to react quickly and put the current plan into action following the 2011 Missouri River Flood, resulting in the buyout and removal of badly damaged homes and properties. Data from the past plan was also used to develop the economic damages expected for the "Reconstruction of the Ames, IA August 2010 Storm on the Papillion Creek Watershed". This information was then used by the P-MRNRD in public education information to explain that such a flood could happen in Omaha. Our team will continue to build on these types of successes hoping to greatly grow the potential for more and more hazard mitigation.
- **Relationships.** Having worked for over 50 years in Nebraska, Olsson has built strong relationships with people in small towns, big cities and everywhere in between. Olsson has offices at both ends of the P-MRNRD that will allow us to effectively manage the project and communicate with community leaders and the public throughout the Multi-Hazard Mitigation Planning process.
- **Project Understanding.** While working for the P-MRNRD and Olsson, I was fortunate enough to have been involved in the development of the initial All-Hazard Mitigation Plan in 2006 and then the recent update in 2011. Knowing this project history will allow me to provide insight and ideas on how to improve upon the existing plan and achieve complete local support for mitigation projects throughout the P-MRNRD. In the end, the more local support there is, the more mitigation that will get completed.

The following proposal outlines the alignment of our goals with your goals in order to create a Multi-Hazard Mitigation Plan that will allow for even greater successes in the next five years. Should you have any questions or require additional information, please contact me by phone at 402.938.2470 or via e-mail at pwoodward@oaconsulting.com.

Sincerely,


Paul Woodward, PE, CFM
Project Manager

TABLE OF CONTENTS

FIRM OVERVIEW.....	1
PROJECT TEAM.....	4
RELATED EXPERIENCE AND QUALIFICATIONS	7
PROJECT UNDERSTANDING AND APPROACH.....	10
COMMUNITY ASSESSMENTS AND MITIGATION STRATEGIES.....	13
SCHEDULE.....	15
APPENDIX	16



FIRM OVERVIEW

John E. Olsson started Olsson Associates in 1956 on the ideals of passion, innovation, and creativity. But he realized he couldn't do it alone. Working with others was critical to his success and today, that collaborative spirit is still at the core of Olsson Associates. We know that how we work together makes the difference in the solutions we deliver. We're more than a company of individuals—we're a team of problem-solvers. We see problems as opportunities for creativity. The process of finding the right answer is different for every client and every project.

Services

Olsson Associates, ranked No. 139 on the *Engineering News-Record's* list of the Top 500 Design Firms, employs over 850 staff members who provide civil, surveying, structural, water/wastewater, power electrical, automation and technology, land development, landscape architecture, urban design, environmental, water resources, geotechnical, construction observation, GIS, mapping, traffic, transportation, intelligent transportation systems, airport consulting, specialty lighting, mechanical/electrical, and public involvement services. Our staff consists of highly trained professional and technical personnel with broad experience in all phases of engineering design and construction phase services.

Office Locations

The company headquarters is in Lincoln, Nebraska. Additional offices are located in Grand Island, Hastings, Holdrege, Omaha, La Vista, South Sioux City, and Mullen, Nebraska; Grand Junction, Golden, and Loveland Colorado; Phoenix, Arizona; Kansas City, Joplin, and Springfield, Missouri; Olathe, Overland Park, and Manhattan, Kansas; Sioux City and Des Moines, Iowa; Minneapolis, Minnesota, and Oklahoma City, Oklahoma. Olsson Associates can be found on the Web at www.olssonassociates.com.



OLSSON OFFICE LOCATIONS



Contact Information

Name: Olsson Associates
Address: 211 South 67th Street, Suite 200
Omaha, NE 68106
Telephone: 402.341.1116
Email: pwoodward@olssonassociates.com

Years and Previous Names

Year Established: 1956

Previous Names:

- John E. Olsson – 1956
- Olsson & Burroughs – 1958
- Clark, Enersen, Olsson, Burroughs, & Thomsen – 1962
- John E. Olsson & Associates – 1970
- Olsson Associates, Inc. - 1973



Principals of the Firm:

BRAD D. STRITTMATTER, PE PRESIDENT/TREASURER

- Nebraska
- Kansas
- Arizona

MICHAEL C. PIERNICKY, PE, PTOE OMAHA OFFICE LEADER, VICE PRESIDENT

- Nebraska
- Kansas
- Colorado
- Arizona
- Iowa
- USA

KENNETH FAIRCHILD, PE SENIOR ELECTRIC ENGINEER, VICE PRESIDENT

- Kansas
- Colorado
- Iowa
- Nevada
- North Dakota
- Wyoming
- Nebraska
- Arizona
- California
- Missouri
- Oklahoma
- Minnesota





E & E is a recognized global leader in environmental and emergency planning with the depth of knowledge, breadth of experience, and multi-disciplinary resources to provide clients with smart, innovative solutions to enhance their hazard mitigation programs. Employing nearly 1,000 respected experts in 85 engineering and scientific disciplines, E & E has offices in 42 cities across the United States and in 17 locations around the globe. Since 1970, we have completed more than 50,000 projects in 114 different countries, in nearly every ecosystem and urban setting on the planet.

E & E is committed to supporting sustainable development through responsible environmental stewardship. We work with clients to help them make successful business decisions while maintaining and preserving natural resources. We are a fully integrated ecological and environmental engineering company that is stockholder-owned and traded on the NASDAQ (ticker: EEI). E & E has been recognized as one of the top environmental companies by Engineering News Record and ranked by Forbes and Fortune as one of the best-managed companies in the US.

The company's ability to provide these services rests upon the multidisciplinary expertise of its staff and experienced management. Because E & E operates as a single cost center, our offices do not compete with one another for work or resources. Therefore, all of E & E's personnel and resources, regardless of physical location, are available for large projects, peak periods of work, or to support unique requirements. However, we recognize the value of a local presence to ensure understanding of local issues and the highest level of customer service. Key staff members for this project are located in our Overland Park, Kansas office. Through the use of E & E's wide-area network, specialists in one office can support projects throughout the world without incurring costly travel and communications expenses.

E & E's knowledge-based organizational structure and innovative information technology and geographic information system (GIS) solutions allow us to seamlessly integrate the expertise of many different technical specialists and be highly responsive to our clients. Our GIS staff is made up of highly skilled analysts and programmers, and our GIS equipment features the most technologically advanced computer hardware and software available. From initiation to completion, E & E's GIS staff members work with project management and our clients to ensure that the most appropriate geospatial and environmental data and analytical techniques are used to support all phases of the project. Our GIS team is experienced in the application of many software products, including the latest versions of technology created by ESRI, the world's leading provider of advanced GIS and mapping software.



PROJECT TEAM

Olsson Associates has the largest private water and hazard mitigation resources staff in the State of Nebraska. The team selected for this project includes talented individuals from our Omaha and Lincoln staff. Our staff is available to begin work on your plan right away. Brief summaries of each team member's role in this project and their qualifications begin on the following page. Complete resumes for key team members can be found at the back of the submittal.



PAUL WOODWARD, PE, CFM
PROJECT MANAGER

Paul has valuable experience leading both people and projects as Group Leader for Olsson Associates' Water Resources Team in Omaha, Nebraska. Having been involved in various types of water resources projects, Paul combines technical expertise in the hydrology and hydraulics of watersheds together with a practical understanding of what it takes to get a project completed from beginning to end. Having previously worked for the Papio-Missouri River Natural Resources District, projects that Paul has been involved with range from flood control dams and levees, to new floodplain mapping and hazard mitigation, to lake restoration and green infrastructure. Paul has completed graduate coursework in the study of Geographic Information Systems and likes to work on projects that allow for creative uses of GIS technology.



MIKE PLACKE, PE
QUALITY ASSURANCE/QUALITY CONTROL

Mike Placke is an accomplished, action-oriented, and results-focused professional with over 15 years of diverse experience. He has extensive experience as a team leader, project manager, and water resources engineer. Mike earned his Masters of Business Administration in 2011. Mike has managed or designed numerous projects including dams, flood control structures, and stream channels. Mike also has experience working with various NRDs throughout the State. Mike's experience in design and analysis of flood control structures will be beneficial in analyzing structures such as dams and levees.



CARRIE ROMERO, PE, CFM
MITIGATION PLANNER

Carrie has experience as a project engineer and project manager for projects that involve hazard mitigation planning and grant applications, hydrologic and hydraulic analysis, levee design and levee certification, channel stabilization, bridge scour analysis, floodplain development permitting and no-rise certifications, lake restoration, and stormwater pollution prevention planning. Carrie served as the project manager for the Papio-Missouri River NRD's last Hazard Mitigation Plan Update in 2011, achieving FEMA approval on the first submittal with no comments. Carrie has completed training in FEMA's benefit cost analysis (BCA) software and the Community Rating System (CRS).



AMY VRTISKA, CFM
MITIGATION PLANNER

Amy has experience as a planner, coordinator, and project manager for projects that involve hazard mitigation planning, comprehensive planning, strategic planning, blight and substandard determination studies, annexation studies, wellhead protection studies, watershed master planning, public meeting facilitation, and multi-agency coordination. She has been instrumental in managing and completing over 25 hazard mitigation plans and updates including public power districts, single community, single county, multi-county, emergency management districts, and natural resources districts multi-jurisdictional all-hazard mitigation plans. She has become proficient in ArcGIS, AutoCAD, Civil 3D as well as Photoshop and InDesign.



**KEN FAIRCHILD, PE
POWER/ELECTRICAL**

Ken is a registered electrical and mechanical engineer. He is a team leader/senior designer at Olsson Associates. He has been at Olsson Associates for more than 30 years, with responsibilities that include client/team coordination, quality assurance, project management, contract administration, and follow-up upon completion. Ken's power electrical design experience includes high voltage (2,400 V to 69 kV) substations, transmission lines, and distribution lines, both overhead and underground. Ken has also provided valuable insight for past hazard mitigation planning efforts on the connection between power electrical infrastructure and the need to protect it from damage.



**EMILY BAUSCH
ECONOMIC DEVELOPMENT**

Emily recently joined Olsson Associates as an economic development coordinator. She has extensive experience working with communities and counties on project development and funding opportunities. Emily has a background in grant writing and administration for federal and state grants including Community Development Block Grant (CDBG), Nebraska Affordable Housing Trust Fund (NAHTF), Energy Efficiency and Conservation Block Grant (EECBG); Civic and Culture Center Financing Fund (CCCCF), Land, Water Conservation Fund (LWCF), and Community Development Assistance Act (CDAA).

