

Submitted to:

**City of
Washington**
Est. 1825

Mr. Dennis Carr, P.E.
City Engineer
City of Washington
301 Walnut Street
Washington, IL 61571

Submitted by:

thomas
engineering group
service at the highest grade.

238 South Kenilworth Avenue
Suite 100
Oak Park, IL 60302

762 Shoreline Drive
Suite 200
Aurora, IL 60504

2625 Butterfield Road
Suite 209W
Oak Brook, IL 60523



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September 8, 2021

Mr. Dennis Carr, P.E.
City Engineer
City of Washington
301 Walnut Street
Washington, IL 61571



762 Shoreline Drive
Suite 200
Aurora, IL 60504

Re: Professional Engineering Services for the Completion of a 3rd Party Alternative Analysis for Farm Creek Trunk Sewer in Washington, Illinois, Tazewell County

Dear Mr. Carr,

Thomas Engineering Group, LLC (TEG) is pleased to submit the enclosed statement for the City's consideration. TEG is enthusiastic about the opportunity to work with your staff to provide professional engineering services for this important project. We are confident that our experience and knowledge will provide City staff with the assurance needed to select a final alternative for this project. Our team has reviewed all the available information provided by the City and acknowledge the receipt of:

- Electronic copy (i.e., pdf) of the Preliminary Engineering Study for the Farm Creek Trunk Sewer as prepared by Strand Associates, Inc., dated October 2019.
- Electronic copy (i.e., pdf) of the presentation made by Aptim Corporation to the City of Washington's Committee of the Whole on July 12, 2021.
- Electronic copy (i.e., pdf) of the presentation made by Strand Associates, Inc. to the City of Washington's City Council on July 26, 2021.
- Addendum #1, received via email on August 26, 2021.

Our proposed team has a significant amount of trenchless, underground utility experience in design and construction. Furthermore, we have provided alternatives analysis for various underground utility improvements and determined preferred alignments for several municipal clients. Key staff include myself as Project Principal, Mary Cave, P.E. as Project Manager, and Robert Flatter, P.E. to provide QA/QC. While our firm's offices are not local, our proposed Project Manager lives 25 miles from the City of Washington. Support staff within our firm's Municipal Department are also available to provide additional resources.

We appreciate the opportunity to assist on this project and display our **service at the highest grade®**. While larger firms have their best teams committed to many clients and projects, TEG has a number of excellent teams committed to only select clients and projects. TEG has been able to grow by servicing each client individually and bringing value to their community. Our team is in this business to collaborate with our clients and administer successful projects for the public. If you have any questions or require additional information, please call me at (847) 815-9500 or e-mail at kevinv@thomas-engineering.com.

Sincerely,

thomas engineering group, llc

A handwritten signature in blue ink, appearing to read "Kevin C. VanDeWoestyne", is written over a faint, light blue circular graphic that is part of the Thomas Engineering Group logo.

Kevin C. VanDeWoestyne, P.E., ENV SP
Municipal Department Head





FIRM OFFICERS

President:

Thomas Gill, P.E.
tomg@thomas-engineering.com
 708-533-1700

Construction

Department Head:

Gregory Benske
gregb@thomas-engineering.com
 847-847-6181

Municipal

Department Head:

Kevin VanDeWoestyne, P.E., ENV SP
kevinv@thomas-engineering.com
 847-815-9500

Transportation

Department Head:

Curtis Cornwell, P.E., PTOE
curtisc@thomas-engineering.com
 773-251-7938

OFFICE LOCATIONS

238 South Kenilworth Avenue
 Suite 100
 Oak Park, IL 60302

762 Shoreline Drive
 Suite 200
 Aurora, IL 60504

2625 Butterfield Road
 Suite 209W
 Oak Brook, IL 60523

Thomas Engineering Group, LLC (TEG), founded in 2008, is a professional engineering firm focused on providing planning, design and construction engineering services to public sector clients. Our staff boasts substantial experience in Illinois. We have designed or administered underground infrastructure and transportation improvements for repeat clients including Schaumburg, Hoffman Estates, West Chicago, Oak Park, Burr Ridge, Indian Head Park, Lisle, Lombard, Westmont, Wheaton, Carol Stream, River Forest, Warrenville, Woodridge, and Illinois Department of Transportation.

TEG’s headquarters is located in Oak Park, with offices in Oak Brook and Aurora. After 13+ years in business, TEG has grown to encompass 40 employees across three departments: Municipal, Construction, and Transportation. With forward-thinking engineers and technical staff, our team provides our clients with unparalleled service and an innovative approach to engineering. This sustainable growth has enabled our company to continue to provide outstanding service while adding new clients, new staff, and additional engineering disciplines.

TEG is a Limited Liability Company co-founded and owned by three partners (Thomas Gill, III, P.E., *President*; Greg Benske, *Principal*; Kevin VanDeWoestyne, P.E., *Principal*) since 2008. TEG executive team also includes Curtis Cornwell, P.E., PTOE, *Transportation Department Head*; and Sujata Banerjee, MBA, *Business Manager*. Thomas Engineering Group, LLC is licensed to practice in the State of Illinois.

TEG owns or leases all of the necessary survey equipment, office equipment and pertinent computer software necessary to complete any project with efficiency and accuracy. TEG is capable of utilizing Global Positioning Systems (GPS) and/or Total Station survey equipment. While our planning, design and field experience is substantial, our teams always partner with clients and gather the necessary project context to make the best decisions based on existing conditions. What may have worked well in one particular situation may not in another; we treat each project as an opportunity to learn and innovate through partnering with clients and stakeholders.

