ENGINEERING
RESOURCE ASSOCIATES

PRIMARY CONTACT:

Howard Killian, PE
Project Manager
3S701 West Avenue, Suite 150
Warrenville, IL 60555
P: 630-393-3060 x2042
hkillian@eraconsultants.com

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TECHNICAL PROPOSAL FOR:

82nd Avenue Multi-Use Path 135th Street to 151st Street Phase I - Preliminary Engineering

PREPARED FOR:

Sean Marquez, PE
Village Engineer
Village of Orland Park
14700 S. Ravinia Ave.
Orland Park, IL 60462

DUE:

May 14, 2021 at 11:00 AM

ENGINEERING RESOURCE ASSOCIATES

May 14, 2021

Sean Marquez, PE
Village Engineer
Village of Orland Park
14700 S. Ravinia Ave.
Orland Park, IL 60462

Subject: **Proposal – 82nd Avenue Multi-Use Path - 135th Street to 151st Street**
Phase I Preliminary Engineering

Dear Sean:

Engineering Resource Associates, Inc. (ERA) is pleased to submit this proposal for Phase I Preliminary Engineering for the 82nd Avenue Multi-Use Path from 135th Street to 151St Street. This proposal has been prepared in accordance with the Request for Proposal (RFP) and addendum no. 1. We have completed a field visit to the project site and have attached our experience on similar assignments. ERA is prequalified with IDOT in **Structures (Highway: Typical), Hydraulic Reports (Waterways: Complex and Typical), Environmental Reports (Assessment & Impacts)**.

ERA is a consulting firm providing civil engineering, structural engineering, hydraulic analysis, environmental science, and surveying services to clients throughout Illinois. We have more than 30 years of experience identifying and working with a wide variety of local, state, and federal funding sources. Our staff of professionals include licensed engineers, structural engineers, surveyors, environmental scientists, certified floodplain managers, and CAD/GIS specialists.

Our project team will be led by Howard Killian, PE. He will serve as Project Manager and will act as the primary contact for the Village of Orland Park. He has over 33 years of various municipal planning, engineering, and construction experience. The project team who would be assigned to this project has also served in the same role in other recent bike path projects. Besides completing the Phase I studies, ERA has gone on to provide Phase II and Phase III engineering services for many of these projects. Therefore, the Village of Orland Park can benefit from the wealth of knowledge, experience, and foresight our team has gained on these projects to ensure that the project conforms to the funding requirements and maintains the anticipated schedule and project budget.

ERA has earned an excellent reputation for our quality of work and our responsiveness to our clients. Additionally, we are well-versed in federal-aid procedures and requirements and have successfully completed many federal-aid bridge projects for other similar clients. We thank you for considering Engineering Resource Associates and we look forward to the possibility of working with the Village on this project. Please contact me at (630)393-3060 x2042 or hkillian@eraconsultants.com if you have any questions or comments.

Sincerely,

ENGINEERING RESOURCE ASSOCIATES, INC.

Howard Killian, PE
Project Manager

ENGINEERING RESOURCE ASSOCIATES

COMPANY PROFILE

Engineering Resource Associates, Inc. (ERA) is a consulting firm providing civil engineering, structural engineering, environmental science and surveying services to clients throughout Illinois, Indiana, Wisconsin, and Colorado. Our diverse clientele includes private development, municipalities, park districts, forest preserves, sanitary districts, county agencies and state agencies. We have more than 30 years of experience identifying and working with a wide variety of local, state and federal funding sources. Our staff of professionals includes licensed engineers, structural engineers, surveyors, environmental scientists, certified floodplain managers and CAD/GIS specialists.

Our firm specializes in providing comprehensive services throughout the planning, design and construction phases of engineering and environmental assignments. The following is a partial listing of the primary types of projects that have successfully been completed by our firm.

Stormwater
Hydrologic & Hydraulic Analyses, Master Plans, Watershed Studies, Ordinance & Guidance Manuals, Storm & Sanitary Modeling, Floodplain Mapping, Stream Restoration, Levee Certification, Civil/Site Plan Reviews, Permitting Assistance &CRS Services

Environmental
Wetland Mitigation & Enhancement, Stream Bank & Shoreline Stabilization, Best Management Practices (BMPs), Natural Area Restoration, NPDES Assistance & Grant Assistance

Parks and Recreation
Riverwalks, Sports Complexes, Golf Courses, Regional Trails & Paths, Community Parks, Open Spaces, Dog Parks, & State Park Improvements

Site Development
Design and Rehabilitation of Municipal Facilities, Education, Healthcare, Commercial and Residential

Transportation
Design & Rehabilitation of Roadways, Parking Facilities, Intersections, Traffic Signals, Lighting, & Streetscape

Utilities
Design & Rehabilitation of Sanitary Sewers, Storm Sewers, Water Mains & Pumping Stations

Construction
Construction Management, Bidding Assistance, Construction Layout, Observation, IDOT Documentation and Construction Administration

Structural
Phase I & Phase II Engineering for Design & Rehabilitation of Highway Bridges, Culverts, Retaining Walls, Dams & NBIS Bridge Inspections

Surveying and Mapping
Topographic Surveys, Boundary Surveys, UAV & Drone Surveys, Construction Layout & Geographic Information Services (GIS) Services

OFFICE LOCATIONS

Warrenville (Corporate Office)
3s701 West Avenue, Suite 150
Warrenville, IL 60555
Phone: (630) 393-3060

Chicago
10 S. Riverside Plaza
Suite 875
Chicago, IL 60606
Phone: (312) 474-7841

Champaign
2416 Galen Drive
Champaign, IL 61821
Phone: (217) 351-6268

ENGINEERS I SCIENTISTS I SURVEYORS

ENGINEERING RESOURCE ASSOCIATES

Operating History

Engineering Resource Associates, Inc.

Number of Years in Business

- 31 – ERA was founded in March 1990

Officers of the Company

- Jon P. Green, PE, CFM – President
- John F. Mayer, PE, CFM – Vice President
- Marty J. Michalisko, PE, CFM – Principal
- Jacob R. Wolf, PE – Principal
- Brian J. Dusak, PE – Principal

Annual Volume of Similar Work

- In 2020, ERA had gross billings of approximately $6.2 million. Nearly 75% ($4,425,000) was performed for municipal clients.

Current Capacity

- Our current staff includes 45 professionals including registered engineers, structural engineers, surveyors, technicians, and environmental scientists. We have been fortunate to maintain a steady workload throughout 2020 and into 2021. However, we fully anticipate having sufficient capacity available to complete this project in accordance with the Village of Orland Park's needs.

Listing of Existing Suits, Claims, or Pending Judgments

- ERA is not involved in any existing suits, claims, or pending judgments.

ENGINEERING RESOURCE ASSOCIATES

Orland Park Nature Center

Open Lands of Orland Park, IL

Project Summary

ERA and Upland Design collaborated to create construction documents for the nature center for the Village of Orland Park. The park is an extension of the McGinnis slough and the Mill Creek wetland area, and is located near to downtown Orland Park. Features of the park include indoor and outdoor learning areas, educational signage, walking trails, bioswales, permeable paver patios, an amphitheater area, a native bottom detention basin, a bird-watching gazebo, and a boardwalk. ERA provided civil engineering design for the site, structural design for the amphitheater, and environmental design for the wetland and detention areas. Construction was completed in 2019.

ERA Project Team

John Mayer, PE, CFM | Principal / Project Manager
Jon Green, PE, CFM | President / Project Director
Andrew Kustusch, PE, CFM | Project Engineer
Erin Pande, PWS, CFM | Ecological Services Director

Project Reference

Jane Turley, AICP, LA/Senior Planner
Village of Orland Park
Phone: (708) 403-6118
Email: jturley@orlandpark.org

Project Highlights:

- Designed a grading and utilities plan for the trails, gazebo, parking lot, amphitheater, and bioswales.
- Provided hydrologic design and modeling for the native bottom detention basin to meet MWRD requirements, as well as seed and plug mixes for the basin bottom and shoreline.
- Permeable pavers were used throughout the site to reduce runoff, promote infiltration, and provide educational opportunities.
- Created a five-year ecological management plan for the 14-acre wetland area at the northern limits of the park site for the benefit of trail users and bird watchers, as well as the local wildlife.

Project Architect:

Michelle Kelly, ASLA
Upland Design, Ltd.
24042 Lockport Street, Suite 200
Plainfield, IL 60544
Phone: (815) 254-0091
Email: mkelly@uplanddesign.com

Completed:

2019

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ENGINEERING RESOURCE ASSOCIATES

West Branch DuPage Regional Trail

Forest Preserve District of DuPage County, IL

Project Summary

ERA worked with the Forest Preserve District of DuPage County (lead agency) and the Village of Winfield to provide Phase I, II and III engineering services for a CMAQ/ITEP/DCOE funded 3.5-mile multi-use trail. The crushed aggregate and paved trail extends from West DuPage Woods through high quality uplands, onto low volume local streets and adjacent to the West Branch of the DuPage River. The project included the installation of a prefabricated bridge, retaining walls and 600 feet of boardwalk to avoid environmental conditions within a tight corridor. Construction staging was required to avoid impact to endangered species. The project included a high visibility mid-block crossing, improvements adjacent to a grade school and a regional park. Assisted District with successful funding applications for $2.2 million project.

ERA Project Team

John Mayer, PE CFM | Principal/Project Manager (Phase I and II)
Marty Michalisko, PE CFM | Principal/Lead Water Resource Engineer
Melissa Lange, PE, SE | Structural Engineer
Brian Dusak, PE | Project Manager (Phase III)
Erin Pande, PWS, CFM | Ecological Services Director
Andrew Kustusch, PE, CFM | Environmental Engineer
Ravi Patil | Resident Engineer

Construction Cost: $2.6 Million

Completed: Construction 2017-2018

Project Highlights:

- 3.3 total miles of trail
- 10 ft trail with aggregate and asphalt paved sections
- 3 sections of boardwalk totaling 600 ft
- 150 ft span prefabricated bridge structure 14 ft wide
- On-street, within R.O.W. and Off-street path sections
- IDOT BLRS design contract
- ERA assisted with the preparation of ITEP, CMAQ, DECO grant applications. The District received $2.2 Million from CMAQ, ITEP and $100,000 from DECO.
- Phase I (local), Phase II & III (FHWA) engineering services were provided
- Close coordination with IDOT, FHWA, Winfield Township, School District, Village of Winfield, DuPage County, USACE, IDNR and IEPA were required
- Trail easements required for four parcels

Project Reference:

Kevin Horsfall
3S580 Naperville Road
Wheaton, IL 60189
Phone: (630) 933-7242
Email:khorsfall@dupageforest.com

IDOT BLRS Reference:

Marilin Solomon (Phase I)
Phone: (847) 705-4407

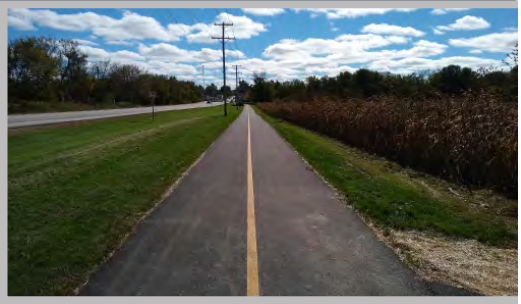
David Herman (Phase II)
Phone: (847)705-4487

Jeff Mysliwiec (Phase III)
Phone: (847) 705-4278

ENGINEERING RESOURCE ASSOCIATES

Great Western Trail - Brickville to Main, Phase I/II/III Engineering

Sycamore Park District, IL



Project Summary

ERA provided Phase I and II Engineering for ITEP funded 5300-foot paved multi-use trail. A 2600-foot section extends within State ROW adjacent to a middle school. A 2700-foot section meanders along the South Branch of the Kishwaukee River. The project included floodway and floodplain mitigation and permitting, farmed wetlands, a high visibility midblock intersection crossing, specification to protect identified endangered species. ERA Assisted with securing ITEP funding for the project. The new section of trail provides a safe route for Sycamore Middle School students to walk to school. Portions of the trail are within floodway, IDOT ROW, and farmed wetlands. Phase I engineering included Project Development Report (PDR), and Environmental Survey Request (ESR). Phase II included construction documents and securing Permitting was required through IDNR, USCOE, DSWCD and City of Sycamore.

ERA Project Team

John Mayer, PE, CFM | Principal / Project Manager
Jon Green, PE, CFM | President / Project Director
Andrew Kustusch, PE, CFM | Project Engineer
Brian Dusak, PE | Principal / Lead Resident Engineer
Erin Pande, PWS, CFM | Wetland Specialist
Charles Harrison | Resident Engineer

IDOT BLRS Reference:

Steve Chery, Local Roads Engineer (Phase I/II)
Phone: (815) 434-8514 Email: Steve.chery@illinois.gov

Joseph Spika (Phase III)
Phone: 815-434-8477 Email: Joseph.Spika@illinois.gov

Project Highlights:

- 5,300 linear feet of trail
- 10’ wide asphalt trail
- Collaborative effort between Park District, School district and City
- Trail improvements within state route ROW
- Part of Great Western Trail Extension plan connecting trails throughout Sycamore
- Assisted the District in successfully applying for ITEP funding

Project Reference:

Daniel Gibble
Executive Director
940 East State Street
Sycamore, IL 60178
Phone: (815) 895-3365
DanielG@sycamoreparkdistrict.com

Engineering Fees:

$45,000 (Phase I)
$65,000 (Phase II)
$71,000 (Phase III)

Construction Cost: $650,000
Completion Date: 2018

Contract No. 87685
Letting Date: April 27, 2018

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ENGINEERING RESOURCE ASSOCIATES

Great Western Trail Extension
Sycamore Forest Preserve to Old Mill Park
Phase I/II/III Engineering

Sycamore Park District, IL

Project Highlights:

- 4,100 linear feet of asphalt trail
- 200' steel pedestrian bridge
- 180' timber bridges and boardwalks
- Collaborative effort between Park District, Forest Preserve, City and State
- Part of Great Western Trail Extension connection trails throughout Sycamore

Project Summary

ERA provided Phase I, II, and III Engineering for a federally funded 4,100-foot extension of the Great Western Trail from the Sycamore Forest Preserve across the Kishwaukee River towards downtown Sycamore. The project features a 200-foot steel truss pedestrian bridge, two timber bridges, and 130 feet of timber boardwalk. ERA's services included wetland delineation and permitting, topographic survey, floodway and floodplain mitigation and permitting, hydraulic bridge reporting, public involvement coordination, final engineering document preparation, land acquisition services, and construction engineering services. Construction Engineering services included IDOT letting assistance, project coordination, shop drawing review, construction layout, and review of the Regulated Substances Pre-Construction Plan (RSPCP). ERA provided tree removal oversight, pile driving oversight and bearing calculations, abutment and approach slab inspection, timber boardwalk inspection, storm sewer installation, HMA paving, and full site restoration. Phase III documentation included maintenance of a project diary, measuring quantities, material certification, authorizations of contract changes, and monthly progress payments utilizing IDOT's new CMMS documentation software. ERA also assisted in securing federal ITEP funding for this project as well as Phase 1 design approval for a future 2,400-foot trail extension.

