



CHRISTOPHER B. BURKE ENGINEERING, LTD.

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January 17, 2019

Village of Orland Park
Public Works Department
15655 Ravinia Avenue
Orland Park, IL 60462

Attention: Mr. John Ingram – Infrastructure Maintenance Director

Subject: Proposal for Professional Engineering Services for
Fernway Subdivision Road and Drainage Improvements

Dear Mr. Ingram:

Christopher B. Burke Engineering, Ltd. (CBBEL) is pleased to submit this proposal to provide professional engineering services for the design of stormwater improvements for the Fernway Subdivision, as well as roadway improvements for the 2019 roadway program outlined by the Village of Orland Park (Village). This proposal includes our Understanding of the Assignment, Scope of Services and Fee.

UNDERSTANDING OF ASSIGNMENT

The Fernway Subdivision stormwater management system is an open drainage system that outlets to Tinley and Midlothian Creeks which traverse the neighborhood. CBBEL previously completed stormwater ditch designs for the areas bound by 171st St. to the south, 167th St to the North, 88th Ave to the west, and Village limits to the east. The Village would like to extend the previous work out into the neighborhood by reestablishing the culvert and ditch flow lines that are critical to the effective functionality of an open drainage system. This proposal is for the regional drainage ditch design outlined as "Area 4", bound by 167th St to the south, Laurel Dr to the north, 88th Ave to the west, and Village limits to the east. In addition to this regional drainage design, this proposal includes the roadway reconstruction design for the Village's 2019 program which includes 165th Pl, 166th St, 166th Pl, and Robinhood Dr between 167th St and 165th Pl. We understand that the Village will use general funds, therefore IDOT approval will not be required.

To complete an accurate, bid worthy design for the regional drainage design and the roadway design, CBBEL will complete a topographic survey for the area outlined as "Area 4". This survey can also be used to assist with the road program for years 2020 and 2021, which can be designed under a separate, future proposal.

It is important to note that this project will be designed to accommodate general overland flow and nuisance flooding (temporary standing water in poorly graded ditches) it is not intended to solve the flooding issues in large rain events. Because this neighborhood lies within the floodplain/drainage area of both Midlothian and Tinley Creeks, solving the flooding from large storm events would require a significantly larger amount of infrastructure, land and design engineering.

SCOPE OF SERVICES

Based on our experience with similar projects, our anticipated scope of services is detailed below:

Task 1 – Topographic Survey: CBBEL will perform a topographic survey of the areas outlined above as “Area 4”. The survey will be used to determine the drainage improvements that would be necessary to accommodate overland flow and reduce nuisance flooding. CBBEL will conduct a topographic survey per the following scope:

- **Horizontal Control:** Utilizing state plane coordinates, CBBEL will set recoverable primary control utilizing state of the art GPS equipment based on NGS Control Monumentation.
- **Vertical Control:** CBBEL will establish benchmarks and assign elevations to the horizontal control points. This will be based on GPS observed Cook County Control Monumentation (NAVD’88 vertical control datum).
- **Existing Right-of-Way:** CBBEL will establish the approximate existing right-of-way of the roadways within the project limits based on monumentation found in the field, plats of highways, subdivision plats and any other available information.
- **Topographic Survey:** CBBEL will field locate all pavements, driveways, curb and gutters, pavement markings, signs, manholes, utility vaults, drainage structures, utilities, driveway culverts, cross road culverts, etc. within the project limits. Establish all rim and invert elevations, utility sizes & type, depth subterranean structure, etc., at all points of access to below-grade utilities.
- **Cross Sections:** CBBEL will survey cross sections along the project limits at 50’ intervals, at driveways, and at all other grade controlling features. Survey will be obtained for 10 feet beyond the existing right-of-way line.
- **Utility Survey and Coordination:** All existing storm and sanitary sewers will be surveyed to determine rim and invert elevations and pipe sizes. Above ground facilities of any additional underground utilities including water main, gas, electric, cable, etc. will also be located.
- **Tree Survey:** CBBEL will locate lone trees over 6” inches in diameter, ornamental trees, and only the tree line for wooded areas, if any, within the limits associated with the project. The located trees will be identified by species (deciduous or coniferous) and the size.
- **Base Mapping:** CBBEL will compile all of the above information onto one base map at 1”=20’ scale that is representative of existing conditions.

Task 2 – Utility Coordination: CBBEL will identify utilities that may have facilities within the project limits and send a Preliminary Utility Request to known utility companies to obtain pertinent information. Based on the information received from the utility companies, CBBEL will include locations of facilities on the plans, identify potential conflicts with the proposed project and design the proposed improvements to minimize utility conflicts.

