

**Supplemental Agreement No. 5
for
Consultant Services**

159th Street – Antioch Road to Metcalf Avenue – TH-0851

City of Overland Park, Kansas

This Supplemental Agreement made this _____ day of _____, 2011, by and between the City of Overland Park, Kansas, hereinafter called the "CITY", and **HNTB Corporation**, hereinafter called the "CONSULTANT."

WHEREAS, the CITY is undertaking a project in the City to improve 159th Street – Antioch Road to Metcalf Avenue (the "Project"); and

WHEREAS, the CITY and the CONSULTANT have previously entered into an Agreement, dated **September 18, 2006** for the design of the Project (the "Original Agreement"); and

WHEREAS, Section II of said Original Agreement provides that the scope of services of the Original Agreement may be adjusted by a supplemental agreement; and

WHEREAS, this Supplemental Agreement No. 5 between the parties heretofore is to provide additional engineering services in accordance with Exhibit A of this Supplemental Agreement; and

WHEREAS, the CITY is desirous of entering into a Supplemental Agreement to pay the CONSULTANT for additional services rendered to the CITY; and

WHEREAS, the CITY is authorized and empowered to contract with the CONSULTANT for the necessary additional engineering services for the project, and necessary funds for the payment of said services are available.

NOW THEREFORE, the parties hereby agree as follows:

PART A - BASIC CONSULTANT SERVICES

The CONSULTANT will complete design services and construction engineering services in accordance with Exhibit A of this Supplemental Agreement No. 5.

PART B - SCHEDULE

The CONSULTANT’S performance of this Supplemental Agreement No. 5 will have no impact on the project schedule.

PART C - PAYMENT TO THE CONSULTANT FOR SERVICES RENDERED

The services listed in Exhibit A of this Supplemental Agreement No. 5 will be provided at an amount not to exceed **one hundred twenty nine thousand six hundred fifty and 00/100 dollars (\$129,650)**.

This Supplemental Agreement raises the maximum fee to **\$4,112,650** for the project. This is the total of the fee from the Original Agreement of \$822,500, plus \$00.00 for Supplemental Agreement No. 1, plus \$1,540,200 for Supplemental Agreement No. 2 plus, \$1,620,300 for Supplemental Agreement No. 3, plus \$00.00 for Supplemental Agreement No. 4., and \$129,650 for this Supplemental Agreement No. 5.

IN ALL OTHER RESPECTS, the terms and conditions of the Original Agreement shall remain in full force and effect, except as specifically modified by this Supplemental Agreement No. 5, Supplemental Agreement No. 4 dated **February 16, 2011**, Supplemental Agreement No. 3 dated **February 18, 2008**, Supplemental Agreement No. 2 dated **January 8, 2007**, and Supplemental Agreement No. 1 dated **October 16, 2006** including all policies of insurance which shall cover the additional work required by this Supplemental Agreement No. 5.

IN WITNESS WHEREOF, the parties hereto have caused this Supplemental Agreement No. 5 to be executed as of the day and year first above written.

HNTB Corporation

CITY OF OVERLAND PARK, KANSAS

Mike Hess, P.E.
Vice-President

Carl Gerlach
Mayor

APPROVED AS TO FORM:

ATTEST:

Tammy M. Owens
Senior Assistant City Attorney

Marian Cook
City Clerk

Scope of Services

159th Street – Antioch to Metcalf

City Project No. TH-0851

Project Description

The project includes construction of:

159th Street Thoroughfare

159th Street will be constructed as a City of Overland Park four-lane, divided thoroughfare, expandable to six-lanes in the median, from the intersection of Metcalf Avenue to approximately 300' east of the intersection of Antioch Road. The project will tie-in to improvements at 159th Street and Antioch designed and constructed by others. The project also includes a pair of two span bridges over US 69 and associated abutment walls. Improvements along 159th Street will include curbs, grass median, enclosed storm sewers, sidewalks, hike/bike path, street lighting, and conduit for traffic signals.

Schedule

The 159th Street Project is scheduled for a June 2011 letting. Construction of the project is anticipated to begin in July 2011 and run through November 2012.

Scope of Services

Phase I - Preliminary Design

This phase of work was scoped under the original contract (TH-0851). Materials and Research (M&R) plans were completed and delivered to KDOT and the City of Overland Park in December 2006.

Phase II - Field Check / Right-of-Way

This phase of work was scoped under the original contract (TH-0851). Field Check plans were completed and delivered to KDOT and the City of Overland Park in August 2007. Right-of-way plans will be developed for the 159th Street Thoroughfare project and delivered in December 2007.