ERA Project Team

John Mayer | Project Manager
Andrew Kustusch | Project Engineer
Melissa Lange| Structural Engineer
Erin Pande| Wetland Specialist
Brian Dusak | Lead Resident Engineer
Chris Sedlacko | Resident Engineer

Project Reference:

Jonelle Bailey
Executive Director
940 East State Street
Sycamore, IL 60178
Phone: (815) 895-3365
jonelleb@sycamoreparkdistrict.com

IDOT BLRS Reference:

Steve Chery (Phase I & II)
Local Roads Engineer
Phone: (815) 434-8514
Email: steve.chery@illinois.gov

Kyle Videgar (Phase III)
Area Superintendent
Phone: 815-434-8427
Email: kyle.videgar@illinois.gov

Construction Cost: $2,107,600
Completion Date: 2021

Contract No. 87730
Item No. 194

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ENGINEERING RESOURCE ASSOCIATES

Devon Ave./W. Bartlett Rd. Drainage Swale & Bike Path Replacement

Village of Bartlett , IL

Project Summary

ERA prepared final engineering plans, specifications, and costs for the drainage and bike trail improvements along the south side of Bartlett Road at Devon Avenue. The existing trail had been constructed several feet lower than Bartlett Road and receives a significant amount of its runoff across the trail into a poorly drained swale. The trail was raised to match closer to the roadway elevation, while also accommodating adjacent driveway entrances. Drainage was improved with native bio-swales and culverts. The design followed current ADA guidance for trails, including the modification of the roadway crossing at Devon Avenue. Plans were prepared according to “Invest In Cook” funding. Permits were received from USACE, IDNR, and the Village of Bartlett. We also coordinated with MWRD to design the project in order to determine that no permit was required under the Watershed Management Ordinance.

ERA Project Team

John Mayer, PE, CFM | Principal / Project Manager
Brian Dusak, PE | Project QA/QC Director and Construction Lead
Andrew Kustusch, PE, CFM | Design Team Lead
Marty Michalisko, PE, CFM | Water Resource Lead
Erin Pande, PWS, CFM | Enviornmental Lead
Tim Martinek, PLS | Survey Lead

Project Reference:

Robert Allen
Village Engineer
Village of Bartlett
1150 Bittersweet
Bartlett, Illinois, 60103
Phone: 630-837-0811
Email: tisham@vbartlett.org

Construction Cost: $420,000

Completion Date: Phase I 2018

Construction Date: TBD

ENGINEERING RESOURCE ASSOCIATES

DuPage River Trail Bridge at River Road

Plainfield Park District, IL

Project Summary

ERA provided Phase I and II design engineering and Phase III construction engineering for the DuPage River Trail Bridge at River Road. The project included the design and installation of a 152'-0" bridge over the DuPage River, 750-ft of pedestrian trail, a compensatory storage facility, 350-ft of River Road reconstruction, and miscellaneous signage and other appurtenances.

The Phase I engineering consisted of preparing a Project Development Report (PDR), Categorical Exclusion Group II which included a Bridge Hydraulic Report, Geotechnical Report, environmental assessments and documentation, establish roadway geometrics and the anticipated right-of-way. The floodway jurisdiction is delegated to IDOT for review and approval and the floodplain was reviewed and approved by the Village. Phase II engineering consisted of the Plans, Specifications and Estimates (PS&E). Phase III engineering consisted of the full-time construction observation and documentation. ITEP funding was used in the project requiring implementation of federal procedures.

ERA Project Team

John Mayer, PE, CFM | Principal/Project Manager (Phase I & II)
Brian Dusak, PE | Project Manager (Phase III)
Marty Michalisko, PE, CFM | Principal/Water Resource Engineer Lead
Jennifer Loewenstein, PE, CFM, CPESC | Sr. Water Resource Engineer
John Frauenhofer, PE, SE | Senior Structural Engineer
Jacob Wolf, PE | Principal/Structural Engineer
Andrew Johnson | Resident Engineer
Chris Sedlacko, PE | Assistant Resident Engineer

Project Highlights:

- 14 ft wide, 150 ft long prefabricated bridge crossing the DuPage River
- Reconstruction of River Road
- Permits secured by USACE, IDNR/OWR, IDOT, IEPA and the Village of Plainfield
- Com-Ed license agreement secured
- Compensatory storage for floodway and floodplain fill
- Federal Funding (ITEP) was used
- IDOT/FHWA coordination

Project Reference:

Jennifer Rooks-Lopez
Director of Planning and Procurement,
23729 W. Ottawa Street
Plainfield, IL 60544
Phone: (815) 254-6180
rooks-lopez@plainfieldparkdistrict.com

IDOT BLRS Reference:

Marilin Solomon (Phase I)
(847) 705-4407
Kevin Stallworth (Phase II)
(847) 705-4169
Babatunde Owolabi (Phase III)
(847) 705-4752

Engineering Fees:

$66,000 (Phase II), $73,000 (Phase III)

Construction Cost: $803,000

Completion Date: August 2016

ENGINEERING RESOURCE ASSOCIATES

Mack Road Trail Extension

City of Warrenville, IL

Project Summary

The Phase I Engineering for the addition of a proposed bike path along the north side of Mack Road that crosses over the West Branch of the DuPage River. The Phase I Engineering includes an alternative analysis study for three alignments, and a Bridge Condition Report (BCR) to investigate the widening-in-kind improvements required to accommodate the proposed path. Other alternatives included on-street bike lanes, and a bike path along the south side of Mack Road with a prefabricated, pedestrian bridge and a mid-block cross walk. Traffic signal modifications at the IL Route 59 and Mack Road intersection were also analyzed to accommodate the proposed path. The City was awarded STP bridge funds for this project.

ERA Project Team

John Mayer, PE, CFM | Principal/Project Manager
Jon Green, PE, CFM | President/Project Director
Marty Michalisko PE, CFM | Principal/Lead Water Resource Engineer
Melissa Lange, PE, SE | Structural Engineer Lead
Nick Varchetto, PE | Roadway Engineer Lead
Erin Pande, PWS, CFM | Ecological Services Director
Andrew Kustusch, PE, CFM | Environmental Engineer
Kristina Kolodziejczyk | Design Engineer

IDOT BLRS Reference: Marilin Solomon- Phone: (847) 705-4407

Project Highlights:

- Phase I engineering
- Designed bike trail connection to the DuPage County Regional Bike Trail network
- Traffic Signal Modifications
- Widen-in-kind of existing bridge
- Alternative Analysis

Project Reference:

Kristine Hocking, PE, CFM
Senior Civil Engineer
City of Warrenville
3s258 Manning Avenue
Warrenville, IL 60555
Phone: (630) 836-3066
Email: khocking@warrenville.il.us

Construction Cost: $563,648

Consultant Fees: $104,400

Completed: 2017-On-Going

ENGINEERING RESOURCE ASSOCIATES

Vermont Cemetery Native Restoration and Trail Project

Forest Preserve District of Will County, IL

Project Summary

ERA was retained by the Forest Preserve District of Will County for the Vermont Cemetery Access project. ERA's Environmental Services team will provide innovative and low impact design solutions to develop the 24-acre Vermont Cemetery Preserve. The amenities include a trail head parking area, 6,100 ft bicycle trail, native planting plans, and incorporating a variety of best management practices (BMPs) to protect a valuable remnant prairie and to mitigate pollutants from impervious surfaces. The multi-use paved trail extended along a ComEd transmission line corridor adjacent to residential subdivisions. Several residential connections trails were provided. The trail crossed one major collector street and two residential streets. USCOE permitting was required due to the unique Grade A dry-mesic prairie and rare species identified by the Illinois Nature Preserve.

ERA Project Team

Erin Pande, PWS, CFM | Ecological Services Director/Project Manger
Rodney Beadle, PE, CFM | Project Director
John Mayer, PE, CFM | Principal / Senior Project Engineer

Project Highlights:

- Provide innovative and low-impact design solutions to mitigate impacts of new recreational amenities
- Design of a 30-space parking lot
- Construction of a 10-foot-wide, 6,100 ft long asphalt bike trail
- ComEd transmission line corridor.
- Develop native planting plan appropriate for proximity to remnant prairie
- Implement Best Management Practices (BMPs)

Project Reference:

Matt Novander | Project Manager
Forest Preserve District of Will County
17540 W. Laraway Road
Joliet, IL 60433
Phone: (815) 722-9412
Email: mnovander@fpdwc.org

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ENGINEERING RESOURCE ASSOCIATES

Key Staff Summary

ERA Team Summary

ERA's headquarters is based out of Warrenville, IL with additional offices in both Champaign and Chicago. The staff working for the Village of Orland Park will all be coming from our Warrenville location. We have 45 total people on staff which include a combination of professional engineers, structural engineers, environmental scientists, GIS/CAD technicians, and other supplemental staff. On the following pages we have provided resumes of key personnel that would perform major roles on this project.

Key Personnel

Howard Killian, PE – Project Manager
Howard Killian is a recent addition to the ERA leadership team as of May 1, 2021. He joins our team with over 33 years of experience in municipal design and construction. His experience as public works director with Hanover Park and the City of Elmhurst will provide an unmatched understanding of design and communication/coordination challenges that arise during the project. He has successfully managed multiple projects involving State and Federal Funds, from concept to completion, including roadway, stormwater, and pedestrian path projects.

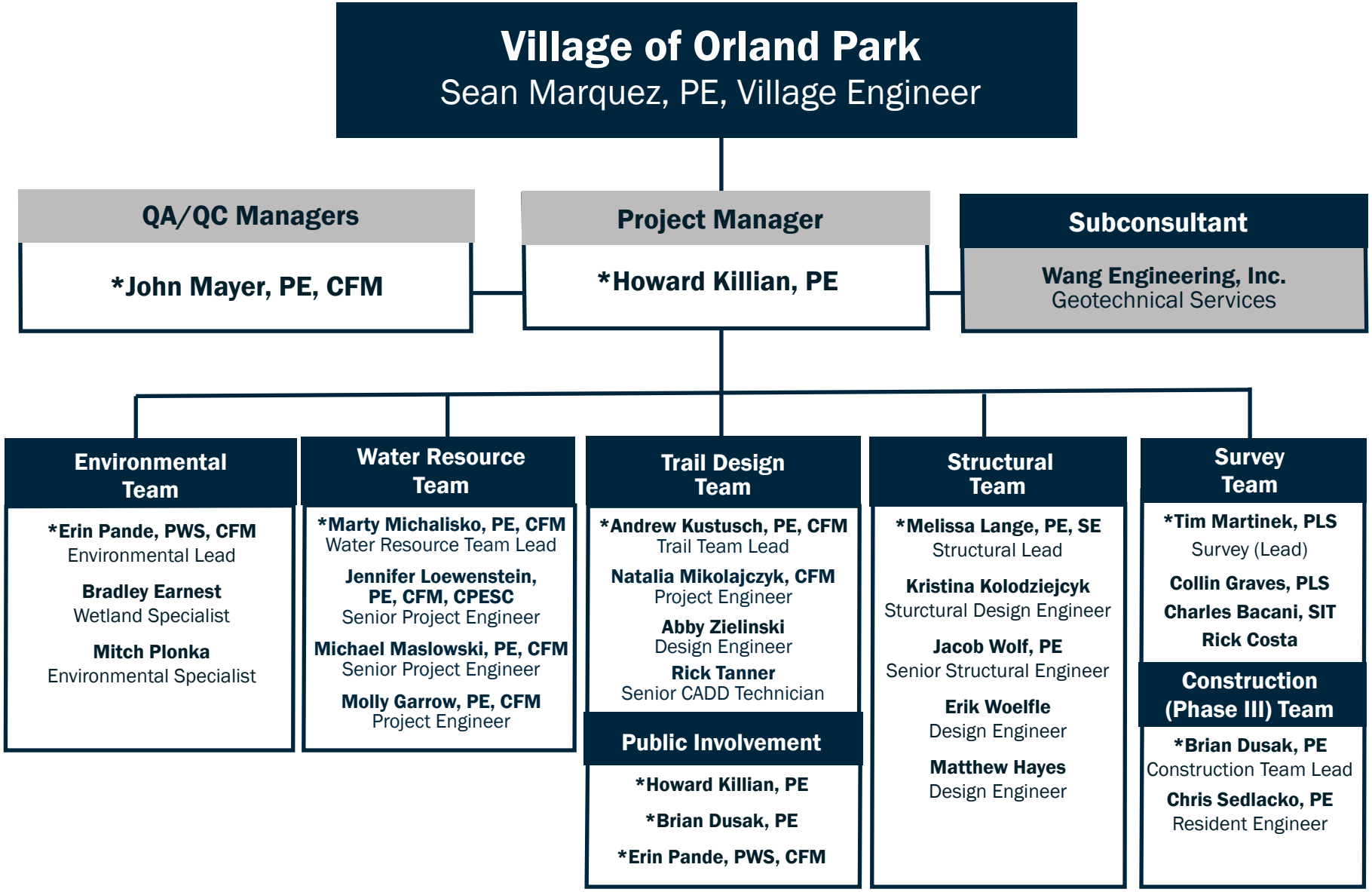
John Mayer, PE, CFM – Project Director
John brings more than 31 years of professional engineering experience in Phase I and II engineering projects. His resume includes diverse solutions for a wide range of improvements in trail projects, roadway rehabilitation, traffic, traffic signals, stormwater, infrastructure, lighting, streetscape. He has served in a similar role for the City of Warrenville, Plainfield Park District, Wheaton Park District, and Sycamore Park District.

Andrew Kustusch, PE, CFM – Lead Design Engineer
Andrew has diverse project experience in bicycle and pedestrian facility design for federally funded projects. A strong team leader, Andrew is highly responsive and often leads the IDOT pedestrian design projects which includes IDOT structures, boardwalks through wetlands, environmental services, stormwater, floodplain management, and grant applications. He has done similar work for various clients including City of Warrenville, Plainfield Park District, Forest Preserve District of DuPage County, Wheaton Park District, and Sycamore Park District.

