Qualifications Package for:

MMSD's Green Vender Pre-Qualification List

RFQ No. P-2634

Prepared For:
Milwaukee Metropolitan Sewerage District
260 West Seeboth Street
Milwaukee, Wisconsin 53204-1446

Prepared By:
GZA GeoEnvironmental, Inc.
Milwaukee, Wisconsin

And

Huff and Huff, Inc. (a subsidiary of GZA)
Oak Brook, Illinois

April 1, 2015
GZA File No. 20.P000143.16

GZA Located at:
The Global Water Center
247 West Freshwater Way
Milwaukee, WI 53204
Suite 542
T: 414-831-2539

(a subsidiary of GZA)

April 1, 2015
File No. 20.P000558.15

Milwaukee Metropolitan Sewerage District
260 West Seeboth Street
Milwaukee, Wisconsin 53204-1446

Attention: James P. Morgan

Subject: **District Green Infrastructure Vender Request for Qualifications (RFQ) for Green Infrastructure Funding Programs**
RFQ No. P-2634

Dear Mr. Morgan,

GZA GeoEnvironmental, Inc. (GZA) and its subsidiary Huff & Huff, Inc. (H&H) are pleased to submit this qualifiacation package, in response to the Milwaukee Metropolitan Sewerage District's (MMSD/"District") Request for Qualifications (RFQ) for the District's Green Vender Pre-Qualification List. We understand that the purpose of the list is to provide the District and its project managers with a list of firms pre-qualified as being capable of providing strong green infrastructure expertise with the intent of producing more successful and impactful green infrastructure projects to efficiently meet the District's 2035 Vision and Strategic Objectives.

We are excited about the opportunity to provide the District with our green infrastructure expertise and are confident that our design and engineering services will exceed the needs of the District and provide Milwaukee area green infrastructure projects with the skill and expertise necessary to provide for a more sustainable future. We are looking forward to providing the District and its projects with an enthusiastic and diverse team, strong communication approach and smart, prompt engineering expertise. Please feel free to contact James Drought at 414-831-2540 or via email at james.drought@gza.com with any questions.

Sincerely,

GZA GeoEnvironmental, Inc.

James F. Drought, P.H.
Vice President / Hydrogeologist

Justin A. Hegarty, LEED A.P.
Environmental Engineer

Attachment

Vender Qualifications and Experience

GZA GeoEnvironmental and its subsidiary, Huff & Huff, Inc. have provided green infrastructure (GI) concepts and designs for a variety of clients from municipal entities to industry and transportation agencies. Project descriptions in Attachment B describe the bioswale, filter strip, and rain garden experience. Infiltration as a component of GI has also been incorporated into designs.

Project Descriptions

Project descriptions in **Attachment B** include the following:

Bioswales	• Miles of I-294 concept design • Miles of I-90 concept design. M.P. 17.4 to M.P. 54.11 • Miles of I-90, filter strip, bioswale, infiltration at Fox River • I-90/47 Interchange – bioswale, infiltration
Rain Garden	• Village of Deerfield parking lot • Citgo Refinery Stormwater capture and treat
Bank Stabilization/Floating Islands	• Galesburg Sanitary District
Sustainability Plan	• East Side Highway

Customer Service Approach

One example of conflict that occurred during the design of green infrastructure for I-294 related to satisfying the demands of the adjacent property owner and environmental groups.

Expanding I-294 from 6 to 8 lanes in Cook County required acquisition of land from the Forest Preserve District of Cook County (FPDCC). The FPDCC was in the process of establishing stormwater runoff guidance, but had not finalized any guidelines. The forest preserve district was concerned about stormwater runoff quality onto its property and relinquishing property. H&H was tasked with working with FPDCC staff, environmental groups, and the Illinois Tollway to develop acceptable storm water treatment methods while limiting land requirements. Timing for reaching consensus was critical to project construction as the Cook County Board needed to approve the transfer or use of any FPDCC lands prior to any construction.

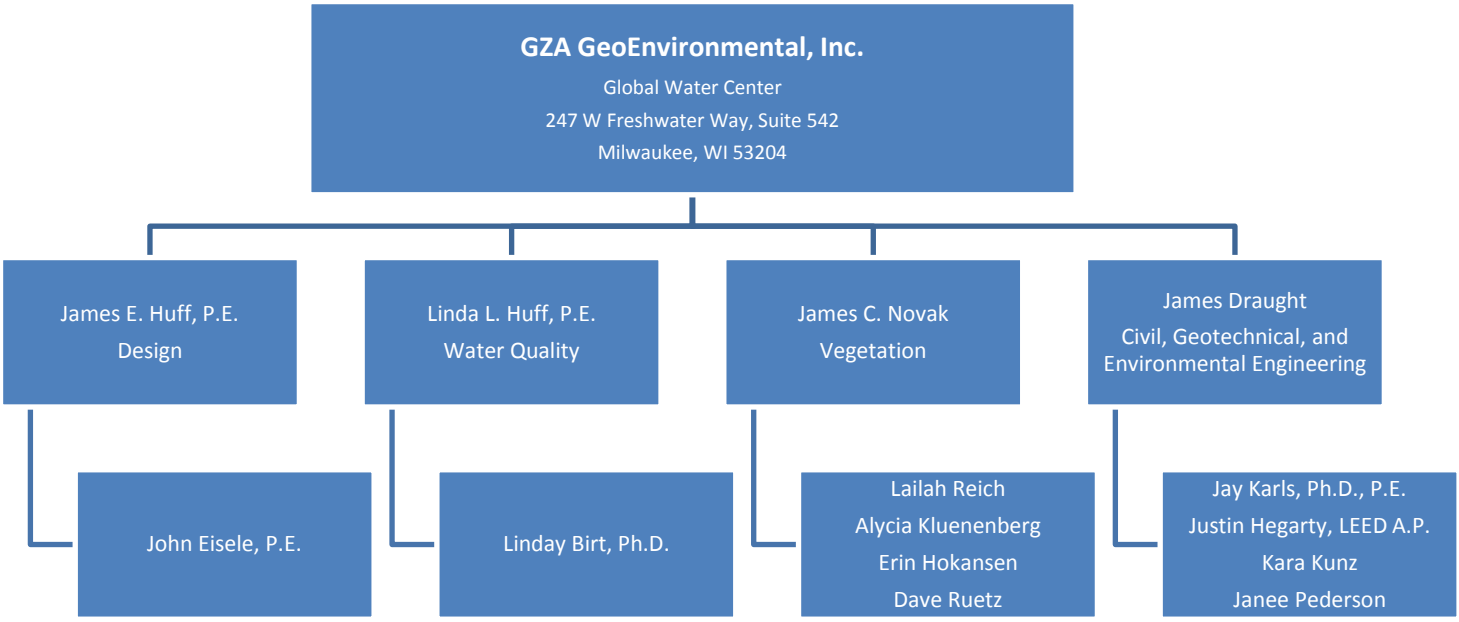
To reach consensus, a series of workshops with the stakeholders were conducted. H&H proposed several bioswale design concepts over a six mile segment that were adapted to varying site conditions including high water table near streams, recreational areas, and presence of a state-listed endangered snake (Massasauga). Additionally, the landscape design included limiting the percentage of invasive species. Monitoring of vegetative goals over time was included in working with the environmental groups and FPDCC. Transects of bioswales continue to be monitored and reported. H&H prepared a concept design manual outlining designs, vegetative goals, and maintenance schedules for the bioswales that was accepted by both the environmental groups and FPDCC.

Additionally, a groundwater and surface water monitoring program was established to confirm stormwater quality treatment. Resolution was achieved and the project was completed in 2009.

Project Management Team Qualifications

The GZA project team includes a combination of engineers and biologists with the necessary expertise to propose and design GI concepts. Additionally, because GZA staff truly appreciates the value of GI, several staff members have not only designed these techniques, but also have volunteered time to install and maintain several types of GI techniques.

Organization Chart



Individual key personnel resumes can be found in **Attachment C**.

Project References

Project references have been provided for the above mentioned projects in **Attachment A**.

Attachment A:
Qualifications Worksheet

GZA GeoEnvironmental, Inc.
247 W Freshwater Way, Suite 542
Milwaukee, WI 53204
T: 414-831-2540

REQUEST FOR QUALIFICATIONS
DISTRICT GREEN INFRASTRUCTURE FUNDING PROGRAMS
GREEN VENDOR PRE-QUALIFICATION LIST
RFQ No. P-2634

ATTACHMENT A

QUALIFICATIONS WORKSHEET

VENDOR INFORMATION

Vendor Name:
GZA GeoEnvironmental, Inc. and Huff & Huff, Inc., a Subsidiary of GZA

Address:
GZA, Global Water Center, 247 W. Freshwater Way, Suite 542, Milwaukee, WI 53204, and
H&H, 915 Harger Road, Suite 330, Oak Brook, IL 60523

Tax Identification #:
__-_____ GZA 36-3044842 H&H

Year Established:
1964 GZA 1979 H&H

VENDOR's CONTACT PERSON:

Name:
Jim Draught, GZA Linda L. Huff, P.E., H&H

Title:
Principal Principal

Telephone #:
262-754-2539, GZA 630-684-4401, H&H

Email:
James.Draught@gza.com Linda.Huff@gza.com

RESOURCE INFORMATION

Scale of Work *(check all that apply)*

☒ Commercial / Industrial

☐ Multifamily

☐ Residential

Specialties (check all that apply)

☒ Design

☒ Engineering

☐ Construction

☐ Downspouts and Gutters

☒ Landscaping

☐ Maintenance

☐ Plumbing

GI Type (check all that apply)

☐ Green Roofs

☐ Stormwater Trees

☒ Native Landscaping

☐ Porous Pavement

☒ Constructed Wetlands

☐ Other Click here to enter text.

☐ Cisterns

☒ Soil Amendments

☒ Rain Gardens

☒ Bioswales

SWMBE Certified?

☐ Yes

☒ No

TECHNICAL QUALIFICATIONS AND EXPERIENCE

Project Descriptions
Include one to three (1-3) project descriptions per type of GI that your Vendor has experience with. If your Vendor has experience in only one (1) type of green infrastructure please provide three (3) examples for that type of green infrastructure. Projects must have been completed within the last seven (7) years, or may be ongoing projects that are more than 50% complete.

Fill out this form for each project to demonstrate your Vendor's experience on specific green infrastructure installations.

Type of Green Infrastructure(s): Bioswales

Project Information:
Project Name: Bioswales to Improve Stormwater Quality – I-294 Reconstruction
Address/City/State/Zip: 6 miles from Dempster Avenue to Lake Cook Road, Cook County, Illinois

Project Owner Information:
Owner's Name: Illinois State Toll Highway Authority (Bryan Wagner)
Address/City/State/Zip: 2700 Ogden Avenue, Downers Grove, IL 60515
Phone: 630-241-6800
Email: bwagner@getipass.com

Project Construction Information:
Construction Management Vendor: H&H was the designer – not construction manager as part of roadway widening project
Project Manager Name: Bryan Wagner
Project Manager's Vendor history: ☒currently employed ☐no longer employed ☐otherClick here to enter text.
Email: bwagner@getipass.com
Contract information (if applicable): N/A
Final Contract Amount (contracted and amended if applicable): N/A as this was a piece of a large transportation project.

Construction Start date (contracted): 2008
Construction Start date (actual): 2008
Construction End date (contracted): 2009
Construction End date (actual): 2009

Was the project completed on-time? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed on-budget? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed to the owner's satisfaction? ☒Yes ☐No; Explanation: Click here to enter text.

Type of Green Infrastructure(s): Bioswales, Porous Pavement, Native Landscaping

Project Information:
Project Name: I-90/IL 47 Interchange Improvement
Address/City/State/Zip: Huntley, Illinois

Project Owner Information:
Owner's Name: Illinois State Toll Highway Authority (Bryan Wagner)
Address/City/State/Zip: 2700 Ogden Avenue, Downers Grove, IL 60515
Phone: 630-241-6800
Email: bwagner@getipass.com

Project Construction Information:
Construction Management Vendor: N/A
Project Manager Name: Bryan Wagner for Phase I – not construction
Project Manager's Vendor history: ☒currently employed ☐no longer employed ☐otherClick here to enter text.
Email: bwagner@getipass.com
Contract information (if applicable): N/A
Final Contract Amount (contracted and amended if applicable): $6,000,000 for interchange environmental features.

