



TranSystems

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May 2, 2024

Mr. Andy Hynes, P.E.
City Traffic Engineer / Transportation, Engineering and Development Business Group
City of Naperville
400 South Eagle Street
P.O. Box 3020
Naperville, IL 60566-7020

Reference: North Aurora Road Underpass
From Pennsbury Lane to Frontenac Road
DuPage County
P.O. No. 163096
RFP No. 16-135
SUPPLEMENT No. 7

Dear Mr. Hynes,

We are pleased to submit for your review and approval Supplement No. 7 for the North Aurora Road Underpass project. We have included the following items:

- Exhibit A – Scope of Engineering Services
- Exhibit B – Cost Estimate of Consultant Services

This supplement includes several items by TranSystems required to complete the project. These items include:

- Additional project coordination with CN Railway, BNSF, ComEd Transmission, and the Illinois Commerce Commission (ICC) to finalize agreements.
- Additional design services to additional PS&E submittals to IDOT and CN Railway.
- Additional design services to revise the BNSF track geometry to avoid conflict with ComEd Transmission.
- Additional design services to revise the NW and SW retaining wall design and drainage design due to comments received recently from ComEd Transmission.
- Additional project management due to extended project timeline.

The cost for completing this work in Supplement No. 7 is \$134,240. If you have any questions or require additional information, please call me at (847) 407-5300.

Very truly yours,

A handwritten signature in black ink, appearing to read "Matthew J. Smith", with a stylized flourish at the end.

Matthew J. Smith, P.E.
enclosures



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EXHIBIT A – Scope of Engineering Services – Supplement No. 7
North Aurora Road Underpass at CN Railroad (Pennsbury Lane to Frontenac Road)
Section No. 06-00133-00-BR

This supplement consists of Phase II engineering services to perform additional work in several areas to complete the North Aurora Road Underpass at CN Railroad project as described in detail below. The following tasks are included to complete this work:

1. Additional Project Coordination [160 hours]

- a. Additional coordination (104 hours) efforts will be required to finalize agreements and design plans with both the CN & BNSF. This effort will require additional support and technical guidance to support Naperville for completion of the Construction & Maintenance, easement, and access license agreements for both railroads. Support for the development of the ICC Proposed Agreed Order and attendance to ICC status meetings is also included.
 - i. Coordination to finalize agreements includes meetings, conference calls, strategy discussions, research, draft agreement review, and exhibit preparation [50 hours].
 - ii. Review contract bidding documents to ensure the Contractor requirements from the railroad agreements are properly accounted for in the bidding documents. This includes a special provision outlining the specific requirements not already included in the IDOT Standard Specifications or Railroad provided right-of-entry agreement applications that will already be provided in the bid documents [24 hours].
 - iii. Provide support for development of the draft ICC Proposed Agreed Order [10 hours]
 - iv. Preparation, assistance, and attendance for 5 ICC status hearings. The current contract includes hours for up to 8 status meetings, while TranSystems staff has attended 12 to date and will attend 1 more. Therefore, this Supplement includes 5 additional status meetings [5 meetings @ 4 hours/meeting = 20 hours]
- b. Utility Coordination – ComEd Transmission (56 hours). Due to the complexities involved with the planning, design, and construction of the project, additional hours will be needed to coordinate with ComEd Transmission to obtain approvals on the easement. This task covers both the transmission pole conflict and the vertical clearance over BNSF conflict.

2. Additional Submittals to IDOT and Railroads [328 hours]

The scope for this item includes additional design efforts related to additional PS&E submittals required by IDOT and the CN Railway. The team submitted the first 99% Initial Final submittal in November 2023 in preparation for the March 2024 letting. Due to delay in obtaining approval on railroad and utility agreements, the letting is now targeted for August 2024, which requires a 2nd Initial Final submittal on April 22, 2024. Submitting a 3rd Pre-Final submittal of the plans, specifications and estimates assumed to be submitted to IDOT on August 11, 2023. This additional Pre-Final submittal is required by IDOT since it will have been more than 1 year since the previous Pre-Final submittal.

- a. Additional efforts required for the pre-final submittal in September 2023 and initial final submittal in November 2023 was needed above and beyond what was planned for in Supplement 6 to update cost estimates, address IDOT comments and repackage the plans, specifications, and estimates (114 hours).
 - i. Detailed cost analysis to update the cost estimate with latest average unit prices from bid tabs from recent contracts [48 hours]
 - ii. Repackage plans, specifications, estimates and disposition of comments [16 hours]
 - iii. Address and dispose of comments prior to the Final submittal from IDOT D1 Bureau of Traffic, Bureau of Local Roads, Bureau of Maintenance [50 hours]
- b. Design services for temporary soil retention system was needed to address comments from CN above what was planned for in Supplement 6 (16 hours)
- c. Additional 99% Initial Final Submittal to IDOT on April 22 (198 hours):
 - i. Update IDOT check sheets, BDE and District 1 Special Provisions for January 2024 letting [30 hours]
 - ii. Verify correct use of all pay items for January 2024 letting and update estimate of time [30 hours]
 - iii. Update cost estimate with latest average unit prices from bid tabs from recent contracts [40 hours]
 - iv. Repackage plans, specifications, estimates and disposition of comments [32 hours]
 - v. Perform QA/QC review including 10 hours for civil plans, 3 hours for structural plans and 3 hours for rail plans [16 hours]
 - vi. Address and dispose of comments prior to the Final submittal [50 hours]