Erin Pande, PWS, CFM – Environmental Lead
Erin has over 20 years' experience leading environmental assignments. Her responsibilities will include wetland delineations, threatened and endangered species consultations, tree inventories, streambank stabilization, natural area restoration, water quality enhancements and permitting. She will also serve as the liaison between the U.S. Army Corps of Engineers, IEPA, MWRD, and Will-South Cook Soil & Water Conservation District.

Marty Michalisko, PE, CFM – Water Resource Engineering Lead
Marty has over 19 years of experience in a variety of water resource projects including extensive work with floodplain modeling. He has expertise in stormwater permitting through IDNR/OWR and MWRD which will be the major regulatory agencies involved in the work. Marty will lead a small staff of water resource engineers in the design and analysis of the anticipated path crossing of Tinley Creek and in the permitting coordination with the above-mentioned agencies.

Melissa Lange, PE, SE - Lead Structural Engineer
Melissa will serve as Lead Structural Engineer. She has over 22 years of professional experience with extensive experience in design of highway and pedestrian structures through IDOT's Bureau of Bridges and Structures. Melissa is well versed in the federal funding procedures and has served in this role on several similar assignments for clients including City of Warrenville, McHenry County, Lake County, City of Naperville, DuPage County Forest Preserve, Lake County Forest Preserve, and Sycamore Park District.



* Resumes Included

ENGINEERING RESOURCE ASSOCIATES

Howard Killian, PE
Project Manager

Project Experience:

DuPage County 55th Street – Dunham Road to Clarendon Hills Road Construction Engineering, DuPage County Division of Transportation, IL - Project Manager for construction engineering services for the $8.5M 55th Street improvements from Dunham Road to Clarendon Hills Road. Improvements include widening 55th Street at two intersections, resurfacing, ADA facilities, traffic signal modernization, and traffic signal interconnect services. Howard was responsible for preparing ICORS documentation, weekly reports, daily reports, coordinating with the contractor, County, and City officials, and assigning of inspectors to daily work. The project was completed in 2020.

Previous Experience with Other Organizations:
Public Works Director, City of Elmhurst

- Managing a 98-person department consisting of Engineering, Public Works Operations, Water Department, Wastewater Treatment Plant and parking
- Managing operations of a 20 MGD water reclamation facility with over 150 miles of sanitary sewers and nine pumping stations
- Overseeing $30 Million multiyear stormwater improvement project
- Coordinating IEPA Consent Order Compliance including inflow and infiltration inspection and reduction
- Overseeing Phase I grant and execution of a $25 Million Elmhurst Metra Station
- Overseeing construction of a new salt storage facility capable of providing a full season of salt storage
- Overseeing city-wide water meter change out and leak detection program
- Leading design and construction of City Hall remodeling project using the Job Order Contracting procurement method
- Coordinating Police Station HVAC replacement project including bringing in temporary emergency chiller units

Director of Public Works and Engineering
Village of Hanover Park

- Managing a 46-person department consisting of Engineering, Building Maintenance, Streets, Forestry, Sanitary Sewer, Meter, Water Distribution, Sewer Treatment Plant, Commuter Lot, and Vehicle Maintenance
- Managing operations of 2.4 MGD wastewater treatment facility, including seven pumping stations
- Managing operations of 2.6 MGD water distribution system consisting of over 110 miles of watermain and six pumping/storage locations, serving over 11,000 connections
- Implementing energy saving programs including LED lighting, power conditioners and capacitors resulting in reduced energy costs for Village operations
- Negotiated agreement with private landfill operators for Village treatment of landfill leachate
- Writing and obtaining sub-regional planning grant from Regional Transportation Authority for study of a public transit route
- Guiding Veterans Committee in design and construction of Veterans Memorial

Education/Certifications:

- Bachelor of Science in Civil Engineering, Bradley University 1986
- Masters of Public Administration, Roosevelt University 2004
- PE - IL - 06-2047329
- IDOT Documentation of Contract Quantities Cert No. 20-18059

Special Training:

- IDOT Regulated Substances, Construction Projects & Special Provisions
- OSHA 10 Hour Construction Safety and Health
- NIMS IS-200 ICS for Single Resources and Initial Action Incidents

Professional Awards

- 2020 Top Ten - American Public Works Association
- APWA Chicago Metro Chapter Suburban Branch 2020 Top Ten Leader
- APWA Chicago Metro Chapter 1999 Young Leader of the Year

Years of Experience:

- 33 years

ENGINEERING RESOURCE ASSOCIATES

John Mayer, PE, CFM
QA/QC Manager/Principal

Project Experience:

West Branch DuPage Regional Trail, Forest Preserve District of DuPage County, IL – Project Manager (Phase I and II) for the design and construction of a 17,500-foot bicycle trail to connect the Geneva Spur of the Illinois Prairie Path in Winfield Mounds Forest Preserve through downtown Winfield and to existing trails in West DuPage Woods Forest Preserve. The project included the installation of crushed aggregate and bituminous multi-use trail section, a prefabricated bridge, crossing of High Lake Road, three sections and 600 ft of boardwalk, retaining walls, signage, compensatory floodplain storage and native restoration. ERA assisted the District in securing ITEP/CMAQ funding for the $2.2 million project.

Sycamore Trail - Brickville to Main, Phase I, II and III, Sycamore Park District, IL – Project Manager (Phase I and II) provided engineering for 5,000 linear feet of improvements to existing trails and new trail design. 2,500 linear feet of trail was widened along Illinois Route 23 (Main Street) between the South Branch of the Kishwaukee River to Maplewood Road. Another 2,500 linear feet of new trail connects an existing trail with an at grade crossing of Brickville Road. Portions of the trail are within floodway, IDOT ROW, and farmed wetlands. The project included ITEP funds.

DuPage River Trail Phase I, II, and III, Plainfield Park District, IL – Project Manager (Phase I and II) assisted the Park District in securing ITEP funding for the project. ERA provided Phase II and III engineering for the 0.75mile trail that included a 150 feet bridge crossing over the DuPage River and a three section box culvert crossing at the West Norman Drain. The project involved permitting for floodplain, floodway, and wetland impacts. Funding was provided through local, state, and federal programs including HPP, ITEP, SAFETEA-LU, and ARRA.

Mack Road Bike Path/Trail Connection, Warrenville, IL – Project Manager for Phase I engineering services for the .36-mile section of a 10-foot-wide bike trail/ multi-use path connection along Mack Road located just east of Illinois Route 59 to the DuPage County Regional Bike Trail network via the West Branch Regional Trail. Improvements for Illinois Route 59 include crosswalk alignments, and traffic signal modifications. The project elements included environmental sensitivity to the forest preserve area, grade limitations, a dog park, and boat launch. The crossing at the West Branch River includes an existing bridge extension. The project is located within the Forest Preserve District of DuPage County (FPDDC) and the Winfield Township District. Surface Transportation Program (STP) Federal funding, FPDDC and City of Warrenville shared the cost for this project.

Vermont Cemetery Access and Trail, Will County, IL – Senior Project Engineer worked on the design of an innovative and low impact solution to improve the 24 acre Vermont Cemetery Preserve. John completed civil engineering for the 30 space parking areas, 10 ft wide, 1 mile long asphalt bicycle trail, vault toilets and incorporating a variety of best management practices (BMPs).

Education/Certifications:

- Bachelor of Science
  Civil Engineering
  University of Wisconsin–Milwaukee – 1986
- PE – IL – 062-047345, 1992
- PE – IN – PE10708044
- PE – WI – E27723-6, 2007
- Certified Floodplain Manager
  IL - 06-00257
- Kane County Qualified Review Specialist
- Remote Pilot Certificate

Areas of Expertise:

- Lead projects with various funding sources including: ARRA, ITEP, MFT, 319(h), IGIG, SAFETEA-LU, AASHTO, CMAP, STP, CMAQ, TCM and OSLAD
- Lead Designer for recreational trails, watershed management, transportation, street lighting, downtown streetscape, stormwater and infrastructure projects
- Hydraulics and hydrology design, permitting, and modeling

Years of Experience:

- 34 years, 23 with ERA

ENGINEERING RESOURCE ASSOCIATES

John Mayer, PE, CFM
QA/QC Manager/Principal

Project Experience Continued:

Old Plank Road Trail Phase IV, Forest Preserve District of Will County, IL – Project Manager for survey, design, permit and construction administration of the Old Plank Road Trail Phase IV project. The project extended the existing trail approximately one mile adjacent to residential, commercial and light industrial use. The project required utilizing an abandon railroad bed and pavement sections adjacent to commercial areas. Permitting was required through local agencies. An open parcel of land was converted into a new fully-accessible trail head with amenities including a shelter, privy vault, drinking fountain, kiosk, 15-space parking lot, and storm water detention.

Butterfield Road (IL Route 56) Streetscape Enhancement and Lighting Project, Warrenville, IL – John provided Phase I, II and III engineering services for the street beautification project along IL Route 56 Butterfield Road and Batavia Road, 3800ft. John worked together with Hitchcock Design Group completing project elements including gateway features, enhancements to the Illinois Prairie Path Bike Trail including crossing Batavia road, way finding, LED roadway lighting and LED decorative post top lighting. The project was funded with ITEP funds requiring federal compliance and IDOT review and letting procedures.

Rock Run Corridor Trail Bike Path, Joliet, IL – Project Engineer worked on the construction of a new 4.0 mile bike path extending under an I-80 underpass, through Joliet Junior College property, a CSX railroad crossing and the Joliet Municipal Airport property. The project included the construction of a 100-foot pedestrian bridge requiring floodplain and floodway modeling and compensatory storage.

22nd Street Roadway, Streetscape, Lighting and Beautification, Oak Brook, IL – Project Manager for Phase I, II, III engineering services for beautification and roadway improvements along 3,600 feet section of an unmarked state route. Improvements included planter areas, gateway monumentation, and decorative street lighting conforming to IDOT standards and requirements. He assisted with the award of ITEP funds, while utilizing the Federal Flexible Match Program (FFMP) for the project.

Mid County Trail – Peck Farm Link, Forest Preserve of Kane County, IL – Project Manager for surveying, design engineering, wetland delineations and permitting services for a 110 foot span bridge along a 700 foot bituminous trail located at Fabyan Parkway and Kaneville Road. The trail crosses over Mill Creek. The trail is designed to facilitate bicycle traffic primarily through park district land.

Areas of Expertise Cont'd:

- VillageEngineer Review Consultant
- Actively involved in various watershed groups: DRSCWC, LDRWC, LDGP.
- 10 years experience with traffic signal and street lighting operations and design for over 100 signalized intersections and numerous interconnect systems.

Professional Experience:

- Engineering Resource Associates Principal / Project Manager (1998-Present)
- City of Joliet Civil Engineer/Traffic Engineer (1987-1998)

Professional Affiliations:

- American Public Works Association Past President - Southwest Branch
- Association of State Floodplain Managers
- Institute of Transportation Engineers
- Illinois Association for Floodplain

ENGINEERING RESOURCE ASSOCIATES

Andrew Kustusch, PE, CFM
Trail Design Team Lead

Project Experience:

West Branch Regional Trail, Forest Preserve District of DuPage County, Winfield, IL – Project Engineer for Phase I and Phase II engineering design of a 17,500-foot bicycle trail that connects the Geneva Spur of the Illinois Prairie Path to the West Dupage Woods Forest Preserve. The trail traverses through the Winfield Mounds Forest Preserve and downtown Winfield. This project received CMAQ funding. Project responsibilities included data collection, topographic survey, environmental studies, drainage studies, preliminary design, public involvement, cost estimation, preparation of a Project Development Report, right of way acquisition, and preparation of final plans, specifications, and estimates.

DuPage River Trail Phase II / III, Plainfield Park District, IL – Project Engineer for Phase II and III engineering for a 0.75 mile trail and a 150 feet bridge crossing over the DuPage River. The project involved extensive permitting for floodplain, floodway, and wetland impacts, as well as IEPA SWPPP permitting. Andrew also developed the IDOT Preliminary Bridge Design and Hydraulic Report. Funding was provided through local, state, and federal programs including HPP, ITEP, SAFETEA-LU, and ARRA.

Sycamore Trail - Brickville to Main, Phase I, II, and III, Sycamore Park District, IL – Project Engineer that provided environmental and civil engineering services for the 5,000 linear feet of trail improvements north of the downtown Sycamore area. The trail was awarded ITEP funds in 2016. The Phase II trail design involved permitting through the IDNR Office of Water Resources, US Army Corps of Engineers, City of Sycamore, and DeKalb County. The project was let through IDOT District 3 in April 2018, and construction will begin in July 2018. ERA will provide phase III construction engineering for the project as well.

Great Western Trail Extension Phase I, Sycamore Park District, IL – Project Engineer that provided environmental and civil engineering services for the 6,500 linear feet of trail improvements that will extend the current limits of the Great Western Trail to the Park District's Old Mill Park. The Phase I design involved design of drainageway crossings, determination and avoidance of wetland areas, floodplain compensatory storage design, Section 4(f) lands reviews, and identification of easements and ROW required. Segment 1 of the project was awarded ITEP funding in 2018.

Mack Road Trail Extension, Bridge Replacement and Widening, Warrenville, IL – Environmental Engineer for Phase I engineering services for the 0.36-mile section of a 10-foot-wide bike trail/ multi-use path connection along Mack Road located east of Illinois Route 59 to the DuPage County Regional Bike Trail network via the West Branch Regional Trail. The project elements include addressing environmental sensitivity to the high-quality forest preserve area, and grade limitations, and floodplain/flooding mitigation and permitting. The crossing at the West Branch River includes an existing bridge extension with a raised roadway profile to meet hydraulic requirements.

Education/Certifications:

- Master of Science, Environmental Engineering, University of California Berkeley-2012
- Bachelor of Science Civil and Environmental Engineering University of Illinois – 2011
- PE – IL 062-067858 - 2015
- PE - CO 0056328 - 2019
- Certified Floodplain Manger US-19-11230

Areas of Expertise:

- Park Site Development
- Multi-Use Bike Trail Concept Planning and Design
- Floodplain Mgnt and Permitting
- Stormwater Mgnt and Modeling
- Low Impact Green Infastructure
- Streambank Stabilization and Restoration
- Stormwater Ordinance Revision
- Grant Application Assistance

Professional Training:

- FHWA-NHI-NEPA- Course 2017
- Wetland Plant Identification Course, DuPage County Stormwater Mangement

Years of Experience:

- 9 years, 9 with ERA

ENGINEERING RESOURCE ASSOCIATES

Andrew Kustusch, PE, CFM
Trail Design Team Lead

Project Experience Continued:

Nash Recreation Center Parking Lot Improvement Project, Oregon Park District, IL – Project Engineer for the design and construction engineering services for the Nash Recreation Center Parking Lot Improvement Project. This primary facility is the location of the Park District District's Administration Staff, Aquatic Center, recreational courts and classroom programing. The improvements included the construction of a new 25-space parking lot, the total reconstruction of a 58-space lot, new overhead and bollard LED lighting, structural modifications, permeable brick pavers and message board. The project was also permitted through the City of Oregon. The construction phase is planned to commence May 2016.

