



Naperville

CONSULTANT ENGINEERING SERVICES SYLVAN CIRCLE AND E. PORTER AVENUE ROADWAY AND WATERMAIN IMPROVEMENTS PHASE 2 - DESIGN ENGINEERING RFP 22-264

SCOPE OF SERVICES:

This scope of services covers preliminary and design engineering services for the proposed improvements of Sylvan Circle (~1,300 feet) and Porter Avenue (~1,700 feet). The scope of the project includes a complete roadway reconstruction along with the replacement of the existing watermain. As part of the roadway reconstruction these local roads would be brought up to City Standards to include storm sewer, watermain, curb & gutter and street lights. Residential driveway access to local traffic must be maintained throughout the duration of the project. The start of construction is tentatively scheduled for March 2024.

The consultant is expected to perform preliminary and detailed design engineering services in accordance with, but not limited to, the following overall work tasks:

A. *Data Collection.* The City will provide the consultant with:

- City of Naperville's Geographic Information System (GIS) Data
- Survey CAD files of project limits completed in August 2023
- Prairie Park Watershed Study completed in 2020

**The consultant will collect utility atlases and other necessary information related to the project*

B. *Field Survey and Mapping.* Review and determine if provided survey files of project limits can be utilized for design. If provided survey files cannot be used or additional survey information is required, conduct a full topographic survey of the project area (survey area exhibit provided). The project area includes:

- i. Sylvan Circle (approx. 1,300 ft) and East Porter Avenue (approx. 1,700 ft) from Julian Street to Sylvan Circle (see attached exhibit for more detail). Survey limits should extend 25' beyond the Right-of-way line. Survey limits should be extended as needed to pick up critical information.
- ii. Side yards including easements between 1040 & 1046 Sylvan Circle and 405 & 409 S. Charles Avenue.
- iii. Front property corners for all parcels along Sylvan Circle and E. Porter Avenue shall be staked out prior to the first public information meeting. This will give residents a visual of the existing right-of-way of Sylvan Circle and E. Porter Avenue.

Additional survey information will be required for private sump pumps and side yard swales that currently utilizes the ditch drainage and driveway culverts for conveyance, storage and discharge.

Regarding the possibility of requiring temporary easements for construction work or permanent easements for sidewalk installation, the City will prepare and execute these easement agreements in-house.

C. *Project Coordination.* The following coordination meetings will be included in the scope of the design. The consultant will prepare minutes for all meetings.

- Staff Kick Off Meeting (1)
- City of Naperville Coordination and plan review meetings (3)
- Private and Public Utility Coordination Meetings (3)
- Field Meetings (2)

D. *Public Involvement.* The consultant will conduct three (3) public information meetings with the public.

- i. The first meeting will be a meet and greet with residents, showing existing conditions only. We will ask for feedback/comments/concerns relating to the roadway as it stands today.
- ii. The second meeting will present (4) four alternatives based on the feedback/comments from residents along with traffic control/staging alternatives which coincide with each respective alternative.
- iii. The third meeting will present the pre-final design based on the previous two public information meetings.

Poster size color exhibits of the existing conditions, the design alternatives (plan and typical sections), and other key information shall be provided for all public involvement meetings. PDF copies of all exhibits will also be provided for the City's webpage. A survey/questionnaire will be provided to residents gauging their interest for installation of sidewalk as part of this project.

The City will perform all advertisement for public information meetings, including letter mailings, door hangers, social media, and changeable message boards.

E. *Preliminary & Final Design.* The consultant will prepare a preliminary engineering design. A second and final engineering design should incorporate feedback from staff review and the public involvement process.

- i. Consultant will identify and design roadway alternatives which incorporate the following design features, including but not limited to:
 - i) Standard roadway design with rolled curb and standard crown
 - ii) Alley type roadway design with inverted crown and flush curbing
 - iii) Re-align roadway to the center of the right-of-way
 - iv) Re-align roadway to minimize impacts on existing trees
 - v) Re-align roadway keeping in mind proximity to homes and impact to driveways
 - vi) Re-profiling the roadway

- ii. Consultant will review and calculate net-new-impervious (NNI) area based on design alternatives.
- iii. In the event that Best Management Practices (BMPs) are triggered per DuPage County Ordinance a fee-in-lieu shall be applied for to meet such requirement.
- iv. Consultant will review and confirm whether or not stormwater detention per DuPage County Stormwater & Floodplain Ordinance will be required based on each design alternatives.

F. *Public Sidewalk*

- i. Both Porter Avenue and Sylvan Circle are classified as streets that will not have sidewalk constructed on them. This designation was put in place eighteen (18) years ago.
- ii. The City knows there has been considerable turnover in the neighborhood and some residents would like sidewalk, and that in the long term this sidewalk designation could change.
- iii. The consultant needs to evaluate the parkways and identify corridors for future sidewalk installation. Preservation of good trees is a priority when identifying the corridors.
- iv. Once City staff evaluates the corridors a decision will be made as to if any corridor clearing work will be included in the construction contract or not.