By understanding the fiscal, environmental and site constraints, the TEG team takes an ownership approach to identify the most cost-effective solutions for every project. We are confident in our abilities, knowledge, and resources, and know we will be able to serve your staff in any capacity necessary. ***TEG will provide the Village with the same dedication to service, expertise, innovation, and value that has enabled us to serve our clients and concurrently grow our company.***

TEG Staff Qualifications: Licenses and Certifications

20	P.E.	Professional Engineers in the State of Illinois
2	CFM	Certified Floodplain Managers
2	PTOE	Professional Traffic Operations Engineers
1	PLS	Professional Land Surveyor
3	DECI	Lake County Designated Erosion Control Inspectors
2		Certified Arborists
1	CPESC	Certified Professional in Erosion and Sediment Control
1	PMP	Project Management Professional
1	RSP	Road Safety Professional
1	CISEC	Certified Inspector of Sediment and Erosion Control
1	ENV SP	Envision Sustainability Professional



Project Understanding

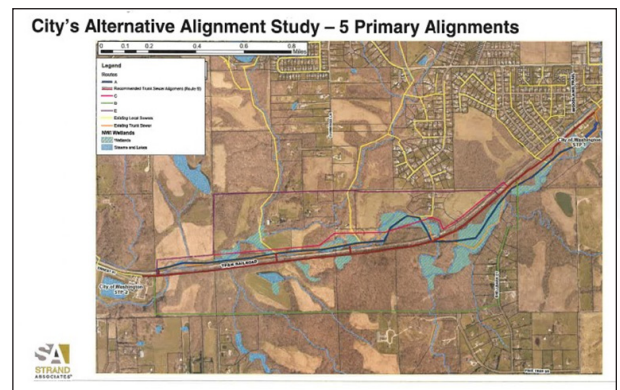
The City of Washington is seeking a professional engineering firm to perform a highly transparent 3rd party alternative alignment analysis/evaluation for its Farm Creek Trunkline Sanitary Sewer Replacement Project. The City owns and operates two (2) Sewer Treatment Plants (a.k.a. STP-1 and STP-2) and a network of local and collector sewers tributary to and including the Farm Creek Trunkline Sewer which runs between STP-1 and STP-2, generally parallel to Farm Creek and the Toledo, Peoria and Western (TP&W) Railroad.

The trunkline sewer was constructed in circa 1970, experiences excess flow conditions during wet weather and high creek flow conditions and has operational problems, access and maintenance limitations, and capacity/conveyance issues; the trunkline sewer needs to be upgraded to address current and future conditions and developments. In addition, the Illinois Environmental Protection Agency (IEPA) has mandated the City to decommission STP-1 and reroute sewer flows from STP-1 to STP-2 as a result of sanitary sewer overflow violations into Farm Creek.



In 2019, the City hired Strand Associates, Inc. to evaluate the trunkline sewer and develop alignment alternatives for its replacement. Strand provided its recommendations, which were not entirely supported by local property owners. As a result, property owners hired their own engineering consultant, Aptim Corporation, to evaluate Strand’s recommendations and additional alignment alternatives were developed.

Aptim’s evaluation was presented to Washington’s Committee of the Whole on July 12, 2021. In response to Aptim’s presentation, Strand developed probable construction costs and presented its evaluation to City Council on July 26, 2021.



Given varying opinions, the City of Washington is seeking a completely transparent 3rd party alternative alignment analysis/evaluation for its Farm Creek Trunkline Sanitary Sewer Replacement Project. The City desires assistance in the review and analysis of previously recognized sanitary sewer alignment alternatives, cost estimates, environmental impacts, and a recommendation on preferred alignment to City Council.

SIMILAR PROJECT EXPERIENCE

PHASE I AND II, LOMBARD TRANSMISSION MAIN PROJECT, VILLAGE OF LOMBARD

TEG was hired by the Village to provide preliminary layout and design engineering services for this \$1.5M project consisting of approximately 8,000 linear feet of 16" poly-wrapped ductile iron water transmission main to provide a direct connection from the Village's Civic Center Reservoir to the South Booster Station. In the preliminary engineering phase, **TEG explored seven (7) possible routes for the transmission main.** Our approach for the preliminary phase was to prioritize the project criterion, conduct a detailed alternatives analysis, and identify the least disruptive and most cost-effective solution. As part of this phase, TEG utilized a concept level decision matrix which allowed for the advantages and disadvantages of each route to be directly compared. This analysis allowed for direct comparison of the identified criteria important to the Village in their consideration of the final alignment. The ultimate goal was to provide true quantitative comparisons to each alternative route side by side. TEG also assisted the Village with utility notifications, bidding assistance, permitting requirements, IEPA Water Construction Permit, and the IDOT Region One Utility Permit.

PHASE II AND III, LANDON AVENUE SANITARY SEWER PIPE BURSTING PROJECT, CITY OF WARRENVILLE

TEG was hired by the City of Warrenville to provide both design and construction engineering services for this \$360K sanitary sewer pipe bursting project. The project consisted of bursting existing 8" PVC sanitary sewer and the installation of approximately 1,200 lineal feet of 12" sanitary sewer main via open cut and pipe bursting, sanitary sewer manholes, sanitary sewer services, and restoration of disturbed areas near Landon Avenue in the City of Warrenville.

PHASE I, STUDY OF 16" TRANSMISSION MAINS, VILLAGE OF HOFFMAN ESTATES / COOK COUNTY DEPARTMENT OF HIGHWAYS

This project involved an engineering study for two separate 16" transmission water main lines located on Huntington Boulevard and Ela Road in Hoffman Estates, including evaluation of two I-90 Tollway crossings. Ela Road from Central Road to Route 62 is under the jurisdiction and maintained by Cook County Department of Highways. The focus of this study was to **determine the scope of work for Ela Road and the most cost-effective method to prevent deterioration/corrosion of the existing transmission main.** TEG, together with Corpro, cathodic protection specialists, provided recommendations for future repairs/maintenance, replacement, or Cured in Place Pipe (CIPP) lining by performing the following analysis; Independent Assessment, Feasibility Assessment/Life Cycle Cost Analysis, Evaluation of Existing Strategies, Partial Cell to Cell Survey, Exploratory Excavations, and Recommendation of Corrective Methods for Anodic Soil Sites.

MWRD IICP COMPLIANCE AND REPORTING, VILLAGE OF INDIAN HEAD PARK

TEG provides condition assessment, planning, design, and construction inspection services to the Village for compliance with the Metropolitan Water Reclamation District of Greater Chicago's Annual Summary Report (ASR), Long Term Operation and Maintenance Program (LTOMP), and Private Sector Program (PSP) document requirements of the MWRD's Infiltration/Inflow Control Program (IICP). As part of the assessment, TEG manages the Village's annual cleaning and televising program, smoke and dye testing, and system rehabilitation program.