Construction Start date (contracted): 2012
Construction Start date (actual): 2012
Construction End date (contracted): 11/1/2013
Construction End date (actual): 11/1/2013

Was the project completed on-time? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed on-budget? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed to the owner's satisfaction? ☒Yes Explanation: ACEC Honor Award for sustainable features of geothermal, permeable pavement, infiltration bioswales, and forebay design. H&H continued to monitor water quality in 2014 after construction.

Type of Green Infrastructure(s): Rain Garden

Project Information:
Project Name: Village of Deerfield Sustainable Stormwater Concepts
Address/City/State/Zip: Deerfield, Illinois

Project Owner Information:
Owner's Name: Village of Deerfield (Barbara Little)
Address/City/State/Zip: 465 Elm Street, Deerfield, Illinois
Phone: 847-317-7245
Email: BLittle@deerfield.il.us

Project Construction Information:
Construction Management Vendor: Huf & Huff, Inc.
Project Manager Name: Jeremy J. Reynolds, P.G.
Project Manager's Vendor history: ☒currently employed ☐no longer employed ☐otherClick here to enter text.
Email: Jeremy.Reynolds@gza.com
Contract information (if applicable): 319 Grant with volunteer labor by Village and H&H of $10,777, SMC provided $10,777.
Final Contract Amount (contracted and amended if applicable): Click here to enter text.

Construction Start date (contracted): 2013
Construction Start date (actual): 2013
Construction End date (contracted): 4/1/2013
Construction End date (actual): 4/1/2013

Was the project completed on-time? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed on-budget? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed to the owner's satisfaction? ☒Yes ☐No; Explanation: Click here to enter text.

Type of Green Infrastructure(s): Rain Garden

Project Information:
Project Name: Rain Garden Design and Maintenance for Citgo Refinery
Address/City/State/Zip: Lemont, Illinois

Project Owner Information:
Owner's Name: Citgo Refinery (Larry Tyler)
Address/City/State/Zip: 135th Street, Lemont, IL 60439
Phone: 630-257-4327
Email: ltyler@citgo.com

Project Construction Information:
Construction Management Vendor: Refinery plus H&H staff
Project Manager Name: Lailah Reich constructed rain garden. H&H continues to work with refinery staff to maintain rain garden.
Project Manager's Vendor history: ☒currently employed ☐no longer employed ☐otherClick here to enter text.
Email: Lailah.Reich@gza.com
Contract information (if applicable): All services were donated by Citgo & H&H staff.
Final Contract Amount (contracted and amended if applicable): Click here to enter text.

Construction Start date (contracted): 2011/2012 - supplement
Construction Start date (actual): 2011/2012 - supplement
Construction End date (contracted): 2011/2012
Construction End date (actual): 2011/2012

Was the project completed on-time? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed on-budget? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed to the owner's satisfaction? ☒Yes ☐No; Explanation: Click here to enter text.

Type of Green Infrastructure(s): Streambank Stabilization and Floating Island

Project Information:
Project Name: Streambank Stablization for Galesburg Sanitary District
Address/City/State/Zip: Galesburg, Illinois

Project Owner Information:
Owner's Name: Galesburg Sanitary District (Steve Davis)
Address/City/State/Zip: 2700 W. Main Street, Galesburg, Illinois
Phone: 309-343-5819
Email: sed@gbgsd.org

Project Construction Information:
Construction Management Vendor: Galesburg Sanitary District & H&H
Project Manager Name: Jim Huff
Project Manager's Vendor history: ☒currently employed ☐no longer employed ☐otherClick here to enter text.
Email: James.Huff@gza.com
Contract information (if applicable): This was completed with a grant from the Soil and Water District.
Final Contract Amount (contracted and amended if applicable): Click here to enter text.

Construction Start date (contracted): April 2010
Construction Start date (actual): April 2010
Construction End date (contracted): April 2010
Construction End date (actual): April 2010

Was the project completed on-time? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed on-budget? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed to the owner's satisfaction? ☒Yes ☐No; Explanation:

Type of Green Infrastructure(s): Sustainability Master Plan

Project Information:
Project Name: East Side Highway Sustainability Master Plan
Address/City/State/Zip: Bloomington-Normal, Illinois

Project Owner Information:
Owner's Name: McLean County Department of Highways (Eric Schmidt)
Address/City/State/Zip: 102 South Towanda Barnes Road, Bloomington, Illinois
Phone: 309-663-9445
Email: Click here to enter text.

Project Construction Information:
Construction Management Vendor: N/A
Project Manager Name: N/A
Project Manager's Vendor history: ☒currently employed ☐no longer employed ☐otherClick here to enter text.
Email: Linda.Huff@gza.com
Contract information (if applicable): N/A
Final Contract Amount (contracted and amended if applicable): Plan was part of Environmental Assessment process and Plan for construction of BMPs.

Construction Start date (contracted): N/A
Construction Start date (actual): N/A
Construction End date (contracted): N/A
Construction End date (actual): N/A

Was the project completed on-time? ☐Yes ☐No; Explanation: N/A
Was the project completed on-budget? ☐Yes ☐No; Explanation: N/A
Was the project completed to the owner's satisfaction? ☐Yes ☐No; Explanation: N/A

Type of Green Infrastructure(s): Filter Strips, Infiltration Basins, Vortex Separator, Forebays, Detention Basins

Project Information:
Project Name: I-90 Fox River Bridge Crossing
Address/City/State/Zip: Elgin, Illinois

Project Owner Information:
Owner's Name: Illinois Tollway
Address/City/State/Zip: 2700 Ogden Avenue, Downers Grove, Illinois
Phone: 630-241-6800
Email: bwagner@getipass.com

Project Construction Information:
Construction Management Vendor: N/A
Project Manager Name: N/A
Project Manager's Vendor history: ☐currently employed ☐no longer employed ☐otherClick here to enter text.
Email: Linda.Huff@gza.com
Contract information (if applicable): N/A
Final Contract Amount (contracted and amended if applicable):

Construction Start date (contracted): 2014
Construction Start date (actual): 2014
Construction End date (contracted): 2014
Construction End date (actual): 2014

Was the project completed on-time? ☒Yes ☐No; Explanation: Click here to enter text.
Was the project completed on-budget? ☐Yes ☐No; Explanation: Not available
Was the project completed to the owner's satisfaction? ☒Yes ☐No; Explanation: Click here to enter text.

Experience

Project #1: I-294 Bioswales

Property Owner's: Illinois Tollway
Address/City/State/Zip: Cook County, Illinois
Type of green infrastructure installed (check all that apply):

☐Green roofs	☐Rain Barrels	☐Greenways
☐Constructed wetlands	☐Cisterns	☐Rain Gardens
☒Native Landscaping	☐Stormwater Trees	☒Other, Design/Engineering
☐Porous Pavement	☒Bioswales	

Project #2: I-90/IL 47 Interchange

Property Owner's: Illinois Tollway
Address/City/State/Zip: Huntley, Illinois
Type of green infrastructure installed (check all that apply):

☐Green roofs	☐Rain Barrels	☐Greenways
☐Constructed wetlands	☐Cisterns	☐Rain Gardens
☒Native Landscaping	☐Stormwater Trees	☒Other, Design / Eng. Oversight
☒Porous Pavement	☒Bioswales	

Project #3: I-90 Fox River Bridge Crossing BMP

Property Owner's: Illinois Tollway
Address/City/State/Zip: Elgin, Illinois
Type of green infrastructure installed (check all that apply):

☐Green roofs	☐Rain Barrels	☐Greenways
☐Constructed wetlands	☐Cisterns	☐Rain Gardens
☒Native Landscaping	☐Stormwater Trees	☒Other, Design, Filter Strips,
☐Porous Pavement	☒Bioswales	Infiltration Basins

Project #4: Rain Garden - Deerfield

Property Owner's: Village of Deerfield
Address/City/State/Zip: Deerfield, Illinois
Type of green infrastructure installed (check all that apply):

☐Green roofs	☐Rain Barrels	☐Greenways
☐Constructed wetlands	☐Cisterns	☒Rain Gardens
☐Native Landscaping	☐Stormwater Trees	☒Other, Design/Engineering
☐Porous Pavement	☐Bioswales	

Project #5: Rain Garden – Citgo Refinery

Property Owner's: Citgo Refinery
Address/City/State/Zip: Lemont, Illinois
Type of green infrastructure installed (check all that apply):

☐Green roofs	☐Rain Barrels	☐Greenways
☐Constructed wetlands	☐Cisterns	☒Rain Gardens
☐Native Landscaping	☐Stormwater Trees	☒Other, Design/Engineering
☐Porous Pavement	☐Bioswales	

Project #6: Floating Islands – Streambank Stabilization

Property Owner's: Galesburg Sanitary District
Address/City/State/Zip: Galesburg, Illinois
Type of green infrastructure installed (check all that apply):

☐Green roofs
☐Constructed wetlands
☐Native Landscaping
☐Porous Pavement
☐Rain Barrels
☐Cisterns
☐Stormwater Trees
☐Bioswales
☐Greenways
☐Rain Gardens
☒Other, Design/Engineering

Project #7: East Side Highway – Sustainability Plan

Property Owner's: Illinois Department of Transportation
Address/City/State/Zip: Bloomington-Normal, Illinois
Type of green infrastructure installed (check all that apply):

☐Green roofs
☐Constructed wetlands
☐Native Landscaping
☐Porous Pavement
☐Rain Barrels
☐Cisterns
☐Stormwater Trees
☐Bioswales
☐Greenways
☐Rain Gardens
☒Other, Design/Engineering

Attachment B:
Project Descriptions

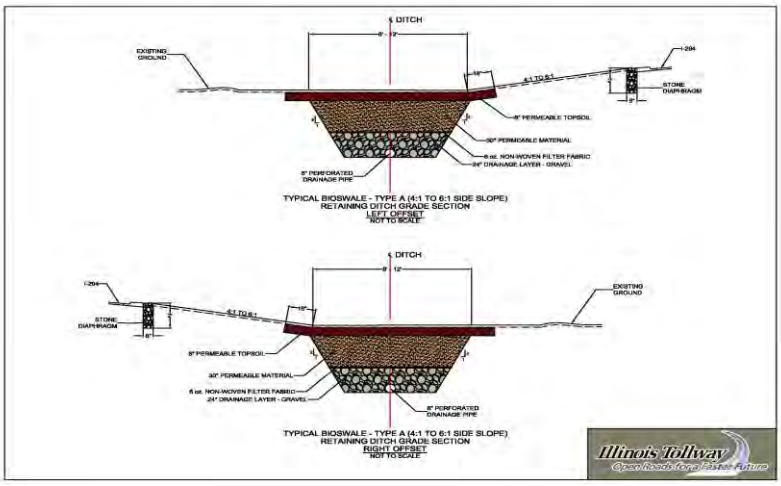
GZA GeoEnvironmental, Inc.
247 W Freshwater Way, Suite 542
Milwaukee, WI 53204
T: 414-831-2540

Huff & Huff Incorporated
A Subsidiary of GZA

PROJECT PROFILE

Bioswales to Improve Stormwater Quality
Interstate 294 Reconstruction
Illinois Tollway

Cook County, Illinois



Project Highlights

- Stormwater Management Plan and Design
- Bioswale Research
- Water Quality Investigations
- Development of Various Bioswale Designs

Client Contact

Mr. Rocco Zucchero
Deputy Chief of Engineering for Planning
Illinois State Toll Highway Authority
2700 Ogden Avenue
Downers Grove, IL 60515
(630) 241-6800, ext. 3909

In 2004, the Illinois Tollway initiated a system-wide improvement in the Chicago Metropolitan area, including Interstate 294. One section of Interstate 294 extended through Forest Preserve District of Cook County (FPDCC) land. In 2007, the Tollway tasked Huff & Huff (H&H) with development of a stormwater management system of bioswales that offset the use of 16 acres of FPDCC lands, improved water quality, established methods of evaluating effectiveness, and could receive approval of the FPDCC Board in less than three months. This system was developed with input from stakeholder groups: the FPDCC staff, federal and state resource agencies, environmental groups, and Tollway staff.