G. *Drainage Study*. The consultant will prepare and submit the following:

- i. Prepare a General Catchment Area Map utilizing the survey collected and any additional information to delineate the different catchment areas.
- ii. The City will provide existing localized drainage/flooding photos and videos of past major rain events, if available.
- iii. All stormwater design shall follow DuPage County Stormwater and Floodplain Ordinance.
- iv. The consultant will look into ways of minimizing the release rate for the catchment area and provide alternatives to address the reduction in stormwater flow and flow rates.
- v. A Stormwater Management Report which includes, but not limited to the following:
 - i) Existing and proposed drainage area map with directional arrows
 - ii) Existing and proposed release rate for each catchment area
 - (1) Consultants shall determine the amount of stormwater storage that is necessary to meet the DuPage County Ordinance for both the 100 year, 24 hour and 2 year, high intensity/short duration rain event.
 - (2) The City will decide how much in-line storage (oversized storm sewers with restrictors) will be provided for each catchment area based on the information provided by the consultant.
 - iii) The consultant will provide storm sewer sizing calculations for all sewers based on the storage selected by the City, and document such in the report.

H. *Utility Coordination*. Meet with the City of Naperville Water to discuss requested improvements to occur in conjunction with reconstruction improvements. Communicate project scope and impacts to any private utilities. Determine any

potential conflicts and impacts to nearby utilities. Coordinate with affected utilities and produce necessary exhibits or plans to establish new alignments and interim staging locations.

i. Naperville Department of Utilities – Water Scope of Work to include:

Engineering design for the installation of approximately 3,000 FT of 8” Class 52 ductile iron water main at the following locations:

- Porter Avenue - Julian Street to Sylvan Circle
- Sylvan Circle - Porter Avenue to Porter Avenue
- Private side yards - Property line between 1040/1046 Sylvan Circle
- Property line between 405/409 Charles Avenue

Engineering design work involves the replacement of existing 6” water main on Porter Avenue and Sylvan Circle and the new installation of water main in easements at the identified side yards. The project also includes installation of fire hydrants and system valves, and replacement of existing water services up to and including the curb stop.

It will be the responsibility of the consultant to coordinate with the various permitting agencies. Coordination includes, but is not limited to, the preparation, submission and attainment of permits and/or approvals from the City of Naperville and Illinois EPA. Sufficient time shall be allowed to obtain necessary permits prior to bidding.

All existing public and private utilities shall be shown on the plan. City staff will provide GIS data indicating locations of the City-owned public utilities. It is the responsibility of the consultant to submit for design JULIEs and atlas requests to the private utilities. It is recommended that any existing/residual JULIE marks are picked up on the field survey to assist with exact utility locations. The City will not arrange for field JULIE locates.

Water Utilities staff will work closely with the consultant to determine the water main alignment and connection point configurations prior to drafting.

Water Utilities staff will provide typical special provisions for water main construction. The Consultant should incorporate these into the final special provisions particular to this project. Staff will also provide any other documents or data necessary to assist the consultant with maintaining the project schedule.

ii. Naperville Department of Utilities – Electric/Fiber Potential Conflicts may include:

- i) A 9-way ductbank running east-west along E. Porter Avenue from Julian Street to White Oak Drive between two manholes at the following locations:

- (1) One manhole located at the northeast corner of E. Porter Avenue and White Oak Drive under the sidewalk
- (2) One manhole located at the southwest corner of E. Porter Avenue and Julian Street under the sidewalk
- ii) Two wooden electric poles within the Sylvan Circle right-of-way span Sylvan Circle near the addresses of 945 & 960 Sylvan Circle. Ideally these facilities remain in place, but will need to be addressed during the engineering design.

- I. *Field Sampling.* The Consultant will perform seven (7) full depth pavement cores along both Sylvan Circle and E. Porter Avenue to document the existing pavement sections. Four (4) cores shall be performed along Sylvan Circle and three (3) on E. Porter Avenue. The cores shall be evenly spaced along both roadways.

The consultant shall also conduct soil borings during the design of this project at a minimum of seven (7) locations, to a minimum depth of 15-feet. Soil borings will be used to sample for non-special waste and for pavement design. The samples should be taken at the beginning, middle and end of Porter Avenue and the north, south, west and east legs of Sylvan Circle.

- J. *Traffic Control Plan Alternatives.* The design engineer shall provide a minimum of two alternatives for staging and traffic control plans to be discussed with affected stakeholders. The plan must consider maintenance of patron access, staging area, and duration of each stage. A potential third and final staging plan should incorporate feedback from staff review and the public involvement process.