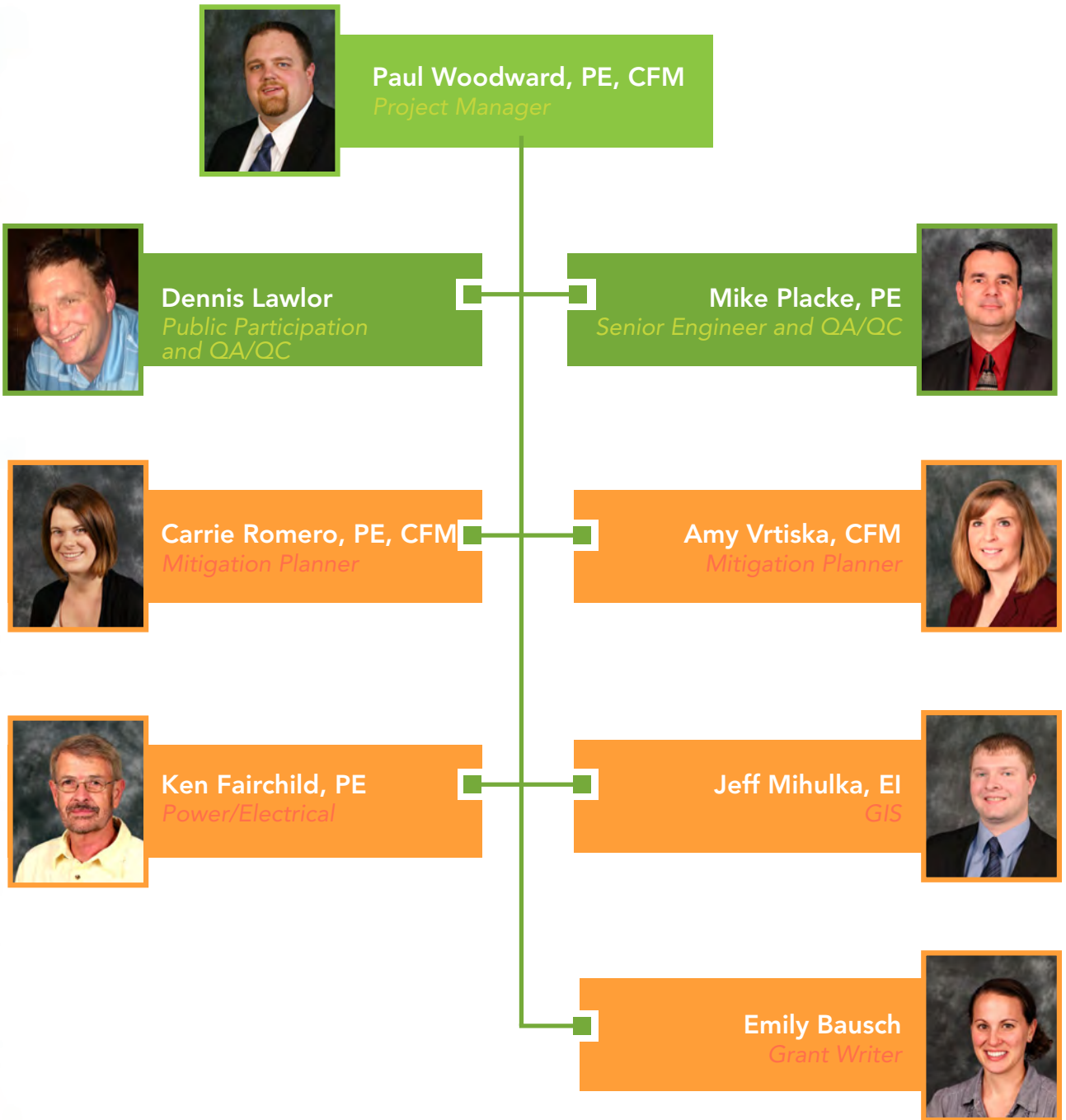


**DENNIS LAWLOR
MITIGATION EXPERT**

Dennis is the manager of E & E's Kansas City office. He is a skilled project manager and program director with a record of successfully completing highly publicized projects that require extensive team and agency coordination to meet aggressive schedules and stringent budgets. His 25-year background—both as a consultant and working for and with state agencies—encompasses Hazard Mitigation projects; coordination and acquisition of project permitting; provision of water resource engineering, and water quality/floodplain management including development of regional and statewide mapping programs. Having successfully navigated the hazard mitigation planning approval process for numerous projects in the Midwest, Mr. Lawlor has built effective rapport and experience with the range of local, state, and federal agencies.



Organizational Chart

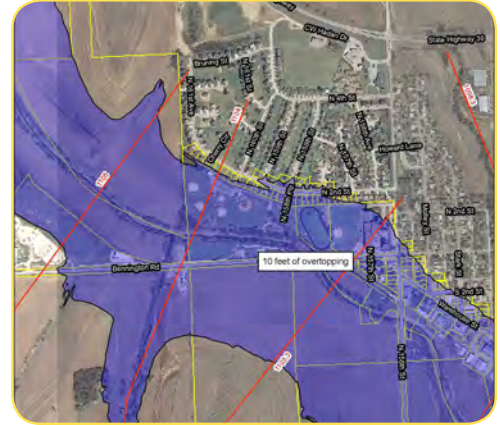


RELATED EXPERIENCE AND QUALIFICATIONS

Olsson Associates will utilize our experts in hazard mitigation are located in both Lincoln and Omaha to complete this project. Listed below are recent projects completed by our Lincoln and Omaha staff.

PAPIO MISSOURI RIVER NRD HAZARD MITIGATION PLAN UPDATE

Olsson Associates assisted the Papio-Missouri River NRD (P-MRNRD) with their effort to update their existing Multi-Hazard Mitigation Plan. The updated plan expanded participation to several communities that did not participate in the first planning effort, and opened up participation to non-profits, school districts, and institutes of higher education. An advisory committee, multiple public meetings, and a project website were utilized to keep planning participants informed and involved throughout the process. The plan was submitted to NEMA and FEMA in January 2011, and due to Olsson's expertise, was approved without any comments in February 2011. The P-MRNRD officially adopted the plan in July 2011. Olsson Associates has assisted the P-MRNRD in completing several applications for Hazard Mitigation Grant Program funding, including applications that have been approved by FEMA for floodplain buyouts.



Lori Laster
Stormwater Engineer
Papio Missouri River NRD
8901 S 154th St
Omaha, NE 68138
402.444.6222

LOWER BIG BLUE, LITTLE BLUE NRD HAZARD MITIGATION PLAN

Olsson completed the Little Blue/Lower Big Blue Natural Resource Districts All-Hazard Mitigation Plan. The project included completing the HGMP Grant Application for funding the planning process, holding the initial public meetings to collect data from the communities located in the project area, and collecting research and data related to the nine-county planning area. In addition to collecting the data, a GIS database has been developed for each county, identifying the structures that are at risk from the hazards identified in the plan. Olsson has worked closely with the planning team and the Nebraska Emergency Management Agency (NEMA) to ensure that the plan meets the needs of the project partners and conforms to all FEMA requirements. The plan was approved by FEMA and adopted by the NRDs in December 2010. Olsson met the clients expectations for both schedule and budget.

Mike Onnen
Manager
Little Blue Natural Resources District
P.O. Box 100
Davenport, NE 68335
402.228.3402

HAYES, FRONTIER, AND HITCHCOCK COUNTIES HMP

Olsson Associates is currently assisting Hayes, Frontier, and Hitchcock Counties with their efforts to combine and update their three single county plans into a new Multi-Jurisdictional Hazard Mitigation Plan. The new, updated plan is aimed at expanding participation to several entities that did not participate in the first local planning efforts, including opening up participation to public and parochial school districts as well as rural fire and rescue departments. A planning team and multiple public meetings have been utilized to keep all elected officials, key stakeholders, and residents informed and involved throughout the planning process thus far. Olsson's will continue to work closely with the planning team and the Nebraska Emergency Management Agency (NEMA) to ensure that the final plan will meet the needs of the counties and residents as well as check all Federal Emergency Management Agency (FEMA) requirements and receive approval.

2013 STANDARD AND ENHANCED STATE HAZARD MITIGATION PLAN UPDATE, MISSOURI

This plan has been approved by FEMA. The update was for the State of Missouri's standard and enhanced hazard mitigation plan by updating the HAZUS-MH flood runs for 45 counties with DFIRM information. HAZUS-MH earthquake runs for 107 counties to assess earthquake damages. Local-level assessments and the State of Missouri Hazard Analysis also were integrated into the state plan. In addition, the plan included the database of the Missouri Office of Administration that is used to estimate the vulnerability of state facilities and potential for loss to hazards including tornados, dam failure, fires, winter weather, earthquakes, and floods. Included in this plan update, E & E helped Missouri develop a Web-based map application with a user-friendly interface to browse, query, and update the existing HMGP project database, which provides local emergency managers with the ability to update their planning based on damage assessments involving post-flood high water marks/frequency determination damages and loss avoided for each project/disaster. For the enhanced plan, E & E helped create a Web-based flood visualization/awareness tool that integrates digital flood hazard data from HAZUS-MH and DFIRM in an online mapping environment that enables users to see the extent and depth of the 100-year flood in relation to other layers of digital information such as roads and aerial photographs. The results of the HAZUS-MH flood maps were put into a PDF format to help local counties integrate the information into their plans.



ADDITIONAL HAZARD MITIGATION PLANS AND UPDATES

While at another firm, Amy was responsible for the management and completing over twenty five (25) Hazard Mitigation Plans and updates, including:

SINGLE COMMUNITY HMPS

- *City of Alliance (Update)
- *City of Beatrice (Update)
- *City of Schuyler
- *City of Wahoo (Update)

SINGLE COUNTY HMPS

- *Cedar County, Iowa
- *Chase County
- *Dundy County
- *Hamilton County
- *Hayes County
- *Perkins County
- *Seward County
- *York County

MULTI-COUNTY HMPS

- *Antelope, Holt, and Knox Counties
- *Cedar and Dixon Counties
- *Franklin, Furnas, Harlan, and Red Willow Counties
- Hayes, Frontier, and Hitchcock Counties (Update)

REGIONAL HMPS

- *Region 23 Emergency Management
- *Region 24 Emergency Management

NATURAL RESOURCES DISTRICTS HMPS

- *Lower Elkhorn Natural Resources District
- *Lower Platte North Natural Resources District
- *Lower Platte South Natural Resources District
- *Nemaha Natural Resources District
- *North Platte Natural Resources District
- *South Platte Natural Resources District
- Tri-Basin Natural Resources District
- *Upper Loup Natural Resources District

PUBLIC POWER DISTRICT HMPS

- *McCook Public Power District (Original and Update)

* Indicates projects completed under previous employment.

