

# CITY OF HIGH POINT

## AGENDA ITEM



<b>TITLE:</b> Agreement for Professional Service with RS&H Architects-Engineers-Planners, Inc	
<b>FROM:</b> Greg Venable, Transportation Director	<b>MEETING DATE:</b> August 19, 2024
<b>PUBLIC HEARING:</b> N/A	<b>ADVERTISED DATE/BY:</b> March 1, 2024
<b>ATTACHMENTS:</b> Contract Scope Fee	

**PURPOSE:** Award of a contract to provide professional transportation engineering services to evaluate and optimize the signal timing of the 239 traffic signals within the City of High Point Signal System. RS&H shall provide professional engineering services necessary for evaluating the current operation to develop optimized signal timing plans, implement and fine-tune the new plans, and evaluate the final operational benefits associated with the work performed.

**BACKGROUND:** The city's signal system is evaluated approximately every ten years to ensure the system is operating at the optimal level, and we are taking advantage of the most recently developed traffic signal timing technologies. Our last signal timing study was completed in 2014. The city issued a Request for Qualifications (RFQ) on March 1, 2024. Five proposals were received and were scored by Transportation Staff based on four criteria, Project Execution, Staff Qualifications, Project Experience, and Performance, Relationships, and Partnerships. The highest scoring firm was RS&H. RS&H will provide the described professional services for a lump sum fee of \$1,522,524.

**BUDGET IMPACT:** Funding for this project is from the High Point Metropolitan Planning Organization (HPMPO) Congestion Mitigation and Air Quality (CMAQ) program. CMAQ funding consists of 80% federal dollars and 20% local match. The 20% local match of \$304,505 is included in the FY25 Transportation Department Capital Budget.

**RECOMMENDATION/ACTION REQUESTED:** Staff recommends approval of this contract to RS&H Architects-Engineers-Planners, Inc. in the amount of \$1,522,524.00 and authorizing appropriate city staff to execute all necessary documents.



## AGREEMENT FOR PROFESSIONAL SERVICES

**THIS AGREEMENT FOR PROFESSIONAL SERVICES** (“**Agreement**”) is made on July 11, 2024 (the “**Effective Date**”), by and between the City of High Point, a North Carolina municipal corporation (the “**City**”), and RS&H Architects-Engineers-Planners, Inc., a(n) North Carolina corporation (“**Consultant**”). The City and Consultant are at times collectively referred to hereinafter as the “**Parties**” or individually as a “**Party**”.

**WHEREAS**, the City desires to engage Consultant to provide the professional services described on **Exhibit A** attached hereto, together with any additional services reasonably implied and inferred therefrom or customarily provided in the performance of services of the nature to be provided by Consultant pursuant hereto (the “**Services**”); and

**WHEREAS**, Consultant desires to render the Services in accordance with this Agreement, and has the experience, staff, and resources to perform such Services;

**NOW, THEREFORE**, the City and Consultant, in consideration of their mutual covenants and other good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, hereby agree as follows:

### SECTION I. ENGAGEMENT OF CONSULTANT

- A. Engagement. Consultant shall perform the Services and the City shall pay Consultant for the performance of such Services as set forth herein.
- B. Independent Contractors. The relationship between the Parties shall be that of independent contractors. Without limiting the generality of the foregoing, the Parties acknowledge and agree that Consultant, its employees, subcontractors, and suppliers are not individually or collectively to be deemed an employee or employees of the City under any circumstances. Furthermore, nothing in this Agreement shall under any circumstances be construed to make the City and Consultant joint venturers, partners, or parties to similar relationships with each other.

### SECTION II. PROVISION OF THE SERVICES

- A. Provision of the Services. Consultant will provide the Services in accordance with the terms and conditions of this Agreement.
- B. Fees. The City will pay Consultant for provision of the Services consistent with the hourly rates and/or fixed amounts set forth on **Exhibit A**, with the total payment to Consultant under this Agreement not to exceed \$1,522,524.00.
- C. Additional Services. Any work requested by the City but which goes beyond the scope of the Services will be classified as “**Additional Services.**” Additional Services will be negotiated on an individual project basis and, if such negotiations are successful, will be governed by an amendment to this Agreement or a new separate agreement between the Parties.

### SECTION III. RESPONSIBILITIES OF CONSULTANT AND CITY

#### A. Consultant's Responsibilities.

1. Consultant shall be responsible for the professional quality, technical accuracy, and the coordination of all Services (including all related deliverables (the “**Deliverables**”) furnished by Consultant under this Agreement.

2. The Services shall be performed consistent with the schedule, if any, set forth on **Exhibit A**. If no such schedule is set forth on **Exhibit A**, the Services shall be provided within a reasonable time established by the City. Consultant agrees to provide progress reports regarding its performance of the Services in a format acceptable to the City and at intervals established by the City. The City will be entitled at all times to be promptly advised, at its request and in writing, as to the status of Services being performed by Consultant and of the details thereof.

3. In the event there are delays on the part of the City as to the approval of any of the materials submitted by Consultant, or if there are delays occasioned by circumstances beyond the control of Consultant which delay the Services' completion date as specified on **Exhibit A**, the City may grant to Consultant an extension of the contract time equal to the aforementioned delays, provided there are no changes in compensation or scope of services.

4. It shall be the responsibility of Consultant to ensure at all times that sufficient contract time remains within which to complete the Services. Time is of cardinal importance with respect to Consultant's performance of the Services.

5. In the event that Consultant fails to exercise the Standard of Care to timely complete the performance of all Services in accordance with the timeframe set forth on **Exhibit A**, the City shall have the right to cease making any partial progress payments following expiration of such timeframe. No further payments under this Agreement will be made until a time extension is granted by the City or all Services have been completed and accepted by the City in writing.

6. Consultant shall submit to the City such Project (as defined below) documentation and Deliverables as agreed to by Consultant and the City on **Exhibit A**. Consultant shall not be liable for use by the City of said Deliverables for any purpose other than those intended by the terms of this Agreement.

7. All plans, specifications, analytical tools, maps, documents, reports, and/or other Deliverables prepared or obtained under this Agreement shall be considered “works made for hire” (as defined in 17 U.S.C. §101) for the City and shall become the property of the City without restriction or limitation on their use. To the extent that any of the Deliverables do not constitute a “work made for hire”, Consultant hereby irrevocably assigns, and shall cause its employees, agents, and other personnel (collectively, “**Personnel**”) to irrevocably assign to the City, in each case without additional consideration, all right, title, and interest throughout the world in and to the Deliverables, including all intellectual property rights therein. Consultant shall cause its Personnel to irrevocably waive, to the extent permitted by applicable law, any and all claims such its Personnel may now or hereafter have in any jurisdiction to so-called “moral rights” or rights of *droit moral* with respect to the Deliverables. Upon the City's

reasonable request, Consultant shall, and shall cause its Personnel to, promptly take such further actions, including execution and delivery of all appropriate instruments of conveyance, as may be necessary to assist the City to prosecute, register, perfect, or record its rights in or to any Deliverables.

8. The general cost principles and procedures for the negotiation and administration, and the determination or allowance of costs under this Agreement shall be as set forth in the Code of Federal Regulations, Titles 23, 48, and 49 and other pertinent Federal, State, and City Regulations, as applicable, with the understanding that there is no conflict between City, State, and Federal Regulations and, in the event there is a conflict, the more restrictive of the applicable regulations will govern.

9. Consultant's right to reimbursement for travel costs, if any, will be addressed in the compensation provisions set forth on **Exhibit A**.

10. Consultant shall comply with all applicable construction specifications and policies provided to it by the City during Consultant's provision of the Services.

11. Prior to provision of the Services, Consultant shall, by written notice to the City, designate a representative to act on behalf of Consultant with respect to the Services to be performed hereunder (the "**Designated Representative**"). The Designated Representative's decisions, agreements, and actions relating to the Services to be provided hereunder shall be binding upon Consultant. If the City requests that Consultant designate a different Designated Representative, Consultant will do so within five (5) calendar days of Consultant's receipt of written notice from the City regarding such request. If Consultant decides to change the Designated Representative, Consultant will give written notice to the City of its new Designated Representative and the effective date of such change.

12. Prior to the commencement of Consultant's provision of Services (a) the City will provide written notice to Consultant of the requirement, if any, to provide payment and/or performance bonds relating to the Services, and (b) Consultant shall provide any such bonds so required by the City in connection therewith.

**B. The City's Responsibilities.**

1. The City shall designate and fully authorize an appointed representative(s) to act on behalf of the City with respect to this Agreement. The representative's instructions, requests, and decisions on behalf of the City will be binding to all matters pertaining to this Agreement.

2. The City shall provide existing data, plans, reports, and other information known to, in possession of, or under control of the City which are relevant to the execution of the duties of Consultant under this Agreement, and shall provide information regarding Project and task objectives, constraints, criteria, relationships, flexibility, systems, site features, and other requirements that exist as of the Effective Date or which may develop during the performance of this Agreement, and shall assist Consultant in obtaining needed information from the City's files.

3. The City shall furnish or cause to be furnished data prepared by others, or services of others, except those data and services which are to be provided by Consultant pursuant to **Exhibit A**.

## SECTION IV. TERM

A. Duration. The term of this Agreement (the “**Term**”) will commence on the Effective Date and will expire upon completion of Consultant’s performance of the Services, unless sooner terminated as provided herein.

## SECTION V. COMPENSATION AND PAYMENT

As compensation for Consultant’s performance of the Services, the City agrees to pay Consultant at the rates and in the amounts set forth on **Exhibit A** and subject to the provisions of this **Section V**.

A. Invoices.

1. Submittal. Consultant’s invoices to the City for compensation for Services (“**Invoices**”) shall be submitted on a monthly basis. Each Invoice shall reference this Agreement. The City shall have fifteen (15) calendar days from the City’s receipt of an Invoice to report any concerns about the Invoice to Consultant. Any concerns shall be promptly addressed by Consultant to the reasonable satisfaction of the City, and Consultant shall submit a revised Invoice after the City’s concerns about the Invoice have been addressed.

2. Payment. Payment terms for any undisputed items are thirty (30) calendar days after the City’s receipt of each accurate and properly submitted Invoice.

3. Required Detail. Each Invoice shall be submitted to the City with detail and supporting documentation sufficient to process the Invoice for payment and for a proper pre-audit and post-audit thereof.

4. Disputed Items. If any items in any Invoices are disputed by the City for any reason, including the lack of supporting documentation, the City shall promptly notify Consultant of the dispute and request clarification and/or remedial action. After any dispute has been settled, Consultant shall include the disputed item on a subsequent regularly scheduled Invoice or on a special Invoice for the disputed item only.