- K. *Construction Document Preparation.* Prepare conceptual plans, 60% plans, 90% pre-final plans, and final plans, as well as specifications and engineer's opinion of probable construction costs for the improvements as identified in the preliminary engineering phase. The pre-final and final documents will be reviewed by the City of Naperville, including the Development Review Team. Up to two review cycles may be required with a disposition of comments. The final construction documents will address all comments received. The plans will include, but are not limited to:

- (1) Cover sheet with index, project location map, list of standards
- (2) General notes
- (3) Summary of quantities
- (4) Alignments, ties and benchmarks
- (5) Typical section(s) and pavement design
- (6) Maintenance of Traffic General Notes and Construction Staging
- (7) Maintenance of Traffic
- (8) Existing conditions and removal plans
- (9) Erosion control and Stormwater Pollution Prevention Plan
- (10) Proposed plan and profile for roadway
- (11) Proposed plan and profile of drainage and utility improvements
- (12) Cross-Sections
- (13) Pavement marking and signage plan
- (14) Lighting Plan and Details

- (15) Landscape Plan
- (16) Construction details

**Note 1"=50' scale references project overview sheets, 1"=20' references detail plans, actual scale to be determined by engineering consultant*

- L. *Summary of quantities and estimate of cost.* Provide a summary of quantities and engineer's opinion of probable construction costs. Quantities and estimate shall be provided at 60% completion as well as following acceptance of the final design. Quantities and estimate of cost should clearly delineate scope separation between roadway/drainage and water utility. Documents to be provided to the City in a modifiable electronic format. City will prepare bidding documents through City procurement standards.
- M. *Bidding Assistance.* Answer technical questions during the bidding process and attend the pre-construction meeting.

Consultant shall prepare and submit proposal using IDOT CECS worksheet.

The successful consultant may be used for additional phases of this project, including Phase 3 construction engineering.



Local Public Agency City of Naperville	County DuPage	Section Number
Consultant (Firm) Name Thomas Engineering Group, LLC	Prepared By Kevin VanDeWoestyne	Date 12/28/2022

PAYROLL ESCALATION TABLE

CONTRACT TERM	13	MONTHS	OVERHEAD RATE	120.00%
START DATE	12/1/2022		COMPLEXITY FACTOR	2.00%
RAISE DATE	1/1/2023		% OF RAISE	2.00%
END DATE	12/31/2023			

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	12/1/2022	1/1/2023	1	7.69%
1	1/2/2023	1/1/2024	12	94.15%

The total escalation = 1.85%

Local Public Agency	County	Section Number
City of Naperville	DuPage	

MAXIMUM PAYROLL RATE	78.00
ESCALATION FACTOR	1.85%

PAYROLL RATES

Exhibit E Cost Estimate of Consultant Services Worksheet Fixed Raise

CLASSIFICATION	IDOT PAYROLL RATES ON FILE	CALCULATED RATE
Principal	\$78.00	\$78.00
Project Manager	\$64.00	\$65.18
Project Engineer IV	\$60.50	\$61.62
Project Engineer III	\$43.75	\$44.56
Project Engineer II	\$35.74	\$36.40
Project Engineer I	\$30.00	\$30.55
Chief Surveyor	\$59.30	\$60.39
Technical Manager	\$50.05	\$50.97
CADD/Technician	\$47.40	\$48.28
Technician I	\$27.30	\$27.80
QC/QA	\$70.00	\$71.29

Local Public Agency

City of Naperville

County

DuPage

Section Number

AVERAGE HOURLY PROJECT RATES

Exhibit E Cost Estimate of Consultants Services Worksheet Fixed Raise

SHEET 1 OF 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Data Collection			Field Survey & Mapping			Project Coordination			Public Involvement			Preliminary & Final Design		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	78.00	24.0	1.05%	0.82							10	14.29%	11.14	6	9.68%	7.55	4	0.52%	0.40
Project Manager	65.18	338.0	14.79%	9.64	8	16.67%	10.86				50	71.43%	46.56	28	45.16%	29.44	88	11.40%	7.43
Project Engineer IV	61.62	462.0	20.21%	12.45	10	20.83%	12.84				10	14.29%	8.80	28	45.16%	27.83	170	22.02%	13.57
Project Engineer III	44.56	486.0	21.26%	9.47	10	20.83%	9.28										250	32.38%	14.43
Project Engineer II	36.40	100.0	4.37%	1.59													80	10.36%	3.77
Project Engineer I	30.55	194.0	8.49%	2.59	20	41.67%	12.73												
Chief Surveyor	60.39	22.0	0.96%	0.58				22	15.49%	9.36									
Technical Manager	50.97	46.0	2.01%	1.03				46	32.39%	16.51									
CADD/Technician	48.28	512.0	22.40%	10.81													172	22.28%	10.76
Technician I	27.80	74.0	3.24%	0.90				74	52.11%	14.49									
QC/QA	71.29	28.0	1.22%	0.87													8	1.04%	0.74
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TOTALS		2286.0	100%	\$50.76	48.0	100.00%	\$45.71	142.0	100%	\$40.36	70.0	100%	\$66.50	62.0	100%	\$64.81	772.0	100%	\$51.10

