HRGreen®

Building Communities.
Improving Lives.

Tinley Creek Streambank Stabilization

PROPOSAL FOR

Village of Orland Park, Illinois
RFP #21-015

MARCH 29, 2021

Ajay Jain, PE, CFM

323 Alana Drive
New Lenox, IL 60451-1766

Direct 815.759.8331 + Cell 815.509.8302

ajain@hrgreen.com

IN PARTNERSHIP WITH

res
AES is excited to be part of RES

LVBROWN STUDIOS

rubino
ENGINEERING INC.

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HRGreen®

▷323 Alana Drive | New Lenox, IL 60451-1766
Main 815.462.9324

March 29, 2021

Village of Orland Park
Office of the Village Clerk
14700 S. Ravinia Ave.
Orland Park, IL 60462

Re: RFQ #21-015 | Tinley Creek Streambank Stabilization

Dear Selection Committee,

HR Green and our partners, **RES-AES, LVBrown Studios** (a federally registered EDWOSB), and **Rubino Engineering** (a certified WBE) is pleased to submit our proposal for the above referenced project.

Project Team: I will serve as Principal-in-Charge for your project to provide technical oversight and Quality Assurance/ Quality Control (QA/QC) and will ensure that this project is delivered to meet your expectations. I am proud to present **Logan Gilbertsen, PE, CFM** to serve as your Project Manager for this project. Logan specializes in Water Resources and Environmental Engineering. Restoring waterways is his passion and this will be evident to the Village and stakeholders. Logan has completed **award-winning projects** ranging from streambank stabilization and naturalization to the design of storm water Best Management Practices (BMPs) in urban settings. He has worked with municipalities, MWRDGC, and other agencies to develop storm water solutions that helps ***Build Communities and Improve Lives.***

Supporting Logan are our discipline specific key task leaders. Of particular mention are **Steve Zimmerman**, from RES-AES and **Lauren Brown** from LVBrown Studios. Steve serves as a Principal Stream Restoration Ecologist and brings extensive knowledge of stream ecology, restoration management and community outreach. Lauren has a M.S. in both Water Resource Management and Landscape Architecture. She specializes in water-focused landscape architectural design to convey complex engineering designs and concepts in easy-to-understand renderings. Please visit our **Project Team Qualifications** section for a detailed review of why this team brings the best value and qualifications to meet the challenges and achieve the various goals and objectives of your project.

Vision: Our goal for this project is to approach its design such that it will reduce erosion and once again return Tinley Creek to being an amenity for the property owners; to allow residents to re-connect and safely recreate with the stream; to increase property values; and to minimize costs for its long-term maintenance. This is a vision that will help build consensus and allow people to get behind and support this project.

By selecting the HR Green team for the project, the Village will enjoy the following value-added benefits:

- Multi-disciplined team that will help build consensus and achieve property owners buy in;
- Relevant experience in streambank stabilization projects in residential neighborhoods;
- Innovative solutions to create sustainable, aesthetically pleasing creek restoration;
- Funding expertise to look for possible opportunities to supplement Village budget; and
- Proven experience to deliver projects on time and on budget.

Please contact me at 815.509.8302 or via email at ajain@hrgreen.com with any questions.

Sincerely,

HR GREEN, INC

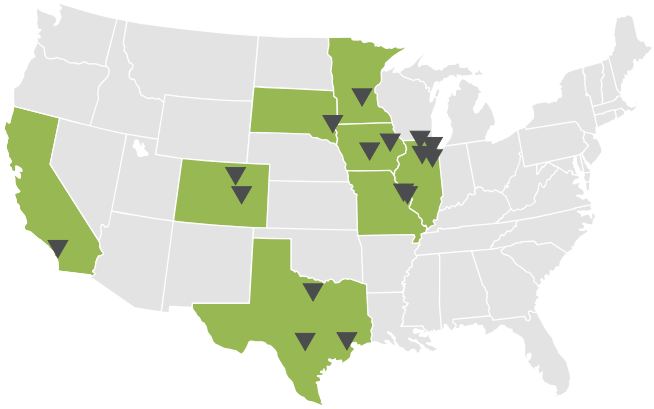
Ajay Jain PE, CFM
Principal

Operating History

Experience and Qualifications

HR Green is honored to be one of the nation's longest operating engineering firms. Established in 1913, HR Green is employee owned. We collaborate across geographies and markets to provide the engineering, technical, and management solutions that connect and shape communities and are driven by the commitment of our clients.

> For more than a century, HR Green has been dedicated to providing the services that our clients need to achieve success.



16 Offices in 8 States

HR Green offices are located throughout the United States in California, Colorado, Iowa, Illinois, Minnesota, Missouri, South Dakota, and Texas. This project will be delivered out of our **local Illinois offices in New Lenox and McHenry.**

OVER 525 EMPLOYEES

ENR TOP500 Design Firms

▷ HR Green has continued to climb the rankings on Engineering News Record's (ENR) annual lists of top design and construction firms in the nation, rising 39 **spots** and coming in at 202.

▷ **Firm Contact**
Logan Gilbertsen, PE, CFM – Project Manager
P: 815.759.8370 / M: 815.861.1710 / lgilbertsen@hrgreen.com

Comprehensive Services

TRANSPORTATION
Whether your infrastructure needs include design, construction, funding identification, innovative geometry, environmentally sensitive areas, sustainable and attractive structures, or difficult traffic challenges, we can provide the solutions you need.

WATER
From feasibility studies through construction phase services, we help clients achieve reliable, cost-effective, and innovative solutions for potable and process water, wastewater, and water resources management.

GOVERNMENTAL SERVICES
Our professionals combine creativity with reliability to provide staff augmentation and consulting services to local governments. We provide engineering, public works, planning, and building departments with staff to meet the variable workloads.

LAND DEVELOPMENT
We unify engineering, surveying, construction, land planning, and landscape architecture consultants into a single, integrated team that excels at project efficiency, effective project management and outstanding communication.

ENVIRONMENTAL
Whether your environmental needs include the remediation of brownfields sites to allow for community redevelopment, environmental compliance for infrastructure and facilities, or NEPA services for transportation infrastructure, HR Green can provide environmental solutions.

CONSTRUCTION
Our construction professionals are experienced with projects for municipal, county, and state clients that include bridges, roads and highways; storm and sanitary sewers; water distribution systems; water treatment facilities; wells, and storage facilities; pumps and lift stations; and wastewater facilities.

RESOURCE ENVIRONMENTAL SOLUTIONS-APPLIED ECOLOGICAL SERVICES
Specialists in Ecological Science, Restoration, Management, and Research

Subconsultants

About RES-AES

"A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."

Ecologist and RES-AES Inspiration, Aldo Leopold

Applied Ecological Services, Inc. was established in 1978 by founder and owner Steven I. Apfelbaum, an ecologist who has built a reputation as one of the country's leading ecologists. In February 2021, AES was acquired by Resource Environmental Solutions, LLC and is undergoing a name change to RES Great Lakes, LLC. All work continues to be conducted by trusted AES staff, who now have access to the support of RES. RES-AES is a leading ecological design, contracting, and management firm in the Midwest dedicated to bringing the science of ecology to land-use decisions. RES-AES applies science to provide practical land-use solutions that strike the most favorable balance between cultural needs, cost efficiencies and ecological sustainability. RES-AES has grown into one of the nation's largest and most respected ecological services companies. Our Great Lakes operation has offices in Wisconsin, Illinois, Minnesota, and Iowa. Staff from the West Dundee, Illinois office will work on Tinley Creek Restoration Project. Consulting and design services work in collaboration with our experienced ecological contractors – playing a key role in implementing on-the-ground ecological projects. These two Business Lines are backed by our native plant nursery division – Taylor Creek Restoration Nurseries – one of the largest, most diverse native seed and plant nurseries in the U.S.

This unique combination of in-house staff experience—bringing together ecology, water resource engineering, landscape architecture and design, contracting and nursery science, GIS mapping and spatial data—provides innovation, flexibility, streamlined project management and, most importantly, projects that exceed client, stakeholder and regulatory objectives.

LVBrown Studios

LVBrown Studios is a **federally registered Economically Disadvantaged Women-Owned Small Business (EDWOSB)** and water-focused conceptual design studio helping people imagine and visualize environmental change.

Design Principal and Owner, Lauren Virginia Brown quite literally 'draws' from twenty years of experience spanning professional landscape architecture and urban design practice, to academic and applied experience in river and wetland restoration science and engineering.

Lauren uses her core strengths of analyzing data through a visual thinking process, imagining and ideating project outcomes through brainstorming and sketching, and ultimately producing the ideas into final illustrations that have the power to engage, educate, and inspire.

The magic begins when pencil hits paper. She problem-solves visually using a unique blend of media, including geospatial mapping, hand-drawings, digital illustrations and graphic design. Her expertise creatively synthesizes project goals and data into clear and inspiring images that communicate project ideas, engage productive conversation, and ultimately move ideas forward.

HR Green collaborated with LVBrown on the 7th Avenue Creek project in St. Charles, illinois. Lauren helped us to achieve consensus with the public. See examples of her work in our proposal.

Rubino Engineering

Established in 2009, **Rubino Engineering, Inc. (Rubino)** is a **certified Women Business Enterprise (WBE)** specializing in providing geotechnical engineering and construction materials testing throughout Northern Illinois and the Greater Chicago area.

Rubino performs geotechnical site investigations, pavement evaluation, foundation and settlement analyses, provides recommendations for retaining wall and slope stability analyses. Rubino's geotechnical engineering department is on hand to support projects with geotechnical recommendations in a timely basis.

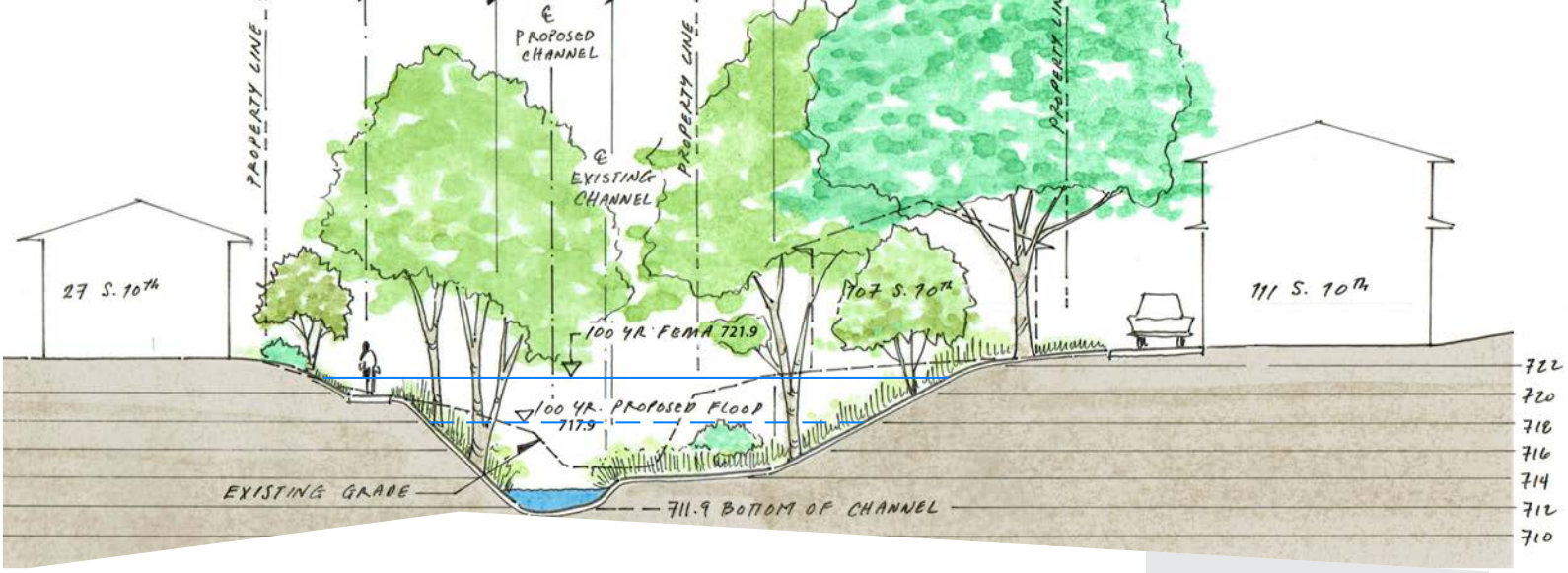
Rubino and HR Green have partnered together on numerous County, local agency, and IDOT projects, and have a very effective working relationship.

Similar Project Experience

Firm Legend

- HR Green
- RES-AES
- LVBrown Studio
- Rubino

Firm Association	Project Name / Client	Kickoff Meeting	Data Collection	Streambank Stabilization	Residential Creek Corridor	Property Owner Coordination	Public Education and Outreach	Temporary/Permanent Easement	Stormwater Master Plan	Preliminary Engineering Plans	Final Engineering Plans	Permitting and Compliance	CLOMR/LOMR	Grants and Funding Assistance	Awards
HR Green, RES-AES, LVBrown Studio, Rubino	7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration / St. Charles, IL	●	●	●	●	●	●	●	●	●	●	●	●	●	
HR Green	Crestwood Drainage Ditch Flood Control and Bank Stabilization / MWRDGC, IL	●	●	●	●			●		●	●	●			
HR Green, RES-AES	Carpenter Creek Bank Stabilization and Stream Restoration / Carpentersville, IL	●	●	●	●	●	●	●	●	●	●	●	●	●	●
HR Green, RES-AES	Woods Creek Reach 10 Bank Stabilization and Stream Restoration / Lake in the Hills, IL	●	●	●	●	●	●	●		●	●	●		●	●
HR Green, RES-AES	Souwanas Creek Reach 2 Bank Stabilization and Stream Restoration / Algonquin, IL	●	●	●	●	●	●	●		●	●	●		●	●
HR Green, RES-AES	Mahoney Creek Stream Assessment and Concept Plan / Batavia, IL	●	●	●	●	●	●								
HR Green, RES-AES	Creeks Crossing Stream and Riparian Repair / Algonquin, IL	●	●	●	●		●			●	●	●			
HR Green	State Street Creek Bank Stabilization and Stream Restoration / St. Charles, IL	●	●	●	●		●		●						
HR Green	Lakeland Park Drainage Ditch Stream Assessment / McHenry, IL	●	●	●			●		●						
HR Green	Camp Creek Bank Stabilization and Stream Restoration / Des Moines, IA	●	●	●	●	●	●	●		●	●	●			●
HR Green	Dry Creek Bank Stabilization and Stream Restoration / Fort Madison, IA	●	●	●	●	●	●	●		●	●	●			
HR Green	Dellwood Creek Bank Stabilization / Metropolitan St. Louis Sewer District, MO	●	●	●	●	●	●	●		●	●	●			
HR Green	Flint Creek Dreamway Restoration / Barrington, IL	●	●	●	●	●	●			●	●	●		●	●
HR Green	Flint Creek Fox Point Restoration / Barrington, IL	●	●	●	●	●	●	●		●	●	●		●	
RES-AES	Woods Creek Reach 2 & 3 / 4 / 11 Bank Stabilization and Stream Restoration / Lake in the Hills, IL	●	●	●	●		●			●	●	●		●	
RES-AES	Fetzner Park Restoration / Crystal Lake, IL	●	●	●	●	●	●			●	●	●		●	
LVBrown Studio	Kinnickinnic R. & Menomonee R. / Milwaukee, WI			●		●	●								
LVBrown Studio	Red Cedar River / WI			●		●	●								
LVBrown Studio	Oak Meadows Golf Course / DuPage River Salt Creek Work Group, IL			●		●	●								



7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration | *St. Charles, Illinois*

The 7th Avenue Creek Master Plan was completed in Fall 2016. The master plan identified a phased approach to reduce the 100 year floodplain along the 2 mile stretch of 7th Avenue Creek to benefit approximately 118 properties that included 55 residential and 13 commercial structures. One of the key component of the master plan was resident coordination and building consensus to gain support for the project and easement agreements.

In addition to completing the Master Plan, HR Green and RES-AES teamed to prepare an IEPA approved addendum Watershed-Based Plan. The overall master plan included bank stabilization and stream restoration along the entire project length, culvert removals and removal of 9th Avenue. The first phase of the project includes over 2,800 linear feet of stream bank stabilization, creating 12 meanders and 12 grade control structures as well as planting 4.6 acres of the riparian area with native vegetation.

The project has been permitted through the various regulatory agencies including ACOE, IDNR-OWR, IEPA, IDNR, and KDSWCD. The project was also coordinated with FEMA for CLOMR approval.

The first phase has been funded through Section 319 Grant funding, Green Infrastructure Grant Opportunity (GIGO) and Riverboat Funding. **HR Green services included preparation of 319 and GIGO grant applications which resulted in grant funding totaling $2,622,967 with a local share of only $201,767 or just 8% of the total amount to be paid by the City.** Upon completion, the project will alleviate frequent flooding, reduce pollutants in the waterway, improve erosion and water quality, provide recreation opportunities and increase wildlife habitat.

> "HR Green and City staff worked together to tackle many project challenges that stemmed from the creek physically being on or directly adjacent to private property. Land acquisition certainly shaped our project as we worked to purchase land, easements, or creatively avoid properties altogether as necessary. HR Green even helped the City to obtain grant funding toward design and construction!"
>
> -Ken Jay, Public Works Manager - Engineering

REFERENCE

Ken Jay
Public Works Manager
City of St. Charles
2 East Main
St. Charles, IL 60174
630.377.4418
kjay@stcharlesil.gov

Letter of Recommendation in Appendix

CONSTRUCTION COST

$3,590,000

COMPLETION DATE

2020 (Design)
2021 (Construction)

SIMILAR FEATURES

- Stream bank stabilization
- Public engagement (private property)
- Easement agreements
- Agency coordination
- Permitting
- Section 319(h) funding
- GIGO funding

KEY PERSONNEL

- Ajay Jain
- Dale Marting
- Logan Gilbertsen
- Ralph Stark
- Michael Lewis
- Sylwia Kozszka
- Cecily Cunz (RES-AES)
- Steve Zimmerman (RES-AES)
- Lauren Brown (LVB)

HRGreen

Crestwood Drainage Ditch Flood Control and Bank Stabilization

MWRDGC, Illinois

The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) hired HR Green to prepare engineering plans for a flood control project in the Village of Crestwood. The project study area has a history of severe flooding, especially in the residential area at the southeast corner of 135th Street and Central Avenue. Severity ranges from nuisance flooding of streets and yards to property damage resulting from basement flooding. Currently, flood protection for these homes consists of a manmade non-engineered earthen berm, which was installed without permits. HR Green completed an engineering analysis of the study area and developed a preferred alternative to provide a level of protection that is acceptable to the Village, MWRDGC and affected stakeholders. The stakeholders on this project included the Village, local residents, IDNR-OWR, Cook County Forest Preserve District (FPD), the local School District, and Illinois Department of Transportation. HR Green facilitated public engagement with a resident questionnaire survey and public meetings.

During the course of preliminary engineering, it was discovered that the existing manmade berm is potentially a Class I Dam, requiring IDNR-OWR permitting. The berm is located on FPD property, which required coordination and licensing agreement with the FPD. In addition, the project route included a 15" petroleum pipeline owned by Enterprise Products located in Houston, TX. Installation of proposed improvements would require coordination and approval of the Enterprise Products to maintain required encroachment guidelines. 135th Street is also an IDOT jurisdiction roadway and therefore requires IDOT permit. The project is also adjacent to an elementary school, which will require coordination with the school for construction and maintenance of traffic and safety. Finally, the project is tributary to Crestwood Drainage Ditch. The Ditch is experiencing eroding banks. The release of additional flows from the project area will increase high water level and velocities in the creek creating further erosion. The design criteria for the project was to provide a 100-year protection with no damage to structures.

Several alternatives were prepared for the project. The selected alternative includes a proposed 72" storm sewer conveyance pipe along 135th Street. Several junction boxes are proposed along the pipe including a conflict manhole to mitigate conflicts with an existing sanitary sewer. The project will include approximately 1.2 miles of bank stabilization along a Crestwood Drainage Ditch to reduce erosion and minimize impacts due to flow increase. A new parallel culvert was added downstream of the project limits under Cal Sag Road to maintain flows and velocities in the ditch.

REFERENCE

Richard Fisher, PE
Principal Civil Engineer
MWRDGC
100 East Erie Street
Chicago, IL 60611
312.751.5479
fisherr@mwrd.org

CONSTRUCTION COST

$9.2M

COMPLETION DATE

2020 (Design)
2021 (Consruction)

SIMILAR FEATURES

- Stream bank stabilization
- Flood reduction
- Public engagement
- Agency coordination
- Permitting

KEY PERSONNEL

- Ajay Jain
- Jarod Oliver
- Logan Gilbertsen
- Ralph Stark
- Michael Lewis
- Sylwia Kokoszka

HRGreen

Carpenter Creek Bank Stabilization and Stream Restoration

Carpentersville, Illinois

Funded by EPA Section 319 Grant Funding for water quality and flood reduction improvements; Federal STP funding and TIF Development funding for roadway and culvert improvements; and developer fee in lieu contributions to match local match, Carpenter Creek Design Build Project achieved multiple benefits including flood reduction, floodplain and habitat enhancements, and non-point source pollution. Approximately 45 properties are located along the creek and its foodplain with failing infrastructure.

Carpenter Creek is an approximately 13,500' (or 2.6 miles) length of perennial stream tributary to the Fox River and located within the corporate limits of Village of Carpentersville, Illinois in Kane County. Carpenter Creek, within the limits of the project, is a mapped floodplain (mapped as Zone AE at its confluence with Fox River to Spring Street and mapped as Zone A from Spring Street to its upstream mapped limits). The Zone AE also has a regulatory floodway. Carpenter Creek is located within the Jelkes Creek – Fox River Watershed (JCFRW).

