AGENDA
SPECIAL PUBLIC WORKS & UTILITIES COMMITTEE
Village of Hoffman Estates
September 13, 2021

Immediately Following the Transportation & Road Improvement Committee

Members:
Anna Newell, Chairperson
Michael Gaeta, Vice Chairperson
Gary Pilafas, Trustee
Karen V. Mills, Trustee
Gary G. Stanton, Trustee
Karen J. Arnet, Trustee
William McLeod, Mayor

I. Roll Call

NEW BUSINESS

1. Request authorization to award contract for design engineering for the Arizona Boulevard Storm Sewer Replacement Project to Hey and Associates, Inc. of Chicago, IL, in an amount not to exceed $62,755.

II. Adjournment

(Further details and information can be found in the agenda packet attached hereto and incorporated herein and can also be viewed online at www.hoffmanestates.org and/or in person in the Village Clerk's office).

The Village of Hoffman Estates complies with the Americans with Disabilities Act (ADA). For accessibility assistance call the ADA Coordinator at 847/882-9100.

COMMITTEE AGENDA ITEM
VILLAGE OF HOFFMAN ESTATES

SUBJECT: **Request authorization to award contract for design engineering for the Arizona Boulevard Storm Sewer Replacement Project to Hey and Associates, Inc. of Chicago, IL, in an amount not to exceed $62,755.**

MEETING DATE: **September 13, 2021**

COMMITTEE: **Special Public Works and Utilities Committee**

FROM: **Alan Wenderski, Director of Engineering**

PURPOSE: Recommend approval of award of contract for design engineering for the Arizona Boulevard Storm Sewer Replacement Project.

BACKGROUND: The project is located along Arizona Boulevard between Cumberland Street and Carthage Lane. The project need was identified as part of the 2015 Central Area Storm Sewer Analysis.

An Intergovernmental Grant Agreement between the Village and Illinois DCEO was executed in July 2020. The agreement provides $300,000 for construction funding and requires that work is completed by June 30, 2022.

DISCUSSION: Utilizing the prequalified engineering services short list for stormwater design projects, an RFP was sent to six firms (Baxter & Woodman, Christopher B. Burke Engineering, Ciorba, Hey & Associates, HR Green, and V3). Four proposals were received (Ciorba, Hey & Associates, HR Green, and V3) and reviewed by staff. The proposals were evaluated based on their project approach and understanding of the work items, personnel assigned to the project, experience on comparable projects, and project schedule.

Upon review, it was determined that Hey & Associates provided the best overall proposal based on the evaluation criteria above. For the four proposals received, initial costs ranged from $30,000 to $68,000. It should be noted that these initial costs do not fully represent the recommended project scope. The proposed scope and hours for Hey & Associates were reviewed by staff and have been revised per staff comments. The contract, with full scope, hours, and fees is attached. The full design scope will be completed at a not to exceed cost of $62,755.

FINANCIAL IMPACT:
Funds were not budgeted in 2021 for this project as the timing of the release of the State funding was unknown (assumed 2022). Stormwater Utility Funds were budgeted for engineering ($65,000) and construction ($300,000) for the Hermitage Lane Storm Sewer project. As funds associated with the Hermitage project have not yet been released by the State, this work will not occur in 2021. The $65,000 budgeted for Hermitage Lane engineering will be utilized by the Arizona Boulevard Storm Sewer design, with a not to exceed amount of $62,755.

The DCEO Agreement provides $300,000 for construction costs. At this time, estimated construction costs for the project are $650,000. A determination on utilizing in-house staff or consultant assistance to provide construction engineering services for the project will be made in early 2022 based on staff availability. Estimated costs for construction and construction engineering services will be included in the 2022 CIP/Budget.

RECOMMENDATION:
Request authorization to award contract for design engineering for the Arizona Boulevard Storm Sewer Replacement Project to Hey and Associates, Inc., of Chicago, IL, in an amount not to exceed $62,755.

Attachments

Proposal for

ARIZONA BOULEVARD STORM SEWER REPLACEMENT PROJECT

FOR THE

VILLAGE OF HOFFMAN ESTATES

ENGINEERING DIVISION
ATTENTION: MR. ALAN WENDERSKI, P.E.
1900 HASSEL ROAD
HOFFMAN ESTATES, ILLINOIS 60169

SUBMITTED BY

Hey and Associates, Inc.

8755 W. Higgins Rd. Suite 835
Chicago, IL 60631
773-693-9200

August 25, 2021
Revised for Negotiation: 9/8/2021
Hey Project No. 21-0332

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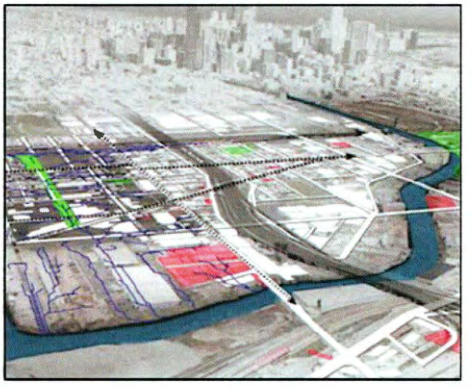

PROJECT UNDERSTANDING

We understand that the Village of Hoffman Estates (Village) is planning to replace a failing CMP sewer located in the rear yards of residential lots along Arizona Boulevard. This type of sewer system is notorious for having these types of issues due to material erosion from flowing sediment and corrosion from roadway deicing salts. Based on a review of the provided request for proposals, questions and answers, and previous work completed by our company, we propose the following Project Approach and Scope that demonstrates our understanding of this project.

1.0 DATA GATHERING

We anticipate conducting the following tasks for data collection and gathering to assist with preliminary and final design to ultimately prepare the Plans, Specifications and Estimates (PSE).

1.1 Topographic and Drainage Survey

We propose to use Claassen, White (CWA) a DBE/WBE firm for survey services. We understand that the Village has conducted survey in the rear yards and has survey shots for ground, sheds, fences, utilities, etc. We would plan on utilizing CWA for either pickup survey as required or for new survey for the areas to be discussed further below. Hey and CWA have been working together recently on IDOT drainage projects, CCDOTH drainage projects, and various municipal stormwater projects. Linework will be created from the point files provided by the Village. We anticipate one site visit as well for observation.