Phase III - Final Design

This phase of work was scoped under the original contract (TH-0851). Final plans were completed and delivered to KDOT and the City of Overland Park in March 2011.

Phase IV - Bidding Phase

This phase of work was scoped under the original contract (TH-0851). The project is scheduled to be let in June 2011 in accordance with the City of Overland Park Procedures Manual.

Phase V – Construction Services (159th Street Thoroughfare Project)

The construction phase of the project is assumed to last 18 months. The focus of design services during construction will be:

- Attend the pre-construction conference
- Provide assistance with plan interpretation and respond to requests for information
- Review shop drawings for the bridge, retaining walls, and storm sewer.

- Provide construction observation services for the mainline sanitary sewer work as required by Johnson County Wastewater. A representative from the City will provide construction observation services for all other sanitary sewer work on the project.
- Provide construction observation services for the bridge and retaining wall work. A representative from the City will provide construction observation services for all other roadway work on the project.
- Provide on-site inspection of pre-stressed concrete girder fabrication.

Construction Consultation

HNTB will attend the pre-construction conference to assist the City in answering any questions that may arise and provide plan interpretation and general consultation during construction.

Bridges and Retaining Walls

HNTB will review and recommend conditional approval of shop drawings prepared by manufacturers, fabricators, and/or precasters for all critical bridge components prior to their creation and incorporation into the project. Bridge items anticipated for review and approval for the 159th Street construction project include: prestressed concrete girders, steel diaphragms, and auxiliary attachments; bearing devices and setting plans; pedestrian handrails; lighting and sign attachments; electrical and minor utility conduits; deck expansion joint assemblies; and drainage systems.

HNTB will review Contractor proposals for critical construction operations for safety criteria and compliance with the intent of the design of the bridge. Documentation of bridge construction operations anticipated for the Engineer's review include: removal scheme for the existing bridge, construction sequencing plans, girder erection plans, bridge deck formwork and temporary support systems, excavation shoring methods, and concrete placement sequence for deck slab.

HNTB will review and recommend conditional approval of detailed construction drawings prepared by the manufacturer's designer for proprietary mechanically stabilized earth retaining systems. We will also perform a general review of the retaining wall design calculations to check for compliance with project defined loads and design soil parameters, geometry, and specific site conditions.

Provide general construction consultation for bridges and retaining walls. Be available to construction engineering personnel to interpret or clarify bridge and retaining wall design details, supplemental specifications, or quantity estimates. Respond to questions during construction and assist with resolving issues raised by fabricators and contractors in regard to structures.

Sanitary Sewer

HNTB will conduct pre and post-construction coordination with Johnson County Wastewater (JCW), provide personnel for construction observation of the main extension as required by JCW, and prepare and submit sanitary sewer "as-built" drawings.

Pre-stressed concrete girder fabrication inspection

HNTB will conduct on-site inspection during the fabrication of the pre-stressed concrete girders. Inspection will occur at identified milestones during the fabrication process.

Field Inspection and Construction Observation

Construction inspection will be performed for the open span bridge structures and retaining walls included as part of the 159th Street (Antioch Road to Metcalf Avenue) improvements. The work shall include overall construction inspection for the pair of 197' pre-stressed concrete girder bridges over US-69 including the

MSE retaining walls. The work does not include material testing; inspection of earthwork, except aggregate backfill associated with the retaining walls; drainage structures; pavement and other items not previously mentioned above. The focus of the field inspection and construction observation will be:

- Attend Pre-Construction Conference
- Verify and provide the City, quantities for Bridge Contractor pay vouchers and any required change orders.
- Provide bridge information to be included in the preparation and distribution of monthly progress reports by the City.
- Review and recommend to the City any proposed changes in construction procedures.
- Monitor construction operations to determine contractor's compliance with the plans and specifications for the bridge structures and retaining walls.
- Coordinate on-site material testing with City's Material Testing Laboratory.
- Keep required field construction documentation including daily diaries, logs, records and measurement and computation of pay quantities.
- Review of erosion control measures will be completed by City staff. City to provide materials testing services through a certified testing laboratory. Contractor to provide construction staking and surveys.

Field Inspection and Construction Observation Schedule

The scope and fee derivation are based on completing the construction of the bridges and retaining walls and associated Construction Inspection efforts from July, 2011 through August, 2012

General Survey Requirements

General survey requirements will follow those established in the Preliminary Phase of the project.