References:

Charlynn Hamilton
Hayes County Clerk
505 Troth Street
PO Box 370
Hayes Center, NE 69032

Patrick D. Gerdes
Region 15 Emergency Management Agency
715 5th Avenue, Suite 22
Holdrege, NE 68949
308.995.2250

Robert Hilske
General Manager
Nemaha Natural Resources District
62161 Highway 136
Tecumseh, NE 68540
402.335.3325

Tom Mountford
Assistant General Manager
Lower Platte North Natural Resources District
511 Commercial Park Road
Wahoo, NE 68066
402.443.4675



PROJECT UNDERSTANDING AND APPROACH

Olsson Associates understanding and approach addresses the fact that a Multi-Hazard Mitigation Plan isn't a stagnant report that simply collects dust on a shelf until the next disaster strikes. Our approach is that a Multi-Hazard Mitigation Plan should continually evolve to push mitigation efforts forward and promote public education and readiness. Just like local emergency response plans require continuous practice before a disaster occurs, Multi-Hazard Mitigation Plans must constantly be exposed to local jurisdictions and the public to ensure that mitigation actions are implemented and successful. Our professional team knows this type of plan can only be accomplished with a comprehensive approach that addresses all potential hazards by assessing risk and vulnerability, prioritizing feasible mitigation projects, identifying funding opportunities, and getting everyone involved.

PROJECT GOALS AND OBJECTIVES

Hazard mitigation is defined as "any sustained action taken to reduce or eliminate long-term risk to people and their property from hazards" according to the Federal Emergency Management Agency (FEMA). A hazard mitigation plan is the cornerstone to breaking the cycle of disaster impacts. The purpose of this hazard mitigation plan update, or mitigation planning in general, is to identify and implement both short-term and long-term policies and actions that will reduce or eliminate future risk, damage, and losses to lives, property, and the economy. All state, indian tribal, and local governments (including but not limited to cities, villages, counties, natural resources districts (NRD), educational institutions, and utility districts) are required to have in place a current FEMA-approved hazard mitigation plan in order to be and remain eligible for certain non-emergency disaster relief funding. FEMA's Hazard Mitigation Assistance (HMA) grant programs, including the Pre-Disaster Mitigation (PDM) and Hazard Mitigation Grant Programs (HMGP), provide funding for eligible mitigation actions to reduce or eliminate future risk, damage, and losses to lives, property, and the economy.

In hazard mitigation planning, the process is just as important as creating a great plan. Together they establish a framework for risk-based decision making to protect life and property from future disasters. Hazard mitigation planning takes a comprehensive look at jurisdictions to:

- Identifying cost effective actions for risk reduction
- Focusing resources on the greatest risks and vulnerabilities
- Build partnerships by involving people, organizations, and businesses
- Increasing education and awareness of hazards and risk
- Aligning risk reduction with other community objectives

Olsson Associates multi-faceted team of professionals is ready and willing to guide you through this entire hazard mitigation planning process. Our team will facilitate and encourage public involvement and participation, orchestrate plan development, and coordinate with key agencies (on your behalf) to ensure not only that you have a FEMA-approved hazard mitigation plan, but that it is a dynamic tool for your future.

Our team specializes in Nebraska Hazard Mitigation Planning and has completed over 25 plans throughout Nebraska. Olsson Associates 2011 Papio-Missouri River Natural Resources District (P-MRNRD) Hazard Mitigation Plan Update was approved within one month after submittal to Nebraska Emergency Management Agency (NEMA). Our team of professionals, including experts in certified floodplain management (CFM), Community Rating System (CRS), benefit-cost analysis (BCA), Hazards United States – Multi-Hazard (HAZUS), dam and levee assessment and evaluation, and funding procurement are all local, right here in Nebraska. This established local presence will ensure familiarity with the planning area and current concerns as well as responsiveness and dedication to achieving your project goals and objectives.

PROJECT MANAGEMENT AND COMMUNICATION

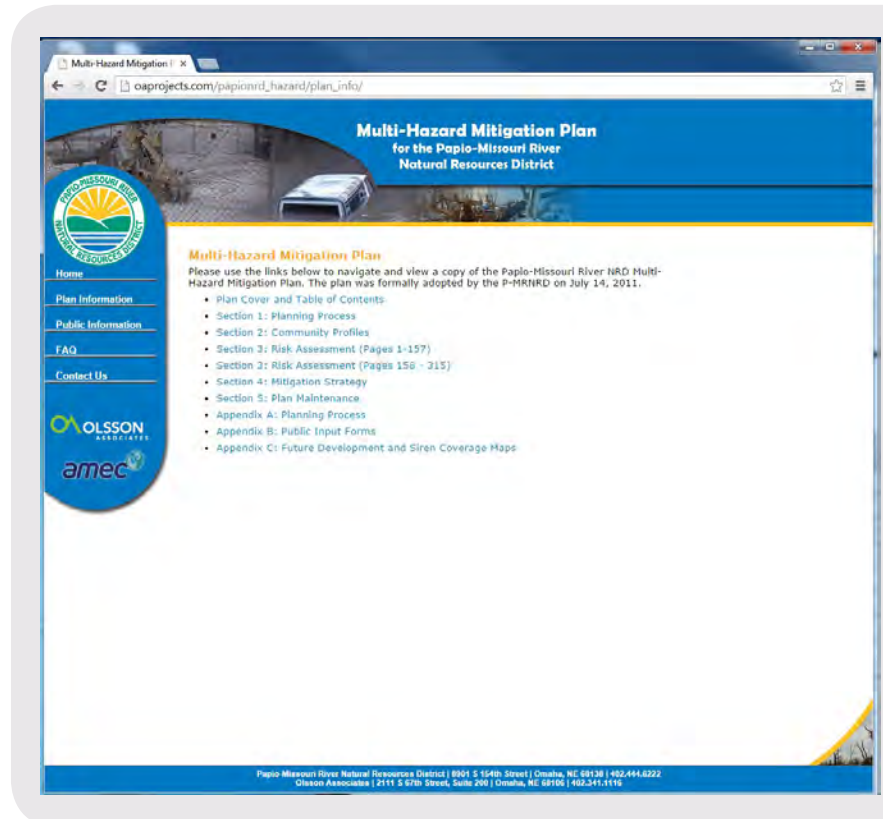
The key to a successful project is a solid project management approach. Public involvement and participation are vital to the hazard mitigation planning process and communication is the key. Our project manager will work with our project team to orchestrate plan development and update as well as facilitate communication among the P-MRNRD, Planning Team, and jurisdictions throughout the life of the project. This approach will ensure constant project attention and project team availability.

Olsson Associates will establish a Planning Team, consisting of Olsson Associates, P-MRNRD, NEMA, County Emergency Managers, and any additional key stakeholders identified throughout the planning area. The

Planning Team will communicate through emails, conference calls, and in-person meetings in order to provide leadership and support throughout the planning process, as well as serve as the local point-of-contact for jurisdictions. The Planning Team will be advised of meeting goals, objectives, presentations, and materials prior to the public meetings, preparing them to assist the public with questions and concerns.

Today, project websites often compliment the more traditional meeting form of public involvement and participation, and would be proposed for this project. Although traditional meetings are usually more effective, project websites allow for public involvement and participation from those unable to attend the scheduled meetings. This forum would be used in conjunction with the traditional meetings in order to maximize opportunities for input. Project websites have been very useful tools on past Olsson Associates projects and allow for a more timely and efficient dissemination of information and responsive feedback.

The utilization of social media, regardless of platform through existing or new accounts, would also be proposed for this project as an additional method to increase project awareness. Project updates, meeting notifications and reminders, as well as direct links can be made immediately available to the entire planning area. Our team understands that while not everyone embraces social media, the percentage of the population active online is increasing daily. Social media paired with project websites provides P-MRNRD and our team a cost-effective option to reach a larger demographic and keep the project at the forefront of peoples' minds.



PUBLIC INVOLVEMENT AND PARTICIPATION

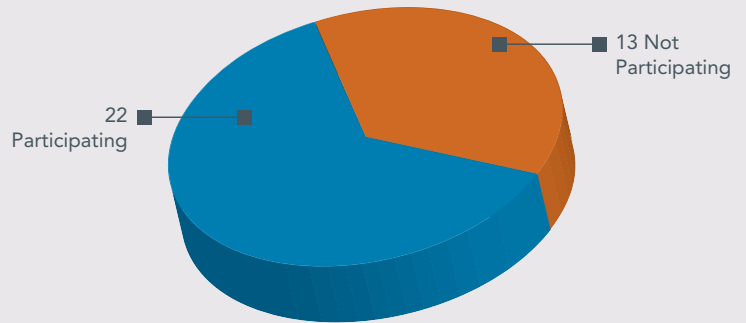
Public involvement and participation are vital to the hazard mitigation planning process. Our team will coordinate the entire process including the development of all public notices and meeting presentations and materials. Our approach to public involvement and participation is a two part process, with two (2) rounds of public meetings and set meetings each round (as per FEMA requirement). "From the start, communities should focus on the resources needed for a successful mitigation planning process. Essential steps include identifying and organizing interested members of the community as well as the technical expertise required during the planning process" (FEMA). At the first public meeting our team will present and distribute materials on the overall purpose and process for the plan development and update, encouraging yet stressing the understanding and importance of participation in this plan. This meeting will also focus on the planning process requirements, hazard identification as outlined in the State of Nebraska Hazard Mitigation Plan, plan goals and objectives, and preliminary mitigation strategy development.

Olsson Associates team of professionals includes accredited experts on public meeting facilitation. Our experts will design public meetings that clearly explain the hazard mitigation planning purpose and process to maximize public involvement and participation. They are well versed in a number of public meeting facilitation techniques and strategies, including focus groups and breakout sessions. These smaller scale sessions usually foster input and ideas from those lost in large scale forums.

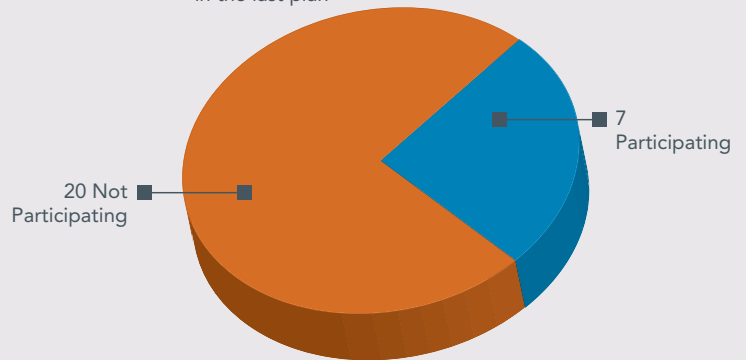
The second public meeting will focus on the risk assessment and mitigation strategy, including project review, evaluation, and prioritization. It will also provide an opportunity for public review and comment on the draft plan. "Next, communities need to identify the characteristics and potential consequences of hazards. It is important to understand how much of the community can be affected by specific hazards and what the impacts would be on important community assets. Armed with an understanding of the risks posed by hazards, communities need to determine what their priorities should be and then look at possible ways to avoid or minimize the undesired effects" (FEMA).

