

## VENDOR AGREEMENT

### LOS GATOS SMART SIGNALS

#### Adaptive Signal Control and Advanced Traffic Management Systems

#### I. INTRODUCTION

This AGREEMENT is made and entered into on this \_\_\_\_\_ day of \_\_\_\_\_, 2020 by and between the **TOWN OF LOS GATOS**, a California municipal corporation, hereinafter referred to as, **LOCAL AGENCY** and **Econolite Systems, Inc. (ESI)** hereinafter referred to as, **CONSULTANT**, whose address is 1250 N. Tustin Avenue, Anaheim, CA 92807. The CONSULTANT is incorporated in the State of California.

This AGREEMENT is made with reference to the following facts.

The LOCAL AGENCY desires to engage CONSULTANT to provide the Adaptive Signal Control and Advanced Traffic Management Systems (ATCS-ATMS) component of the Los Gatos Smart Signals Project (Project #813-0227 Traffic Signal Modernization).

The CONSULTANT represents and affirms that it is willing to perform the desired work pursuant to this AGREEMENT.

The CONSULTANT represents to LOCAL AGENCY that it possesses the professional skills, qualifications, experience, and resources necessary and has all licenses, permits, qualifications and approvals of whatsoever nature which are legally required for CONSULTANT to practice its profession and to timely perform the services described in this AGREEMENT. The services performed by CONSULTANT will be in a manner consistent with that level of care and skill ordinarily exercised by other professional consulting firms providing similar services under similar circumstances at the time, and in the general vicinity where, the services are performed. CONSULTANT acknowledges LOCAL AGENCY has relied upon these representations to retain the CONSULTANT.

CONSULTANT shall comply with all applicable laws, codes, ordinances, and regulations of governing federal, state and local laws.

CONSULTANT shall maintain a Town of Los Gatos business license pursuant to Chapter 14 of the Code of the Town of Los Gatos.

- A. The work to be performed under this AGREEMENT is described in Article II entitled Statement of Work and the approved CONSULTANT's Cost Proposal dated May 22, 2020. The approved CONSULTANT's Scope of Services (Exhibit A) and Cost Proposal (Exhibit B) is attached hereto and incorporated by reference. If there is any conflict between the approved Scope of Services or Cost Proposal and this AGREEMENT, this AGREEMENT shall take precedence.
- B. CONSULTANT agrees to the fullest extent permitted by law, to indemnify, protect, defend, and hold harmless LOCAL AGENCY, its officers, officials, agents, employees and volunteers from and against any and all claims, damages, demands, liability, penalties, costs, losses and expenses, in law or equity, including without limitation, court costs and

- reasonable attorneys' and expert witness fees, to the extent caused by the negligent acts, errors, or omissions, recklessness or willful misconduct on the part of CONSULTANT, or any of the CONSULTANT'S officers, employees, or agents or any sub-consultants. The provisions of this section shall survive termination or suspension of this AGREEMENT.
- C. CONSULTANT and the agents and employees of CONSULTANT, in the performance of this AGREEMENT, shall act in an independent capacity and not as officers or employees or agents of LOCAL AGENCY. As an independent contractor it or its employees or agents shall not obtain any rights to retirement benefits or other benefits which accrue to LOCAL AGENCY employee(s).
  - D. LOCAL AGENCY is not required to make any deductions or withholdings from the compensation payable to CONSULTANT under the provisions of this AGREEMENT, and is not required to issue W-2 Forms for income and employment tax purposes for any of CONSULTANT's assigned personnel. CONSULTANT, in the performance of its obligation hereunder, is only subject to the control or direction of the LOCAL AGENCY as to the designation of tasks to be performed and the results to be accomplished.
  - E. Any third party person(s) employed by CONSULTANT shall be entirely and exclusively under the direction, supervision, and control of CONSULTANT. CONSULTANT hereby indemnifies and holds LOCAL AGENCY harmless from any and all claims that may be made against LOCAL AGENCY based upon any contention by any third party that an employer-employee relationship exists by reason of this AGREEMENT.
  - F. The services to be performed under this AGREEMENT are unique and personal to the CONSULTANT. No portion of these services shall be assigned or subcontracted without the written consent of the LOCAL AGENCY. With prior written consent, the CONSULTANT may perform some obligations under this AGREEMENT by subcontracting, but may not delegate ultimate responsibility for performance or assign or transfer interests under this AGREEMENT. CONSULTANT agrees to reasonably cooperate with LOCAL AGENCY regarding litigation brought regarding the subject of CONSULTANT's work to be performed under this AGREEMENT. CONSULTANT shall be compensated for its time, and any costs and expenses at its then current hourly rates of compensation, unless such litigation is brought by CONSULTANT or is based on allegations of CONSULTANT'S negligent performance or wrongdoing.
  - G. CONSULTANT shall be as fully responsible to the LOCAL AGENCY for the negligent acts and omissions of its contractors and subcontractors or Subconsultants, and of persons either directly or indirectly employed by them, in the same manner as persons directly employed by CONSULTANT.
  - H. No alteration or variation of the terms of this AGREEMENT shall be valid, unless made in writing and signed by the parties hereto; and no oral understanding or agreement not incorporated herein, shall be binding on any of the parties hereto.
  - I. The consideration to be paid to CONSULTANT as provided herein, shall be in compensation for all of CONSULTANT's expenses incurred in the performance hereof, including travel and per diem, unless otherwise expressly so provided.