B. Audit of Records. Consultant agrees to maintain all books, documents, papers, accounting records, and other evidence pertaining to Services performed under this Agreement and to make such materials available for the City’s audit or inspection at the City’s office during the Term and for five (5) years from the date of final payment.

## SECTION VI. INSURANCE AND INDEMNIFICATION

A. Insurance Coverage.

1. General Insurance Requirements. At all times during the Term, Consultant shall have and maintain in full force and effect, at its sole cost and expense, at least the following types and amounts of insurance coverage:

(a) Commercial General Liability with limits no less than \$1,000,000 per occurrence and \$2,000,000 in the aggregate, including bodily injury and property damage and products and completed operations and advertising liability, which policy will include contractual liability coverage insuring the activities of Consultant under this Agreement;

(b) Worker's Compensation with limits no less than the minimum amount required by applicable law;

(c) Commercial Automobile Liability with limits no less than \$2,000,000, combined single limit; and

(d) Errors and Omissions/Professional Liability with limits no less than \$1,000,000 per occurrence and \$2,000,000 in the aggregate.

2. All insurance policies required pursuant to this **Section VI** (collectively, the "**Required Policies**") shall:

(a) be issued by insurance companies reasonably acceptable to the City;

(b) provide that such insurance companies give the City at least thirty (30) calendar days' prior written notice of cancellation or non-renewal of policy coverage; provided that, prior to such cancellation, Consultant shall have new insurance policies in place that meet the requirements of this **Section VI** ;

(c) waive any right of subrogation of the insurers against the City;

(d) provide that such insurance be primary insurance and any similar insurance in the name of and/or for the benefit of the City shall be excess and non-contributory; and

(e) name the City as additional insured.

3. This **Section VI** shall not be construed in any manner as waiving, restricting, or limiting the liability of either Party for any obligations imposed under this Agreement (including but not limited to, any provisions requiring a Party hereto to indemnify, defend, and hold the other Party harmless under this Agreement).

4. Consultant shall include as **Exhibit B** to this Agreement copies of certificates of insurance evidencing the existence of the Required Policies and naming the City of High Point as an additional insured thereon (the "**Certificates of Insurance**").

## B. Indemnification.

1. General Indemnification. Consultant shall defend, indemnify, and hold harmless the City and its officers, directors, employees, agents, successors, and permitted assigns (each, an "**Indemnitee**") from and against all third-party losses, damages, liabilities, deficiencies, actions, judgments, interest, awards, penalties, fines, costs, or expenses of whatever kind, including reasonable attorneys' fees

(collectively, “**Losses**”) arising out of or resulting from:

(a) bodily injury, death of any person, or damage to real or tangible, personal property to the extent caused by the willful, fraudulent, or negligent acts or omissions of Consultant or its Personnel; and

(b) Consultant’s breach of any representation, warranty, or obligation of Consultant set forth in this Agreement.

2. Intellectual Property Indemnification. Consultant shall defend, indemnify, and hold harmless the City and its officers, directors, employees, agents, successors, and permitted assigns from and against all Losses based on a claim that any of the Services (or related Deliverables) or the City’s receipt or use thereof infringes any intellectual property right of a third party; provided, however, that Consultant shall have no obligations under this **Section VI.B.2** with respect to claims to the extent arising out of: (a) any instruction, information, designs, specifications, or other materials provided by the City in writing to Consultant; (b) use of any Deliverables in combination with any materials or equipment not supplied to the City or specified by Consultant in writing, if the infringement would have been avoided by the use of the Deliverables not so combined; or (c) any modifications or changes made to any Deliverables by or on behalf of any person other than Consultant or its Personnel.

## **SECTION VII. TERMINATION**

A. Termination for Breach. This Agreement may be terminated by either Party upon notice to the other Party in the event of the other Party’s material breach of this Agreement; provided that no termination for material breach may be effected unless the breaching Party fails to cure such breach within ten (10) calendar days following its receipt of notice of such breach from the non-breaching Party.

B. Termination for Convenience. The City may terminate this Agreement at any time for its convenience upon notice to Consultant. If this Agreement is terminated by the City pursuant to this **Section VII.B**, Consultant shall be paid for the portion of Services satisfactorily performed through the effective time of such termination.

C. Post-Termination Obligations. Upon any termination effected pursuant to this **Section VII**, Consultant shall (1) promptly discontinue all Services affected, and (2) deliver or otherwise make available to the City all documents, data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by Consultant in performing this Agreement, whether completed or in process.

D. City May Prosecute Services. Upon any termination effected pursuant to this **Section VII**, the City may take over the performance of the Services and prosecute the same to completion by agreement with a third party or otherwise.

E. Survival. The rights and obligations of the Parties set forth in this **Section VII.E** and **Section I.B**, **Section III.A.8**, **Section V**, **Section VI**, **Section VII.C**, **Section VII.D**, **Section VIII**, **Section X**, and

**Section XI**, and any right or obligation of the Parties in this Agreement which, by its nature, should survive termination or expiration of this Agreement, will survive any such termination or expiration of this Agreement.

## **SECTION VIII. CONSULTANT’S REPRESENTATIONS, WARRANTIES, AND COVENANTS**

A. E-Verify. Consultant represents, warrants, and certifies to the City that it currently complies with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, and covenants that at all times during the Term, it will continue to comply with these requirements. Consultant also covenants that it will require that all of its subcontractors that provide any of the Services to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Consultant’s breach of its representations, warranties, and/or covenants in this **Section VIII.A** shall be deemed to be a material breach of this Agreement.

B. Compliance with Legal Requirements. Consultant shall comply with all applicable local, state, and federal laws, regulations, ordinances, and rules relating in any way to the provision of the Services, including, without limitation, all such laws, regulations, ordinances, and rules prohibiting discrimination on the grounds of race, color, religion, sex, age, disability, national origin, or other protected classes in the performance of Services under this Agreement.

C. Skill, Title, Non-Infringement, and Conformity with Specifications. Consultant represents and warrants to the City that:

1. it shall perform the Services using personnel of required skill, experience, and qualifications and in a professional and workmanlike manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances in the same geographic location (the “Standard of Care”) and shall devote adequate resources to meet its obligations under this Agreement;

2. the City will receive good and valid title to all Deliverables, free and clear of all encumbrances and liens of any kind;

3. none of the Services, Deliverables, and the City’s use thereof infringe or will infringe any intellectual property right of any third party, and, as of the date hereof, there are no pending or, to Consultant’s knowledge, threatened claims, litigation, or other proceedings pending against Consultant by any third party based on an alleged violation of such intellectual property rights;

4. the Services and Deliverables will be in conformity in all material respects with all requirements or specifications stated in this Agreement for a period of two (2) years from full completion of the Services.

D. Confidential Information. Consultant agrees: (a) not to disclose or otherwise make available Confidential Information to any third party without the prior written consent of the City; provided, however, that Consultant may disclose the Confidential Information to its Personnel and legal advisors who have a “need to know”, who have been apprised of this restriction, and who are themselves bound by nondisclosure obligations at least as restrictive as those set forth in this Section; (b) to use the Confidential



Information only for the purposes of performing its obligations under this Agreement; and (c) to immediately notify the City in the event it becomes aware of any loss or disclosure of any of the Confidential Information. If Consultant becomes legally compelled to disclose any Confidential Information, Consultant shall provide: (x) prompt written notice of such requirement so that the City may seek, at its sole cost and expense, a protective order or other remedy; and (y) reasonable assistance, at the City's sole cost and expense, in opposing such disclosure or seeking a protective order or other limitations on disclosure. If, after providing such notice and assistance as required herein, Consultant remains required by law to disclose any Confidential Information, Consultant shall disclose no more than that portion of the Confidential Information which, on the advice of Consultant's legal counsel, Consultant is legally required to disclose. As used herein, "**Confidential Information**" means any information that is treated as confidential by the City, including but not limited to all non-public information about the City's business affairs, products or services, intellectual property rights, trade secrets, third-party confidential information, and other sensitive or proprietary information, whether or not marked, designated, or otherwise identified as "confidential." Confidential Information shall not include information that: (a) is already known to Consultant without restriction on use or disclosure prior to receipt of such information from the City; (b) is or becomes generally known by the public other than by breach of this Agreement by, or other wrongful act of, Consultant; (c) is developed by Consultant independently of, and without reference to, any Confidential Information of the City; or (d) is received by Consultant from a third party who is not under any obligation to the City to maintain the confidentiality of such information.

E. No Debarment. Consultant represents and warrants to the City that Consultant is not currently (a) under sanction, exclusion, or investigation (civil or criminal by a federal or state enforcement, regulatory, administrative, or licensing agency) or otherwise ineligible for federal or state program participation, or (b) listed on North Carolina or any other state or federal debarment databases (e.g., Office of Inspector General and System for Award Management).

## SECTION IX. MEETINGS

A. General. Subject to any more specific provisions set forth on **Exhibit A**, Consultant will make such reviews, attend such meetings, and make such contacts as are necessary to maintain the schedule for any City project to which the Services relate (the "**Project**") and for proper preparation of plans, documents, specifications, and special provisions.

B. Status Updates. Consultant may be required to meet with representative(s) of the City to review the status of the Services and/or the Project. These meetings will not be required unless problems arise that cannot be resolved during the Parties' regular meetings. Such additional meetings, if needed, shall be held at the City's office or at the Project site as appropriate.

## SECTION X. PROFESSIONAL ENDORSEMENTS

All final plans, documents, reports, studies, and other Deliverables prepared by Consultant pursuant to this Agreement and that customarily bear the professional endorsement or seal of a licensed professional will bear such an endorsement or seal of a person in the full employ of Consultant or its subcontractors

and duly registered in the appropriate professional category. Specifications for any such endorsement or seal may be made set forth on **Exhibit A**.

## SECTION XI. MISCELLANEOUS

A. Entire Agreement; Conflicting Provisions. This Agreement, together with all Exhibits and any other documents incorporated herein by reference, constitutes the sole and entire agreement of the Parties with respect to the subject matter contained herein, and supersedes all prior and contemporaneous understandings and agreements, both written and oral, with respect to such subject matter. In case of a conflict between the provisions of this Agreement and the provisions of any attachment or other document referenced by or incorporated into this Agreement, the provisions of this Agreement shall control and prevail. Any terms and conditions or similar provisions submitted by Consultant on any Invoice or other form shall not become a part of this Agreement unless agreed upon in a writing executed by a duly authorized representative of the City. Without limiting the generality of the foregoing, the Parties acknowledge and agree that **Exhibit A** attached hereto may take the form of Consultant's proposal for the Services, in which case any verbiage set forth on **Exhibit A** that (a) conflicts with the provisions of this Agreement or its other Exhibits, or (b) adds any terms, conditions, qualifications, covenants, or agreements beyond the matters that this Agreement specifically contemplates to be addressed on **Exhibit A** (i.e., a description of Services, the compensation payable to Consultant for the Services, the documentation and deliverables to be provided in connection with the Services, any deliverables required to bear Consultant's professional seal or endorsement, and the schedule for performance of the Services), shall be disregarded and of no force or effect.