At this time based on the response to questions, we have not included any scope, hours or fees for easement documentation assistance or preparation. If requested, we can provide that information to the Village depending on the final design.

1.2 Sewer Televising Review

The Village has noted that televising was completed in 2015 and that the video will be provided to the consultant upon contract execution. We would plan on reviewing the video to help us further understand the sewer's condition and evaluate options for developing appropriate alternatives. We have previously overseen and reviewed televising video inspections and reports for various municipalities and IDOT and we are knowledgeable in the evaluation of sewers based on video inspections.

1.3 Status of Utilities

We will request a JULIE design stage ticket utility request for the corridor and identify utilities located within the rear yard easement as well as the additional area as noted.

We also would plan on following up with a JULIE request for locates in the rear yards. We would anticipate coordinating with he Village to be on-site with the various utility companies for the in-field marking. Given the stated challenges and issues of potential utilities in the rear yards, our previous experience has shown that conducting a preliminary meeting and on-site discussion with the utility locators can be extremely beneficial to understanding the utility issues, depths, and potential protection or relocation needs.

We will continue to coordinate with the utility companies by providing engineering plans for their use and review for possible relocation and/or protection needs.

1.4 Geotechnical and Soil Testing

We are proposing to use Midland Standard Engineering & Testing, Inc. (MSET) to conduct 6 soil borings (if needed) to a depth of 15 feet through all pavement layers with subgrade soil probes. Laboratory testing will be completed to determine soil strength and moisture content. Boring holes will be patched with bituminous cold patch. Pavement layers will be measured and logged.

But in addition, we recommend at a minimum conducting soil sampling and testing for CCDD certification and we plan to do that for the construction area.

A summary report will be prepared that includes all boring logs, soil conditions, ground water levels, recommendations for storm sewer construction and results of soil testing for CCDD certification.

1.5 Permit Identification and Agency Coordination

At this time there does not appear to be any wetlands or mapped floodplain within the current proposed project limits. We anticipate that proposed work under this project would fall under the installation of utilities other than qualified sewers and

would not require a MWRDGC WMO permit. However, if sanitary sewers would need to be relocated as part of the project, that would trigger a WMO permit.
We are assuming that the Village will assist Hey and provide input on any tree replacement requirements for the project as well as assistance in helping residents with re-installing any property components (e.g. fences, sheds, garden areas, etc.) that would be temporarily impacted by construction.
At this time we do not anticipate any other permitting requirements based on the size and scope of the project.

2.0 Preliminary Engineering Phase
As noted in the RFP, the Village is planning on replacing the failing CMP sewer in the rear yards along Arizona Boulevard. Based on our experience with sewers running through yards with other municipalities, we would highly recommend investigating an alternative route that would put the storm sewer in Village Right-of-Way (ROW) even though the existing sewer is located in a 15-foot wide utility easement.

Challenges to removing and replacing this sewer likely include:

- Construction access and movement: Very tight corridor will make it extremely challenging for a contractor to move materials in and out of the corridor given the likely constraints of adjacent property items such as fences, sheds, etc. In addition, overhead utilities will make it hard to move materials efficiently and quickly.
- Utilities: Although it appears that the utility poles are likely located on the south side of the easement, overhead lines will create a tight vertical and horizontal window for movement of materials and installation of the sewer. Cursory review of street view imagery also shows some fairly low hanging utilities on the poles which will likely require slower construction due to the need to protect and avoid the utilities. In addition, the street view imagery review also indicates that there is some combination of overhead and underground utility service lines to the homes. Underground lines will need to be located explicitly and protected during construction which may also slow the process down. Given the current societal conditions, there is likely a larger contingent of residents that may be working from home at the time of construction and disruption to their electrical or telecommunication services may impact their livelihood.
- Residential property: There appears to be a variety of private use of the easement area including sheds, vegetation, recreation, fences, etc. that would require the owner to temporarily relocate for construction. The Village will have to coordinate with multiple owners and ensuring that and temporary impacts are replaced in-kind.

Potential Benefits for a Re-Routed Storm Sewer System may include:

- Construction Access: Contractor could efficiently work within Village ROW without the hassle of private utilities crossings and challenging material movement and installation. A sewer installed in the Village ROW outside of the curb line in the parkway may allow for most of the construction to avoid roadway pavement removal and replacement. This may also speed up the construction which is important given the tight deadline for the grant funding.
- Utilities: Although there are sanitary sewers, sanitary service lines, water mains and water service lines shown in the Village ROW, these utilities are typically easier to expose and relocate while trenching the sewer rather than trying to hand excavate around small utility service lines (i.e. telecoms, electric, etc.)
- Future maintenance: Even though the existing sewer is in an easement, access to it will still be challenging in the future for inspections, cleaning and repairs, Given the current conditions, there is a chance that a resident may inadvertently damage a sewer in the easement while doing their own work.

Based on the site survey and other data gathering and review, we will prepare an alternative evaluation including concept plans and costs for review. We anticipate sharing the results with the Village and proceeding evaluation of alternatives which may include:

1. Replacing the sewer in-place in the existing easement
2. Re-route the sewer flowing through the rear yards to flow within Village ROW (see the attached exhibit as an example)
    2.a. Add small storm sewer system to collect rear yard drainage
    2.b Re-grade existing swale in the easement to ensure positive drainage and add short segment of storm sewer to collect runoff at Carthage

We will evaluate up to 3 alternatives based on site data collected and discussions with the Village and prepare concept plans and cost estimates for the Village to review in conjunction with a brief technical memorandum. Following the Village's review of alternatives, we will provide a final alternative recommendation and proceed with the preparation of preliminary (30%) engineering plans, specifications and estimates. No hydraulic modeling is anticipated as part of this project. Work may include providing a concept plan for the rear yards that could be designed at a later date.

3.0 Permit Applications

At this time, we do not believe an MWRDGC WMO permit or other permits are required. If it is determined that a permit is required, we will coordinate with the Village and Hey can provide additional scope / hours as necessary.

4.0 Plans, Specifications & Estimates (PS&E)

Following the completion of preliminary engineering (30%) PS&E and Village review, we will proceed with preparing PS&Es for the following milestones 60%, Pre-Final (90%), and Final (100%) so that the Village can provide input into and review of the design throughout the process. We will prepare plans and specifications in accordance with Village guidelines and it is assumed that IDOT style plans, quantities, standards and pay items will be used to the extent practicable.