The bioswale design study is a first in terms of its magnitude (six miles), its consensus process, establishment of performance measures, methods for analyzing effectiveness, and a maintenance plan. Twenty-one individual plans for treating stormwater over the six miles of FPDCC frontage accounted for soil types, groundwater depth, vegetation, and habitat.

The project area also encompassed known habitat for the Massasauga Rattlesnake (*Sistrurus catenatus*), a federal species of concern, and a state endangered species. The US Fish & Wildlife Service and the Illinois Department of Natural Resources were important stakeholders in the project and the bioswale designs were developed to improve habitat conditions yet discourage the migration of snakes towards the highway.

This project was the 2008 Honor Award recipient from ACEC-Illinois.

Huff & Huff Incorporated
A Subsidiary of GZA

PROJECT PROFILE

Jane Addams Memorial Tollway (I-90) Rebuilding and Widening Project

Illinois State Toll Highway Authority 2012 – Present

Project Highlights

- Environmental Studies
- Wetlands
- Natural Resources
- Permitting
- Special Waste/CCDD
- Noise Analysis
- Water Quality

Client Contact

Mr. Bryan Wagner
Senior Environmental Planner
Illinois State Toll Highway Authority
2700 Ogden Avenue
Downers Grove, IL 60515
(630) 241-6800, ext. 3872

Huff & Huff (H&H) was a contributor to environmental and design services for the Jane Addams Memorial Tollway (I-90) Rebuilding and Widening Project by the Illinois State Toll Highway Authority (Illinois Tollway). H&H provided a range of environmental services to various prime consultants and the Illinois Tollway across the 37-mile western segment of I-90 (I-39 to the Elgin Toll Plaza) including environmental documentation, wetland delineations, natural resource surveys, permitting assistance, special waste/CCDD, traffic noise analysis, and water quality.

H&H also helped with design and placement of stormwater management best management practices (BMPs). A conceptual BMP plan was created to guide design and placement of various BMPs throughout the corridor. BMPs included l three different designs of bioswales, detention ponds, turf reinforcement mats (to prevent erosion), and detention ditches. In total, 221 BMPs were placed along the areas improved to manage stormwater. In addition, maintenance plans for the various BMPs were developed to ensure that they would be maintained properly and provide the expected level of performance.

Huff & Huff Incorporated
A Subsidiary of GZA

PROJECT PROFILE

I-90 Fox River Bridge Crossing, 2011-2014

Elgin, IL

Project Highlights

- Environmental Evaluation Document
- Stormwater BMPs
- Wetland Assessment
- Permitting
- Threatened & Endangered Species
- Natural Resource Surveys
- Stream Surveys
- Erosion Control Plan
- Special Waste

Client Contact

Bryan Wagner
Environmental Manager
Illinois Tollway
2700 Ogden Avenue
Downers Grove, IL 60515
(630) 241-6800, ext. 3872
bwagner@getipass.com

The I-90 Fox River was planned for improvements including pier and deck widening. The Fox River is an important aquatic resource and improving water quality was a goal of the project. Other sensitive natural areas were immediately adjacent to the project, including the Trout Park Fen Nature Preserve. The existing stormwater drainage from the I-90 bridge drained directly into the Fox River through an existing scupper system. This system was redesigned to collect runoff and discharge the flow to the west side of the bridge, where it would be managed by best management practices (BMPs). Huff & Huff oversaw the environmental aspects of the project including preparing environmental evaluation documentation, conducting stream surveys for sensitive mussel species, and assisting with BMP design and evaluation.

A number of BMPs were considered and evaluated for managing stormwater and protecting sensitive natural areas in the project area. Features considered including vortex restrictors to separate sediments at catch basins, use of filter strips and rip rap, stream restoration with check dams to slow flow and minimize erosion along tributaries, re-vegetating stream banks and creating additional habitat, forebays to control sediment, and the creation of vegetated infiltration basins. In addition, consultation was undertaken with the Trout Park Fen Nature Preserve about re-directing some of the water to the fen system, which the Nature Preserve approved of.

Huff & Huff Incorporated
A Subsidiary of GZA

PROJECT PROFILE

Interstate 90 at Illinois Route 47 Interchange Improvement -ISTHA 2008-2013

Huntley, Illinois

Project Highlights

- Environmental Studies
- Socio-Economic
- Wetlands
- Noise Analysis
- Water Quality
- Special Waste
- Natural Resources
- Permitting

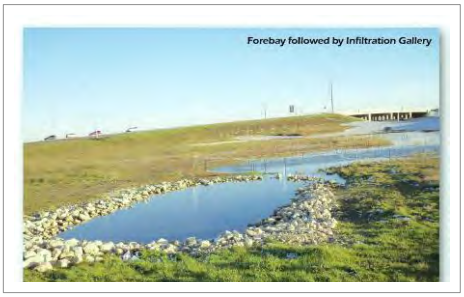
Client Contact

Mr. Bryan Wagner
Senior Environmental Planner
Illinois State Toll Highway Authority
2700 Ogden Avenue
Downers Grove, IL 60515

Huff & Huff, Inc. assisted the Illinois Tollway with the unique challenge of developing a "green" interchange so that a variety of sustainable concepts could be evaluated for incorporation into future designs. The Illinois Tollway has incorporated some sustainable practices in recent designs; however, certain technologies had not been implemented, as there was no assurance that those concepts would be feasible for small-scale or large-scale projects. In a sense, the Illinois Route 47 Interchange was a "prototype" project, allowing the environmental benefits, economic benefits, and longer-term costs to be evaluated for these sustainable concepts. The process of selecting sustainable concepts included screening a variety of design features, developing life cycle assessments and assessing their feasibility.

Infiltration Cells

Designing this interchange was an opportunity to apply a diverse array of sustainable concepts, and beyond that, the ongoing evaluation process gathered data on the benefits and challenges of maintaining such systems. Monitoring of energy usage and water quality in the storm water discharges provide data for performance evaluation and allow adaptive management of the sustainable practices. The practicability of green infrastructure, from concept to design to operation, is important so that designs can continue to be adapted and improved. Data from this site will be used to enhance future design elements of the Illinois Tollway's ongoing infrastructure improvement program.



Forebay & Pond

The sustainable features installed resulted in a savings of 34,000 pounds of carbon dioxide (greenhouse gases) per year at this interchange due to the use of geothermal energy for the control building (and other features, such as the use of LED lighting), and monitoring of storm events has shown a significant reduction in suspended solids and heavy metals concentrations and corresponding improvement to water quality. This project provides the Tollway both a qualitative and quantitative assessment that demonstrates the implemented concepts achieve the desired goal of creating a "green" and sustainable interchange that will be a useful model to the Tollway for future

Huff & Huff Incorporated
A Subsidiary of GZA

PROJECT PROFILE

Village of Deerfield
Sustainable Stormwater Concepts
Deerfield, Illinois – 2009 to 2011

Deerfield Rain Garden.

Project Highlights

- Rain Garden Design
- Assessment of Existing Conditions
- Prepared concept plan options and associated costs
- Provided oversight of implementation

Client Contact

Barbara K. Little, P.E.
Director of Public Works and Engineering
465 Elm Street
Phone: 847-317-7245

Huff & Huff, Inc. was contracted in 2009 to determine the feasibility, make recommendations, and assist in implementation for green infrastructure improvement for five sites within the Village of Deerfield.

The goal in these five areas was to reduce pollutant loading to the West Fork of the North Branch Chicago River, increase infiltration, provide aesthetically pleasing visual barriers for residences and pedestrians, and introduce and educate the community on green infrastructure and native vegetation. All five areas were adjacent to roadways, parking lots, and/or railroads, which can contain pollutants such as chloride and solids. The five areas consisted of small parking lot islands, medians, and long linear features encompassing several city blocks.

Individual green infrastructure concepts were prepared for each of the five sites based on the specific goals and existing conditions. The selected plants do not require the use of fertilizers and require minimal maintenance after they have become established. Reduction in mowing will cut down on fuel and labor costs as well as emissions from the use and transportation of the mowing equipment.

Specific tasks performed include:

- Gathered background on utilities, drainage patterns, soil conditions, and water volumes in area
- Assessed existing conditions
- Prepared concept plan options and associated costs
- Provided oversight of implementation

Huff & Huff Incorporated
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PROJECT PROFILE

Citgo Petroleum Company
Rain Garden Design and Maintenance
Lemont Refinery, Lemont, Illinois – 2011 to 2015

Newly mulched rain garden at the Citgo facilities. Preparing to install plants.

Project Highlights

- Rain Garden Design
- Rain Garden Installation
- Rain Garden Maintenance
- Development of Operations and Management Plan
- Development of Educational Materials

Client Contact

Patricia Moore
Citgo Petroleum Refinery
135th Street, Lemont, IL 60439
Phone: 630-257-4029
Fax: 630-257-4364
pmoore@citgo.com

Huff & Huff, Inc. (H&H) assisted Citgo with design and installation of rain gardens for stormwater management, which is consistent with the National Pollutant Discharge Elimination System (NPDES) Stormwater Permit requirements. Prior to rain garden design, a feasibility analysis was completed, which estimated the runoff volume from the proposed area to be drained to the rain gardens from a model storm event. The feasibility analysis also determined the rain garden size to handle select storm events.

Conceptual designs were presented to Citgo, which included the on-site layout of the rain gardens, cross sections, landscape concept design, and cost estimate. Final drawings of the preferred concept plan were presented to Citgo, suitable for construction, with a detailed planting schedule. H&H coordinated with the plant supplier and a provided a biologist to oversee installation.

The rain gardens were installed with the use of Citgo and Huff & Huff volunteers. The installed rain garden will result in reduced flooding, stormwater runoff treatment, and will provide an aesthetic appeal to employees of Citgo as well as the community.

H&H created an Operation and Management (O&M) plan for the rain garden. The O&M Plan is to ensure the long-term viability of the completed rain garden. Specifically, the O&M Plan clearly outlined all management activities required for the long-term care of the rain garden.

H&H also provided an education pamphlet and display panel in digital form as well as prepared quotes for signage to place adjacent to the rain garden for purposes of educating both the public as well as Citgo employees about the importance and function of rain gardens.

Volunteers planting the rain garden

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PROJECT PROFILE

Fiberbond Streambank Stabilization
Galesburg Sanitary District 2014

Installation of plants along the banks of Cedar Creek.

Project Highlights

- Erosion Control Design
- Streambank Stabilization

Client Contact

Steve Davis
Galesburg Sanitary District
2700 West Main Street
Galesburg, Illinois 61401
(309) 343-5819

Huff & Huff, Inc. (H&H) coordinated an erosion control project for the Galesburg Sanitary District (GSD). GSD had received a grant from the Soil and Water District to implement an erosion control measure along the banks of Cedar Creek. H&H investigated various methods, and it was decided to use Fiberbond to help support plantings to re-vegetate the banks.

The banks had lost vegetation due to flash flooding that raised stream flow up the banks, scouring vegetation from the sideslopes. A Fiberbond mat was incorporated at limited locations along this eroding channel. This called for the installation of the material, which provided a stable planting medium for newly installed vegetation. Plants were installed into the material, allowing for root growth into the native soil banks stabilizing the slopes.

In addition to stream bank plantings a floating island feature within the channel itself was created to provide an "island" for which plants could grow.

The implementation of the Fiberbond technology supported the plantings and the re-vegetation of the banks was a success, as pictured to the left.

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PROJECT PROFILE

East Side Highway Environmental Assessment and Sustainability Master Plan

Bloomington-Normal, IL

Project Highlights

- Public Involvement
- Sustainability Master Plan
- NEPA documentation
  - Agriculture
  - Air Quality
  - Cultural
  - Natural Resources, Socio-Economic
  - Special Waste
  - T&E
  - Traffic Noise
  - Water Quality
  - Wetlands

Client Contact

Illinois Department of Transportation

The East Side Highway (ESH) is a planned new alignment roadway east of Bloomington-Normal, Illinois. The project featured sustainable and multimodal elements, and used public involvement to collaboratively develop the project. In addition to the public development process, Huff & Huff was the Environmental Lead for the project, and completed the Environmental Assessment and environmental permitting for the project.