To address the stream bank erosion and to improve stream ecology, the proposed improvements to Carpenter Creek consisted of bank stabilization, construction of two-stage channel, stream relocation and meandering, wetland enhancement basins, and rock riffle and grade control structures. The meandered two-stage floodplain channel mimics natural channel behavior and will prevent further erosion and channel migration due to erosive forces along the stream. As a result of the two-stage floodplain channel, additional rock riffle grade control structures will provide further retention of surface runoff within the stream to promote infiltration into the native sandy soils while reducing erosive forces through energy dissipation for a multi-faceted improvement in water quality.

> "HR Green was a true partner with the Village to conceptualize the need for this project and finding creative funding sources to help reduce the overall costs. In fact, the Village's share for this total $2.8M project was approximately $125,000."
>
> - Ed Szydlowski, Capital Projects Manager, Village of Carpentersville

REFERENCE

Ed Szydlowski
Engineering Manager
Village of Carpentersville
1200 LW Besinger Drive
Carpentersville, IL 60110
224.293.1637
eszydlowski@vil.
carpentersville.il.us

CONSTRUCTION COST

$2.8M

COMPLETION DATE

2016

SIMILAR FEATURES

- Stream bank stabilization
- Public engagement
- Easement agreements
- Agency coordination
- Permitting
- Section 319(h) funding

KEY PERSONNEL

- Ajay Jain
- Logan Gilbertsen
- Ralph Stark
- Michael Lewis

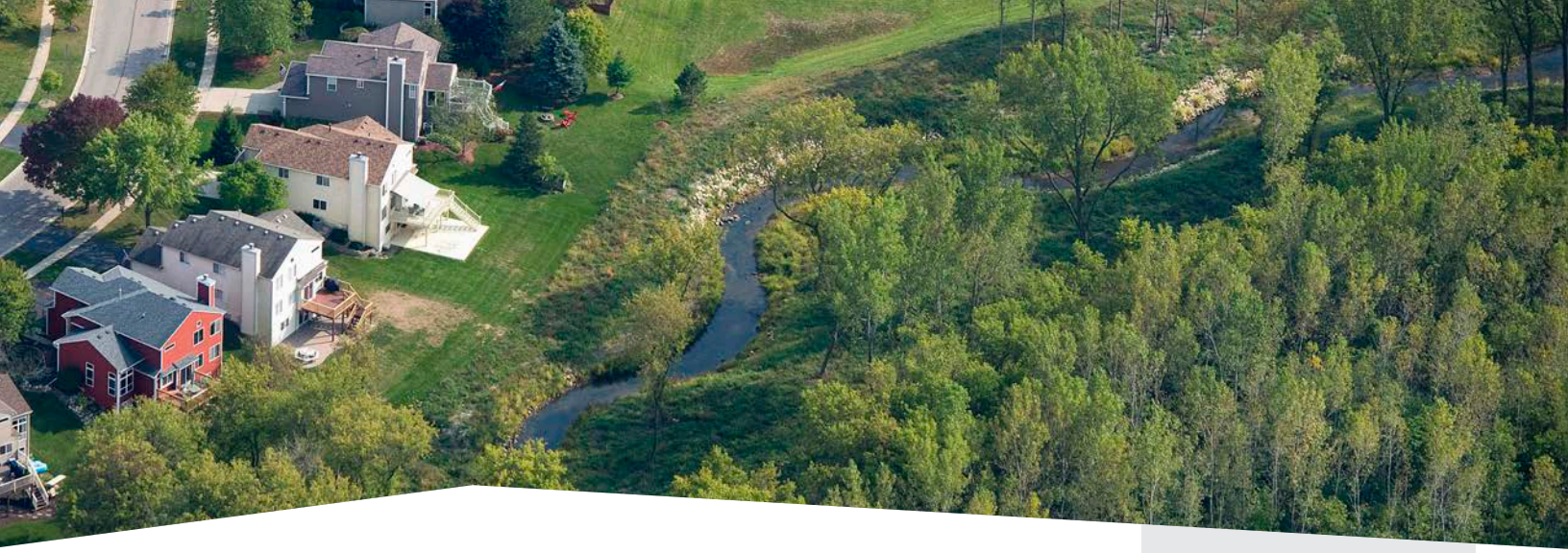
APWA Chicago Metro Award - 2018

APWA Fox Valley Branch Award - 2018

ACEC-IL Merit Award - 2018

IAFSM Sustainability Award - 2017

HRGreen



Woods Creek Reach 10 Bank Stabilization and Stream Restoration | *Lake in the Hills, Illinois*

Reach 10 of Woods Creek is located in the Village of Lake in the Hills, McHenry County, Illinois. The project was identified in the Woods Creek Watershed-Based Plan as a critical project area. The project was the recipient of funding through the United States Environmental Protection Agency's (EPA) Section 319 grant program administered by the Illinois Environmental Protection Agency (IEPA) as well as a grant from the local Soil and Water Conservation District.

The Village of Lake in the Hills worked with HR Green, Inc. (HR Green) to complete the design and with RES-AES to complete the construction of the Best Management Practices (BMPs) recommended in the Woods Creek Watershed Based Plan (WCWBP). The project incorporated wetland and riparian area restoration, stream bank and shoreline protection, and stream channel restoration. The installed BMPs will provide much needed relief from the bank erosion and nutrient transport that was occurring in the Woods Creek Watershed. The project required permitting through the United States Army Corps of Engineers, Illinois Department of Natural Resources – Office of Water Resources as well as other associated agencies.

Prior to construction, the project team hosted a public education event for local stakeholders to come and learn about the upcoming project. The improvements were constructed in the fall and winter of 2019/2020. Construction was completed smoothly and the project is currently in the first year of the Monitoring and Maintenance period.

> "I'm really impressed with the project and your work on it. Keep up the great work!"
>
> - Christine Davis, Manager, Watershed Management Section, IL EPA, Bureau of Water

REFERENCE

Fred Mullard
Village Administrator
Village of Lake in the Hills
9010 Haligus Road
Lake in the Hills, IL 60156
847.960.7500
fmullard@lith.org

CONSTRUCTION COST

$597,700

COMPLETION DATE

2020

SIMILAR FEATURES

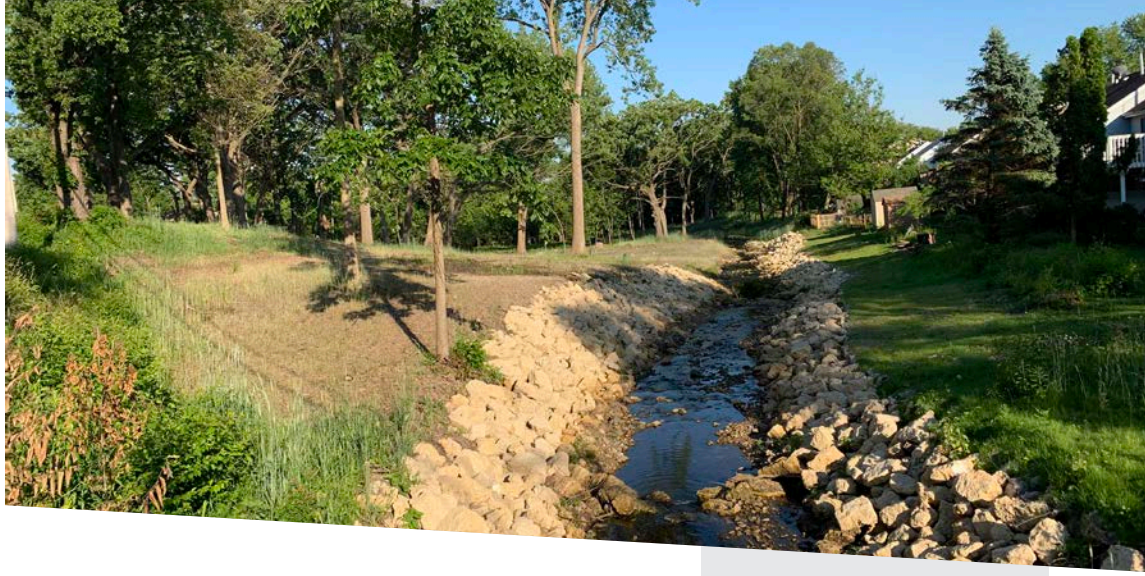
- Stream bank stabilization
- Public engagement
- Agency coordination
- Permitting
- Section 319(h) funding

KEY PERSONNEL

- Logan Gilbertsen
- Sylwia Kokoszka
- Michael Lewis
- Josh Schmitt
- Steve Zimmerman (RES-AES)
- Brad Gaskin (RES-AES)

APWA Merit Award - 2020

HRGreen



Souwanas Creek Reach 2 Bank Stabilization and Stream Restoration | *Algonquin, Illinois*

The project included stream assessment, wetland delineation, hydraulic design, plan and specification preparation for nearly 700 linear feet of restoration of Souwanas Creek and the surrounding wetlands and oak woodlands. A full hydrologic and hydraulic study of the watershed and channel was completed in order to design a stream restoration which includes stone toe stabilization, bio-engineered stream banks, floodplain benches, meander modifications, cross vane weirs and J-hooks.

The overall site restoration includes over 3 acres of wetland, sedge meadow and woodland savanna restoration to remove invasive vegetation and introduce new native vegetation and trees. The project required permitting through the Illinois Department of Natural Resources - Office of Water Resources, the Army Corps. of Engineers, the Kane-DuPage Soil and Water Conservation District and local storm water authority.

The project took place on Village owned property, but required temporary easements from multiple private residents adjacent to the stream. HR Green and the Village hosted an open house event to educate adjacent property owners about the project and allow them to individually ask questions about the project goals and what it meant for their individual parcel.

HR Green applied for and obtained grant funding from the local Soil and Water Conservation District to help offset the cost of construction.

> "Logan has recently completed three streambank stabilization and restoration projects for the Village in tight residential corridors. He has done an excellent job managing these projects and keeping the Village informed. You can tell that Logan has a passion for doing this type of stream restoration work and that passion shows through when he communicates with our staff and our residents."
>
> - Michele Zimmerman, Assistant Public Works Director, Village of Algonquin

REFERENCE

Michele Zimmerman
Assistant Public Works Director
Village of Algonquin
110 Meyer Drive
Algonquin, IL 60102
mzimmerman@algonquin.org
847.658.2754

CONSTRUCTION COST

$374,679

COMPLETION DATE

2020

SIMILAR FEATURES

- Stream bank stabilization
- Public engagement
- Easement agreements
- Agency coordination
- Permitting

KEY PERSONNEL

- Logan Gilbertsen
- Sylwia Kokoszka
- Michael Lewis
- Josh Schmitt
- Steve Zimmerman (RES-AES)
- Brad Gaskin (RES-AES)

ACEC Engineering Excellence Award - 2020

HRGreen

Mahoney Creek Stream Assessment and Concept Plan

Batavia, Illinois

In February 2020, the City of Batavia partnered with HR Green and RES-AES to pursue the development of a planning document to assess the condition of Mahoney Creek and to address concerns related to Mahoney Creek and the Mahoney Creek Tributary.

This study included an assessment of 3.4 miles of streams. Each stream reach was given a rating for the condition of the streambanks, channel, and the riparian area. In total, 13% of the streambanks were severely eroded and 46.5% of the streambanks were moderately eroded; and these streambanks warrant repair or modifications to stabilize the banks.

Stakeholder involvement was completed through a survey that was sent to residents within the watershed. A total of 442 surveys were sent out. Approximately 30% of the residents who live along the stream responded. Stakeholders were also invited to a public education event that took place via webinar in July 2020. The presentation summarized the history and current condition of the stream, provided information for improvements that could be made on their private property and included examples of potential improvements.

Much of Mahoney Creek and the Tributary are located on private property. Many of the identified improvements also span multiple properties and therefore many property owners and stakeholders will be involved when improvements are implemented. The plan resulted in approximately $6.6M worth of identified improvements.

The Stream Assessment was a necessary first step in improving Mahoney Creek. The document has been used in planning and coordinating future projects and will be used to foster partnerships to stabilize and restore the stream and its riparian area. The City of Batavia is currently working with HR Green and RES-AES to design wetland enhancements at the headwaters of the Mahoney Creek Tributary.

REFERENCE

Andrea Podraza, PE, CFM
Assistant City Engineer
City of Batavia
200 N Raddant Road
Batavia, IL 60510
apodraza@cityofbatavia.net
630.454.2757

CONSTRUCTION COST

N/A

COMPLETION DATE

2020

SIMILAR FEATURES

- Stream bank stabilization
- Public engagement (private property)
- Agency coordination

KEY PERSONNEL

- Ajay Jain
- Logan Gilbertsen
- Sylwia Kokoszka
- Steve Zimmerman (RES-AES)

> "City hired HR Green and AES to complete a stream assessment of Mahoney Creek. Logan was the project manager and he provided prompt weekly updates via email detailing the project status and schedule. The projects kickoff was 2 weeks prior to the pandemic and shut down. Logan adapted to all the unprecedented changes necessary due to COVID. He led virtual meetings with residents and a live presentation to Council. He did a wonderful job explaining complex concepts in terms that were very clear and well received by all the attendees. All council members were very pleased with the knowledge that HR Green presented."
>
> - Andrea Podraza, PE, CFM, Assistant City Engineer, City of Batavia

Creeks Crossing Bank Stabilization and Stream Restoration

Algonquin, Illinois

The Village of Algonquin retained HR Green to transform a Village owned parcel from being undeveloped residential lots into a passive park with a paved trail. The site sits within what is known as the Creeks Crossing Subdivision. The land was originally graded to accommodate a collection of twelve residential lots, however the developer has since abandoned this plan and donated the land to the Village. The current site consists of some minor storm water improvements including, but not limited to, detention facilities & storm sewers. This site also contains an engineered block retaining wall along the north property line of the parcel.

Passive Park Improvements

The project includes the removal of Buchanan Drive and the addition of native landscaping, native trees, benches and a formalized path through the site. This path will provide a link with the Sleepy Hollow planned sidewalk/boardwalk being constructed in 2019. The site shall seamlessly flow from a formalized entrance (at Buchanan Drive) to a natural/native prairie, to lowland buffer zone, and finally into the wetland/creek area. Additionally, a section of existing paved path is being widened and improved to meet current shared use path requirements. Due to the proximity to an existing stormwater retention basin, this section of existing path requires the construction of a segmental block retaining wall and compensatory stormwater storage. The adjacent stormwater detention basin is also being retrofitted to incorporate emergent wetland, wet prairie and wet mesic native plants.

Wetland / Creek Zone Improvements

As part of this project, HR Green partnered with an ecological design company (RES-AES), to assist with the design of wetland enhancements and creek stabilization plans. HR Green and RES-AES completed a stream assessment and tree survey of the site. The stream assessment was used to determine the appropriate in-stream BMPs to implement and the tree survey was used to developed a tree preservation plan to manage the existing tree stands as well as to incorporate new native oak species into the wetland and prairie environments. Many of the existing storm sewers will be removed and converted into bio-swales to further incorporate Best Management Practices into the site and improve the water quality of Dixie Creek.

REFERENCE

Michele Zimmerman
Assistant Public Works Director
Village of Algonquin
110 Meyer Drive
Algonquin, IL 60102
mzimmerman@algonquin.org
847.658.2754

CONSTRUCTION COST

$990,000

COMPLETION DATE

2019

SIMILAR FEATURES

- Stream bank stabilization
- Agency coordination
- Permitting

KEY PERSONNEL

- Ajay Jain
- Logan Gilbertsen
- Sylwia Kokoszka
- Michael Lewis
- Josh Schmitt
- Steve Zimmerman (RES-AES)
- Brad Gaskin (RES-AES)

Flint Creek Dreamway Restoration

Stream Restoration Design-Build

One Month After Restoration.

Client:	Village of Barrington
Contact:	Jeremie Lukowicz, Dir. Public Works 847.381.7903 jlukowicz@barrington-il.gov
Project Type:	Stream and Riparian Restoration
Location:	Barrington, IL
Project Size:	3,000 Linear Feet
Timeline:	2020 - 2022

One Month After Restoration

The Flint Creek Dreamway Restoration Project is located in Barrington, Illinois and is a tributary to the Fox River. In 2007, Citizens for Conservation (CFC) obtained an Illinois Environmental Protection Agency (Illinois EPA) Section 319 Grant to fund the development of the Flint Creek Watershed-Based Plan. CFC obtained a second IEPA 319 Grant in 2018 to update the list of site-specific action items in the plan. RES-AES completed both planning exercises.

RES-AES identified the Flint Creek Dreamway as a “Critical Area” needing immediate ecological restoration in order to reduce pollutant loading downstream and to the Fox River. Flint Creek Dreamway includes a multiuse path along three degraded sections of Flint Creek on land owned and managed by Barrington Park District, Village of Barrington, and Barrington School District.

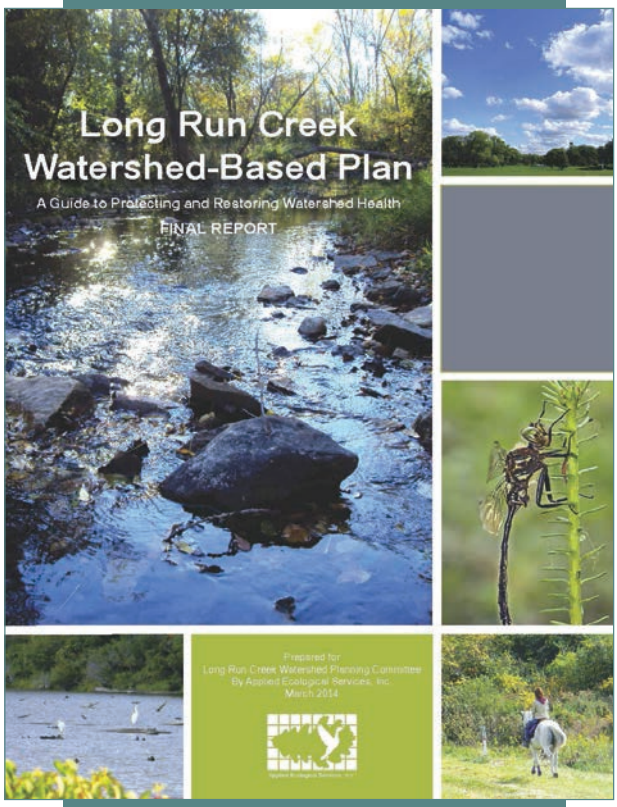
In 2018, the Village of Barrington and partners leveraged the updated Flint Creek Watershed-Based Plan to apply for and receive an Illinois Section EPA 319 Grant to design, permit, and construct the Flint Creek Dreamway Restoration project with the primary goals to improve water quality, wildlife habitat, and aesthetics for the general public. The Village of Barrington hired RES-AES to complete this work.

In 2019, RES-AES designed and permitted the restoration project followed by constructing the project in 2020. The work includes stabilization of the stream channel using over 20 cross vane riffles, stabilization of streambanks using rock toe, and ecological restoration of the immediate riparian corridor via removal of invasive species followed by planting with native prairie and wetland vegetation. The project also includes three years of maintenance to ensure it establishes and meets performance standards.

Prior to Restoratoin.

Long Run Creek Watershed-Based Plan

A Guide to Protecting and Restoring Watershed Health



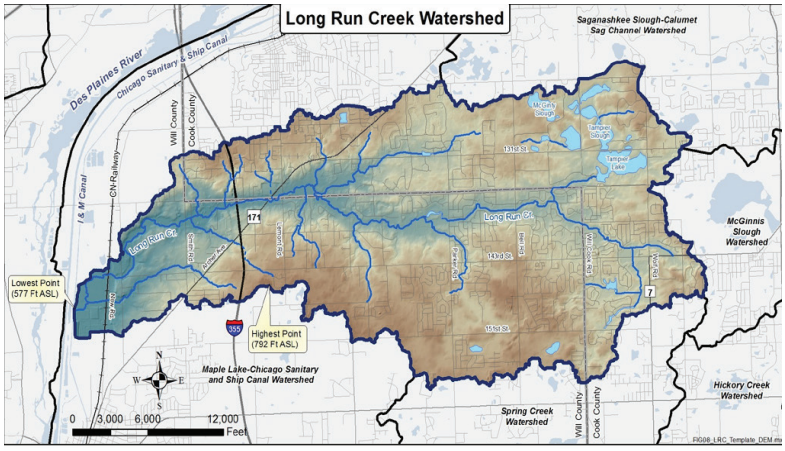
The Long Run Creek Watershed Planning Committee (LRCWPC) became concerned over the health of Long Run Creek watershed when it began showing signs of degradation. In 2010, LRCWPC hosted a meeting of local volunteer stakeholders and partners in the watershed to discuss the possibility creating a watershed plan to protect water quality, remaining green infrastructure, and groundwater recharge to Long Run Seep Nature Preserve, home to the federally endangered Hine's Emerald Dragonfly (see bottom left photo).

In 2012, LRCWPC applied for and received Illinois Environmental Protection Agency (Illinois EPA) funding through Section 319 of the Clean Water Act to undergo a watershed planning effort and produce a comprehensive "Watershed-Based Plan" to act as a "guidance document" for stakeholders that would meet requirements as defined by the United States Environmental Protection Agency (USEPA). The Village of Lemont, acting as the fiscal agent, hired RES-AES in July 2012 to develop the plan.

The primary purpose of the plan is to spark interest and give stakeholders a better understanding of Long Run Creek watershed to promote and initiate plan recommendations that will accomplish the goals and objectives of this plan. The plan was produced via a comprehensive watershed planning approach that involved input from stakeholders and analysis of complex watershed issues by RES-AES team of watershed planners, ecologists, GIS specialists, and engineers.