Our typical plan set for this type of work typically includes: Cover Sheet, General Notes / Legend, Summary of Quantities, Alignment and Ties, Typical Sections, Existing Conditions, Demolition, Drainage / Utility Plan & Profile, Soil Erosion and Sediment Control, Restoration and Landscape Plans, and Details. Specifications (or Special Provisions) will typically be provided as a list for 60% and written documents for subsequent submittals. Based on the engineering plans, Hey will provide a summary of quantities and an opinion of probable cost for the milestone submittals.

We will also have an explicit Status of Utilities sheet and/or Special Provision to aid the Contractor and utility coordination will be included in the PS&E preparation.

Following milestone submittals, we would anticipate the Village to provide review comments which would be addressed in the subsequent submittal.

We anticipate have 100% PS&Es completed by January 14, 2022 for an anticipated February bid opening.

5.0 Construction Documents and Bidding

We will assist the Village with final construction bid documents, special provisions, additional permitting coordination, response to potential bidder's questions, bid tab analyses, and award recommendations. We will prepare PDF formats of bid documents but assume that the Village will provide front-end contractual forms as necessary and that Hey assistance will be minimal

6.0 Project Management and Meetings

Hey will conduct project management and communication to ensure the project's success. In addition, we anticipate up to providing a minimum of bi-weekly status update emails as well as up to 2 either in-person or virtual meetings (kickoff and an alternative evaluation meeting). No meetings are anticipated for milestone reviews and that all reviews will be provided by the Village to Hey in electronic format.

7.0 Construction Phase Services

It is our understanding that the Village will be handling construction phase services but has requested that Hey provide an allowance for providing assistance if needed during construction.

FIRM EXPERIENCE / PAST PERFORMANCE

As requested in the RFP, a table of recent projects and references of similar work is provided below.

Project Name	Brief Scope	Project Manager	Contact Information
Niles Sewer Projects • Cleveland Relief Sewer • Howard St Relief Sewer • Greenwood Stormwater Basin	**Scope:** Hey was retained to prepare construction documents for two relief sewer corridor projects (Cleveland and Howard) which included over 8,500 feet of 24- to 72-inch storm sewer. Other work included sewers, roadways, watermain, traffic signals and permitting. Greenwood Stormwater Basin included over 14 ac-ft of storage and over 3,500 feet of new storm sewer. **Role/Responsibility:** Hey was the lead engineer for this project and was responsible for construction plans, specifications, cost estimates, permitting, permitting, and other infrastructure improvements **Unique Project Information:** Researched and ultimately obtained over $2 million in cost reimbursement funds and grants. Applied and received IEPA SRF Loan. Public outreach and coordination with stakeholders and residents. New storm sewer in a combined sewer area to improve water quality and reduce risk of basement backups. Obtained MWRD Phase II stormwater funding.	Tom Powers, PE	Village of Niles Tom Powers, PE 847-588-7900 tjp@vniles.com
IDOT Various-Various Hydraulic Studies and Drainage Investigations	**Scope:** Beginning in 2008 and continuing with a new contract in 2021, Hey was hired under four separate work order based contracts for conducting variety of drainage studies and remedial drainage design. Work included hydraulic and scour analyses, sewer design, compensatory storage design, sewer televising / cleaning and other drainage investigations **Role/Responsibility:** Hey was the lead engineer for this project and was responsible for preparing hydraulic reports, location drainage studies, drainage investigations, coordinating sewer televising / cleaning, preparing design plans and specifications and permitting. **Unique Project Information:** Coordinating multi-jurisdictional storm sewer systems. Evaluating cost effective remedial alternatives that limited impacts to existing roadways and infrastructure. As part of these contracts, Hey was also responsible for forensic sewer mapping, light and heavy cleaning, root cutting and televising of storm sewers. Hey retained subcontractors to assist with the cleaning, which typically includes televising. Hey provided full-time field observation of the activities, provides written summary reports and makes recommendations for follow-up work.	Perry Masouridis, PE	IDOT District 1 Perry Masouridis, PE 847-704-4474 Eleftherois.masouridis@illinois.gov
Debolt-Linden-Gierz Drainage Study and Design	**Scope:** Hey was hired to prepare a stormwater study and construction documents for improved sewer and watermain services including over 5,800 feet of storm sewer. Roadway designs were updated to match Village standards. **Role/Responsibility:** Hey was the lead engineer for this project and was responsible for construction plans, specifications, cost estimates, permitting, permitting, and other infrastructure improvements **Unique Project Information:** Prequalified with the Village for this work. Developed staged construction plans. Utilized XP-SWMM for drainage analysis.	John Welch, PE, CFM	Village of Downers Grove John Welch, PE, CFM 630-434-5494 jwelch@downers.us

FIRM EXPERIENCE / PAST PERFORMANCE (CONTINUED)

Project Name	Brief Scope	Project Manager	Contact Information
Roberts Road Drainage Improvements Preliminary Engineering	**Scope:** MWRD hired Hey to conduct preliminary engineering for the Roberts Road drainage system improvements in Palos Hills. Work includes detailed data collection, hydraulic modeling, alternative analysis, and preliminary engineering plans for two large storm sewer relief pipes connecting Roberts Road to the Lucas Diversion Ditch. Deliverables include preliminary plans, specifications, cost opinions and a project report. Final engineering would follow completion of this phase. **Role/Responsibility:** Hey was the lead engineer for this project and was responsible for GIS analyses, XP-SWMM modeling, alternative analysis, cost opinions, plan development, and reporting. **Unique Project Information:** Interim project improvements are part of a larger master plan. Improvements designed to cause no increase in damages in the interim conditions. Detention storage evaluation to offset increased flow conditions.	Dylan Cooney, PE	MWRDGC Dylan Cooney, PE 312-751-4041 cooneyd@mwrd.org
Pulaski Drive Drainage Improvements	**Scope:** Hey and Associates, Inc. (Hey) was retained by the Lake County Division of Transportation to prepare a Phase I assessment of drainage issues at the headwaters of the Skokie River at Pulaski Drive. The Skokie River begins at the Green Belt Forest preserve just north of Pulaski Drive, an LCDOT roadway. Drainage upstream of the embankment and in the right-of-way has been hampered by an aging 30-inch drain tile under the roadway. The East Skokie Drainage District had recently day-lighted the tile to a natural channel just downstream of the roadway. The LCDOT project replaced the failing tile under the roadway with a new 60-inch storm sewer, that was bored and jacked under the approximately 20-foot tall embankment to minimize cost and traffic disturbance. The project also included abandonment of a 96-inch CMP cattle crossing under the road, which conveyed flow in large storm events. **Role/Responsibility:** Hey prepared detailed hydrologic and hydraulic modeling to support the design. Hey also prepared documentation for permitting through the USACE and Lake County **Unique Project Information:** Performed modeling. Design included boring and jacking of storm sewer.	Philip Ruiz	Lake County DOT Philip Ruiz 847-377-7461 pruiz@lakecountyil.gov