Deliverables Provided by HNTB Corporation

159th Street Thoroughfare Project

- As-built Drawings
- Digital CAD and TIFF files
- Updated GIS Shape files for storm sewer, traffic signals, lighting, poles, conduit, controllers, signing, guard fence , and pavement markings

Item of Work		Project Manager	Senior Engineer	Engineer	Inspector	Technician	Total
Phase 3 (Out of Scope Work & Credits) - Final Plans							
3.1 Out of Scope							
	Meetings & Coordination - 15 additional utility meetings and coordination efforts.	15	30	20			65
	Effort for KDOT Local Projects - KDOT Local projects became involved in the project after federal funds were applied to the project. This required additional submittals (Field Check and Final Plans) and review/comments.	10	10			8	28
	Evaluation of Incorporating BMPs - The City asked HNTB to research options for adding hydrodynamic separation units to the project after the storm sewer was designed.	5	20				25
	R/W Updates - Due to the extended project schedule the City ordered new O&E reports. There were several changes to TCE's and additional updates due to replating and adjustments requested by the city for Utility Easements.	10	20			20	50
	Geometric Updates - Due to the extended project schedule the city requested geometric changes at several locations throughout the project limits.	10	224	34		136	404
	Develop and assemble the SWPPP.	2		16		2	20
3.2 Credits							
	Specs & Contract Documents - HNTB was scoped to develop the specifications and contract documents, but the City took the lead on developing the specs and contract documents because of its new system. HNTB took a checking role with the specs and contract documents and a role in developing the special provisions.	2	4	10		16	32
	Subcontractor Credits for reduced efforts - Expense Credit						
Subtotal		50	300	60		150	560
Phase 3 - Revised Fee Summary							
Phase 3 Labor: Out of Scope and Credits				Project Manager @ \$63/hour		3,150	
				Sr. Engineer @ \$44.5/hour		13,350	
				Engineer @ \$36/hour		2,160	
				Technician @ \$31/hour		4,650	
				Direct Payroll:		\$ 23,310	
				Multiplier (3.0)		\$ 69,900	
Phase 3 Expense: Credits				Expenses		\$ (41,750)	
				Total Additional Phase 3 Fee =		\$ 28,150	
Phase 5 (Revised Fee) - Construction Services Phase							
5.1 Data Collection							
5.1.1 Property Corner Restoration							
5.1.1.1	Find, flag and describe all property corners along 159th Street which may be impacted by construction (assume 30).	6	16	16			38
5.1.1.2	After construction is complete, determine condition of each property corner. Replace those which were damaged or destroyed at the location of the original monument.	4	12	12			28
5.1.1.3	Update the Monumentation Map showing all original, undisturbed property corners and those reset due to construction activities. Submit final copies to the City and County for inclusion in their project files.	12				8	20
5.1.2	Quality Assurance	4					4
Subtotal		26	28	28		8	90
5.2 Traffic Engineering							
5.3 Roadway							
5.3.1	Provide assistance with plan interpretation	12	32	60		24	128
5.3.2	Create and produce revised plans	8	12	24		16	60
5.3.3	Prepare one set of final record drawings which reflect all change orders, minor design changes, changes made in the field by City representatives and are clearly marked on the construction plan set.	4	8	8		16	36
Subtotal		24	52	92		56	224
5.4 Drainage							
5.4.1	Provide assistance with plan interpretation	8	12	40		8	68
5.4.2	Review subsurface drains behind retaining walls	2	2	2			4
5.4.3	Evaluate misc. drainage items (underdrains, etc.)		4	2		2	8
Subtotal		8	18	44		10	80
5.5 Sanitary							
5.5.1	Sanitary Sewer - Shop drawing review and coordination	4	12	4			20
5.5.2	Provide minor plan and quantity revisions due to construction changes	2	4	8		6	20
5.5.3	Sanitary Sewer Main Extension Observation (Assumes 1 person for 5 days)	4		50			54
5.5.4	Prepare and submit sanitary sewer "as-built" drawings	2	4	8		10	24
Subtotal		12	20	70		16	118
5.6 Erosion Control							
5.7 Environmental							
Subtotal							

