

Introduced by \_\_\_\_\_

First Reading \_\_\_\_\_

Second Reading \_\_\_\_\_

Ordinance No. \_\_\_\_\_

Council Bill No. B 320-08

**AN ORDINANCE**

authorizing the City Manager to execute Supplemental Agreement No. 2 with HNTB Corporation for engineering services for the design of the Hinkson Creek Trail between the Grindstone Nature Area and Stephens Lake Park; and fixing the time when this ordinance shall become effective.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. The City Manager is hereby authorized to execute Supplemental Agreement No. 2 with HNTB Corporation for engineering services for the design of the Hinkson Creek Trail between the Grindstone Nature Area and Stephens Lake Park. The form and content of the agreement shall be substantially as set forth in "Exhibit A" attached hereto and made a part hereof as fully as if set forth herein verbatim.

SECTION 2. This ordinance shall be in full force and effect from and after its passage.

PASSED this \_\_\_\_\_ day of \_\_\_\_\_, 2008.

ATTEST:

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor and Presiding Officer

APPROVED AS TO FORM:

\_\_\_\_\_  
City Counselor

**SUPPLEMENTAL AGREEMENT NO. 2  
TO  
ENGINEERING SERVICES CONTRACT**

This Supplemental Agreement is made part of the following agreements between the City of Columbia, Missouri, hereinafter referred to as the "Local Agency", and HNTB Corporation, hereinafter referred to as the "Engineer", for the design and construction administration of the Hinkson Creek Trail – Grindstone Park to Stephens Lake project STP-2100 (518), hereinafter referred to as "Project": Agreement dated September 8, 2006; Supplemental Agreement No. 1 dated November 9, 2007.

**ARTICLE I – SCOPE OF SERVICES**

**Objective:**

The objective of the professional services to be provided by Engineer will be a feasibility study of a low-water crossing bridge over Hinkson Creek instead of a pedestrian bridge as shown in the preliminary design submittal dated May 16, 2008.

The feasibility study will also further evaluate the under-crossing of the existing Old 63 bridge instead of the pedestrian tunnel under Old 63 as shown in the preliminary design submittal dated May 16, 2008. The initial findings of the under-crossing of the existing Old 63 bridge during the preliminary design of the Project determined that a "no-rise" could not be met. However, additional discussions by the Local Agency with the residential property owner to the west of Old 63 determined that the property owner may allow a larger easement on the property for the trail. The feasibility study of the under-crossing will determine whether additional use of the residential property will permit a "no-rise" to be met.

The feasibility study will be used by the Local Agency to compare costs of the low-water crossing to the pedestrian bridge as shown in the May 16, 2008 preliminary design submittal.

This Supplemental Agreement No. 2 will also eliminate the scope of the final design of the pedestrian bridge and the hydraulic analysis of the pedestrian bridge from the original agreement, dated September 8, 2006. The fee associated with this eliminated scope will be applied toward the scope of this Supplemental Agreement No 2.

**Project Location:**

The project limits covered by this Supplemental Agreement No. 2 include the areas between Moon Valley Drive and the Old 63 bridge over Hinkson Creek (see attached project location map).

It is anticipated that the low-water crossing bridge location will be near the proposed pedestrian bridge as shown in the May 16, 2008 preliminary design submittal.

**Basic Services**

The following is a more detailed discussion of the scope of services:

**Task 1 – Low-water Crossing and Under-crossing – Conceptual Design**

- 1.1 HNTB will develop a conceptual design of a low-water crossing bridge. The design will include:

- Investigation of low-water crossing standards and design issues. The scope assumes that the Local Agency shall provide HNTB a preferred low-water bridge type.
- Bridge geometry.
- Superstructure options.
- Substructure options.

1.2 HNTB to develop plan and profile sheets of the conceptual low-water crossing bridge. The drawings shall include enough detail to determine an approximate order of magnitude cost of a low-water crossing type bridge and to conduct hydraulic modeling to determine impacts (if any) related to the low-water crossing type bridge.