B. Captions and Headings. The captions and headings contained in this Agreement are for convenience and reference only, and do not define, describe, extend, or limit the scope or intent of this Agreement or the scope or intent of any provision contained herein.

C. Severability. The invalidity of one or more phrases, sentences, clauses, or sections in this Agreement shall not affect the validity of the remaining portions of this Agreement, so long as the material purpose of this Agreement can be determined and effectuated.

D. No Waiver. Any failure by either Party to enforce any of the provisions of this Agreement or to require compliance with any of its terms shall in no way affect the validity of this Agreement, or any part hereof, and shall not be deemed a waiver of the right of such Party thereafter to enforce any such provision.

E. Counterparts. This Agreement may be signed in any number of counterparts, and all such counterparts together shall constitute one and the same instrument. A signed copy of this Agreement delivered by facsimile, email, or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement.

F. Governing Law; Jurisdiction. This Agreement and performance thereof shall be governed, interpreted, construed, and regulated by the laws of the State of North Carolina without giving effect to its principles regarding conflicts of laws. Any legal suit, action, or proceeding arising out of or related to this Agreement or the Services provided hereunder shall be instituted exclusively in the courts of North

Carolina located in Guilford County, and each Party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action, or proceeding. Service of process, summons, notice, or other document by mail to such Party's address set forth herein shall be effective service of process for any suit, action, or other proceeding brought in any such court. To the extent permitted by applicable law, if any action, suit, or other legal or administrative proceeding is instituted or commenced by either Party hereto against the other Party arising out of or related to this Agreement, the prevailing Party (defined as the Party recovering or defending more than 50 percent of the claim) shall be entitled to recover its reasonable attorneys' fees and court costs from the non-prevailing Party.

G. Equitable Relief. Each Party acknowledges that a breach by a Party of **Section III.A.8** or **Section VIII.D** may cause the non-breaching Party irreparable harm, for which an award of damages would not be adequate compensation and agrees that, in the event of such breach or threatened breach, the non-breaching Party will be entitled to seek equitable relief, including a restraining order, injunctive relief, specific performance, and any other relief that may be available from any court, in addition to any other remedy to which the non-breaching Party may be entitled at law or in equity. Such remedies shall not be deemed to be exclusive but shall be in addition to all other remedies available at law or in equity, subject to any express exclusions or limitations in this Agreement to the contrary.

H. Successors and Assigns; Assignment. This Agreement is for the sole benefit of the Parties hereto and their respective successors and permitted assigns and nothing herein, express or implied, is intended to or shall confer upon any other person any legal or equitable right, benefit, or remedy of any nature whatsoever, under or by reason of this Agreement. Neither Party may assign, sublet, subcontract, or transfer any interest in this Agreement without the prior written consent of the other Party.

I. Amendments and Waivers. This Agreement may be amended, modified, or supplemented only by an agreement in writing signed by each Party hereto. No waiver by either Party of any of the provisions hereof shall be effective unless explicitly set forth in writing and signed by the Party so waiving.

J. Notices. All notices, requests, consents, claims, demands, waivers, and other communications hereunder shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); or (b) on the third (3<sup>rd</sup>) day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid. Such communications must be sent to the respective Parties at the addresses indicated below (or at such other address for a Party as shall be specified in a notice given in accordance with this **Section XI.J**):

If to the City:

The City of High Point  
Purchasing Department  
P.O. Box 230  
High Point, NC 27261

If to Consultant:

(See Consultant's address for notices on the signature page hereof.)

K. Disclosure. Consultant agrees that it shall make no statements, press releases, or publicity releases concerning this Agreement or its subject matter or otherwise disclose or permit to be disclosed any of the data or other information obtained or furnished in compliance with this Agreement, or any particulars, thereof, without first notifying the City and securing its consent in writing. Consultant also agrees that it shall not publish, copyright, or patent any of the Deliverables or other work product furnished to the City pursuant to this Agreement, it being understood that all such Deliverables or other work product is the exclusive property of the City.

L. Interpretation. For purposes of this Agreement, (a) the words “include,” “includes,” and “including” shall be deemed to be followed by the words “without limitation”; (b) the word “or” is not exclusive; and (c) the words “herein,” “hereof,” “hereby,” “hereto,” and “hereunder” refer to this Agreement as a whole. Unless the context otherwise requires, references herein: (x) to an agreement, instrument, or other document means such agreement, instrument, or other document as amended, supplemented, and modified from time to time to the extent permitted by the provisions thereof, and (y) to a statute means such statute as amended from time to time and includes any successor legislation thereto and any regulations promulgated thereunder. This Agreement shall be construed without regard to any presumption or rule requiring construction or interpretation against the party drafting an instrument or causing any instrument to be drafted. The Exhibits referred to herein shall be construed with, and as an integral part of, this Agreement to the same extent as if they were set forth verbatim herein.

M. Continuation of Performance of the Services During Dispute. During the pendency of any dispute between the Parties arising out of or relating to this Agreement, provided that Consultant’s continued performance of Services is requested by the City in writing, it shall be the responsibility of Consultant to continue to provide the undisputed Services in conformity with this Agreement. The City shall, subject to its right to withhold amounts to cover damages allegedly caused by Consultant’s breach or default under this Agreement, continue to pay Consultant any undisputed amounts in accordance with this Agreement. For the avoidance of doubt, the provisions of this **Section XI.M** shall not apply in the event of a termination of this Agreement pursuant to **Section VII**.

N. Representation of Authority. Any individual executing this Agreement on behalf of Consultant hereby represents and warrants that he or she is, on the date he or she signs this Agreement, duly authorized by all necessary and appropriate action to execute this Agreement on behalf of Consultant and does so with full legal authority.

*[SIGNATURES BEGIN ON THE NEXT PAGE]*

**IN WITNESS WHEREOF**, this Agreement is entered into by the Parties as of the Effective Date.

**The City:**

CITY OF HIGH POINT

By: \_\_\_\_\_

Name: Tasha Logan Ford

Title: City Manager

**Preaudit Certificate**

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

\_\_\_\_\_  
Bobby Fitzjohn, Finance Officer

**Consultant:**

RS&H ARCHITECTS-ENGINEERS-PLANNERS,  
INC.

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

*Consultant's address for notices:*

\_\_\_\_\_

Attn: \_\_\_\_\_

**EXHIBIT A**

**to**

**AGREEMENT FOR PROFESSIONAL SERVICES**

Description of Services, Compensation, Documentation and Deliverables, Endorsements, and Schedule

(See attached)

## **High Point Department of Transportation**

### **Signal Timing Study Scope of Services**

The City of High Point, North Carolina, (hereafter referred to as the City) has contracted with RS&H Architects Engineers Planners, Inc. (hereafter referred to as the Firm) to provide professional transportation engineering services to evaluate and optimize the signal timing of the 239 traffic signals within the City of High Point Signal System. The Firm shall provide professional engineering services necessary for evaluating the current operation to develop optimized signal timing plans, implement and fine-tune the new plans, and evaluate the final operational benefits associated with the work performed.

Work performed under this scope shall be under the direct charge of a licensed North Carolina Professional Engineer.

#### **Existing Signals, Existing Timing Plans, and Assumptions**

The following is a list of the corridors in the High Point Signal System, the number of signals and timing plans for each, and assumptions regarding signal timing analysis:

#### **Corridors**

1. N Main St
  - Existing Signals: 18 signals from Qubein Ave/Sunset Dr to the Old Plank Rd/I-74 Ramps.
  - Existing Timing Plans: Weekday plans range from 0 to 7, but most have 5 weekday plans. Weekend plans range from 0 to 4, but most have 3 weekend plans.
  - Assumptions:
    - 18 signals from Qubein Ave/Sunset Dr to the Old Plank Rd/I-74 Ramps will be analyzed for 5 weekday plans and 3 weekend plans.
2. S Main St
  - Existing Signals: 7 signals from Ward Ave to Nathan Hunt Dr.
  - Existing Timing Plans: Weekday plans range from 5 to 6 weekday plans. There are 3 weekend plans.
  - Assumptions:
    - 7 signals from Ward Ave to Nathan Hunt Dr will be analyzed for 6 weekday plans and 3 weekend plans.
3. S Main St
  - Existing Signals: 9 signals from Fraley Rd to Liberty Dr/Trindale Rd.
  - Existing Timing Plans: Weekday plans range from 5 to 7 weekday plans. Weekend plans are 3 with the exception of one signal with 7 and one that is free.
  - Assumptions:
    - 9 signals from Fraley Rd to Liberty Dr/Trindale Rd will be analyzed for 7 weekday plans and 3 weekend plans.
4. Eastchester Dr
  - Existing Signals: 10 signals from Johnson St to Cypress Ct/Gordon Road.
  - Existing Timing Plans: Weekday plans range from 1 to 9, but most have 8 weekday plans. Weekend plans range from 4 to 6, but most have 5 weekend plans.
  - Assumptions:
    - 10 signals from Johnson St to Cypress Ct/Gordon Road will be analyzed for 9 weekday plans and 5 weekend plans.
5. Eastchester Dr