Item of Work		Project Manager	Senior Engineer	Engineer	Inspector	Technician	Total
5.8 Geotechnical							
5.8.1	Coordination with Terracon.	14					14
Subtotal		14					14
5.9 Structural							
5.9.1	Review and recommend conditional approval of shop drawings for bridge superstructure components: girders, diaphragms, and miscellaneous attachments.	4	16	48			68
5.9.2	Review manufacturer's shop drawings for bridge bearing devices.		2	6			8
5.9.3	Review fabricator's shop drawings for metal handrails on bridges.	4	12	32			48
5.9.4	Review contractor's design and details for bridge formwork for deck slab, including evaluation of overhang brackets and construction loads.		4	12			16
5.9.5	Review fabricator's shop drawings for bridge deck expansion joint assemblies.		4	12			16
5.9.6	Review catalog cuts for miscellaneous bridge attachments including drain systems, electrical conduit, lighting, and utilities.		4	8			12
5.9.7	Review contractor's proposed method for removal of the existing four span bridge over US 69.		4	8			12
5.9.8	Review retaining wall manufacturer's design calculations for proprietary system for conformance to project design parameters.	2	4	8			14
5.9.9	Review and recommend approval of retaining wall manufacturer's detailed construction drawings for segmental wall systems.	6	12	32			50
5.9.10	Review contractor's details for excavation shoring systems.		4	6			10
5.9.11	Assist with retaining wall modifications required when unexpected geologic conditions are encountered or adjustments become necessary to avoid underground obstructions.	2	8	12		6	28
5.9.12	Allow for approximately three field visits to observe sample panels, answer design questions, and help solve problems.		10	10			20
5.9.13	Produce revised plan sheets or new plan sheets for owner approved and directed design changes.	2	12	24		12	50
5.9.14	Provide general consultation services for bridges and retaining walls. Be available to construction engineering personnel to interpret or clarify bridge and retaining wall design details, specifications, or quantity estimates.	10	40	30			80
Subtotal		30	136	248		18	432
5.10 Public Involvement							
Subtotal							
5.11 Utility Coordination							
5.11.1	Coordination with project contractor to review utility information	2	2	2			6
Subtotal		2	2	2			6
5.12 Bridge & Retaining Wall Inspection							
5.12.1	Field Inspection of Bridges and Retaining walls (assumes management of 5 hrs./mo. for 14 months (July, 2011 through August, 2012), an Inspector for 14 months July 2011 through August, 2012) – assume 9 hours per day for week days and 1 Saturday per month.)	70			2871		2941
5.12.2	Materials Inspection On-site of the Prestressed Beam Fabrication (assumes management of 1 hr/beam line and senior inspector of 4 visits/beam line with each visit 8hrs)	8			256		264
Subtotal		78			3127		3205
5.13 Administration/Meetings							
5.13.1	Attend preconstruction meeting	4	12	8			24
5.13.2	Attend weekly progress meetings as directed by the City. Assumes meetings at 2 hours each for 18 months during construction.	78	78				156
5.13.3	Participate in final walk-through inspection	4	8				12
5.13.4	Attend utility review meetings with City and KDOT (Assume 4)	6	8	4			18
5.13.5	Prepare monthly progress reports	9	18				27
5.13.6	Stakeholder Meetings (Assume 4)	8	8	4			20
Subtotal		109	132	16			257

Item of Work	Project Manager	Senior Engineer	Engineer	Inspector	Technician	Total
Phase 5 (Revised Fee) - Construction Phase	303	388	500	3127	108	4426
Phase 5 - Revised Fee Summary						
Phase 5 Labor:	Project Manager @ \$69.50/hour					21,059
	Sr. Engineer @ \$49/hour					19,012
	Engineer @ \$40/hour					20,000
	Technician @ \$34/hour					3,672
	Direct Payroll:					\$ 63,743
	Multiplier (3.0)					\$ 191,200
Bridge and Retaining Wall Inspection (Field Personnel):	Inspector @ \$36/hour					112,572
	Direct Payroll:					\$ 112,572
	Multiplier (2.5)					\$ 281,400
Expenses:	Printing/Plotting =					16,000
	Travel =					6,000
	Inspection Vehicle =					8,000
	Misc. =					1,500
	Total Expense					\$ 31,500
Subconsultants:	ICON Landscape Arch., LLC =					10,000
	Terracon =					50,000
	Total Subconsultant Expense					\$ 60,000
	Total Fee =					\$ 564,100
<p>1. Inspection Vehicle assumes 14 months</p> <p>2. ICON Landscape Architecture, LLC, will be responsible for landscaping irrigation plans for the project.</p>						
Fee Summary						
Phase 5 Revised Fee (Construction Services) =	Labor =					472,600
	Expenses =					31,500
	Subconsultant =					60,000
	Total Fee =					\$ 564,100
Less Original Fee & Expenses for Phase 5 Services						\$ (462,600) (Credit)
Plus Fee & Expenses for Additional Phase 3 Services						\$ 28,150
Total Increase in upper limit (Supplemental Agreement No. 5) =						\$ 129,650
Original Contract Amount =						\$ 3,983,000
New Contract Amount =						\$ 4,112,650