1.3 HNTB to develop conceptual trail plan showing connection from low-water crossing bridge to under-crossing of existing Old 63 bridge, then the trail alignment shall then switchback to reach the grade of Old 63. The trail alignment shall utilize the residential property to the west of Old 63 to attempt to avoid “no-rise” within Hinkson creek. Trail grades steeper than 5% will be evaluated to help minimize switchbacks and avoid “no-rise”.

1.4 HNTB to develop plan sheets of the conceptual trail alignment. The drawings shall include enough detail to determine an approximate order of magnitude cost for the trail, to conduct hydraulic modeling, and determine potential limits of permanent and temporary easements on the residential property to the west of Old 63.

1.5 Quality Control / Quality Assurance: Perform quality control and review of plans.

*See Task 3 for Deliverables*

### **Task 2 – Conceptual Hydraulic Design**

- 2.1 Review existing Flood Insurance Study and City of Columbia criteria to determine backwater constraints on Hinkson Creek.
- 2.2 Hydraulic evaluation of low-water crossing upstream of the existing Old 63 bridge and the under-crossing at the Old 63 bridge.
- 2.3 Evaluate potential stream and/or stream over bank improvements that are necessary to mitigate the adverse hydraulic effects of proposed low-water and under-crossing.
- 2.4 Quality Control / Quality Assurance: Perform quality control and review of modeling and data.

*See Task 3 for Deliverables*

### **Task 3 – Cost Estimate and Summary**

- 3.1 Develop cost estimate to determine an approximate order of magnitude cost of the low-water crossing, trail, and under-crossing. The Local Agency to use the cost estimate to compare to

the May 16, 2008 Preliminary Design Submittal, which included a prefabricated pedestrian bridge, raised approach, and a tunnel.

3.2 Prepare a summary memo which would include the results of the feasibility study, cost estimate, hydraulic data, and a brief discussion of potential issues with low-water and under-crossings such as maintenance and liability.

3.3 Meeting with the Local Agency to review the results of the study.

3.4 Meeting with the Local Agency and property Owner to discuss trail alignment impacts (Maximum one (1) meeting).

*Deliverables:*

- *Five (5) copies of plans, summary, and cost estimate in a 8 ½"x11" and 11x17" formats.*
- *Two (2) copies plan showing trail alignment on residential property west of Old 63 on 22x34" for Local Agency meeting with property Owner.*
- *Electronic distribution of meeting meetings.*

## **ARTICLE II - ADDITIONAL SERVICES**

The Local Agency reserves the right to request additional services, as changed or unforeseen conditions may require changes and services beyond the scope of this contract. In this event, a supplement to this contract shall be executed by the Local Agency and the Engineer and submitted for the approval of MoDOT prior to performing the additional or changed services or incurring any additional cost thereof. Any change in compensation will be covered in the supplement.

Additional services would include, but are not limited to:

- Land surveying and Geotechnical Engineering (subsurface/soils investigation) Services.
- Property Acquisition Services, right-of-way plans, or easement exhibits.
- Final design.
- Project permitting.
- Any services not specifically described and/or mentioned in the previous task descriptions whether unforeseen, requested or required at a later date by the Owner or other approval agencies.

## **ARTICLE III - PERIOD OF SERVICE**

The Engineer will commence the services within two weeks after receiving written notice to proceed from the Local Agency. The general phases of services will be completed in accordance with the following schedule:

A. Tasks 1-3 shall be completed within 30 working days excluding holidays following written notice to proceed from the Local Agency.

The above times are exclusive of review time by other agencies and other issues beyond Engineer's control. The Local Agency will grant time extensions for unavoidable delays beyond the control of the Engineer. Requests for extensions of time should be requested in writing by the Engineer, stating fully the reasons for the request.

**ARTICLE IV - COMPENSATION**

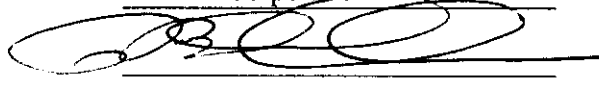
Fee for additional services shall increase the fee for total services by \$15,770, including a fixed fee of \$1,928. This addition shall increase the fee for total services to an amount not-to-exceed \$78,089.59, including a fixed fee of \$9,420.67. Attachment A outlines the cost breakdown for this Supplemental Agreement.