SIMILAR PROJECT EXPERIENCE

PHASE I, II, AND III, SCHMALE ROAD WATER MAIN PROJECT, VILLAGE OF CAROL STREAM

This project involved Phase I and II study and design of this \$3M Schmale Road Water Main Replacement Project. TEG's scope of services consisted of *alternatives analysis and determination of the preferred alignment* for removal and replacement of approximately 7,000 feet of old 10" and 12" deteriorated water main with poly-wrapped ductile iron water main along with new valves and hydrants on Schmale Road (DuPage CH 36), between St. Charles Road (DuPage CH 7) and Geneva Road, and St. Charles Road, between Schmale Road and President Street. The work included PVC water main installation, water main abandonment, water service line replacement, new fire hydrants, horizontal directionally drilled water main, boring and jacking, intermittent storm sewer and sanitary sewer service replacement, driveway replacement, pavement patching, parkway landscaping, and all incidental and collateral work necessary to complete the project as shown on the plans and associated bid forms. The total approximate length of the improvement is approximately 7,000 feet (1.33 miles). TEG was also hired by the Village to provide Phase III construction engineering services.

PHASE III, LANDON AVENUE SANITARY EXTENSION, CITY OF WARRENVILLE

TEG was hired by the City of Warrenville to provide construction engineering services for this \$700K sanitary sewer extension project. The project consisted of the installation of approximately 3,000 lineal feet of new 12" sanitary sewer main, sanitary sewer manholes, sanitary sewer services, and restoration of disturbed areas located between Landon Avenue (north of Point Oak Drive) and Illinois Route 59 in the City of Warrenville.

PHASE II/III, SANITARY SEWER REHABILITATION PROGRAM, VILLAGE OF INDIAN HEAD PARK

TEG currently provides condition assessment, planning, design, and construction inspection services to the Village for compliance with the Metropolitan Water Reclamation District of Greater Chicago's Infiltration/Inflow Control Program (IICP). As part of this scope, TEG prepares provides both design and construction engineering services to the Village for the rehabilitation of existing sanitary sewer through cured-in-place pipelining (CIPP) and replacement programs. The 2020 Sanitary Sewer Rehabilitation Project consisted of cleaning and televising and CIPP lining of approximately 2,300' of existing VCP sanitary sewer including 34 lateral reinstatements, bypass pumping, and sealing and adjusting manhole frames.

PHASE III, ROOSEVELT ROAD WATER MAIN REHABILITATION (WESTERN VILLAGE LIMITS TO WISCONSIN AVENUE), VILLAGE OF LOMBARD

TEG prepared and submitted a successful loan application for \$10 million in Illinois State Revolving Fund (SRF) Public Water Supply Loan Program (PWSLP) through the IEPA's Infrastructure Financial Assistance for funding construction and construction engineering for the Village's 2016-2017 water main projects including this one. TEG also served as the Resident Engineer of construction for both phases of the project. The first phase of this two-stage project was constructed in 2016 and consisted of the rehabilitation of approximately 7,000 linear feet of distribution main, ranging from 8" to 12" diameter water main, along IL Route 38 (Roosevelt Road) from approximately 1200' west of Finley Road to Wisconsin Avenue. The second phase of the project was constructed in 2017 and consisted of lining approximately 9,000 LF of water main on Roosevelt Road from Fairfield Road to Wisconsin Avenue. The scope of work included lining the existing water main in the Roosevelt Road right-of-way, temporary bypass water main, maintaining and reinstating services, replacement of valves, hydrants and fittings, and segments of new water main. The project required public involvement and staged construction with lane closures on Roosevelt Road and posted detour routes.

SIMILAR PROJECT EXPERIENCE

PHASE I, I-90 UTILITY SUPPORT SERVICES VILLAGE OF HOFFMAN ESTATES

TEG assisted the Village and various Tollway DSE and CM consultants on resolving Village-owned utility conflicts associated with seven (7) Tollway contracts. TEG provided general support services for conducting evaluations and constructability reviews for Village-owned utilities within the limits of the Illinois State Toll Highway Authority (ISTHA/Tollway) I-90 Improvements between mileposts 56.8 and 68.1, based upon costly utility relocations and multiple Notifications of Utility Interference provided by the Tollway. TEG's assessment of each crossing included assessment of field conditions, review of past reports, review of proposed Tollway improvements (transverse conflicts in north and south ROWs) and JAWA improvements (parallel conflict in north ROW) to the existing conditions of the Village-owned utilities. TEG also provided detailed costs estimates as needed for coordination of casing extensions. Upon making final determinations, TEG discussed recommendations with Hoffman Estates Department of Public Works and communicated any Village concerns and requests to the Tollway design team Project Manager.

PHASE III, ROUTE 64 (NORTH AVENUE) UTILITY RELOCATION PROJECT, CITY OF WEST CHICAGO

TEG provided resident engineering services associated with this \$2.4M improvement consisting of relocation of City utilities on Illinois Route 64 (North Avenue) between Atlantic Drive and Keil Road. The City was required to relocate existing potable water main and sanitary sewer main within the existing North Avenue right-of-way to accommodate roadway widening and reconstruction proposed by IDOT's North Avenue Reconstruction Project. This utility relocation project was partially completed in advance of IDOT's project, while most activities were completed concurrently with IDOT's planned improvements. Therefore, the City was forced to accelerate the relocation of the City's utilities beneath the UP and CN railroads, to avoid delays to the North Avenue bridge reconstruction. This resulted in dual auger crews and 10 hour work days, 6 days per week, for nearly 2 months. TEG prepared and assisted the City with executing agreements, project notifications, bonds, CCDD Certifications, Railroad Protective Liability Insurance, including the IDOT Utility Permit, DuPage County DOT Highway Permit, and IEPA Supplemental Water Construction Permits. Prior to construction, TEG assisted the City with developing Special Provisions, material specifications, alignments, and sequencing and bypass requirements to minimize water and sewer shutdowns. The project included the replacement of over 1 mile of 12" ductile iron and PVC water main including 300' of 12" DI water main inside 24" steel casing, installed by boring and jacking under UP and CN railroads, abandonment and fill of over 5700' of 12" water main and vaults, installation of nearly 2000' of 15" PVC sanitary sewer including 1100' of 15" PVC sanitary sewer inside 36" steel casing pipe, installed by boring and jacking under UP and CN railroads, and abandonment and fill of over 1800' of sanitary sewer pipe and manholes.