Local "buy in" is critical for successful implementation of the plan, as the plan will ultimately need to be adopted by each individual jurisdiction. "The result is a hazard mitigation plan and strategy for implementation. Communities can bring the plan to life in a variety of ways, ranging from implementing specific mitigation projects to changes in day-to-day organizational operations. To ensure the success of an ongoing program, it is critical that the plan remains relevant. Thus, it is important to conduct periodic evaluations and make revisions as needed" (FEMA).

Community Participation in the last plan



School Participation in the last plan



COMMUNITY ASSESSMENTS AND MITIGATION STRATEGIES

FEMA's Regulatory Checklist, Plan Assessment, and Local Mitigation Plan Review Tool (effective October 1, 2012) demonstrate how the local mitigation plans meet the requirements as well as allow an opportunity to provide feedback to the community. Our team will review the current hazard mitigation plan, focusing on the FEMA requirements of 1) planning process; 2) hazard identification and risk assessment; 3) mitigation strategy; 4) plan review, evaluation, and implementation; and 5) plan adoption.

RISK ASSESSMENT

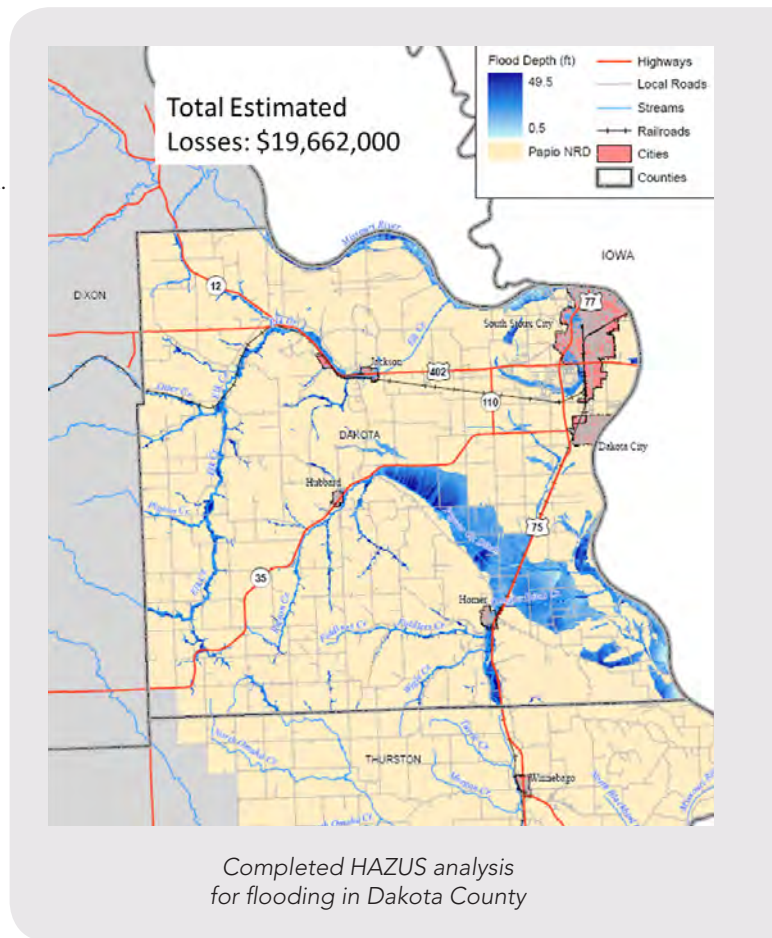
The risk assessment process and resulting mitigation strategy provide the foundation for the rest of the mitigation planning process. Risk analysis involves evaluating vulnerable assets, describing potential impacts, and estimating losses for each hazard. The purpose of this analysis is to help the jurisdictions understand the greatest risks facing the planning area. Our team will employ numerous approved methods for risk analysis, including qualitative and quantitative methods as well as HAZUS, to ensure the outcomes are appropriate and applicable to each hazard.

Qualitative and quantitative methods for analyzing risk include exposure analysis, historical analysis, and scenario analysis. Qualitative evaluations describe the types of impacts that might occur during a hazard event. Quantitative evaluations assign values and measure the potential losses to the assets at risk.

HAZUS is a multi-hazard loss estimation model developed by FEMA and the National Institute of Building Sciences (NIBS). The primary purpose of HAZUS is to provide a methodology and software application to develop multi-hazard losses at a regional scale. Loss estimations can quantify potential fatalities, injuries, direct property loss and damage, and indirect economic loss for a certain event scenario or over time (annualized loss). These loss estimates would then be used primarily by local officials to plan and simulate efforts to reduce risks from multi-hazards and to prepare for emergency response and recovery.

Our team's number one goal for your plan update is 100 percent participation. Our team will help jurisdictions, both currently in the plan as well as those who are not, realize that effective mitigation requires that the entire public understand local risks, address the hard choices, and invest in long-term community well-being. Without mitigation actions, jurisdictions jeopardize their safety, financial security, and self-reliance. Our team will utilize experts across a variety of disciplines to assess each jurisdiction in the planning area, identify past data gaps, and perform a GAPS analysis to build on previous and currently identified local efforts.

Threat and Hazard Identification and Risk Assessment (THIRA) expands on the existing hazard identification and risk assessment of the mitigation plan, provides a comprehensive approach for assessing risks and associated impacts with all types of threat or hazard, and identifies a methodology for assessing a broader range of capabilities for prevention, protection, response and recovery, and mitigation. THIRA incorporates technological and human-caused threats in addition to natural hazards. The process for conducting THIRA results in a set of capability targets for all stages of emergency management. The THIRA may be completed separately or build on the mitigation plan. Technological hazards and human-caused threats are not required by FEMA regulation, but may be included in the plan.



PROJECT DEVELOPMENT AND ACTION ITEMS

Our team’s goal for your plan update is to ensure not only that you have a FEMA-approved hazard mitigation plan, but that it is a dynamic tool for your future. Thanks to local “buy in” and successful implementation of the current plan, jurisdictions brought the plan to life in a variety of ways including:

- King Lake Floodplain Buyouts (Douglas County and P-MRNRD)
- Iske and Elbow Bend Floodplain Buyouts (Sarpy County and P-MRNRD)
- High Hazard Dam Breach Map Updates and Local Table-Top Emergency Exercises
- HAZUS simulation of 2008 Ames, IA Flood (Omaha)
- Fort Calhoun Letter of Map Change

Our team will work with the P-MRNRD, Planning Team, and key stakeholders throughout the planning area to prioritize 10 to 15 priority projects and calculate a relative BCA (per project). Our team includes experts in BCA who have completed FEMA’s Emergency Management Institute (EMI) Benefit-Cost Analysis Course, which will allow for maximum efficiency, data coordination, and ultimately cost savings when completing grant applications for these priority projects in the future.

PLAN DEVELOPMENT

Your plan development and update will be completed in accordance with all current state and federal mitigation planning laws, regulations, and guidance. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended by the Disaster Mitigation Act of 2000, provides the legal basis for state, local, and tribal governments to undertake a risk-based approach to reducing risks from natural hazards through mitigation planning. The requirements and procedures for state, tribal, and local mitigation plans are found in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 201 (44 CFR Part 201). FEMA’s Multi-Hazard Mitigation Planning Guidance provides the official guidance on these requirements and procedures for approval of hazard mitigation plans.

One of the activities that jurisdictions can take to improve their CRS rating (and subsequently lower National Flood Insurance Program [NFIP] premiums) is to develop a CRS plan. The CRS 10-step planning process is consistent with the multi-hazard planning regulations under 44 CFR Part 201. Our team includes experts in CRS who have completed FEMA’s Emergency Management Institute (EMI) Course E-278 National Flood Insurance Plan/ Community Rating System. This course covered many aspects of CRS, including the strong correlations between the CRS (floodplain management planning element) and hazard planning processes, which our team will utilize and maximize throughout the plan.

The final plan will be submitted to the Nebraska Department of Natural Resources (NDNR), Nebraska Emergency Management Agency (NEMA), and FEMA for final approval. The FEMA-approved plan will then need to be adopted by each individual jurisdiction through resolution and filed with the State Hazard Mitigation Officer.

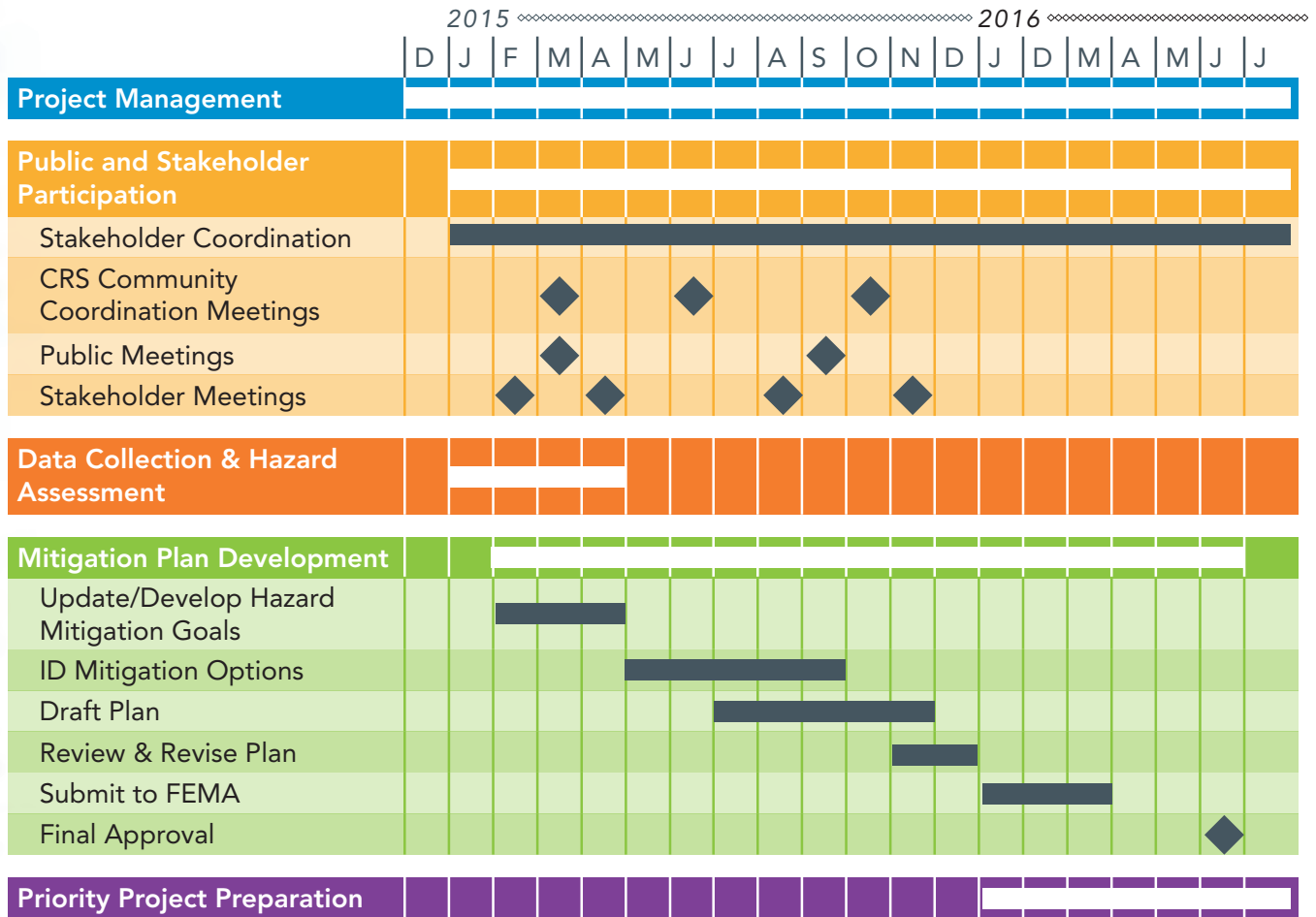
Once the plan is complete, funding opportunities can be identified and pursued for priority mitigation projects by each local jurisdiction to implement the plan and create safer, stronger communities. Our team of professionals, including experts in benefit-cost analysis and funding procurement right here in Nebraska, will be ready and willing to help you take this next step!