3. BNSF Track Design Changes [110 hours]

The BNSF track design plans will be revised and updated to avoid a major utility impact with ComEd Transmission lines. With the previous design, the track was to be raised by about 1 foot and shifted horizontally by about 6 inches. Due to this work, a new clearance evaluation would be triggered by ComEd, which would result in a clearance violation due to the application of stricter clearance standards by the National Electrical Safety Code. The design change limits the amount of track work on

the BNSF interchange track, thereby avoiding the need for ComEd to evaluate the new clearance. The revised design required three iterations and review by BNSF and ComEd and required BNSF to accept a geometric design that is sub-standard.

- a. Railroad geometric alternatives evaluation and design. This included two iterative profile revisions and one horizontal alignment revision (48 hours).
- b. Coordination with BNSF on the various alternatives and obtain approval (12 hours).
- c. Update track plans and cost estimates, including railroad force account estimates. Plan updates include the following sheets (50 hours):
 - i. Track Schedule
 - ii. Schedule of Quantities
 - iii. Temp & Final Alignment Demolition Plans
 - iv. Temp & Final Erosion Control Plans
 - v. Temp & Final Grading and Drainage Plans
 - vi. Temp & Final Plan and Profile
 - vii. Temp & Final Cross Sections

4. Retaining Wall & Drainage Design Revisions (Due to ComEd Transmission Comments) [132 hours]

ComEd had provided comments in July 2023 via internal memo that the North Aurora Rd proposed improvement was conditionally approved subject to plan revisions based on several comments. Two of those comments require plan revisions:

Comment 2c: Catch basins/manholes are not permitted on ComEd property. These shall be relocated outside of the Transmission ROW

Comment 2d: The retaining wall design includes deep piles which will interfere with ComEd's underground use of the Transmission ROW. The wall(s) should be redesigned to include a maximum depth of four (4) feet for any portion of the design. Alternatively, the roadside could be re-graded at a maximum slope of 25%. This design shall be coordinated with ComEd Transmission Lines Engineering and Environmental Svs. Dept.

These comments were received in April 2024, after the design work was completed. Coordination efforts with ComEd Transmission was done to come to an agreement on plan revisions, which includes keeping the drainage structures in the permanent easement limits with some minor adjustments.

For the retaining walls, a plan was agreed to whereby the walls will be removed from ComEd property. Since the current retaining wall design includes drilled soldier piles that will be greater than 4'-0" below ground, the northwest and southwest retaining wall design plans will be revised and updated to shorten the wall limits to avoid

impacting the ComEd property. This will include re-grading the proposed ground elevations behind the northwest and southwest retaining walls within the roadway proposed easement. The revised plans will be submitted to ComEd, IDOT and the City for review and approval.

Structural Items [84 hours]:

- a. Update retaining wall design calculations to reduce the size of soldier piles for the reduced length and height of the Northwest and Southwest walls – 30 hours
- b. Update retaining wall plans for the revised geometry of the Northwest and Southwest walls – 38 hours
- c. Revise retaining wall Quantities and Cost Estimate – 12 hours
- d. QA/QC – 4 hours

Civil Items [48 hours]:

- e. Update drainage design layout to address ComEd’s comment to align structures on either side of the roadway and eliminate inlets behind the NW and SW retaining walls (Drainage plan & profile sheet, drainage schedule, quantities update, erosion control plan) – 8 hours
- f. Update cross sections and grading plans for ComEd approval. Evaluate various easement and side slope options – 24 hours
- g. Revise earthwork Quantities and Cost Estimate – 4 hours
- h. QA/QC – 4 hours
- i. Coordination with ComEd Transmission to review the comments and strategize an agreeable solution – 8 hours

5. Additional Project Management – Extended Project Timeline [30 hours]

Current contract assumes the contract will end in June 2024. The project schedule has been delayed due to multiple factors. The most significant factors involve ComEd, CN and BNSF. All three of these entities have caused project delays due to lengthy response times, lost emails, and development of unforeseen issues. It is assumed that the project will be on the August 2024 letting. An additional 6 months are required for extension of project for contract administration to carry through December 2024.