Mr. VanDeWoestyne has over 17 years of experience involving municipal and highway / roadway design and construction. He will serve as the primary client liaison to coordinate services on behalf of the City. His experience with locally and federally funded projects and familiarity with the area make him an excellent fit to serve the City, and he and his team are available to provide the requested design services. For the past 13 years, Mr. VanDeWoestyne had led the design and oversight of approximately 30 miles, or \$30 million, of roadway improvements in the City of West Chicago.

PHASE I AND II, GENERAL CITY ENGINEERING SERVICES, 2008 - CURRENT, CITY OF WEST CHICAGO – Project Principal. TEG provides comprehensive design, planning, programming, cost estimating, conditional ratings and construction inspection services for various proactive Capital Improvement Programs including roadway resurfacing, roadway reconstruction, drainage, sewer and water, crack sealing, traffic calming, sidewalk maintenance, pavement marking, and signing projects. Work included securing all applicable permits needed from State, Local and Federal agencies. TEG serves as the City's engineering liaison on contractual issues during construction providing construction observation and contract administration for all CIP surface and infrastructure improvements. TEG provides full-time inspection of public and private construction projects (sanitary sewer service, storm sewer service, water service, site grading, pavements, etc.) for compliance with approved engineering plans and acceptable construction practices. TEG identifies and applies for federal-aid funding through regional and state jurisdictions for CDBG, STP, STP (LAFO), TCM, MFT, and CMAQ projects. TEG develops comprehensive punch lists for residential and commercial developments in accordance with all local ordinances and standard engineering practices. TEG provides topographic surveying services for local storm sewer, culvert, and Capital Improvement projects.

PHASE I AND II, SANITARY SEWER REHABILITATION PROGRAM, VILLAGE OF INDIAN HEAD PARK – Project Principal. TEG provides condition assessment, planning, design, and construction inspection services to the Village for compliance with the Metropolitan Water Reclamation District of Greater Chicago's Infiltration/Inflow Control Program (IICP). As part of this scope, TEG prepares provides both design and construction engineering services to the Village for the rehabilitation of existing sanitary sewer through cured-in-place pipelining (CIPP) and replacement programs. The 2020 Sanitary Sewer Rehabilitation Project consisted of cleaning and televising and CIPP lining of approximately 2,300' of existing VCP sanitary sewer including 34 lateral reinstatements, bypass pumping, and sealing and adjusting manhole frames.

PHASE III, ROOSEVELT ROAD WATER MAIN REHABILITATION PHASE 1 AND 2 CONTRACTS: WESTERN VILLAGE LIMITS TO WISCONSIN AVENUE – Project Principal. TEG prepared and submitted a \$10 million successful loan application for Illinois State Revolving Fund (SRF) Public Water Supply Loan Program (PWSLP) through the IEPA's Infrastructure Financial Assistance for funding construction and construction engineering for the Village's 2016-2017 water main projects including this one. TEG also served as the Resident Engineer of construction for the first construction phase of the project, the West Contract. The first phase of this two-stage project was constructed in 2016 and consisted of the rehabilitation of approximately 7,000 linear feet of distribution main, ranging from 8" to 12" diameter water main, along IL Route 38 (Roosevelt Road) from approximately 1200' west of Finley Road to Wisconsin Avenue. The second phase of the project was constructed in 2017 and consisted of lining approximately 9,000 LF of water main on Roosevelt Road from Fairfield Road to Wisconsin Avenue. The scope of work included lining the existing water main in the Roosevelt Road right-of-way, temporary bypass water main, maintaining and reinstating services, replacement of valves, hydrants and fittings, and segments of new water main. The project required public involvement and staged construction with lane closures on Roosevelt Road.

KEVIN VANDEWOESTYNE

PE, ENV SP

Project Principal

EDUCATION

Bradley University
Peoria, IL

Bachelor of Science,
Civil Engineering

PROFESSIONAL REGISTRATIONS

Professional Engineer:

Illinois 062-061311

Issued: 12-22-2008

ISI Envision™ Sustainability Professional

CONTACT INFORMATION

(847) 815-9500

kevinv@thomas-engineering.com

PROFESSIONAL ASSOCIATIONS & RECOGNITIONS

American Society of Civil Engineers

American Council of Engineering

Companies - Illinois

SELECTED CONTINUING EDUCATION

IDOT QC/QA PROGRAM

Documentation of Contract
Quantities

IDOT OTHER

APWA/IDOT Project Finalization

Procedures Seminar 2006

ICORS 2008 Training Seminar

MISTIC Database for IDOT
Construction

ACEC

Total Quality Pavement

Management and Superpave for
the Local Agency

SAFETY

Fall Protection Regulation &

Equipment Familiarization

Confined Space Regulation &

Equipment Familiarization

MERIDIAN PROLIANCE WEB

BASED PM SYSTEM

Construction Phase Process

Drawing Construction

Management Course

WBPM Coordinator

PHASE I AND II, POMEROY STREET AND BROWN STREET INFRASTRUCTURE IMPROVEMENTS, CITY OF WEST CHICAGO, ILLINOIS

– Project Manager. This project was part of the final cleanup of the Kerr-McGee Superfund site in the City of West Chicago to serve a residential area of the City with sewer and water service that was formerly near processing facility (now closed and owned by the Kerr-McGee Chemical Corporation), a site that was contaminated by radioactive thorium waste material. The West Chicago Environmental Response Trust (WCERT, the agency responsible for completing this project) funded the water main portion of the project with the City electing to install a sanitary sewer main simultaneously. TEG responsibilities included identification of critical project areas and conflicts related to routing the City's infrastructure and sequencing and bypass requirements to minimize water and sewer system shutdowns. TEG designed a new sanitary sewer system to serve twelve (12) single family homes, previously served by individual well and septic systems, with domestic water service connections and sanitary sewer service stubs by extending City water main and sanitary sewer main.