Best management practices (BMPs) design concepts for minimizing environmental impacts, enhancing natural resources, and improving stormwater quality were recommended by the Sustainability Focus Working Group. These included an array of concepts including:

•Filter strips prior to discharge in a stream filter runoff and slow velocity (to prevent erosion).
•Natural bottom culverts at stream crossings to allow for the free movement of wildlife and maintain habitat.
•Enhancing streambank vegetation where highly erodible soils occur to provide erosion control and provide additional filtration.
• Bioswales/Vegetative swales to convey runoff and increase infiltration, filter out sediment, and prevent erosion.
•Two stage ditches to control peak runoff volumes, prevent erosion, and improve water quality.
•Rock cross vane (structures of rocks) used to reduce velocity, shear-stress, and stream power, which also improves stream habitat.

The inclusion of these BMPs as part of the project helped to protect and restore water quality in the project area. An Aesthetics and Sustainability Master Plan for the ESH was developed in cooperation with the sustainability working group. The master plan provided sustainability goals for the ESH planning and design, as well as for the immediate community. The sustainability working group proved to be a valuable asset to the ESH development process, and successfully incorporated the local sustainable vision into the transportation decision-making process. This plan was a first for IDOT in communicating sustainable roadway features in the NEPA process

Attachment C:
Resumes

GZA GeoEnvironmental, Inc.
247 W Freshwater Way, Suite 542
Milwaukee, WI 53204
T: 414-831-2540

James F. Drought, P.H.
Vice President

RESUME

Education

B.S., 1982, Physical Geography and Biology, Carroll College

M.S., 1999, Contaminant Hydrogeology and Geosciences, University of Wisconsin-Milwaukee

Professional Registration

Professional Hydrologist (No. 45-111)

PECFA Consultant (No. 41557)

Areas of Specialization

Brownfield Remediation, Redevelopment and Financing

State and Federal Regulatory Compliance

Fixed-Price, Liability Transfer, Environmental Trusts and Insured Remediation Services

Litigation Support and Expert Testimony

Real Property Due Diligence

Professional Activities

Associate Faculty Member, Civil Engineering Department, Milwaukee School of Engineering (2006-present)

Summary of Experience

As Vice President and Principal Hydrogeologist at GZA GeoEnvironmental, Inc. (GZA), Mr. Drought is responsible for the development, management, and execution of the following services for the retail, local and state government, real estate and development, and legal sectors throughout the United States:

- Soil and Groundwater Investigation and Remediation;
- Brownfield Redevelopment and Financing;
- Fixed-price Contracting, Liability Transfer and 468B Environmental Trust; and
- Litigation Support and Expert Testimony.

Prior to joining GZA, Mr. Drought served as Vice President and Director of Remediation for Shaw Environmental, Inc., a CBI Company, from September 2004 to October 2014. Mr. Drought served as a Vice President and Principal Hydrogeologist for ARCADIS, a global engineering firm, from January 1995 to September 2004. Mr. Drought also served as the Assistant Environmental Department Manager at a national environmental and geotechnical consulting firm from 1989 through 1994. Mr. Drought served as an Assistant Environmental Planner at the Bay-Lake Regional Planning Commission (BLRPC) and the Southeastern Wisconsin Regional Planning Commission (SEWRPC) from 1985 through 1988, and served regulatory agency liaison between federal, state, county, and local units and agencies of government.

Relevant Project Experience as Contract Manager

Former Metal Technology (Briggs and Stratton) Foundry - West Allis, Wisconsin. This work included investigation, remediation and light-manufacturing redevelopment. The site was also featured in the December 2013 issue of WDNR's *RR Report*.

35-Acre Tower Automotive West Plant Project (former A.O. Smith Facility) - City of Milwaukee, Wisconsin. Investigation, remedial design, fixed-price remediation, and redevelopment of the 80-year-old manufacturing facility. The expedited remediation and closure facilitated the $100MM construction of the Harley Davidson museum at the location of the former City of Milwaukee DPW facility.

Former Pabst Brewery Complex - Milwaukee, Wisconsin. Investigation, remedial evaluation and redevelopment of the property. The 150-year-old, 1,400,000 square-foot Pabst Brewer Complex, vacant since 1997, was selected for commercial and residential redevelopment in 2002. The project focus was to assess and inventory the environmental impairment, develop restoration plans and cost projections, and coordinate the restoration with the redevelopment activities.

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RESUME

Linda L. Huff, P.E.

Principal

Summary of Experience

Ms. Huff's environmental experience extends over 36 years and covers many aspects of environmental analysis (industrial waste, remediation, risk assessment, and water quality). She is a pre-qualified EA and EIS lead for transportation projects.

Relevant Project Experience

Ms. Huff has managed transportation-related projects and is prequalified as an EIS (Environmental Impact Statement) lead for H&H. This includes responsibility for overseeing specific technical reports relating to wetlands, noise, water quality, and natural resources issues as well as preparing inputs to the DEIS/FEIS documents. Ms. Huff has been the project manager for the Statewide Noise Contract (2003-2004) with IDOT as well as ongoing projects. She has also prepared environmental inputs to EIS and EA documents as well as technical memoranda. Ms. Huff was the Huff & Huff lead for Prairie Parkway FEIS portions of water quality, agriculture, biological resources, wetlands, and special waste including the Water Quality Technical Memoranda (2005 to 2008). Ms. Huff also directed the water quality, wetland, special waste, and 4(f) elements of the Red Gate Road Bridge project in St. Charles. Ms. Huff is currently managing the water quality, wetland, natural resource, noise, community impacts, special waste, and cultural resources for US 51, a 70-mile EIS in D7. Specific examples include the following:

- Water quality assessment Arsenal Road (2010)
- Anti-degradation analysis I-294 @ I-57
- Anti-degradation analysis I-90
- Water quality section of Eldamain Road EA (2008)
- "Environmental Evaluation Document, I-88, M.P. 114.4 to 117.8" (2008)
- "Water Quality Tech Report- Prairie Parkway" (2007)
- "Agricultural Technical Report – Prairie Parkway" (2007)
- ECAD documents -Illinois Route 47, Huntley (2007)
- "Biological Resources Memorandum; Streams, Lakes, and Waterways Memorandum; and Wetland Resources Technical Memorandum for the Widening and Reconstruction of Interstate 88" (2005-2006)
- "Water Quality Technical Memorandum for the Widening and Reconstruction of I-294" (2003)

Public Involvement Process:

The environmental documents prepared are typically part of the NEPA process. Ms. Huff has completed specific training offered by IDOT and National Highway Institute to be current in effective methods of public coordination. Ms. Huff participated in the public hearing (open meeting format) for FAP 340, Prairie Parkway, IL Rte 47, East Side Highway (CSS project), and Red Gate Road. Ms. Huff has been involved with CSS training development as part of the ACEC-IDOT committee and completed the

Education

B.S., 1970, Chemical Engineering, Purdue University, West Lafayette, Indiana
M.B.A., 1975, Economics & Econometrics, University of Chicago, Chicago, Illinois

Registrations & Certificates

Professional Engineer
Illinois, #062-040749
Kansas, #18200
Indiana, #PE60020826
Nebraska, #E-11574

Affiliations

- ACEC-IDOT Sustainability Subcommittee
- ACEC-Illinois past President, National Director
- American Water Resources Association
- Illinois Society of Professional Engineers-Salt Creek Chapter / Post officer, Past-President

Areas of Specialization

- EA/EIS Lead
- Community Impacts
- Water Quality
- Public Involvement, Sustainability for Roadways
- Risk Assessment
- RIIFS

Linda L. Huff, P.E.

Principal

Facilitator Training course in 2007 that is being utilized in CSS projects. Ms. Huff is currently involved with the US 51 CSS project in District 7 and East Side Highway in District 5. In addition, Ms. Huff participated on the Technical Advisory Committee for the Fox River Bridges-Stearns Road project in 1999 to 2001. Ms. Huff also presented a water quality analysis to the Lake Michigan Federation and South Lake Shore Drive Advisory Group for South Lake Shore Drive (2001). She has also participated in public meetings for Harrison Avenue in Rockford and Illinois Route 47 meetings (2004).

Sustainable Practices:

Ms. Huff was a member of the IDOT –ACEC committee to develop sustainable practices for roadways and currently chairs that committee. Additionally, Ms. Huff directed the evaluation and preparation of sustainable practices for design and construction of Runway 9C at O'Hare Airport utilizing the "Sustainable Airport Manual" criteria. She has been involved with developing sustainable storm water practices for the Illinois Tollway, including bioswales, infiltration trenches, and porous pavement.

Community Impacts Socio-economics:

Ms. Huff has prepared numerous technical reports addressing economic impacts of environmental regulations in Illinois. Sixteen reports were prepared addressing cost/benefit analysis as well as local and regional impacts of pollution control expenditures, industrial losses, and indirect economic impacts. All of these studies were presented to the Illinois Pollution Control Board for hearing and rule making. Other economic analyses pertained to socio-economic issues raised during the simple EA analysis of the Lake Shore Drive Relocation (1994). Project work included analysis of socio-economic impacts associated with improvements to U.S. Route 34 between Gulfport Road and Monmouth Road for the EIS, 2000 and revised in 2001. This includes agricultural impacts for U.S. Rte 34 (2001) and the Prairie Parkway (2007). Ms. Huff has completed the "Community Impacts" course to provide additional experience in socio-economic analysis.

Remediation/Risk Assessment:

Project experience relates to development of remedial investigation studies for a variety of hazardous waste sources and soil contamination associated with historical site activity. Mrs. Huff completed an RI/FS for a manufacturing facility in Ohio that included investigation of PCE contamination in a sand aquifer 120 feet in depth and extending over several properties. This project extended from 1989 through 1997. Additionally, Mrs. Huff has completed investigation and a Corrective Action Study for a site in Kansas with potable ground water impacts due to herbicide/pesticide contamination. Remedial options included granular activated carbon with pump and treat systems based upon groundwater modeling results.

Risk assessments following U.S. EPA Soil Screening protocol and ASTM's RBCA protocol have been completed for numerous industrial sites. Establishment of clean up criteria have resulted in site closures and site transactions in the Illinois Site Remediation Program and underground storage tank (UST) program.

Water Quality Assessment:

- Impacts of I-355 Extension South on receiving streams (Long Run, Fraction, Spring Creek, Des Plaines River)
- Ammonia Discharges to Chicago Sanitary & Ship Canal
- Assessment of wastewater treatment plant discharge on Hart Ditch
- Stormwater impacts and permitting of discharges on Lake Decatur, IL
- Water quality impacts and permitting issues for industrial discharger and municipality on the Mississippi River
- Water quality impacts of highways (Willow Road, I80/94, and five Fox River bridge crossings)
- Storm water impacts on Lake Michigan from Lake Shore Drive
- Water quality impacts on 11 watersheds in Lake County from I-355 North proposed alternatives
- Water quality impact analysis for Neches River, Beaumont, Texas

→ Prepared risk assessment relating to 2,4-D and 2,4,5 TP

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RESUME

James E. Huff, P.E.

Principal

Summary of Experience

Since 1980, Mr. Huff has been an officer of Huff & Huff, Inc., responsible for projects pertaining to sustainable wastewater treatment planning and design, water quality studies including watershed plans and stream surveys, wet weather studies, and antidegradation assessments. A significant part of Mr. Huff's practice area has been assisting both municipal and industrial clients with the permitting process, from preparing the NPDES applications to conducting stream and lake surveys and antidegradation assessments, to negotiating with the regulatory agencies and the stakeholders. Mr. Huff is a trained facilitator and has used this skill with the public involvement part of the process.

Relevant Project Experience

In the area of water quality, Mr. Huff is active in the DuPage River/Salt Creek Workgroup and the Hickory Creek Watershed Planning Group. For the DuPage River/Salt Creek Workgroup, Mr. Huff worked on the low dissolved oxygen problems including measuring sediment oxygen demand for the QUAL2k model to evaluating alternative in-stream aeration technologies, which included canoeing the study area of Salt Creek and a number of field visits along the East Branch. He was responsible for the final report on the watershed plans for both the East Branch of the DuPage River and Salt Creek and was responsible for reviewing the QAUL2k modeling work. This work lead to the first project by the Workgroup to improve dissolved oxygen, with the design of the Churchill Woods Dam removal, which Mr. Huff was part of the team. This work resulted in an *Honor* Award for Engineering Excellence from ACEC-IL and was featured in Watershed Science Bulletin.