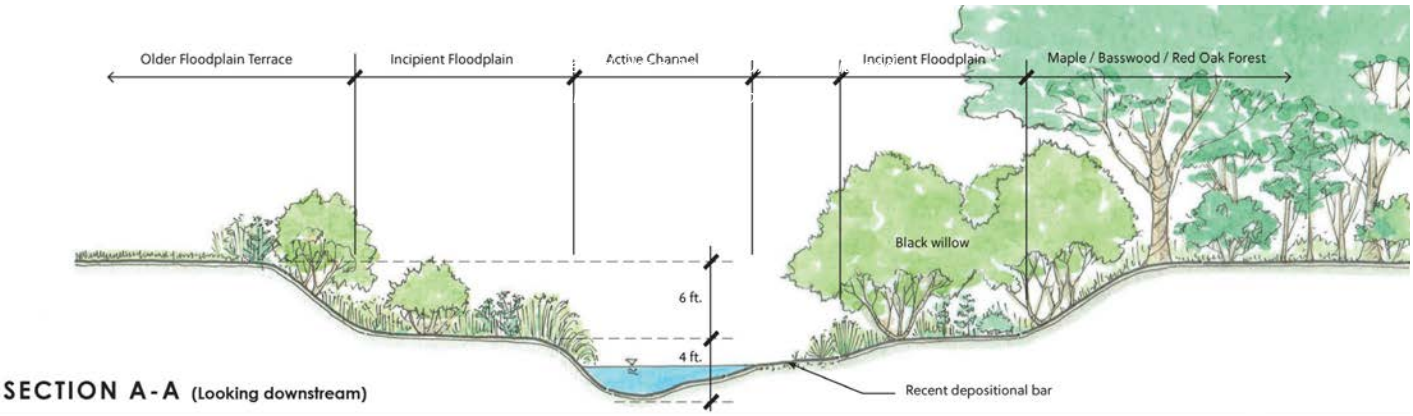
The plan acknowledges the importance of managing remaining green infrastructure to meet many of the goals and objectives in the plan. It also provides scientific and practical rational for protecting appropriate green infrastructure from traditional development and entering into relationships with public, private, and non-profit entities to manage these properties to maximize watershed benefits.

Client:	Village of Lemont
Contact:	Marcia De Vivo Watershed Coordinator 630.863.5890 marciadevivo@aol.com
Project Type:	Watershed planning
Location:	Lemont, IL
Project Size:	Watershed is 16,714 Acres (26.1 Square Miles)
Timeline:	2012 – 2014

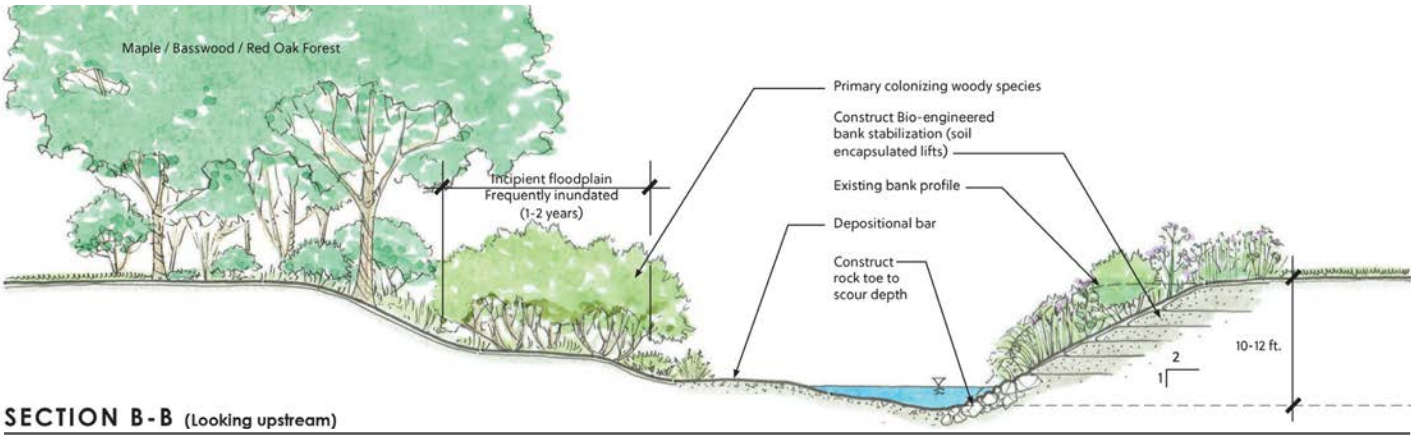


www.res.us

HRGreen



SECTION A-A (Looking downstream)



SECTION B-B (Looking upstream)

KINNICKINNIC & MENOMONEE RIVER PRIORITIZATION PROJECTS

Milwaukee, WI
Client: Sweet Water

Watershed project prioritization

Conceptual design, stakeholder exhibits

Bank stabilization, channel restoration, fish passage

LVBrown Studios partnered with Inter-Fluve Inc. to develop conceptual designs for ten prioritized project reaches in Milwaukee's urban and residential Kinnickinnic River and Menomonee River basins. The Sweet Water Science Team and project engineers prioritized a shortlist of watershed restoration projects based on metrics and goals outlined in the Watershed Implementation Plan. Illustrative concept plans and sections highlighted natural stream restoration opportunities, bank stabilization, fish-passage, and urban floodplain enhancement. Final documents submitted as part of grant applications helped fund final design and implementation.

www.lvbrownstudio.com

HRGreen

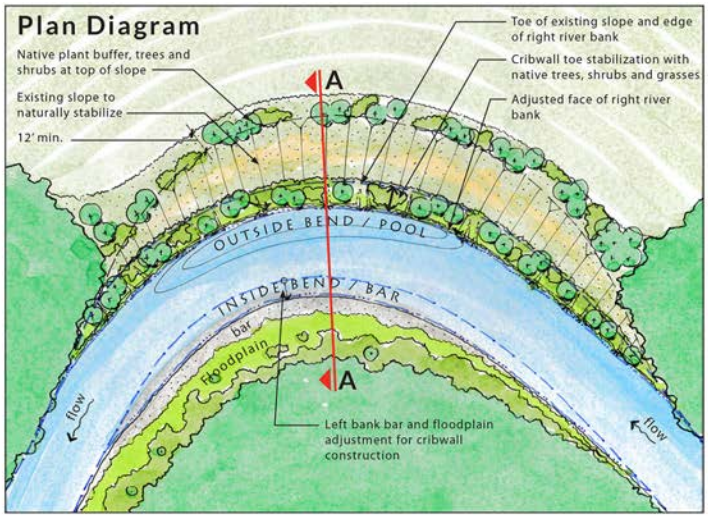
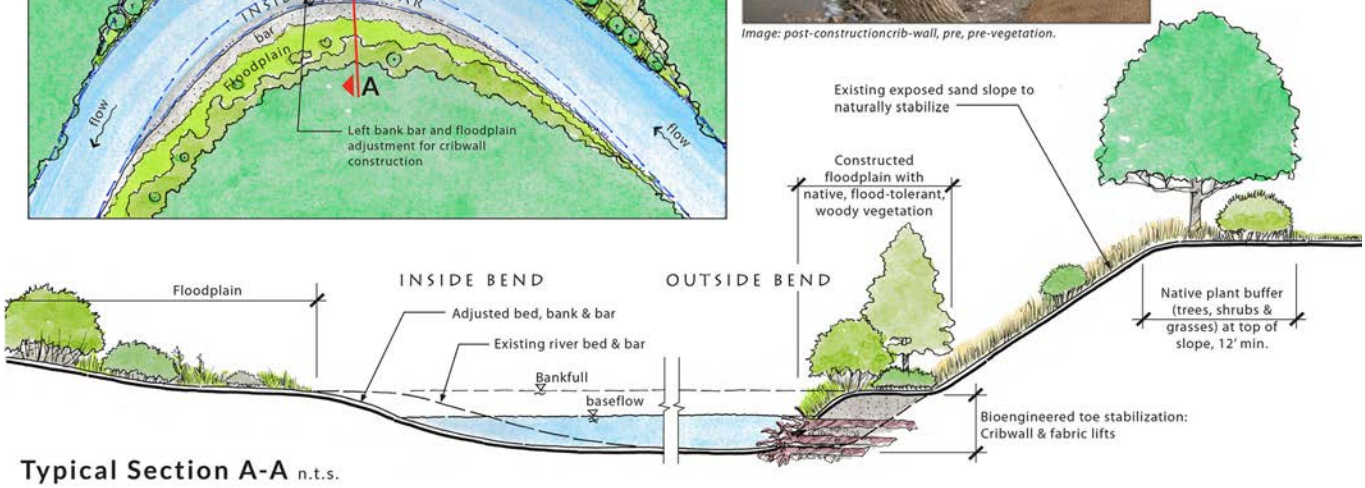
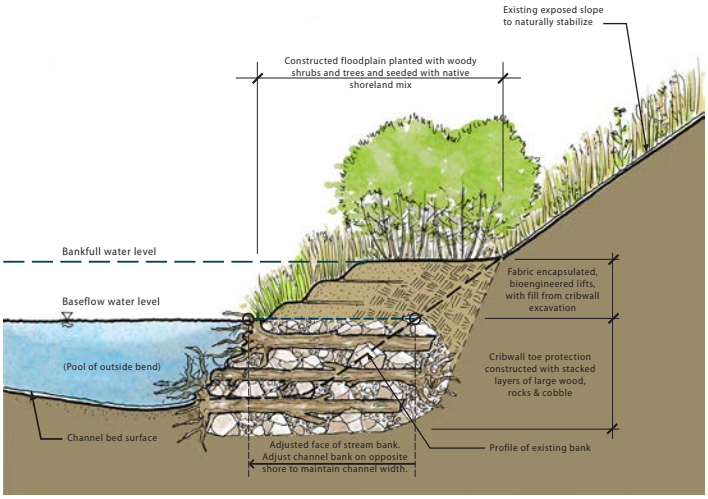


Image: post-constructioncrib-wall, pre, pre-vegetation.



Typical Section A-A n.t.s.



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"Inter-Fluve has had a long and productive relationship with Lauren. She has consistently provided very high quality drawings and concept documents for our projects, and has helped us set a high standard for visual presentation. She is able to quickly develop plan view concepts, oblique sketches or detailed cross-section typical drawings that really stand out from the crowd. Lauren is a valuable asset and a great partner."

—Marty Melchior, Regional Director, Inter-Fluve Inc.

RED CEDAR RIVER BANK STABILIZATION PROJECT

Wisconsin

Client: Tainter Menomin Lake Improvement Association

Bioengineered bank stabilization

Natural stream design

Floodplain connectivity

The lake association hired stream engineers, Inter-Fluve Inc., to develop feasibility alternatives in response to lake sedimentation caused by bluff and riverbank erosion in upstream Red Cedar River. As Inter-Fluve Inc. staff, Lauren prepared conceptual design plans and illustrative detail exhibits. Drawings helped the stakeholders understand natural streambank stabilization construction details, including crib-wall toe structures and planted lifts. In addition to addressing erosion, the project objectives included enhancing floodplain connectivity and improving aquatic and riparian habitat opportunities. Final exhibits helped secure funding for the design and implementation of the stabilization project.

www.lvbrownstudio.com

Project Team Qualifications

HR Green has selected **Logan Gilbertsen, PE, CFM** to serve as your project manager for this project. As a child, Logan grew up exploring the streams near his house. While in elementary school he witnessed a stream restoration project while canoeing along the Nippersink Creek in McHenry County. That project inspired him to pursue a career in civil engineering and focus specifically on projects that improve stream function, protect human health and safety, and benefit water quality and stream ecosystems. Restoring waterways is his passion and this will be evident to the Village and stakeholders. He has volunteered many hours to stream work assisting CMAP and others in the Boone-Dutch Creek and Hickory Creek watersheds.

Logan works out of our New Lenox office and lives less than 10 miles from the project site and will be available to the Village at a moment's notice. Logan has a BS in Civil Engineering from University of Illinois in Urbana-Champaign and has given numerous presentations locally and nationally on stream related projects. He has also offered and provided "no cost" educational seminars for residents to better educate them on do's and don'ts on living adjacent to streams.

Logan's first home was along the Fox River where he helped his neighbors to understand why they were experiencing erosion on their properties. While living along the River, he experienced firsthand how some view our waterways favorably while others view them as a nuisance. His ability to immediately connect with the residents makes him a natural choice for your project and will be a benefit during project design and building consensus. Logan has worked on projects involving bank stabilization for MWRDGC and various local municipalities in northeast Illinois and has worked with regulatory agencies including Army Corps of Engineers (ACOE), Illinois Department of Natural Resources – Office of Water Resources (IDNR-OWR), Will-Cook Soil and Water Conservation District (WCSWCD), Illinois Environmental Protection Agency (IEPA), State Historic Preservation Office (SHPO), and US Fish and Wildlife.

Assisting Logan will be a qualified team of surveyors, engineers, landscape architects, technical advisors and construction team from HR Green who have an established working relationship on similar projects.

We are also excited to partner with **RES-AES.** HR Green and RES have partnered on numerous successful streambank stabilization and restoration projects in residential neighborhoods including riparian area enhancement and public education and outreach. **Steve Zimmerman**, serves as a Principal Stream Restoration Ecologist for RES-AES and brings extensive knowledge of stream ecology, restoration management and community outreach. Steve has also given dozens of ecological related presentations to clients and the general public. A major benefit of the HR Green/RES-AES team is that RES-AES has an in-house contracting division. **Brad Gaskin**, a Construction Manager from their contracting division will provide constructability review and value engineering guidance to the team. Incorporating the view points of contractors, engineers and ecologists will ensure that the proposed design is constructible, effective and stable.

Residential support is going to be crucial with this project. To further enhance our team, we have included **LVBrown Studios,** a federally registered EDWOSB firm, to help residents visualize the potential that Tinley Creek holds. HR Green has successfully worked with **Lauren Brown**, successfully in the past to convey complex engineering designs and concepts in easy-to-understand renderings. Recently, our team worked together on the 7th Avenue Creek project in St. Charles, Illinois, and obtained tremendous support from residents and elected officials. This aspect of our team will greatly benefit the project as we will need to communicate our ideas to numerous private property owners and HOA's.

Rubino Engineering, a certified WBE, will provide geotechnical services including screening, sampling and testing for Clean Construction Demolition Debris (CCDD) for new project limits.

Together, our team brings the best value and qualifications to achieve the various goals and objectives of your project.

Organizational Chart

Firm/Personnel Legend
- HR Green
- Applied Ecological Services
- LVBrown Studio
- Rubino

ORLAND PARK

Principal and Technical Advisor
- Ajay Jain, PE, CFM

Client Service Manager
- T. Scott Creech, PE

Project Manager
- Logan Gilbertsen, PE, CFM

Public Engagement
- Cecily Cunz, AICP
- Laura V Brown

H&H and Permitting
- Ralph Stark, PE, CFM
- Sylwia Kokoszka, PE, CFM

Wetland and Stream
- Steve Zimmerman

Civil Design
- Dale Marting, PE, CFM
- Michael Lewis

MWRDGC Coordination
- Jarod Oliver, PE

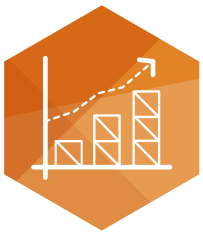
Structural
- Steve Schwartz, PE, SE
- Jason Whyte, PE

Constructability
- Josh Schmitt
- Brad Gaskin

Geotechnical
- Rubino Engineering

Survey
- Milan Dobrosavljevic, PLS

LEADERSHIP



PERFORMANCE

OPERATIONAL EXCELLENCE

COLLABORATION

COMMUNITY

Logan Gilbertsen, PE, CFM

Project Manager

Logan specializes in Water Resources and Environmental Engineering. Currently he works with a wide variety of projects ranging from stream bank stabilization and naturalization to the design of storm water Best Management Practices (BMPs) in urban and rural settings. He has worked with municipalities, MWRDGC, and other agencies to develop storm water solutions that support communities.

RESPONSIBILITIES

- Project management
- Design management
- Public outreach
- Agency coordination
- Sub management

He has proven experience leading public engagement for stream stabilization projects, working with residents who live along streams to build consensus for similar projects. He focuses on presenting the project benefits and addressing resident concerns, using visualizations to help reassure the community.

Logan has a passion for completing projects that will improve and restore the natural ecosystem. He has volunteered with the Illinois EPA's Volunteer Lake Monitoring Program (VLMP) for many years and he participates in Conservation at Home at his residence.

EXPERIENCE

10 Years

EDUCATION

BS, Civil and Environmental Engineering

REGISTRATION / LICENSE

PE, IL #062-067541
CFM, IL #12-00620

PROJECT AWARDS

APWA Merit Award for Woods Creek

ACEC Engineering Excellence Award for Souwanas Creek

APWA, Fox Valley and Chicago Metro Project of the Year award for Carpenter Creek

IAFSM Sustainability Award for Carpenter Creek

APWA Project of the Year Award for Hinsdale Green Infrastructure Project

*Detailed project information provided in the **Similar Project Experience** section.

SELECTED PROJECT EXPERIENCE

- **Woods Creek Reach 10 Bank Stabilization and Stream Restoration***
  Village of Lake in the Hills – *Project Manager*
- **Souwanas Creek Reach 2 Bank Stabilization and Stream Restoration***
  Village of Algonquin – *Project Manager*
- **Mahoney Creek Stream Assessment and Concept Plan***
  City of Batavia – *Project Manager*
- **7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration***
  City of St. Charles – *Lead Engineer*
- **Carpenter Creek Bank Stabilization and Stream Restoration***
  Village of Carpentersville – *Lead Engineer*
- **Crestwood Drainage Ditch Flood Control and Bank Stabilization***
  MWRDGC – *Lead Engineer*
- **Heritage Park – Village of Homer Glen – *Project Manager***
- **Cary Creek Bank Stabilization – Village of Cary – *Project Manager***
- **Hickory Creek Bank Stabilization – City of Joliet – *Project Manager***
- **East Marley Creek Bank Stabilization and Stream Restoration**
  Village of Mokena – *Project Manager*
- **Hinsdale Green Infrastructure Project – Village of Hinsdale – *Project Engineer***

> "Just wanted to send you a quick note with how impressed we were with Logan Gilbertsen at yesterday meeting to discuss the Lakeland Park Drainage Study. It's easy to tell that Logan is very enthusiastic and knowledgeable about this project. He's a great asset to the HR Green Team."
>
> - John Schmitt, Former Public Works Director, Village of Mundelein

HRGreen

Ajay Jain, PE, CFM

Principal and Technical Advisor

Ajay serves as a Vice President, and Practice Leader for the Water Resource group at HR Green. He is responsible for providing technical oversight and quality assurance/ quality control reviews to deliver high quality projects to clients. Ajay has managed a wide variety of projects involving comprehensive watershed master plans; urban and riverine flood reduction; bank stabilization; floodplain studies and mapping; flood control design of earthen and structural levee systems; bridge and culvert hydraulics; roadway drainage; storm, sanitary and water main improvements; and low impact sustainable design including green infrastructure and best management practices. Ajay is HR Green's Client Service Manager for MWRDGC and has completed several projects with their stormwater group including flood control feasibility studies and design including bank stabilization.

Ajay has worked with multiple permitting agencies including IDNR-OWR, IEPA, and ACOE. Ajay stays current with floodway and floodplain regulations through his active participation in various local, state, and national conferences and through literature review and serves as the Inter-Organizational Committee Chair of the IASFM.

RESPONSIBILITIES

- Technical oversight
- QA/QC
- Commitment of resources

EXPERIENCE

28 Years

EDUCATION

MS, Civil Engineering
BS, Civil Engineering

REGISTRATION / LICENSE

PE, IL #062-059796
CFM, IL #08-00381

PROFESSIONAL AFFILIATIONS

Board Member - IAFSM

SELECTED PROJECT EXPERIENCE

- **Carpenter Creek Bank Stabilization and Stream Restoration***
  Village of Carpentersville – *Project Manager*
- **7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration***
  City of St. Charles – *Project Manager*
- **Crestwood Drainage Ditch Flood Control and Bank Stabilization***
  MWRDGC – Client Service Manager/Senior Project Manager

Scott Creech, PE

Client Service Manager

Scott's civil engineering experience is extensive and diverse. His expertise includes: transportation and traffic engineering, hydrology, hydraulics and drainage; site development; parks and recreation, plan review; and resident construction engineering. Scott has served as Project Engineer and Project Manager for urban and rural roadway design, intersection design/capacity analysis studies, traffic signal design, street lighting, storm sewer, sanitary sewer, storm water management systems, traffic studies, and project development reports. He has performed analysis, modeling, design, and reports for storm water management systems, drainage systems and structures in both urban and rural scenarios. Scott has provided engineering and project management services for a variety of governmental agencies, as well as, commercial, recreational, industrial/residential developments and corrections facilities. His design experience also includes softball, soccer and basketball court complexes and a variety of parking facilities. His knowledge of the total project process, from inception through construction, has benefited clients in both private and public sectors.

RESPONSIBILITIES

- Client liaison

EXPERIENCE

33 Years

EDUCATION

MS, Civil Engineering
BS, Civil Engineering

REGISTRATION / LICENSE

PE, IL #062-047669

HRGreen

Ralph Stark, PE, CFM

Hydrology & Hydraulics / Permitting Lead

Ralph has a long history in solving complicated problems in surface water management. His qualifications in this field are formidable. He has completed numerous projects involving storm sewers, channels and detention/retention systems, floodplain analysis and delineation, dam break analysis, Letter of Map Amendment/Revision and storm water pollution prevention plan preparation (SWPPP). He is familiar with storm water and floodplain standards from FEMA, IDNR-OWR, MWRDGC and many other local and countywide storm water ordinances. He has assisted in the preparation of the McHenry County Storm water Plan. Ralph is adept in the use of the following software applications: HEC-1, HEC-2, TR-20, TR-55, HY-8, HEC-RAS, HEC-HMS, FEQ, EPA-SWMM and XP-SWMM. He has reviewed plans for compliance with storm water/floodplain regulations on behalf of many communities including: Mundelein, Antioch, Johnsburg, Carpentersville, Elgin, Lake in the Hills, and others since 1991.