- Existing Signals: 9 signals from Deep River Rd to Gallimore Dairy Rd.
  - Existing Timing Plans: Weekday plans range from 6 to 8 plans. There are 3 weekend plans.
  - Assumptions:
    - 9 signals from Deep River Rd to Gallimore Dairy Rd will be analyzed for 7 weekday plans and 3 weekend plans.
6. Central Business District
- Existing Signals: 49 signals in this downtown corridor/network.
  - Existing Timing Plans: There are 3 weekday plans and 3 weekend plans.
  - Assumptions:
    - 49 signals in the CBD will be analyzed for 3 weekday plans and 3 weekend plans.
7. Wendover Ave
- Existing Signals: 8 signals from Penny Rd to Piedmont Pkwy.
  - Existing Timing Plans: There are 5 weekday plans and 1 weekend plan.
  - Assumptions:
    - 8 signals from Penny Rd to Piedmont Pkwy will be analyzed for 5 weekday plans and 1 weekend plan.
8. Westchester Dr
- Existing Signals: 9 signals from Lexington Ave to English Rd @ South Rd.
  - Existing Timing Plans: There are 6 weekday plans but one signal runs free and there is another signal w/ 1 plan. All signals run free on the weekend.
  - Assumptions:
    - Add Market Center Dr at Old Thomasville Rd signal from Corridor 18.
    - 10 signals from Lexington Ave to Old Thomasville Rd will be analyzed for 6 weekday plans and NO weekend plan.
9. Skeet Club Rd
- Existing Signals: 8 signals from Oak Hollow Shopping Center Entrance to Johnson St @ Old Mill Rd.
  - Existing Timing Plans: Entire corridor always operates Free.
  - Assumptions: Distance from Waterview Rd to Johnson St is 1 mile and coordination between the two is unlikely. Thus, 6 signals from Oak Hollow Shopping Center to Waterview Rd will be analyzed for 4 weekday plans and 2 weekend plans.
10. Dr. ML King Jr Dr
- Existing Signals: 12 signals from University Pkwy to US 29 NB Ramp.
  - Existing Timing Plans: 5 weekday plans and 1 weekend plan. But some signals run free, and some have 6 weekday plans, and some have 3 weekend plans.
  - Assumptions:
    - MLK at University Pkwy move to University Pkwy Corridor 11.
    - 11 signals from Hoskins St/Onoka Ave to US 29 NB Ramp will be analyzed for 5 weekday plans and 1 weekend plan.
11. University Pkwy
- Existing Signals: 16 signals from Kearns Ave to Main St. However, Main St is double counted from Corridor 1.
  - Existing Timing Plans: 3 weekday plans from Kerns Ave to Leonard Ave. and 1 weekend plan. Signals from Davis Ave to Lexington, and East Mall to Old Winston Rd @ Oakview Rd run free during the weekdays. Davis has 3 plans during the weekend. Eat Mall and West Mall have 3 plans on Saturday and 3 plans on Sunday. But some signals run free, and some have 6 weekday plans, and some have 3 weekend plans.
  - Assumptions:
    - Main St accounted for in Corridor 1.

- MLK at University Pkwy move from Corridor 10 to University Pkwy Corridor 11.
- 15 signals from Kearns Ave to Old Winston Rd @ Oakview Rd will be analyzed for 3 weekday plans and 3 weekend plans.
- Coordinate with Corridors 4 and 22.
- Market plans from Dr. ML King Jr Dr to Eastchester Dr will be developed and will be included in a combined Corridors 4, 11, and 22 network.

#### 12. Main St (Archdale)

- Existing Signals: 5 signals from Balfour Dr/Ashland St to Comanche Dr/Tarheel Dr.
- Existing Timing Plans: 4 weekday plans and 1 weekend plan
- Assumptions: 5 signals from Balfour Dr/Ashland St to Comanche Dr/Tarheel Dr will be analyzed for 4 weekday plans and 1 weekend plan.

#### 13. Main St (Jamestown)

- Existing Signals: 5 signals from Penny Rd/Wrenn Farm Dr to Guilford Rd.
- Existing Timing Plans: For most signals, 4 weekday plans and 1 weekend plan
- Assumptions: 5 signals from Penny Rd/Wrenn Farm Dr to Guilford Rd will be analyzed for 4 weekday plans and 1 weekend plan.

#### 14. Lexington Ave/Jamestown Pkwy

- Existing Signals: 6 signals from Montlieu Ave to Greensboro Rd.
- Existing Timing Plans: A maximum of 5 weekday plans and 3 weekend plans.
- Assumptions: 6 signals from Montlieu Ave to Greensboro Rd will be analyzed for 5 weekday plans and 3 weekend plans.

#### 15. Brentwood St

- Existing Signals: 5 signals from Green Dr to Springfield Rd.
- Existing Timing Plans: A maximum of 5 weekday plans and 1 weekend plan.
- Assumptions: 5 signals from Green Dr to Springfield Rd will be analyzed for 5 weekday plans and 1 weekend plan.

#### 16. Green Drive/Fairfield Road

- Existing Signals: 5 signals from Trinity Rd to Surrett Dr.
- Existing Timing Plans: A maximum of 4 weekday plans and 1 weekend plan.
- Assumptions: 5 signals from Trinity Rd to Surrett Dr will be analyzed for 4 weekday plans and 1 weekend plan.

#### 17. Guilford College Rd

- Existing Signals: 6 signals from Hickory Grove Rd to Guilford Rd.
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - Distance from Piedmont Pkwy/Hilltop Rd to Mackay Rd/Thorndike Rd is 1.3 miles and coordination between the two is unlikely.
  - 4 signals from Hickory Grove Rd to Piedmont Pkwy/Hilltop Rd will be analyzed for 5 weekday plans and 1 weekend plan (to match number of plans on Wendover).

#### 18. Market Center Dr

- Existing Signals: 5 signals from Old Thomasville Rd to Surrett Dr.
- Existing Timing Plans: Entire corridor always operates Free, except for Old Thomasville Rd which appears to be coordinated with Corridor 8 (Westchester).
- Assumptions:
  - Move Old Thomasville Rd to Corridor 8.
  - 4 signals from Green Dr to Surrett Dr will be analyzed for 5 weekday plans and 1 weekend plan.

#### 19. Prospect St

- Existing Signals: 2 signals from Eugene Ave to Blandwood Dr.

- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 2 signals will be analyzed for 4 weekday plans and 1 weekend plan.
  - No before or after travel time runs (only ~1,100 feet between the signals).

#### 20. Green Dr

- Existing Signals: 3 signals from Brentwood St to I-74 EB Ramp.
- Existing Timing Plans: 3 weekday plans and 1 weekend plan.
- Assumptions:
  - 3 signals will be analyzed for 3 weekday plans and 1 weekend plan.
  - No before or after travel time runs (only ~1,600 feet between the Brentwood and I-74 EB Ramp).

#### 21. Johnson St

- Existing Signals: 3 signals from I-74 WB Ramp to Oakview Rd.
- Existing Timing Plans: 6 weekday plans and NO weekend plans.
- Assumptions:
  - 3 signals will be analyzed for 6 weekday plans.
  - No before or after travel time runs (only ~2,260 feet between the Brentwood and I-74 EB Ramp).

#### 22. Centennial St

- Existing Signals: 3 signals from Qubein Ave to Beaucrest Ave. This does not account for University Pkwy which is accounted for in Corridor 11.
- Existing Timing Plans: 6 weekday plans and NO weekend plans.
- Assumptions:
  - 3 signals will be analyzed for 6 weekday plans.
  - Coordinate with Corridors 4 & 11.

#### 23. Barrow Rd

- Existing Signals: 2 signals from Southwest School Rd to Willard Dairy Rd
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 2 signals will be analyzed for 4 weekday plans and NO weekend plans.
  - No before or after travel time runs (only ~1,950 feet between the signals).

#### 24. Hwy 62 (Liberty Rd)

- Existing Signals: 3 signals from Fairfield Rd/Aldridge Rd to I-85 NB Ramps
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 3 signals will be analyzed for 4 weekday plans and NO weekend plans.
  - No before or after travel time runs (corridor only ~7/10ths of a mile long).

#### 25. Jamestown Pkwy

- Existing Signals: 4 signals from Manor Dr to Harvey Rd.
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 4 signals from Manor Dr to Harvey Rd will be analyzed for 4 weekday plans and NO weekend plans.

○

#### 26. Piedmont Pkwy

- Existing Signals: 2 signals from Morris Farm Dr to Tarrant Rd.
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:

- 2 signals from Morris Farm Dr to Tarrant Rd will be analyzed for 2 weekday plans and NO weekend plans.
    - No before or after travel time runs (only ~1/2 mile between the signals).
  - US 29 / I-74 Interchange
- 27. US 29 / I-74 Interchange
  - Existing Signals: 4 signals in interchange.
  - Existing Timing Plans: Entire corridor always operates Free.
  - Assumptions:
    - 4 signals will be analyzed for 4 weekday plans and NO weekend plans.
    - No before or after travel time runs.
- 28. Isolated / Unaccounted Signals
  - Existing Signals: 23 signals in City not accounted for in Corridors 1 through 27.
  - Existing Timing Plans: Entire corridor always operates Free.
  - Assumptions:
    - TMCs will be collected for all 23 signals.
    - Evaluations will be conducted if there are any remaining funds.
    - No before or after travel time runs.

In addition to the corridors with their regular TOD, several corridors have Market plans.

- Corridor 1 - N Main St
  - Existing Signals: 11 signals from Qubein Ave/Sunset Dr to Belle Dr/Old Winston Rd.
  - Existing Market Timing Plans: Market plans range from 6 to 9, but most signals have 7 plans.
  - Assumptions:
    - 11 signals from Qubein Ave/Sunset Dr to Belle Dr/Old Winston Rd will be analyzed for 7 Market plans.
- Corridor 2 - S Main St
  - Existing Signals: 6 signals from Ward Ave to Nathan Hunt Dr.
  - Existing Timing Plans: There are 6 Market plans.
  - Assumptions:
    - 6 signals from Ward Ave to Nathan Hunt Dr will be analyzed for 6 Market plans.
- Corridor 4 - Eastchester Dr
  - Existing Signals: 5 signals from Johnson St to Cypress Ct/Gordon Road have market plans.
  - Existing Timing Plans: Market plans range from 7 to 9, but most have 9 Market plans.
  - Assumptions:
    - Include the following signals into Corridor 4 Market plan analysis:
      - 1 signal at University Pkwy and Dr ML King Jr Dr (Corridor 11)
      - 3 signals on Centennial St from Lexington Ave to Beaucrest Ave (Corridor 22)
    - 9 signals will be analyzed for 9 Market plans.
- Corridor 5 - Eastchester Dr
  - Existing Signals: 3 signals from Deep River Rd to Skeet Club Rd/Wendover Ave.
  - Existing Timing Plans: 2 signals have 7 Market plans and 1 has 9 Market plans.
  - Assumptions:
    - 3 signals from Deep River Rd to Skeet Club Rd/Wendover Ave will be analyzed for 7 Market plans.

The Firm is responsible for completing each of the following tasks over the course of the life of the project.

### **Task 1: Project Management**

The Firm will manage and administer the project with the City throughout the duration of this assignment. This includes the coordination of meetings, technical aspects of the assignment, and submittals.

#### **Work Standards**

Plans will be prepared in accordance with the latest edition of the following:

- NCDOT Signal System Timing Philosophy Manual
- The Manual on Uniform Traffic Control Devices (MUTCD)
- North Carolina Supplement to the MUTCD

The Firm shall notify the City in advance of performing any field work.