All other provisions of the prime agreement dated September 8, 2007 not addressed herein remain unchanged.

Supplement Agreement No. 2 is accepted as defined herein:

**LOCAL**

AGENCY: City of Columbia, Missouri ENGINEER: HNTB Corporation

BY: \_\_\_\_\_ BY: 

NAME: \_\_\_\_\_ NAME: Brian Carlson

TITLE: \_\_\_\_\_ TITLE: Associate Vice President

DATE: \_\_\_\_\_ DATE: 10/22/08

**ATTEST**

BY: \_\_\_\_\_ BY: 

NAME: \_\_\_\_\_ NAME: Lynn Mohr

TITLE: \_\_\_\_\_ TITLE: Project Administrator

DATE: \_\_\_\_\_ DATE: 10/22/08

Executed by the City of Columbia, Missouri on the day \_\_\_\_\_ of \_\_\_\_\_, 2008.

**Attachment A  
Cost Breakdown**

*(following 5 pages)*

**Work-Hour and Fee Estimate Summary**  
**Low-Water/Under-Crossing Feasibility Study**

**Low-Water/Under-Crossing Feasibility Study - Tasks 1-3**

|                         | Work-Hours |   | Hourly Rate |   |                           |                |
|-------------------------|------------|---|-------------|---|---------------------------|----------------|
| Senior SE               | 17         | @ | \$51.00     | = | \$867                     |                |
| Senior CE               | 14         | @ | \$32.00     | = | \$448                     |                |
| Senior LA               | 40         | @ | \$31.00     | = | \$1,240                   |                |
| Project SE              | 27         | @ | \$38.00     | = | \$1,026                   |                |
| Project CE              | 30         | @ | \$36.00     | = | \$1,080                   |                |
| Project LA              | 28         | @ | \$25.00     | = | \$700                     |                |
| SE                      | 22         | @ | \$25.00     | = | \$550                     |                |
| Technician              | 20         | @ | \$28.00     | = | \$560                     |                |
| Administrator           | 2          | @ | \$25.00     | = | \$50                      |                |
| <b>Total Work-Hours</b> | <b>200</b> |   |             |   | <b>Total Direct Labor</b> | <b>\$6,521</b> |

|  |         |
|--|---------|
| Payroll Overhead (Est. at 50.67% x Subtotal)             | \$3,304 |
| General and Admin. Overhead (Est. at 103.96% x Subtotal) | \$6,779 |
| Fixed Fee (14.5% x Total Labor and Overhead)             | \$2,408 |

**Total Labor, Overhead, and Fixed Fee** \$19,012

FCCM\* (.48%) \$31

*Direct Costs*

2 trips = 520 miles x \$0.585 \$304

Photo Copies, CAD Plots, Check Sets, Permits, etc \$150

Mail/UPS, Scans, Meals, Misc. \$80

**Total Feasibility Study** \$19,577

**Existing Unused Prefabricated Bridge Final Design Budget (9/8/06 contract)**

|                         | Work-Hours |   | Hourly Rate |   |                           |                |
|-------------------------|------------|---|-------------|---|---------------------------|----------------|
| Senior CE               | 4          | @ | \$45.00     | = | \$180                     |                |
| Senior LA               | 13         | @ | \$42.00     | = | \$546                     |                |
| Project CE              | 0          | @ | \$35.00     | = | \$0                       |                |
| Project LA              | 12         | @ | \$25.00     | = | \$300                     |                |
| Technician              | 16         | @ | \$18.00     | = | \$288                     |                |
| Administrator           | 0          | @ | \$26.00     | = | \$0                       |                |
| <b>Total Work-Hours</b> | <b>45</b>  |   |             |   | <b>Total Direct Labor</b> | <b>\$1,314</b> |

|  |         |
|--|---------|
| Payroll Overhead (Est. at 49.38% x Subtotal)             | \$649   |
| General and Admin. Overhead (Est. at 102.10% x Subtotal) | \$1,342 |
| Fixed Fee (14.5% x Total Labor and Overhead)             | \$479   |