RESPONSIBILITIES

- Hydrology & Hydraulics
- Permitting
- Design assistance

EXPERIENCE

32 Years

EDUCATION

BS, Civil Engineering

REGISTRATION / LICENSE

PE, IL #062-050487
CFM, IL #03-00129

SELECTED PROJECT EXPERIENCE

- **7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration***
  City of St. Charles – ***Hydrology & Hydraulics / Permitting Lead***
- **Crestwood Drainage Ditch Flood Control and Bank Stabilization***
  MWRDGC – ***Hydrology & Hydraulics / Permitting Lead***
- **Carpenter Creek Bank Stabilization and Stream Restoration***
  Village of Carpentersville – ***Hydrology & Hydraulics / Permitting Lead***

Sylwia Kokoszka, PE, CFM

Hydrology & Hydraulics / Permitting Support

Sylwia's experience includes planning, permitting, design, and construction of storm water projects. Agencies Sylwia has worked with for permitting include IHPA, IDNR, KDSWCD, IEPA, and USACOE. Examples of storm water experience include hydrologic and hydraulic modeling, drainage studies, stream restoration projects, engineer's estimates of probable costs, and construction review for municipal storm water systems. Sylwia is proficient with ArcMap, HEC-HMS, XP SWMM, HEC-RAS, GeoHECRAS, HY-8, and Microstation.

RESPONSIBILITIES

- Hydrology & Hydraulics
- Permitting

EXPERIENCE

5 Years

EDUCATION

MS, Civil Engineering
BS, Civil Engineering

REGISTRATION / LICENSE

PE, IL #062-072488
CFM, IL #17-00782

SELECTED PROJECT EXPERIENCE

- **7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration***
  City of St. Charles – ***Permitting***
- **Woods Creek Reach 10 Bank Stabilization and Stream Restoration***
  Village of Lake in the Hills – ***H&H Modeling / Permitting***
- **Souwanas Creek Reach 2 Bank Stabilization and Stream Restoration***
  Village of Algonquin – ***H&H Modeling / Permitting***
- **Mahoney Creek Stream Assessment and Concept Plan***
  City of Batavia – ***H&H Modeling***

Dale Marting, PE, CFM

Civil Design Lead

Dale serves as the Lead Engineer for HR Green specializing in stream, utility, and roadway design and preparing contract plans and specifications. In his 28 years of experience, Dale has led and prepared contract plans and specifications for numerous projects involving large diameter storm sewers, sanitary and water main replacements, box culvert replacements, stream design, roadway resurfacing and reconstructions and utility coordination. Dale has also prepared detailed technical specifications for all elements of the projects including bid documents, storm water pollution prevention plans and Engineer's Opinion of Probable Construction Costs. Dale's strong design skills are further enhanced by his equally strong experience in hydrology and hydraulics modeling. Dale has extensive experience using XP-SWMM, HEC1, HEC2, HEC-RAS H&H models and in the CAD design platforms including AutoCAD Civil 3D and Microstation.

RESPONSIBILITIES

- Plans, specifications & estimates
- Utility coordination
- EOPC

EXPERIENCE

30 Years

EDUCATION

BS, Civil Engineering

REGISTRATION / LICENSE

PE, IL #062-050714
CFM, IL #17-00785

SELECTED PROJECT EXPERIENCE

- **7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration***
  City of St. Charles – *Lead Engineer*
- **Crestwood Drainage Ditch Flood Control and Bank Stabilization***
  MWRDGC – *Lead Engineer*
- **Western Slopes Drainage Flood Control and Bank Stabilization**
  Village of Mundelein – *QA/QC*

Michael Lewis

Project Designer - Civil Design

Mike specializes in the design aspects of municipal, residential, commercial, and industrial land development, including municipal water main design, sanitary sewer design, storm sewer design, stream design, site layout, grading, cost analysis, roadway design and road geometrics. Mike is proficient in Civil 3D, AutoCAD, Microstation, and GeoPak SS2.

RESPONSIBILITIES

- Plans, specifications & estimates
- Utility coordination
- EOPC

EXPERIENCE

24 Years

EDUCATION

AAS, CADD

SELECTED PROJECT EXPERIENCE

- **7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration***
  City of St. Charles – *Project Designer*
- **Carpenter Creek Bank Stabilization and Stream Restoration***
  Village of Carpentersville – *Project Designer*
- **Crestwood Drainage Ditch Flood Control and Bank Stabilization***
  MWRDGC – *Project Designer*

Jarod Oliver, PE

MWRDGC Coordination

Jarod is an engineering professional with experience in the areas of storm water management, water distribution, geotechnical engineering and construction management. He has a proven history of combining advanced knowledge of civil engineering with superior project management skills to efficiently captain project teams; he is adept at aligning engineering objectives with business goals.

RESPONSIBILITIES

- MWRDGC compliance
- Plans, specifications & estimates

EXPERIENCE

16 Years

EDUCATION

BS, Civil Engineering

REGISTRATION / LICENSE

PE, IL #062-063490

SELECTED PROJECT EXPERIENCE

- **Crestwood Drainage Ditch Bank Stabilization* – MWRDGC –** ***Project Manager***
- **Harvey Flood Control Project – MWRDGC –** ***Project Manager***

PREVIOUS FIRM EXPERIENCE

- **Tinley Creek Flood Control and Stream Stabilization (TICR-5) – Orland Hills, IL (Lake Lorin - 88th Ave) – MWRDGC –** ***Project Manager***
- **Tinley Creek Flood Control and Stream Stabilization (TICR-3) - Crestwood, IL (Central Ave to Cal Sag Road) – MWRDGC –** ***Project Manager***

Steven Schwarz, PE, SE

Structural Design Lead

Steve is a lead structural engineer with 30 years of experience in structural, civil, and construction engineering, as well as surveying. He is regularly responsible for structural calculations and preparation of plans; bridge inspections; preparation of Bridge Condition Reports and recommendations; and/or shop drawing review for projects as simple as small bridges and culverts to as complex as a 1557 LF eight span steel plate girder bridge over the Fox River. Steve specializes in precast and prestressed concrete, roadway, grading, sound / retaining walls, drainage design and construction. Steve has designed and sealed plans for over 10,000 feet of sound walls for the Tollway, IDOT and other agencies.

RESPONSIBILITIES

- Structural design

EXPERIENCE

33 Years

EDUCATION

BS, Civil Engineering

REGISTRATION / LICENSE

PE, IL #062-048842
SE, IL #081-006011

SELECTED PROJECT EXPERIENCE

- **Western Slopes Drainage Flood Control and Bank Stabilization Village of Mundelein –** ***Structural Engineer***

Jason Whyte, PE

Structural Design

Jason brings extensive structural design experience related to buildings and transportation structures. He specializes in bridge design, hydraulic modeling and bridge condition inspection. He is familiar with HEC-1, HEC-2 and HEC-RAS programming, as well as scour analyses and scour mitigation design. His bridge experience covers stream crossings, interstate overpasses and railroad bridges. He is also adept at the design and analysis of earth retaining structures and foundations. Jason is familiar with the requirements of Phase I and Phase II submittals through the Illinois Department of Transportation.

EXPERIENCE

24 Years

EDUCATION

BS, Civil Engineering

REGISTRATION/LICENSE

PE, IL #062-060462

RESPONSIBILITIES

- Structural design

SELECTED PROJECT EXPERIENCE

- **7th Avenue Creek Master Plan, Bank Stabilization, and Stream Restoration***
  City of St. Charles – *Structural Engineer*
- **Dry Creek Bank Stabilization and Stream Restoration**
  City of Fort Madison, IA – *Structural Engineer*

Milan Dobrosavljevic, PLS

Survey Manager

Milan is directly involved in all phases of land surveying and mapping for municipal, transportation and land development projects. He has extensive experience in the land development process, including retracement surveys of sectionalized lands. In addition, Milan has performed ALTA Land Title Surveys, topographic surveys, preliminary and final platting, legal descriptions, title commitment reviews, construction layout services and municipal surveying reviews. Beyond the aforementioned fields, Milan also has experience with specialized environmental mapping, including hydrographic surveys and natural resources inventories.

EXPERIENCE

21 Years

EDUCATION

BS, Surveying

REGISTRATION/LICENSE

PLS, IL #035-003615

RESPONSIBILITIES

- Survey lead

SELECTED PROJECT EXPERIENCE

- **151st Street over Tinely Creek – Village of Orland Park – *Survey Manager***
- **156th Street Extension – Village of Orland Park – *Land Surveyor***
- **2009 Water Main Replacement – Village of Orland Park – *Land Surveyor***

Joshua Schmitt

Resident Engineer

Joshua provides construction coordination gleaned from experience as resident engineer and project management for similar water construction projects.

EXPERIENCE

10 Years

EDUCATION

BS, Construction

RESPONSIBILITIES

- Constructability reviews

SELECTED PROJECT EXPERIENCE

- **Woods Creek Reach 10 Bank Stabilization and Stream Restoration***
  Village of Lake in the Hills – *Resident Engineer*
- **Souwanas Creek Reach 2 Bank Stabilization and Stream Restoration***
  Village of Algonquin – *Resident Engineer*

HRGreen

Steve Zimmerman, M.S.

Principal Stream Restoration Ecologist | Project Manager

EDUCATION

M.S., Biology, Western Illinois University, 2001

B.S., Biology, Culver-Stockton College, 1998

PROFESSIONAL INFORMATION

Wetland Specialist, Lake County and McHenry County, Illinois

ISA Certified Arborist

EPA Water Quality Sampling and QAPP Training

USACE Wetland Delineation Training

Aquatic Macroinvertebrate and Fish Identification

Soil Erosion and Sediment Control Training

Institute of Botanical Training, LLC: Wetlands

Bollinger Environmental: Winter Botany Training

Freshwater Fish ID and IBI Calculation - Masters Thesis

AFFILIATIONS

International Society of Arboriculture Member

Lake County Stormwater Management Commission TAC Member

SUMMARY OF EXPERIENCE

Steve Zimmerman is a Principal Stream Restoration Ecologist and Project Manager. Since 2001, he has worked professionally in ecological restoration and management. His specialties include stream ecology, prairie, woodland, and wetland restoration, stream and lake shoreline restoration, watershed management planning, green infrastructure planning, vegetation surveys/ monitoring, water quality monitoring, and wetland evaluations. In addition, many aspects of these projects include acquiring and administering permits, preparation of construction documents, erosion control design, and natural resources surveying. Steve has also given dozens of ecological related presentations to clients and the general public.

SELECT PROJECT EXPERIENCE

Jelkes Creek, West Dundee, Illinois, 2002 - 2005. 3,000 linear feet of natural stream restoration in Carrington Reserve subdivision.

Flint Creek-Fox Point, Barrington, Illinois, 2001 - 2006. 1,500 linear feet of natural stream restoration design/build in Fox Point subdivision.

Raceway Woods, Carpentersville, Illinois, 2004. 1,000 linear feet of natural stream restoration design/build in Raceway Woods Preserve.

Jelkes Creek, Woods Creek, Wind Point, Long Run Creek, Spring Creek, Catfish Creek, Kishwaukee River, Mohoney Creek, Crystal Creek, Long Run Creek, and Little Rock Creek, 2004 - Present. Over 200 miles of ecological assessment along stream reaches to identify BMP projects in Northeastern Illinois, Southeastern Wisconsin, and Eastern Iowa.

Souwanas Creek, Algonquin, Illinois, 2014 - 2017. 1,500 linear feet of natural stream restoration design in a residential subdivision.

Woods Creek Reaches 2, 3, 4, and 5, Algonquin, McHenry County, Illinois, 2015 - Present. 6,000 linear feet of natural stream restoration design and construction oversight within Algonquin's Spella Park.

Carpenter Creek, Carpenterville, Kane County, Illinois, 2014 - 2017. 2018 APWA award-winning 4,000 linear feet of natural stream restoration design-build.

Surrey Lane Restoration, Algonquin, McHenry County, Ilinois, 2015 - 2017. 600 linear feet of natural stream restoration design and construction oversight.

Ratt Creek Reach 5, Algonquin, McHenry County, Illinois, 2016 - 2019. 3,000 linear feet of natural stream restoration design within Algonquin-owned corridor.

Woods Creek Reach 10, Lake In The Hills, McHenry County, Illinois, 2018 - 2019. 2,500 linear feet stream restoration design-build in Ken Carpenter Park.

Salt Creek, Palatine, Cook County, Illinois, 2018 - 2019. 2,500 linear feet of natural stream restoration design.

Flint Creek Dreamway, Barrington, McHenry County, Illinois, 2019-2020. 2,500 linear feet of natural stream restoration design-build on land owned by Barrington, Barrington Park District, and Barrington School District. Project won 2021 APWA award for Environmental Excellence.

Woods Creek Reach 11, Lake in the Hills, McHenry County, Illinois, 2020 - 2021. 2,600 linear feet of natural stream restoration design in Ken Carpenter Park.

Dixie Creek Reaches 2, 3, & 4, Algonquin, Kane County, Illinois, 2017 - 2021. 5,000 linear feet of natural stream restoration design within Village owned Creeks Crossing and easement within residential subdivision.

Cecily Cunz, AICP

Illinois Consulting Manager | Environmental Planner

EDUCATION

M.U.P.P., Urban Planning & Policy, University of IL-Chicago, 2012

Master's Project: Model Ordinances for the Protection of Water Quality, 2012

B.S., Business Administration, University of IL, Urbana-Champaign, 1997

PROFESSIONAL INFORMATION

AICP Certification, APA 2016

Geospatial Analysis & Visualization Certificate, University of IL, Chicago, 2012

Coastal Zone Management Planning Studio, University of IL, Chicago, 2011

AFFILIATIONS

American Planning Association, Illinois Chapter of the American Planning Association, Flint Creek, Long Run Creek, Pike River, Spring Creek, & Wind Point Watershed Committees; Fox River Ecosystem Partnership; Lower Des Plaines Ecosystem Partnership

SUMMARY OF EXPERIENCE

Cecily Cunz is the Illinois Consulting Manager and a certified Environmental Planner. Joining RES-AES in 2012, her primary role is leading planning efforts and providing high-level project management, dynamic stakeholder group facilitation, GIS analysis, professional design, technical writing, and data gathering. She excels at researching, analyzing, and assembling data related to all aspects of watershed and environmental planning and policy and presenting that information clearly to stakeholders.

Cecily served as Project Manager for the Pike River Watershed Plan, the first USEPA-approved watershed plan in Wisconsin, the Fredonia-Newburg Watershed Plan in Fredonia, WI, the Catfish Creek Watershed Management plan in Iowa, and the 7th Avenue and State St. Creek Watershed-Based Plan in Illinois. She worked extensively on the Long Run Creek, Wind Point, Spring Creek, and Woods Creek watershed plans across Illinois and Wisconsin. In addition, Cecily led a planning and visioning process to develop a trail and greenway network in Coles County, Illinois.

Cecily has also worked with various Tribal communities, including the Lac Vieux Desert Band of the Lake Superior Chippewa, the Stockbridge Munsee Band of Mohican Indians, the Menominee Indian Tribe of WI, and Oneida Nation to protect their water resources by developing targeted water quality analysis, assessment reports, management plans, wetland management plans, and outreach tools.

She has extensive knowledge of GIS, field experience assessing streams and various watershed characteristics, and has coordinated planning and grant processes for watershed efforts as well as presented information at conferences related to water quality planning and policy including applications of GIS technology for watershed planning and led/facilitated many community watershed planning workshops and charrettes.

SELECT PROJECT EXPERIENCE

Fredonia-Newburg Watershed Plan, Fredonia, WI. Project Manager/Author of watershed-based plan prepared for Milwaukee Metropolitan Sewerage District.

Cheney Run Drainage Area Plan, Michigan City, IN. Project Manager/Author of drainage area plan prepared for Michigan City.

7th Avenue & State Street Creek Watershed-Based Plan, St. Charles, IL. Project Manager/Author of watershed-based plan prepared for the City of St. Charles.

Coles County Greenway Vision Plan, Coles County, IL. Project Manager/Author of greenway and trails concept plan prepared for the Lumpkin Family Foundation.

Catfish Creek Watershed Management Plan, Dubuque County, IA. Project Manager/Author of watershed-based plan prepared for the City of Dubuque.

Wind Point Watershed-Based Plan, Milwaukee/Racine counties, WI. Watershed-based plan prepared for Root-Pike Watershed Initiative Network.

Pike River Watershed-Based Plan, Racine/Kenosha Counties, WI. Project Manager/Author of first USEPA-approved watershed-based plan in WI prepared for the Root-Pike Watershed Initiative Network.

Long Run Creek Watershed-Based Plan, Cook/Will Counties, IL. USEPA-approved watershed-based plan prepared for the Village of Lemont.

SELECT PRESENTATIONS, CONFERENCES, WORKSHOPS

2015 Upper Midwest Stream Restoration Symposium. "Making the Connection: Stream Restoration and Watershed Planning" Presentation.

7th Annual Dubuque Low Impact Development Conference. Keynote Speaker, March 2014.

International Society of Environmental Economics 2012 Conference, Rio de Janeiro and Ecosummit 2012, Columbus, Ohio. Poster Presentation, "History, Ironies, and Observations on Clean Water in America".

Brad Gaskin, B.A.
Construction Manager

EDUCATION
B.A., Environmental Studies, Minor: Geography and Geology, Augustana College, 2015

PROFESSIONAL INFORMATION
Illinois Class A CDL

Illinois Applicator's Herbicide License

Indiana Herbicide Reciprocity

OSHA 30

CPR AED

Prescribed Wildland Fire: S-130, S-190, S-290, ICS 100, L-180

StormwaterONE Qualified Construction Inspector (2016)

Certified U.S. Army Corps of Engineers Quality Control Manager

SUMMARY OF EXPERIENCE
Brad Gaskin has a strong ecosystem and construction management background and is responsible for stream restoration/stabilization, shoreline restoration/stabilization, ravine restoration/stabilization, wetland creation, and ecological restoration projects.

Brad is responsible for overall management of construction, including subcontractors and suppliers. This includes scheduling, estimating, maintaining project records, supervising and providing oversight for all work conducted on site, and ensuring projects are being completed according to plan, on time, and on budget.

Prior to joining RES-AES in 2015, Brad gained construction experience with a private contractor and ecosystem management experience with the U.S. Army Corps of Engineers and U.S. Forest Service.

SELECT PROJECT EXPERIENCE
Jackson Park Ecosystem Restoration, USACE, Construction Supervisor, Chicago, IL. Ecological restoration of historic landscapes including internationally significant spaces integrated with ecologically significant natural communities.

Hobart Marsh Wetland Mitigation, USACE, Quality Control Manager, Lake County, IN. Restoring woodlands, tree removal, establishing prairie, erosion repair, and drain tile disablement.

Lockport Prairie Ecosystem Restoration, Quality Control Manager, Lockport, IL. Restoring a remnant prairie and converting land used for agriculture to prairie by disabling drain tile, seeding, plug and tree installation.

Winding Creek Cove Phase I and II, Streambank Stabilization, Structure Installation, and Re-Vegetation, Project Manager, Michigan City, IN.

Markham Prairie East, Wetland Scrape and Re-Vegetation, Equipment Operator, Harvey, IL.

Schlitz Audubon Nature Center, Ravine Stabilization, Regenerative Stormwater Conveyance Installation, Equipment Operator, Milwaukee, WI. Streambank structural installation and re-vegetation. Built a regenerative stormwater conveyance.

Woods Creek Reach 10, Stream Restoration / Stabilization, Equipment Operator, Village of Lake in the Hills, McHenry County, IL. Streambank structural installation and re-vegetation. Responsible for grading of the banks and installation of rock toe, cross veins, and j-hooks within the channel.

Lake Marian Creek Restoration, Stream Restoration, Stabilization, and Re-Vegetation, Project Manager, Carpentersville, IL.

Flint Creek Dreamway Design-Build, Stream Restoration, Stabilization, and Re-Vegetation, Project Manager, Barrington, IL.

Reck South Ravine, Regenerative Stormwater Conveyance Installation and Re-Vegetation, Project Manager, Somers, WI.

Nuemiller Woods, Wetland Scrape and Re-vegetation, Project Manager, Somers, WI.

Spring Mill Pond, Shoreline Stabilization, Restoration, and Re-Vegetation, Project Manager, Hoffmann Estates, IL.

Sleepy Creek Design-Build, Stream Stabilization, Restoration, and Re-Vegetation, Project Manager, Carpentersville, IL.

Lauren V. Brown MSLA / MSWRM

Ecological Restoration Design

Environmental Visual Communication

LVBrown Studio LLC
lauren@lvbrownstudio.com
www.lvbrownstudio.com
(608) 772-4287
Austin, Texas

About LVB

LVBrown Studios is a water-focused landscape architectural design firm helping envision, communicate, and gain momentum for watershed planning, land conservation, and stream restoration projects. Design Principal and Owner, Lauren V. Brown, blends professional landscape architecture and planning experience with academic and applied knowledge in river and wetland restoration. Water is the unifying thread in her work, from watershed scale planning to natural stream restoration details.

LVB enjoys collaborating with clients, project stakeholders, and ecological and engineering experts to reveal site patterns and project opportunities through the process of site analysis and landscape architectural design. Lauren problem-solves visually using a unique blend of media, including GIS mapping, hand-drawings and digital illustrations. Her expertise is creatively synthesizing project goals and site data into clear and inspiring plans that gain stakeholder support, attract funding, and move projects forward to implementation.