## **II. STATEMENT OF WORK**

CONSULTANT agrees to perform the services as outlined in "Exhibit A-Scope of Services" within the time frames specified therein, and "Exhibit B - Consultant's Cost Proposal" which are hereby incorporated by reference and attached.

### **III. CONSULTANT'S REPORTS OR MEETINGS**

- A. CONSULTANT shall submit progress reports at least once a month. The report should be sufficiently detailed for the LOCAL AGENCY to determine, if CONSULTANT is performing to expectations, or is on schedule; to provide communication of interim findings, and to sufficiently address any difficulties or special problems encountered, so remedies can be developed.
- B. CONSULTANT's Project Manager shall meet with LOCAL AGENCY's staff, as needed, to discuss progress on the AGREEMENT.

### **IV. TERM AND PERFORMANCE PERIOD**

- A. This AGREEMENT shall go into effect on the date it is signed, and CONSULTANT shall commence work after notification to proceed by LOCAL AGENCY. The AGREEMENT shall end on 06/20/23, unless extended by AGREEMENT amendment.
- B. CONSULTANT is advised that any recommendation for AGREEMENT award is not binding on LOCAL AGENCY until the AGREEMENT is fully executed and approved by LOCAL AGENCY.

### **V. ALLOWABLE COSTS AND PAYMENTS**

- A. The method of payment for this contract will be based on actual cost. The LOCAL AGENCY will reimburse the CONSULTANT for actual costs (including labor costs, employee benefits, travel, equipment rental costs, overhead and other direct costs) incurred by the CONSULTANT in performance of the work. The CONSULTANT will not be reimbursed for actual costs that exceed the estimated wage rates, employee benefits, travel, equipment rental, overhead, and other estimated costs set forth in the approved CONSULTANT'S Cost Proposal attached as Exhibit B, unless additional reimbursement is provided for by amendment to this Agreement.
- B. When milestone cost estimates are included in the approved Cost Proposal, the CONSULTANT shall obtain prior written approval for a revised milestone cost estimate from the LOCAL AGENCY before exceeding such cost estimate.
- C. If CONSULTANT fails to submit required deliverable items according to the schedule, if any, set forth in Exhibit A, the LOCAL AGENCY shall have the right to delay payment and/or terminate this Agreement in accordance with the provisions of this Agreement. No payment will be made prior to approval of any work, nor for any work performed prior to approval of this Agreement.
- D. Progress payments may be made monthly in arrears based on the percentage of work completed by CONSULTANT. If CONSULTANT fails to submit the required deliverable items according to the schedule set forth in the Statement of Work, LOCAL AGENCY shall have the right to delay payment or terminate this AGREEMENT in accordance with the provisions of Article VI Termination.
- E. **Billing.** Billing shall be monthly by invoice within thirty (30) days of the rendering of the service and shall be accompanied by a detailed explanation of the work