PROJECT TEAM

As requested, we have provided 1-page resumes for three key staff:
Patrick Lach, PE, CFM—Project Manager
Todd Thorholm, PE—Civil Engineer V
Anna Culcasi, PE—Civil Engineer V
Kyle Solner, EIT—Civil Engineer IV
Meghan Adams, EIT—Civil Engineer II

We have additional Civil Engineers in the Grade I through Grade V range that could work on this project in addition to the above staff in order to meet the anticipated schedule.

Patrick M. Lach, P.E., CFM

Senior Civil Engineer/Project Manager

Mr. Lach has 19 years of water resources and civil engineering experience and management, is a registered professional engineer, a certified floodplain manager and recently served as President of the Illinois Section of the American Society of Civil Engineers. He currently serves as a Senior Civil Engineer for Hey and Associates and is responsible for civil engineering staff in the Chicago office. His areas of expertise include civil and site design, stormwater infrastructure design, green infrastructure planning and design, and hydrologic and hydraulic modeling practices. He has extensive experience in developing design plans, specifications, cost estimates, and construction observation for civil engineering and water resources projects.

Education

B.S., Civil Engineering, University of Notre Dame, Notre Dame, Indiana, 2001

Previous Employment

Drainage Engineer, HDR Engineering, Inc., Chicago, Illinois, 2005-2007

Civil Engineer, Camp, Dresser & McKee, Inc. (CDM), Chicago, Illinois, 2001-2005

Registration & Certification

IL Professional Engineer, No. 062-058745

WI Professional Engineer, No. 39017-006

MI Professional Engineer, No. 6201053889

IN Professional Engineer, No. PE10809287

IL Certified Floodplain Manager, IL-10-00569

Qualified Engineer Review Specialist, E-0189 Kane County

Representative Projects

Metropolitan Water Reclamation District of Greater Chicago – Addison Creek Channel Improvements Final Engineering, various municipalities in Cook County, Illinois. Mr. Lach managed the project team to develop construction documents, permits, and cost estimates for channel conveyance improvements, gabions, soldier pile walls, civil infrastructure, utilities, and recreational park improvements.

Metropolitan Water Reclamation District of Greater Chicago – Buffalo Creek Reservoir Expansion, Buffalo Grove, Illinois. Mr. Lach prepared hydrologic and hydraulic analyses for design, prepared grading plans, designed grade control for tributary streams, developed detailed cost opinions, prepared permit applications and prepared an update to the Emergency Action Plan (EAP).

Cook County Department of Transportation and Highways – Hydraulic and Wetlands Services, Cook County, Illinois. Mr. Lach served as the project manager and completed hydraulic reports, location drainage studies, drainage design plans, wetland delineation reports, while also reviewing highway permit submittals and obtaining permits for construction.

Metropolitan Water Reclamation District of Greater Chicago – Roberts Road Drainage Improvements Preliminary Engineering, Palos Hills, Illinois. Mr. Lach managed and oversaw the hydraulic modeling, storm sewer design, preliminary engineering plans and specifications to reduce the risk of urban flooding.

Village of Carol Stream – Kehoe Blvd. Streambank Stabilization, Carol Stream, Illinois. Mr. Lach prepared design plans, pool and riffles, and permitting to stabilize an eroding stream between Kehoe Blvd. and private commercial property.

City of Elmhurst – Police Department Green Infrastructure Plan, Elmhurst, Illinois. Mr. Lach successfully prepared a DuPage Water Quality Improvement Program grant and prepared design plans for the construction of a bioinfiltration rain garden facility as part of the first phase of a green infrastructure plan for the property.

Village of Downers Grove – Debolt / Linden / Gierz Drainage Improvements, Downers Grove. Mr. Lach oversaw hydrologic and hydraulic XP-SWMM model development and assisted with alternative developments.

Village of Niles — Relief Sewer and Storage Basin Design, Village of Niles, Illinois. Mr. Lach prepared plans and specifications for sewer designs, detention basin grading, site restoration, and utility relocation.

Village of Niles – Illinois Green Infrastructure Grant (IGIG) Design Services, Niles, Illinois. Mr. Lach conducted hydraulic modeling and prepared final design for a bioinfiltration facility to alleviate flooding in a combined sewer area.

Todd C. Thorholm, P.E.

Civil Engineer V

Mr. Thorhom has 24 years of civil engineering design and management experience involving municipal, commercial and residential projects in Illinois and across the country and is currently working in the Chicago office. His areas of expertise include site design, grading plans, earthwork, utility design, hydrologic and hydraulic modeling, water resources design, pavement condition inspections and pavement design, cost estimating, and specification preparation. He also has understanding of the Americans with Disabilities Act (ADA) guidelines for site accessible routes and parking. He received his Bachelor of Science in Civil Engineering from Iowa State University and is a licensed professional engineer in the State of Illinois.