Select Project Experience

7th Avenue Creek Greenway | *City of St. Charles, IL (2017)* LVB provided planning and conceptual design services along one mile of an urbanized creek flowing through the residential and commercial center of St. Charles, IL. Illustrated plans and stream cross-sections through impacted properties depict the transformation of a backyard ditch into an active open space along the re-naturalized creek.

Minnehaha Creek Reach 14 | *Minnehaha Creek Watershed District, MN (2011)* Lauren worked with Watershed District staff to engage ~25 private landowners along 1400 linear feet of backyard creek corridor. As Inter-Fluve Inc. staff, Lauren conducted a stream visual assessment protocol and developed typical detail sheets to communicate bank stabilization solutions and planting options to participating residents of the capital improvements program.

Oak Creek Golf Course | *DuPage Saltwater Creek Workgroup, IL, (2014)* As staff with Inter-Fluve Inc., Lauren illustrated creek and wetland improvements along 1.5 miles of Salt Creek in Chicago's suburban outskirts. Illustrative renderings highlight natural stream restoration details, wetland habitat enhancements. Drawings communicated the project vision to the local community, project partners, and permitting agencies.

Resilient Crossings Handbook | *Fourmile Watershed Coalition, (2017)* LVB partnered with river engineering experts to interpret technical engineering and permitting into an easy-to-understand planning resource for riverfront property owners in the CO Front Range. LVB developed custom illustrated stream crossing plans and details and prepared the final print publication's graphic format.

Expertise

- Water Resources Planning & Design
- Landscape Architectural Design
- River & Wetland Restoration Projects
- Stakeholder Engagement Materials
- Interpretive Signage & Graphic Design

Experience

Principal Designer / Owner
LVBrown Studios LLC (2014-Current)
Austin, TX

Ecological Restoration Designer
Inter-Fluve Inc. (2011-2014)
Madison, WI

Associate Landscape Architect
SWA Group (2000-2008)
Houston, TX

Education

MS - Landscape Architecture
University of Wisconsin - Madison (2008-2011)
Thesis: Restoring the Ghost Swamp: An ecological restoration plan for the Bayou Bienvenue Wetland Triangle, NOLA.

MS - Water Resources Management
University of Wisconsin - Madison (2008-2011)
Thesis: The restoration and recreational enhancement of Lake Marion and the Black Earth Creek corridor.

BA - Architecture Studies
Rice University (1996-2000)
Houston, TX

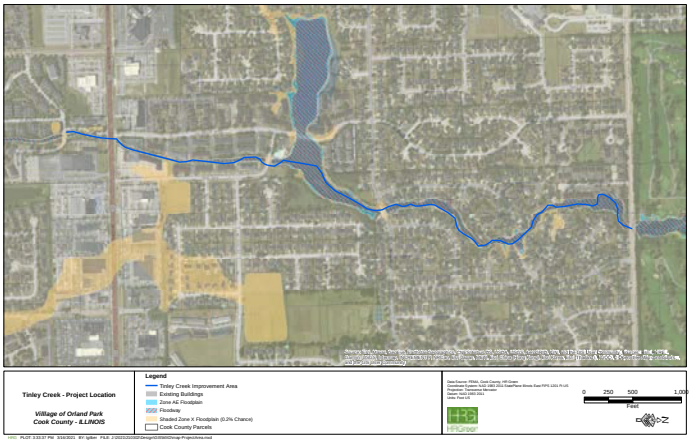
Extra

- RLA - State of Wisconsin
- LEED AP - U.S. Green Building Council
- WOSB and EDWOSB - Federal (SAM)
- WI River Alliance Board service (3 years)
- Community Fellow, Edgewood College, Sustainability Leadership Program (2012)

Project Understanding

The Village of Orland Park is requesting design proposals from qualified engineering consultants for the Streambank Stabilization Project along Tinley Creek located in the Village. The project will extend from Crystal Creek Drive on the south (upstream end) to 151st Street on the north (downstream end). The total centerline length of the stream is approximately 1.3 miles resulting in approximately 2.6 miles of streambanks, including both banks, and will be the project limits of this project.

Previously, in 2012, the Village and the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) collaborated and initiated a project to stabilize Tinley Creek streambanks. 98% design plans, specifications and costs estimates were completed in approximately 2014 and were prepared by Michael Baker Jr., Inc. of Chicago. These plans will hereinafter be referred to as the Baker's Plan. Baker's Plan included approximately 1.85 miles of streambanks (or 0.92 miles of stream centerline) between Crystal Creek Drive and 151st Street. This excluded the approximately 0.75 miles of streambanks (or 0.38 miles of stream centerline) between Wheeler Drive and 86th Avenue. This previously excluded portion is now part of the project limits noted above and has not been designed to date.



▶ Approximate project location

It is understood that Tinley Creek within the project limits is a private creek and is owned by the adjacent homeowners and Homeowners' Associations. In the Baker's Plan, the impacted property owners did not accept easement conditions needed to construct the project. Hence the project was stalled for several years. One of the expectations of this project is to build consensus with the property owners, prepare exhibits that will provide details of what will be done to each impacted property owner's property and prepare required temporary and permanent easement exhibits that can be used to execute easement agreements with the individual property owners.

In July 2020, Christopher B. Burke Engineering Ltd. (CBBEL) completed a review of the Baker's Plan to review its applicability to current conditions and provide their opinion on revisions and/or additions to the scope. In addition to recommending that an additional 0.75 miles of streambanks be added to the project limits, additional improvements to the Baker's Plan were proposed which primarily included structural scour protection or a combined structural/vegetative toe scour protection to all areas where stabilization was proposed. Other modifications included brush removal in areas of non-native shrub species, debris and logjam removal, addition of retaining walls or gabion walls and regrading in select areas of the project. The CBBEL estimated construction costs for the project in 2020 dollars was approximately $6.0 million.

Leveraging Previous Design: HR Green will leverage the previously completed designs, to the extent practical, as shown in the Baker's Plans and per recommendations made by CBBEL. There is no reason to re-invent the wheel where it makes sense. **In our opinion, both Baker's Plan and CBBEL recommendations fall short of acknowledging the key aspect of this project; building consensus with the residents, utilizing safe and sustainable stabilization techniques and adding value to achieve buy-in.** That is what we will focus on. For example, as proposed by CBBEL, we would provide additional guidance on use of gabion walls. We believe gabion walls fail overtime and are particularly unsafe in a residential creek corridor. We agree; an engineered approach is required to work in constrained creek corridors, however, adding value will include an aesthetically pleasing and functionally ecological component to the design as well and illustrating that vision to the Village and impacted property owners.

▶ Turf grass maintained to top of bank, resulting in bank erosion

HRGreen

HR Green reviewed Baker's Plan. We can modify the stabilization practices and improve constructibility of the project in a manner that is safe, cost-effective, reliable and environmentally friendly. In fact, we believe that if desired by the Village and MWRDGC, the project could also be designed to make it eligible for EPA Section 319 and Green Infrastructure Grant Opportunity (GIGO) grand funding opportunities. HR Green has been very successful in receiving millions of dollars in funding to our clients for similar projects. **Please see section "RECOMMENDED REVISIONS TO BAKER'S PLAN AND CBBEL MEMORANDUM" after the approach section for additional discussion of some of the challenges and our recommendations.**

Vision: Our goal for this project is to approach its design such that it will reduce erosion and once again return Tinley Creek to an amenity for the property owners; to allow residents to re-connect and safely recreate with the stream; to increase property values; and to minimize costs for its long term maintenance. This is a vision that will help build consensus and allow people to get behind and support this project.

Challenge: Streams and rivers are the backbone of an effective stormwater management system. These are the waterways that receive and allow for safe conveyance of the runoff from the landscape that makes up its watershed. Urban landscapes, such as the one for Tinley Creek, are challenged both hydrologically and hydraulically.

Hydrologically, runoff in an urban watershed is laden with sediments, nutrients, chlorides and other pollutants. Additionally, there is an increased rate and volume of runoff as a result of urbanization and climate change.

▶ Tinley Creek corridor in tight commercial/residential area

Hydraulically, point source discharges into these waterways create flashy streams, failing infrastructure, scour, and erosion at outfall points and increased stream velocities leading to incised channels and eroded banks which eventually threatens bank failures. Not only do these challenges present a human health and safety issue; it can also become an economic hardship for the property owners who may be financially unable to maintain or repair their streambanks. These hardships can extend to the community as well in the form of decreased property values, increased maintenance and more importantly, losing the amenity that these streams once provided and the reasons why people moved into these homes to enjoy in the first place. **Overtime, many urban streams have become a nuisance and a burden for the property owners. People forget how to live with and along the streams and take ownership.** Many are not educated enough on how to care for and apprecaite this asset. Many residents dump debris and do not see the connection of their actions to increased bank erosion and ultimately exacerbating the degradation of the health and quality of the stream. **To add to this, some property owners may be skeptical and untrusting of engineers, ecologists and community officials as they may have only seen example of streambank stabilizations that were aesthetically unappealing designs or band-aid repairs.** Communicating expectations, providing realistic examples of what the project will result in and building trust will be imperative to the successful stabilization of the stream. These are the challenges that will need to be overcome by the team the Village will select for this project.

Opportunity: HR Green, along with our teaming partners RES-AES and LVBrown, has worked along urban streams in residential neighborhoods and have successfully built consensus with residents. We do this by presenting information in ways they can understand and by creating meaningful graphics and renderings which allows them to visualize what the stream currently is and what it could be. **These expectations must be carefully vetted against the reality of costs and constructability, available land, design constraints, utility impacts, operation and maintenance and others. Our team will work with the Village on creating realistic expectations, building consensus and exceeding Village's and residents' expectations.** Our engineers, ecologists and landscape architects will design a safe and healthy improvement to Tinley Creek that will provide an effective passage for the flood flows, improved floodplain function, increase stream habitat and stability while introducing aesthetically pleasing but low maintenance native vegetation that residents can enjoy for years to come.

Recommended Revisions to Baker's Plan and CBBEL Memorandum

HR Green and RES-AES have reviewed the Baker's Plan and the CBBEL supplement and offer the following initial thoughts for your consideration , subject to a detailed site visit and stream assessment:

Example of cross vane weir in channelized stream with 2:1 vegetated slope

Toe Protection: Many of the cross sections incorporated a vegetated 2:1 slope from the water's edge. We agree with CBBEL's recommendation that some toe of slope protection should be incorporated as the urbanized watershed's runoff will likely contain levels of chloride that reach acute toxicity to the vegetation annually. We recommend incorporating a stone toe protection along the length of the stream placed at a 1.5:1 slope.

Floodplain Bench: Where possible, we recommend installing a floodplain bench and then grade back to existing grade. The height of the floodplain bench will match the height of the floodplain in stable sections. The width of the bench will vary based on the area available. Even a small, constructed floodplain bench will greatly increase the overall slope stability by providing flood flows with space to spread out and slow down as it is flowing through the native vegetation planted on the bench.

Example of toe of slope construction in progress with a floodplain bench

Slope Modifications: A 2:1 slope appears to be the common bank slope in the Baker's Plan. For the first few years of establishment these banks will need to be mowed to control weeds and invasive species. Where possible to fit within the same cross-section footprint, we recommend pulling the banks back at a 3:1 slope, in combination with shorter height retaining structure, which will be safer to maintain and have a reduced shear stress during flood events.

Channel Stability: We also noted areas where the channel is proposed to be widened (for example, Section G-G, Section J-J, Section P-P, Section S-S, etc.). Widening the stream beyond its stable wetted width will result in deposition of sediment until the stream has created a sand bar or floodplain bench. We recommend not widening the low flow channel beyond what has developed naturally in stable cross sections.

Structural Stabilization/Safety: The plans indicate the use of sheet pile wall in many locations. CBBEL's memo discusses the use of gabion baskets. We understand that some locations may require such structural stabilization measures but we prefer to utilize more natural measures to create these structural stabilizations. Limestone blocks are a good and safer alternative and can be more cost effective than metal sheet pile and look more visually appropriate in a stream setting along residential corridors. **The IDOT Drainage Manual has a section discussing the use of gabion baskets and discourages their use "on lower portion of the channel bank in environments subject to significant abrasion or corrosion".** The upstream watershed contains large areas of pavement which are treated with road salts through the winter. These salts can be highly corrosive to the metal wire that holds the gabion baskets in place. Gabions are typically not filled with rock that is sized to withstand expected shear stresses without the wire basket. When the wire basket fails, the stream is left with undersized riprap and rusty metal in the stream which can pose a safety hazard and result in bank failure.

Example of natural structural retaining wall

Restoration (More Available Yard to Residents): We have completed many streambank stabilizations in residential areas. One very common thread that we see after restoration has been completed is that residents begin to mow into native areas, defeating the very purpose, and eventually being converted to turf grass. It has been our experience that there are a few ways to address this; the first is to define the turf grass/native

area boundary with some type of landscape border (stone edge, split rail fence, signs, etc.); second is that we only restore the bank slope with native vegetation and plant the flat areas with turf grass. Typically, residents will not want to mow the bank slope and they do not encroach onto the slope. The Baker Plans show a 5' maintenance buffer of short grass prairie on the top of bank. We recommend considering planting this area with turf grass to provide residents with as much turf as possible and prevent residents from attempting to reclaim more yard.

▶ Example of turf seeded area with netless blanket to the top of slope

Restoration (Blankets): Devil is in the details. We noted that Baker's Plan calls for S75 blanket within the turf areas. This blanket has a photodegradable polypropylene net with the straw fiber matrix and takes about 12 months to degrade. The plastic net will get stuck in resident's lawn mowers and poses a threat to wildlife that frequently gets caught in the plastic netting. We recommend using a netless blanket or hydra-mulch in these flat areas where turf is proposed. Something as small as getting an erosion blanket tangled in a lawn mower can sour a resident's opinion of the whole job for years to come.

Restoration (Seeding): The seed mixture in the native areas is critical to the project being accepted by residents. It was noted on the plans that multiple different seed zones are called out and it appeared that off the shelf mixes were proposed. HR Green/RES-AES will recommend a seed mixture that is heavy on forbes (wildflowers) and include grasses that are shorter in stature. Sites where the dominant grasses are 6' tall would not be accepted by the residents on this site. The plant mixture we will use on this project will be aesthetically pleasing and will be a major improvement to the stream corridor.

▶ Forbes and short grass seed mixture residents would like

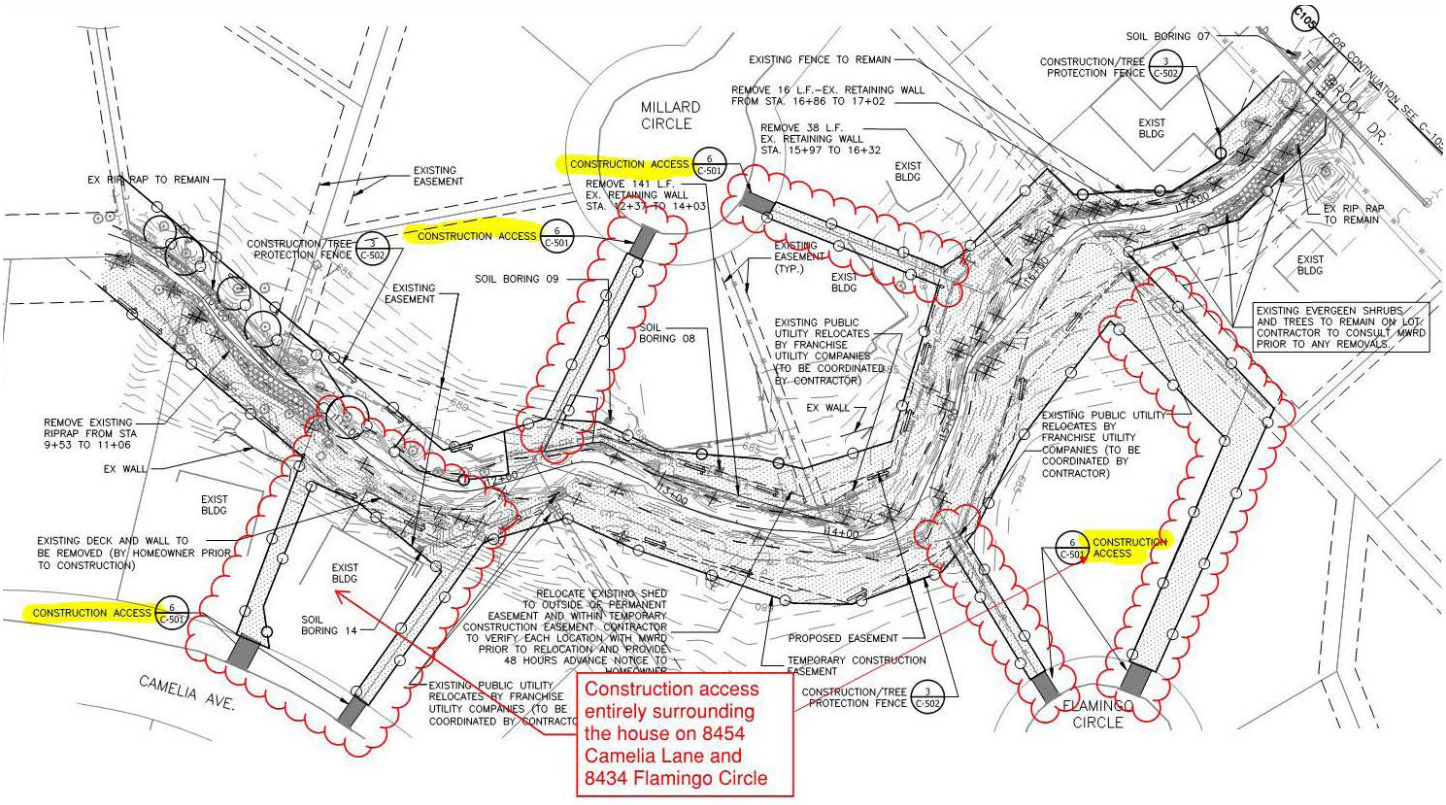
▶ Eroding banks along basin shoreline

Basin Retrofit: We also noted the condition of the existing stormwater basin along Orlan Brook Drive. The banks of this on-line basin are eroded and turf grass to the water's edge. Substantial Canadian Goose populations frequent this basin and they are degrading the water quality of the stream. We recommend Village to consider restoring the shoreline with native vegetation and incorporating areas of emergent wetland plants within the pond shallow areas. Since this is an online basin, it is acting as a large settling basin and has many shallow areas and sediment bars forming near the inflow point of Tinley Creek. As part of the project, a channel through the basin could be constructed to keep the thalweg flowing through the basin during low flow conditions and overtopping into the basin during storm events. Improvements to this basin to discourage use by Canadian Geese and sediment management could benefit the downstream creek.

Contractor Qualifications: Bank Stabilization and Restoration is specialized work and requires a minimum of 3-years Operation and Maintenance (O&M) by the contractor before homeowner's and HOA will take ownership of the maintenance. HR Green/RES-AES will prepare a 3-year O&M plan for the bid documents as well as a 20-year O&M plan for residents and HOA. We do recommend Village and MWRDGC to consider contractor prequalification's be added to the bid documents. We also recommend that contractor employ a qualified ecological firm for O&M for successful establishment of the plant community which is vital for the success of this project.

Ingress and Egress: Approximately thirty (30) locations are noted on Baker's Plan for construction access. This many points of ingress and ingress will be difficult to manage and will track mud on many of Village's roads and in residential neighborhood leading to resident calls to Village Hall and Public works. Many of these accesses are adjacent to existing homes, sometimes on all sides. They are in tight easement areas which will likely not be feasible to stay in. Also, a stabilized construction access will need to be built across the access route due to truck loads and wet creek material being hauled off. We recommend a plan in hand review for construction access locations, logistics and required widths. We recommend reducing the number of access points and maximizing ingress/egress from public ROW areas, where practical. Where access between side yards is necessary, we propose to increase width and provide construction fencing for safety.

Staging and Stockpiling: The successful completion of this project will require the import of materials including stone, erosion blankets and coir logs. Soils, fell trees and other debris will be required to be removed from the site. All of these materials including the machinery required to move them will need to be staged nearby. The Baker Plan identifies optional staging areas around the project areas but in many cases they are multiple lots away from the actual stream. This means that machinery will need to be running up and down the streets aggravating residents more than necessary. We would propose to relocate the optional staging areas to areas that are closer to the proposed construction access or onto property owned by the HOA's. It appears that there are some open areas that are located within HOA property that can be utilized to temporarily store materials. Overall, coordination of staging areas must be completed to notify residents that they may have equipment parking or materials stored in front of their home and for how long that inconvenience will take place. If the residents are kept informed and updated during the construction process it will greatly decrease their frustrations with the project.



Project Approach / Scope of Services

"Putting the cart before the horse" could not be more applicable to this project. This project will require a careful planning and sequencing of tasks, messaging and consensus building with the impacted property owners before a significant effort is expanded in advancing the design plans and permitting.

The following approach outlines our recommendation on the sequence of the project tasks. This can be discussed during the kickoff meeting and revised in collaboration with VILLAGE and MWRDGC.

TASK 1 – Project Management and Coordination (RFP Task 1)

This item will include project management and coordination tasks associated with the project including but not limited to:

- Developing a Project Work Plan and Schedule
- Monitoring scope, schedule, and budget
- Project correspondence with VILLAGE, regulatory agencies, and MWRDGC, where needed.
- Quality Control/Quality Assurance
- General administrative tasks (copying, collating, mailing, filing, etc.)

These administrative tasks will be provided for an assumed **twelve (12) month design schedule**, which is expected to begin on the anticipated Notice to Proceed date of May 10, 2021.