Mr. Huff was the lead reviewer for NIPC/CMAP on water quality impacts of proposed expansions/new discharges in northeastern Illinois from 2004 to 2008. On behalf of the Village of New Lenox, Mr. Huff assisted in the formation of the Hickory Creek Watershed Planning Group, and this work continues assisting with development of a watershed led TMDL study. This group recently applied for its first 319 grants to address some severe stream bank erosion issues.

Mr. Huff has also conducted several CSO studies including Long-term Control Plans, Nine Minimum Controls, O&M Plans, and Water Quality Impact Studies. On the Fox River, Mr. Huff was project manager for a group of municipal dischargers on a project to collect and analyze weekly water quality samples along the river, its tributaries, and outfalls at over 30 locations to establish a better database on un-ionized ammonia levels. Mr. Huff has directed fish, mussel, and benthic surveys for industrial, storm water, and municipal wastewater discharges located on the following waterways: Cedar Creek, Deep Run, Flint Creek, Thorn Creek, North Kent Creek, Tyler Creek, Kishwaukee River, Hickory Creek, Jackson Branch of Jackson Creek, the Chicago Sanitary & Ship Canal, and Casey Fork Creek, and has completed antidegradation studies as part of many of these studies. Thermal studies, mixing zone studies, and diffuser designs have been completed for a variety of clients on both large rivers

Education

B.S., 1970, Chemical Engineering, Purdue University, West Lafayette, Indiana
M.S.E., 1971, Environmental Engineering, Purdue University, West Lafayette, Indiana
Graduate School of Business, 1976, University of Chicago

Registrations & Certificates

Professional Engineer
1975, Illinois, #062-032933
Class 2 and Class K Sewage Treatment Works Operator, Illinois

Affiliations

- ACEC-Illinois (past Environmental Committee Member and Past Chairman)
- ACEC-Illinois (past Board of Directors, Vice President, and Secretary/Treasurer)
- Water Environment Federation Member
- Illinois Water Environment Association
- National Water Well Association

Areas of Specialization

- Soil and Groundwater Remedial Design
- Hazardous Waste Management
- Wastewater Treatment Planning and Design
- Stream Surveys/Antidegradation Analysis

James E. Huff, P.E.

Vice President

Mississippi River, the Ohio River and the Des Plaines River and small waterways, using Cormix and other USEPA models.

Mr. Huff is a leader in sustainable wastewater issues, with an emphasis on decentralized wastewater treatment approaches or cluster wastewater treatment systems with subsurface discharge for seven residential developers/country clubs, and a temple. Sustainable stormwater practices are also a significant work area. Mr. Huff was part of the design team for evaluating three alternative porous pavements for the MWRDGC in 2009, which included the ability to measure water quality from runoff and infiltration, as well as flow rates from the three porous pavements plus a control. Rain gardens have been installed at two facilities and for the Tollway, Mr. Huff assisted with the sustainable stormwater practices for the I-90 exit at Route 47, which was awarded an Honor Award for Engineering Excellence from ACEC-IL on February 6, 2015. Recently, Mr. Huff completed a Facilities Plan Report for a wastewater expansion that included the PACT process to address concerns over endocrine disrupter chemicals, a wetted prairie, a bioswale, and solar, wind, and a novel geo-thermal element associated with wastewater expansions to reduce the carbon footprint. In 2010, a floating island was installed on Cedar Creek and a novel matting material for stream bank stabilization installed to evaluate both from a water quality perspective under a Soil & Water Conservation Grant award. Wastewater expansions on two streams with endangered mussels have been successfully permitted by Mr. Huff, requiring extraordinary efforts to assure the preservation of the protected species. Two novel in-stream aeration systems, using high-purity oxygen on Cedar Creek were designed by the firm, and have operated successfully for over 30 years, as an alternative to advanced wastewater treatment, based on a stream model developed for Cedar Creek in Galesburg.

Mr. Huff served on the Illinois Nutrient Technical Advisory Committee, representing the American Council of Engineering Companies – Illinois (ACEC-IL) since 2001. From 1987 through 1990, Mr. Huff was a part-time faculty member, teaching the senior level environmental courses in the Civil Engineering Department at IIT-West in Wheaton, Illinois. From 1976 to 1980, Mr. Huff was Manager of Environmental Affairs for the Armak Company (now Akzo Nobel Chemicals), a diversified industrial chemical manufacturer. At Armak, Mr. Huff was responsible for all environmental activities at eight plants located throughout the U.S. Technical work included NPDES permitting, extensive treatability studies as well as designing new facilities. Previously, Mr. Huff was an Associate Environmental Engineer in the Chemical Engineering Section at IIT Research Institute (IITRI), where he worked on modeling of discharges from the Gary Steel Mills into Lake Michigan. At Mobil Oil's Joliet Refinery Mr. Huff was employed as an Advanced Environmental Engineer during the construction and start-up of the refinery, responsible for wastewater permitting, training, start-up, and technical support as well as for water supply, solid waste, and noise abatement issues at the refinery from 1971 to 1973.

Mr. Huff has directed 15 municipal wastewater treatment design projects. In addition, he has designed a number of pumping systems, including the lift stations, controls, and force main designs. Examples of municipal design projects are listed below:

- Belt filter press system for aerobic digested sludge, with sludge mixer and control system
- Expansion that includes biological P removal and powdered activated carbon into the aeration basin, with a wetted prairie and bioswale for further polishing
- Currently running a full-scale test on biological P removal that required $50,000 modifications to the existing plant for mixer and barrier wall
- Modification to influent wet well four pump system, with VFDs and PLC control system
- Grit, washer replacement
- Tertiary filter rehabilitation
- Secondary/Tertiary high flow bypass with chlorine contact tank and flow measurement and blending
- Anaerobic digester supernatant treatment for ammonia removal using SBRs (1999 ACEC-IL Engineering Excellence Merit Award project)
- Conversion from chlorine to sodium hypochlorite disinfection
- Conversion of wet weather storage facilities to store-treat basins, with effluent disinfection
- In-stream high purity oxygen injection into effluent and receiving stream for increasing stream D.O
- 1 million gallon excess flow storage/treatment concrete tank for new CSO with disinfection

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RESUME

James C. Novak

Senior Consultant/ Scientist

Summary of Experience

Mr. Novak has over 23 years of environmental analysis experience associated with a variety of transportation projects, including EISs, EAs, ECADs, and CE projects. These projects varied in complexity from minor roadway improvements, to lane addition or new road and highway construction. Also, Mr. Novak has over 25 years experience with wetlands and permitting, and over 23 years experience with noise analysis and noise quality projects. He is pre-qualified as an Environmental Lead for Environmental Assessments with IDOT. Also, Mr. Novak is pre-qualified in Ecology, Noise, Public Involvement and Technical Writing with IDOT. He has also achieved certification as a Certified Wetland Specialist in three (3) local counties as well as a Designated Erosion Control Inspector.

Education

B.A., 1981, Geography and Environmental Studies, Northeastern Illinois University
Post Graduate Studies, 1985, Earth Science and Environmental Studies, Northeastern Illinois University

Registrations & Certificates

- Certified Wetland Specialist – 50 DECI
- Kane County QWRS - Qualified Wetland Review Specialist November, 2004 to present
- McHenry County Certified Wetland Specialist- 2008 to present
- Illinois Licensed Pesticide Applicator – 2005 to present
- Wetland Delineation Training, Wetland Training Institute, Inc., 40 hours (1991)
- Designated Erosion Control Inspector – 2012 to present

Areas of Specialization

- Section 106 Reports, Section 4(f)
- Wetland Delineation / Mitigation / Permitting
- Constructed Wetland and Habitat Restoration
- Threatened and Endangered Species Studies
- NEPA Documentation/EIS, EA, ECAD

Relevant Project Experience

Wetland Permitting/Natural Resource Experience:

- In-House Lead for Wetlands and Natural Resource studies conducted for the Tier 1 Illiana Expressway Draft and Final Environmental Impact Statement (EIS). Coordinated the development of EIS text for both Illinois and Indiana to combine into pertinent sections of the EIS. Tier 1 Final EIS and Record of Decision (ROD) approved in 2013. Participated in meetings with resource agencies and NEPA 404 Merger meetings. Tracked project schedules and budgets through the Tier 1 process.
- In-House Lead for Wetlands and Natural Resource studies conducted for the Tier 2 Illiana Expressway Draft and Final EIS. Coordinated the development of EIS text for both Illinois and Indiana. Provided QA/QC of technical memoranda for avian resources, riparian corridors, and wildlife corridors. Co-authored Biological Assessment for federally endangered species, submitted to USFWS in February 2014. Also assisted in the development of Indirect and Cumulative Impacts section, Permitting, and Section 4(f) for the Tier 2 Draft EIS. Continued coordination with resource agency and NEPA 404 Merger meetings. Tracked project schedules and budgets through the Tier 2 process. ROD completed in December 2014.
- Project manager for District 1, Illinois Department of Transportation Various Environmental Services Blanket contract. Coordinates and schedules staff for various work orders for wetland delineations for proposed transportation improvement projects. Have assisted junior staff in complex delineations for this contract. Provides QA/QC of all reports and results and coordinates with the Department on schedules, budgets, and project priorities.
- Oversaw the development of the wetlands and natural resource sections of the DEIS and FEIS for the 70 mile proposed improvements of US Route 51 from Centralia to Pana in District 7. Conducted map reviews of wetlands to assist in alternatives development prior to the receipt of the INHS wetland delineations and Biological Resource Review. The use of this review was to provide information for the numerous alternatives for the community bypass locations.

James C. Novak

Senior Environmental Scientist

Conducted field reconnaissance of wetland locations.

- Was responsible for technical review of the Elgin O'Hare DEIS and FEIS. Provided review of the entire DEIS in the first rounds of reviews and then focused on natural resource and wetland sections of the later drafts and FEIS. Involved in mitigation coordination for wetlands due to FAA restrictions on locations of creating natural areas near runway fly patterns.
- Project manager for Environmental Inspections for the construction of Stearns Road in Kane County. This includes contractor awareness training for sensitive natural resources in the project corridor including the South Elgin Fen, McLean Blvd. Fen, James Pate Philip State Park, DeSantos Brewster Creek INAI site, and endangered species within the corridor including fishes, mussels, and various plant species. Participated in the mussel surveys and relocation for sections of Brewster Creek and its tributaries. (2007 to present).
- Project manager for MWRDGC assessment of Upper Salt Creek Watershed. Trained staff to perform wetland and habitat investigations in the field screenings. Staff investigated over 200 areas and reported on existing conditions. Developed a project specific prioritizing system to identify highest priority sites based on a suite of field conditions keying on restoration potential. Goals were to identify areas of highest flood control/water quality benefits in the basin to the MWRDGC. (2008)
- Provided technical guidance and QA/QC oversight for the MWRDGC assessment of the North Branch Chicago River Watershed. Worked with staff to implement the field assessment and rating system developed for the Upper Salt Creek Watershed study for this watershed assessment. In addition to restoration priorities near existing streams, also assessed the ravine communities along Lake Michigan for existing conditions and restoration and enhancement potential. QA/QC of final report. (2009)
- I-294 Tri-State Tollway North – Bioswale development for Illinois Tollway relative to impacts to Forest Preserve District of Cook County (FPDCC) land. Developed plans and design of bioswales for water quality treatment of I-294 stormwater runoff. Presented updated bioswale plan to Tollway and FPDCC. Development of conceptual preliminary design of bioswales. Prepared revisions and responses to public and FPDCC comments. (2007)

Concept plan received Highest Honors from ACEC in 2008.