**Total Labor, Overhead, and Fixed Fee** \$3,784

*Direct Costs*

0 trips = 520 miles x \$0.585 \$0

Photo Copies, CAD Plots, Check Sets, Permits, etc \$24

Mail/UPS, Scans, Meals, Misc. \$0

**Total Credit for Final Design - Prefabricated Bridge** \$3,808

**Supplement 2 Total** \$15,770

**(Feasibility Study minus Prefabricated Bridge Final Design Credit)**

**Supplement 2 Fixed Fee** \$1,928

**(Feasibility Study FF minus Prefabricated Bridge Final Design associated FF)**

\*Facilities Capital Cost of Money

**Work-Hour Estimate  
Tasks 1-3**

|   | Senior SE | Senior CE | Senior LA | Project SE | Project CE | Project LA | Engineer SE | Technician SE | Admin | Total Hours |
|---|-----------|-----------|-----------|------------|------------|------------|-------------|---------------|-------|-------------|
| <b>Tasks 1</b>                                  | 2         |           |           |            |            |            |             |               |       | 2           |
| 1.1 Low Water Crossing Standards Investigations | 2         |           |           | 8          |            |            |             |               |       | 10          |
| 1.1 Bridge Geometry                             |           |           |           | 4          |            |            |             |               |       | 4           |
| 1.1 Superstructure Options                      |           |           |           | 6          |            |            | 8           |               |       | 14          |
| 1.1 Substructure Options                        |           |           |           | 1          |            |            | 3           |               |       | 4           |
| 1.2 Bridge Plan Sheet                           |           |           |           |            |            |            | 4           | 10            |       | 14          |
| 1.2 Bridge Profile Sheet                        |           |           |           |            |            |            | 4           | 10            |       | 14          |
| 1.3 Conceptual Trail Design Options             |           | 4         | 8         |            |            | 4          |             |               |       | 16          |
| 1.4 Trail Plan Sheets                           |           |           | 4         |            |            | 16         |             |               |       | 20          |
| 1.5 QA/QC                                       | 3         | 2         | 4         |            |            |            |             |               |       | 9           |
| <b>Tasks 2</b>                                  |           |           |           |            |            |            |             |               | 1     | 1           |
| 2.1 Review Existing Hydraulic Criteria          |           |           |           |            | 4          |            |             |               |       | 4           |
| 2.2 Evaluate Low-Water and Under-Crossing       | 2         |           |           |            | 10         |            |             |               |       | 12          |
| 2.3 Evaluate Mitigation Options                 |           |           |           |            | 8          |            |             |               |       | 8           |
| 2.4 QA/QC                                       |           |           |           |            | 6          |            |             |               |       | 6           |
| <b>Tasks 3</b>                                  |           |           |           | 6          |            |            | 3           |               | 1     | 10          |
| 3.1 Cost Estimate                               |           |           | 4         |            | 2          | 8          |             |               |       | 14          |
| 3.2 Summary Report                              | 2         |           | 4         | 2          |            |            |             |               |       | 8           |
| 3.3 Meeting with Local Agency                   | 8         |           | 8         |            |            |            |             |               |       | 16          |
| 3.4 Meeting with Property Owner                 |           | 8         | 8         |            |            |            |             |               |       | 16          |
| <b>Total Hours</b>                              | 17        | 14        | 40        | 27         | 30         | 28         | 22          | 20            | 2     | 200         |
| <b>Subtotal Work-Hours</b>                      | 17        | 14        | 40        | 27         | 30         | 28         | 22          | 20            | 2     | 200         |