performed by whom at what rate and on what date. Invoices shall detail the work performed on each milestone, on each project as applicable. Invoices shall follow the format stipulated for the approved Cost Proposal and shall reference this AGREEMENT number and project title. Final invoice must contain the final cost and all credits due LOCAL AGENCY that include any equipment purchased under the provisions of Article XI Equipment Purchase of this AGREEMENT. The final invoice must be submitted within sixty (60) calendar days after completion of CONSULTANT's work, unless a later date is approved by the LOCAL AGENCY. Payment shall be net thirty (30) days. All invoices and statements to the Town shall be addressed as follows:

Town of Los Gatos  
Attn: Accounts Payable  
Via email: [AP@losgatosca.gov](mailto:AP@losgatosca.gov)

## **VI. TERMINATION**

The Town may terminate this Contract for Town's convenience at any time by providing Consultant thirty (30) days written notice. Upon receipt of the notice of termination, Consultant shall immediately take action not to incur any additional obligations, costs or expenses, except as may be necessary to terminate its activities. Town shall pay Consultant its reasonable and allowable costs through the effective date of termination and those reasonable and necessary costs incurred by Consultant to affect the termination. Thereafter, Consultant shall have no further claims against Town under this Agreement. All finished and unfinished documents and materials procured for or produced under this Agreement, including all intellectual property rights Town is entitled to under the Agreement, shall become Town property upon the date of the termination.

Except on account of an excusable delay described below, if Consultant fails to perform any of the provisions of this Agreement or so fails to make progress as to endanger timely performance of this Agreement, Town may give Consultant written notice of the default. Town's default notice will provide for thirty (30) days to cure the default. Additionally, Town's default notice may offer Consultant an opportunity to provide Town with a plan to cure the default, which shall be submitted to Town within the time period allowed by Town. If the default cannot be cured or if Consultant fails to cure within the period allowed by Town, then Town may terminate this Agreement due to Consultant's breach of this Agreement. In the event Town terminates this Agreement as provided in this section, Town may procure, upon such terms and in the manner as Town may deem appropriate, services similar in scope and level of effort to those so terminated, and Consultant shall be liable to Town for all of its costs. If, after notice of termination of this Agreement under the provisions of this section, it is determined for any reason that Consultant was not in default under the provisions of this section, or that the default was excusable under the terms of this Agreement, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to termination for convenience.

Consultant shall not be liable for delay or failure to perform any obligation under and in accordance with this Agreement, if the delay or failure arises out of fires, floods, earthquakes, epidemics, quarantine restriction, government orders, other natural occurrences, strikes, lockouts, freight embargoes, terrorist acts, insurrections or other civil disturbances, or other similar events.

## **VII. COST PRINCIPLES AND ADMINISTRATIVE REQUIREMENTS**

- A. The CONSULTANT agrees that 48 CFR Part 31, Contract Cost Principles and Procedures, shall be used to determine the allowability of individual terms of cost.
- B. The CONSULTANT also agrees to comply with Federal procedures in accordance with 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.
- C. Any costs for which payment has been made to the CONSULTANT that are determined by subsequent audit to be unallowable under 48 CFR Part 31 or 2 CFR Part 200 are subject to repayment by the CONSULTANT to LOCAL AGENCY.
- D. When a CONSULTANT or Subconsultant is a Non-Profit Organization or an Institution of Higher Education, the Cost Principles for Title 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards shall apply.
- E. "Not to Exceed" Compensation. The compensation payable to CONSULTANT for the services identified in Exhibit A shall not exceed \$581,649. CONSULTANT shall not perform any services beyond the services identified in Exhibit A without prior written authorization from the LOCAL AGENCY.