CRS Planning Steps

Local Mitigation Planning Handbook Tasks

1. Organize	Task 1: Determine the Planning Area and Resources
2. Involve the Public	Task 2: Build the Planning Team
3. Coordinate	Task 3: Create an Outreach Strategy
4. Assess the Hazard	Task 4: Review Community Capabilities
5. Assess the Problem	Task 5: Conduct a Risk Assessment
6. Set Goals	Task 6: Develop a Mitigation Strategy
7. Review Possible Activities	Task 7: Keep the Plan Current
8. Draft an Action Plan	Task 8: Review and Adopt the Plan
9. Adopt the Plan	Task 9: Create a Safe and Resilient Community
10. Implement, Evaluate, Revise	

SCHEDULE



APPENDIX

Resumes



Education

- ▶ Bachelor of Science, Agricultural Engineering; University of Nebraska-Lincoln, 2001
- ▶ Graduate Certificate, Geographic Information Science; University of Nebraska - Omaha, 2006

Professional Registrations

- ▶ Professional Engineer: NE, # E-12037
- ▶ Professional Engineer: IA, # 19336

Affiliations

- ▶ Association of State Floodplain Managers Region VII Board Director and Stormwater Committee Co-Chair
- ▶ Nebraska Society of Professional Engineers-Eastern Chapter MathCounts Coordinator
- ▶ Omaha Engineers Club
- ▶ Society of American Military Engineers
- ▶ Nebraska Floodplain and Stormwater Managers Association

Certifications and Specialized Training

- ▶ Certified Flood Plain Manager

Olsson Professional Experience

- ▶ 2008 To Present

Total Professional Experience

- ▶ 2001 To Present



Paul Woodward, PE, CFM

Floodplain

Experience Summary

Paul has valuable experience leading both people and projects as Group Leader for Olsson Associates' Water Resources team in Omaha, Nebraska. Having been involved in various types of water resources projects, Paul combines technical expertise in the hydrology and hydraulics of watersheds together with a practical understanding of what it takes to get a project completed from beginning to end. Having previously worked for a local watershed and natural resources district, projects that Paul has been involved with range from flood control dams and levees, to new floodplain mapping, to lake restoration and green infrastructure. He is very familiar with current floodplain and stormwater management requirements. Paul has utilized and is trained in several modeling programs including HEC-HMS, HEC-RAS, and XP-SWMM.

Paul also has experience working with ArcGIS and its watershed modeling capabilities. He has completed graduate coursework in the study of Geographic Information Systems and likes to work on projects that allow for creative uses of GIS technology.

**Indicates work conducted under previous employment.*

Watershed Planning/Studies/Improvements

- Pigeon/Jones Creek Dam Site 15 Reservoir, Dakota County, Nebraska. Project manager for a truly multi-purpose project including watershed planning, grant administration, permitting, design, and construction administration for a dam, lake, recreation area, roadways, water quality wetlands, and a tie-back levee. Design of the surrounding recreation area was also completed.
- Pigeon/Jones Creek Dam Site 15 Community Based Watershed Management Plan, Dakota County, Nebraska. Lead planning effort with local landowners and state and local agencies to improve the water quality and overall health of the proposed reservoir and Jones Creek Watershed. Also served as grant administrator for several Section 319 grants from the Nebraska Dept. of Environmental Quality to implement the plan.
- Lewis and Clark Natural Resources District Hydrogeologic Evaluation, Cedar, Knox, Dixon Counties, Nebraska. Assisting in the project management and development of a groundwater aquifer investigation and delineation report.
- Crescent Drainage Study and Assessment, Crescent, Iowa. Conducted watershed drainage analysis, helped prepare report, and attended City Council meeting to present results. Final analysis showed undersized drainage infrastructure and the need to repair above-ground drainageways.
- Preliminary Study of Papillion Creek Watershed Reservoirs 1 and 3C in Douglas and Washington County, Nebraska. Involved with the preparation of technical information for the project steering committee and controversial public meetings.*
- Papillion Creek Multi-Reservoirs Feasibility Analysis, Douglas, Sarpy and Washington County, Nebraska. Managed project for the Papillion Creek Watershed Partnership and assisted in reviewing 13 proposed dam sites and potential impacts.*
- Papillion Creek Flood Control Reservoir Site #13 (Youngman Lake) in Omaha, Nebraska. Oversaw the land rights, design, permitting, and construction for the dam, lake, and environmental mitigation.*

Paul Woodward, PE, CFM

OLSSON ASSOCIATES

Experience, Continued

- Shadow Lake flood control and Midland Lake grade stabilization dams in Papillion, Nebraska. Design and construction review of project involving NRCS NEPA compliance and funding, FEMA letters of map revision, and coordination of nearby development.*
- Candlewood Lake Flood Control Dam auxiliary spillway restoration and permitting, Omaha, Nebraska. Assisted the City of Omaha during design and construction of improvements to the earthen spillway in response to Nebraska DNR Dam Safety concerns.*
- Papillion Creek Multi-Reservoirs Feasibility Analysis, Douglas, Sarpy and Washington County, Nebraska. Managed project for the Papillion Creek Watershed Partnership and assisted in reviewing 13 proposed dam sites and potential impacts.*
- Candlewood Lake Flood Control Dam Auxiliary Spillway Restoration and Permitting, Omaha, Nebraska. Assisted the City of Omaha during design and construction of improvements to the earthen spillway in response to Nebraska DNR Dam Safety concerns.*

Floodplain Studies and Permitting

- Kansas Department of Agriculture On-Call Hydrologic and Hydraulic Analysis and Floodplain Mapping, State of Kansas. Worked directly on project management and oversight of new county-wide floodplain mapping and watershed-based RISK map products, including new approximate flood hazard areas for over 2,000 miles of streams and rivers as well as GIS based depth grids, percent annual chance maps and annualized average losses.
- Fort Calhoun, Nebraska Letter of Map Change for Missouri River Tributary 2.1, Fort Calhoun, Nebraska. Provided hydrologic and hydraulic floodplain analysis and remapping for the City of Fort Calhoun in order to revise recent Flood Insurance Rate Maps issued for the community which did not reflect past flood mitigation improvements.
- Lower Elkhorn NRD Leigh Dam Letter of Map Revision, Leigh, Nebraska. Provided oversight and review for the preparation and follow-up of a Letter of Map Revision to revise the local flood insurance maps following the completion of Leigh Dam near Leigh, Nebraska.
- West Papillion Creek Watershed Floodplain Remapping in Omaha, Nebraska. Coordinated new hydrologic and hydraulic studies with FEMA and assisted in public adoption of the new maps.*
- Preliminary evaluation of Missouri River Levees in Omaha, Nebraska to determine if the earthen levee and floodwall could meet the federal requirements for certification.*
- Acquisition of flood-prone and repetitive loss properties along the Missouri River in Sarpy County, Nebraska. Negotiated acquisitions with property owners, contracted for building demolition, and meet all grant funding requirements from FEMA and the Nebraska DNR.*
- Floodway Buyouts, Omaha, Nebraska. Provided assistance to the City of Omaha, Nebraska with funding and implementation of a buyout program for homes along Cole Creek and the Big Papillion Creek.*
- Update of Digital Flood Insurance Rate Maps in Dakota County, Nebraska. Obtained FEMA grant funding to combine new approximate floodplains throughout the county with updated studies of the Missouri River and urban drainage from South Sioux City.*

Channel Stabilization and Lake Restoration

- Nebraska Game and Parks Commission Louisville SRA Angler Access Enhancement, Louisville, Nebraska. Served as project manager responsible for QA/QC for six proposed fishing piers and two proposed boat ramps. Piers had to be installed while lake was still full and unique handrails were used around the fishing piers to improve angler accessibility.

Paul Woodward, PE, CFM

OLSSON ASSOCIATES

Experience, Continued

- Sterling Ridge Development and Hell Creek Channel Improvements. Omaha, Nebraska. Provided design layout and assisted in permitting for replacing a stream channel reach that had previously been converted into a series of ponds as part of a golf course. Reconstructing a new channel and rehabilitating the existing channel required USACE 404 permitting and FEMA Conditional Letter of Map Revision Approval.
- City of Omaha West Papio Creek Bank Stabilization, Omaha, Nebraska. Lead project management and construction administration for stabilization improvements along the channel banks of the West Papillion Creek just southeast of 168th and Dodge. The project required multiple construction phases in order for the saturated stream banks to be properly drained and become geotechnically stable.
- Big Papillion Creek Channel Improvements from Center to Blondo Street in Omaha, Nebraska. Oversaw final construction and submittal of FEMA Conditional Letter of Map Revision.*
- West Papillion Creek Channel Improvements from 96th Street to Giles Road in Sarpy County, Nebraska. Responsible for preparing updated hydraulics for engineered channel and the proposed 96th Street Bridge.*

GIS Services and Asset Management

- Ralston On-Call GIS Services, Ralston, Nebraska. Managed and provided technical support for GIS mapping within the City of Ralston. Involved with sanitary and storm sewer mapping, zoning updates, and floodplain maps.
- Update of Digital Flood Insurance Rate Maps in Dakota County, Nebraska. Obtained FEMA grant funding to combine new approximate floodplains throughout the county with updated studies of the Missouri River and urban drainage from South Sioux City.*

Hydrology/Hydraulics, Studies, Basin Master Plans

- Sarpy County 114th Street and Cornhusker Road Design, Sarpy County, Nebraska. Provided reviews of hydrologic and hydraulic studies for culvert crossings and compliance with floodplain management no-rise requirements. Also assisted in culvert outlet energy dissipation design and construction oversight.
- Douglas County Garvin Street Culvert, Omaha, Nebraska. Assisted in the project management, hydrology and hydraulic studies, and overall design of a replacement culvert for Garvin Road, funded in part through FEMA Public Disaster Assistance. Energy dissipation was an important aspect of design to prevent downstream scour and erosion.
- City of Omaha Minne Lusa Conveyance Sewer and Detention Basin Improvements, Omaha, Nebraska. Serving as project manager for Olsson as a subconsultant to URS, Paul was responsible for multiple aspects of the project including hydrologic and hydraulic modeling, 10% design for very large upstream collection storm sewers, and overall lead on proposed improvements to the detention basins as a high hazard dam. Other aspects included green solution designs, USACE permitting, and utility coordination.
- City of Omaha Saddle Creek Sewer Separation Area 55th to 64th Street, Omaha, Nebraska. Assisted design team and lead green solution efforts for the design of dry detention basins and a new open channel. Overall, stormwater management efforts helped reduce the size of the downstream storm sewer and enhanced water quality.
- Nemaha NRD Dam Breach Inundation and Evacuation Map Updates, Adams, Otoe, and Bennet, Nebraska. Worked directly with the Nemaha NRD and Nebraska Department of Natural Resources Dam Safety staff to analyze and update dam breach inundation areas and produce evacuation maps for 4 high hazard dams near 3 different communities.