PHASE I, I-90 UTILITY SUPPORT SERVICES, HOFFMAN ESTATES, ILLINOIS, HOFFMAN ESTATES DEPARTMENT OF PUBLIC WORKS

– Principal. TEG has been working with the Village and various Tollway DSE and CM consultants on resolving Village-owned utility conflicts associated with seven (7) Tollway contracts. TEG is providing general support services for conducting evaluations and constructability reviews for Village owned utilities within the limits of the Illinois State Toll Highway Authority (ISTHA/Tollway) I 90 Improvements between mileposts 56.8 and 68.1, based upon costly utility relocations and multiple Notifications of Utility Interference provided by the Tollway. TEG's assessment of each crossing included assessment of field conditions, review of past reports, review of proposed Tollway improvements (transverse conflicts in north and south ROWs) and JAWA improvements (parallel conflict in north ROW) to the existing conditions of the Village-owned utilities. TEG also provided detailed costs estimates as needed for coordination of casing extensions. Upon making final determinations, TEG discussed recommendations with Hoffman Estates Department of Public Works and communicated any Village concerns and requests to the Tollway design team Project Manager.

PHASE I, STUDY OF 16" TRANSMISSION MAINS, HOFFMAN ESTATES, ILLINOIS, COOK COUNTY DEPARTMENT OF HIGHWAYS

– Principal. This project involved an engineering study for two separate 16" transmission water main lines located on Huntington Boulevard and Ela Road in Hoffman Estates, including evaluation of two I-90 Tollway crossings. Ela Road from Central Road to Route 62 is under the jurisdiction and maintained by Cook County Department of Highways. The focus of this study was to determine the scope of work for Ela Road and the most cost effective method to prevent deterioration/corrosion of the existing transmission main. Thomas Engineering Group, LLC (TEG) together with Corpro, cathodic protection specialists, provided recommendations for future repairs/maintenance, replacement, or Cured in Place Pipe (CIPP) lining by performing the following analysis; Independent Assessment, Feasibility Assessment/Life Cycle Cost Analysis, Evaluation of Existing Strategies, Partial Cell to Cell Survey, Exploratory Excavations, and Recommendation of Corrective Methods for Anodic Soil Sites.

PHASE I AND II, SCHMALE ROAD WATER MAIN PROJECT, CAROL STREAM, ILLINOIS, VILLAGE OF CAROL STREAM

– Project Manager. This project involved Phase I and II study and design of the \$1.7M Schmale Road Water Main Replacement Project. TEG's scope of services consisted of alternatives analysis and determination of the preferred alignment for removal and replacement of approximately 3,360 feet of old 10" and 12" deteriorated water main with poly-wrapped ductile iron water main along with new valves and hydrants on Schmale Road (DuPage CH 36) between St. Charles Road (DuPage CH 7) and Geneva Road. In addition, there were two alternates with the Schmale Road Water Main Replacement Project. Alternate A consisted of removal and replacement of approximately 1,350 additional feet of 10" and 12" cast iron pipe with poly-wrapped ductile iron water main and new valves and hydrants on Schmale Road between St. Charles Road to North Avenue (IL Route 64). Alternate B consisted of removal and replacement of approximately 2,730 feet of 8", 10" and 12" cast iron pipe with poly-wrapped ductile iron water main and new valves and hydrants on St. Charles Road between Schmale Road to President Street.

PHASE I AND II, LOMBARD TRANSMISSION MAIN PROJECT, LOMBARD, ILLINOIS, VILLAGE OF LOMBARD

– Project Manager. Preliminary and design engineering services were offered for this \$1.5M project consisting of approximately 8,000 linear feet of 16" poly-wrapped ductile iron water transmission main to provide a direct connection from the Village's Civic Center Reservoir to the South Booster Station. In the preliminary engineering phase, TEG explored seven (7) possible routes for the transmission main. Our approach for the preliminary phase was to prioritize the project criterion, conduct a detailed alternatives analysis, and identify the least disruptive and most cost effective solution. As part of this phase, TEG utilized a concept level decision matrix which allowed for the advantages and disadvantages of each route to be directly compared. This analysis allowed for direct comparison of the identified criteria important to the Village in their consideration of the final alignment. The ultimate goal was to provide true quantitative comparisons to each alternative route side by side. TEG will assist the Village with utility notifications, bidding assistance, permitting requirements, IEPA Water Construction Permit, and the IDOT Region One Utility Permit.

Mr. Flatter has over 31 years of local governmental project management experience; eight (8) years overseeing private development permit reviews and construction for the Village of Lombard, Illinois, five (5) years as Stormwater Division Manager for the County of DuPage, Illinois, and over eighteen (18) years as the Public Works Director/City Engineer for the City of West Chicago, Illinois. As the former Public Works Director/City Engineer, he was directly responsible for all aspects of the City's Capital Improvement Projects (i.e., planning, budgeting, design, construction, community relations, Infrastructure Committee liaison, etc.). Mr. Flatter has strong communication skills and understands all aspects of executing municipal CIP programs.

2003-2021, DIRECTOR OF PUBLIC WORKS (2003-2005), CITY ENGINEER/DIRECTOR OF PUBLIC WORKS (JUNE 2005 - JUNE 2021), CITY OF WEST CHICAGO, ILLINOIS –

- Administered and managed the Department of Public Works consisting of the Utility Division, Street Division, Facilities Management Division, Fleet Maintenance Division, and Engineering Division, encompassing a staff of forty-five (45) employees (Assistant Director of Public Works, Executive Secretary, four (4) Superintendents, and 39 employees operating under a Collective Bargaining Agreement), one (1) private contractor/consultant who operates the City's Regional Wastewater Treatment Plant, one (1) engineering consultant who performs the duties that would otherwise be expected of City staff engineers, one (1) contractor who performs the duties of Cemetery Sexton, and multiple engineering consultants and contractors associated with the City's Capital Improvements Programs.
- Prepared and managed an annual average Departmental budget of approximately \$23 million.
- Administered and managed the City's Capital Improvements Program, with an annual average operating budget of approximately \$4 million.
- Administered and managed the City's 9.0 MGD Lime Softening and Iron Removal Water Treatment Plant, with an annual average operating budget of approximately \$2 million.
- Administered and managed the West Chicago/Winfield Wastewater Authority Regional Wastewater Treatment Plant (WWTP), which also accepts waste from the Village of Winfield.
- Directly responsible for the City's Capital Equipment Replacement Program, including, but not limited to, developing specifications, solicitation of bids/quotes, and purchasing of City's fleet and equipment, with an annual average operating budget of approximately \$1 million.
- Represented the City of West Chicago as an active member of the DuPage River Salt Creek Workgroup, DuPage County Municipal Engineer's Discussion Group, DuPage Mayors and Managers Conference (DMMC) Transportation Technical Committee, the DMMC STP Methodologies Task Force, and the DMMC Ad Hoc Public Works Director Working Group.
- Assisted the Department of Community Development with plan review and approval, site inspections and project acceptance of privately initiated development projects.
- Prepared and reviewed reports, provided professional recommendations, and make presentations to the Infrastructure Committee, Public Affairs Committee, City Council, and various other organizations (i.e., Homeowners Associations, Forest Preserve District, residents and business owners, etc.).
- Performed other duties as assigned by the City Administrator, Mayor, and City Council members.