**Fee Proposal  
Tasks 1-3**

Direct Labor

|                         | Work-Hours |   | Hourly Rate               | = |                |
|-------------------------|------------|---|---------------------------|---|----------------|
| Senior SE               | 17         | @ | \$51.00                   | = | \$867          |
| Senior CE               | 14         | @ | \$32.00                   | = | \$448          |
| Senior LA               | 40         | @ | \$31.00                   | = | \$1,240        |
| Project SE              | 27         | @ | \$38.00                   | = | \$1,026        |
| Project CE              | 30         | @ | \$36.00                   | = | \$1,080        |
| Project LA              | 28         | @ | \$25.00                   | = | \$700          |
| SE                      | 22         | @ | \$25.00                   | = | \$550          |
| Technician              | 20         | @ | \$28.00                   | = | \$560          |
| Administrator           | 2          | @ | \$25.00                   | = | \$50           |
| <b>Total Work-Hours</b> | <b>200</b> |   | <b>Total Direct Labor</b> |   | <b>\$6,521</b> |

**Work-Hour Estimate**  
**Final Design Credit - Prefabricated Bridge**

|                                    | Senior CE | Senior LA |            |            |            |       | Total Hours |
|------------------------------------|-----------|-----------|------------|------------|------------|-------|-------------|
|                                    |           |           | Project CE | Project LA | Technician | Admin |             |
| Final Design                       |           |           |            |            |            |       |             |
| Coordination with Manufacturer     | 1         | 1         |            | 2          |            |       | 4           |
| Update Cost Estimate               |           | 1         |            | 2          |            |       | 3           |
| Plan Sheet                         | 1         | 1         |            |            | 6          |       | 8           |
| Profile Sheet                      | 1         | 1         |            |            | 6          |       | 8           |
| Final Revisions                    |           | 1         |            |            | 4          |       | 5           |
| Job Special Provisions             | 1         | 2         |            | 6          |            |       | 9           |
| Contractor Request for Information |           | 2         |            | 2          |            |       | 4           |
| Shop Drawing Review                |           | 4         |            |            |            |       | 4           |
|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
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|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
|                                    |           |           |            |            |            |       |             |
| <b>Total Hours</b>                 | 4         | 13        | 0          | 12         | 16         | 0     | 45          |
| <b>Subtotal Work-Hours</b>         | 4         | 13        | 0          | 12         | 16         | 0     | 45          |

**Fee Proposal**  
**Final Design Credit - Prefabricated Bridge**

Direct Labor

|                         | Work-Hours |   | Hourly Rate               | = |                |
|-------------------------|------------|---|---------------------------|---|----------------|
| Senior CE               | 4          | @ | \$45.00                   | = | \$180          |
| Senior LA               | 13         | @ | \$42.00                   | = | \$546          |
| Project CE              | 0          | @ | \$35.00                   | = | \$0            |
| Project LA              | 12         | @ | \$25.00                   | = | \$300          |
| Technician              | 16         | @ | \$18.00                   | = | \$288          |
| Administrator           | 0          | @ | \$26.00                   | = | \$0            |
| <b>Total Work-Hours</b> | <b>45</b>  |   | <b>Total Direct Labor</b> |   | <b>\$1,314</b> |



**HNTB**

HNTB Corporation  
 The HNTB Companies  
 Architects Engineers Planners  
 32 South Broadway, Suite 400  
 St. Louis, Missouri 63102  
 PH (314) 241-2800 FAX (314) 241-1814

**CONSULTANTS:**

**OWNER/DEVELOPER:**

City of Columbia  
 Columbia Parks  
 Recreation Department  
 Columbia, MO 65208 - 7828  
 572-874-7503 PA  
 572-874-3189 FS

**HINKSON CREEK TRAIL  
 Supplement #2  
 STP -2100 (518)  
 Columbia, Missouri**

**PRELIMINARY:  
 NOT FOR  
 CONSTRUCTION**


DATE: Oct. 18, 2006  
 SHEET NO.: Supplement #2, Urban  
 PROJECT NO.: 43851  
 CHECKED BY:  
 DRAWN BY:  
 APPROVED BY:  
 DATE: 10/26/06

**PROJECT LOCATION MAP**  
**1.0**

Source

Mike Hood  
*MH*

**TO:** City Council

**FROM:** City Manager and Staff 

**DATE:** October 20, 2008

**RE:** Supplemental Agreement No. 2 to Engineering Services Contract for the Grindstone Nature Area to Stephens Lake Park trail project.

