

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE APPROVAL OF CHANGE ORDER NOS. 1 AND 2 TO ATKINS NORTH AMERICA, INC. RELATIVE TO CONTRACT NO. T-10-001-401, COUNTYWIDE ITS PHASE 1 AND TRAFFIC SIGNAL UPGRADES FOR SR-8 AND I-75 SB RAMPS, FOR AN AMOUNT NOT TO EXCEED FORTY-FOUR THOUSAND DOLLARS (\$44,000.00) FOR CHANGE ORDER NO. 1 AND ELEVEN THOUSAND FIVE HUNDRED DOLLARS (\$11,500.00) FOR CHANGE ORDER NO. 2.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, it is hereby authorizing the approval of Change Order Nos. 1 and 2 to Atkins North America, Inc. relative to Contract No. T-10-001-401, Countywide ITS Phase 1 and Traffic Signal Upgrades for SR-8 and I-75 SB Ramps, for an amount not to exceed \$44,000.00 for Change Order No. 1 and \$11,500.00 for Change Order No. 2.

ADOPTED: _____, 2014

/mem

City of Chattanooga



Resolution/Ordinance Request Form

Date Prepared: June 5, 2014

Preparer: Kevin E. Comstock *[Signature]*

Department: Transportation

Brief Description of Purpose for Resolution/Ordinance:

Res./Ord. # _____ Council District # _____ all

A City Council resolution is requested for consideration of Change Orders 1 and 2 to Contract No. T-10-001-401, Countywide ITS Phase 1 and Traffic Signal Upgrades for SR-8 and I-75 SB Ramps to Atkins Global in the amount not to exceed CO 1 \$44,000 and CO 2 \$11,500. The costs for CO 1 are included in the overall project contingency. The costs for CO 2 have been added to the project and are being paid by TDOT through the City of Chattanooga PIN # 114321.01.

Name of Vendor/Contractor/Grant, etc. Atkins North America
 Total project cost \$ 762,500.53
 Total City of Chattanooga Portion \$ -
 City Amount Funded \$ -
 New City Funding Required \$ _____
 City's Match Percentage % 0%

New Contract/Project? (Yes or No) No
 Funds Budgeted? (YES or NO) Yes
 Provide Fund 8319
 Provide Cost Center K17410
 Proposed Funding Source if not budgeted _____
 Grant Period (if applicable) _____

List all other funding sources and amount for each contributor.

| Amount(s) | Grantor(s) |
|----------------|---|
| \$5,408,950.00 | 8319-K17410 PIN#114321.01 CMAQ/HSIP Grant |
| | |
| | |

Agency Grant Number _____

CFDA Number if known _____

Other comments: (Include contingency amount, contractor, and other information useful in preparing resolution)

Funds from FY14 Funds

Approved by: _____

Reviewed by: FINANCE OFFICE

DESIGNATED OFFICIAL/ADMINISTRATOR

Please submit completed form to @budget, City Attorney and City Finance Officer

Revised: 1/26/09



Atkins North America, Inc.
535 Chestnut Street
Suite 210
Chattanooga, TN 37402
Telephone: +1.423.414.3964

www.atkinsglobal.com/northamerica

April 10, 2013

Tommy Trotter
City of Chattanooga
Traffic Engineering
1250 Market Street
Suite 3030
Chattanooga, Tennessee 37402

**RE: Contract No. T-10-001-401
PIN No. 114321.01
Proposal for Supplemental Agreement No. 1**

Dear Mr. Trotter:

I am writing this letter to outline our proposed scope of services and compensation associated with Atkins preparing a before and after report for the adaptive traffic control system, located on the Highway 153 corridor in Chattanooga, Tennessee. Our role will be to collect data, develop coordinated timing plans, analyze the data, and compile a Before and After Evaluation Report for submittal to TDOT and FHWA. The Before and After Evaluation Report is a requirement by FHWA. The following scope of services was developed based on information gathered from FHWA and in coordination with City staff.