- Provide technical oversight and review during the contract plan/design phase for the Illinois Tollway Bioswale project. Provided comments on plan details and compliance reviews to original plan agreements between FPDCC and Tollway. (2009)
- Illinois Tollway – Developed system wide Threatened and Endangered species Conservation Management Plan for addressing issues related to seaside crowfoot (*Ranunculus cymbalaria*), alkali bulrush (*Scirpus paludosus*), and bog arrow grass (*Triglochin maritima*). For compliance with the Conservation Plan, monitored and maintained the translocated plants and provide annual reports to the IDNR. (2006 - 2010)
- Coordinated native plantings to provide suitable habitat for the state and federally endangered Hine's emerald dragonfly at Keepataw Forest Preserve for the Interstate 355 South Extension. Monitored the progress of the plantings. Provided hands on assistance in plant installation and also was herbicide applicator for management activities at Black Partridge Forest Preserve adjacent to Keepataw. (2008-09)
- Prepared Conceptual Mitigation plan for the re-construction of wetland mitigation site owned and constructed by the Illinois Department of Transportation at Route 83 and Gilmer Road, found to be in non-compliance by the Corps of Engineers. Assisted engineers in preparation of grading plans. Designed mitigation site including plant communities and location of water control structures. Formally presented the plan to reviewing agencies at IDOT's annual wetland coordination meeting. Served as liaison between IDOT, Corps of Engineers and the Fish and Wildlife Service (1997).

Presentations/Lectures:

- Lorman Education Services – Wetlands and Wetland Permitting Training Seminars – 2007 to present.
- Bioswales for Stormwater/Water Quality Benefit – I-294 – Illinois Water Environment Association (March 2008) Illinois State Floodplain Managers Conference (Feb 2009)

RESUME

David P. Ruetz
Senior Project Manager

Education

A.A.S., 1981, Environmental Health Technology, Milwaukee Area Technical College

B.A., 1982, Biology, University of Wisconsin-Milwaukee

Juris Doctor, 1990, University of Montana School of Law

M.S., 1992, Environmental Studies, University of Montana

Areas of Specialization

Environmental Due Diligence/Site Assessment

Regulatory Compliance Auditing

Surface Water Quality Assessment

Stream and Fishery Habitat Assessment and Rehabilitation

FIFRA Compliance

Stormwater/Wastewater Monitoring and Permitting

Medical Waste Compliance

Superfund Litigation Support

Professional Activities

Member, Wisconsin, Washington State and Milwaukee Bar Associations

Chairman, Milwaukee Bar Association Environmental Law Section, 2003 to present

Member, Wisconsin Department of Natural Resources Water Body Use Designation Technical Advisory Board

Member, Federation of Environmental Technologists

Summary of Experience

Mr. Ruetz has over 20 years of environmental experience in a variety of fields, including work as an environmental attorney, the President of an environmental consulting-engineering firm, an Administrative Director of a Governor-appointed Advisory Council, an environmental scientist and as an aquatic biologist.

As an attorney, he has represented corporate, commercial and industrial clients regarding environmental due diligence and risk assessment in mergers and acquisitions, and real estate transactions. He has also represented commercial, industrial, health care and banking clients in matters involving Superfund (CERCLA), the Clean Water Act (CWA), the Clean Air Act (CAA), the Resource Conservation and Recovery Act (RCRA hazardous waste), including the Bevill Amendment, medical waste, wetlands and water law. He has extensive experience in all aspects of Superfund litigation, negotiation, and regulatory review. Mr. Ruetz has also represented industrial, commercial and banking clients in environmental matters involving the Toxic Substance Control Act (TSCA), and the United States Department of Labor, Occupational Safety and Health Act (OSHA). He has also been involved in litigation and has presented oral arguments in cases held in both State and U.S. Federal District courts.

While employed at a previous environmental firm, he served as its President. Mr. Ruetz was responsible for the administrative, financial and technical affairs for a 40+ employee environmental engineering firm with offices in southeastern and northern Wisconsin that specialized in environmental assessment and remediation of contaminated sites.

During his employment with a state Department of Natural Resources he was an Administrative Director of the Rock Creek Advisory Council, a Governor-appointed Advisory Council that consisted of the Secretaries of several State agencies. Mr. Ruetz produced the Annual Report for the Advisory Council, and also managed the administrative affairs. He also implemented a resource inventory program for the Advisory Council to prioritize critical wildlife habitat as part its conservation easement program.

As an environmental scientist, Mr. Ruetz has experience in managing field staff and the technical services of an environmental consulting firm/laboratory. He also conducted groundwater and hazardous waste monitoring of landfill sites and industrial wastewater discharges for industrial clients. He has also conducted numerous Phase I and Phase II Environmental Site Assessments, Compliance Audits and Remedial Investigations of petroleum and chlorinated solvent-contaminated sites.

As an aquatic biologist, Mr. Ruetz has conducted numerous fishery and macroinvertebrate surveys, stream and lake fishery population surveys and habitat rehabilitation projects, in addition to many surface and groundwater quality assessments. He has also conducted stream channel morphology and stream surface water hydrologic studies, including sediment impact assessments associated with developed areas, particularly due to mining and logging.

Jay F. Karls, Ph.D., P.E.
Senior Project Manager

RESUME

Education

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

M.S., August 1994, Civil and Environmental Engineering, University of Wisconsin-Milwaukee

Ph.D., December 1997, Civil and Environmental Engineering, University of Wisconsin-Milwaukee

Professional Registration

Professional Engineer, Wisconsin, No. 34589-006

Professional Engineer, Illinois, No. 062-055142

Professional Engineer, Michigan, No. 620-1048338

Areas of Specialization

Stormwater Design and Permitting

Water Chemistry

Surface and Groundwater Hydrology

Sediment Chemistry, Lithology and Transport

Environmental Due Diligence

Risk Assessment

Litigation Support

Environmental and Safety and Health Compliance

Remedial Investigation/Feasibility Study

Remedial Strategies Development/Remediation

Summary of Experience

Dr. Karls provided technical expertise on projects requiring landfill and land application permitting, stormwater and wastewater evaluations, environmental, multi-property due diligence assessments, EH&S assessments (including RCRA, air permitting and RMP, TSCA, SPCC, NPDES, SARA Title III, PSM, etc.), environmental investigations and remedial actions, vibration monitoring, toxicological assessments, corrective actions, and litigation-support services. He has conducted and managed combined Phase I ESAs with compliance evaluations, managed subsurface and groundwater investigations and completed compliance work in over 35 states, as well as Canada and Mexico. Additionally, he has managed subsurface and compliance-related work, which was conducted subsequent to multi-facility acquisition due diligence assessments and was completed in order to manage risk associated with historical facility practices. Dr. Karls has extensive knowledge in the areas of stormwater design and permitting, site investigation and remediation, environmental chemistry, soil chemistry, water chemistry, and surface water hydrology.

Relevant Project Management Experience

On-Call Engineering Services – City of Milwaukee. Managed environmental projects for City of Milwaukee Department of City Development (DCD), Housing Authority of the City of Milwaukee (HACM), Department of Public Works (DPW) and Redevelopment Authority of the City of Milwaukee (RACM). Projects have varied in cost/complexity from $500 to over $500,000, with multiple projects conducted within the 30th Street Corridor. Conducted/managed projects related to stormwater, sediment characterization for stormwater projects, Phase I assessments, subsurface evaluations, remediation of subsurface impacts and decommissioning/redevelopment of industrial facilities.

Stormwater and SPCC Evaluations, Multiple Locations; Multiple Clients. Conducted multiple evaluations related to stormwater design, stormwater permitting and oil discharge regulations for industrial clients. Prepared and reviewed several stormwater pollution prevention plans (SWPPP) and spill prevention, control and countermeasure (SPCC) plans, as well as conducted and reviewed the calculations associated with these plans. Managed the design and implementation of best management practices associated with these plans, including stormwater detention basin design.

Brownfield Redevelopment, Wauwatosa, Wisconsin; Confidential Client. Provided environmental services associated with the redevelopment of a former automotive dealership. Services included NESHAP asbestos and hazardous materials pre-demolition assessment, management of asbestos abatement and hazardous materials removal, a Phase I and Phase II environmental assessment, limited remedial activities, negotiation with WDNR and assistance in preparing a grant application.

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RESUME

Dr. Lindsay N. Birt, Ph.D.

Assistant Project Manager/Project Engineer II

Summary of Experience

Dr. Lindsay Birt has extensive knowledge in the areas of watershed modeling and stormwater management, highway water quality modeling, water quality, surface water hydrology, environmental compliance, NPDES permitting sustainability concept assessment and design, environmental assessment for linear projects, public involvement and outreach, and subsurface and groundwater remediation services. Dr. Birt was awarded a Ph.D. at Purdue University in the Department of Agricultural and Biological Engineering in 2012, and joined GZA at that time. From 2007 to 2012, she worked with the Indiana Department of Environmental Management (IDEM) Section 319 program in developing better approaches to evaluate watershed and water quality management practices at a state-level.

Throughout her doctoral program, she was in immersed water quality modeling and developing a methodology to improve water quality monitoring regime for watershed management. Additionally, Dr. Birt conducted an extensive analysis of environmental impact assessments by incorporating geo-spatial, statistical, and social science data coupled with best management practices (BMPs) to evaluate the performance of watershed management. Dr. Birt also worked as a Mirzayan Science, Policy, and Technology Fellow at the National Academies of Science ("Academies") in 2010.

While at the Academies, she supported hydrological science, environmental impact assessment, and Total Maximum Daily Load Assessment (TMDL) studies for the Water, Science, and Technology Board. Since joining GZA, Dr. Birt has modeled water quality impacts to streams for watershed groups.

Relevant Project Experience

Huff & Huff, Inc., subsidiary of GZA 2011 – Present

Watershed Modeling and Stormwater Management

- Project manager for the Hickory Creek Watershed Planning Group. This comprises of coordination of water quality monitoring, developing stakeholder engagement initiatives, coordination with government agencies, draft TMDL approach, and preparing grant applications (2013-2015).
- Developed conceptual design and reporting for storm water management BMPs. Proposed designs included streambank stabilization, detention pond retrofit, and buffer establishment as part of the IEPA Section 319 Grant application (2014).
- Modeled Best Management Practices (BMP) performance using STEPL model for Hickory Creek Watershed Planning Group as part of Illinois EPA Section 319 Water Quality grant (2014).
- Designed structure and drainage for a rain garden for the Village of Deerfield to obtain and implement an Illinois EPA Section 319 Water Quality Grant at a Village-owned parking lot associated with Metra station parking lot (2013).
- Prepared sustainability and aesthetics memo incorporating stormwater BMP

Education

Ph.D., 2012, Agricultural and Biological Engineering, Purdue University

Applied Management Principles Program, 2008, Purdue University

M.S., 2007, Biological and Agricultural Engineering, Texas A&M University

B.S., 2004, Agricultural Engineering, Texas A&M University

Registrations & Certificates

Hazardous Waste Operation and Emergency Response Refresher Training, 2011, 2012.

Affiliations

- Chicago Wilderness Corporate Council member
- American Council of Engineering Companies (ACEC)-IL member
- DuPage River Salt Creek Workgroup member

Areas of Specialization

- Watershed Modelling and Stormwater Management
- Highway water quality modeling
- Water Quality
- Surface Hydrology Modeling
- Environmental Compliance
- NPDES permitting
- Sustainability Concept/BMP Assessment and Design
- NEPA (Environmental Assessment (EA)/ Environmental Impact Statements (EIS)) for linear projects
- Public Involvement and Outreach
- Subsurface and Groundwater Remediation

Dr. Lindsay N. Birt, Ph.D.

Assistant Project Manager/Project Engineer II

concepts for East Side Highway project in McClean County, IL (2012-2013)

- Project managed an Ammonia-Mass Balance project for the DuPage River Salt Creek Workgroup in East Branch DuPage River. This included pollutant load duration curve modeling to identify potential sources of ammonia levels. Upon completion of the load duration curve analysis, water quality and sediment sampling was conducted to evaluate in-stream ammonia levels during wet-weather events (2012).

Water Quality

- Manage in-stream water quality monitoring and analyzed results as part of the baseline evaluation for Hickory Creek Watershed Planning Group (2014-Present)
- Collected baseline and post-construction water quality monitoring and analyzed results as part of the evaluation of BMP performance for the Tollway at the Jane Addams Memorial Tollway (I-90) and Illinois Route 47 (IL 47) interchange (2012-2014). *ACEC 2014 Merit Award Winner.*
- Conducted sulfate and chloride pollutant load analysis for MS4 in Rhodia, IL (2012).