ROBERT FLATTER

PE
QC/QA

EDUCATION

Iowa State University
Ames, IA
Bachelor of Science,
Civil Engineering

PROFESSIONAL REGISTRATIONS

Professional Engineer:
Illinois 062-050089

CONTACT INFORMATION

(630) 768-8877
robertf@thomas-engineering.com

PROFESSIONAL ASSOCIATIONS & RECOGNITIONS

American Society of Civil Engineers
American Public Works Association
American Water Works Association

PROJECT ENGINEER (1998-2000), STORMWATER DIVISION MANAGER (2000-2003), THE COUNTY OF DUPAGE –

- Administered and managed the Regulatory Stormwater Division, the Wetland Division, and the Drainage Division within the Department of Development and Environmental Concerns (DEC), encompassing a professional staff of thirteen (13) employees.
- Assisted with the preparation and management of an \$11 million annual department operating budget.
- Administered various engineering, environmental, surveying and geotechnical consulting contracts, totaling approximately \$250,000.00 annually, for professional consulting services to augment County staff in the review of stormwater permit applications for compliance with the regulations of County, State and Federal agencies; in the design and construction of drainage improvement projects; and in the design, construction, and management of the County Wetland Banking Program (regional wetland mitigation areas).
- Managed approximately \$400,000 annually (\$22 million for 2001-2006) used for drainage improvement project design and construction.
- Administered and managed the Stream Maintenance Program, consisting of an approximate \$500,000 annual budget, throughout DuPage County.
- Directly responsible for permit administration (i.e., permit distribution, permit review, permit certification, project inspections, project compliance/enforcement, etc.) as associated with development projects/properties, which may be either privately or publicly initiated, within Unincorporated DuPage County (approximately 1200 permits annually).
- Administered and enforced the provisions/requirements of the DuPage Countywide Stormwater and Flood Plain Ordinance (DCSFPO) for developments on a countywide basis, both unincorporated and incorporated development projects/properties, which may either be privately or publicly initiated.
- Prepared and reviewed reports, provided professional recommendations, and made presentations to the Stormwater Management Committee, the Development Committee, the Zoning Board of Appeals, the Plat Review Committee, the Public Works Committee, and the DuPage County Board, and various other organizations (i.e., Homeowners Associations, Forest Preserve District, Municipalities, Conferences/Seminars, etc.).
- Administered and managed/oversaw Countywide drainage complaints filed with DEC. This included directing/assisting staff in the performance of site inspections, customer interaction/service, and complaint resolution on approximately 300 drainage complaints annually.
- Responsible for ensuring that staff within the regulatory stormwater, drainage, and wetland divisions of DEC received appropriate customer service training, and provide a high level of service and courtesy to all DuPage County customers and residents.
- Assisted with the administration and negotiation of Federal to County, and State to County permit program delegations.
- Responsible for the administration of the County Wetland Banking Program. Including, but not limited to, the design, permitting, construction and management of wetland banking projects.
- Directly responsible for coordinating reviews of development projects with several Federal, State, and local government agencies. This included, but was not limited to, ensuring that development projects complied with all applicable Federal, State, and local government regulations.
- Worked directly with various County Departments and Divisions (i.e., Building Division and Zoning Divisions with DEC, Highway Department, Health Department, Public Works Department, Purchasing, Finance Department, Personnel, etc.) on a daily basis in the performance of the multiple administrative duties.

PRIVATE DEVELOPMENT ENGINEER (1993 – 1998), CIVIL ENGINEER I & II (1990–1993), DEPARTMENT OF COMMUNITY DEVELOPMENT AND PUBLIC WORKS, VILLAGE OF LOMBARD, ILLINOIS –

- Administered and managed the Private Engineering Services Division of the Department of Community Development.
- Directly responsible for plan review and approval, site inspections and project acceptance for all privately initiated construction improvements. Reviews included implementing regulations of Village, County, State and Federal agencies; including, but not limited to, regulations of DCSFPO, Illinois Department of Transportation's Standard Specifications, Illinois Environmental Protection Agency, Illinois Standard Specifications for Water and Sewer Main Construction, Americans with Disabilities Act, and FEMA.
- Prepared and managed budget for Private Engineering Services Division.
- Reviewed and evaluated Ordinances for improving procedures and technical specifications relate to construction within the Village. Prepared appropriate amendments based on such evaluation.
- Managed several capital improvement projects with the Department of Public Works, performing resident engineer duties as required.

Ms. Cave has nearly 20 years of work experience in several aspects of civil engineering. From her previous experience, including serving as the Assistant City Engineer for the City of Decatur, she has developed strong communication skills as well as the ability to organize, prioritize and work with multiple stakeholders and deadlines. Her vast experience includes public outreach, grant writing, land development design and review, drainage system modeling, design and review, and capital improvement planning.

LAND DEVELOPMENT TEAM LEADER, CHASTAIN & ASSOCIATES – Planned and directed land development projects including planning, design, zoning, permitting, bidding, and construction. Design elements include roadway drainage, water, sanitary sewer, stormwater management, and landscaping. Project Spotlights:

- Non-profit: A Community Services Campus on 29-acre site containing 8 buildings that provide comprehensive services to those with substance abuse problems. Total project cost over \$55M.
- Retail: A Sonic quick service restaurant built on a challenging site that was not large enough for the Sonic Corporate requirements. Creative site design, underground detention, and conditional use permit allowed the project to be completed and is thriving today. Total project cost over \$1.6M.
- Industrial: A new brass foundry is being built on a 30-acre greenfield site that will house new state-of-the-art equipment. Coordination was required between multiple utility providers for large scale delivery of electricity, gas, water, and sewer.
- Residential: A 30-lot residential planned development that required various rezoning requests and local and State permits.