Education

B.S., Civil Engineering, Iowa State University – 1995

Previous Employment

Senior Project Engineer, Zimmer Consultants, Ltd., Oakbrook, Illinois, March 2011 – October 2013

Project Manager, Greengard, Inc., Lincolnshire, Illinois, January 2006 – January 2009

Project Manager, Manhard Consulting, Ltd., Vernon Hills, Illinois, November 1996 – January 2006

Civil Engineer, Johnson, Johnson, & Roy, Chicago, Illinois, July 1995 - September 1996

Summer Intern, Illinois Department of Transportation, Schaumburg, Illinois, May 1994 – August 1994

Registration & Certifications

IL Professional Engineer, No. 062-054239

IDOT S-14 Documentation of Contract Quantities Cert. No. 20-16729

Representative Projects

Village of Niles - Niles Engineering Reviews, Niles, Illinois; Conduct engineering reviews and site inspections for developments (other than single family) for compliance with municipal site design regulations. Inspections included storm and sanitary sewer construction, watermain, detention and water quality facilities, erosion control, and site grading. As an Authorized Municipality, reviewed plans per the Cook County Watershed Management Ordinance on behalf of the MWRD and issued WMO permits.

Village of Niles - Tier 1 Final Engineering Design, Niles, Illinois. Design and plan preparation for the development of final engineering solutions to mitigate flood damages in separate and combined sewer areas in the Village of Niles.

Village of Niles—Greenwood Stormwater Basin, Niles, Illinois. Design, plan preparation, cost estimating, preparation of project specifications, and permitting for a proposed stormwater storage basin, permeable paver roadway/parking, watermain extension, and new storm sewer to mitigate flooding in residential and commercial areas.

Village of Niles - Oak Park Bioswale and Permeable Pavement, Niles, Illinois. Design and plan preparation for a proposed bioswale adjacent to a public park and removal of parking lot asphalt pavement and replacement with Spancrete Replenish permeable pavement.

Illinois Department of Transportation - IL 53/IL 68 Improvements (PTB 175-015), Palatine, Illinois. Design and preparation of drainage and utility sheets for a Phase II highway improvements project involving new raised medians, intersection improvements and lane widening including storm sewer design and utility coordination.

Village of Downers Grove — Debolt, Linden, and Gierz Storm Sewer Improvements. Design of drainage and infrastructure improvements including new storm sewer, reconstruction of an alley with drainage gutters, ADA sidewalk improvements, and a water main extension.

Cook County Division of Transportation and Highways—Drainage and utility plan reviews of private development work within Cook County highway rights-of-way and public improvements to or involving Cook County highways.

Metropolitan Water Reclamation District of Greater Chicago - Addison Creek Channel Improvements, Cook County, Illinois. Design and plan preparation for channel widening and improvement project including water main lowering and relocation, storm sewer outfall improvements, realignment of sanitary sewers, inverted siphons, and new residential roadways.

Anna Culcasi, P.E., CFM

Civil Engineer

Ms. Culcasi has 17 years of professional experience in civil and water resources engineering. Her areas of expertise include hydrologic and hydraulic modeling practices and stormwater infrastructure design. She has experience in developing design plans, specifications, and cost estimates for water resources projects, as well as performing hydrologic, hydraulic, and floodplain mapping studies. She is proficient in a variety of advanced engineering modeling software programs including XPSWMM, HEC-HMS, HEC-RAS, and GIS. She received her Bachelor of Science in Civil/Environmental Engineering from Michigan State University.

Education

B.S., Civil Engineering, Michigan State University, 2004

Previous Employment

Water Resources Engineer, Michael Baker International, Inc., Chicago, IL, 2007- 2017

Drainage Engineer, Teng and Associates, Chicago, Illinois, 2004-2007

Engineering Co-op Student, Kane County Division of Transportation, St. Charles, Illinois January 2000-August 2000, May 2001-December 2001

Registrations & Certifications

IL Professional Engineer, No. 062-061194

IL Certified Floodplain Manager, No. IL-08-0385

Presentations & Publications

Get Digital! – New and Easy Tools for FEMA Flood Data. ASCE/SAME Engineering Conference, Davenport, Iowa 2009.

Progressive Stormwater Programs Across the Nation. IAFSM Conference, Tinley Park, IL 2010.

Stream Restoration Design and Implementation in Urban Environments. IAFSM Conference, Normal, IL 2011.

2D Thinking with 1D Models: An Overview of Delaware County, IA Hydraulic Modeling and the Resulting Floodplain. IAFSM Conference, Normal, IL 2013.

Improving Water Quality in Watersheds. IAFSM Conference, Normal, IL 2013.

Representative Projects

Metropolitan Water Reclamation District of Greater Chicago – Preliminary Engineering for Roberts Road, Palos Hills, IL. Updated and analyzed XP-SWMM alternative models for storm sewer relief sewers, and overseeing preparation of preliminary design plans.

Metropolitan Water Reclamation District of Greater Chicago – Preliminary and Final Engineering for Buffalo Creek, Buffalo Grove, IL. Updated a HEC-RAS unsteady dam breach model, oversaw the inundation area mapping for the dam breach scenario, and developed the dam emergency action plan.

Ozinga Logistics and Materials— Lemont Phase 1, Lemont, IL. Served as project manager and lead engineer responsible for design plans, cost estimates, and MWRD and local permit applications for construction of a concrete pad and detention pond.

Lake County Parks and Recreation Department – Bellaboos Outdoor Discovery Center, Gary, IN. Served as a project engineer to prepare the utility design, detention design, and prepare the stormwater and sanitary permit applications.

City of Chicago – Chicago Resilient Corridors Design, Chicago, IL. Served as a project engineer to prepare civil design sheets, details, and quantities.

Chicago Public Schools – Space to Grow, Nathan Davis, Chicago, IL. Served as a project engineer to design the stormwater elements including storage chambers and infiltration under play surfaces, and prepared the Chicago Stormwater Permit Application.

Hanover Township – Izaak Walton Reserve, Elgin, IL. Served as a project engineer to complete the stormwater design and permitting for the Izaak Walton Reserve Trail Improvement, which will add recreational opportunities for the local community, while preserving wetlands, natural drainage features, and the Poplar Creek Floodplain and Floodway.

Cook County Department of Transportation and Highways – Hydraulic and Wetlands Services, Cook County, Illinois. Served as the project engineer and completed drainage investigations, while also reviewing highway permit submittals and obtaining permits for construction.

Illinois Department of Transportation— Various Drainage Studies, Bensenville, IL. Lead engineer responsible for XPSWMM modeling, concept plans, and drainage report along IL Route 83.