NPDES Permitting

- Conducted a review of Indiana Department of Transportation (INDOT) storm water quality management plan and complied a literature review of Rule 5 recommendations for transportation projects (2014)
- Project managed the NPDES permit application review for a new coal mine facility as part of the Task Order Contract with the U.S. EPA Region V. (2012)

Sustainability Concept/Best Management Practices Assessment and Design

- Developed a conceptual plan for second rain garden at the Citgo Lemont Refinery to provide localized flood control. This includes a field survey of slopes and area, collection of soil samples, and review of drainage plans for proposed rain garden location at Citgo Lemont Refinery in Lemont, IL (2011).
- Designed storm water best management practices for the Littlefuse demolition site in Des Plaines, IL. This included stabilization of sedimentation with a combination of vegetation within the demolition site, silt fence along the perimeter of the site, vegetative filter strips, and determined adequate soil amendments (2011-2012).
- Prepared preliminary costs estimation of stormwater BMPs for IL Route 53/120 Corridor Feasibility Study in Illinois (2013-2014).
- Conducted Sustainability Airport Manual (SAM) review for the concession facilities for Chicago's Midway Airport. This entailed a thorough environmental assessment of ENERGY STAR product and SAM green product evaluation. In addition, developed a questionnaire for the concession facilities to obtain the Green Airplane Rating (2012).
- Performed a sustainable Best Management Practices (BMP) analysis for Bloomingdale Trail in Chicago, IL. Reviewed preliminary design plans, proposed sustainable BMP concepts, and compiled landscaping recommendations for storm water management (2012).
- Managed the sustainable Best Management Practices (BMP) analysis for the Jane Addams Memorial Tollway (I-90) Corridor. This consists of the development of a BMP design checklist and special provisions for the design corridor manager to distribute to the designed section engineers. In addition to review and QA of the BMP details for the entire corridor (2012-2013).

Public Involvement and Outreach

- Project managed an aquatic biology community outreach program, called Bio-Blitz. Organized and facilitated a team of six biologists and 40 volunteers in collecting macro-invertebrates as part of a water quality assessment for Hickory Creek Watershed Planning Group. (2014).
- Coordinated, as part of the project team, an EA environmental group meeting to review environmental resources and minimization and stormwater management efforts proposed for IL Route 31 (2014)
- Organized sustainability focus working group (FWG) meetings to develop sustainable BMP concepts for storm water management for the East Side Highway Project in McLean County, IL. The FWG is comprised of academia, agency, and civic leaders who provided feedback on environmentally sensitive areas and identified storm water BMPs to achieve environmental goals (2012-2013).

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RESUME

John H. Eisele, P.E.

Senior Consultant

Summary of Experience

Mr. Eisele is a water, wastewater and municipal engineer with over 40 of experience in design, construction and management of water and wastewater projects. His design experience includes deep and shallow wells, water distribution systems, interceptor sewers, sanitary sewers, storm sewers, wastewater treatment plants and sludge dewatering facilities. Mr. Eisele's construction experience includes installation of the pumps and valves for one of the MWRDGC's Deep Tunnel pumping stations (largest pump is 17,000 horsepower) and installation of about 2 miles of 30-inch diameter water transmission main. His Municipal experience includes Village Engineer and Public Works Director for four communities. The scope of work included design and construction of municipal capital projects along with maintaining the roads and utility systems within the communities.

Mr. Eisele joined Huff & Huff in January, 2008. Mr. Eisele specializes in water and wastewater treatment and design. Prior to joining Huff & Huff, Mr. Eisele provided various project management and engineering services for various municipalities and consulting firms.

Education

B.S. 1969 Civil Engineering, University of Illinois Urbana, Illinois

Registrations & Certificates

Professional Engineer – 1976 IL, #062-031898

Affiliations

- ISPE

Areas of Specialization

- Water Quality
- Wastewater
- Wastewater Design
- Water Distribution, Wells
- Sewer Design
- UST Removal and Replacement
- Resident Engineering
- IGIG Grant
- Sanitary Treatment Design
- UST Removal and Replacement
- Industrial Sewer Design
- Lake County DECI

Relevant Project Experience

Huff & Huff, Inc. 2008 – Present

- Building Demolition, Village of Oak Brook, IL
- Fuel Tank Removal and Replacement, Village of Oak Brook, IL
- Concrete Replacement, Village of Oak Brook, IL
- IGIG Grant Applications Galesburg, IL and Barrington, IL
- Residential Drainage Improvements, Northbrook, IL
- 1200 gpd Septic System, MA Center, La Fox, IL
- Asbestos Tile Removal, Village of Oak Brook, IL
- Fuel Management System Upgrade, Village of Oak Brook, IL
- Biological Phosphorous Removal, Village of Barrington, IL
- CMOM, Galesburg Sanitary District, Galesburg, IL
- SWPPP for Tier 4 Engine Development Center for Electro-Motive, McCook, IL
- Facility Plan for Treatment Plant expansion, Plants #2 and #3 for the Village of New Lenox, IL
- NPDES required reports: PPP, O & M, CMOM and LTCP for the Village of Hinsdale, IL
- Wastewater Treatment Facility evaluation for Ashland Chemical, Calumet City, IL
- Wastewater Treatment Facility evaluation for WR Grace, East Chicago, IN

John H. Eisele, P.E.

Senior Consultant

- Slug Control Plan for Ashland Chemical, Calumet City, IL
- Equalization Pond Cleaning for Ashland Chemical, Calumet City, IL
- Wet Weather Control Facility for the Village of Hinsdale, IL
- Site Restoration, Coal Transfer Facility. ARTCO, Camanche, IA
- IGIG Grant Applications, Deerfield, IL
- O'Hare Modernization Program, Bid Package #2, Erosion Control Estimate, Chicago, IL

Rogina & Associates: Joliet, IL

- Managed a civil engineering group and was responsible for preparing the Facility Plan and design of a 1.25 MGD Wastewater Treatment Plant for the City of Wilmington, Illinois
- Prepared the Radium Compliance Study and the design of two shallow wells and well houses for the Village of Rockdale Perform all functions of Village Engineer, including Resident Engineer, for the Village of Rockdale
- Design approximately 11 miles of interceptor sewers and water mains for the Village of Elwood, Illinois
- Water distribution model for the City of Wilmington, Illinois
- STAG Grant research with City of Wilmington, Illinois

RJN Group: Wheaton, IL

- Managed a civil engineering group and was responsible for design of approximately 5 miles of new water main and 3/4 miles of sanitary sewer for Rock Cut State Park in Loves Park, Illinois
- Design for the sanitary sewer rehabilitation program for Rolling Meadows, IL
- Sanitary and storm sewer study for Glenview, IL
- Smoke testing study for the sanitary sewer system for Lake Forest, IL

Donohue and Associates: Schaumburg, IL

- Managed a civil engineering design group and was responsible for performing all functions of Village Engineer for the Village of Manhattan, Illinois
- Conducting the Village of Manhattan's review of its water main replacement and development program
- Coordinated underground utility design for the 200 acre Sears Merchandising Headquarters in Hoffman Estates

Large Sanitary Treatment Plant Design Experience:

Metropolitan Water Reclamation District of Greater Chicago

- Designed District facilities including a 6 million gallon per day treatment plant and a sludge dewatering facility
- Completed preliminary process design for 300 ton digester facility

Industrial Design Experience:

United States Steel Corporation

- Designed foundations and light steel structures used in major facility expansion programs
- Storm and sanitary sewers including lift stations for existing and new facilities

Construction and Resident Engineering Experience:

T.B. Saxton Construction: New Lenox, IL

- Managed the installation of 30" diameter water transmission main for the DuPage Water Commission

E.T. Paddock Enterprises & Double E Real Estate Development, Downers Grove, IL

- New home construction, residential additions and remodeling

A.J. Lowe Construction: Downers Grove, IL

- Coordinated installation of piping and equipment for the Mainstream Pumping Station of the Chicago Deep Tunnel Project

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RESUME

Alycia A. Kluenenberg

Senior Scientist III

Summary of Experience

Alycia Kluenenberg is a senior scientist with experience in wetlands, natural resources, and green technologies. She has over 15 years of experience delineating wetlands in the Chicago region. She has obtained Section 404 permits (nationwide, regional, and individual) for a variety of projects, including transportation, utility, industrial, and commercial or residential development. Best Management Practices are now a required aspect of wetland permitting; as a result, Mrs. Kluenenberg has worked with engineers to design BMPs for their site, including infiltration basins, bioswales, and native plantings. Mrs. Kluenenberg also has extensive experience in invasive species control, habitat restoration and mitigation plan development. In addition, she has completed numerous endangered species surveys and coordinated permits for endangered species impacts when needed.

Education

M.S., 2000, Environmental Science, University of Maryland, College Park, Maryland
B.A., 1996, Biology and Environmental Studies with Honors, Hamline University, St. Paul, Minnesota

Registrations & Certificates

Lake County Certified Wetland Specialist – C-055
McHenry County Certified Wetland Specialist
Illinois Pesticide Applicator License

Affiliations

- Society of Wetland Scientists
- ACEC Tollway Committee
- Montrose Point Volunteer Steward

Areas of Specialization

- Wetland Delineation/Mitigation Permitting
- Threatened and Endangered Species Studies
- Habitat Restoration
- Constructed Wetland Design

Relevant Project Experience

Huff & Huff, Inc. (2003 – Present)

Natural Resources

- Project Manager for the Tollway's Environmental Studies Upon Request contract. In charge of managing multiple task orders, budgets, monitoring project status, coordination with the Tollway, and coordination with sub-consultants. To date, over twenty task orders have been assigned to five different companies with various environmental topics such as wetlands, water quality, noise, erosion control inspection, vegetation management, and green technology (2007-2015).
- Project manager for the Tollway's Vegetation Management task order. Managed, coordinated and implemented restoration tasks at Keepataw, Black Partridge, and Waterfall Glen Forest Preserves as part of the Hine's Emerald Dragonfly habitat restoration for the Illinois Tollway related to the I-355 extension. Tasks included planting created rivulets with 15,000 plugs, numerous herbicide applications within sensitive habitats, and hand pulling/weed whacking of invasive species. Coordinated work with various agencies including the U.S. Fish & Wildlife Service, U.S. Army Corps of Engineers, and the Forest Preserve Districts of Cook, DuPage, and Will Counties. Target species included buckthorn honeysuckle, reed canary grass, common reed, bull and field thistles, garlic mustard, white and yellow sweet clover, and purple loosestrife (2008-2015).
- Project Manager for Natural Gas Pipeline Company of America (Natural) projects. Provide environmental services including wetland/resource screening for maintenance digs and assist Natural in determining whether there are ways to avoid impacts. Prepare wetland permits to the U.S. Army Corps of Engineers and various county agencies (Lake, DuPage, Will, McHenry) for impacts. Provide endangered species habitat reviews. Provide soil, erosion, and sediment control inspections. Provide training to the contractors on identification and avoidance of sensitive species or resources (2008-2015).
- Completed surveys for several species and habitats, including Indiana and northern long-eared bats, several mussels, prairies, and plants along the proposed

Alycia A. Kluenenberg

Senior Scientist III

Chicago to St. Louis High Speed Rail. Provided endangered species coordination for Joliet to St. Louis corridor (2012-2015). Completed a biological assessment for the Kankakee River Bridge. Developed Conservation Plans for the Eryngium stem borer moth (*Papaipema eryngii*), and several mussels.