MUNICIPAL TEAM LEADER, CHASTAIN & ASSOCIATES – Served as Village Engineer for/within several communities, providing engineering assistance for municipal infrastructure issues and capital budgeting. Served on a regional municipal NPDES working group for the benefit of municipal clients, including planning & hosting erosion control workshops, creating website content and writing erosion control newsletter articles. Prepared and obtained various grants and loans for transportation, storm sewer, sanitary sewer, and park projects. Managed other various infrastructure projects for municipal clients.

2008-2015, ASSISTANT CITY ENGINEER, CITY OF DECATUR, ILLINOIS –

- Created a new stormwater utility, fee structure, and credit manual. Work included public outreach with stakeholders, creation of the billing database, and development of program procedures.
- Administered the City of Decatur's National Pollutant Discharge Elimination System program and served as a liaison with the Illinois Environmental Protection Agency
- Managed the City's project to respond to and negotiate sanitary sewer system improvements with a Consent Decree from the U.S. Environmental Protection Agency.
- Lead project to updated development standards and modified development review software to improve efficiency in review & inspection
- Reviewed site plans, plats, and technical design for new development or redevelopment.
- Supervised the creation of the City's GIS utility map creations.
- Began Asset Management for the City's sewer assets.
- Represented the City's Engineering Department on the Sustainable Decatur Project, Brownfield Committee, and Energy Efficiency Special Project.
- Planned for and budgeted Capital Improvements for three utility funds.
- Managed consultant design contracts for stormwater, sanitary, and transportation projects.

MARY CAVE

PE

Project Manager

EDUCATION

Bradley University
Peoria, IL

Bachelor of Science,
Civil Engineering

PROFESSIONAL REGISTRATIONS

Professional Engineer:
Illinois 062-060331

CONTACT INFORMATION

(217) 201-9003

maryc@thomas-engineering.com

PROFESSIONAL ASSOCIATIONS & RECOGNITIONS

APWA-IL:

Chapter Awards Chair &
Director, Prairie Branch President,
Vice President & Secretary
(2008-Current)

Illinois Urban Flood Awareness Act
Steering Committee: 2014-2015

Illinois Society of Professional
Engineers Young Engineer of the
Year – 2006



STAFF CAPABILITIES

Project Principal: Kevin VanDeWoestyne, P.E., ENV SP

Kevin VanDeWoestyne, P.E., ENV SP will lead this project for TEG and will serve as the primary client liaison. For the past 14 years, Mr. VanDeWoestyne has led a municipal team with the design and oversight of approximately 30 miles, or \$30 million, of capital improvements in the City of West Chicago.

QA/QC: Robert Flatter, P.E.

Mr. Flatter has over 31 years of local governmental project management experience; eight (8) years overseeing private development permit reviews and construction for the Village of Lombard, Illinois, five (5) years as Stormwater Division Manager for the County of DuPage, Illinois, and over eighteen (18) years as the Public Works Director/City Engineer for the City of West Chicago, Illinois. As the former Public Works Director/City Engineer, Mr. Flatter was directly responsible for all aspects of the City's Capital Improvement Projects (i.e., planning, budgeting, design, construction, community relations, Infrastructure Committee liaison, etc.).

Project Manager: Mary Cave, P.E.

Ms. Cave has nearly 20 years of work experience in several aspects of civil engineering. From her previous experience, including serving as the Assistant City Engineer for the City of Decatur, she has developed strong communication skills as well as the ability to organize, prioritize and work with multiple stakeholders and deadlines. Her vast experience includes public outreach, grant writing, land development design and review, drainage system modeling, design and review, and capital improvement planning.

WORKLOAD CAPACITY

The TEG team as presented in this proposal has the capacity to complete the 3rd party alternative alignment analysis for the City's Farm Creek Trunkline Sanitary Sewer Replacement Project in the time frame desired by the City. Our team is available immediately and for the duration of this project. Their past experience, most notably serving as City Engineers as well as consulting engineers, offers a local governmental view and a professional engineering perspective with no opportunity for bias. TEG is committed to making this project a success.



Our approach for this project will be to prioritize the project criterion, conduct a detailed alternative analysis, and identify the least disruptive and most cost-effective solution. Our approach will involve a comprehensive alternative alignment analysis with the following factors being considered:

- **TREE REMOVAL** – Does alignment minimize tree removal?
- **WETLAND** – Does alignment avoid wetlands?
- **FLOODPLAIN/FLOODWAY** – Does alignment avoid floodplain and floodway?
- **RIPARIAN ENVIRONMENT** – Does alignment avoid riparian areas?
- **ENDANGERED SPECIES** – Does alignment avoid endangered species habitat areas?
- **ILLINOIS DEPARTMENT OF NATURAL RESOURCES (IDNR)** – Does the alignment require review and permit from IDNR?
- **ARMY CORPS OF ENGINEERS (ACOE)** – Does the alignment require review and permit from ACOE?
- **CONSTRUCTION ACCESS AND STAGING** – Does alignment support construction access and provide adequate room for staging?
- **FUTURE MAINTENANCE ACCESS** – Will alignment support unrestricted access for future maintenance by City staff?
- **EASEMENTS** – Does alignment minimize need for temporary construction easements and permanent easements?
- **RIGHT-OF-WAY (ROW)** – Does alignment utilize existing rights-of-way, thus minimizing need for temporary construction easements, permanent easements, and ROW acquisition?
- **RAILROAD RIGHT-OF-WAY AND CROSSING** – Does alignment avoid the TP&W right-of-way and minimize its crossing?
- **OPEN EXCAVATION INSTALLATION** – Does alignment support open cut/trench installation method?
- **TRENCHLESS INSTALLATION** – Does alignment minimize trenchless installation method?
- **CONSTRUCTION COST** – Is alignment lowest construction cost alternative?
- **FUTURE MAINTENANCE COSTS** – Does alignment minimize future maintenance costs?
- **DROP STRUCTURES** – Does alignment avoid need for installation of drop structures?
- **ALIGNMENT AND ELEVATION** – Does alignment minimize bends and allow for shallower inverts?
- **COMPLIANCE WITH CITY COMPREHENSIVE PLAN/FUTURE DEVELOPMENT** – Does alignment facilitate the City's Comprehensive Plan and help to encourage future development?