#### **Invoices and Progress Reports**

All invoices shall be accompanied by a progress report with the following:

- Work accomplished during the report period.
- Table depicting corridors, percent of total fee for each corridor, percent of each corridor complete to date, percent of fee complete for each corridor, and total percent complete for the report period.
- Unusual problems or issues encountered during the report period.
- Proposed actions for the next reporting period.

#### **Schedule**

The Firm shall commence work once receiving the Notice to Proceed (NTP) and complete the project no later than May 31, 2026. The Firm's intent is to develop and implement regular time-of-day (TOD) timing plans for approximately one third of the 239 signals each during Fall 2024, Spring 2025, and Fall 2025. The Firm will also develop Furniture Market timing plans with data collection and existing timing analysis during Fall 2024, optimization and implementation/fine-tuning during Spring 2025, and any necessary plan refinement during the Fall 2025. Further fine-tuning, if necessary, of the market plans will be finalized during Spring 2026. Standard review time by the city is two weeks, although additional time is required if multiple submittals are received simultaneously.

Reasonable extensions for unforeseen delays may be allowed as agreed to by mutual consent between the Firm and the City.

#### **Existing System Data**

The city staff will provide all existing data available for the system including Centrac's timing databases (electronic form), any Synchro files, and any current signal plans for City signals.

#### **Project Kick-Off Meeting**

Upon notice to proceed, the Firm will schedule and coordinate a project kick-off meeting involving all key City staff and the Firm's key team members. This meeting will provide an environment to define clear lines of communication, clarify fine points of the scope, discuss basic timing parameter

development, ensure consistent application of signal timing philosophies, emphasize critical schedule points, identify project goals and objectives, review any reporting requirements, and ensure uniform understanding of the evaluation plan.

### **Signal Timing Teams Coordination Meeting**

Upon notice to proceed, the Firm will host a coordination meeting of all team members to set uniform signal timing development procedures.

### **Task 2: Corridor Kick-Off Meeting and Signal Timing Score Card**

The Firm and City staff shall conduct a kick-off meeting for each corridor. Multiple corridors can be combined into one kick-off meeting. The Firm's project manager, technical advisor, and signal timing team leaders will attend these meetings. Participants will discuss in depth the quantitative and qualitative goals of the optimization process for each existing timing plan of each corridor. Critical intersections will be identified. Possible expansion/reduction of the corridor boundaries and whether coordination between adjacent corridors is possible or advisable will be discussed.

The Firm will use an 8.5"x11" signal timing score card for each corridor and timing plan combination. It will contain space for essential information such as number of signals, the time plan schedule, corridor context, the objectives of the timing, and measures of effectiveness (MOEs). Tables will also be provided for Synchro MOEs, existing/proposed cycle lengths, and before/after travel time results.

This meeting may be held virtually via Microsoft Teams.

### **Task 3: Field Data Collection**

#### **Turning Movement Counts**

The Firm will be responsible for collecting weekday 12-hour turning movement counts (TMCs) at all 239 of the signalized intersections. These TMCs will identify, at a minimum, AM Peak, Midday, and PM Peak hours. In addition, pedestrian, bus, and heavy vehicle volumes will be collected.

The Firm will be responsible for collecting weekend 12-hour TMCs at 36 signalized intersections. These TMCs will identify, at a minimum, AM Peak, Midday, and PM Peak hours. In addition, pedestrian, bus, and heavy vehicle volumes will be collected. Physical TMCs will be supplemented with synthetic TMCs.

The Firm will be responsible for collecting Furniture Market 12-hour TMCs at 12 signalized intersections. These TMCs will identify, at a minimum, AM Peak, Midday, and PM Peak hours. In addition, pedestrian, bus, and heavy vehicle volumes will be collected. Physical TMCs will be supplemented with synthetic TMCs.

#### **Field Investigations**

The Firm will conduct field surveys to:

- verify intersection geometrics,
- speed limits,
- signal equipment working order,
- timing parameters,

- signal phasing,
- identify trouble areas (excessive queues, turn lane spillovers, and platoons arriving too early or late),
- identify adjacent land uses,
- limited number of saturation flow rate spot checks.

The Firm will provide red-lined signal plans to the City that indicate changes or equipment issues.

#### **Task 4: Evaluation of Existing Signal System Operations**

##### **Signal Timing Model Base Files**

The Firm will enter (or verify) existing geometric parameters into Synchro. It will also enter/verify the existing timing parameters and new TMCs. The Synchro files will be exported to Tru-Traffic files for the before travel time studies.

##### **Before Travel Time Studies**

The Firm will conduct before travel time studies (BTTs) with Tru-Traffic to calibrate the Synchro models as well as provide an MOE baseline. The BTTs will be conducted in accordance with NCDOT's [Standard Practice for Travel Time Runs](#). However, if there is a great disparity in speed between two adjacent lanes, the timing team members will drive half of the runs solely in the left lane and the remaining half of the runs in right lane. This will better capture the true variation in link speeds to enable better calibration of the Synchro models.

##### **Synchro Model Calibration**

The Firm will code the Synchro corridor for one time period, usually AM Peak, and conduct a two-step quality check (QC). Once the AM Peak Synchro corridor is coded with the geometric, volume, and existing signal timing data, we will use SimTraffic to detect coding errors and omissions not readily detected in Synchro. The signal timing team will then calibrate Synchro by visually validating the SimTraffic simulation by comparing it to observed existing field conditions, and comparing the simulated travel time results with the BTTs. Once satisfied with the calibration of the first time period, the Firm will then proceed to calibrate the remaining time period models using the same methods.

The Firm's signal timing team leaders will then conduct a QC check to ensure small mistakes are not carried out through the entire optimization process.

#### **Task 5: Develop Signal System Timing Plans**

##### **Model Optimization**

The Firm will optimize corridor signals' cycle length, splits, phase order, offsets, and/or other timing parameters to meet the City's objective(s) for the corridor and maximize MOE improvement. The Firm will use Synchro, Tru-Traffic, and SimTraffic to accomplish this.

Once the best timing plans are achieved, the Firm's Quality Assurance Leader will conduct quality checks on the timing plans to provide an independent check and ensure uniformity of product.

## **Time-of-Day Schedule and Number of Timing Plans**

The Firm will conduct analysis of each hour within the existing Time-of-Day (TOD) schedule to determine if any plans can be eliminated. The Firm will analyze the hour TMCs with the optimized timing plan developed for that hour, as well as the preceding and following optimized timing plans to determine whether the plan can be eliminated. This will also serve to identify an accurate determination of break points between the timing plans.

This task does not include the following:

- Controller cabinet testing of proposed timing plans
- Centrac's graphics development
- Verification of detector assignment or logging

### **Task 6: Preliminary Signal Timing Score Card and Meeting**

The Firm will submit an updated corridor signal timing score card for each corridor and time period combination. In addition to the information filled in during the corridor kick-off meeting, the score card will list the strategies and tactics used in the optimization. The Synchro MOEs table will be filled in with the existing and proposed timing plan values. The travel time results table will have the before travel time results. The score card will also contain a design narrative that succinctly describes assumptions, methodology, challenges, and decisions encountered in the optimization process.

Accompanying the score card will be two Tru-Traffic time-space diagrams. The first will depict the existing timing and before travel time runs. The second will show the proposed timing plan parameters.

City staff will have two weeks to review the score cards.

After reviewing the score cards for a corridor, the city staff, Firm project manager and signal timing team leader will meet to discuss the results. A decision will then be made whether the anticipated MOE gains are worth proceeding to implementation.

If the decision is made to proceed to implementation, the Firm will enter the proposed timing parameters and TOD schedule into the electronic Centrac's database and submit them to the city.

### **Task 7: Field Implementation and Fine-Tuning of New Timing Plans**

The Firm will provide an implementation schedule to the city two weeks prior to the proposed implementation date. Multiple corridors will be implemented at the same time to maximize efficient use of personnel. One team member will be in the Traffic Management Center to have an overview of the corridor via CCTV cameras while the other team members will be observing traffic at the intersections and along corridors, and conducting preliminary after travel time studies.

Signal timing team members will call in fine-tuning timing plan changes as necessary. City staff will enter the changes in Centrac's.



Synchro and Tru-Traffic files will be updated as fine-tuning changes are made.

Proposed TOD start/end times will be validated to ensure they are proper for the traffic conditions.

Without additional cost to the city, the Firm shall be responsible for responding to any operational issues related to the final signal timing plans for up to one (1) month after final implementation and fine-tuning.

### **Task 8: Evaluation of Signal System Operations (Travel-Time Runs)**

Once the city and the Firm are satisfied with the fine-tuning effort, the Firm will conduct After Travel Time Studies (ATTs). The timing teams will conduct the ATTs in the same way the BTTs were conducted - same drivers, same days, same methods.

Outputs of the Tru-Traffic reports must include Cumulative Travel Time (CTT), Cumulative Delay (CD), Cumulative Stop Delay (CStopD), CStops, LOSDelay, CAS.

### **Task 9: Final Corridor Signal Timing Score Card**

The Firm will submit a final corridor signal timing score card for each corridor and time period combination. The score cards will be updated so that the Synchro MOEs table reflects the final timing plan MOE values. Likewise, the travel time table will be updated with the final timing plan after travel time results. The design narrative section will be updated with any applicable changes or actions taken during fine-tuning.

Accompanying the score card will be two Tru-Traffic time-space diagrams. The first will depict the existing timing and before travel time runs as it was in Task 5. The second will show the final timing plan parameters and the after travel time runs.

City staff will have two weeks to review the score cards.

### **Task 10: Corridor Closeout Meetings with City Staff**

The Firm shall meet with city staff at the end of each timing season (Fall 2024, Spring 2025, Fall 2025, and the Market), for up to four hours per meeting, to review and explain all work done on each corridor during the season. The discussion shall include review of the final corridor score cards, existing and final Tru-Traffic time-space diagrams, background information for decisions made regarding coordination schedules and cycle lengths, the before/after travel time results as well as any recommendations. These meetings will be held virtually via Microsoft Teams.