Oak Meadows Golf Course Preserve Master Plan, **Forest Preserve District of DuPage County, IL** –Project Engineer that provided environmental and civil engineering services to design water quality, wetland expansion, and stormwater management. Andrew developed the Salt Creek by modifying existing and proposed HEC-RAS hydraulic model and the floodplain compensatory storage areas for permitting. Andrew also aided the design of the native wetland and upland restoration and creation areas onsite, which comprise of 130 acres of the project area. He designed the hydrology control system for 24.6 acres of wetland mitigation as well as 21 best management practice rain gardens and swales throughout the site to treat golf course-related stormwater runoff. Andrew also designed the stormwater management pollution prevention plan for the site.

Monticello Sports Complex, Monticello, IL – Project Engineer for the development of a detailed outdoor 30-acre multi-sports recreation complex. The complex includes two full size football fields, six various size soccer fields, three various size baseball fields, two basketball courts, one tennis court, one skate park, one playground, one press box/storage/restroom/concession building, paved walking path, paved parking lot(s), shelters with seating and landscaping throughout. Prior to development, the land was utilized for agricultural production. Existing city-owned infrastructure and other utilities are located adjacent to this parcel. Project includes the extension of sanitary and water mains to serve future development west of the complex.

Warrenville Road Bridge, DuPage County DOT, IL – Project Engineer for the Warrenville Road Bridge Replacement over the West Branch of the DuPage River for Phase I (preliminary design) design services. The tasks involved were FEQ analysis, HEC-RAS analysis, Environmental Survey Request (ESR), Preliminary Environmental Site Assessment (PESA), preliminary design assistance, wetland/ riparian impacts, mitigation, permitting assistance including Army Corps individual permit, 401 water quality certification, and IDNR/OWR.

Professional Training (Continued):

- FHWA-NHI-HWY Traffic Noise Course-2018
- ADA PROWAG Requirements Class
- Beyond the Basics Sormwater BMP Seminar
- Wetland Delineation Course, Institute for Wetland and Environmental Education
- IEPA Field Sampling Methods

Professional Experience

- Engineering Resource Associates Environmental Engineer (2012-Present)
- Illinois Environmental Protection Agency, Governor's Environmental Corps Intern, (Summer 2011)
- MWH Americas, Inc. Energy and Resource Sustainability Intern, (Summer 2008, 2010)

Professional Affiliations:

- American Public Works Association
- Colorado Association of Floodplain and Stormwater Management
- Illinois Association of Floodplain and Stormwater Management
- DuPage River Salt Creek Workgroup

ENGINEERING RESOURCE ASSOCIATES

Erin Pande, PWS, CFM
Environmental Lead

Project Experience:

Illinois Prairie Path Geneva Spur and Great Western Trail Connector, West Chicago, IL – Ecological Services Director for Phase I, II, and III services for the design and construction of connecting trails to Reed-Keppler Park. The trail connects the Illinois Prairie Path's Geneva Spur to the Great Western Trail. Three parcels required Federal Land Acquisition procedures. Project funded by STP federal funds administered by the State of Illinois.

DuPage River Trail Phase II and III Engineering, Plainfield Park District, IL – Ecological Services Director worked on a mile-long bike path along the DuPage River. Proposed path was completely within the floodplain and floodway of the river. She delineated wetlands within the scope of the project. The path routing was carefully chosen to avoid wetlands and other special management areas. One bridge crossing the DuPage River and two crossing of tributaries were included in this stretch of path. Design included wetland impacts on-site wetland mitigation. She assisted in acquiring all required permits from federal, state and local agencies. ERA continues to perform vegetation monitoring services for this project.

Barth Pond Shoreline Stabilization, Downers Grove, IL – Ecological Services Director for the design of a shore line stabilization, water quality treatment outlet modifications, and an ADA-accessible path around Barth Pond at Patriots Park. The innovative site design remains sensitive to the pond's intended uses for recreational activities and community flood control, and promotes environmental stewardship. An alternate outlet with remote drawdown capabilities was designed to lower pond levels prior to storm events. Project was awarded the APWA Suburban Branch Environmental Project of the Year.

Mid-County Trail Peck Farm Link, **Kane County, IL** – Ecological Services Director performed wetland delineation, floristic quality assessment, and wetland mitigation design for permitting a bike path and bridge over Mill Creek under Kane County and the USACE jurisdiction.

Broadview Slough Path and Pier, Lombard, IL – Ecological Services Director worked on the construction of a 5-foot-wide pedestrian path, a floating wildlife observation pier and picnic shelter in Broadview Slough. The new path will consist of highly permeable, 100% post-consumer recycled glass. Performed the necessary permitting and wetland work.

West Branch Regional Trail, Forest Preserve District of DuPage County, Winfield, IL – Environmental Lead for Phase I and Phase II engineering design of a 17,500-foot bicycle trail to connect that connects the Geneva Spur of the Illinois Prairie Path to the West DuPage Woods Forest Preserve. The trail traverses through the Winfield Mounds Forest Preserve and downtown Winfield. This project received CMAQ/ITEP/DCOE funds for this 3.5-mile multi-use trail. Close coordination with IDOT, FHWA, Winfield Township, School District, Village of Winfield, DuPage County, USACE, IDNR and IEPA were required.

Education/Certifications:

- Bachelor of Arts Major Biology, Environmental Studies & Geology Augustana College – 2001
- Professional Wetland Scientist – #1927
- Certified Floodplain Manager – IL-14-00661
- Lake County Stormwater Mgmt. Comm, Certified Wetland Specialist #C-083
- Kane County Stormwater Mgmt. Qualified Wetland Review Specialist W-049
- McHenry County Certified Wetland Specialist
- Rosgen Level I: Applied Fluvial Geomorphology

Professional Experience:

- Engineering Resource Associates Ecological Services Director/ Environmental Specialist (2004-Present)
- DuPage County Stormwater Management Division Senior Environmental Technician (2001-2004)

Years of Experience:

- 19 years, 16 with ERA

ENGINEERING RESOURCE ASSOCIATES

Erin Pande, PWS, CFM
Environmental Lead

Project Experience Continued:

Bartlett Rd. Drainage and Pathway Improvements, Bartlett, IL – Erin was the environmental lead for final design of the improvements to the multi-use trail and poor drainage areas at Devon Avenue and West Bartlett Road. Previously, stormwater drained through two curb cuts along West Bartlett Road and across the path, creating flooded conditions for trail users, long-term damage to the path, and nuisance ponding for adjacent properties. She was part of the team that designed the relocation of the path closer to the roadway in order to elevate it well above the ponding areas, while still maintaining safe roadway separation. Plans were prepared in accordance with the Invest in Cook program requirements. Erin assisted with permitting through USACE, IDNR EcoCAT, and Village of Bartlett.

DuPage County South Regional Trail, DuPage County, IL – Performed wetland delineation, floristic quality assessment, wildlife evaluation, DuPage County and USACE permitting for wetlands and riparian areas located within the project scope of the bike path.

Illinois Prairie Path, Aurora Branch, DuPage County, IL – Performed wetland delineations, wetland buffer, and riparian area permitting for the replacement of six (6) stormwater conveyance structures along a three-mile stretch of the Illinois Prairie Path near Wheaton for the DuPage County Department of Transportation. The project involved performing floristic, habitat quality, and hydroperiod assessments for each wetland to evaluate and avoid potential direct and indirect wetland impacts.

Stonebridge Trail Bridge, Wheaton, IL – Project Manager completed wetland delineation, design engineering, permitting and construction assistance for the repairs to a bridge and adjacent streambanks. The project involves the banks of Springbrook immediately adjacent to the Stonebridge Trail Bridge where erosion is existing due to the recent large storm events. Erin obtained permit approval through the DuPage County Stormwater Management, City of Wheaton Stormwater Management Permit, USACE Regional Permit #10 Bank Stabilization, Kane/DuPage SWCD sediment erosion control permit and IDNR/OWR Delegation Letter to DuPage County.

West Branch River Restoration and Hydraulics Improvements, Warrenville, IL – Ecological Services Director for a 5,750-foot river restoration project between Ferry Road and Warrenville Grove Dam. The project included an assessment of the streambank, delineation of numerous wetlands, avoidance and minimization and subsequent mitigation and permitting. An inundation / duration analysis was performed for the mitigation areas using FEQ. River restoration included riffles, 7,000 linear feet of streambank stabilization and removal of non-native invasive species. ERA assisted in securing $1.4 million in EPA 319h funds. Required permits included USACE, DuPage County, City of Warrenville, IDNR-OWR, IEPA, Kane - DuPage SWCD and IHPA

Special Training:

- Freshwater Mussel Workshop, Identification and surveys using the Field Guide to the Freshwater Mussels of Chicago Wilderness
- Applied Fluvial Geomorphology, 2012
- Illinois Soil Classifiers Association - Hydric Soils, 10/2011
- Illinois Soil Classifiers Association Midwest Interim Regional Supplement for Wetland Delineation, 02/2009
- Wetland Training Institute
- Planning, Site Selection and Hydrology Models for Constructed Wetlands, 10/2007
- Biotic Consultants, Inc. Wetland Plant Identification 2000-2010
- Cold Climate Stormwater BMPs 11/2006
- Illinois Hydric Soils, 08/2002
- Institute for Wetland & Env. Education & Research Corps Wetland Delineation Manual, 09/2001

Professional Affiliations:

- Illinois Association of Floodplain and Stormwater Management
- APWA Lake Branch Education Committee Chair
- DuPage River Salt Creek Workgroup
- Conservation Foundation
- Illinois Association of Environmental Professionals
- Society of Wetland Scientists

ENGINEERING RESOURCE ASSOCIATES

Marty Michalisko, PE, CFM
Water Resource Lead

Project Experience:

Bliss Road Culvert, Kane County Department of Transportation, IL – Water Resource Engineer responsible for the Phase I and Phase II engineering for the replacement of the restrictive culvert on Bliss Road servicing Lake Run Creek. The hydraulic modeling was completed and the new site was selected to reduce the frequency of the roadway overtopping and reduce upstream floodplain elevations. Permits secured included IDNR-OWR, Kane County Stormwater, KDOT and IDNR.

Kishwaukee Valley Road over Rush Creek Culvert Reconstruction, McHenry County DOT, IL – Lead Water Resource Engineer provided Phase I and II engineering services for the Kishwaukee Valley Road (SN056-3202) culvert reconstruction over tributary of Rush Creek. The project was locally funded. Work included stormwater analysis, HEC-RAS analysis, preliminary design assistance, hydraulic and stormwater report, permitting and obtaining approval through IDOT. Permits that were required from McHenry County Stormwater Management, U.S. Army Corps of Engineers, McHenry Soil and Water Conservation District and IDOT.

DuPage River Trail Phase II and III Engineering, Plainfield, IL – Project Engineer designing for Phase II and III engineering for a 0.75-mile trail and a 150 feet bridge crossing over the DuPage River. The project involved extensive permitting for floodplain, floodway, and wetland impacts. Funding was provided through local, state, and federal programs including HPP, ITEP, SAFETEA-LU, and ARRA.

Williams Road Bridge over West Branch of DuPage River, Warrenville, IL – Project Manager led the team for the stormwater design and permitting of the Williams Road Bridge replacement. Performed both FEQ modeling and HEC-RAS modeling to demonstrate conformance to the DuPage County West Branch addendum and floodplain / floodway regulations. In charge of acquiring approvals and permits from IDOT, Army Corps, Kane/DuPage Soil, Water Conservation District, and City of Warrenville.

Cook County Watershed Management Ordinance and Technical Guidance Manual, Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), IL – Senior Water Resource Engineer that assisted in the development of the first comprehensive, countywide watershed management ordinance (WMO) for Cook County. The WMO regulates over 130 communities of diverse economic backgrounds and included stormwater, flood plain and water quality development regulations. Services included white paper research and coordination with stakeholders, watershed planning organizations and governmental agencies in the development of the environmental aspects of the ordinance standards.

Hart Road Bridge Replacement, Lake County DOT – Lead Water Resource Engineer for Phase I and II engineering services for the replacement of the Hart Road bridge over Flint Creek. Project included shifting the bridge south to align better with the creek. Work included stormwater analysis, HEC-RAS analysis, preliminary design assistance, hydraulic and stormwater report, permitting and obtaining approval through IDOT.

Education/Certifications:

- Bachelor of Science
  Civil Engineering
  University of Iowa – 2000
- Surveying Curriculum
  Southern Illinois University
  (Off-Campus) – 2006-2008
- PE – IL – 062-058762, 2006
- CFM – IL – 06-00260
- Kane County Qualified Review Specialist – E-221
- DuPage County MEG Chair

Areas of Expertise:

- Stormwater/floodplain modeling
- HEC-2, HEC-RAS, FEQ, HEC-1, HEC-HMS, TR-20, Hydra, WSPRO, SWMM, PCSWMM, XPSWMM, HY-8, Pond Pack, Hydraflow, Optimizer
- Drainge Designs
- Storm Sewer Designs
- Drainage Investigations
- Flood Studies
- Practical Solutions
- Cost-effective Solutions
- Permitting Process
- Permit/Stormwater Reviews

Years of Experience:

- 20 years, 20 with ERA

ENGINEERING RESOURCE ASSOCIATES

Marty Michalisko, PE, CFM
Water Resource Engineer

Project Experience Continued:

Hobson Mill Drive Culvert, Naperville, IL – Lead water resource engineer for the replacement of two deteriorated Corrugated Metal Pipes (CMPs) with a single-cell precast box culvert under Hobson Mill Drive. Project included stormwater analysis, HEC-RAS analysis, preliminary design assistance, stormwater report and permitting. The culvert is in the proposed floodway/ floodplain of the Tributary #6 of the DuPage River. Permitting included Kane/ DuPage Soil and Water Conservation District (KDSWCD), USACOE and DuPage County.

Township Road (TR) 15 over Whiskey Creek, Vermilion County Highway Department, IL – Lead Water Resource Engineer for Phase I and II engineering for the replacement of the TR 15 bridge using township bridge funds. The project included stormwater analysis, HEC-RAS analysis, preliminary design assistance, scour analysis, hydraulic report and permitting. A hydraulic model was created using HEC-RAS to evaluate the water surface elevations and velocities under pre-project and post project conditions. The new proposed structure increased the waterway opening underneath the bridge which required a larger superstructure depth. The proposed bridge consisted of a singlespan Prestressed Precast Concrete (PPC) deck beam bridge with a 10-inch raised roadway to meet the 1-ft clearance over the 15-yr flood elevation.