#### **VIII. RETENTION OF RECORDS/AUDIT**

For the purpose of determining compliance with California Gov. Code § 8546.7, the CONSULTANT, Subconsultants, and LOCAL AGENCY shall maintain all books, documents, papers, accounting records, Independent CPA Audited Indirect Cost Rate workpapers, and other evidence pertaining to the performance of the AGREEMENT including, but not limited to, the costs of administering the AGREEMENT. All parties, including the CONSULTANT's Independent CPA, shall make such workpapers and materials available at their respective offices at all reasonable times during the AGREEMENT period and for three (3) years from the date of final payment under the AGREEMENT. LOCAL AGENCY, Caltrans Auditor, FHWA, or any duly authorized representative of the Federal government having jurisdiction under Federal laws or regulations (including the basis of Federal funding in whole or in part) shall have access to any books, records, and documents of the CONSULTANT, Subconsultants, and the CONSULTANT's Independent CPA, that are pertinent to the CONSULTANT's work and services for audits, examinations, workpaper review, excerpts, and transactions, and copies thereof shall be furnished if requested without limitation.

#### **IX. AUDIT REVIEW PROCEDURES**

- A. Any dispute concerning a question of fact arising under an interim or post audit of this AGREEMENT that is not disposed of by agreement of LOCAL AGENCY and CONSULTANT, shall be reviewed by LOCAL AGENCY'S Chief Financial Officer.
- B. Not later than thirty (30) days after issuance of the final audit report, CONSULTANT may request a review by LOCAL AGENCY'S authorized representative of unresolved audit issues. The request for review will be submitted in writing.
- C. Neither the pendency of a dispute nor its consideration by LOCAL AGENCY will excuse

CONSULTANT from full and timely performance, in accordance with the terms of this AGREEMENT.

- D. CONSULTANT and Subconsultant contracts, including cost proposals and ICR, are subject to audits or reviews such as, but not limited to, an AGREEMENT audit, an incurred cost audit, an ICR Audit, or a CPA ICR audit work paper review. If selected for audit or review, the AGREEMENT, cost proposal and ICR and related work papers, if applicable, will be reviewed to verify compliance with 48 CFR, Part 31 and other related laws and regulations. In the instances of a CPA ICR audit work paper review it is CONSULTANT's responsibility to ensure federal, state, or local government officials are allowed full access to the CPA's work papers including making copies as necessary. The AGREEMENT, cost proposal, and ICR shall be adjusted by CONSULTANT and approved by LOCAL AGENCY contract manager to conform to the audit or review recommendations. CONSULTANT agrees that individual terms of costs identified in the audit report shall be incorporated into the AGREEMENT by this reference if directed by LOCAL AGENCY at its sole discretion. Refusal by CONSULTANT to incorporate audit or review recommendations, or to ensure that the federal, state or local governments have access to CPA work papers, will be considered a breach of AGREEMENT terms and cause for termination of the AGREEMENT and disallowance of prior reimbursed costs.
- E. CONSULTANT'S Cost Proposal may be subject to a CPA ICR Audit Work Paper Review and/or audit by California's Department of Transportation (Caltrans) Audit and Investigation (A&I). Caltrans A&I, at its sole discretion, may review and/or audit and approve the CPA ICR documentation. The Cost Proposal shall be adjusted by the CONSULTANT and approved by the LOCAL AGENCY to conform to the Work Paper Review recommendations included in the management letter or audit recommendations included in the audit report. Refusal by the CONSULTANT to incorporate the Work Paper Review recommendations included in the management letter or audit recommendations included in the audit report will be considered a breach of the AGREEMENT terms and cause for termination of the AGREEMENT and disallowance of prior reimbursed costs.
1. During a Caltrans A&I review of the ICR audit work papers created by the CONSULTANT's independent CPA, Caltrans A&I will work with the CPA and/or CONSULTANT toward a resolution of issues that arise during the review. Each party agrees to use its best efforts to resolve any audit disputes in a timely manner. If Caltrans A&I identifies significant issues during the review and is unable to issue a cognizant approval letter, LOCAL AGENCY will reimburse the CONSULTANT at an accepted ICR until a FAR (Federal Acquisition Regulation) compliant ICR {e.g. 48 CFR, part 31; GAGAS (Generally Accepted Auditing Standards); CAS (Cost Accounting Standards), if applicable; in accordance with procedures and guidelines of the American Association of State Highways and Transportation Officials (AASHTO) Audit Guide; and other applicable procedures and guidelines} is received and approved by A&I. Accepted rates will be as follows:
    - a. If the proposed rate is less than 150% - the accepted rate reimbursed will be 90% of the proposed rate.
    - b. If the proposed rate is between one hundred fifty percent (150%) and two hundred percent (200%) - the accepted rate will be 85% of the proposed rate.
    - c. If the proposed rate is greater than two hundred percent (200%) - the accepted rate will be 75% of the proposed rate.
  2. If Caltrans A&I is unable to issue a cognizant letter per paragraph E.1. above, Caltrans