Paul Woodward, PE, CFM

OLSSON ASSOCIATES

Experience, Continued

- Regional Multi-Hazard Mitigation Plan Update for the Papio-Missouri River Natural Resources District, Dakota, Burt, Thurston, Washington, Douglas, and Sarpy Counties in Nebraska. Serving as project manager involved coordination of public and stakeholder involvement, HAZUS analysis, dam breach studies, and state and FEMA review. Final deliverable also include Benefit/Cost Analysis for 5 potential hazard mitigation projects.
- Papio-Missouri River NRD Dam Breach Analyses, Sarpy County, Nebraska. Oversaw the analysis and report preparation for 5 significant or low hazard dams in Sarpy County. Breach inundation maps were prepared to aid the NRD in hazard classification and future management.

Water Quality

- Douglas County Bioretention Gardens, Omaha, Nebraska. Provided project management and design review for stormwater Bioretention Gardens at both the Douglas County Health Center and the Eastern Nebraska Office on Aging with the goal of keeping thousands of gallons of stormwater runoff out of the nearby combined sewer system.
- City of Omaha Combined Sewer Overflow Long-Term Control Plan – Saddle Creek Basin Green Solutions Study and Technical Memorandum, Omaha, Nebraska. Project involved the identification, analysis, sizing, and estimation of cost for stormwater BMPs on primarily public grounds.
- Zorinsky Lake Sediment Basins 1 and 2, Omaha, Nebraska. Involved in meeting with landowners and preparing an alternatives analysis for a Section 404 pre-application submittal. Served as project manager during final design assisting the Papio-Missouri River NRD in permitting, right-of-way and utility issues.
- City of Omaha Green Garden Project, Omaha, Nebraska. Provided engineering support for the creation of a “how-to” manual for the design, implementation, and maintenance of bioretention and rain gardens.
- Nebraska Game and Park Commission Cunningham Lake Pawnee Wetland Weir, Omaha, Nebraska. Provided inspection and project management for the construction of a labyrinth weir just upstream of Highway 36 as part of the overall improvements to Cunningham Lake.

Wetlands Delineation/Mitigation/Restoration/Permit

- Northeast Community College South Sioux City Campus Wetland and Channel Mitigation Design, South Sioux City, Nebraska. Assisted Olsson’s Environmental Team with the design of a realigned open channel and adjacent wetland mitigation excavated down near the invert of the channel bottom to also serve as flood storage in cooperation with efforts by the City of South Sioux City to reduce the local risk of flooding as a response to a revised FEMA floodway.
- Rumsey Station Wetland Mitigation Bank in Papillion, Nebraska. Managed the design, construction, and monitoring of the Papio-Missouri River NRD’s first wetland bank site, including keeping a ledger of credits and debits.*
- All-Hazard Mitigation Plan for the Papio-Missouri River Natural Resources District, Dakota, Burt, Thurston, Washington, Douglas, and Sarpy Counties in Nebraska. Coordinated funding and public involvement for the preparation of a Flood Mitigation and All-Hazard Plan by the U.S. Army Corps of Engineers Hazard Mitigation Branch and the Nebraska Dept. of Natural Resources.*

Presentations and Publications

- “Creating and Using Digital Flood Insurance Rate Maps.” Paul Woodward, PE, CFM and Paul Dierking, PE, HDR Engineering. Nebraska GIS Symposium; Omaha, Nebraska; April 4, 2007.
- “Do Public and Private Partnerships Really Work?” Paul Woodward, PE, CFM and Richard Niedergeses, P.E., HDR Engineering. Presented at the Association of State Dam Officials – West Regional Conference; Omaha, Nebraska; May 22, 2006.

Education

- ▶ Master of Business Administration; University of Nebraska-Lincoln, 2011
- ▶ Bachelor of Science, Biological Systems Engineering; University of Nebraska-Lincoln, 1998

Professional Registrations

- ▶ Professional Engineer: NE, # E-11022

Affiliations

- ▶ Association of State Dam Safety Officials (ASDSO)

Certifications and Specialized Training

- ▶ NRCS Technical Service Provider

Olsson Professional Experience

- ▶ 2014 To Present

Total Professional Experience

- ▶ 1998 To Present



Mike Placke, PE

Lead Designer

Experience Summary

Mike Placke is an accomplished, action-oriented, and results-focused professional with over 15 years of diverse experience. Mike is an MBA graduate with a specialization in finance. He has a strong background in project management and engineering. Mike recently joined the Water Resources team as a senior engineer.

**All projects were completed while under previous employment*

Key Projects

- Big Muddy Creek Watershed Plan; Nemaha NRD. Project manager. Development of a plan to reduce downcutting of the stream channel in the upper 55 square miles of the watershed
- Big Muddy Creek Watershed Grade Control Structures; Nemaha NRD. Project manager and design engineer. Installation of grade control structures to improve water quality and restore ecological diversity.
- Upper Prairie/Silver/Moores Creek Flood Control Project; Central Platte NRD. Project manager and lead design engineer. Design and construction of flood control structures providing protection to nearly 3,000 homes and business in Grand Island and Hall County Nebraska.
- Hedgefield Lake Rehabilitation; Nebraska Game and Parks. Project manager and lead design engineer. Rehabilitation of the lake, including excavation of sediment to regain original storage volume, installation of a boat dock, handicap parking area, fishing piers, bank stabilization and rock break-waters.
- Fish Passage Spalding Nebraska Cedar River; Nebraska Game and Parks. Project manager and lead design engineer. Design of a fish passage for channel cat fish at the Spalding dam.
- Low Water Crossing, Elm Creek Nebraska; Central Platte NRD and City of Elm Creek. Project manager and lead design engineer. Removal of existing water crossing and culverts and installation of new low water crossing and box culverts.
- The Links at Lincoln Dam. Design engineer. Design and construction of a significant hazard dam upstream of I-180 in Lincoln Nebraska.
- Battle Creek Flood Control Study and feasibility report; Lower Elkhorn NRD. Project manager. Complete a feasibility study evaluating flood control alternatives for the City of Battle Creek Nebraska.
- Battle Creek channel clearing; Village of Battle Creek, Nebraska. Project manager and lead design engineer. Channel Clearing project on a portion of the Battle Creek to increase conveyance of the channel.
- Schroder dams. Madison Nebraska; Bob Schroder. Project manager and lead design engineer. Design and construction of a farm pond for a private land owner.
- Terraces and sediment ponds upstream of Kirkman's Cove Lake Watershed; Nemaha NRD. Project engineer and design engineer. To reduce sediment and contaminants entering Kirkman's Cove, Sediment control structures were designed and constructed upstream of the reservoir.
- Numerous dams for the Nemaha NRD. Project manager and lead design engineer. (Ed Bruening Dam, Arlen Grotrian Dam, Klus Hartmann Dam, Ken Brinkman Dam, Brandt dam, Kirkman's Cove Upstream Dams)
- Czechland Lake Dock Replacement and Bank Stabilization; Lower Platte North NRD. Project manager and lead design engineer. Design of two fishing piers/boat docks to replace existing aging and deteriorating piers.

Mike Placke, PE

OLSSON ASSOCIATES

Experience, Continued

Also included the design of bank stabilization in areas where the bank was beginning to slough.

- Belleview Nebraska Bank Stabilization investigation; City of Belleview. Project manager and lead design engineer.
- Various small projects for the LPS NRD
Project Manager and Lead Design Engineer. Design and construction of various drainage projects for the LPS NRD.
- Breach analysis and inundation mapping; Lower Elkhorn NRD. Project manager and lead design engineer. Preparation of Emergency Action Plan (EAP) for Maskenthine and Willow Creek Dams.
- Groundwater mapping; Little Blue NRD. Project manager. Completed a hydrogeologic study to compile available hydrogeologic information and draft a report that included the methods of analysis and maps generated to identify areas comprised of similar aquifers, hydrostratigraphic units, and larger groundwater flow systems in the District.

Previous Consulting Experience

- Platte West Water Treatment Plant; Metropolitan Utilities District. Engineer. Designed the well field piping and well access roads for the MUD Platte West Water Treatment Plant. The well field is located in two counties and consists of 42 wells for a total of 104 MGD. The collection pipes range from 16 inch to 60 inch with several thousand feet of pipe in the well field.
- Eppley Airfield North Pump Station; Omaha Airport Authority. Engineer. Designed and overseen the construction of the North Pump Station. The new pump station provides storm water pumping for approximately 500 acres, for current and future runway extensions.
- Extension of Corporate Row Utilities; Omaha Airport Authority. Engineer. Project engineer for the design and construction of utility extensions for Epply Airfield's Corporate Row for the addition of Con-Agra's hangar. Construction included 870 LF 8-inch sanitary sewer, 1100 LF of 6 and 12-inch water main, 220 LF 15-inch storm sewer, fencing and paving.

Previous Experience with University of Nebraska

- Facilities Condition Assessment; University of Nebraska-Lincoln. Perform a Facilities Condition Assessment for the identification and prioritization of facility and infrastructure physical, functional, and budgetary needs. Coordinated the activities involved with developing and maintaining an inventory of capital assets for the University
- Wick Alumni Center Fire/Life Safety Upgrade; University of Nebraska-Lincoln. Project manager. To comply with state fire marshal orders, emergency upgrades to the fire and life safety systems in the Wick Alumni Center were completed.
- 1901 Y Street Re-roof and skylight replacement; University of Nebraska-Lincoln. Project manager. Replacement of the roofs and skylights on the 1901 Y Street building.
- Emergency Generator refueling priority study; University of Nebraska-Lincoln. The goal of the Emergency Response Procedure is to make UNL operations less susceptible to effects of future power interruptions by increasing emergency preparedness with the creation of an Emergency Action Plan (EAP) defining the refueling priority and process of the diesel powered generators on campus.