To help analyze alternative alignment options, TEG will develop a decision matrix, with a weighted point system, to allow for a direct comparison of each of the above listed criteria. The ultimate goal is to provide a true quantitative comparison.

TEG successfully utilized this decision matrix process to evaluate alignment alternatives for a large water transmission main replacement project within the Village of Lombard, Lombard, Illinois. A sample of the alternatives matrix provided to the Village has been provided on the next page as Exhibit 1.

Exhibit 1 Village of Lombard		Alternative														
Transmission Main (Civic Center to South Booster)		1. Installation in Village ROW: Street to Wilson to School, under E. Route 30, to 14th Street to Booster Station			2. Installation in Village ROW: Street to Wilson to School, under E. Route 30, to 14th Street to Booster Station			3. Installation in Village ROW & State ROW: Street to E. Route 30 to School to 14th Street to Booster Station			4. Installation in Village ROW & State ROW: Street to Central to Fairfield to E. Route 30 to School to 14th Street to Booster Station			5. Installation in Village ROW and County ROW: Street to Wilson to Westmore Meyers, under E. Route 30, to 14th Street to Booster Station		
List of Criterion	Method Weight	Open Cut			Trenchless			Open Cut			Open Cut			Open Cut		
		Rating	Notes	Score	Rating	Notes	Score	Rating	Notes	Score	Rating	Notes	Score	Rating	Notes	Score
Avoidance of Easement ROW Acquisition & State/County Permitting & Congestion to State and County Traffic	20%	3	Mostly Village-Owned Residential Zoning	60	3	Mostly Village-Owned Residential Zoning	60	0	<1,000 of Main Installation in State ROW (2 Signalized Intersections)	0	1	<5,000 of Main Installation in State ROW (1 Signalized Intersections)	20	0	<1,000 of Main Installation in DuPage County ROW (4 Signalized Intersections)	0
Ease of Operation and Maintenance (Future Accessibility & Depth of Bury)	20%	3	Low Volume Local Urban/Rural Route	60	3	Low Volume Local Urban/Rural Route	60	0	High Volume State Route	0	1	Mixed with High Volume State Route	20	1	Mixed with High Volume County Route	20
Construction Cost	15%	2		30	0	Not Expensive	0	3		45	3		45	1		15
Total Route Length (Maintenance, Head Loss)	15%	1	<9,000	15	1	<9,000	15	3	<9,000	45	3	<9,000	45	0	<9,000	0
Minimize Utility Conflicts (Village Owned)	5%	1	Sanitary Sewer Replacement	5	1	Sanitary Sewer Replacement	5	1		5	2	Sanitary Sewer Replacement	10	1	Sanitary Sewer Replacement	5
Minimize Utility Conflicts (Non-Village Owned)	5%	3	Portions of Open Drainage & Rear-Yard Electric	15	3	Portions of Open Drainage & Rear-Yard Electric	15	1		5	2		10	1		5
Avoidance of Recently Improved Local Streets/Paving	5%	1		5	3	Threshold	15	2		10	2		10	3		15
Construction Impact to Village Residents (Driveways)	5%	1	Residential	5	2	Residential	10	3	Non-Residential	15	2	Portions of Non-Residential	10	1	Portions of Non-Residential	5
Minimize Vertical Bend Sets (Profile Excavation Gain/Loss)	5%	1	Low Point: School Street b/w Morris Ave and Norton St	5	1	Low Point: School Street b/w Morris Ave and Norton St	5	3	Low Point: E. Route 30 b/w Fairfield Ave and Abrams Ave	15	1	Low Point: E. Route 30 b/w Fairfield Ave and Abrams Ave w/ undesirable crest	5	1	Low Point: Meyers Road b/w Morris Ave and Norton St	5
Minimize Horizontal Bend Sets	5%	2		10	2		10	3		15	2		10	1		5
	100%	18		280	19		285	19		355	19		365	10		75



Tasks to be accomplished:

- Host “Kick-Off” Meeting with City staff. Said meeting can occur virtually if desired by City staff.
- Review/evaluate Strand’s & Aptim’s Alignment Alternative Reports.
- Conduct field investigation and data gathering.
- Meeting with Stakeholders to understand concerns (if desired by City staff)
- Development of alignment modifications & decision matrix.
- Draft report of findings and recommendations, submit to City staff for review.
- Meet with potential impacted property owners to discuss project and understand concerns.
- Finalize report of findings and recommendations, submit to City staff for review.
- Presentation of report to City Staff.
- Host Public Hearing/Information Meeting, if determined necessary by City staff.
- Presentation of report to City Council.

TEG understands that transparency is of the utmost importance and our firm is committed to working with City staff and all stakeholders as necessary to gain support for this project. TEG will host additional coordination meetings with City staff as determined necessary or desired by City staff and will provide weekly progress reports/emails to City Staff.

A proposed project schedule to accomplish the above tasks can be found on the next page.



3rd Party Alternative Analysis Schedule for Farm Creek Trunk Sewer

<i>Milestones</i>	<i>Completion Date</i>
<i>NTP</i>	October 1, 2021
<i>Kick-off Meeting</i>	Week of October 4, 2021
<i>Evaluation of Strand's & Aptim's Alignment Alternative Reports</i>	Week of October 11, 2021
<i>Field Investigation & Data Gathering/Coordination Meeting with City Staff</i>	Week of October 18, 2021
<i>Meeting with Stakeholders to understand concerns (if desired by City staff)</i>	Week of October 18, 2021
<i>Development of Alignment Modifications and Decision Matrix</i>	Week of October 25, 2021
<i>Development of Draft Analysis Report</i>	Week of November 1, 2021
<i>Submittal of Draft Analysis Report to City of Washington</i>	Week of November 8, 2021
<i>Meeting with potentially impacted property owners</i>	Week of November 15, 2021
<i>Modification/Finalize Analysis Report</i>	Week of November 29, 2021
<i>Submittal of Final Analysis Report to City of Washington</i>	Week of December 13, 2021
<i>Presentation to City Council (December 20, 2021) or Committee of the Whole (January 10, 2022)</i>	January 10, 2022
<i>Periodic Progress Reports to City Staff (as determined necessary)</i>	TBD