**EXHIBIT B**

**to**

**AGREEMENT FOR PROFESSIONAL SERVICES**

Certificate(s) of Insurance

(See attached)



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

07/23/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Brown & Brown Insurance Services, Inc. 10151 Deerwood Park Blvd Bldg 100, Ste 500 Jacksonville FL 32256		<b>CONTACT NAME:</b> Danielle Conklin <b>PHONE (A/C, No, Ext):</b> (904) 565-8286 <b>E-MAIL ADDRESS:</b> Danielle.Conklin@bbrown.com	<b>FAX (A/C, No):</b> (904) 565-2440																					
<b>INSURED</b> RS&H, Inc 10748 Deerwood Pk Blvd S See Second Page for All Named Insureds Jacksonville FL 32256		<table border="1"> <thead> <tr> <th colspan="2">INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td><b>INSURER A:</b> Zurich American Insurance Company</td> <td></td> <td>16535</td> </tr> <tr> <td><b>INSURER B:</b> American Guarantee and Liability Insurance Company</td> <td></td> <td>26247</td> </tr> <tr> <td><b>INSURER C:</b> Travelers Property Casualty Company of America</td> <td></td> <td>25674</td> </tr> <tr> <td><b>INSURER D:</b> Continental Insurance Company</td> <td></td> <td>35289</td> </tr> <tr> <td><b>INSURER E:</b></td> <td></td> <td></td> </tr> <tr> <td><b>INSURER F:</b></td> <td></td> <td></td> </tr> </tbody> </table>		INSURER(S) AFFORDING COVERAGE		NAIC #	<b>INSURER A:</b> Zurich American Insurance Company		16535	<b>INSURER B:</b> American Guarantee and Liability Insurance Company		26247	<b>INSURER C:</b> Travelers Property Casualty Company of America		25674	<b>INSURER D:</b> Continental Insurance Company		35289	<b>INSURER E:</b>			<b>INSURER F:</b>		
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<b>INSURER F:</b>																								

**COVERAGES**

CERTIFICATE NUMBER: 24-25 Liability

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.


INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Blanket AI- PNC <input checked="" type="checkbox"/> Blanket WOS GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	Y	Y	GLO1466409-02	06/28/2024	06/28/2025	EACH OCCURRENCE	\$ 2,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 300,000
							MED EXP (Any one person)	\$ 10,000
							PERSONAL & ADV INJURY	\$ 2,000,000
							GENERAL AGGREGATE	\$ 4,000,000
							PRODUCTS - COMP/OP AGG	\$ 4,000,000
								\$
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY <input checked="" type="checkbox"/> Blanket AI <input checked="" type="checkbox"/> Blanket WOS	Y	Y	BAP1469564-02	06/28/2024	06/28/2025	COMBINED SINGLE LIMIT (Ea accident)	\$ 2,000,000
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
B	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 10,000			See Attached	06/28/2024	06/28/2025	EACH OCCURRENCE	\$ 29,000,000
							AGGREGATE	\$ 29,000,000
								\$
B	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	Y	WC0411471-02	06/28/2024	06/28/2025	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

Project #1-2023-00179; High Point Signal Timing Study

City of High Point is included as additional insured with respect to the General Liability and Auto Liability policies when required by written contract. Waiver of subrogation in favor of City of High Point is included with respect to the General Liability, Auto Liability, and Workers' Compensation coverage when required by written contract. 30-day notice of cancellation provided per policy provisions.

**CERTIFICATE HOLDER****CANCELLATION**

City of High Point Attn: Erik Edwards PO Box 230 High Point NC 27261	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE 
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AGENCY CUSTOMER ID: \_\_\_\_\_

LOC #: \_\_\_\_\_



## ADDITIONAL REMARKS SCHEDULE

Page \_\_\_\_ of \_\_\_\_

AGENCY Brown & Brown Insurance Services, Inc.		NAMED INSURED RS&H, Inc	
POLICY NUMBER		EFFECTIVE DATE:	
CARRIER	NAIC CODE		

**ADDITIONAL REMARKS**

**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,**

**FORM NUMBER:** 25      **FORM TITLE:** Certificate of Liability Insurance: Notes

Umbrella Total Limit: \$29,000,000  
 Primary \$9M - American Guarantee and Liability Insurance Company; Policy #AUC-1469558-02  
 \$10M XS \$9M - Travelers Property Casualty Company of America; Policy #EX-6T35064A-24-NF  
 \$10M XS \$19M - Continental Insurance Company; Policy #7039681430

**NAMED INSURED LIST:**

- HB&A, LLC
- Reynolds, Smith and Hills Architects – Engineers Planners, P.A.
- Reynolds, Smith and Hills CS, Incorporated
- Reynolds, Smith and Hills, Inc.
- RS&H Alabama, Inc
- RS&H Architect and Engineer, P.C.
- RS&H Architects-Engineers-Planners, Inc.
- RS&H Arkansas, Inc.
- RS&H California, Inc.
- RS&H Commercial Realty, Inc.
- RS&H Idaho, P.C.
- RS&H Illinois, inc.
- RS&H Iowa, P.C
- RS&H Maryland, Inc.
- RS&H Massachusetts, Inc.
- RS&H Michigan, Inc.
- RS&H Mississippi, P.C.
- RS&H Montana, P.C.
- RS&H Nevada, Inc.
- RS&H Ohio, Inc.
- RS&H Oregon, Architects-Engineers-Planner, P.C.
- RS&H Pennsylvania, Inc.
- Tsiouvaras Simmons Holderness, Inc.



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

7/23/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Greyling Ins Brokerage/EPIC 3780 Mansell Road, Suite 370 Alpharetta GA 30022	<b>CONTACT NAME:</b> Greyling COI Specialist	
	<b>PHONE (A/C. No. Ext):</b> 770.756.6599	<b>FAX (A/C. No):</b>
<b>E-MAIL ADDRESS:</b> greylingcerts@greyling.com		
<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
<b>INSURER A :</b> Lloyd's of London		85202
<b>INSURED</b> RS&H, Inc. 10748 Deerwood Park Blvd South Jacksonville, FL 80237-0000	<b>INSURER B :</b>	
	<b>INSURER C :</b>	
	<b>INSURER D :</b>	
	<b>INSURER E :</b>	
	<b>INSURER F :</b>	

**COVERAGES**

CERTIFICATE NUMBER: 1596847691

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y / N <input checked="" type="checkbox"/> N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						<input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
A	Professional Liab Incl. Pollution			B0146LDUSA2404894	6/28/2024	6/28/2025	Per Claim Aggregate \$5,000,000 \$5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project # 1-2023-00179  
 Project Name: High Point Signal Timing Study  
 Waiver of Subrogation in favor of Additional Insured(s) where required by written contract & allowed by law. Should any of the above described policies be cancelled by the issuing insurer before the expiration date thereof, we will endeavor to provide 30 days' written notice (except 10 days for nonpayment of premium) to the Certificate Holder.

**CERTIFICATE HOLDER****CANCELLATION**

City of High Point  
 PO Box 230  
 High Point NC 27261

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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## **High Point Department of Transportation**

### **Signal Timing Study Scope of Services**

The City of High Point, North Carolina, (hereafter referred to as the City) has contracted with RS&H Architects Engineers Planners, Inc. (hereafter referred to as the Firm) to provide professional transportation engineering services to evaluate and optimize the signal timing of the 239 traffic signals within the City of High Point Signal System. The Firm shall provide professional engineering services necessary for evaluating the current operation to develop optimized signal timing plans, implement and fine-tune the new plans, and evaluate the final operational benefits associated with the work performed.

Work performed under this scope shall be under the direct charge of a licensed North Carolina Professional Engineer.

#### **Existing Signals, Existing Timing Plans, and Assumptions**

The following is a list of the corridors in the High Point Signal System, the number of signals and timing plans for each, and assumptions regarding signal timing analysis:

#### **Corridors**

1. N Main St
  - Existing Signals: 18 signals from Qubein Ave/Sunset Dr to the Old Plank Rd/I-74 Ramps.
  - Existing Timing Plans: Weekday plans range from 0 to 7, but most have 5 weekday plans. Weekend plans range from 0 to 4, but most have 3 weekend plans.
  - Assumptions:
    - 18 signals from Qubein Ave/Sunset Dr to the Old Plank Rd/I-74 Ramps will be analyzed for 5 weekday plans and 3 weekend plans.
2. S Main St
  - Existing Signals: 7 signals from Ward Ave to Nathan Hunt Dr.
  - Existing Timing Plans: Weekday plans range from 5 to 6 weekday plans. There are 3 weekend plans.
  - Assumptions:
    - 7 signals from Ward Ave to Nathan Hunt Dr will be analyzed for 6 weekday plans and 3 weekend plans.
3. S Main St
  - Existing Signals: 9 signals from Fraley Rd to Liberty Dr/Trindale Rd.
  - Existing Timing Plans: Weekday plans range from 5 to 7 weekday plans. Weekend plans are 3 with the exception of one signal with 7 and one that is free.
  - Assumptions:
    - 9 signals from Fraley Rd to Liberty Dr/Trindale Rd will be analyzed for 7 weekday plans and 3 weekend plans.
4. Eastchester Dr
  - Existing Signals: 10 signals from Johnson St to Cypress Ct/Gordon Road.
  - Existing Timing Plans: Weekday plans range from 1 to 9, but most have 8 weekday plans. Weekend plans range from 4 to 6, but most have 5 weekend plans.
  - Assumptions:
    - 10 signals from Johnson St to Cypress Ct/Gordon Road will be analyzed for 9 weekday plans and 5 weekend plans.
5. Eastchester Dr

- Existing Signals: 9 signals from Deep River Rd to Gallimore Dairy Rd.
  - Existing Timing Plans: Weekday plans range from 6 to 8 plans. There are 3 weekend plans.
  - Assumptions:
    - 9 signals from Deep River Rd to Gallimore Dairy Rd will be analyzed for 7 weekday plans and 3 weekend plans.
6. Central Business District
- Existing Signals: 49 signals in this downtown corridor/network.
  - Existing Timing Plans: There are 3 weekday plans and 3 weekend plans.
  - Assumptions:
    - 49 signals in the CBD will be analyzed for 3 weekday plans and 3 weekend plans.
7. Wendover Ave
- Existing Signals: 8 signals from Penny Rd to Piedmont Pkwy.
  - Existing Timing Plans: There are 5 weekday plans and 1 weekend plan.
  - Assumptions:
    - 8 signals from Penny Rd to Piedmont Pkwy will be analyzed for 5 weekday plans and 1 weekend plan.
8. Westchester Dr
- Existing Signals: 9 signals from Lexington Ave to English Rd @ South Rd.
  - Existing Timing Plans: There are 6 weekday plans but one signal runs free and there is another signal w/ 1 plan. All signals run free on the weekend.
  - Assumptions:
    - Add Market Center Dr at Old Thomasville Rd signal from Corridor 18.
    - 10 signals from Lexington Ave to Old Thomasville Rd will be analyzed for 6 weekday plans and NO weekend plan.
9. Skeet Club Rd
- Existing Signals: 8 signals from Oak Hollow Shopping Center Entrance to Johnson St @ Old Mill Rd.
  - Existing Timing Plans: Entire corridor always operates Free.
  - Assumptions: Distance from Waterview Rd to Johnson St is 1 mile and coordination between the two is unlikely. Thus, 6 signals from Oak Hollow Shopping Center to Waterview Rd will be analyzed for 4 weekday plans and 2 weekend plans.
10. Dr. ML King Jr Dr
- Existing Signals: 12 signals from University Pkwy to US 29 NB Ramp.
  - Existing Timing Plans: 5 weekday plans and 1 weekend plan. But some signals run free, and some have 6 weekday plans, and some have 3 weekend plans.
  - Assumptions:
    - MLK at University Pkwy move to University Pkwy Corridor 11.
    - 11 signals from Hoskins St/Oneka Ave to US 29 NB Ramp will be analyzed for 5 weekday plans and 1 weekend plan.
11. University Pkwy
- Existing Signals: 16 signals from Kearns Ave to Main St. However, Main St is double counted from Corridor 1.
  - Existing Timing Plans: 3 weekday plans from Kerns Ave to Leonard Ave. and 1 weekend plan. Signals from Davis Ave to Lexington, and East Mall to Old Winston Rd @ Oakview Rd run free during the weekdays. Davis has 3 plans during the weekend. Eat Mall and West Mall have 3 plans on Saturday and 3 plans on Sunday. But some signals run free, and some have 6 weekday plans, and some have 3 weekend plans.
  - Assumptions:
    - Main St accounted for in Corridor 1.