Northbrook Stormwater Pilot Study, Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), IL – Lead Water Resource Engineer for a Village-Wide 9,800 acres Comprehensive Stormwater Pilot Study for the Village of Northbrook and surrounding unincorporated areas. This project includes the analysis of existing flooding conditions using EPA SWMM, XPSWMM 2D, and an innovative program that determines optimal solutions called Optimatics. The watershed included tributaries to the Chicago River, Skokie River and the Des Plaines River. Multiple Green infrastructure measures were evaluated in conjunction with public storage and storm sewer pipe. Public awareness, social media, and evaluation of public perspectives on flooding were significant aspects of the study.

IDOT District One, Phase I Hydraulic Reports and Location Drainage Studies – Water Resource Engineer for the Various IDOT Location Drainage Studies. Work included: hydraulic and stream surveys, drainage problem investigations, bridge and culvert hydraulic reports, floodplain studies, and location drainage studies.

- Dundee Road (IL Route 58) – Drainage investigation involving a hydraulic/ hydrologic evaluation of 2.12 mile section of a state route utilizing SWMM, TR-20 and Pizer-Hydra modeling.
- Deerfield Road over the Skokie River – Hydraulic report involving HEC-2 modeling for a two-span bridge.

Special Training:

- IDOT Construction Documentation and Highway Engineering Principles
- Haestad Methods Floodplain Mapping Design and Modeling (HEC-HMS, HEC-RAS)
- ASCE Sponsored FEQ Modeling Course
- Optimizer Training Course

Professional Experience:

- Engineering Resource Associates Project Manager/Project Engineer (1999-Present)
- Village of Carol Stream Engineering Intern (1998)

Professional Affiliations:

- American Public Works Association
  Chicago Metro Chapter,
  Co-Chair Membership Committee,
  APWA Suburban Branch Past-President
- Illinois Association of Floodplain and Stormwater Management
- DuPage River Salt Creek Workgroup
- Chairman of DuPage County's Municipal Engineer Stormwater Management Group

ENGINEERS I SCIENTISTS I SURVEYORS

ENGINEERING RESOURCE ASSOCIATES

Melissa Lange, PE, SE
Structural Lead

Project Experience:

Kishwaukee Valley Road over Tributary of Rush Creek Culvert Replacement, McHenry County Division of Transportation, IL - Project Manager provided Phase I and II engineering services for culvert reconstruction for Kishwaukee Valley Road (SN056-3202) over tributary of Rush Creek. The project was federally funded. The Phase I engineering consisted of a Project Development Report (PDR), Bridge Condition Report (BCR), Hydraulic Report, Environmental assessments, Plats & Legals and public coordination. Phase II engineering services included utility coordination, permitting, design plans, specifications, cost estimates and scheduling. Permits were required from McHenry County Stormwater Management, U.S. Army Corps of Engineers and McHenry Soil and Water Conservation District. Construction will occur in the spring of 2020.

Hart Road Bridge over Flint Creek Bridge Replacement, Lake County Division of Transportation, IL - Project Manager for the Phase I and II engineering services for the replacement of the Hart Road culvert. The Phase I engineering included a Bridge Condition Report (BCR) to investigate rehabilitation options for the replacement of the existing deteriorated Corrugated Metal Pipes (CMPs). Options considered were precast boxes, slab bridge and a PPC I-girder bridge. Phase I engineering also coordinated with the Village of Barrington to accommodate a bike path on the east side of Hart Road. A Type, Size & Location (TS&L) drawing for the preferred alternate served as the basis for Phase II engineering. Phase II engineering services included utility coordination, permitting, design plans, specifications, cost estimates and time of construction. Construction is schedule for the spring of 2023. The project was locally funded.

87th Street Bridge over Springbrook Creek Replacement, City of Naperville, IL – Project Manager for Phase I engineering services for the 87th Street Bridge (SN 19-00174) Replacement over the Springbrook Creek. The bridge will be replaced using federal funds. The existing bridge is a hydraulic restriction and overtops at storm events greater than the 10-yr storm. The structure is located adjacent to the DuPage County Forest Preserve and has mapped critical wetlands and will require no flood elevation increases for more than 3-inches for the 6-month, 1-year and 2-year storms. The phase I engineering consists of a Project Development Report (PDR), Bridge Condition Report (BCR), Hydraulic Report, Wetland Delineation and Environmental Assessments and public hearing.

On-Call Bridge QA/QC Services 2017-2018, McHenry County Division of Transportation – Structural Engineer for on-call Quality Assurance and Quality Control (QA/QC) reviewer for other design consultant's structural projects completed for McHenry County. Projects to date consisted of the following:

- Oak Grove Road over Drainage Ditch (SN056-3214)
- Randall Road Structural Plans
- O'Brien Road over Nippersink Creek Bridge Reconstruction (SN 056-3118)
- Union Road over Kishwaukee River (SN 056-3213)
- West Solon over the M. Branch of Nippersink Creek (SN 056-3142)

Education/Certifications:

- Master of Science
  Structural Engineering
  Illinois Institute of Technology, Chicago, IL- 2000
- Bachelor of Science
  Civil Engineering
  Valparaiso University-1998
- PE - IL - 062-056181, 2003
- SE - IL - 081-006488, 2007
- PE - IA - P24395, 2017
- PE - WI - 47303 - 6
- IDOT/FHWA-NHI Safety Inspection of In-Services Bridges for Professional Engineers - 2018
- NBIS Inspector - WI - 9694

Professional Training:

- FHWA-NHI-HWY Traffic Noise Course-2018
- SEAOI - Load Rating for Highway Bridges - 2017
- IDOT/ACEC Bridge Seminars 2007-Present
- NHI - Analysis, Design and Curved Steel Bridges with LRFD
- IDOT Calculating Section Loss in Steel Members - 2017

Client Experience:

- IDOT/Illinois Tollway/CDOT
- County DOT's /Municipalities

Years of Experience:

22 years/4 with ERA

ENGINEERS I SCIENTISTS I SURVEYORS

ENGINEERING RESOURCE ASSOCIATES

Melissa Lange, PE, SE
Structural Lead

Project Experience Continued:

Mack Road Bridge Widening and Replacement, Warrenville, IL – Structural Engineer for the phase I engineering for the addition of a proposed bike path along the north side of Mack Road that crosses over the West Branch of the DuPage river. The Phase I engineering included a Bridge Condition Report (BCR) to investigate the widening-in-kind of the existing Precast Prestressed Concrete (PPC) Deck Beam structure (SN 022-3027) to accommodate the addition of the bike path. Other alternatives included a stand-alone prefabricated truss pedestrian bridge, superstructure replacement with pier cap adjustment to meet the 1-ft clearance over the 30-yr design flood and full bridge replacement. The project was completed using STP Bridge Funding.

Bliss Road Culvert, Kane County IL – Project Manager responsible for the Phase I and Phase II engineering for the replacement of the restrictive culvert on Bliss road servicing Lake Run creek. The existing 8' x 4' culvert was replaced with dual 8' x 5' precast boxes with cast-in-place horizontal wingwalls. This project was done using staged construction.

Culvert Headwall and Retaining Wall System, Wheaton, IL - Lead Structural Engineer for the Phase II engineering services for the rehabilitation of the existing three (3) cell cast-In-place Concrete Culvert (SN022-0166) headwall and retaining wall system. The existing retaining walls on the north side of the culvert had significant rotation creating a 6-inch gap at the top of the wall which has caused a loss of fill behind the retaining walls. Project improvements primarily consisted of rebuilding culvert barrel and retaining walls to meet the current AASHTO LRFD specifications.

Algonquin Road Pedestrian Bridge Rehabilitation, Village of Schaumburg – Structural Engineer responsible for the rehabilitation of an existing pedestrian bridge located along Algonquin Road. The structure is comprised of a prefabricated weathering steel truss with timber plank deck supported in concrete abutments. The deck runners and transverse beams were determined to be in poor condition with severe section loss. Construction documents included plans and specifications for the staged replacement of the transverse beams, deck runners and timber decking.

Design Build Culvert Rehabilitation, Village of Downers Grove, IL - Structural Engineer for the joint ventured with Martam Construction for the rehabilitation of three culverts in the Village of Downers Grove. The scope of work was to determine if re-lining was a viable option for these culverts. Barneswood Drive culvert consists of 60"x38" CMP and a 48" CMP. The Saratoga Drive culvert is a 60" CMP single barrel culvert. Both locations have advanced deterioration, pitting, perforations and distortion and re-lining was not a viable option. The third culvert Springside Avenue is a dual 8'-0" by 6'-0" cast-in-place box culvert in poor condition with severe section loss in the bottom slab of the culvert. Work included Phase I, II and III engineering for the rehabilitation to each culvert.

Areas of Expertise:

- NBIS Program Manager
- Phase I/II Bridge Designs:
  - PPC I-girders
  - Bulb-tees
  - Deck beams
  - Tapered beams
  - Curved steel plate girders
  - Steel rolled shapes
  - CIP slab bridges
  - Rehabilitation, repairs, widening
- Retaining Walls:
  - Soldier pile walls
  - CIP cantilever walls
  - Mechanically stabilized earth walls
  - Sheet piling walls
- Software: MicroStation, Merlin Dash; Descus; STAAD.Pro; ETABS; SAP; LPILE; RISA; and Excel
- Design Codes: AASHTO LRFD specifications; ACI; AISC; ASCE; IBC and Chicago Building Code

Professional Affiliations:

- Illinois Road and Transportation Builders Association (IRTBA)-Bridge Committee and Kane County Coop Committee
- American Public Works Association (APWA)

Professional Experience:

- Engineering Resource Associates 2016 - Present
- Civiltech Engineering, Inc. 2007-2016
- Hutter Trankina Engineering PC
- 2005-2006
- Thornton Tomasetti 2001-2005
- Nicor Gas 1998-2001

ENGINEERING RESOURCE ASSOCIATES

Brian Dusak, PE
Public Involvement/ Construction Manager

Project Experience:

DuPage River Trail Phase I, II, and III, Plainfield, IL – Project Engineer/ Resident Engineer that assisted the Park district in securing ITEP funding for the project. ERA provided Phase II and III engineering for the 0.75mile trail and a 150 feet bridge crossing over the DuPage River three section box culvert crossing at the West Norman Drain. The project involved extensive permitting for floodplain, floodway, and wetland impacts. Funding was provided through local, state, and federal programs including HPP, ITEP, SAFETEA-LU, and ARRA.

West Branch DuPage Regional Trail, Forest Preserve District of DuPage County, IL – Project Engineer for the land surveying, Phase I, II and III engineering of a 17,500-foot bicycle trail to connect the Geneva Spur of the Illinois Prairie Path in Winfield Mounds Forest Preserve. The project included the installation of crushed aggregate and bituminous multi-use trail sections, a prefabricated bridge, crossing of High Lake Road, three sections and 600 ft of boardwalk, retaining walls, signage, compensatory floodplain storage and native restoration. ERA assisted the District in securing 80% CMAQ funding for the $2.2 million project.

Illinois Prairie Path Geneva Spur and Great Western Trail Connector, West Chicago, IL – Resident Engineer for a 1.25 mile path between the Great Western Trail and Geveva Spur in the City of West Chicago. The shared-use paths were designed in accordance with AASHTO and IDOT requirements. Extensive coordination was required with IDOT and FHWA as funding for this project was received through the Surface Transportation Program (STP).

Naperville Riverwalk Consultant, Naperville, IL – Project Engineer for various improvements along the riverwalk since 2006. Proposals have included reconstruction of sections, signage replacement, structure re-roofing, memorial wall replacement, asset management planning and shoreline restorations. Work includes close coordination with the City's Job Order Contractor (J.O.C.).

Sycamore Trail - Brickville to Main, Phase I, II, and III, Sycamore Park District, IL – Project Manager for the Phase III portion of 5,000 linear feet of improvements to existing trails and a new trail design. 2,500 linear feet of trail was widened along Illinois Route 23 (Main Street) between the South Branch of the Kishwaukee River to Maplewood Road. Another 2,500 linear feet of new trail connects an existing trail with an at grade crossing of Brickville Road. The trail was part of an overall trail plan for the park district, the City of Sycamore, and DeKalb County. Portions of the trail are within floodway, IDOT ROW, and farmed wetlands.

Winfield Riverwalk and Winfield Riverwalk Core Center, Winfield, IL – Project Engineer for preliminary and final design engineering services for the construction of a new riverfront recreational facility. Improvements include brick pavers, concrete and asphalt trails, bulkhead walls, naturalized ponds, overlooks, pedestrian bridges, boardwalks, ornamental lighting, signage and gateway structures.

Education/Certifications:

- Bachelor of Science, Civil Engineering
  University of Illinois – 2004
- PE - IL - 062-062144, 2009
- Documentation of Contract Quantities Course- December 2016 (16-12224)
- ADA PROWAG Requirements Class

Areas of Expertise:

- Transportation projects including roadway/bridge for design through construction
- Construction engineering for federally funded projects
- IDOT Documentation procedures
- Expert in ADA/PROWAG requirements
- Phase I, II and III engineering of storm sewer improvements, culvert crossing, detention basins, public ROW improvements
- Permitting process of federal, state and local permitting agencies
- Bike trail design by incorporating AASHTO and BDE criteria

Years of Experience:

- 19 years, 19 with ERA

ENGINEERING RESOURCE ASSOCIATES

Brian Dusak, PE
Public Involvement/ Construction Manager

Project Experience Continued:

Mack Road Bridge Widening and Replacement, Warrenville, IL - Lead Transportation Engineer for the design of the new roadway approaches for the replacement of the existing four-span bridge over the West Branch of the DuPage River. The roadway was raised 1'-6" to meet the required hydraulic clearance over the river. The new roadway needed to account for the addition of a new bike path on the north side of the roadway. Challenges included maintaining the dog park and the boat launch to the river on the south side. Work included a barrier warrant analysis to determine the guardrail required for the bridge and retaining wall. Project was completed using a full roadway closure using adjacent IDOT routes. Coordination with IDOT District 1 detour committee was required.

Hart Road Bridge Replacement, Lake County Division of Transportation, IL – Lead Transportation Engineer for the design of the new roadway approaches for the replacement of the existing bridge over Flint Creek. The new roadway needed to account for an addition of a new bike path along the east side of the road. Work also included a barrier warrant analysis to determine the embankment slopes and length of guardrail along the corridor. Project was completed using a full roadway closure using adjacent IDOT routes. Coordination with IDOT District 1 detour committee was required.