A&I may require CONSULTANT to submit a revised independent CPA-audited ICR and audit report within three (3) months of the effective date of the management letter. Caltrans A&I will then have up to six (6) months to review the CONSULTANT's and/or the independent CPA's revisions.

3. If the CONSULTANT fails to comply with the provisions of this paragraph E, or if Caltrans A&I is still unable to issue a cognizant approval letter after the revised independent CPA-audited ICR is submitted, overhead cost reimbursement will be limited to the accepted ICR that was established upon initial rejection of the ICR and set forth in paragraph E.1. above for all rendered services. In this event, this provisional ICR will become the actual and final ICR for reimbursement purposes under this AGREEMENT.
4. CONSULTANT may submit to LOCAL AGENCY final invoice only when all of the following items have occurred: (1) Caltrans A&I accepts or adjusts the original or revised independent CPA- audited ICR; (2) all work under this AGREEMENT has been completed to the satisfaction of LOCAL AGENCY; and, (3) Caltrans A&I has issued its final ICR review letter. The CONSULTANT MUST SUBMIT ITS FINAL INVOICE TO LOCAL AGENCY no later than sixty (60) calendar days after occurrence of the last of these items. The accepted ICR will apply to this AGREEMENT and all other AGREEMENTs executed between LOCAL AGENCY and the CONSULTANT, either as a prime or Subconsultant, with the same fiscal period ICR. The ICR period shall extend beyond the one-year period and shall be fixed for the life of the contract.

## **X. SUBCONTRACTING**

- A. Nothing contained in this AGREEMENT or otherwise, shall create any contractual relation between LOCAL AGENCY and any Subconsultant(s), and no subcontract shall relieve CONSULTANT of its responsibilities and obligations hereunder. CONSULTANT agrees to be as fully responsible to LOCAL AGENCY for the acts and omissions of its Subconsultant(s) and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by CONSULTANT. CONSULTANT's obligation to pay its Subconsultant(s) is an independent obligation from LOCAL AGENCY'S obligation to make payments to the CONSULTANT.
- B. CONSULTANT shall perform the work contemplated with resources available within its own organization and no portion of the work pertinent to this AGREEMENT shall be subcontracted without written authorization by LOCAL AGENCY, except that, which is expressly identified in the approved Cost Proposal.
- C. All subcontracts entered into as a result of this AGREEMENT shall contain all the provisions stipulated in this entire AGREEMENT to be applicable to Subconsultants unless otherwise noted.
- D. CONSULTANT shall pay its Subconsultants within fifteen (15) calendar days from receipt of each payment made to CONSULTANT by LOCAL AGENCY for the work performed by such Subconsultants.
- E. Any substitution of Subconsultant(s) must be approved in writing by LOCAL AGENCY in advance of assigning work to a substituted Subconsultant(s).

## **XI. EQUIPMENT PURCHASE**

- A. Prior authorization in writing, by LOCAL AGENCY shall be required before

CONSULTANT enters into any unbudgeted purchase order, or subcontract exceeding five thousand dollars (\$5,000) for supplies, equipment, or CONSULTANT services. CONSULTANT shall provide an evaluation of the necessity or desirability of incurring such costs.