- MLK at University Pkwy move from Corridor 10 to University Pkwy Corridor 11.
- 15 signals from Kearns Ave to Old Winston Rd @ Oakview Rd will be analyzed for 3 weekday plans and 3 weekend plans.
- Coordinate with Corridors 4 and 22.
- Market plans from Dr. ML King Jr Dr to Eastchester Dr will be developed and will be included in a combined Corridors 4, 11, and 22 network.

#### 12. Main St (Archdale)

- Existing Signals: 5 signals from Balfour Dr/Ashland St to Comanche Dr/Tarheel Dr.
- Existing Timing Plans: 4 weekday plans and 1 weekend plan
- Assumptions: 5 signals from Balfour Dr/Ashland St to Comanche Dr/Tarheel Dr will be analyzed for 4 weekday plans and 1 weekend plan.

#### 13. Main St (Jamestown)

- Existing Signals: 5 signals from Penny Rd/Wrenn Farm Dr to Guilford Rd.
- Existing Timing Plans: For most signals, 4 weekday plans and 1 weekend plan
- Assumptions: 5 signals from Penny Rd/Wrenn Farm Dr to Guilford Rd will be analyzed for 4 weekday plans and 1 weekend plan.

#### 14. Lexington Ave/Jamestown Pkwy

- Existing Signals: 6 signals from Montlieu Ave to Greensboro Rd.
- Existing Timing Plans: A maximum of 5 weekday plans and 3 weekend plans.
- Assumptions: 6 signals from Montlieu Ave to Greensboro Rd will be analyzed for 5 weekday plans and 3 weekend plans.

#### 15. Brentwood St

- Existing Signals: 5 signals from Green Dr to Springfield Rd.
- Existing Timing Plans: A maximum of 5 weekday plans and 1 weekend plan.
- Assumptions: 5 signals from Green Dr to Springfield Rd will be analyzed for 5 weekday plans and 1 weekend plan.

#### 16. Green Drive/Fairfield Road

- Existing Signals: 5 signals from Trinity Rd to Surrett Dr.
- Existing Timing Plans: A maximum of 4 weekday plans and 1 weekend plan.
- Assumptions: 5 signals from Trinity Rd to Surrett Dr will be analyzed for 4 weekday plans and 1 weekend plan.

#### 17. Guilford College Rd

- Existing Signals: 6 signals from Hickory Grove Rd to Guilford Rd.
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - Distance from Piedmont Pkwy/Hilltop Rd to Mackay Rd/Thorndike Rd is 1.3 miles and coordination between the two is unlikely.
  - 4 signals from Hickory Grove Rd to Piedmont Pkwy/Hilltop Rd will be analyzed for 5 weekday plans and 1 weekend plan (to match number of plans on Wendover).

#### 18. Market Center Dr

- Existing Signals: 5 signals from Old Thomasville Rd to Surrett Dr.
- Existing Timing Plans: Entire corridor always operates Free, except for Old Thomasville Rd which appears to be coordinated with Corridor 8 (Westchester).
- Assumptions:
  - Move Old Thomasville Rd to Corridor 8.
  - 4 signals from Green Dr to Surrett Dr will be analyzed for 5 weekday plans and 1 weekend plan.

#### 19. Prospect St

- Existing Signals: 2 signals from Eugene Ave to Blandwood Dr.



- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 2 signals will be analyzed for 4 weekday plans and 1 weekend plan.
  - No before or after travel time runs (only ~1,100 feet between the signals).

#### 20. Green Dr

- Existing Signals: 3 signals from Brentwood St to I-74 EB Ramp.
- Existing Timing Plans: 3 weekday plans and 1 weekend plan.
- Assumptions:
  - 3 signals will be analyzed for 3 weekday plans and 1 weekend plan.
  - No before or after travel time runs (only ~1,600 feet between the Brentwood and I-74 EB Ramp).

#### 21. Johnson St

- Existing Signals: 3 signals from I-74 WB Ramp to Oakview Rd.
- Existing Timing Plans: 6 weekday plans and NO weekend plans.
- Assumptions:
  - 3 signals will be analyzed for 6 weekday plans.
  - No before or after travel time runs (only ~2,260 feet between the Brentwood and I-74 EB Ramp).

#### 22. Centennial St

- Existing Signals: 3 signals from Qubein Ave to Beaucrest Ave. This does not account for University Pkwy which is accounted for in Corridor 11.
- Existing Timing Plans: 6 weekday plans and NO weekend plans.
- Assumptions:
  - 3 signals will be analyzed for 6 weekday plans.
  - Coordinate with Corridors 4 & 11.

#### 23. Barrow Rd

- Existing Signals: 2 signals from Southwest School Rd to Willard Dairy Rd
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 2 signals will be analyzed for 4 weekday plans and NO weekend plans.
  - No before or after travel time runs (only ~1,950 feet between the signals).

#### 24. Hwy 62 (Liberty Rd)

- Existing Signals: 3 signals from Fairfield Rd/Aldridge Rd to I-85 NB Ramps
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 3 signals will be analyzed for 4 weekday plans and NO weekend plans.
  - No before or after travel time runs (corridor only ~7/10ths of a mile long).

#### 25. Jamestown Pkwy

- Existing Signals: 4 signals from Manor Dr to Harvey Rd.
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:
  - 4 signals from Manor Dr to Harvey Rd will be analyzed for 4 weekday plans and NO weekend plans.

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#### 26. Piedmont Pkwy

- Existing Signals: 2 signals from Morris Farm Dr to Tarrant Rd.
- Existing Timing Plans: Entire corridor always operates Free.
- Assumptions:

- 2 signals from Morris Farm Dr to Tarrant Rd will be analyzed for 2 weekday plans and NO weekend plans.
    - No before or after travel time runs (only ~1/2 mile between the signals).
  - US 29 / I-74 Interchange
- 27. US 29 / I-74 Interchange
  - Existing Signals: 4 signals in interchange.
  - Existing Timing Plans: Entire corridor always operates Free.
  - Assumptions:
    - 4 signals will be analyzed for 4 weekday plans and NO weekend plans.
    - No before or after travel time runs.
- 28. Isolated / Unaccounted Signals
  - Existing Signals: 23 signals in City not accounted for in Corridors 1 through 27.
  - Existing Timing Plans: Entire corridor always operates Free.
  - Assumptions:
    - TMCs will be collected for all 23 signals.
    - Evaluations will be conducted if there are any remaining funds.
    - No before or after travel time runs.

In addition to the corridors with their regular TOD, several corridors have Market plans.

- Corridor 1 - N Main St
  - Existing Signals: 11 signals from Qubein Ave/Sunset Dr to Belle Dr/Old Winston Rd.
  - Existing Market Timing Plans: Market plans range from 6 to 9, but most signals have 7 plans.
  - Assumptions:
    - 11 signals from Qubein Ave/Sunset Dr to Belle Dr/Old Winston Rd will be analyzed for 7 Market plans.
- Corridor 2 - S Main St
  - Existing Signals: 6 signals from Ward Ave to Nathan Hunt Dr.
  - Existing Timing Plans: There are 6 Market plans.
  - Assumptions:
    - 6 signals from Ward Ave to Nathan Hunt Dr will be analyzed for 6 Market plans.
- Corridor 4 - Eastchester Dr
  - Existing Signals: 5 signals from Johnson St to Cypress Ct/Gordon Road have market plans.
  - Existing Timing Plans: Market plans range from 7 to 9, but most have 9 Market plans.
  - Assumptions:
    - Include the following signals into Corridor 4 Market plan analysis:
      - 1 signal at University Pkwy and Dr ML King Jr Dr (Corridor 11)
      - 3 signals on Centennial St from Lexington Ave to Beaucrest Ave (Corridor 22)
    - 9 signals will be analyzed for 9 Market plans.
- Corridor 5 - Eastchester Dr
  - Existing Signals: 3 signals from Deep River Rd to Skeet Club Rd/Wendover Ave.
  - Existing Timing Plans: 2 signals have 7 Market plans and 1 has 9 Market plans.
  - Assumptions:
    - 3 signals from Deep River Rd to Skeet Club Rd/Wendover Ave will be analyzed for 7 Market plans.

The Firm is responsible for completing each of the following tasks over the course of the life of the project.

### **Task 1: Project Management**

The Firm will manage and administer the project with the City throughout the duration of this assignment. This includes the coordination of meetings, technical aspects of the assignment, and submittals.

#### **Work Standards**

Plans will be prepared in accordance with the latest edition of the following:

- NCDOT Signal System Timing Philosophy Manual
- The Manual on Uniform Traffic Control Devices (MUTCD)
- North Carolina Supplement to the MUTCD

The Firm shall notify the City in advance of performing any field work.

#### **Invoices and Progress Reports**

All invoices shall be accompanied by a progress report with the following:

- Work accomplished during the report period.
- Table depicting corridors, percent of total fee for each corridor, percent of each corridor complete to date, percent of fee complete for each corridor, and total percent complete for the report period.
- Unusual problems or issues encountered during the report period.
- Proposed actions for the next reporting period.