Education

- ▶ Bachelor of Science, Biological Systems Engineering; University of Nebraska-Lincoln, 2006

Professional Registrations

- ▶ Professional Engineer: NE, # E-14020

Affiliations

- ▶ American Society of Agricultural and Biological Engineers
- ▶ Association of State Floodplain Managers
- ▶ Nebraska Floodplain and Stormwater Managers Association
- ▶ Iowa Floodplain and Stormwater Management Association

Certifications and Specialized Training

- ▶ ASFPM Certified Floodplain Manager
- ▶ FEMA Benefit-Cost Analysis Trained

Olsson Professional Experience

- ▶ 2006 To Present

Total Professional Experience

- ▶ 2006 To Present



Carrie Romero, PE, CFM

Project Engineer

Experience Summary

Carrie has experience as a project engineer and project manager for projects that involve hydrologic and hydraulic analysis, floodplain mapping, levee design and levee certification, channel stabilization, bridge scour analysis, floodplain development permitting and no-rise certifications, lake restoration, stormwater pollution prevention planning, and hazard mitigation planning and grant applications. Carrie served as the project manager for the NDOR Bridge Scour Analysis Project and oversaw the submittal of all the bridge scour reports and Plans of Action associated with the project. While working with the water resources team, Carrie has become proficient in HEC-RAS, HEC-HMS, HydroCAD, SITES, AutoCAD, TR-55 and Rational Methods, and ArcGIS.

Flood Control/Reduction

- Antelope Creek Flood Reduction Study, Lincoln, NE. Project engineer for a study that developed and analyzed potential measures to reduce the Antelope Creek floodplain between 27th Street and 40th Street.
- Beal Slough Hazard Mitigation Grant Program Application, Lincoln, NE. Assisted in development of grant application for funding to protect the Nebraska State Penitentiary from 500-yr storm event. Tasks included utilizing FEMA's Benefit Cost Analysis Software.

Channel Stabilization

- Antelope Creek Bank Stabilization, Lincoln, Nebraska. Project engineer for stream bank stabilization design along portion of Antelope Creek experiencing extreme degradation due to upstream development.

Certifications

- Assisted with design and project management of a project to bring the Whitetail Lake Levee located south of Columbus, NE into compliance with FEMA requirements. Completed and submitted the Levee Maintenance and Operation Manual and the levee certification materials to FEMA for approval.

Hydrology/Hydraulics, Studies, Basin Master Plans

- Elkhorn River Cellular Tower, Elkhorn, NE. Certified a no-rise in Elkhorn River water surface elevations after placement of cellular tower in floodplain
- BNSF Railway and Union Pacific Railroad Bridge/Culvert Replacements. Completed hydrologic and hydraulic analysis on multiple bridges and culverts slated for replacement. Responsible for permit applications at local, state, and federal level in 15 states.
- NDOR Scour Analysis, Central and Western Nebraska. Project Manager overseeing the scour analysis of 300 plus county bridges. Tasks include survey, hydrologic and hydraulic analysis, and report preparation for each structure.

Lake/Stream Restoration

- Camp Cornhusker Lake Rehabilitation, Humboldt, NE. Project engineer for design of rehabilitation measures to increase depth, increase wildlife habitat, and decrease sedimentation at Camp Cornhusker Lake.

Hazard Mitigation Plans

- Coordinated and compiled the Multi-Hazard Mitigation Plan Update for the Papio-Missouri River Natural Resources District. Tasks included planning and executing multiple public meetings, compiling relevant background information on hazards, and coordinating with multiple communities, counties, and school districts in the six-county planning area. The plan was formally adopted by the P-MRNRD on July 14, 2011.

Carrie Romero, PE, CFM

OLSSON ASSOCIATES

Experience, Continued

- Assisted with drafting of several Hazard Mitigation Grant Program Applications and completed training in FEMA's new Benefit Cost Analysis computer program.

Stormwater Pollution Prevention Plans/NPDES

- SWPPP Design, Southeast Nebraska. Assisted with development of SWPPP plans, including drawings, permit applications, and BMP recommendations.

Stormwater/Drainage/Watershed Studies/Improvements

- Adams Ethanol Plant Outfall Channel, Adams, NE. Project engineer for design of stormwater outfall channel at ethanol plant site. Completed hydrologic and hydraulic analysis of site and prepared construction plans and specs for design.
- Urban Stormwater Design, Southeast Nebraska. Assisted with drainage analysis of several residential and commercial developments. Completed hydrologic and hydraulic analysis including detention basin sizing and outlet structure design.

Dam/Reservoir Studies and Design

- Turkey Creek Dam Site 15, Lower Big Blue Natural Resources District. Completed hydrologic analysis of site and utilized SITES program for preliminary design of dam and auxiliary spillway.

Floodplain Studies and Permitting

- Assisted with watershed hydrology analysis and modeling, HEC-RAS river modeling, and DFIRM production for Marshall and Washington Counties in Kansas.

Education

- ▶ Bachelor of Science, Horticulture – Landscape Design, University of Nebraska – Lincoln, 2006
- ▶ Master of Community and Regional Planning, University of Nebraska – Lincoln, 2009

Affiliations

- ▶ American Planning Association – Nebraska Chapter
- ▶ Nebraska Planning and Zoning Association – Metro District
- ▶ Association of State Floodplain Managers

Olsson Professional Experience

- ▶ 2013 To Present

Total Professional Experience

- ▶ 2007 To Present



Amy Vrtiska, CFM

Associate Planner

Experience Summary

Amy has experience as a planner, coordinator, and project manager for projects that involve hazard mitigation planning, comprehensive planning, strategic planning, blight and substandard determination studies, annexation studies, wellhead protection studies, watershed master planning, public meeting facilitation, and multi-agency coordination. She has been instrumental in managing and completing over 25 hazard mitigation plans and updates including public power districts, single community, single county, multi-county, emergency management districts, and natural resources districts multi-jurisdictional all-hazard mitigation plans. She has become proficient in ArcGIS, AutoCAD, Civil 3D as well as Photoshop and InDesign.

** Indicates projects completed under previous employment.*

Mitigation Plans and Updates

- Single Community HMPs
 - » *City of Alliance (Update)
 - » *City of Beatrice (Update)
 - » *City of Schuyler
 - » *City of Wahoo (Update)
- Single County HMPs
 - » *Cedar County, Iowa
 - » *Chase County
 - » *Dundy County
 - » *Hamilton County
 - » *Hayes County
 - » *Perkins County
 - » *Seward County
 - » *York County
- Multi-County HMPs
 - » *Antelope, Holt, and Knox Counties
 - » *Cedar and Dixon Counties
 - » *Franklin, Furnas, Harlan, and Red Willow Counties
 - » Hayes, Frontier, and Hitchcock Counties (Update)
 - » Regional HMPs
 - » *Region 23 Emergency Management
 - » *Region 24 Emergency Management
- Natural Resources Districts HMPs
 - » *Lower Elkhorn Natural Resources District
 - » *Lower Platte North Natural Resources District
 - » *Lower Platte South Natural Resources District
 - » *Nemaha Natural Resources District
 - » *North Platte Natural Resources District
 - » *South Platte Natural Resources District
 - » Tri-Basin Natural Resources District
 - » *Upper Loup Natural Resources District
- Public Power District HMPs
 - » *McCook Public Power District (Original and Update)

Amy Vrtiska, CFM

OLSSON ASSOCIATES

Experience, Continued

Comprehensive Plans/ Zoning Regulations

- *Lexington
- *Louisville
- *North Bend
- *Fullerton
- *Fillmore County
- *Gretna

Blight and Substandard Studies

- *Broken Bow (multiple)
- *Spaulding
- *Wahoo (multiple)
- *Gretna (multiple)
- *Louisville
- *Fairmont
- *Fullerton

Misc. Studies

- *Syracuse Annexation Study
- *Fullerton Power Plant Mitigation Study

Education

- ▶ Bachelor of Science, Electrical Engineering; University Nebraska-Lincoln, 1972

Professional Registrations

- ▶ Professional Engineer: CO, # PE-24507
- ▶ Professional Engineer: WY, # PE 10719
- ▶ Professional Engineer: MO, # E-28449
- ▶ Professional Engineer: KS, # 11735
- ▶ Professional Engineer: NE, # E-4517
- ▶ Professional Engineer: AZ, # 34948
- ▶ Professional Engineer: CA, # E-16420
- ▶ Professional Engineer: IA, # PE-15197
- ▶ Professional Engineer: MN, # 42476
- ▶ Professional Engineer: NV, # 16087
- ▶ Professional Engineer: OK, # PE 20381

Affiliations

- ▶ American Public Power Association
- ▶ Eta Kappa Nu Electrical Engineering Honorary
- ▶ Sigma Tau Engineering Honorary
- ▶ Phi Eta Sigma Scholastic Honorary
- ▶ Illuminating Engineers Society of North America; Past President of the Colorado Springs Chapter
- ▶ Kansas Municipal Utilities
- ▶ Kansas Power Pool
- ▶ League of Kansas Municipalities
- ▶ Nebraska Municipal Power Pool
- ▶ Iowa Association of Municipal Utilities

Olsson Professional Experience

- ▶ 1973 To Present

Total Professional Experience

- ▶ 1976 To Present



Ken Fairchild, PE

Senior Electrical/Mechanical Engineer

Experience Summary

Ken is a registered electrical and mechanical engineer. He is a team leader/senior designer at Olsson Associates. He has been at Olsson Associates for more than 30 years, with responsibilities that include client/team coordination, quality assurance, project management, contract administration, and follow-up upon completion.

Ken's relevant experience in specialty lighting includes exterior lighting system designs for urban and suburban recreation/discovery facilities with sports, roadway, parking, accent, signage, and pedestrian/bicycle components. Many of the designs include restrooms, concessions, bathhouses, and maintenance facilities. Glare, light trespass, and sky glow are given significant attention in Ken's designs, in addition to the quantity and quality of the lighted environment. Ken served as a member of the Mayor's committee that authored the City of Lincoln "Outdoor Recreation Lighting" and "Parking Lot" standards.