Illinois Prairie Path Geneva Spur and Great Western Trail Connector, West Chicago, IL – (Phase III Project Manager for the phase I, II and III engineering services) Resident Engineer for (Phase I, II and III) for an STP funded 1.25-mile paved multi-use trail connecting the IPP to the Great Western Trail. Constructed within local collector streets, IL Route 59 ROW and acquired easements from a multi-family complex and a park district. Variance for trail width was approved. Watermain utility adjustments were required.

22nd Street Beautification Project, Oak Brook, IL – Design Engineer for a street beautification corridor project along 0.75 miles of an unmarked IDOT route, namely 22nd Street, and 0.5 miles of York Road located in the Village of Oak Brook. As a subconsultant to Hitchcock Design Group, ERA provided the engineering plans for a new decorative streetlight system, holiday accent lighting, a gateway sign and grading/utility plans for median improvements. The project was funded through the Illinois Transportation Enhancement Program (ITEP) and a local hotel tax over several years.

Professional Experience:

- Engineering Resource Associates Project Manager /Project Engineer/ Resident Engineer (2004-Present)
- Engineering Resource Associates Engineering Intern (2002, 2003)

Special Training:

- IDOT Traffic Signal and Street lighting Design
- IDOT ICORS Training

Professional Awards

- American Public Works Association Chicago Metro Chapter 2014 Donald C. Stone Award for Excellence in Education

ENGINEERING RESOURCE ASSOCIATES

Timothy Martinek, PLS
Lead Surveyor

Project Experience:

Mack Road Bridge Widening and Replacement, City of Warrenville, IL - Survey Lead for Phase I engineering for the addition of a proposed bike path along the north side of Mack Road that crosses over the West Branch of the DuPage River. Survey included route and hydraulic surveys consisting of waterway opening sketches, critical low openings of adjoining structures, floodplain stream cross sections and streambed profile taken upstream and downstream of the bridge. The topographic survey consisted of centerline of the roadway, edges of pavement, edges of shoulders, visible structures, wetland flags, tree survey, visible utilities and embankment slopes on each side of the structure. Project also included Plat of highways and legals for land acquisition.

Hart Road over Flint Creek Bridge Replacement, Lake County Division of Transportation, IL - Survey Lead for Phase I and II engineering services for the replacement of the Hart Road culvert over Flint Creek with a single-span bridge (SN 049- 3077). The entire culvert is located within the floodplain and the east side of the culvert is within the floodway. Survey included route and hydraulic surveys consisting of waterway opening sketches, critical low openings of adjoining structures, floodplain stream cross sections and streambed profile taken upstream and downstream of the bridge. The topographic survey consisted of centerline of the roadway, edges of pavement, edges of shoulders, visible structures, wetland flags, visible utilities and embankment slopes on each side of the structure. Project also included Plat of highways and legals for land acquisition. The project is locally funded.

Illinois Prairie Path Trailhead, Warrenville, IL – Lead Surveyor that provided Phase I environmental and engineering services for the new trailhead amenities for the Illinois Prairie Path in downtown Warrenville. The Phase I design included completion of a Preliminary Environmental Site Assessment (PESA) for properties adjacent to the project and completion of a Project Development Report (PDR) for design approval. ERA also provided Phase II quality control reviews for the design of the trailhead improvements, which included ADA compliant sidewalks and ramps, a restroom building, a rain garden, signage, and various beautification elements.

Great Western Trail Extension Plan Study, Sycamore Park District, IL – Lead Surveyor for the feasibility study and preliminary plans for the Great Western Trail extension over two locations of the Kishwaukee River and its associated floodplain. Study includes the feasibility of re-using the existing railroad piers and abutments with new prefabricated trusses and boardwalks. The study also includes several alternatives and recommendations with the associated construction cost estimates. Also, in charge of Plats and Legals preparation for Right of Way Acquisition. A total of 7 separate parcels required acquisition.

Education/Certifications:

- Southern Illinois University Illinois IPLSA Sponsored Land Surveying Program, 2001-2003
- Iowa State University, Bachelor of Science Degree, Major: Education - 1999
- PLS - IL - 035-003782

Areas of Expertise:

- Manage field crews and directly oversee their work product
- Performed all necessary legal and boundary research in relation to survey projects
- Coordinate scheduling of crews for design and construction projects
- Strong knowledge in the preparation of survey products from field to finish of large development projects

Years of Experience:

- 19 years, 4 with ERA

ENGINEERS I SCIENTISTS I SURVEYORS

ENGINEERING RESOURCE ASSOCIATES

Timothy Martinek, PLS
Lead Surveyor

Project Experience Continued:

Kishwaukee Valley Road over Rush Creek Culvert Replacement McHenry County Division of Transportation, IL - Survey Lead for Phase I and II engineering services for the replacement of the Kishwaukee Valley Road culvert over A Tributary of Rush Creek (SN 05-3202) with a single-span bridge using federal funds. Survey included route and hydraulic surveys consisting of waterway opening sketches, critical low openings of adjoining structures, floodplain stream cross sections and streambed profile taken upstream and downstream of the bridge. The topographic survey consisted of centerline of the roadway, edges of pavement, edges of shoulders, visible structures, wetland flags, visible utilities and embankment slopes on each side of the structure. Project also included Plat of highways and legals for land acquisition.

87th Street & Woodward Avenue Intersection Improvements, DuPage County Division of Transportation, IL - Land Surveyor in charge of boundary surveying to determine right of way and parcel lines of 15 properties to be affected by a roadway widening and reconstruction project. Also in charge of 24 (17 temporary easements, 7 permanent easements) Plats for Land Acquisition for the improvements associated with the reconstruction of the intersection.

Bliss Road Culvert, Kane County DOT, IL – Survey Lead responsible for topographic surveying of existing conditions for the Phase I and Phase II engineering for the replacement of the restrictive culvert on Bliss road servicing Lake Run creek. Survey included route and hydraulic surveys consisting of waterway opening sketches, critical low openings of adjoining structures, floodplain stream cross sections and streambed profile taken upstream and downstream of the bridge. The topographic survey consisted of centerline of the roadway, edges of pavement, edges of shoulders, visible structures, wetland flags, visible utilities and embankment slopes on each side of the structure. Project also included Plat of Highways, legals and land acquisition.

Hobson Mill Culvert Replacement Phase I and II Design Engineering, Naperville, IL – Lead Surveyor responsible for topographic surveying of existing conditions for the phase I and II design services for the replacement of the Hobson Mill Culvert. The existing structure was dual 58" x 36" CMP arches. Survey included route and hydraulic surveys consisting of waterway opening sketches, critical low openings of adjoining structures, floodplain stream cross sections and streambed profile taken upstream and downstream of the bridge. The topographic survey consisted of centerline of the roadway, edges of pavement, edges of shoulders, visible structures, wetland flags, visible utilities and embankment slopes on each side of the structure.

Special Software and Equipment Experience:

- Autodesk AutoCAD Civil 3D
- Autodesk Land Desktop (AutoCAD)
- AutoCAD LT 2015
- Various Data Collection Devices and Software
- Proficient in use of Leica, Trimble, Topcon and Geodimeter Total Stations
- Proficient in use of Leica, Trimble, and Topcon GPS

Professional Experience:

- Engineering Resource Associates (2016-Present)
- AES Consultants Ltd.(2013-2016)
- TERRA Engineering, Ltd. (2011-2013)
- Robert E. Hamilton Consulting Engineers, Inc. (2008-2011)
- Horizon Consulting Group (2007)
- Smith Engineering Consultants – A Division of SEC Group, Inc. (2003 – 2007)

ENGINEERING RESOURCE ASSOCIATES

Project Approach

Project Understanding

The Village of Orland Park desires to close a north south multi-use path gap in the eastern part of the Village's overall system. This proposed 2-mile multi-use path will provide a connection for the existing residential area, local businesses, parks, the ComEd path and Prairie Elementary School, crossing 143rd Street and 151st street at existing signalized intersections. It will also cross Tinley Creek which may require improvements to the roadway and hydraulic structure to properly convey the creek underneath 82nd Avenue. The existing sidewalk will be replaced, and the new, wider asphalt path will connect to existing paths and sidewalks along the route. Since 82nd Avenue is under the jurisdiction of Cook County, coordination with the Cook County Department of Transportation and Highways will be required.

At the north end of the project, the study will determine what is the proper termini for the pathway. The study will also determine which side of the roadway would be best and least disruptive for the multi-use path to be constructed. Both sides of the roadway have open drainage systems which would require an enclosed drainage system to be designed. It appears from a review of the right of way maps that land acquisition and/or easements may be required, based on the final configuration of the path. The project corridor includes residential areas, small business centers, a school, cemetery, Tinley Creek crossing, and borders the Silver Lake Country Club.

The Village desires to engage a qualified professional engineering firm to assist in the preparation of the phase I engineering services in order to obtain design approval through the IDOT District 1 process. Cost estimates for Phase II engineering services, Phase III construction services, and a probable cost of construction will also be developed. ERA will apply for State and Federal Grants for which this multi-use path may be eligible.

Project Key Elements and Innovative Approach

Upon viewing aerial and right of way maps, visiting the project site, and reviewing the request for proposal, several aspects were identified by ERA as important to the project. As we prepared the proposal documents, some of the obstacles and challenges with installing a multi-use path along this corridor became evident. In this section, we would like to describe our perspective and insight on the project and discuss how we would reach the best solution in moving forward into Phase I engineering and ultimately the successful installation of this important connector multi-use path. The following is a summary of the primary project elements and our ideas on how we would best approach the project to ensure the timely and successful completion.

Project Elements

Tinley Creek Crossing

1. 82nd Avenue crosses Tinley Creek approximately 2,600 feet north of 151st Street. ERA engineers will evaluate the existing culvert structure and roadway to determine the modifications needed to accommodate the multi-use path. ERA will also evaluate the feasibility of a separate multi-use path structure over the creek. This will require a review of the floodplain in this location, along with any wetland or stream bank issues. This hydraulic structure is under the jurisdiction of the Cook County Department of Transportation and Highways and will require coordination with them.

2. Based on the regulatory FEMA flood map and flood profile, the culvert is restrictive. There is an increase in floodplain elevations of over 5-feet from downstream to upstream of the hydraulic structure. It appears that the backwater of the hydraulic structure is contained within the upstream golf course property and there are no sensitive flood receptors (habitable structures within the 100-year floodplain). Therefore, IDNR-OWR does not consider the hydraulic structure a source of flood damages and will not require the design team to look at the feasibility of increasing the culvert opening. However, the road is acting as a dam and possibly impounding more than 50 ac-ft of water. During Phase I permit coordination, ERA recommends submitting to the state for a cursory review to establish the classification of the road prior to a Phase II full permit review.
3. Tinley Creek's regulatory model is HEC-RAS. The existence of a regulatory floodplain allows ERA to develop a modified existing conditions hydraulic model for Phase I design evaluations using minimal survey. ERA will augment the regulatory model using available Cook County Digital Terrain Maps and supplemental survey confirming the size, length, and inverts of the existing culvert. We are well-versed in the federal and state requirements and processes since most of our bridge projects use federal bridge funds. This knowledge and experience in regulatory requirements provide for effective permit coordination with the regulatory agencies.
4. Several governmental regulatory agencies have jurisdiction over the proposed project: MWRD, IDNR-OWR, USACOE, and CCDOTH. ERA has a great working relationship with all these agencies. We have routinely worked with MWRD to obtain watershed management permits and to develop their watershed plans and models. The MWRD trusted ERA to be one of the first five consultants to develop their urban flooding watershed pilot program. One of the lead staff members at IDNR-OWR is a past ERA employee that works very closely with our proposed water resource staff.

At-Grade Street Crossings

1. ***135th Street*** **–** 135th Street is the north termini of the study. Currently there are not any bike or pedestrian facilities at this location on either 82nd Avenue or 131st Street. We will recommend a proper and safe end the multi-use path and, if located on the north side of 131st, determine the required modifications to the existing traffic signals.
2. ***Elizabeth Avenue/ComEd right of way*** **–** ERA will review this existing connection to the proposed new north south path and recommend a proper crossing location and warning signs. The current configuration allows users to cross 82nd Avenue just south of Elizabeth Avenue. Additional warning signage may need to be used to increase the safety at this crossing.
3. ***143rd Street*** **-** ERA will modify the corner to provide for proper ADA crossings along with any required traffic signal modifications.
4. ***151st Street-*** ERA will design the multi-use path to connect to the design sidewalks on the south side of

151st Street, along with any required ADA improvements and proposed modification to the traffic signals.

Areas of Concern

1. ***Floodplain/Floodway*** – The crossing of Tinley Creek may impact the regulatory floodplain and floodway. Therefore, ERA will design the multi-use path to minimize fill within the floodplain and floodway, and properly compensate for lost floodplain storage volume so that flood elevations are not increased for area adjacent to the project. The location of the multi-use path will require careful study.
2. ***Vegetation/Landscaping*** – There is a considerable amount of natural and homeowner landscaping and screening on both sides of the roadway that will need to be taken into consideration when placing the multi-use path, and that may impact which side of the roadway the path will be placed. It is anticipated there will be coordination required for removal in most locations. Additionally, along the Silver Lake Country Club there is dense screening that may be impacted if the path is to be located on the west side of 82nd Avenue at this location.
3. ***Utility Conflicts*** – There are overhead utilities that may have to be relocated depending on the final recommended location of the multi-use path.

Solution Based Approach

1. ***Alternative Location Evaluation*** – Early in the project, ERA staff will conduct a thorough review of the topography and right of way of 82nd Avenue, to identify potential issues with either side of the roadway for the multi-use plan and make a preliminary determination which is the more cost-effective route to consider. Staff will review whether the path remains on one side or changes sides at some point along 82nd Avenue. Lastly, possible methods for crossing Tinley Creek will be preliminarily evaluated for each side of the roadway.
2. ***Stakeholder/Agency Coordination and Public Involvement*** – Throughout the Phase I process, consensus, and project buy-in are essential between stakeholders and various governmental agencies. The project team will work closely with the Orland Park staff, the Cook County Department of Transportation and Highways, public and private utilities, private owners along the project corridor, and other interest groups. A public meeting will be held to educate and encourage public input, address questions and concerns, and respond to issues. Our design team routinely provides a high level of coordination and communication on projects. ERA has experienced effective communication through various avenues such as social media and website hosting and these would be available to the Village if so desired.
3. ***Project Cost Monitoring*** – The total project costs established for federally funded projects limit the federal participation and are based upon cost opinions prepared throughout the design process. One of the first tasks upon selection for the Phase I engineering services would include a review of the preliminary cost opinion. We will review and consider different design elements in order to stay within the prescribed funding levels. Periodic project reviews will occur throughout the design process to monitor costs.