#### **Schedule**

The Firm shall commence work once receiving the Notice to Proceed (NTP) and complete the project no later than May 31, 2026. The Firm's intent is to develop and implement regular time-of-day (TOD) timing plans for approximately one third of the 239 signals each during Fall 2024, Spring 2025, and Fall 2025. The Firm will also develop Furniture Market timing plans with data collection and existing timing analysis during Fall 2024, optimization and implementation/fine-tuning during Spring 2025, and any necessary plan refinement during the Fall 2025. Further fine-tuning, if necessary, of the market plans will be finalized during Spring 2026. Standard review time by the city is two weeks, although additional time is required if multiple submittals are received simultaneously.

Reasonable extensions for unforeseen delays may be allowed as agreed to by mutual consent between the Firm and the City.

#### **Existing System Data**

The city staff will provide all existing data available for the system including Centrac timing databases (electronic form), any Synchro files, and any current signal plans for City signals.

#### **Project Kick-Off Meeting**

Upon notice to proceed, the Firm will schedule and coordinate a project kick-off meeting involving all key City staff and the Firm's key team members. This meeting will provide an environment to define clear lines of communication, clarify fine points of the scope, discuss basic timing parameter

development, ensure consistent application of signal timing philosophies, emphasize critical schedule points, identify project goals and objectives, review any reporting requirements, and ensure uniform understanding of the evaluation plan.

### **Signal Timing Teams Coordination Meeting**

Upon notice to proceed, the Firm will host a coordination meeting of all team members to set uniform signal timing development procedures.

### **Task 2: Corridor Kick-Off Meeting and Signal Timing Score Card**

The Firm and City staff shall conduct a kick-off meeting for each corridor. Multiple corridors can be combined into one kick-off meeting. The Firm's project manager, technical advisor, and signal timing team leaders will attend these meetings. Participants will discuss in depth the quantitative and qualitative goals of the optimization process for each existing timing plan of each corridor. Critical intersections will be identified. Possible expansion/reduction of the corridor boundaries and whether coordination between adjacent corridors is possible or advisable will be discussed.

The Firm will use an 8.5"x11" signal timing score card for each corridor and timing plan combination. It will contain space for essential information such as number of signals, the time plan schedule, corridor context, the objectives of the timing, and measures of effectiveness (MOEs). Tables will also be provided for Synchro MOEs, existing/proposed cycle lengths, and before/after travel time results.

This meeting may be held virtually via Microsoft Teams.

### **Task 3: Field Data Collection**

#### **Turning Movement Counts**

The Firm will be responsible for collecting weekday 12-hour turning movement counts (TMCs) at all 239 of the signalized intersections. These TMCs will identify, at a minimum, AM Peak, Midday, and PM Peak hours. In addition, pedestrian, bus, and heavy vehicle volumes will be collected.

The Firm will be responsible for collecting weekend 12-hour TMCs at 36 signalized intersections. These TMCs will identify, at a minimum, AM Peak, Midday, and PM Peak hours. In addition, pedestrian, bus, and heavy vehicle volumes will be collected. Physical TMCs will be supplemented with synthetic TMCs.

The Firm will be responsible for collecting Furniture Market 12-hour TMCs at 12 signalized intersections. These TMCs will identify, at a minimum, AM Peak, Midday, and PM Peak hours. In addition, pedestrian, bus, and heavy vehicle volumes will be collected. Physical TMCs will be supplemented with synthetic TMCs.

#### **Field Investigations**

The Firm will conduct field surveys to:

- verify intersection geometrics,
- speed limits,
- signal equipment working order,
- timing parameters,

- signal phasing,
- identify trouble areas (excessive queues, turn lane spillovers, and platoons arriving too early or late),
- identify adjacent land uses,
- limited number of saturation flow rate spot checks.

The Firm will provide red-lined signal plans to the City that indicate changes or equipment issues.

#### **Task 4: Evaluation of Existing Signal System Operations**

##### **Signal Timing Model Base Files**

The Firm will enter (or verify) existing geometric parameters into Synchro. It will also enter/verify the existing timing parameters and new TMCs. The Synchro files will be exported to Tru-Traffic files for the before travel time studies.

##### **Before Travel Time Studies**

The Firm will conduct before travel time studies (BTTs) with Tru-Traffic to calibrate the Synchro models as well as provide an MOE baseline. The BTTs will be conducted in accordance with NCDOT's [Standard Practice for Travel Time Runs](#). However, if there is a great disparity in speed between two adjacent lanes, the timing team members will drive half of the runs solely in the left lane and the remaining half of the runs in right lane. This will better capture the true variation in link speeds to enable better calibration of the Synchro models.

##### **Synchro Model Calibration**

The Firm will code the Synchro corridor for one time period, usually AM Peak, and conduct a two-step quality check (QC). Once the AM Peak Synchro corridor is coded with the geometric, volume, and existing signal timing data, we will use SimTraffic to detect coding errors and omissions not readily detected in Synchro. The signal timing team will then calibrate Synchro by visually validating the SimTraffic simulation by comparing it to observed existing field conditions, and comparing the simulated travel time results with the BTTs. Once satisfied with the calibration of the first time period, the Firm will then proceed to calibrate the remaining time period models using the same methods.

The Firm's signal timing team leaders will then conduct a QC check to ensure small mistakes are not carried out through the entire optimization process.

#### **Task 5: Develop Signal System Timing Plans**

##### **Model Optimization**

The Firm will optimize corridor signals' cycle length, splits, phase order, offsets, and/or other timing parameters to meet the City's objective(s) for the corridor and maximize MOE improvement. The Firm will use Synchro, Tru-Traffic, and SimTraffic to accomplish this.

Once the best timing plans are achieved, the Firm's Quality Assurance Leader will conduct quality checks on the timing plans to provide an independent check and ensure uniformity of product.

### **Time-of-Day Schedule and Number of Timing Plans**

The Firm will conduct analysis of each hour within the existing Time-of-Day (TOD) schedule to determine if any plans can be eliminated. The Firm will analyze the hour TMCs with the optimized timing plan developed for that hour, as well as the preceding and following optimized timing plans to determine whether the plan can be eliminated. This will also serve to identify an accurate determination of break points between the timing plans.

This task does not include the following:

- Controller cabinet testing of proposed timing plans
- Centrac's graphics development
- Verification of detector assignment or logging

### **Task 6: Preliminary Signal Timing Score Card and Meeting**

The Firm will submit an updated corridor signal timing score card for each corridor and time period combination. In addition to the information filled in during the corridor kick-off meeting, the score card will list the strategies and tactics used in the optimization. The Synchro MOEs table will be filled in with the existing and proposed timing plan values. The travel time results table will have the before travel time results. The score card will also contain a design narrative that succinctly describes assumptions, methodology, challenges, and decisions encountered in the optimization process.

Accompanying the score card will be two Tru-Traffic time-space diagrams. The first will depict the existing timing and before travel time runs. The second will show the proposed timing plan parameters.

City staff will have two weeks to review the score cards.

After reviewing the score cards for a corridor, the city staff, Firm project manager and signal timing team leader will meet to discuss the results. A decision will then be made whether the anticipated MOE gains are worth proceeding to implementation.

If the decision is made to proceed to implementation, the Firm will enter the proposed timing parameters and TOD schedule into the electronic Centrac's database and submit them to the city.

### **Task 7: Field Implementation and Fine-Tuning of New Timing Plans**

The Firm will provide an implementation schedule to the city two weeks prior to the proposed implementation date. Multiple corridors will be implemented at the same time to maximize efficient use of personnel. One team member will be in the Traffic Management Center to have an overview of the corridor via CCTV cameras while the other team members will be observing traffic at the intersections and along corridors, and conducting preliminary after travel time studies.

Signal timing team members will call in fine-tuning timing plan changes as necessary. City staff will enter the changes in Centrac's.

Synchro and Tru-Traffic files will be updated as fine-tuning changes are made.

Proposed TOD start/end times will be validated to ensure they are proper for the traffic conditions.

Without additional cost to the city, the Firm shall be responsible for responding to any operational issues related to the final signal timing plans for up to one (1) month after final implementation and fine-tuning.

### **Task 8: Evaluation of Signal System Operations (Travel-Time Runs)**

Once the city and the Firm are satisfied with the fine-tuning effort, the Firm will conduct After Travel Time Studies (ATTs). The timing teams will conduct the ATTs in the same way the BTTs were conducted - same drivers, same days, same methods.

Outputs of the Tru-Traffic reports must include Cumulative Travel Time (CTT), Cumulative Delay (CD), Cumulative Stop Delay (CStopD), CStops, LOSDelay, CAS.

### **Task 9: Final Corridor Signal Timing Score Card**

The Firm will submit a final corridor signal timing score card for each corridor and time period combination. The score cards will be updated so that the Synchro MOEs table reflects the final timing plan MOE values. Likewise, the travel time table will be updated with the final timing plan after travel time results. The design narrative section will be updated with any applicable changes or actions taken during fine-tuning.

Accompanying the score card will be two Tru-Traffic time-space diagrams. The first will depict the existing timing and before travel time runs as it was in Task 5. The second will show the final timing plan parameters and the after travel time runs.

City staff will have two weeks to review the score cards.

### **Task 10: Corridor Closeout Meetings with City Staff**

The Firm shall meet with city staff at the end of each timing season (Fall 2024, Spring 2025, Fall 2025, and the Market), for up to four hours per meeting, to review and explain all work done on each corridor during the season. The discussion shall include review of the final corridor score cards, existing and final Tru-Traffic time-space diagrams, background information for decisions made regarding coordination schedules and cycle lengths, the before/after travel time results as well as any recommendations. These meetings will be held virtually via Microsoft Teams.

## High Point Signal Timing Fee Estimate (by Task)

August 7, 2024

<b>Task</b>	<b>Fee</b>	<b>% Fee</b>
Task 1: Project Management	\$65,042	4.3%
Task 2: Corridor Kick-Off Meeting and Signal Timing Score Card	\$15,308	1.0%
Task 3: Field Data Collection	\$355,065	23.3%
Task 4: Evaluation of Existing Signal System Operations	\$218,682	14.4%
Task 5: Develop Signal System Timing Plans	\$413,468	27.2%
Task 6: Preliminary Signal Timing Score Card and Meeting	\$57,197	3.8%
Task 7: Field Implementation and Fine-Tuning of New Timing Plans	\$249,592	16.4%
Task 8: Evaluation of Signal System Operations (Travel-Time Runs)	\$44,578	2.9%
Task 9: Final Corridor Signal Timing Score Card	\$6,402	0.4%
Task 10: Corridor Closeout Meetings with City Staff	\$8,249	0.5%
Directs	\$88,941	5.8%
<b>Total</b>	<b>\$1,522,524</b>	<b>100%</b>