Atkins will provide the following services:

- Gather available traffic data and as necessary, conduct turning movement counts. Based on information obtained from the City, historic traffic counts are available for each of the intersections within the study corridor (with the exception of Hwy 153 & Boy Scout). Therefore, turning movement counts will be conducted at specific intersections indicated below to provide a comparison to the historic counts and develop adjustment factors. The intersections to be counted are listed below. The counts will be conducted on a typical weekday from 7:00 – 9:00 AM, 11:00 AM – 1:00 PM, and 4:00 – 6:00 PM. Also, counts will be conducted on a Saturday from 11:00 AM - 3:00 PM.
 - Hwy 153 & Boy Scout Road
 - Hwy 153 & Gadd Road
 - Hwy 153 & Hamil Road
- Collect Sensys Networks count data during the same period of time as the “before” and “after” travel time runs.
- Compile traffic count data and adjust historic counts based on adjustments factors between the 2010 turning movement counts and current counts;
- Conduct traffic observations during the study periods (as identified in the first bullet);

ATKINS

- Coordinate with City staff on identification of appropriate measures of effectiveness (MOE) for the corridor operation. These may include travel time, speed, delay, and/or number of stops;
- Collect Tennessee Department of Transportation (TDOT) traffic data along the study corridor;
- Collect field data at each of the study area intersections. This data includes lane layout, lane widths, storage lengths, signal phasing and timing, and detection. This data will be used in the Synchro model;
- Conduct "before" travel time runs along the corridor during the study periods identified above. The data from the travel time runs will be collected using the Tru-Traffic software with a GPS unit;
- Gather travel time data from Digiwest BlueMAC system;
- Compare the "before" travel time run data and field observations with the Digiwest BlueMAC data to determine quality and completeness of data for use in the evaluation study;
- Review and revise the base Synchro model (provided by the City) for the corridor utilizing the field data collected and data from Digiwest BlueMAC, if appropriate;
- Calibrate the base Synchro model for each of the study periods based on the existing travel time data collected;
- Utilize the Synchro model to develop coordinated signal timing plans for each of the study periods;
- After the implementation of the adaptive signal control system, conduct the "after" implementation data collection. If the data from Digiwest BlueMAC is determined by the City and Atkins to be complete and accurate for use in the evaluation study, the travel time runs by Atkins may be omitted from the scope of work. However, if the data from Digiwest BlueMAC is determined not to be used in the evaluation study, Atkins will conduct the "after" travel time runs along the corridor during the study periods identified above. The data from the travel time runs will be collected using the Tru-Traffic software with a GPS unit;
- Analyze and compare the data collected during the "before" and "after" periods and the data from the coordinated timing plans developed in the Synchro model;
- Compile the data into a Before and After Evaluation Report. The report will include a comparison of the "before" network to the Synchro developed network with coordinated timing plans and a comparison of the Synchro developed network with coordinated timing plans to the "after" network with the adaptive signal control.
- Atkins will provide a total of three (3) hard copies and an electronic (.pdf) version of the draft report to the City for review and comment. Atkins will revise the document per the City's comments and prepare the final report for submittal to the City, TDOT and FHWA.

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A total of five (5) hard copies and an electronic (.pdf) version of the final report will be submitted to the City, TDOT and FHWA.

- Throughout this project, Atkins will coordinate with the City. However, this does not include attendance at public meetings or commission/council meetings.

COMPENSATION

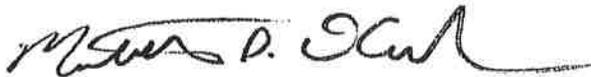
The fee estimate was prepared using the category hourly labor rates and method of compensation defined in the existing contract. The total "not-to-exceed" project budget for the completion of the Before and After Evaluation is \$44,000.00.

ADDITIONAL SERVICES

Any work, other than the scope of services outlined herein, shall be designated additional services. At such time that it is determined that these additional services are required; Atkins will notify the City of such and provide an estimated fee and scope of services to complete the additional work. No additional work will be performed without written consent from the City of Chattanooga.