- Completed the natural resources sections of the Kankakee River Bridge Environmental Assessment for the Joliet to St. Louis High Speeed Rail.
- Developed a Conservation Plan for the black sandshell (*Ligumia recta*) for the I-90 bridge over the Kishwaukee River. Coordinated the Incidental Take Authorization with the IDNR (2012).
- Completed multiple surveys for Union Pacific Railroad's Illinois High Speed Passenger Rail corridor threatened and endangered species surveys for the section from Joliet to Dwight. Conducted surveys for eastern prairie fringed orchid, leafy prairie clover and other state listed species and surveys for rattlesnake master (*Eryngium yuccifolium*) plants as host for the Eryngium stem borer moth. Coordinated bird surveys along the rail line for two species identified by the IDNR. Included surveys along and within Midewin National Tallgrass Prairie (2011).
- Performed inspections and coordinated with regulatory agencies during construction of a wetland mitigation bank in Lake County, Illinois. Following construction, monitoring, inspections, and restoration recommendations were provided yearly (2004-2012).
- Big Marsh Remediation & Restoration Project, vegetative surveys, outlined recommended preliminary vegetation management and monitoring strategy for Big Marsh in conjunction with the *Calumet Open Space Reserve Plan* set forth by the City of Chicago, Department of Planning and Development City of Chicago (2010-2012).
- Project manager for a streambank stabilization project in Zion, Lake County, Illinois. The project included wetland delineation, endangered species habitat assessment, and plan development. Obtained permits from Lake County SMC and the COE. Wrote the bid document and construction specifications. Coordinated between the property owner and contractor prior to and during construction (2008-2011).
- Completed field monitoring of Hine's emerald dragonfly (*Somatochlora hineana*; HED) in areas of expected HED activity over or adjacent to rail lines for the Illinois High Speed Rail Project. Identified HED, determined dragonfly density and frequency, including primary (morning) and secondary (evening) activity periods (2010).

Wetland Delineation and Permitting

- In-house wetland permitting coordinator at IDOT District 1. Review wetland permits, plans, and wetland impact evaluations. Facilitate meetings between IDOT and the U.S. Army Corps of Engineers. Track permits and mitigation.
- Project manager for the Tollway's I-90 task order. Managed, coordinated, and participated in field delineations and tree surveys of over 40 miles of roadway improvements (2011-2012).
- Completed wetland and endangered species screenings and permitting recommendations for three MWRDGC flood control and streambank stabilization projects (2011-2012).
- Completed wetland delineations for Centennial Trail, within the Forest Preserve District of Will County (Keepataw Forest Preserve). Obtained the Section 404 permit from the U.S. Army Corps of Engineers. Coordinated with various agencies, including the U.S. Fish & Wildlife Service due to the proximity to Hines Emerald Dragonfly habitat (2009-2010).
- Completed wetland delineations at over 60 culvert replacement locations for the Tollway. Permit applications were completed and submitted for jurisdictional wetlands (2009).

Sustainability

- Assisted with BMP and specification development and plan review for I-90 west (2012-2013).
- Assisted with development of the Tollway's "green interchange" at I-90 and IL 47. Presented the Tollway with options for design and provided life-cycle costs for several items including solar, green roofs, reflective roofs, infiltration ponds, and porous pavement. Designed green walls adjacent to buildings. Reviewed infiltration design and native planting plans. Wrote specifications and special provisions (2011-2012).

Justin A. Hegarty, LEED A.P.
Environmental Engineer

RESUME

Education

B.S., 2009, Civil Engineering, University of Wisconsin-Milwaukee

Graduate Studies, Environmental Engineering, Milwaukee School of Engineering

Areas of Specialization

Stormwater Management Design and Construction
Green Infrastructure Design and Construction
General Construction and Project Management
Remedial and Construction Strategies
Conceptual Site and Project Visualization
Data Collection and Interpretation

Professional Activities

Engineers Without Borders

40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Certification

Leadership in Energy and Environmental Design Accredited Professional (LEED A.P.)

Professional Experience

2007 to Present, Assistant Project Manager, GZA GeoEnvironmental, Inc.

2004 to 2007, Engineering/Surveying Technician, City of Port Washington Engineering Department

2002 to 2004, Engineering/GIS Technician, Ozaukee County Land Information Office

Summary of Experience

Mr. Hegarty offers experience on a wide variety of civil and environmental engineering projects. Such projects include renewable energy, water resource and groundwater studies, environmental investigation and remediation, facility permitting, and brownfield redevelopment projects. His involvement on these projects includes work scoping, development of sampling plans, on-site data collection, preliminary design, full engineering design and specifications, project cost estimating, project implementation, field documentation, construction management, and project presentations. Mr. Hegarty has also developed exceptional data management and data presentation capabilities, and as a result, has enhanced GZA's ability to effectively communicate technical concepts to clients, regulators and non-technical project stakeholders.

Mr. Hegarty is also Executive Director of the non-profit, Reflo – Sustainable Water Solutions. The mission of the organization is to educate the public about the importance of Green Infrastructure projects in the Milwaukee Area.

Relevant Project Experience

Project Badger – Remediation Planning and Construction Oversight
Assisted in the remedial design and strategic planning for the bioremediation of 3 acre former battery manufacturing facility in a residential area of Riverwest, Milwaukee. Mr. Hegarty also prepared the necessary storm water management plans and permitting requirements for the project. Mr. Hegarty oversaw site activities guiding the contractor in their work, communicating to local residence the ongoing activities at the site, and documenting daily progress.

Algae Project – Engineering Design and Construction Management
As part of the Department of Energy's (DOE) search for viable alternative fuel sources, Mr. Hegarty and the GZA-Waukesha team assisted our client, Touchstone Research Labs, in designing and building an experimental algae for biofuel facility in northeastern Ohio. While on the project design team, Mr. Hegarty worked closely with the client to provide engineering support throughout the project's planning stages and DOE approval process, designing a very unique cost effective research facility capable of meeting the client's needs. Design included difficult storm water management planning, facility and operational use management, experimental controllability, and robust construction planning. During construction of the project, Mr. Hegarty oversaw 9 months of activities in Ohio ultimately bringing the project to completion on time and under budget.

Legacy – Design and Application for Stormwater Permits
Mr. Hegarty assisted in the design and creation of storm water management plans for a 3-acre site in the City of Milwaukee. Due to the tight time constraints of the project, Mr. Hegarty worked closely with city officials to "fast track" the permitting process and successfully begin construction of the project on time.

Century City Building 1A – Mapping and Digitizing
As part of the demolition efforts at the Century City Site in Milwaukee, WI, GZA was contracted to perform environmental pre-demolition sampling of an abandoned building complex. Due to the facility's lack of site plans, Mr. Hegarty successfully mapped and digitized the complex three story building and environmental sampling locations, which was well received and appreciated by the client.

Kara L. Kunz
Environmental Engineer

RESUME

Education

B.S., 2013, Civil Engineering,
University of Wisconsin-Milwaukee

Graduate Studies, Environmental Engineering,
University of Wisconsin-Milwaukee

Areas of Specialization

Environmental Due Diligence
Stormwater Design and Construction Management
General Construction and Project Management
Conceptual Site and Project Visualization
Data Collection and Interpretation
Regulatory Permitting

Professional Activities

Society of Women Engineers
Professional Member (2014-present)
Section Outreach Coordinator (2012-2013)

40-Hour Hazardous Waste Operations and
Emergency Response (HAZWOPER) Certification

Professional Experience

Environmental Engineer,
GZA GeoEnvironmental, Inc. (2014-present)

Engineering Technician,
GZA GeoEnvironmental, Inc. (2013-2014)

Summary of Experience

Ms. Kunz is an environmental engineer with experience on a wide variety of civil and environmental engineering projects. Such projects include civil engineering, water resource studies, data collection and interpretation, preliminary design, environmental investigation, and facility permitting. Her involvement on these projects includes work scoping, development of sampling plans, on-site data collection, preliminary design, full engineering design and specifications, field documentation, construction management and project presentations.

In addition, her senior design project coincided with the development of a commercial/residential apartment complex in Mequon, WI. Her experience at GZA has enhanced her data collection, stormwater management and report authoring abilities.

Relevant Project Experience

Environmental Due Diligence – Ashwaubenon, WI
Ms. Kunz conducted Phase I due diligence and environmental review for a multi-parcel site in the Village of Ashwaubenon for the developmental activities for Titletown, with the assistance of a Professional Hydro-geologist. In conjunction to the Site reconnaissance, Ms. Kunz organized and visited governmental agencies, reviewed and summarized environmental documents, and met with site developers and project attorneys.

Stormwater Design and Construction Oversight – Maiden Rock, WI
Ms. Kunz assisted in the hydraulic modeling of the stormwater discharge from the site to the Mississippi River to understand the need to improve the sediment discharge. Ms. Kunz assisted in the design of best management practices (BMPs) to improve the sediment discharge from the site to the Mississippi River working with limited real estate. Ms. Kunz also provided support with preparing the necessary storm water management plans and permitting requirements for the project. She oversaw site construction, guiding the contractor in their work, communicating with project managers and clients with ongoing activities at the site, and documenting daily progress.

Stormwater Design and Construction Oversight – Hager City, WI
With the expansion of railroad tracks, Ms. Kunz assisted in the design of storm water management plans concurrent with permitting requirements in Wisconsin. Ms. Kunz oversaw site construction providing contractor support in their work, soil density readings for railroad expansion, surveying necessary work, communicating with project managers with ongoing activities at the site, and documenting daily progress.

Design and Application for Stormwater Permits – Shakopee, MN
Ms. Kunz provided support in hydraulic modeling for the design of new culverts for under old railroad tracks with the addition of proposed expansion of the old railroad tracks. The design and creation of stormwater management plans for an expanding site was developed with concurrent permitting requirements.

RESUME

Janeé Pederson
Environmental Engineer

Education

B.S., 2014, Civil Engineering,
University of Wisconsin-Milwaukee

Areas of Specialization

Environmental Engineering
Stormwater Management
Data Collection and Interpretation
Geographic Information Systems
Conservation

Professional Activities

40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Certification

Society of Women Engineers:
National Member since 2010
Section President (2012-2014)
Section Officer (2011-2012)

Professional Experience

Environmental Engineer,
GZA GeoEnvironmental, Inc. (2014-present)

Watercourse Engineering Intern, Milwaukee Metropolitan Sewerage District (2012-2014)

Additional Education

Minor in Conservation and Environmental Science, University of Wisconsin-Milwaukee 2014

Summary of Experience

Ms. Pederson is an environmental engineer with experience in stormwater, flood management, civil engineering, water resource studies, data collection and interpretation, and preliminary design. Her experience at the Milwaukee Metropolitan Sewerage District (MMSD) developed her knowledge and capability in stormwater and flood management through direct effort on projects for several of the Milwaukee area rivers and streams. In addition, her senior design project coincided with MMSD's on-going river naturalization of the Kinnickinnic River on the south side of Milwaukee. Her experience at GZA has enhanced her data collection, sampling, hazardous waste operations, AutoCAD, and report authoring abilities. Ms. Pederson has assisted in creating several Phase I environmental site assessment reports at GZA.

Relevant Project Experience

Watercourse Maintenance (MMSD) – Milwaukee, Wisconsin
As part of the internship at MMSD, Ms. Pederson was in the field inspecting concrete-lined channels for flood prevention purposes and general site upkeep. Ms. Pederson executed numerous project tasks electronically on ArcGIS and on the records document management systems, OnBase and Energov; as well as authored contract summary reports, contract modifications and technical memorandums for high-funded projects. Also for MMSD, Ms. Pederson supervised teenage interns with manual labor within the watercourses throughout the Milwaukee metro area.

Preliminary Design and Cost Analysis (MMSD) – Milwaukee, Wisconsin
Ms. Pederson assisted with the creation of a conceptual design and construction cost estimate for a capital project on wastewater facility grounds. The design included a stormwater drainage channel through the facility grounds to empty into Lake Michigan. Multiple design alternatives were authored to provide the company with sustainable "green" infrastructure options.

Environmental Due Diligence – Multiple Projects and Locations
Ms. Pederson has prepared Phase I Environmental Site Assessment reports for multiple projects with the review of a Professional Engineer. Ms. Pederson also provided support in sampling, preparing data, annual sampling reports, and WDNR site closure per due diligence.

AutoCAD – Milwaukee/Waukesha Offices
Ms. Pederson has been expanding her AutoCAD skills on various types of projects at GZA. The majority of her experience is with AutoCAD Map for location, site, and boring/sampling location maps.

Pre-Construction Survey – Chicago, Illinois
Prior to blasting in a highly populated urban area, Ms. Pederson assisted with the completion of video surveys on properties within a 500 foot radius of the blast site. The project was a part of the sewer system expansion. Over 100 homes and businesses were surveyed over a 3 month period.