Roadway and Streetscape Lighting Design

- Cetec Engineering, Project Engineer for Lighting Design for Omaha Street from Mt. View Road to Divided Lanes East of Mt. View Road Reconstruction - Rapid City, South Dakota
- City of Fremont, Project Manager for Main Street Historic Lighting Design - Fremont, Nebraska
- City of Lincoln/UNL/LPSNRD, Senior Electrical Engineer for Antelope Valley Downtown Revitalization Including Military, "P"- "Q", and "O" Street Bridges - Lincoln, Nebraska
- City of Lincoln/UNL/LPSNRD, Senior Electrical Engineer for Antelope Valley Downtown Revitalization Including 19th Street from "K" to "Q" Streets Streetscape Roadway and Pedestrian Lighting - Lincoln, Nebraska
- NDOR, Senior Electrical Engineer for the I-80/South Locust Street Interchange - Grand Island, Nebraska
- City of Burwell, Senior Electrical Engineer for Burwell Downtown Square Improvements - Burwell, Nebraska
- City of Alliance, Senior Electrical Engineer for Box Butte Avenue Streetscape - Alliance, Nebraska
- City of Overland Park, Senior Electrical Engineer for Merriam Boulevard Roadway Lighting - Overland Park, Kansas
- City of Lincoln, Senior Electrical Engineer for Haymarket Pedestrian Connector - Lincoln, Nebraska.
- NDOR, Senior Electrical Engineer for Open-End Roadway Lighting Contract - Nebraska
- City of Wyoming, Senior Electrical Engineer for Norris Viaduct Replacement - Cheyenne Wyoming
- City of North Platte, Senior Electrical Engineer for Buffalo Bill Avenue and I-80 Overpass - North Platte, Nebraska
- City of Tempe, Senior Electrical Engineer for Cole and Rotary Parks Improvement - Tempe, Arizona.
- Garden of the Gods Club, Senior Electrical Engineer for Entrance and Guest Arrival Area Accent/Landscape Lighting - Colorado Springs, Colorado
- Tom Watson, Senior Electrical Engineer for The National Golf Course Subdivision Lighting - Parkville, Missouri
- City of Phoenix, Senior Electrical Engineer for Smith Park Renovation and Area Lighting, Tot Lot, and Basketball Court Lighting Upgrades - Phoenix, Arizona

Ken Fairchild, PE

OLSSON ASSOCIATES

Experience, Continued

- Nebraska Game and Parks Commission (NGPC), Senior Electrical Engineer for Branched Oak Lake Campgrounds Lighting and Electrical Distribution - Near Raymond, Nebraska
- NGPC, Senior Electrical Engineer for Pawnee Lake Campgrounds - Near Lincoln, Nebraska

Lighting Studies/Computer Modeling

- NDOR, Senior Electrical Engineer for Campus-Wide Lighting Study - Nebraska
- City of Olathe, Senior Electrical Engineer for Santa Fe Streetscape Improvement - Olathe, Kansas
- City of Tempe, Senior Electrical Engineer for Cole and Rotary Parks Improvement - Tempe, Arizona
- Garden of the Gods Club, Senior Electrical Engineer for Entrance and Guest Arrival Area Accent/Landscape Lighting - Colorado Springs, Colorado
- City of Flagstaff, Senior Electrical Engineer for Thorpe Park New Ballfield Lighting - Flagstaff, Arizona
- Lincoln Municipal Airport, Senior Electrical Engineer for Electrical/Lighting Upgrades - Lincoln, Nebraska

Sports Fields/Recreational Facilities Lighting

- City of Chandler, Project Engineer for Centennial Park Lighting Design - Chandler, Arizona
- MUSCO Sports Lighting, Project Manager for Light Level Testing - Oklahoma City, Oklahoma
- City of Chandler, Project Engineer for Veterans Oasis Park Lighting Design - Chandler, Arizona
- Plattsmouth High School, Project Engineer for Sports Complex Field Lighting Design - Plattsmouth, Nebraska
- City of Avondale, Senior Electrical Engineer for Avondale Youth Sports Complex 55-Acre Site - Avondale, Arizona
- City of Chandler, Senior Electrical Engineer for West Chandler Sports Complex - Chandler, Arizona
- City of Tempe, Senior Electrical Engineer for Phase II of the Tempe Sports Complex - Tempe, Arizona
- City of Peoria, Senior Electrical Engineer for Rio Vista Community Park 60-Acre Site - Peoria, Arizona
- Fort Carson, Senior Electrical Engineer for New Sports Lighting Systems for Multiple Athletic Fields - Fort Carson, Colorado
- City of Lincoln Parks & Recreation, Senior Electrical Engineer for New Softball/Baseball Complex at Densmore Park - Lincoln, Nebraska
- City of Lincoln Parks & Recreation, Senior Electrical Engineer for Holmes Lake Park Sports Lighting - Lincoln, Nebraska
- City of Lincoln Parks & Recreation, Senior Electrical Engineer for Northeast Community Park - Lincoln, Nebraska
- City of Mesa, Senior Electrical Engineer for Jefferson Park Complete Lighting Upgrade - Mesa, Arizona
- City of Lincoln Parks and Recreation, Senior Electrical Engineer for Mahoney Park Sports Lighting Upgrades - Lincoln, Nebraska
- City of Lincoln Parks and Recreation, Senior Electrical Engineer for University Place Park Sports Lighting Replacement - Lincoln, Nebraska
- City of Deshler, Senior Electrical Engineer for Softball Complex Relighting - Deshler, Nebraska
- City of Avondale, Senior Electrical Engineer for Festival Fields Sports Complex - Avondale, Arizona
- Town of Fountain Hills, Senior Electrical Engineer for Desert Vista Park Sports Field Lighting - Fountain Hills, Arizona
- City of Phoenix, Senior Electrical Engineer for Maryvale Minor League Ballfield Lighting - Phoenix, Arizona



Ken Fairchild, PE

OLSSON ASSOCIATES

Experience, Continued

Sustainable Lighting Design

- South Mountain Environmental Education Center, Senior Electrical Engineer for Interpretive Trails - Phoenix, Arizona
- South Mountain Environmental Education Center, Senior Electrical Engineer for Solar Powered Ramada Lighting - Phoenix, Arizona

Education

- ▶ Bachelor of Arts and Science, Political Science; University Nebraska-Lincoln, 2006

Certifications and Specialized Training

- ▶ CDBG Grant Administrator – Exp. July 2016
- ▶ Nebraska Grade IV Water Operator – NE DHHS - #3913
- ▶ Nebraska Grade II Waste Water Operator – NE DEQ - #2295
- ▶ Certified Erosion Control Inspector – NDOR - #0025

Olsson Professional Experience

- ▶ 2014 To Present

Total Professional Experience

- ▶ 2006 To Present



Emily Bausch

Economic Development

Experience Summary

Emily recently joined Olsson Associates as an economic development coordinator. She has extensive experience working with communities and counties on project development and funding opportunities. Emily has a background in grant writing and administration for federal and state grants including Community Development Block Grant (CDBG), Nebraska Affordable Housing Trust Fund (NAHTF), Energy Efficiency and Conservation Block Grant (EECBG); Civic and Culture Center Financing Fund (CCCFF), Land, Water Conservation Fund (LWCF), and Community Development Assistance Act (CDAA).

Certified Community Development Block Grant Administrator 2010-Present

- Grants awards:
 - » Ashland Community Development Block Grant (Housing) – \$234,000
 - » Plattsmouth Community Development Block Grant (Housing) – \$224,868
 - » Plattsmouth Downtown Revitalization Phase I – \$25,000
 - » Plattsmouth Comprehensive Investment & Stabilization Phase I – \$10,000
 - » Plattsmouth Comprehensive Investment & Stabilization Phase II – \$250,000
 - » Plattsmouth Civic & Community Center Financing Fund Planning Grant – \$15,000
 - » Crete Community Development Block Grant (Housing) – \$224,868
- Grant Administrator for federal project other than CDBG
 - » York Energy Efficiency Conservation Block Grant
 - » Seward Energy Efficiency Conservation Block Grant
 - » Polk Energy Efficiency Conservation Block Grant
 - » Energy Efficiency Conservation Block Grant
 - » Nebraska City Energy Efficiency Conservation Block Grant

EDUCATION

B.S., Biology, Benedictine College
 Graduate Courses, Water Resources, Kansas University

CERTIFICATIONS

Registered Engineer-in-Training, State of Nebraska

Mr. Lawlor is the manager of E & E's Kansas City office. He is a skilled project manager and program director with a successful record of successfully completing highly publicized projects that require extensive team and agency coordination to meet aggressive schedules and stringent budgets. His 25-year background—both as a consultant and working for and with state agencies—encompasses Hazard Mitigation projects; coordination and acquisition of project permitting; provision of water resource engineering, and water quality/floodplain management including development of regional and statewide mapping programs. Having successfully navigated the hazard mitigation planning approval process for numerous projects in the Midwest, Mr. Lawlor has built effective rapport and experience with the range of local, state, and federal agencies.

City of Seattle, Washington, Hazard Mitigation Plan Update. E & E is currently in the process of updating the City of Seattle, Washington's Hazard Mitigation Plan. Mr. Lawlor serves as the Quality Manager for the planning

effort and is responsible for ensuring that all documents are technically sound and meet E & E's rigorous quality standards.

Hazard Mitigation Plans Colombia and Chautauqua Counties, New York. As project manager for the development of hazard mitigation plans for each county, Mr. Lawlor provided project guidance, managed staff, and provided quality assessment/ quality control of all documents. In particular, he provided guidance regarding regional FEMA requirements and worked with local state FEMA representatives on project development. Mr. Lawlor ensured final deliverables met FEMA requirements, and included additional information on grant opportunities to assist the counties in procuring funding to implement mitigation measures.

Statewide Standard and Enhanced Hazard Mitigation Plan Update,

Missouri. This is the third Statewide Standard and Enhanced Plan updated Mr. Lawlor has managed for the State of Missouri State Emergency Management Agency. This was updated by updating the HAZUS-MH flood runs for 45 counties with DFIRM information and all counties for the HAZUS-MH earthquake run. The project team assisted the State Hazard Mitigation Officer in the review of county hazard mitigation plans and Hazard Mitigation Grant Program (HMGP) projects submitted to SEMA. Local-level assessments

and the State of Missouri Hazard Analysis also were integrated into the state plan. In addition, Mr. Lawlor's team updated the database of the Missouri Office of Administration that is used to estimate the vulnerability of state facilities and potential for loss to hazards including tornados, dam failure, fires, winter weather, earthquakes, and floods. His team also developed an application Internet map with interface to browse, query, and update the existing HMGP project database, which provides local emergency managers with the ability to update their planning based on damage assessments involving post-flood high water marks/frequency determination damages and loss avoided for each project/disaster. For the enhanced plan, Mr. Lawlor also led the creation of a Web-based flood visualization/awareness tool that integrates digital flood hazard data from HAZUS-MH and DFIRM in an online mapping environment that enables users to see the extent and depth of the 100-year flood in relation to other layers of digital information such as roads and aerial photographs. The results of the HAZUS-MH flood maps were put into a PDF format to help local counties integrate the information into their plans. FEMA Region VII approved the updated plan on its first submittal in July 2013.

The statewide Standard and Enhanced Hazard Mitigation Plan Update for Missouri was approved by FEMA Region VII in July 2013.