If you have any questions or concerns, please feel free to contact me on my mobile phone at 407.808.8790 or via email at matt.dangelo@atkinsglobal.com.

Sincerely,



Matthew P. D'Angelo
Vice President

MAN-HOUR ESTIMATE
Hwy 153 Before-After Evaluation Study

| TASK | HOURS BY CATEGORY | | | | |
|--|-------------------|-----------------|-------------------|------------|----------------|
| | Project Director | Project Advisor | Resident Engineer | Inspector | ITS Specialist |
| Initial Coordination | | | 2 | | |
| Set up counts | | | | 2 | |
| Conduct TMC Counts (3 intersections - weekday; weekend) | | | | 36 | |
| Adjust historic counts | | | 2 | 4 | |
| Verify field data (geometrics for 13 intersections) | | | 4 | 12 | |
| Conduct traffic observations | | | 12 | 4 | |
| Coordination with City on MOE's | | | 2 | | 2 |
| Conduct "Before" travel time runs (each study period) | | | | 20 | 24 |
| Review/revise Base Synchro model (includes volume; timing; geometry) | | 1 | 12 | | 4 |
| Calibrate Synchro model (AM/Mid/PM/WKEND) | | | 12 | | 4 |
| Develop Coordinated Timing Plans (AM/Mid/PM/WKEND) | | 2 | 28 | | 8 |
| Conduct "After" travel time runs (each study period) | | | | 20 | 24 |
| Data reduction & analysis | | 1 | 16 | | 12 |
| Write Draft Before & After Report | | | 16 | | 4 |
| Internal Review & Revisions | | 2 | 8 | | 4 |
| Final Before & After Report (submit) | | | 4 | | 4 |
| TOTAL HOURS | 0 | 6 | 118 | 98 | 90 |
| HOURLY LABOR RATE | \$312.07 | \$195.06 | \$148.24 | \$90.38 | \$159.17 |
| TOTAL LABOR PER CATEGORY | \$0.00 | \$1,170.36 | \$17,492.32 | \$8,857.24 | \$14,325.30 |
| TOTAL LABOR | | | \$41,845.22 | | |
| ESTIMATED DIRECT EXPENSES | | | \$2,132.00 | | |
| TOTAL FEE | | | \$43,977.22 | | |
| TOTAL FEE (ROUNDED) | | | \$44,000.00 | | |

Direct Expense Estimate

Direct Expenses are based on TDOT expense guidelines. Direct expenses to be invoiced and payment shall be made according to the actual direct expense for each month.

Travel Expense Estimate

| Expense Category | Unit | TDOT Rate | Quantity | Cost |
|------------------|-------------|-----------|----------|-------------|
| Hotel | Nights | \$ 94.00 | 6 | \$ 564.00 |
| Meals | Days | \$ 56.00 | 4 | \$ 224.00 |
| Meals | Travel Days | \$ 42.00 | 4 | \$ 168.00 |
| Airfare | Roundtrips | \$ 300.00 | 2 | \$ 600.00 |
| Rental Car | Days | \$ 72.00 | 8 | \$ 576.00 |
| | | | | \$ 2,132.00 |



**CITY OF CHATTANOOGA
TRANSPORTATION
TRAFFIC ENGINEERING DIVISION**

Development Resource Center
1250 Market Street, Suite 3030
Chattanooga, TN 37402
Phone: (423) 643-5950
Fax: (423) 643-5951

CHANGE ORDER

| | | | |
|---------------|---|--------------------------------------|-----------------|
| Contract No.: | <u>T-10-001-401</u> | Change Order No.: | <u>2</u> |
| Contractor: | <u>Atkins Global</u> | Date: | <u>7/1/2014</u> |
| Project Name: | <u>Countywide ITS Phase 1 & Traffic Signal Upgrades at SR-8 and I-75 SB Ramps</u> | Council Res. #'s: (Attach Copies) | <u></u> |
| | | Purchase Order # | <u>514391</u> |