4. ***Review for Potential Funding Sources*** – Projects with regional, recreational, safety, or transportation benefits may qualify for supplemental funding sources. ERA will review the elements of the project to see if potential funding sources exist.

Work Plan

Based on our understanding of the project we have provided a preliminary work plan. Our work will conform to IDOT BDE and BLRS documents, IDOT Region 1 Bureau of Traffic design standards, MUTCD/ILMUTCD, Public Rights-of-Way Accessibility Guidelines (PROWAG), Illinois State Water Survey regulations, US Army Corps of Engineers regulations, and Cook County Highway requirements. The scope items below are a basis for discussion and will be finalized with the Village upon selection.

TASK 1 –DATA COLLECTION AND REVIEW

Early in the Phase I process, ERA will coordinate with local agencies and verify pertinent project data.

Review of Existing Data. Available information from the Village will be obtained and reviewed that will include existing right-of-way and property limit data, existing roadway and culvert plans from the Village, County-based GIS digital topographic survey data, County-based GIS aerial photography and any existing maintenance and flooding records.

Prepare Photo Log. Photograph the features of the project site and prepare a photo log.

Site Visit. Staff will visit the site to familiarize themselves with the existing topography and assessment of existing site issues. These conditions will be documented for consideration when designing the roadway and bridge improvements.

TASK 2 – ROUTE AND HYDRAULIC SURVEYS

Preliminary design and stream surveys will be required to document existing field conditions that will serve as the basis for the preliminary engineering and design in this phase.

Topographic Survey.

- The topographic survey will include benchmarks with references, visible utilities, driveways and field entrances, drainage structures, landscaping elements including significant trees 6” in diameter or greater, fences, pavement location and type.
- Roadway cross sections will be taken at 50 to 100-foot intervals for project limits. These cross sections shall identify the right-of-way, centerline of the roadway, edges of pavement, edges of shoulders, visible structures, signs, and the slope of the embankment on each side. Additional survey will be taken as determined in the field.
- The services will include the survey of the wetland boundaries as delineated by the ERA.
- The services will include the survey of in-ground and aerial utilities. A JULIE field locate will be called in before the survey so that existing utility locations can be surveyed.
- Geotechnical soil boring locations and elevations (as outlined in Task 3) will be located and surveyed by the ERA.

Existing Right-of-way.

- Monument Reconnaissance will be performed in the field to find the physical monumentation to determine the existing right-of-way for the subject project.

Hydraulic Survey. ERA will obtain critical topographic information at the 82nd Avenue hydraulic structure to reconcile FEMA's regulatory hydraulic model of the floodplain at this location. The survey proposed is sufficient to evaluate multiple design alternatives during Phase I to determine the impact on floodplain elevations and velocities. Selection of the proposed alignment and structural modifications to the road and hydraulic structure may (or may not) require additional survey in Phase II for Final Design and Permitting.

- Upstream cross section of the channel (between the banks) at the face of the existing 82nd Avenue culvert.
- Upstream and Downstream Invert of the culvert, measurement of the opening and low chord elevation of the culvert.
- 200-ft of Road profile centered over the culvert.

TASK 3 – GEOTECHNICAL SUBSURFACE INVESTIGATION

Wang Engineering will be a subconsultant to ERA for geotechnical services. Wang will perform structure borings, path soil borings and provide design recommendations. Geotechnical services and report will conform to the requirements of the STATE Geotechnical Manual.

Structure Borings. One (1) structure boring is to be performed for the geotechnical investigation.

- One (1) boring will be taken at the existing culvert, just behind the end sections for both ends. Based on geologic maps of the area and on STATE accepted procedures, geotechnical subconsultant will determine the depth of the borings.

Path (Subgrade) Borings. Five (5) path soil borings will be provided at critical locations to a depth of 10 feet to determine groundwater and soil conditions for the new multi-use path location.

Laboratory Testing. The scope will include laboratory testing per AASHTO/ASTM guidelines testing for soil index, particle size distribution, Atterberg limits, soil settlement and collapse potential, shear strength of soil and soil classification.

Coordination. ERA anticipates and has allotted for one (1) field meeting with the geotechnical firm to layout and coordinate the boring locations.

Traffic Control. The geotechnical subconsultant's scope of service will include all necessary traffic control and flagman required to complete their subsurface drilling and testing operations. They will also be responsible for acquiring any required permits from the Village.

Geotechnical Report. A Geotechnical Report will be prepared to document the findings used in the development of the project.

TASK 4 – UTILITY IDENTIFICATION AND COORDINATION

Utility Investigation. Pertinent utility information will be collected for the project area to locate utilities that may or will affect design or construction of the path. Coordination with utilities and a Joint Utility Locating Information for Excavators (JULIE) Design Stage Request for buried facilities will be performed and documented.

- A JULIE Design Locate Request will be submitted.
- During the preliminary design, ERA will prepare and send utility notification letters to identified utility companies.
- ERA will compile and summarize available utility information in a spreadsheet per the formatting requirements for Phase II utility documentation.
- Information provided by utility companies will be reviewed and incorporated into the base drawing. These facilities will be compared in relation to the proposed improvement for potential conflict and documented in the Project Development Report (PDR).
- Follow up letters with preliminary plan sheets showing potential conflicts will be sent to utility companies.
- Electronic copies of all information received or provided to the utility companies will be sent to the Village for their records.

TASK 5 – CULVERT INSPECTION AND CULVERT CONDITION REPORT

A culvert inspection will be performed to assess the current condition of the bridge and provide the data for the culvert Condition Report. The inspection and report will conform to the requirements of the STATE *Bridge Condition Report Procedures & Practices*, the STATE *Bridge Manual*, the STATE *BLRS Manual* and National Bridge Inspection Standards (NBIS) standards.

- The ***ERA*** inspection team will consist of personnel under the direction of a certified NBIS engineer.
- A structural analysis will be completed to determine the scope of services for the project. The analysis will include analyzing the existing culvert for reuse as well as determining a comparable replacement structure for cost comparison.
- The Culvert Condition Report will be written to document the current physical condition and functionality of the culvert and recommend alternatives for the project.
- The report will be submitted to the Village for review and concurrence of the proposed scope of improvements.

TASK 6 – HYDROLOGIC & HYDRAULIC ANALYSIS

ERA will prepare preliminary hydraulic modeling of project design alternatives for the multi-use path along 82nd Avenue over Tinley Creek. ERA will design a cost-effective crossing that meets the floodplain and floodway regulations of IDNR-OWR and MWRD. The scope of work will be the following:

a. Request and obtain the regulatory floodplain model from FEMA.
b. Augment the regulatory FEMA model to include survey at the hydraulic structure as outlined in Task 2.
c. Creation of a natural conditions hydraulic model. This model removes the 82nd Avenue hydraulic structure to obtain the head created by the existing culvert and for evaluating the impoundment area of 82nd Avenue culvert for use in task 6g.

d. Creation of three proposed conditions hydraulic models to evaluate the design alternatives for the multi-use path to cross over Tinley Creek.
e. Estimate the floodplain fill from the preferred alternative and provide a preliminary location and footprint of the required compensatory storage.
f. A hydraulic results memo of the preferred alternative with results tables and summary narrative outlining the preferred alternative's compliance with state and local floodplain and floodway requirements.
g. Preliminary Design Report for Dams – In order for IDNR-OWR to provisionally determine the dam classification ERA will provide calculations of the area and volume of impoundment from 82nd Avenue, the drainage area to the hydraulic structure and the information of the downstream hazards. ERA does not anticipate the need of a dam breach analysis in Phase I to obtain classification.

TASK 7 – ENVIRONMENTAL SURVEY

Wetland Delineation and Report. Anticipated safety improvements and project improvements may require widening of the roadway embankments for placement of the multi-use path. This work may require impacts to wetland or buffer areas, and therefore a wetland assessment and report will be required. ERA will perform the following tasks regarding the wetlands:

- Obtain preliminary information including aerial photos, wetland maps, United States Geological Survey (USGS), soils mapping, FEMA map, hydrologic atlas, and other data necessary for the wetland delineation.
- Conduct wetland delineation based on methodology approved by United States Army Corps of Engineers (USACE) within 100' of the project area.
- Field stake perimeter of wetlands and survey their locations.
- Prepare wetland report, including resource evaluation, support data, and graphics.

Environmental Survey Request. The Environmental Survey Request (ESR) will be prepared and submitted electronically early in the project after selection of the concept multi-use path alignment. The scope will include preparation of ESR attachments (BLRS Manual Section 20-2). The Village will verify ESR limits prior to submittal to the IDOT.

Wetland Impact Evaluation. Based on the existing wetland information and proposed project improvements, ERA will prepare a Wetland Impact Evaluation (WIE) for submittal in conjunction with the ESR.

- Prepare wetland impact exhibit and evaluate wetland impacts.
- Prepare and submit the Wetland Impact Evaluations (WIE) form electronically to IDOT.
- In addition, an electronic copy of the WIE will be provided to the Village for their records.

Preliminary Environmental Site Assessment (PESA). ERA will conduct a PESA to identify the risk for regulated and natural hazards which may be present within the project corridor and on properties nearby the project limits. An opinion of the risk of existing environmental liabilities will be determined based on a visual inspection of the site, interviews, listed public records, and historical uses of the properties and surrounding area. The PESA will be in accordance with the procedures used by the Illinois State Geological Survey (ISGS) as outlined in "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects", 2nd edition. ERA will not perform any soil or groundwater testing for contamination, nor conduct the tasks required in a Preliminary Site Investigation (PSI).

- Site Reconnaissance - ERA will conduct site visits to each property within the project limits and document the existing conditions with digital photography and mark the location with GPS coordinates.
- Standard Environmental Record Resource Review - ERA will perform a search of the various Federal, State, and Local lists and databases.
- Natural Features and Hazards Resources Review - ERA will review the natural features like floodplain, wetland, water quality, soil surveys, geological and hydrogeological information to evaluate a project area's likelihood for pollutant migration.
- Final Report - ERA will prepare a report with the findings, conclusions and recommendations based on the research conducted. The report will include a risk finding of either no, low, moderate, or high for the proposed route. The final report will be submitted to the Village and IDOT for their review and use.
- It is assumed CCDD or PSI testing will be performed during Phase II.

Section 4(f) Evaluation Report. As portions of the multi-use path may be located on public park property, a section 4(f) evaluation report will be required to be prepared for impacted properties. ERA will prepare the section 4(f) evaluation report, which will include a project description, description of the 4(f) regulated resource, description of the use proposed on the property, an avoidance, minimization, and mitigation discussion, a discussion of the public hearing, and associated exhibits.

TASK 8 – ABBREVIATED LOCATION DRAINAGE ANALYSIS

An analysis will be performed to determine existing drainage patterns and the impact of the culvert and location of the new multi-use path.

- Evaluate the existing drainage and determine deficiencies in accordance with the STATE Drainage Manual, as well as coordinated efforts with the Metropolitan Water Reclamation District of Greater Chicago.
- Perform an evaluation of the of the existing storm sewers need for storm water detention and design the proposed drainage improvements.
- Prepare an abbreviated Location Drainage Study for the Village.

TASK 9 – PERMIT COORDINATION

During preliminary engineering (Phase I) for the project, ERA will identify a list of permits required for the construction activities. Permits from the following regulatory agencies are anticipated for this multi-use path project.

- Coordination, including a pre-application meeting with the U. S. Army Corps of Engineers in association with the joint permit application and associated documentation will be prepared. The permit application will be prepared and submitted in Phase II.
- A floodway construction permit from the Illinois Department of Natural Resources – Office of Water Resources (IDNR-OWR) is anticipated for the multi-use path crossing over Tinley Creek. The floodway permit application, final modeling and calculations will be prepared and submitted in Phase II. IDNR-OWR Floodway Construction Permit Review will go through IDNR-OWR Region I Office.

- IDNR-OWR Dam Safety Permit for 82nd Avenue. Task 6 will prepare calculations to submit to the State to obtain a determination on the dam classification prior to the Phase II detailed design study and dam permit submittal.

- Project will include pre-application meeting with the Metropolitan Water Reclamation District (MWRD) and Will-South Cook Soil & Water Conservation District (WSCSWCD). The actual permit application and plan submittal will be completed in the Design Phase (Phase II).

TASK 10 – TRAFFIC MANAGEMENT ANALYSIS

82nd Avenue is a major collector and carries an average daily traffic (ADT) of 11,100. ERA will analyze several aspects of traffic management that based on the type of construction could include, analyzing traffic capacity, detour concepts, roadway, or route limitations, motoring public impacts, stake holder coordination, and documentation.

If a detour is selected that uses IDOT state routes, ERA will attend an IDOT detour committee meeting and coordinate with IDOT for their concurrence on no interest. It is assumed that work on the 82nd Avenue culvert will only require one-directional road closures.

TASK 11 – PUBLIC INVOLVEMENT

Public Meeting. In order to receive public opinion on the project, ERA will conduct (1) open house style public meeting. ERA will be responsible for contributing exhibits and having at least two (2) employees present to answer questions from the public. General comments will be received from the public and documented in the PDR.

- The Village will identify the location and coordinate schedules.
- The meeting will be advertised by the Village to the public in local papers, on the Village's website, on social media and via letter to property owners within project limits to create awareness throughout the impacted area. ERA will identify local stakeholders and the Village will send mailings.
- Displays and handouts will be created to outline the proposed improvements and impacts to the surrounding community.
- ERA will attend and lead the public meeting. Public comment forms will be available and a representative from ERA will record attendance and collect comments.
- ERA will take the recorded public comments and provide necessary information for the Village to send out responses.

Stakeholder and Impacted Property Coordination. Per IDOT BDE Manual Section 21-3.01, projects with minimal right-of-way (ROW) acquisition shall contact affected property owners via certified mail. ERA will prepare the letters and exhibits depicting proposed ROW or easements and provide to the Village to mail. Meetings with impacted property owners are not included in this task.

TASK 12 – PRELIMINARY ENGINEERING

This task includes the preparation of preliminary engineering plans based upon the findings determined in the above tasks applied to the multi-use path alignment along with other engineering elements requiring preliminary

design. ERA will develop a preliminary multi-use path design in accordance with criteria prescribed in the IDOT *BLR Manual*. Elements to be constructed at less than the design guidelines will be identified, and a clear description of required variances and appropriate justification will be provided (BLRS Manual Section 27-7). These items will be discussed at the FHWA meeting. Preliminary cross sections will be prepared to the extent necessary so that right-of-way and easement needs, wetland impacts, floodplain and floodway impacts, and stormwater requirements can be identified and evaluated.