Kyle Solner, EIT

Civil Engineer IV

Mr. Solner graduated with a Bachelor of Science in Civil and Environmental Engineering in 2016 from the University of Illinois at Urbana-Champaign, where he was an active participant on project teams for the Water Environment Federation-American Water Works Association and U.S. Green Building Council student chapters. He has since served as a Civil Engineer for Hey and Associates, Inc. in Chicago, where he has acquired diverse water resources and civil engineering experience in areas such as site design, utility design, grading plans, earthwork, surveying, and development of construction plans and specifications. He is proficient in AutoCAD Civil 3D and has worked on a multitude of municipal, commercial, and residential projects in Illinois, Wisconsin, and Indiana.

Education

B.S., Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL 2016

A.S., Engineering Science, College of Lake County, Grayslake, IL 2013

Previous Employment

Environmental Engineering Intern, CDM Smith, Chicago, Illinois, June 2015-August 2015

Representative Projects

Metropolitan Water Reclamation District of Greater Chicago — Addison Creek Channel Improvements Final Engineering, various municipalities in Cook County, Illinois. Design and planning for an estimated $45 million of channel conveyance improvements, gabions, soldier pile walls, civil infrastructure, utilities, and a recreational park improvements, regularly utilizing AutoCAD Civil 3D Site Design tools, Pipe Networks, and Corridors , in addition to assisting with obtaining proposed easements, drafting plans, permitting, and preparing cost estimates.

Village of Niles — Greenwood Basin Final Engineering, Niles, Illinois. Site design, detailed grading, and complex earthwork volume analysis performed in AutoCAD Civil 3D for 5-acre park to add new pond with .

Chicago Public Schools — Sayre, Neil and Evers Elementary Schools, Chicago, Illinois. Served as project manager and lead engineer responsible for overseeing design plans, specifications, and City of Chicago permit applications for playground replacement and various overall site improvements.

Metropolitan Water Reclamation District of Greater Chicago — Roberts Road, Palos Hills, Illinois. Assisted with hydraulic analysis of alternative models for storm sewer relief sewers.

Village of Carol Stream — Kehoe Boulevard Streambank Stabilization, Carol Stream, Illinois. Designed channel improvements, developed plans, and provided engineering oversight of project components.

West Pullman School Redevelopment Limited Partnership — West Pullman School Redevelopment, Chicago, Illinois. Developed plans and aided in the exterior site planning and grading, storm sewer design, and permitting for the conversion of the historic West Pullman Elementary School building into a senior housing complex.

Chicago Department of Planning and Development — 5th Avenue Resilient Corridors, Chicago, Illinois. Assisted in design plans development for site improvements to vacant property at 5th Avenue and South Sacramento Boulevard in Chicago.

Village of Downers Grove — Debolt-Linden-Gierz, Downers Grove, Illinois. Conducted site survey and used AutoCAD Civil 3D to develop the base model for the project area and design 6,000-feet of new storm sewer to improve drainage.

Illinois Department of Transportation — Hydraulic Studies and Drainage Investigation, Northeastern, Illinois. Assisted in development of concept plans in MicroStation for drainage improvements at various sites as directed by IDOT.

Meghan A. Adams, EIT

Civil Engineer

Ms. Adams graduated with a Bachelor of Science in Environmental and Ecological Engineering in 2018 from Purdue University, where she worked on green infrastructure projects and was an active participant in the Society of Environmental and Ecological Engineers. Before beginning at Hey and Associates, Inc. in Chicago, she worked on a variety of stream and wetland mitigation projects in Kentucky and the surrounding states, where she gained diverse water resources and engineering experience in areas such as natural channel design, grading plans, stormwater pollution prevention plans, surveying, and construction plan development. Since joining Hey as a Civil Engineer, she has continued to develop these skills, as well as her abilities in AutoCAD Civil 3D and ArcGIS, on projects in and around Illinois.

Metropolitan Water Reclamation District of Greater Chicago – Additional Articulated Concrete Block Repairs for Buffalo Creek, Buffalo Grove, IL. Created the plans, grading, and design for the proposed replacement of Articulating Concrete Block mats around the Buffalo Creek reservoir and dam.

City of Elgin - Hawthorne Hill Nature Center Pond Outlet Concepts Evaluation, Elgin, Illinois. Aided in the creation of site and grading plans, concept designs, and the summary memorandum for various potential solutions to reduce the occurrence of flooding within the park.

DuPage County Division of Transportation – Landscape Design and Construction Management Services, DuPage County, Illinois. Completed daily fieldwork and inspections on the multi-year, county-wide contract to provide landscape architecture services and coordinated with landscape contractors.

Metropolitan Water Reclamation District of Greater Chicago - Roberts Road, Palos Hills, Illinois. Performed site reconnaissance in order to locate existing ditches, manholes, and utility lines, in addition to verifying the feasibility of various project alternatives in the field.

Village of Carol Stream - Kehoe Boulevard Streambank Stabilization, Carol Stream, Illinois. Designed channel improvements, developed plans, performed a quantity take-off and preliminary cost opinion, and compiled JULIE information for the rehabilitation of a roadside stream.

Village of Downers Grove - Stormwater Master Plan, Downers Grove, Illinois. Developed a shapefile inventory in ArcGIS in order to visualize the locations of existing hydraulic and hydrologic models within the village.

Cook County Department of Transportation and Highways - Joe Orr Wetland Mitigation, Lynwood, Illinois. Created existing and proposed conditions exhibits in ArcGIS for the re-establishment of a wetland system in an existing agriculture field.

Village of Orland Park – Village Center, Orland Park, Illinois. Developed the site plans for the landscape and hardscape improvements at the Village's municipal center complex.

Village of Niles - Niles Greenwood Soccer Field, Niles, Illinois. Created a grading plan based on standard soccer field drainage patterns and slope requirements.

Park District of Highland Park - Community Park, Highland Park, Illinois. Conducted site survey and set control points and benchmarks throughout the proposed park.

Education

Environmental and Ecological Engineering, Purdue University, 2018

Previous Employment

Staff Engineer, Redwing Ecological Services, Inc., Louisville, KY. May 2018—July 2019

Honors & Awards

Milwaukee Metropolitan Sewerage District 2020 Green Infrastructure Overpass Contest Finalist

Registration & Certifications

EIT, License No. ET31800180

Professional Membership & Service

Society of Environmental and Ecological Engineers, 2015-2018

SCOPE OF SERVICES WITH HOURS AND FEES

A detailed scope of services is provided in the previous section under the Project Approach.