TASK 2 – Kickoff Meeting and Coordination Meetings with the VILLAGE/MWRDGC (RFP Tasks 2, 4, and 19)

The following meetings are planned:

- One (1) kickoff meeting with the VILLAGE and MWRDGC to discuss scope, schedule, and budget and for general project goals and objectives, milestones, etc. HR Green will provide a meeting agenda, attend the meeting and prepare minutes of the meeting. HR Green design team representatives will also complete a field review prior to this meeting.
- Six (6) bi-monthly coordination meetings for an assumed 12-month design schedule. These meeting will be planned to occur at the following milestones:
  - One (1) meeting for discussion of design requirements and criteria with VILLAGE and MWRDGC. The design criteria, preparation of plans, specifications, best practices will be discussed. HR Green will prepare a "BASIS OF DESIGN" document following the meeting for VILLAGE and MWRDGC approval.
  - One (1) meeting to review the 30% design submittal;
  - One (1) meeting to review the 60% design submittal;
  - One (1) meeting to review the 90% design submittal; and
  - Two (2) interim meetings during the course of the project; schedule to be determined.
- To supplement the bi-monthly meetings, HR Green Project Manager will send a weekly email to the VILLAGE on the project status update. The weekly update will include actions items responsibility of HR Green, VILLAGE, MWRDGC, and others to keep the team accountable and project moving forward in a timely manner.
- One (1) meeting for presentation to the Village Board of Trustees, if requested by the VILLLAGE

TASK 3 - Data Collection and Review (RFP Task 3)

TASK 3.1 – Obtain Available VILLAGE and MWRDGC Data

At the kickoff meeting, data needs from the VILLAGE and MWRDGC will be discussed. This will include obtaining available GIS information including but not limited to base map coverage, topographic information, land use data, utility maps and zoning maps. It is assumed that documents prepared for MWRDGC as part of the 98% design completed by Michael Baker will be made available to HR Green. This includes but is not limited to:

- Electronic CADD files of the 98% drawings;
- Electronic files of the hydrologic and hydraulic models;
- Structural design calculations;
- Word or pdf files of the specifications and permit documents;
- Excel spreadsheets or pdf of the Engineer's Estimate;
- PDF copy of the geotechnical report and environmental reports;
- Electronic or PDF copies of the property easement exhibits previously completed;
- Boundary survey of the properties completed for easement purposes;

- Property owner coordination summary or list of property owners who were not ins support of the required easements and/or maintenance

Additional data needs, if required, will be identified during the scoping meeting.

Key Approach Idea: *The focus of this task will be to review all prior data collected and analyzed as part of the Baker's Plan but more specifically focusing on the property owners who were not largely in support of the easement or were the "deal breakers" for this project. This will guide our team understand why easements were not granted and to look for opportunities to add value to these properties and/or even evaluate if impacts can be minimized or completely eliminated.*

TASK 3.2 – Previous 98% Design Review

HR Green and its subconsultants will review the available topographic survey files, drawings, design files and reports to gain an understanding of the "Basis of Design" and methodology used for the project. If any data gaps are identified, these will be discussed with the VILLAGE and MWRDGC.

Based on our review of materials included in the RFP, it is anticipated that a complete replacement of the topographic survey will be required. We do not anticipate any other significant data gaps at this point.

TASK 3.3 – Environmental and Geotechnical Investigation

It is anticipated that adequate geotechnical borings and environmental sampling has been completed for the project limits as part of the 98% design. Additional geotechnical investigations and completion of an environmental sampling and analysis for CCDD certifications will be required for the approximately 0.75 miles of streambanks (or 0.38 miles of stream centerline) new project limits added to the project. HR Green will utilize a WBE, Rubino Engineering of Elgin, Illinois, to complete the additional geotechnical and environmental analysis.

TASK 3.4 – Utility Coordination

J.U.L.I.E. design ticket will be submitted upon Notice to Proceed to obtain utility maps to identify existing private and public utilities present within the project limits. These utility maps, supplemented by the field survey of visible utilities, will be used to identify potential conflicts with the proposed construction. If a utility is identified as having a potential conflict, HR Green will coordinate with the utility company and provide preliminary design plans so that utility relocation design and coordination can be initiated ahead of project construction. The utility conflicts will be identified based on best available field data and available utility maps and is not intended to identify any and all conflicts that may not be known at the time of design. Note that utility coordination will occur during the design duration at various stages of the project.

TASK 4 – Stream Assessment/Plan in Hand Review (RFP Tasks 5 and 7)

Representatives from HR Green design team and RES-AES will complete a stream assessment and complete a plan in hand review of the Baker's Plan and CBBEL recommended improvements.

Each of the sites will be reviewed for its stabilization measures proposed, its intended functionality and success and failure criteria. The sites will also be reviewed for changes in existing conditions to the extent practical. The site will be walked for review from design, ecological and constructability criteria and changes will be noted on the plans where it is anticipated current design will not be beneficial or may fail overtime.

A photographic documentation of the existing conditions will be completed. The following strategy is recommended:

- A photographic documentation of each property within the project limits will be completed;
- A picture of each bank across the property boundary line will be collected;
- At least one representative picture will be hyperlinked in GIS to each property parcel;
- A plan view with photo key map will be provided for the limits of the project; and
- An 8.5x11 existing condition photographic exhibit will be completed for each property. The exhibit will include property address, location map and picture(s).

Key Approach Idea: *We recommend a stream assessment and a plan in hand review of the Baker's Plan as one of the first steps in the project. We propose to have three content experts with separate points of view walk this stream together. Logan (Civil Engineer), Steve (Ecologist) and Brad (Contractor) will walk the entire reach from 151st Street to Crystal Creek Drive.*

The team will review the creek and document items related to channel stability or instability, geomorphology, hydraulic capacity, utility impacts, ecological condition, vegetation management and constructability and access. Critical measurements including normal depth, wetted width, channel width and channel depth of areas that are currently in a stable condition will be taken. It is vital to a successful project to study these issues early in the project. ***If proposed improvements deviate from what the stream is naturally doing in these stable areas, then the stabilization measures will fail.***

TASK 5 – Surveying Services and Easement Exhibits (RFP Tasks 6 and 13)

Task 5.1 – Topographic and Utility Survey

The topographic survey of the project limits as part of the 98% design is several years old. It is anticipated that the existing conditions have changed as a result of continued erosion and changes made by property owners. Additionally, new survey will need to be obtained for the approximately 0.75 miles of streambanks (or 0.38 miles of stream centerline) new project limits added to the project. The following strategy is proposed for survey to minimize costs:

- Complete a topographic survey of the project limits (old and new limits);
- Obtain a creek cross-section across each parcel. These sections will be later utilized for developing typical existing and proposed section and renderings.
- Limit structure survey in the 98% design limits to face sections upstream and downstream. The structures are being maintained and should not change from prior surveys.
- Complete structure and roadway crossing survey within the approximately 0.75 miles of streambanks (or 0.38 miles of stream centerline) new project limits added to the project.
- Utilize utility survey from 98% design. However, utility data will be verified at locations where utilities are impacted by construction. We will consult with Village if any utility improvements have been made subsequent to the original survey.

Topographic survey will locate visible existing surface improvements and site topography within the area described above. Survey will reference Illinois State Plane Coordinates – East Zone (NAD83-2011) and North American Vertical Datum of 1988 (NAVD88).

This task will include processing and quality assurance and quality control of the field data. Upon completion of the data processing and base files set up, the Project Manager and key task leads will review the data and complete an initial high level overview of design constraints, challenges and opportunities.

Task 5.2 – Tree Survey

The tree survey of the project limits as part of the 98% design is several years old. It is anticipated that the existing conditions have changed included tree size and possible health. A new tree survey for the 98% design project limits will be required. Additionally, tree survey will need to be obtained for the approximately 0.75 miles of streambanks (or 0.38 miles of stream centerline) new project limits added to the project. Tree survey for this project will be completed by our subconsultant RES-AES. The following will be included:

RES-AES will survey all trees and shrubs greater than or equal to 6 inches DBH within the proposed project area defined as approximately 20 feet on either side of the creek. RES-AES will also survey all highly desirable native trees/shrubs between 2-6 inches DBH. Each surveyed tree/shrub will be tagged, assessed, and located using submeter GPS. The information will be tabulated in a Tree Inventory Table including tree tag #, species (common and scientific), DBH, condition, and general comments regarding quality, etc.

Task 5.3 – Boundary and Right of Way (ROW) Survey

HR Green will perform a Boundary Survey of approximately fifty-one (51) parcels and six (6) roads lying within the project limits as shown on provided plat of dedication/right of way maps and recorded subdivision plats to include on the base map. The boundary survey will be used to re-establish the adjacent right of way lines for each road and boundary lines for each parcel needing an easement.

This task does not include setting or resetting monuments at any parcel corners not found nor monumented.

Task 5.4 – Temporary and Permanent Easement Exhibits

Approximately fifty-one (51) parcels are estimated needing temporary and permanent easements. HR Green will prepare an individual exhibit for each property that is needing an easement. The exhibit will show parcel boundaries and proposed temporary and permanent easement with a legal description of the easement(s). It is assumed that these exhibits will be utilized by the Village to prepare Easement Agreement. Preparing the Easement Agreement and Easement Acquisition Services (appraisals and negotiations) will be completed by the Village and is not included in our scope of services.

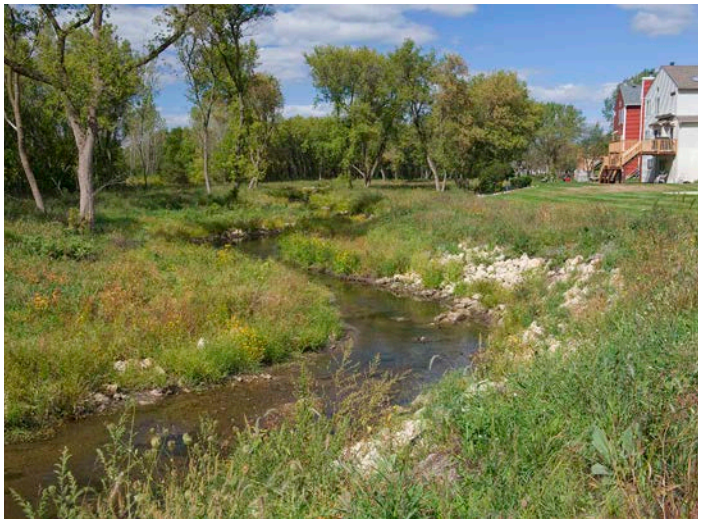
TASK 6 – Wetland Delineation (RFP Task 20)

The wetland delineation completed as part of the 98% design is only good for 5 years and is therefore considered obsolete. A new wetland delineation for the 98% design project limits will be required. Additionally, wetland delineation and survey will need to be completed for the approximately 0.75 miles of streambanks (or 0.38 miles of stream centerline) of new project limits added to the project. Tinley Creek is considered to be Waters of the United States (WOTUS) and therefore under the jurisdiction of the USACOE. A Jurisdictional Determination (JD) report is therefore not recommended. Wetland delineation and survey for this project will be completed by our subconsultant RES-AES. The following will be included:

- RES-AES Ecologists will conduct a wetland delineation along the approximately 1.3 mile (centerline length) reach of Tinley Creek and approximately 20 feet on each side of the creek in accordance with the USACOE 1987 Wetland Delineation and the Midwest Regional Supplement for Wetland Delineations. Pink pin flags will be used to delineate the on-site wetland boundaries and located using submeter GPS. As required by USACOE, the delineation will include an on-site investigation of vegetation, soils, and hydrology. In addition, the Floristic Quality Index (FQI) will be calculated for each wetland encountered. Digital photographs of data points will be taken to assist in documenting existing site conditions. Adjacent off-site wetlands will also be identified and inspected, if possible, but not flagged. It is assumed that wetland delineation will occur during the growing season.
- RES-AES will prepare a wetland delineation report in accordance with the USACOE 1987 Wetland Delineation Manual and Midwest Regional Supplement. The report will include the following: a written summary of results, wetland delineation exhibit that shows all wetlands and data collection points within the project area, photos of representative data points locations, wetland and soils maps, completed USACOE data forms, and an evaluation of the quality of on-site wetlands based upon the Floristic Quality Index (FQI). The report will also include all additional Cook County wetland delineation requirements.
- Schedule and attend an onsite pre-application meeting with a representative of the USACOE upon completion of the wetland delineation. The purpose of the meeting will be to confirm the wetland boundary with the USACOE and to discuss regional permit program under which the proposed construction activity will be permitted. Meeting minutes of the pre-application meeting will be prepared and submitted to the attendees and VILLAGE.

TASK 7 – Hydrologic and Hydraulic Analysis (RFP Task 20)

It is assumed that Michael Baker's electronic files of the previously completed hydrologic and hydraulic modeling will be made available to HR Green. At the onset of the project, we recommend that design criteria (including impacts of Bulletin 75 rainfall data) be discussed for design and permitting. It is assumed that if updates to Bulletin 75 rainfall is required, it will simply be limited to changing the rainfall data in the current approved hydrologic model to establish new flow data for the hydraulic model.



- Bio-engineered bank stabilizations in floodway

Whether using Bulletin 70 or the Bulletin 75 rainfall data, the hydraulic model used for the 98% design will be updated using the new existing and proposed conditions for the project limits. HR Green will insert the stream cross sections based on proposed survey and selected stream alignments and grading plan of the channel and overbank areas. The hydraulic models will guide the development of the bank stabilization measures to account for velocities and shear stresses expected at various heights of the banks. The hydraulic models will also be reviewed in accordance with applicable design requirements per IDNR-OWR Part 3708 rules for floodway and per the MWRDGC WMO requirements. HR Green will present the results of the hydraulic analysis and proposed flood inundation maps and BFE tabular data by sections during a scheduled progress meeting for approval by the VILLAGE and MWRDGC prior to completion of the 60% Plans.

TASK 8 – 30% Engineering Plans (RFP Tasks 8, 9, 11 and 14)

The 30% Engineering Plans will include updating the Baker's 98% Plans with updated topographic, utility and tree survey and revised or new proposed stabilization practices that will minimize erosion along the creek. Properties which can be designed around for successful stabilization will be identified to reduce number of property impacts. Additional sheets will be added to the plan set for the approximately 0.75 miles of streambanks (or 0.38 miles of stream centerline) of new project limits added to the project.

Plans will be prepared in AutoCAD Civil 3D software meeting MWRDGC design standards for plan preparation.

The 30% plan set will include the following updated sheets:

- General Sheets
  - Cover
  - Legend
  - General Site Symbols
  - Abbreviations
  - Overall Layout Plan
- Civil Sheets
  - Existing Site Layout and Demo Plans.
  - Plan and Profile. These sheets will show the existing and proposed creek alignment and stabilization practices along the length of the creek and limits of temporary and permanent easements. Profiles will not be updated for 30% Engineering Plans.
  - Alignment and Ties
  - Cross Sections. We propose a cross section at every 50-foot along the centerline stationing; across each impacted parcel; and at key locations. Approximately 51 parcels are estimated to be impacted along the creek. Cross sections will show the proposed stabilization practices that will reduce erosion, minimize O&M and improve aesthetics and safety along the creek.

Deliverable and Review Meeting: *The 30% Engineering Plans will be submitted to VILLAGE, MWRDGC and Utility Companies for review. A review meeting will be scheduled with VILLAGE and MWRDGC to go over comments and finalize proposed stabilization practices.*

TASK 9 – Plan View and Cross Section Renderings (RFP Task 12)

From the typical sections prepared in Task 8 above, HR Green and its subconsultant, LVBrown Studios, will prepare the following renderings:

- Plan view rendering of the proposed creek stabilization for the project length;
- An 8.5x11 plan view and cross section rendering for each of the impacted property along with sample pictures of the proposed outcomes. Approximately 51 parcels are estimated to be impacted along the creek. These renderings are anticipated to be used for property owner meetings. Some examples of these renderings can be found in the Appendix.

Deliverable and Review Meeting: *The plan view and cross section renderings will be submitted to VILLAGE and MWRDGC for review. A review meeting will be scheduled with VILLAGE and MWRDGC to go over comments and finalize renderings.*

TASK 10 – Public Meeting (RFP Task 15)

This task can be completed after the completion of Task 8 and Task 9 or after completion of Task 11, based on VILLAGE and MWRDGC preference. We believe an early coordination may be helpful in identifying property owner concerns and revise the design accordingly.

One (1) public meeting is planned. We recommend that this be an open house format with up to there (3) visiting stations broken out by reach lengths to guide property owners to the appropriate station. It is anticipated that the public meeting will be held at Village Hall (or another Village location). HR green will prepare and mail meeting

- Logan hosting an educational meeting for residents who live along waterways

invitation letters along with appropriate documents to impacted property owners and other residents along the creek. HR Green will also prepare a presentation for the overall project and subsequently be available at each of these stations to answer any specific questions property owners may have as it relates to their individual property and/or the overall project. Up to three (3) people from HR Green will attend the public meeting to provide coverage and answer questions. HR Green will prepare and mail invitations along with appropriate documents to impacted property owners.

COVID-19 guidelines will need to be evaluated ahead of these meetings. If there are limitations to #people who can attend in a single meeting, we recommend breaking out the public meeting in two (2) 2-hour sessions. Other options can be evaluated based on limitations imposed at the time of these meetings.

TASK 11 – 60% Engineering Plans, Specifications and Estimates (RFP Tasks 8, 9, 10, 11, 14, 17 and 18)

Based on input from the VILLAGE/MWRDGC and public meeting input, HR Green will prepare the 60% Engineering Plans, Specifications and Engineer's Opinion of Probable Construction Costs (EOPCC).

The 60% submittal will include the following documents in conformance to MWRDGC requirements:

- 60% Engineering Plans
- Specifications
- EOPCC – The EOPCC will be broken into two distinct sections; bid items for project elements that are within MWRDGC scope (98% project limits) and bid items that are entirely VILLAGE's responsibility (approximately 0.75 miles of streambanks or 0.38 miles of stream centerline of new project limits)
- Draft 3-Year Operation and Maintenance (O&M) Plan
- Draft 20-Year O&M Plan and associated costs

The 60% Engineering Plan set will include the following updated sheets:

- General Sheets
  - Cover
  - Signatures and Seals/Index/Location Maps
  - Legend
  - General Site Symbols
  - Abbreviations
  - Overall Layout Plan
  - General Notes
- Civil
  - Existing Site Layout and Demo Plans
  - Plan and Profile
  - Alignment and Ties
  - Cross Sections
  - Details
  - Schedule of Quantities
  - Traffic Control Plan
- Landscaping
  - Soil Erosion and sediment Control Plan
  - Planting Plan
  - Tree Schedule
  - Planting Schedule
- Structural
  - Retaining Wall Plan and Elevation
  - Structural Notes
  - Typical Wall Details
  - Wall Data
  - Reinforcing Bar Schedule

Deliverable and Review Meeting: *The 60% Engineering Plans will be submitted to VILLAGE, MWRDGC and Utility Companies for review. A review meeting will be scheduled with VILLAGE and MWRDGC to go over comments and finalize proposed stabilization practices.*

TASK 12 – Value Engineering (VE) and Funding Eligibility Analysis (RFP Task 17)

The extent of cost impacts for the revised design is unknown. It is understood that the project budget is estimated at approximately $6.0 Million. Should the EOPCC exceed project budget, the following strategies will be employed to bring the costs within available budget:

- Work with VILLAGE and MWRDGC to implement Value engineering (VE) elements; and/or
- Evaluate available funding opportunities including project eligibility and potential award amounts. HR Green will present the funding opportunities, if applicable, to the VILLAGE and MWRDGC for consideration. If a funding application if required, it will be prepared under a separate agreement.

TASK 13 – Impacted Property Owner Coordination (RFP Tasks 12, 13, and 16)

After the completion of the 60% Engineering Plans, Specifications and Estimate in Task 11 above, we recommend that VILLAGE schedule one on one meetings with the impacted property owner and Homeowner's Association (HOA). The following activities will be included: HR Green will update the property owner impact exhibits prepared in Task 5.4 and plan view and cross section renderings completed in Task 9 above based on the updated 60% Engineering Plans.

- **Property Impact Exhibits:** HR Green will update the property owner impact exhibits prepared in Task 5.4 and plan view and cross section renderings completed in Task 9 above based on the updated 60% Engineering Plans. The exhibits will show details of improvements including permanent and temporary easement limits. These exhibits can be shared with the property owners during coordination meetings, comments collected, and designs adjusted, if needed and approved by the VILLAGE and MWRDGC.
- **Letter of Intent:** If approved by the VILLAGE, HR Green recommends that we assist the VILLAGE in preparing a sample Letter of Intent (LOI) for Village Attorney's review and approval. A LOI can be an instrument that interested property owners can sign at the 60% stage indicating their approval of the design, required easements and maintenance obligations. The LOI will include property impact exhibits as an attachment.
- **Impacted Property Owner Meetings:** If approved by the VILLAGE, HR Green recommends that Village schedule and meet with all impacted property owners at this stage of the project. At Village's request, HR Green will attend up to five (5) meetings with individual property owners and/or Homeowners' Associations to discuss and share improvements.

TASK 14 – Permit Applications (RFP Task 20)

HR Green will review the previously approved permits and permit conditions. It is assumed that due to time that has lapsed between permits issued as well as due to revisions to the plans, permit applications will need to be updated and resubmitted to the applicable permit jurisdictional agencies. The following permits will be applied for:

- **U.S. Army Corps of Engineer's (USACOE):** USACOE Wetland and WOTUS Impact Permit. It is assumed the project will be permitted as multiple regional permits through the Regional Permit (RP) Program. These permits will be applied for under one submittal and will not be applied for separately. HR Green anticipates filing for the following regional permits:
  - Regional Permit 5 – Aquatic Habitat Restoration, Establishment, and Enhancement. This permit authorizes the restoration of streams and the installation of best management practices (BMPs).
  - Regional Permit 7 – Temporary Construction Activities. This permit will be required to install temporary stream crossings and cofferdams and to complete bypass pumping of the stream.
  - Regional Permit 10 – Bank Stabilization. This permit authorizes the stabilization of the streambanks.