**EXECUTIVE SUMMARY:**

Staff has prepared for Council consideration an ordinance authorizing the City Manager to execute a Supplemental Agreement No. 2 with the HNTB Corporation of St. Louis, Missouri in the amount of \$15,770.00 to provide engineering feasibility study of a low-water crossing bridge over Hinkson Creek and an under-crossing of the existing Old 63 Highway bridge. The HNTB Corporation was awarded Phase I of Grindstone to Stephens project in the amount of \$39,979.87 and when Phase II was federally funded, HNTB was awarded this second phase in the amount of \$22,339.72 for a total contract of \$62,319.59. The addition of Supplemental Agreement #2 increases the total engineering costs of these two projects to \$78,089.59. Total cost of the two trail development projects is \$780,000.

Fiscal Impact

YES x

NO

Other Info.

Project number:  
C00245: Phase I  
C00281: Phase II

**DISCUSSION:**

The scope of the original contract and Supplemental Agreement #1 is to provide construction drawings for the both Phase I and Phase II of the proposed Hinkson Creek recreation trail connecting Grindstone Nature Area and Stephens Lake Park. Phase I connects Grindstone to the Old 63 Highway sidewalk and connects Stephens to the Old 63 Highway sidewalk. Phase II is to widen and improve this sidewalk. The proposed project area relating to Supplemental Agreement No. 2 is shown on the attached plan. This combined project (Phase I & II) was funded in the City's 2006 and 2007 Capital Improvement Program, with funding by a Federal Highway Administration Surface Transportation Enhancement Grant, a Prior Year Appropriation from the ¼ 1999 Sales Tax, and the Park Sales Tax. In November, 2007 the addition of Supplemental Agreement #1 was the result of MoDot's approval to combine Hinkson Creek Trail Phase I and Phase II (Project No. STP-2100-518 and Project No. STP-2100-519) into one project.

The original study called for a pedestrian bridge over Hinkson Creek near Moon Valley Road and the construction of a pedestrian tunnel under Old 63 Highway. This tunnel was proposed to avoid "no-rise" in the Hinkson Creek floodway and to minimize the amount of easement required from an adjacent landowner. However, construction estimates far exceeded the amount of funds available for this project.

City and state staff looked at other options including a low water crossing and a pedestrian access under the existing Old 63 bridge and felt that these would be acceptable options and hopefully, fall within budget. Initial discussions with the adjacent landowner indicated that an increase in amount of the requested easement would be acceptable.

The calculations and design needed for the low-water crossing bridge and the crossing under the existing Old Highway 63 bridge were not included in the original study. This agreement also eliminates the hydraulic analysis and the final design of the pedestrian bridge from the original agreement. The fee associated with this will be applied to the scope of Supplemental Agreement #2.

The budget for the Hinkson Creek Phase I trail project is \$570,000 and \$210,000 for Hinkson Creek Phase II. Total project cost is \$780,000. To date, total engineering services is just over 10% of the project budget.

**Suggested Council Action:**

Approval of the ordinance.



**HNTB**

HNTB CONSULTANTS  
The HNTB Companies  
Professional Engineers, Planners  
Architects, Engineers, Surveyors  
16 South Broadway, Suite 100  
Columbia, Missouri 65202  
PH (314) 241-4200 FAX (314) 241-1144

**CONSULTANTS:**

**OWNER/DEVELOPER:**  
City of Columbia

Columbia Parks  
Recreation Department  
Columbia, MO 65202 - 7000  
PH (314) 774-7800 FX  
FAX (314) 774-4100 FX

**HINKSON CREEK TRAIL**  
**Supplement #2**  
STP-2100 (518)  
Columbia, Missouri

**PRELIMINARY:  
NOT FOR  
CONSTRUCTION**

DATE PLOTTED: Oct. 18, 2006  
PROJECT NO.: Supplement #2 (518)  
DRAWING NO.: 518-110  
SCALE: AS SHOWN  
DESIGNED BY: [ ]  
CHECKED BY: [ ]  
APPROVED BY: [ ]  
DATE: [ ]  
DESCRIPTION: [ ]

**1.0**

**PROJECT LOCATION MAP**