We understand the need for a prompt and efficient design and construction due to the grant funding deadline of June 2022. As previously discussed, this project has challenges and we feel it is important to first evaluate all options prior to proceeding with replacement in-kind at the same location. There may a variety of challenges associated with this project and we would plan on working with the Village to best address them in the required timeframe for the grant funding.

We would plan on providing a minimum of bi-weekly status update emails in conjunction with up to 4 meetings.

A detailed breakdown of hours and cost is provided on the following page.

Hey and Associates, Inc.

Village of Hoffman Estates
Arizona Boulevard Storm Sewer Replacement Project - Design Engineering Services - Plans, Specifications & Estimate of Cost
Scope of Services with Hours and Fees

		Lach - Project Manager	Thorholm / Culcasi - CE V	Solner - CE IV	Adams - CE II	Wickenkamp - QAQC	CAD Tech	Total Hours	Labor	Reimbursable Costs	CWA (Survey) (See Note 2)	MSET (Geotech)	Cost of Task	Totals
Task	**Description**	$170	$150	$135	$125	$175	$100							
1	**Due Diligence**													**$ 16,980**
	Topographic and Drainage Survey and CAD			1	6		16	23	$ 2,485	$ 50	$ 7,500		$ 10,035	
	Sewer Televising Review		1		2			3	$ 400				$ 400	
	Status of Utilities		2		8			10	$ 1,300				$ 1,300	
	Geotechnical and Soil Testing		1					1	$ 150			$ 4,795	$ 4,945	
	Permit Identification and Agency Coordination		2					2	$ 300				$ 300	
2	**Preliminary Engineering Phase**													**$ 8,300**
	Alternative Evaluation	1	5	2	16			24	$ 3,190				$ 3,190	
	Preliminary PS&E		3	6	20	2	10	41	$ 5,110				$ 5,110	
3	**Permit Applications**													**$ -**
	None anticipated							0	$ -				$ -	
								0	$ -				$ -	
4	**Plans, Specifications & Estimates**													**$ 32,465**
	60% Plans					4		4	$ 700				$ 700	
	Cover Sheet						2	2	$ 200				$ 200	
	General Notes / Legend						2	2	$ 200				$ 200	
	Summary of Quantities		2				2	4	$ 500				$ 500	
	Alignment & Ties						2	2	$ 200				$ 200	
	Typical Sections		2	4	2		2	10	$ 1,290				$ 1,290	
	Existing Conditions				4		4	8	$ 900				$ 900	
	Demolition		1	2	12		4	19	$ 2,320				$ 2,320	
	Drainage & Utility Plan and Profile	1	2	12	8		2	25	$ 3,290				$ 3,290	
	SESC				4		2	6	$ 700				$ 700	
	Restoration & Landscape Plan		2	4			2	8	$ 1,040				$ 1,040	
	Details	1	4	8			1	14	$ 1,950				$ 1,950	
	Pre-Final Plans (all sheets as noted in 60%)	1	8	18	18	2	4	51	$ 6,800				$ 6,800	
	Final Plans (all sheets as noted in 60%)	1	3	6	6	2	4	22	$ 2,930				$ 2,930	
	Specifications / Special Provisions	2	6	4		1		13	$ 1,955				$ 1,955	
	Quantities and Cost Estimate	2	6	4	16			28	$ 3,780				$ 3,780	
	Utility Coordination		4		12			16	$ 2,100				$ 2,100	
	Comment Response	1	6	4				11	$ 1,610				$ 1,610	
5	**Construction Documents and Bidding**													**$ 1,640**
	Assistance as required (minimal anticipated)	1	8	2				11	$ 1,640				$ 1,640	
								0	$ -				$ -	
6	**PM and Meetings**													**$ 3,370**
	Project Management	4						4	$ 680				$ 680	
	Meetings (Assume 2 - Kickoff and Alternative Evaluation)	4	6	6				16	$ 2,390	$ 300			$ 2,690	
	Totals:	**19**	**74**	**83**	**134**	**11**	**59**	**380**	**$ 50,110**	**$ 350**	**$ 7,500**	**$ 4,795**	**$ 62,755**	**$ 62,755**

Optional or As-Needed Items (to be determined in the Data Gathering or design phases and coordinated with the Village)

1) Temporary easement documentation. Potential for up to residential properties requiring temporary easement for construction. Cost range may be between $400 and $1,000 per property depending on project scope, impacts, etc.
2) We have included survey to allow for the ability to conduct additional survey for alternative evaluation. Depending on the Village's preferences and data gathering, we may not need the full amount and would utilize funds to accomplish pick-up survey as needed.

Reimbursable expenses shall be included in the fees and include, but are not necessarily limited to, travel, reproductions, shipping/delivery, aerial photographs, phone and other communication charges, consultants and subcontractor fees, equipment and supply costs related to the execution of the project. Any additional meetings or supplemental work would be in addition to the above amount or by separate proposal. Our Standard Terms and Conditions are attached.

If this agreement is acceptable, please sign below and return this proposal to our office. Upon receipt, we will sign and return a fully executed copy for your records. This proposal is valid for 60 days from the date of this letter. Should you have any questions, please contact the project manager, Patrick Lach at our Chicago office.

Hey and Associates, Inc.	CLIENT
Attest	Attest
Date	Date

Exhibit A
Standard Terms and Conditions

Compensation

Profession	*Hourly Bill Rate*
Principal	$195-205
Engineering	
Senior Civil Engineer	$170
Civil Engineer I to V	$105-145
Engineering Designer	$150
Water Resources Specialist I to IV	$95-125
Engineering Technician I to IV	$95-140
Lake and Survey Services Manager	$140
Ecological Services	
Senior Project Scientist	$160
Environmental Services Manager	$140
Environmental Scientist I to V	$90-130
Environmental Intern	$45
Landscape Architecture	
Senior Landscape Architect	$165
Landscape Architect I to V	$105-145
Landscape Designer	$100
Erosion Control	
Senior Erosion and Sediment Control Specialist	$165
Erosion and Sediment Control Specialist	$90
Subsurface Drainage Services	
Subsurface Drainage Services Manager	$120
Design Support	
CAD Manager	$100
CAD Technician	$95
GIS Specialist	$85
Administration	
Senior Administrator	$110
Accounting/Marketing Administrator	$70
Administrative Assistant	$65
Expert Testimony	
Rates to be determined on per-project basis	