HR Green will prepare up to two (2) submittals to USACOE.

- **Will-South Cook Soil and Water Conservation District:** Will-South Cook Soil and Water Conservation District (WSCSWCD) Sediment and Erosion Control Permit. It is assumed that the review fee will be approximately $3,500 which includes the review and inspection fees and includes in-stream work. Since the total disturbed area will exceed 1 acre, an additional refundable fee of $3,500 will be required to be submitted to WSCSWCD. This fee will be refunded upon written notice of the construction start date. The above fee of $3,500 is included in our Professional Fee estimate. HR Green will also pay the $500 refundable fee.
- **Illinois Department of Natural Resources – Office of Water Resources:** IDNR-OWR Permit for Construction in Floodway in accordance with Part 3708 rules. It is assumed that the review fee will be $3,230 for construction activities within Northeastern Illinois that requires hydrologic and hydraulic review by the IDNR-OWR. An additional $1,620 may be required if a public notice is required. The above fees totaling $4,850 are included in our Professional Fee estimate.

- **Metropolitan Reclamation District of Greater Chicago – WMO Permit:** A WMO permit is not anticipated since this is a joint project with MWRDGC.
- **Illinois Department of Natural Resources - ECOCAT:** An ECOCAT consultation will be required. The consultation fee is approximately $125. The fee is included in our Professional Fee estimate.
- **Illinois Environmental Protection Agency – IRL-10 NPDES:** IEPA ILR-10 NPDES Phase II permit for construction activity will be required since the total disturbed area will be greater than 1 acre.
- **Illinois Environmental Protection Agency – Sewer & Water Main Permits:** An IEPA sewer and Water Main permits are not anticipated at this time since relocation of existing sewer and water mains is not anticipated.

TASK 15 – 90% Engineering Plans, Specifications and Estimates (RFP Tasks 8, 9, 10, 11, 17, 18 and 23)

Based on input from the VILLAGE/MWRDGC and impacted property owner coordination meetings, HR Green will prepare the 90% Engineering Plans, Specifications and Engineer's Opinion of Probable Construction Costs (EOPCC).

The 90% submittal will include the following updated documents in conformance to MWRDGC requirements:

- 90% Engineering Plans
- Specifications
- 90% EOPCC - The EOPCC will be broken into two distinct sections; bid items for project elements that are within MWRDGC scope (98% project limits) and bid items that are entirely VILLAGE's responsibility (approximately 0.75 miles of streambanks or 0.38 miles of stream centerline of new project limits)
- Pre-Final 3-Year Operation and Maintenance (O&M) Plan included in Volume IV
- Pre-Final 20-Year O&M Plan and associated costs
- Construction Schedule – Construction Schedule will include an estimated construction schedule for improvements including Gantt charts for graphical presentation

Deliverable and Review Meeting: *The 90% Engineering Plans will be submitted to VILLAGE, MWRDGC and Utility Companies for review. A review meeting will be scheduled with VILLAGE and MWRDGC to go over comments and finalize proposed stabilization practices.*

TASK 16 – 100% Engineering Plans, Specifications and Estimates (RFP Task 21, 22, and 23)

Based on input from the VILLAGE/MWRDGC, HR Green will prepare the 100% engineering plans, specifications and estimates and supporting documents (BID DOCUMENTS) for the Village to solicit bids from qualified contractors.

The BID DOCUMENTS will include the following documents:

- 100% Engineering Plans
- Specifications
- Pre-Final 3-Year Operation and Maintenance (O&M) Plan included in Volume IV

The following additional documents will be provided for Village's files:

- 100% EOPCC
- Final 20-Year O&M Plan and associated costs
- Construction Schedule – Construction Schedule will include an estimated construction schedule for improvements including Gantt charts for graphical presentation

Deliverables: *The 100% Engineering Plans will be submitted to VILLAGE and MWRDGC and made available for electronic bidding system. Up to ten (10) hard copy submittals are included in the scope.*

TASK 17 – Bid Award and Assistance (RFP Task 26)

The bidding process will be managed by the VILLAGE. HR Green will assist the VILLAGE with the following tasks:

- Answer questions and issue addendum, if necessary;
- Review bids; and
- Prepare recommendation for award

Task 18 – Scope of Service for Construction Engineering and Construction Observation (RFP Task 25)

HR Green will develop proposed scope of services (without professional fees) for construction engineering or construction observation services to implement the improvements. It is understood that the VILLAGE may use this scope of services to solicit proposals from qualified consultants for construction engineering or construction observation services.

Schedule

The following schedule is proposed for the Tinley Creek Streambank Stabilization project.

Task	Description	Schedule
Board Approval		May 3, 2021
Contract Execution and Notice to Proceed		May 10, 2021
TASK 1	Project management and coordination	May 10, 2021 – May 27, 2022
TASK 2	Kickoff Meeting and Coordination Meetings	KO Meeting – Week of May 17, 2021 Coordination Meetings – Bi-monthly
TASK 3	Data Collection and Review	May 10, 2021 - May 21, 2021
TASK 4	Stream Assessment/Plan in hand review	Week of May 24, 2021
TASK 5	Field Survey	May 31, 2021 – June 18, 2021
TASK 6	Wetland Delineation Survey	May 31, 2021 – June 4, 2021
TASK 7	Hydrologic and hydraulic update	June 21, 2021 – July 9, 2021
Bi-Monthly Meeting #1 (Progress Meeting)		Week of July 12, 2021
TASK 8	30% Plans, Specifications and Estimates (PSE)	June 21, 2021 - July 30, 2021
TASK 9	Typical Sections and Renderings	July 19, 2021 - August 6, 2021
Deliverable	30% PSE and Typical Sections and Renderings	August 9, 2021
VILLAGE and MWRDGC Review		August 9, 2021 – August 20, 2021
Bi-Monthly Meeting #2 (Review 30% PSE and Typical Sections)		Week of August 23, 2021
TASK 10	Public Meeting	Tentative – September 2021
TASK 11	60% Plans, Specifications and Estimates	August 30, 2021 – Nov 5, 2021
Bi-Monthly Meeting #3 (Progress Meeting)		Week of October 11, 2021
TASK 12	Value engineering and Funding Eligibility Review	Nov 1, 2021 – Nov 5, 2021
Deliverable	60% PSE and Typical Sections and Renderings	Nov 8, 2021
VILLAGE and MWRDGC Review		Nov 8, 2021 – Dec 10, 2021
Bi-Monthly Meeting #4 (Review 60% PSE and Typical Sections)		Week of December 13, 2021
TASK 13	Impacted Property Owner Coordination	Dec 20, 2021 – Feb 11, 2022
TASK 14	Permit Applications	Nov 8, 2021 – Dec 17, 2021
Bi-Monthly Meeting #5 (Progress Meeting)		Week of Feb 7, 2022
TASK 15	90% Plans, Specifications and Estimates	Feb 14, 2022 – March 25, 2022
Deliverable	90% Plans, Specifications and Estimates	March 28, 2022
VILLAGE and MWRDGC Review		March 28, 2022 – April 22, 2022
Bi-Monthly Meeting #6 (Review 90% PSE and Typical Sections)		Week of April 25, 2022
TASK 16	100% Plans, Specifications and Estimates	May 27, 2022
TASK 17	Bid Award and Assistance	May 30, 2022 – June 27, 2022
TASK 18	Scope of Services for Construction Engineering	March 28, 2022
Anticipated Contract Award and NTP		August 1, 2022
Anticipated Construction Start		August 22, 2022
Anticipated Construction Completion		June 2023

Milestone Deliverable	VILLAGE and MWRDGC Review	Bi-Monthly Meeting

PROPOSAL SUMMARY SHEET

RFP 21-015

Tinley Creek Streambank Stabilization

Business Name: HR Green, Inc.

Street Address: 323 Alana Drive

City, State, Zip: New Lenox, IL 60451

Contact Name: Ajay Jain, PE, CFM

Title: Principal-in-Charge

Phone: 815.509.8302 Fax: 815.462.9328

E-Mail address: ajain@hrgreen.com

Price Proposal

PROPOSAL TOTAL
(On an hourly, not to exceed fee basis)

$ 383,490.00*
*See assumptions below.

AUTHORIZATION & SIGNATURE

Name of Authorized Signee: Ajay Jain, PE, CFM

Signature of Authorized Signee:

Title: Vice President Date: 3/29/2021

Assumptions for Professional Fees

1. The Professional Fee (Proposal Total) includes labor, material, equipment and reimbursable costs anticipated to complete the work, including subconsultant fees.
2. An allowance of $3,000.00 is included for up to five (5) property owner meetings in the total proposal fee at an estimate of $600.00 per meeting. If additional meetings are requested, they can be attended at an additional costs of $600.00/meeting.
3. Estimated permit fees in the amount of $8,475.00 are included based on the current applicable fee schedule of the applicable regulatory agencies.

ORLAND PARK

CERTIFICATE OF COMPLIANCE

The undersigned Ajay Jain, PE, CFM, as Vice President
(Enter Name of Person Making Certification) *(Enter Title of Person Making Certification)*

and on behalf of HR Green, Inc., certifies that:
(Enter Name of Business Organization)

1) **BUSINESS ORGANIZATION:**

The Proposer is authorized to do business in Illinois: Yes [X] No [ ]

Federal Employer I.D.#: 42-0927178
(or Social Security # if a sole proprietor or individual)

The form of business organization of the Proposer is (*check one*):

___ Sole Proprietor
___ Independent Contractor *(Individual)*
___ Partnership
___ LLC
[X] Corporation Iowa _____
(State of Incorporation) *(Date of Incorporation)*

2) **ELIGIBILITY TO ENTER INTO PUBLIC CONTRACTS: Yes [X] No [ ]**

The Proposer is eligible to enter into public contracts, and is not barred from contracting with any unit of state or local government as a result of a violation of either Section 33E-3, or 33E-4 of the Illinois Criminal Code, or of any similar offense of "Bid-rigging" or "Bid-rotating" of any state or of the United States.

3) **SEXUAL HARRASSMENT POLICY: Yes [X] No [ ]**

Please be advised that Public Act 87-1257, effective July 1, 1993, 775 ILCS 5/2-105 (A) has been amended to provide that every party to a public contract must have a written sexual harassment policy in place in full compliance with 775 ILCS 5/2-105 (A) (4) and includes, at a minimum, the following information: (I) the illegality of sexual harassment; (II) the definition of sexual harassment under State law; (III) a description of sexual harassment, utilizing examples; (IV) the vendor's internal complaint process including penalties; (V) the legal recourse, investigative and complaint process available through the Department of Human Rights (the "Department") and the Human Rights Commission (the "Commission"); (VI) directions on how to contact the Department and Commission; and (VII) protection against retaliation as provided by Section 6-101 of the Act. (Illinois Human Rights Act). (emphasis added). Pursuant to 775 ILCS 5/1-103 (M) (2002), a "public contract" includes "...every contract to which the State, any of its political subdivisions or any municipal corporation is a party."

4) EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE: Yes [X] No [ ]

During the performance of this Project, Proposer agrees to comply with the "Illinois Human Rights Act", 775 ILCS Title 5 and the Rules and Regulations of the Illinois Department of Human Rights published at 44 Illinois Administrative Code Section 750, et seq. The

Proposer shall: (I) not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, national origin or ancestry, age, or physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; (II) examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization; (III) ensure all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, marital status, national origin or ancestry, age, or physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; (IV) send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Vendor's obligations under the Illinois Human Rights Act and Department's Rules and Regulations for Public Contract; (V) submit reports as required by the Department's Rules and Regulations for Public Contracts, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and Department's Rules and Regulations for Public Contracts; (VI) permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and Department's Rules and Regulations for Public Contracts; and (VII) include verbatim or by reference the provisions of this Equal Employment Opportunity Clause in every subcontract it awards under which any portion of this Agreement obligations are undertaken or assumed, so that such provisions will be binding upon such subcontractor. In the same manner as the other provisions of this Agreement, the Proposer will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply therewith. In addition, the Proposer will not utilize any subcontractor declared by the Illinois Human Rights Department to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations. Subcontract" means any agreement, arrangement or understanding, written or otherwise, between the Proposer and any person under which any portion of the Proposer's obligations under one or more public contracts is performed, undertaken or assumed; the term "subcontract", however, shall not include any agreement, arrangement or understanding in which the parties stand in the relationship of an employer and an employee, or between a Proposer or other organization and its customers. In the event of the Proposer's noncompliance with any provision of this Equal Employment Opportunity Clause, the Illinois Human Right Act, or the Rules and Regulations for Public Contracts of the Department of Human Rights the Proposer may be declared non-responsible and therefore ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and this agreement may be canceled or avoided in whole or in part, and such other sanctions or penalties may be imposed or remedies involved as provided by statute or regulation.

5) TAX CERTIFICATION: Yes [X] No [ ]

Contractor is current in the payment of any tax administered by the Illinois Department of Revenue, or if it is: (a) it is contesting its liability for the tax or the amount of tax in accordance with procedures established by the appropriate Revenue Act; or (b) it has entered into an agreement with the Department of Revenue for payment of all taxes due and is currently in compliance with that agreement.

6) AUTHORIZATION & SIGNATURE:

I certify that I am authorized to execute this Certificate of Compliance on behalf of the Contractor set forth on the Proposal, that I have personal knowledge of all the information set forth herein and that all statements, representations, that the Proposal is genuine and not collusive, and information provided in or with this Certificate are true and accurate. The undersigned, having become familiar with the Project specified, proposes to provide and furnish all of the labor, materials, necessary tools, expendable equipment and all utility and transportation services necessary to perform and complete in a workmanlike manner all of the work required for the Project.

ACKNOWLEDGED AND AGREED TO:

Signature of Authorized Officer

Ajay Jain, PE, CFM
Name of Authorized Officer

Vice President
Title

3/29/2021
Date

REFERENCES

Provide three (3) references for which your organization has performed similar work.

Bidder's Name: HR Green, Inc.
(Enter Name of Business Organization)

1. ORGANIZATION: City of St. Charles
   ADDRESS: 2 East Main, St. Charles, IL 60174
   PHONE NUMBER: 630.377.4418
   CONTACT PERSON: Ken Jay, PE
   YEAR OF PROJECT: Ongoing (projects since 2014)

2. ORGANIZATION: Metropolitan Water Reclamation District of Greater Chicago
   ADDRESS: 100 East Erie Street, Chicago, IL 60611
   PHONE NUMBER: 312.751.5479
   CONTACT PERSON: Richard Fisher
   YEAR OF PROJECT: Ongoing (projects since 2014)

3. ORGANIZATION: Village of Carpentersville
   ADDRESS: 1200 LW Besinger Drive, Carpentersville, IL 60110
   PHONE NUMBER: 224.293.1637
   CONTACT PERSON: Ed Szydlowski
   YEAR OF PROJECT: 2016 (projects since 1999)

ORLAND PARK

INSURANCE REQUIREMENTS

Please submit a policy Specimen Certificate of Insurance showing bidder's current coverage's

WORKERS COMPENSATION & EMPLOYER LIABILITY
Workers' Compensation – Statutory Limits
Employers' Liability
$1,000,000 – Each Accident $1,000,000 – Policy Limit
$1,000,000 – Each Employee
Waiver of Subrogation in favor of the Village of Orland Park

AUTOMOBILE LIABILITY
$1,000,000 – Combined Single Limit

GENERAL LIABILITY (Occurrence basis)
$1,000,000 – Each Occurrence $2,000,000 – General Aggregate Limit
$1,000,000 – Personal & Advertising Injury
$2,000,000 – Products/Completed Operations Aggregate
Primary Additional Insured Endorsement & Waiver of Subrogation in favor of the Village of Orland Park

PROFESSIONAL LIABILITY
$1,000,000 Limit - Claims Made Form, Indicate Retroactive Date & Deductible

EXCESS LIABILITY (Umbrella-Follow Form Policy)
$2,000,000 – Each Occurrence
$2,000,000 – Aggregate
EXCESS MUST COVER: General Liability, Automobile Liability, Workers Compensation

Any insurance policies providing the coverages required of the Consultant, excluding Professional Liability, shall be specifically endorsed to identify "The Village of Orland Park, and their respective officers, trustees, directors, officials, employees, agents, representatives and assigns as Additional Insureds on a primary/non-contributory basis with respect to all claims arising out of operations by or on behalf of the named insured." If the named insureds have other applicable insurance coverage, that coverage shall be deemed to be on an excess or contingent basis. The policies shall also contain a Waiver of Subrogation in favor of the Additional Insureds in regards to General Liability and Workers Compensation coverages. The certificate of insurance shall also state this information on its face. Any insurance company providing coverage must hold an A VII rating according to Best's Key Rating Guide. Permitting the contractor, or any subcontractor, to proceed with any work prior to our receipt of the foregoing certificate and endorsement, however, shall not be a waiver of the contractor's obligation to provide all of the above insurance.

Proposer agrees that prior to any commencement of work to furnish evidence of Insurance coverage providing for at minimum the coverages and limits described above directly to the Village of Orland Park, Nicole Merced, Purchasing Coordinator, 14700 S. Ravinia Avenue, Orland Park, IL 60462. Failure to provide this evidence in the time frame specified and prior to beginning of work may result in the termination of the Village's relationship with the contractor.

ACCEPTED & AGREED THIS 29th DAY OF March, 2021

Signature

Ajay Jain, PE, CFM | Vice President
Printed Name & Title

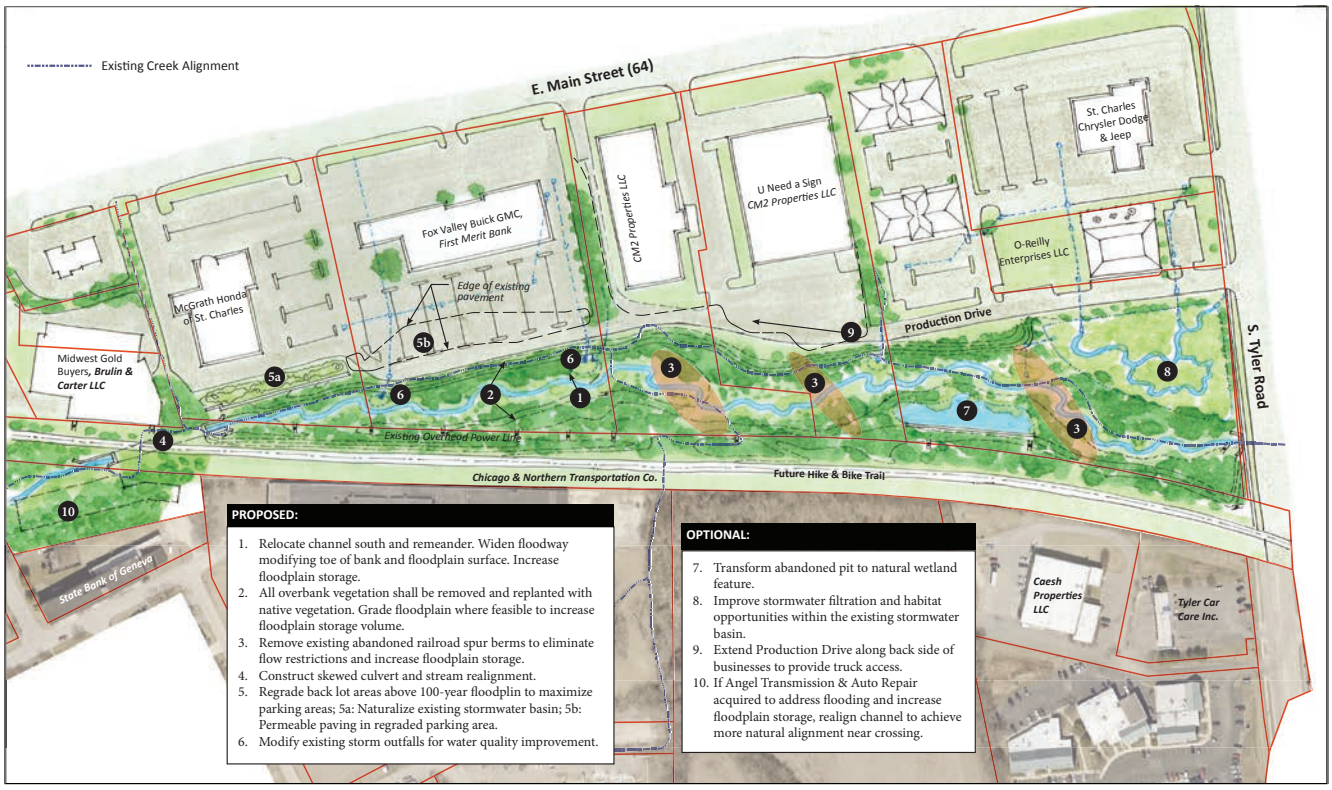
Authorized to execute agreements for:

HR Green, Inc.
Name of Company

Appendix - Example Project: 7th Avenue Creek Study

HRG PLOT: 2:30:30 PM 10/12/2016 BY: skokosz FILE: O:\86140185.02\Design\Project Development Plan\October 17 staff Meeting Working Exhibits\MDX\map-7thAve-Reach6.mxd