Plan and profile sheets will be developed based on the proposed elevation of the bridge. The roadway geometry and plans will be prepared in accordance with the applicable requirements of BLRS Section IV – Project Design. In addition, typical section exhibits will be prepared.

The items provided in the preliminary engineering plans specifically include:

a. Preliminary multi-use path alignment plan and profile
b. Anticipated required easement/ROW acquisition areas
c. Traffic detour plan (assumes no full-roadway closure will be required)
d. Traffic signal upgrades (includes pedestrian signal, signal cabinet, and loop detection modifications only)
e. Typical cross section details
f. Typical traffic control details
g. Special multi-use path feature details

A preliminary summary of quantities and engineer's opinion of probable construction cost will be prepared for the project based upon the engineering plans. The estimate will include final design engineering and construction engineering costs as well.

Roadway improvements, aside from crosswalk modifications and the Tinley Creek culvert, are not anticipated or included. Detailed cross-sections along the path corridor will be provided in Phase II.

TASK 13 - PRELIMINARY DEVELOPMENT REPORT (PDR)

ERA will prepare the Project Development Report (PDR) – BLR Form 22210 including exhibits and documentation to obtain Design Approval for the project. The PDR will follow the guidelines outlined in the STATE *BLRS Manual*.

Geometric Design Activities. Plans, exhibits, and details prepared during the preliminary engineering phase will be included in the preliminary development report.

Location and Existing Conditions (PDR Section 1). A description of the existing facility will be included and a location map to supplement the narrative description. Traffic data including current and future traffic counts will be obtained from the STATE and the Chicago Metropolitan Agency for Planning (CMAP).

Proposed Improvement (PDR Section 2). The purpose and need of the project will be documented along with design guidelines, functional classification, regulatory or posted speed limit and design speed information. Aspects to be constructed at less than the design guidelines will be identified, and a clear description of required variances and appropriate justification will be provided. The need for accommodating pedestrians, bicyclists and

the handicapped will be analyzed. An Engineer's Opinion of Probable Construction Cost will be prepared and submitted with the PDR.

Crash Analysis and Capacity Analysis (PDR Section 3). Crash data to be obtained from the Village for the past five years will be summarized, including a spot map or a location map showing crash locations. The types of crashes will be detailed and include collision diagrams, especially at cluster sites (BLRS Manual Section 22-2.11(b)(9)). A capacity analysis will be performed based upon new movement counts.

Environmental Impacts (PDR Sections 5-13). Most of these sections of the report require narratives that summarize the results of: Task 6, Stream Hydraulic Analysis and Report; Task 7, Wetland Delineation and Report; Task 8, Environmental Surveys; and Task 12, Permit Coordination.

No additional lanes or significant alignment change will be proposed. Therefore, no Carbon Monoxide Screen for Intersection Modeling (COSIM) or noise analysis will be required (PDR Sections 12e and 13), thus they are not within the scope of this project.

Maintenance-of-Traffic (PDR Section 16). An analysis will be performed to determine how vehicle traffic and pedestrians will be accommodated during construction. (BLRS Manual Section 22-2.11(b)(9))

Design Variances (PDR Section 16). BLR Form 22120 will be completed for the multi-use path improvements only. Anticipated design variances may include multi-use path width, multi-use path setback, clear zone, and horizontal curves. No design variances for roadway features are anticipated or included.

Public Involvement (PDR Section 17). Given the limited scope of the proposed improvements, it is anticipated that STATE/FHWA will determine that the project will lack sufficient interest to warrant a public hearing. However, because of the project may involve a detour, ERA will prepare and publish a Public Notice as required per the BLRS Manual (Section 21-4.01(d)).

Coordination and Commitments (PDR Sections 18-20). Meeting minutes of coordination meetings with the STATE, FHWA, the Village and other local agencies will be documented. A summary of project specific commitments will be included.

Barrier Warrant Analysis. Perform barrier warrant analysis.

Draft Project Development Report. The draft PDR with exhibits and documentation will be assembled and submitted to the Village for review and comment. The Village comments will be addressed before submitting the draft report to STATE for comments.

Final Project Development Report. The final PDR will be revised based on review comments from STATE and submitted to STATE for design approval. In addition, an electronic and hard copy of the PDR will be provided to the Village for their records.

TASK 14 – MEETINGS AND COORDINATION

This task includes the following anticipated meetings:

a. Project kick-off meeting with Village (1 meeting)
b. Project kick-off meeting with IDOT (1 meeting)
c. Project Site Meeting (1 meeting)
d. FHWA coordination meeting (1 meeting)
e. Regular meetings with Village staff to review progress and discuss relevant issues (6 meetings)
f. Detour committee (1 meeting)
g. Stakeholder meetings (4 meetings)
h. ERA will prepare and distribute meeting minutes for the aforementioned meetings.

TASK 15 – GRANT APPLICATION ASSISTANCE

The Village desires to apply for up to three (3) grants to assist with funding final engineering, construction engineering, and/or construction costs. ERA will provide assistance to the Village in completion of the applications and associated attachments and exhibits. ERA will also assist the Village in responses to the agencies administering the grants. The Village anticipates applying to both State and Federal funding sources, which may include Illinois Transportation Enhancement Program (ITEP); Surface Transportation Program (STP); Congestion Mitigation and Air Quality Improvement Program (CMAQ); Open Space Lands Acquisition Development, and Illinois Bicycle Path Grant Program, among others.

TASK 16 – PROJECT ADMINISTRATION AND MANAGEMENT

The successful management of a Phase I project requires scheduling and reporting of the progress of the project. Services will include the following tasks:

- ERA will initiate project setup including contract administration, budget control and internal project team meetings.
- ERA will prepare and submit monthly progress reports during months when engineering activities occur, and invoices are due.
- ERA will provide phone and email updates and general project coordination with the Village as necessary to advance the progress of the project.
- ERA will prepare and monitor a project schedule and will update the schedule periodically as tasks or project scheduling change, as well as perform scope of services reviews, resource planning, internal team coordination and contract administration and invoicing.

Schedule

Village staff has set an expected kick-off meeting in July of 2021. ERA has the qualified staff and resources available to fully staff the project for the duration in order to meet this deadline. The work described above will be performed according to the attached schedule. If the project schedule or scope of services changes, ERA has additional staff and resources available to accommodate the project schedule.

Quality Engineering Services since 1982

Contacts
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Corina Farez | Vice President | cfarez@wangeng.com

Wang Engineering

At-A-Glance: Wang Engineering, Inc. (Wang) offers quality, time-efficient, and cost-effective geotechnical, materials testing, and construction inspection services. From design to construction, Wang has supplied engineering services since 1982 to a wide range of private, public, and government clients throughout the United States and in several countries overseas. Our staff of certified professional engineers and geologists combines experience and judgment to provide expert, practical solutions to the entire spectrum of soils and foundation problems arising in civil engineering projects.

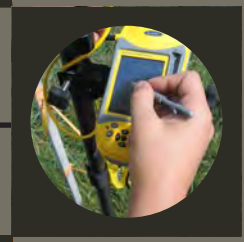
In the transportation sector, our geotechnical project experience encompasses interstate, federal, and local highways and streets, rail and rapid transit facilities, and airports. Wang's geotechnical work also covers foundation design for public, commercial, and industrial buildings, including schools and universities, commercial and recreation centers, and water and wastewater treatment plants. In addition, we provide infrastructure-related geotechnical and testing services to local municipalities.

We are prequalified to provide complete geotechnical engineering consulting to the state transportation authorities of Illinois, Indiana, Iowa, Kentucky, and Ohio, including geotechnical drilling, laboratory testing, foundation analyses and evaluation, and comprehensive engineering reporting and recommendations. In recognition of our capabilities, Wang has been selected as IDOT District One's Geotechnical Consultant in 2008, 2006, 2000, and 1994.

Subsurface Investigations

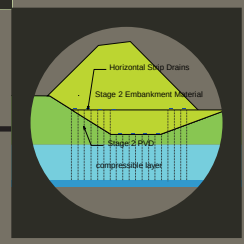
Field and Laboratory Testing

Geotechnical Instrumentation



Foundation Analysis and Design

Ground Improvement and Treatment



- IDOT Prequalified in Subsurface Explorations, General Geotechnical Services, Structure Geotechnical Reports, Complex Geotechnical/Major Foundation
- Certified DBE by the Illinois Unified Certification Program and MBE by the City of Chicago

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Geotechnical Engineering Services

Wang Engineering

for our Materials Testing and Construction Inspection services visit us at
www.wangeng.com

AASHTO R18

Quality Management System certifications
AASHTO R 18
ASTM C1087
ASTM D 3740

Subsurface Investigations

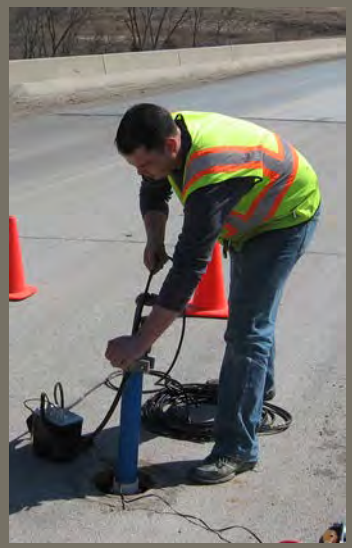
With a complete set of drilling and sampling equipment for a variety of subsurface conditions, Wang has provided geotechnical drilling services since 1991. Our skilled drillers have a wealth of experience earned from working with both truck- and ATV-mounted rigs on a variety of terrains, as well as with barge drilling rigs. Obtaining access to difficult locations is one of the benefits of our years of experience. We are outfitted for automatic SPT testing, Shelby tube sampling, and NQ size rock coring, and we are equipped to install 2- to 8-inch diameter piezometers. To meet project requirements, we can schedule specialized insitu testing, including CPT, vane shear, dilatometer, and pressuremeter.

Field and Laboratory Testing

Wang owns and operates a state-of-the-art testing laboratory accredited by the AASHTO Accreditation Program for soil, aggregate, concrete, and asphalt testing. Our competency in laboratory testing is periodically assessed by the AASHTO Materials Reference Laboratory, the Cement Reference Laboratory, and IDOT's Bureau of Materials. Wang's field staff has completed all levels of IDOT QA/QC training courses, including nuclear density, soils, aggregate mixture, PCC, HMA, and documentation of contract quantities. Our range of laboratory tests for soils covers ASTM and AASHTO standard procedures, including particle size, Atterberg limits, moisture and organic content, unit weight, specific gravity, void ratio, standard and modified Proctor, California Bearing Ratio, falling and constant head hydraulic conductivity, one-dimensional consolidation, unconfined compression, direct shear, and triaxial compression tests. We also perform insitu tests using nuclear density gauges and static and dynamic cone penetrometers.

Geotechnical Instrumentation

Our geotechnical engineering team will help you design and execute your project with safety and economy. We will guide you in the selection of the proper instrumentation program to confirm design assumptions, determine initial or background conditions, and monitor the safety of a structure or construction operation. Wang's geotechnical instrumentation experience covers measurement of groundwater pressure, total stress, deformation, load, strain, and vibration and includes installation, monitoring, and data interpretation for piezometers, earth pressure cells, inclinometers, settlement plates, and seismographs.



Foundation Analysis and Design

Foundation type, load-carrying capacity, long- or short-term foundation movement under the expected loading—these are design issues that Wang's highly qualified engineers tackle daily to find for every specific project the foundation system that will perform according to the stipulated criteria and can be built at a reasonable cost. Our extensive project experience includes building, bridge, drainage, embankment, and earth retaining structures. We provide complete geotechnical analyses for spread footings, mat foundations, driven piles, drilled shafts, soldier piles, sheet piles, reinforced concrete walls, MSE walls, excavation support, roadway embankments, pavement design, and global stability following IDOT, AASHTO, FHWA, or USACE design guidlines.

Ground Improvement and Treatment

For project sites underlain by poor or unstable soils, Wang selects and designs viable and economical insitu mitigation solutions. Our related project experience includes cut and fill, load balancing, dynamic compaction, prefabricated vertical drains, stone columns, geopiers, micropiles, soil nailing, and geosysntehics. We can also assist with writing project specifications, performing QA during construction, and monitoring post-construction performance.

ORLAND PARK

ADDENDUM NO. 1

Informal RFP
82nd Avenue Multi-Use Path 135th Street to 151st Street

Date: May 7, 2021

To: All Potential Proposers

From: Village of Orland Park

RE: Responses to Questions Received

This Addendum No. 1 is being issued to provide responses to questions submitted for the above mentioned Project. All other provisions and requirements of the RFP shall remain in effect. **All addenda must be acknowledged by signing the Addendum and including it with your submittal.** Failure to include a signed formal Addendum with your submittal may deem the submittal non-responsive; provided, however, that the Village may waive this requirement if in its best interest.

The following are the Village's responses to questions submitted for this RFP:

1. Is survey of the entire project corridor of east and west sides of 82nd Avenue required as part of the scope of services and proposed fees?

   Village Response: Selected consultant will have to provide necessary topographic information so an informed decision can be made on path alignment. Once path alignment is selected, detailed topographic information will be needed for the length of the alignment.

2. Are geotechnical borings required as part of the scope of services and proposed fees?

   Village Response: Geotechnical borings may be required depending on scope of work at the Tinley Creek culvert crossing or for other structural elements that may be needed for the project. The project will follow IDOT requirements for Phase 1 work.

3. Are there any M/W/DBE requirements?

   Village Response: There are no M/W/DBE requirements for this project.

4. Is there a desire by the Village to increase the size of the culvert under 82nd Avenue at Tinley Creek?

   Village Response: 82nd Avenue is under the jurisdiction of Cook County Department of Transportation and Highways (CCDOTH). The Village would look to have the most efficient and low maintenance type of installation for the creek crossing but ultimately CCDOTH will decide what is acceptable.

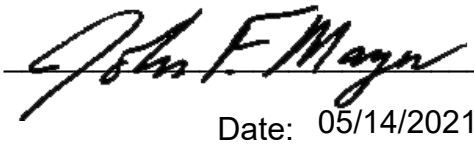
The question and answer period for this bid is closed. **The RFP submission deadline remains May 14, 2021 not later than 11:00 A.M.**

Proposers are required to acknowledge receipt of any Addendum by signing the Addendum and including it with the RFP submission.

I read and hereby acknowledge this addendum as of the date shown below.

Business Name: Engineering Resource Associates, Inc.

Name of Authorized Signee: John Mayer, Vice President

Signature of Authorized Signee: 

Title: Vice President Date: 05/14/2021