Reimbursable Expense

Reimbursable expenses shall be reimbursed at cost plus an 8% administrative service charge. Such expenses shall include, but are not necessarily limited to travel, reproduction, shipping/delivery, aerial photographs, phone and other communication charges, consultants and subcontractor fees, equipment and supply costs related to the execution of the project. Fixed reimbursable expense costs are as follows:

Travel	$ .65/mile
Copies	$ .20/page
Software/Digital Resource Charge	$100.00/project
ATV Usage	$ 40.00/hour
ATV Discing, Herbicide, Spraying, Mowing	$ 45.00/hour
Boat Usage	$ 75.00/hour
Chain Saw Usage	$ 20.00/hour
Additional Plotting, B & W	$ .90/sq. ft.
Additional Plotting, Color	$ 2.75/sq. ft.
Additional Plotting, Mylar	$ 4.50/sq. ft.
Flow Meter	$ 50.00/day
GPS Rover	$350.00/day
Total Station	$100.00/day
Unmanned Aerial Reconnaissance	Per Project

Insurance

Throughout the duration of the project, Hey will procure and maintain the following insurance:

Liability	**Limits of Liability**
Workers' Compensation and	
Employer's Liability	$ 500,000 each incident
Commercial General Liability	$ 2,000,000
Professional Liability	$ 2,000,000
Automobile Liability	$ 1,000,000

Within the limits of this insurance, Hey agrees to hold the Client harmless from and against loss, damage, injury or liability arising directly from the negligent acts or omissions of employees, agents, or subcontractors of Hey.

Client will limit any and all liability, claim for damages, losses, cost of defense, or expenses to be levied against Hey on account of any design defect, error, omission, or professional negligence to a sum not to exceed the amount of Hey's fee under this agreement. Should the Client require other types of insurance coverage, limits in excess of the above limits, and/or certificates naming any other(s) than the Client as additional insured parties, Hey's cost of obtaining such coverage, limits, or certificates shall be reimbursable by the Client.

Billing

Billings shall be on a monthly basis and are payable upon receipt. An additional charge of 1½ percent per month (18% per annum) shall be applied to any balance unpaid more than 30 days beyond date of invoice. Client shall pay any attorney's fees, court costs or other expenses incurred collecting delinquent accounts.

Hey and Associates Inc. (Hey), with seven (7) days written notice, reserves the right to suspend or terminate work under this agreement on any account that is past due. The Client's obligation to pay for the work contracted is in no way dependent upon the Client's ability to obtain financing, zoning, permit approval by governmental or regulatory agencies, or upon the Client's successful completion of the project. The rates presented herein are effective for the period January 1, 2021 through December 31, 2021.

Limitation of Costs

Hey will not be obligated to continue performance or incur costs beyond the estimated costs unless the Client agrees in writing to a revised cost estimate.

Client's Responsibilities

Client shall arrange for access to and make all provisions for Hey to enter upon private and public property as required for Hey to perform services under this Agreement. Client shall provide Hey with all existing available information regarding this project as required. Hey shall be entitled to rely upon information and documentation provided by the Client or consultants retained by the Client in relation to this project, however Hey assumes no responsibility or liability for their completeness or accuracy.

Cost Opinions

Any cost opinions or project economic evaluations provided by Hey will be on the basis of experience and judgment, but, because Hey has no control over market conditions or bidding procedures, we cannot warrant that bids, construction cost, or project economics will not vary from these opinions.

Standard of Care

The standard of care for all services performed by Hey under the agreement will be the care and skill ordinarily used by members of Hey's profession practicing under similar circumstances at the same time and in the same locality. Hey makes no warranties, express or implied, under this Agreement or otherwise, in connection with Hey's services.

Means & Methods

Hey will neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the construction of the subject project(s).

Mutual Indemnification

Subject to the foregoing provisions, Hey agrees, to the fullest extent permitted by law, to indemnify and hold harmless the Client, its officers, directors, employees and agents from and against any liabilities, damages and costs (including reasonable attorneys' fees and costs of defense) arising out of the death or bodily injury to any person or the destruction or damage to any property, to the extent caused, during the performance of Services under this Agreement, by the negligent acts, errors or omissions of Hey or anyone for whom Hey is legally responsible, subject to any limitations of liability contained in this Agreement. The Client agrees, to the fullest extent permitted by law, to indemnify and hold harmless Hey, its officers, directors, employees and agents from any liabilities, damages and costs (including reasonable attorney's fees and costs of defense) to the extent caused by the negligent acts, errors or omissions of the Client, the Client's contractors, consultants or anyone for whom Client is legally liable.

Copyright Indemnification

To the fullest extent permitted by law, Client shall indemnify and hold harmless Hey from and against any and all costs, losses and damages (including but not limited to all attorney fees and charges, all court or arbitration or other dispute resolution costs, and any time spent by Hey in defense of any such claims) resulting from any claims brought against Hey alleging copyright, trademark, or patent infringement or any other cause of action or regulatory decision resulting from Heys use of, or reliance on, the design, plans and specifications provided by the Client for the Project. This provision shall survive the completion of the services provided under this Agreement.

Consequential Damages

To the fullest extent permitted by law, Client and Hey waive against each other, and the other's employees, officers, directors, agents, insurers, partners, and consultants, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to the Project.

Termination

Either party may terminate this Agreement upon not less than seven (7) days written notice should the other party fail to substantially perform in accordance with the terms of this Agreement through no fault of the terminating party. Hey may terminate this Agreement for its convenience and without cause by providing not less than seven (7) days written notice. If Client terminates this Agreement for its convenience and without cause, Client agrees to compensate Hey for services performed prior to the termination, together with Reimbursable Expenses incurred and costs attributable to termination, including the costs attributable to Hey's termination of consultant agreements and authorized Additional Services.

Dispute Resolution

Client and Hey agree that they shall first submit any and all unsettled claims, counterclaims, disputes, and other matters in question between them arising out of or relating to this Agreement or the breach thereof ("Disputes") to mediation. If such mediation is unsuccessful in resolving a Dispute, then such Dispute shall be resolved by a court of competent jurisdiction.