▶ Example of photographic documentation

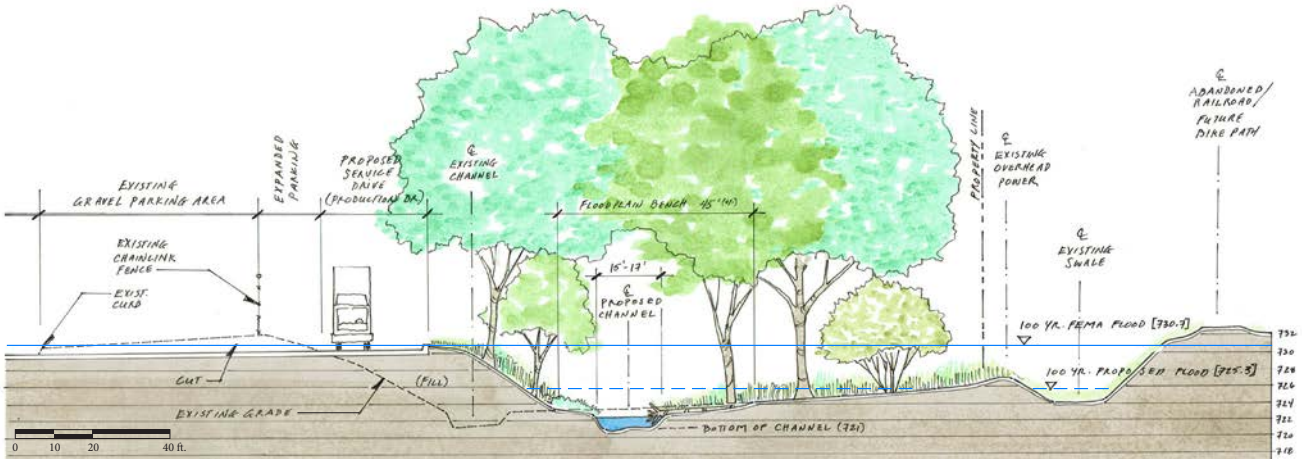


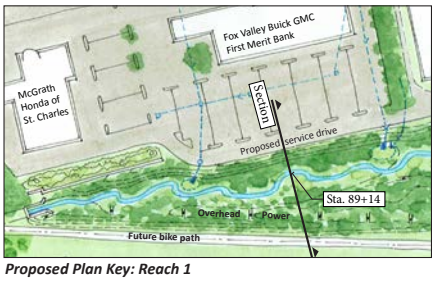
N

Reach 1 - 7th Avenue Creek

Floodplain Improvement

0 75 150 300 450 Feet





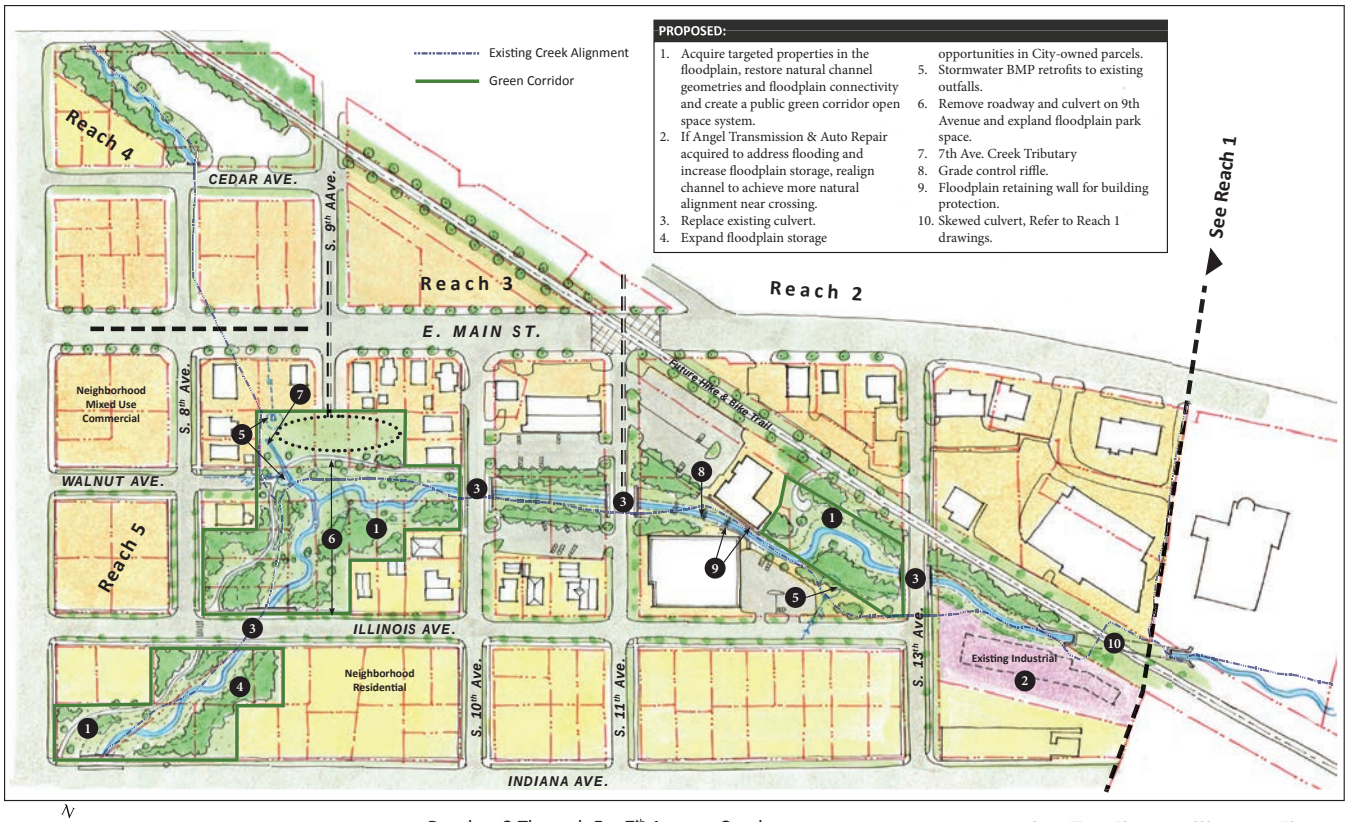
Proposed Plan Key: Reach 1

Existing Photo

Aerial Key Plan: Reach 1

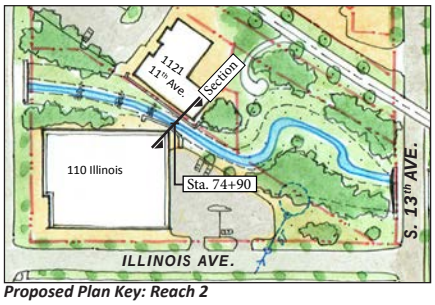
7th Avenue Creek

Reach 1 – Sta. 89+14 Proposed Section Looking Upstream

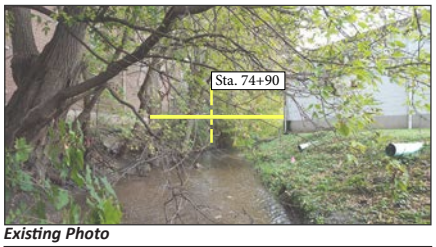


Reaches 2 Through 5 - 7th Avenue Creek

Floodplain Improvements

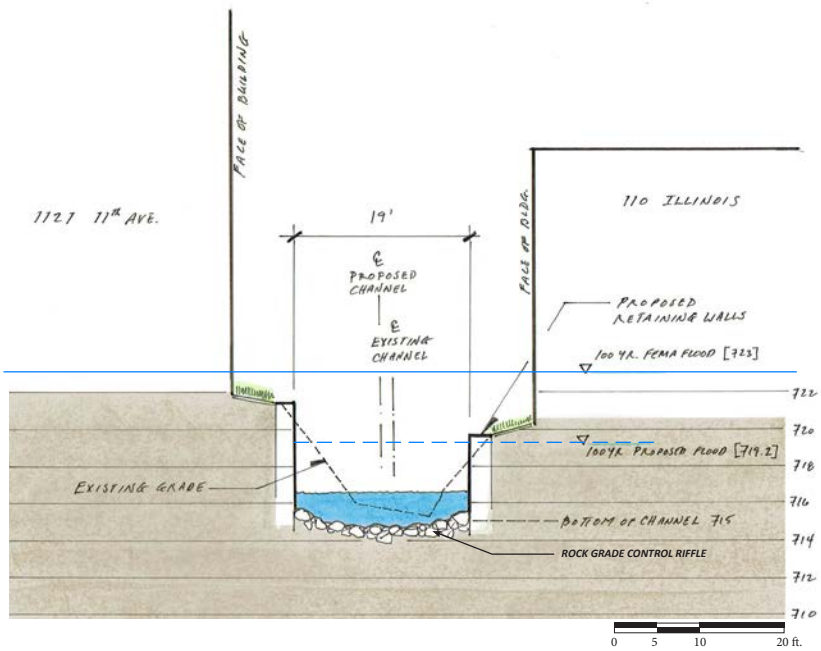


Proposed Plan Key: Reach 2



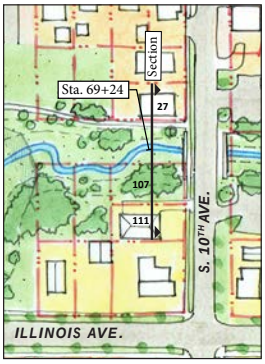
Existing Photo

Aerial Plan Key: Reach 2



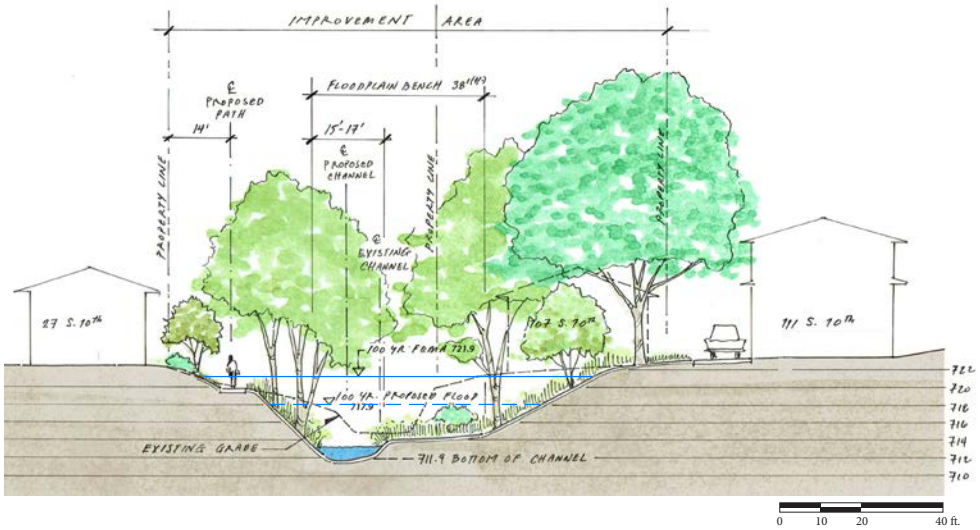
7th Avenue Creek

Reach 2 – Sta. 74+90 Proposed Section Looking Upstream



Proposed Plan Key: Reach 3

Aerial Plan Key: Reach 3

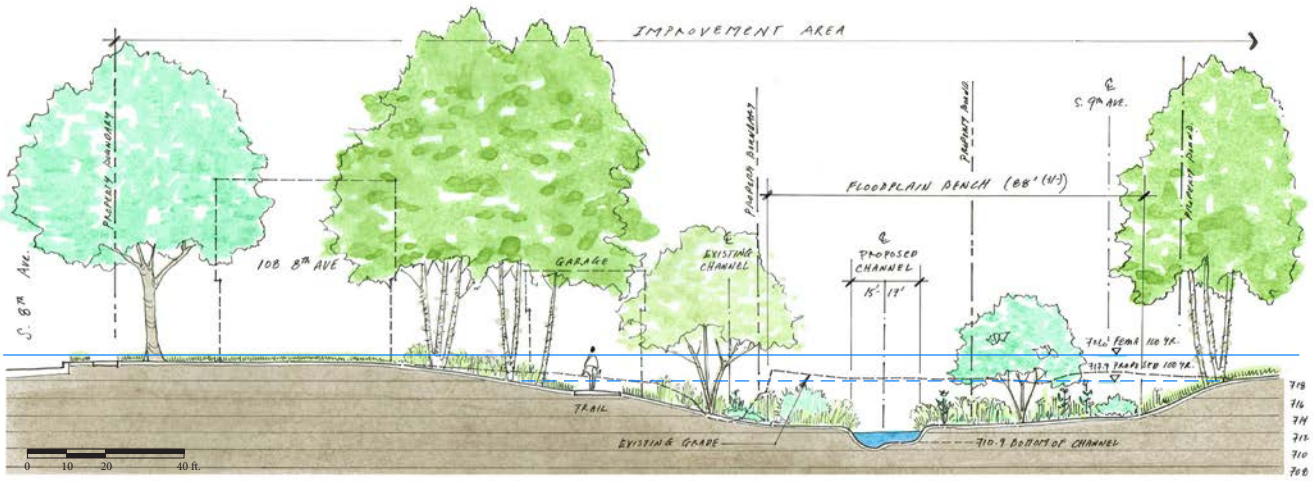


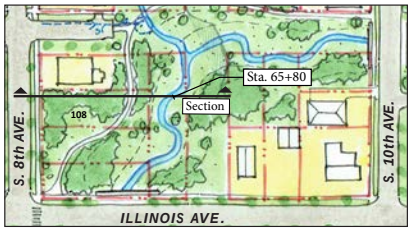
Existing Photo: looking upstream towards right bank

Existing Photo: right bank at 107 S. 10th Ave.

7th Avenue Creek

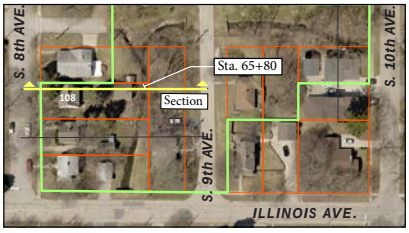
Reach 3 – Sta. 69+24, Proposed Section Looking Upstream





Proposed Plan Key: Reach 5

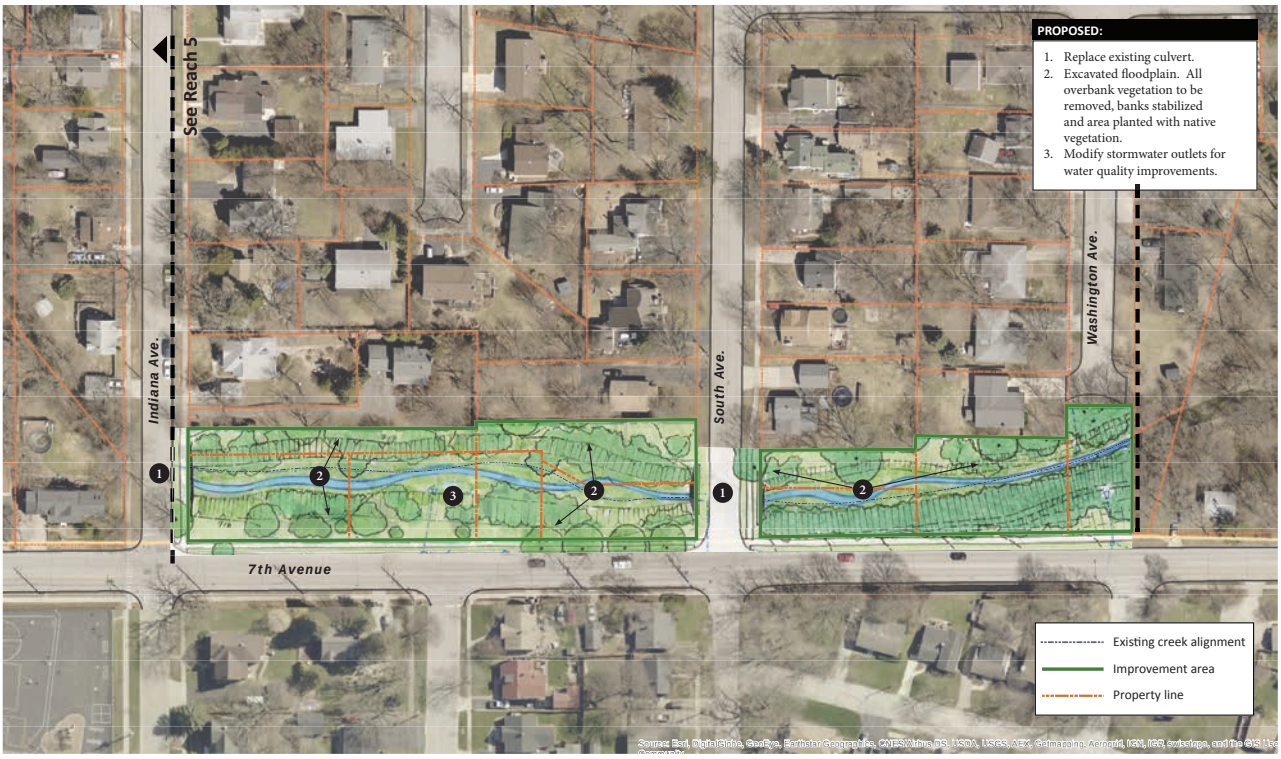
Existing Photo



Aerial Plan Key: Reach 5

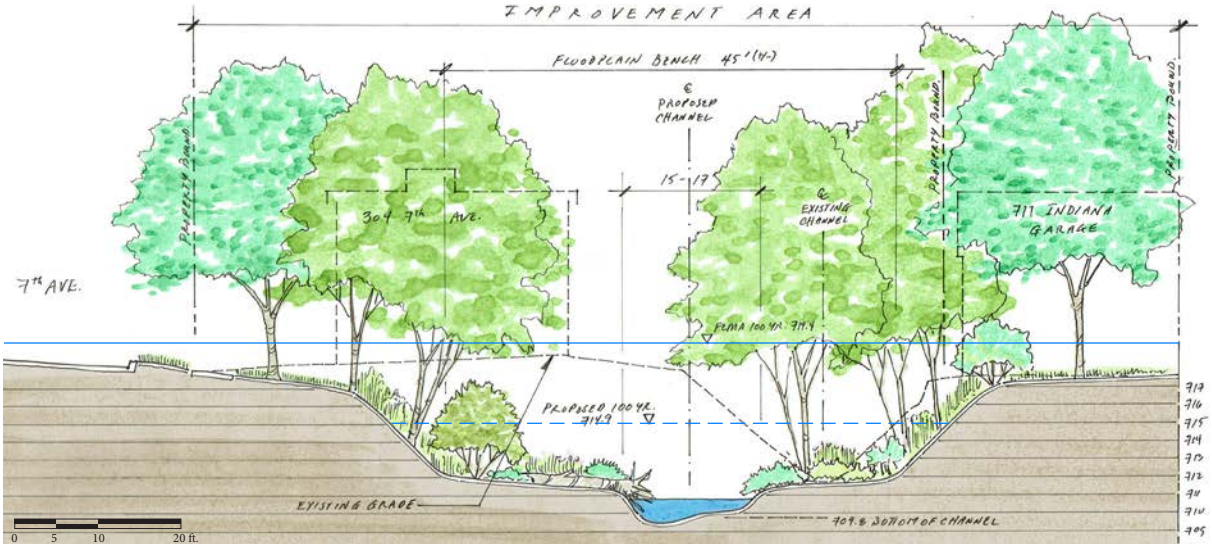
7th Avenue Creek

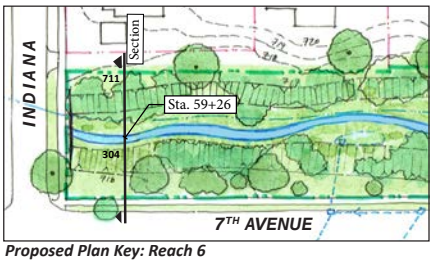
Reach 5 – Sta. 65+80, Proposed Section Looking Upstream



Reach 6 - 7th Avenue Creek

Floodplain Improvements





Proposed Plan Key: Reach 6

Existing Photo

Aerial Plan Key: Reach 6

7th Avenue Creek

Reach 6 – Sta. 59+26, Proposed Section Looking Upstream

March 26, 2021

Subject: Recommendation of HR Green for Engineering Services

To Whom it may Concern:

The City of St. Charles has historical urban flooding issues that were brought to the forefront after large rain events in 2008 and 2013. Our 7th Avenue Creek watershed had a wide range of issues, such as homes experiencing repetitive losses due to floods and streets being overtopped by flood waters due to the fact the neighborhoods pre-date any form of stormwater ordinance or floodplain mapping.

HR Green was contracted by the City in 2015, and has since assisted us with navigating a FEMA map revision, creating a master plan of improvements for the watershed, with goals of flood reduction, revision of flood plain maps to remove 55 residential homes and businesses out of the floodplain, and improve water quality of the creek.

Our first phase of construction improvements for 7th Avenue Creek is underway now. HR Green and City staff worked together to tackle many project challenges that stemmed from the creek physically being on or directly adjacent to private property. Land acquisition certainly shaped our project as we worked to purchase land, easements, or creatively avoid properties altogether as necessary. HR Green even helped the City to obtain over 1.8 million dollars in grant funding toward design and construction!

Our final deliverable from HR Green is a set of construction plans and specifications to be proud of. I would gladly share them if desired. Please consider this letter my written recommendation of services for HR Green for urban flooding solutions. Feel free to reach out to me by phone at 630.377.4418 or email kjay@stcharlesil.gov with any questions.

Sincerely,

Ken Jay

Ken Jay, P.E.
Public Works Manager - Engineering

RAYMOND P. ROGINA *Mayor*
MARK KOENEN, P.E. *City Administrator*
TWO EAST MAIN STREET ST. CHARLES, IL 60174 PHONE: 630-377-4400 FAX: 630-377-4440
www.stcharlesil.gov

HRGreen®

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ENVIRONMENTAL
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CONSTRUCTION