| | | |
|--|---|--|
| Check Reason for Change Order <input type="checkbox"/> Error/Omission <input type="checkbox"/> Field Condition <input type="checkbox"/> Field Dispute Settlement <input type="checkbox"/> Owner Request <input type="checkbox"/> Value Engineering <input checked="" type="checkbox"/> Other: <u>TDOT Change in scope to include Traffic Signal Upgrades at SR-8 and I-75 SB for a HSIP project</u> | Contract Days Changed: <u>90</u> Revised Completion Date: <u>9/15/2014</u> | Original Contract Amount \$ <u>707,100.53</u> Net Change by Previous C.O.s \$ <u>44,000.00</u> Contract Amount Prior to this C.O. \$ <u>751,100.53</u> Total Amount of this C.O. \$ <u>11,500.00</u> NEW CONTRACT AMOUNT \$ <u>762,600.53</u> |
|--|---|--|

Description / Justification (Add more pages if necessary)
 TDOT Highway Safety Improvement Program had a project at this location. SR-8 (Ringgold Rd) and I-75 SB Ramps. The project was to install new traffic signal equipment (poles, cabling and signal heads) and included work being performed by the City of Chattanooga's Countywide ITS Phase 1. TDOT added the HSIP work to the grant contract with the City of Chattanooga for the work to be performed under the Countywide ITS Phase 1 Project. As a result of that extra work, the Countywide ITS Phase 1 design contract, construction contract and the CEI contract all must be modified to include the additional work required by TDOT for the HSIP.

The terms and conditions of this Change Order, including the cost and time contained herein, constitute a full accord and complete satisfaction for all costs and time of performance related to the work described or referenced herein, including but not limited to, all delay and impact costs for the entire Project resulting from this Change Order. Except as amended herein, all provisions of the Contract remain in full force and effect.

APPROVALS

| CONTRACTOR | | ENGINEER / ARCHITECT | |
|--|--------------|-----------------------------|---------|
| Signature | Date | Signature | Date |
| CITY PROJECT MANAGER | | CITY ENGINEER | |
| | June 5, 2014 | | 6/23/14 |
| Signature | Date | Signature | Date |
| ADMINISTRATOR OF TRANSPORTATION | | CITY FINANCE OFFICER | |
| Signature | Date | Signature | Date |



Atkins North America, Inc.

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Chattanooga, TN 37402

Telephone: +1.423.414.3964

www.atkinsglobal.com/northamerica

June 3, 2014

Kevin Comstock
City of Chattanooga
Traffic Engineering
1250 Market Street
Suite 3030
Chattanooga, Tennessee 37402

**RE: Contract No. T-10-001-401
PIN No. 114321.01
Proposal for Additional Services at I-75 and Ringgold Road**

Dear Mr. Comstock:

I am writing this letter to outline the additional services and fee required for construction engineering and inspection (CEI) of the traffic signal work at the intersection of I-75 southbound ramps and Ringgold Road. This additional work is required based on the intersection modifications done as a result of the TDOT safety project on the I-75 eastbound off-ramp.

The initial work to be completed at this intersection, as outlined in the City's regional ITS project, included change out of the traffic signal cabinet and controller, replacement of seven (7) signal heads and replacement of the signal span wire. As a result of the traffic signal redesign for the TDOT safety project, a new traffic signal pole and additional signal heads were added to the scope of work at the intersection.

After the installation of the new traffic signal pole (northwest quadrant) and the span wire, the existing pole on the southwest quadrant of the intersection began to lean. This resulted in a re-design of the traffic signal plans by the engineer-of-record. The re-design included a new traffic signal pole to be installed on the southwest quadrant of the intersection and the span wire to be re-installed to the new pole.

Atkins staff has been on-site throughout the traffic signal construction at this intersection and has been involved with the coordination and meetings for the additional traffic signal work that resulted from the re-design of the traffic signal with the new traffic signal pole.

Based on the tasks outlined in our original CEI scope of services, Atkins staff will continue to monitor and oversee the contractor completing the traffic signal work at this intersection.

COMPENSATION

The total "not-to-exceed" fee for the additional work at the intersection of I-75 and Ringgold Road is \$11,150.00.