Task 3 – Drainage Analysis: Based on the data collected in Task 1, CBBEL will analyze the existing drainage information to determine tributary areas, outlet locations and other stormwater related data based on the actual field conditions. CBBEL will then prepare the design of the proposed conveyance system, including ditch design and culvert sizing. For the areas determined to be too flat to allow for positive overland flow, CBBEL will design and size a pipe conveyance system capable of accommodating the flows. CBBEL will attempt to utilize existing drainage patterns and outlets for the proposed system; however if a more efficient option is available or an alternate route allows for more effective transport of stormwater, CBBEL will propose these options to the Village to reduce or eliminate the existing poor drainage conditions present throughout the Fernway Subdivision.

Task 4 – Preliminary Engineering: Using Tasks 1-3 deliverables, CBBEL will prepare Preliminary Engineering plans. The plans will be prepared in accordance with Village and IDOT design criteria. The plans are anticipated to include the following sheets:

SHEET HOURS	AVERAGE HOURS/ SHEET	AREA #4	
		# OF SHEETS	HOURS
Title Sheet	4	1	4
General Notes/ Summary of Quantities/ Typical Sections	20	3	60
Alignment Ties & Benchmarks	8	1	8
Sewer Plan & Profile Grading Sheets 1"=20'	20	7	140
Ditch and Culvert Improvements 1"=50'	30	4	120
Erosion Control & Landscaping Plans & Details 1"=50'	6	3	18
Cross-Sections	8	6	48
Construction Details	6	2	12
Specifications	(20)	-	20
Opinion of Probable Costs/Quantity Calculations	(20)	-	20
QA/QC	-	-	6
TOTALS		27	456

Preliminary Plans, Specifications and opinion of probable cost will be submitted to the Village for review. This task includes one review meeting with Village Staff.

Task 5 – Permitting: Although the Village has jurisdiction over the majority of the areas where work is proposed, several other agencies and/or municipalities are located in one or more of the sub-watersheds. As needed to permit and/or construct the proposed improvements, CBBEL will coordinate with Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), Cook County, Illinois Department of Natural Resources – Office of Water Resources (INDR-OWR), Illinois Department of Transportation (IDOT), Tinley Park, and Orland Hills. CBBEL will also prepare a Stormwater Pollution Prevention Plan (SWPPP) consistent with the requirements of the Village's NPDES Phase II permit and submit it to the Illinois Environmental Protection Agency (IEPA).

Task 6 – Final Engineering: Upon meeting with the Village Staff to review their comments on the preliminary submittal, CBBEL will revise and finalize the contract documents and cost estimate. During this task, the exact letting date will be determined and an estimated construction schedule will be provided.

Task 7 – Local Agency Coordination/QA-QC/Administration: Although the Village owns the majority of the roadways where most of the work is proposed, there may be a need for coordination with adjacent municipalities or Cook County. CBBEL will meet and/or coordinate with all local governmental agencies as needed throughout the course of the design to obtain concurrence and /or approval for the proposed activities. All QA/QC aspects and project administration is included under this item.

Task 8 – Bid Assistance: CBBEL will assist the Village in advertising for bids, distribute plans and specifications to all bidders, and be present at the bid opening. CBBEL will review and tabulate all of the bids and make a recommendation of award.

FEE ESTIMATE

The estimated costs for the tasks provided above are as follows:

TASK	DESCRIPTION	AREA #4
1	Topographic Survey	\$23,200
2	Utility Coordination	\$ 4,800
3	Drainage Analysis	\$16,000
4	Preliminary Engineering	\$31,000
5	Permitting	\$ 2,400
6	Final Engineering	\$18,000
7	Local Agency Coordination/QA-QC/Administration	\$ 2,000
8	Bid Assistance	\$ 1,200
Sub Total		\$98,600
Direct Costs		\$ 800
Total		\$99,400

We will bill you at the hourly rates specified in the Professional Engineering Services Master Agreement including previously agreed upon Schedule of Charges and General Terms and Conditions. These General Terms and Conditions are expressly incorporated into and are an integral part of this contract for professional services. It should be emphasized that any requested meetings or additional services are not included in the preceding fee estimate and will be billed at the previously accepted Schedule of Charges. It is assumed that no federal funding or MFT funding will be utilized.

Please sign and return one copy of this agreement as an indication of acceptance and notice to proceed. Please feel free to contact us anytime.

Sincerely,



Christopher B. Burke, PhD, PE, D.WRE, Dist.M.ASCE
President

THIS PROPOSAL ACCEPTED FOR THE VILLAGE OF ORLAND PARK:

BY: _____

TITLE: _____

DATE: _____