- a. Project scheduling, monitoring, and management (6 months @ 4 hours/month = 24 hours)
- b. Project administration and invoicing (6 months @ 1 hour/month = 6 hours)

EXHIBIT B

COST ESTIMATE OF CONSULTANT SERVICES



Local Public Agency City of Naperville	County DuPage	Section Number 06-00133-00-BR
Prime Consultant (Firm) Name TranSystems Corporation	Prepared By BVW	Date 5/2/2024
Consultant / Subconsultant Name TranSystem Corporation	Job Number P401060092	

Note: This is name of the consultant the CECS is being completed for. This name appears at the top of each tab.

Remarks

North Aurora Road Underpass (Supplement #7)

PAYROLL ESCALATION TABLE

CONTRACT TERM	8	MONTHS	OVERHEAD RATE	149.49%
START DATE	5/1/2024		COMPLEXITY FACTOR	
RAISE DATE	4/1/2024		% OF RAISE	2.00%
END DATE	12/31/2024			

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	5/1/2024	4/1/2024	-1	-12.50%
1	4/2/2024	1/1/2025	9	114.75%

The total escalation = 2.25%

Local Public Agency

County

Section Number

City of Naperville

DuPage

06-00133-00-BR

Consultant / Subconsultant Name

Job Number

TranSystems Corporation

P401060092

PAYROLL RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET FIXED RAISE

MAXIMUM PAYROLL RATE	78.00
ESCALATION FACTOR	2.25%

CLASSIFICATION	IDOT PAYROLL RATES ON FILE	CALCULATED RATE
Engineer 5 (E5)	\$78.00	\$78.00
Engineer 4 (E4)	\$77.58	\$78.00
Engineer 3 (E3)	\$71.26	\$72.86
Engineer 2 (E2)	\$60.44	\$61.80
Engineer 1 (E1)	\$47.00	\$48.06
Technician 3 (T3)	\$41.14	\$42.07
Technician 1 (T1)	\$20.75	\$21.22
Administrative 3 (A3)	\$51.66	\$52.82
Administrative 2 (A2)	\$34.35	\$35.12

Local Public Agency

City of Naperville

County

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Section Number

06-00133-00-BR

Consultant / Subconsultant Name

TranSystems Corporation

Job Number

P401060092

COST ESTIMATE WORKSHEET

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

OVERHEAD RATE 149.49%

COMPLEXITY FACTOR 0

TASK	STAFF HOURS	PAYROLL	OVERHEAD & FRINGE BENEFITS	DIRECT COSTS	FIXED FEE	SERVICES BY OTHERS	TOTAL	% OF GRAND TOTAL
Additional Project Coordination	160	10,769	16,098	\$0.00	3,554		30,421	22.66%
Additional Submittals & Bid Phase Sup	328	19,505	29,158		6,437		55,100	41.05%
BNSF Track Design Changes	110	7,628	11,403		2,517		21,548	16.05%
Retaining Wall & Drainage Design Rev	132	8,112	12,126		2,677		22,915	17.07%
Additional Project Management-Extenc	30	1,507	2,252		497		4,256	3.17%
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Subconsultant DL					0		-	
TOTALS	760	47,521	71,037	-	15,682	-	134,240	100.00%

118,558

Local Public Agency

City of Naperville

County

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Section Number

06-00133-00-BR

Consultant / Subconsultant Name

TranSystems Corporation

Job Number

P401060092

AVERAGE HOURLY PROJECT RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

SHEET 1 OF 1

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Additional Project Coordination			Additional Submittals & Bid Phase Support			BNSF Track Design Changes			Retaining Wall & Drainage Design Revisions			Additional Project Management-Extended Timeline		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Engineer 5 (E5)	78.00	36.0	4.74%	3.69	20	12.50%	9.75	10	3.05%	2.38				6	4.55%	3.55			
Engineer 4 (E4)	78.00	8.0	1.05%	0.82										8	6.06%	4.73			
Engineer 3 (E3)	72.86	317.0	41.71%	30.39	100	62.50%	45.54	100	30.49%	22.21	75	68.18%	49.68	30	22.73%	16.56	12	40.00%	29.15
Engineer 2 (E2)	61.80	149.0	19.61%	12.12				70	21.34%	13.19	35	31.82%	19.66	44	33.33%	20.60			
Engineer 1 (E1)	48.06	232.0	30.53%	14.67	40	25.00%	12.01	148	45.12%	21.68				44	33.33%	16.02			
Technician 3 (T3)	42.07	0.0																	
Technician 1 (T1)	21.22	0.0																	
Administrative 3 (A3)	52.82	0.0																	
Administrative 2 (A2)	35.12	18.0	2.37%	0.83													18	60.00%	21.07
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TOTALS		760.0	100%	\$62.53	160.0	100.00%	\$67.30	328.0	100%	\$59.47	110.0	100%	\$69.34	132.0	100%	\$61.45	30.0	100%	\$50.22