- B. For purchase of any item, service or consulting work not covered in CONSULTANT's approved Cost Proposal and exceeding one hundred ninety five thousand dollars (\$195,000), with prior authorization by LOCAL AGENCY; three competitive quotations must be submitted with the request, or the absence of bidding must be adequately justified.
- C. Any equipment purchased with funds provided under the terms of this AGREEMENT is subject to the following:
  - 1. CONSULTANT shall maintain an inventory of all nonexpendable property. Nonexpendable property is defined as having a useful life of at least two years and an acquisition cost of one hundred ninety five thousand dollars (\$195,000) or more. If the purchased equipment needs replacement and is sold or traded in, LOCAL AGENCY shall receive a proper refund or credit at the conclusion of the AGREEMENT, or if the AGREEMENT is terminated, CONSULTANT may either keep the equipment and credit LOCAL AGENCY in an amount equal to its fair market value, or sell such equipment at the best price obtainable at a public or private sale, in accordance with established LOCAL AGENCY procedures; and credit LOCAL AGENCY in an amount equal to the sales price. If CONSULTANT elects to keep the equipment, fair market value shall be determined at CONSULTANT's expense, on the basis of a competent independent appraisal of such equipment. Appraisals shall be obtained from an appraiser mutually agreeable to by LOCAL AGENCY and CONSULTANT, if it is determined to sell the equipment, the terms and conditions of such sale must be approved in advance by LOCAL AGENCY.
  - 2. Regulation 2 CFR Part 200 requires a credit to Federal funds when participating equipment with a fair market value greater than one hundred ninety five thousand dollars (\$195,000) is credited to the project.

## **XII. STATE PREVAILING WAGE RATES**

- A. No CONSULTANT or Subconsultant may be awarded an AGREEMENT containing public work elements unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code §1725.5. Registration with DIR must be maintained throughout the entire term of this AGREEMENT, including any subsequent amendments.
- B. The CONSULTANT shall comply with all of the applicable provisions of the California Labor Code requiring the payment of prevailing wages. The General Prevailing Wage Rate Determinations applicable to work under this AGREEMENT are available and on file with the Department of Transportation's Regional/District Labor Compliance Officer ([http://www.dot.ca.gov/hq/construc/LaborCompliance/documents/DistrictRegion\\_Map\\_Construction\\_7-8-15.pdf](http://www.dot.ca.gov/hq/construc/LaborCompliance/documents/DistrictRegion_Map_Construction_7-8-15.pdf))  
These wage rates are made a specific part of this AGREEMENT by reference pursuant to Labor Code §1773.2 and will be applicable to work performed at a construction project site. Prevailing wages will be applicable to all inspection work



performed at LOCAL AGENCY construction sites, at LOCAL AGENCY facilities and at off-site locations that are set up by the construction contractor or one of its subcontractors solely and specifically to serve LOCAL AGENCY projects. Prevailing wage requirements do not apply to inspection work performed at the facilities of vendors and commercial materials suppliers that provide goods and services to the general public.

- C. General Prevailing Wage Rate Determinations applicable to this project may also be obtained from the Department of Industrial Relations Internet site at <http://www.dir.ca.gov>.
- D. Payroll Records
  - 1. Each CONSULTANT and Subconsultant shall keep accurate certified payroll records and supporting documents as mandated by Labor Code §1776 and as defined in 8 CCR §16000 showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the CONSULTANT or Subconsultant in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:
    - a. The information contained in the payroll record is true and correct.
    - b. The employer has complied with the requirements of Labor Code §1771, §1811, and §1815 for any work performed by his or her employees on the public works project.
  - 2. The payroll records enumerated under paragraph (1) above shall be certified as correct by the CONSULTANT under penalty of perjury. The payroll records and all supporting documents shall be made available for inspection and copying by LOCAL AGENCY representative's at all reasonable hours at the principal office of the CONSULTANT. The CONSULTANT shall provide copies of certified payrolls or permit inspection of its records as follows:
    - a. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or the employee's authorized representative on request.
    - b. A certified copy of all payroll records enumerated in paragraph (1) above, shall be made available for inspection or furnished upon request to a representative of LOCAL AGENCY, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations. Certified payrolls submitted to LOCAL AGENCY, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards shall not be altered or obliterated by the CONSULTANT.
    - c. The public shall not be given access to certified payroll records by the CONSULTANT. The CONSULTANT is required to forward any requests for certified payrolls to the LOCAL AGENCY by both email and regular mail on the business day following receipt of the request.
  - 3. Each CONSULTANT shall submit a certified copy of the records enumerated in paragraph (1) above, to the entity that requested the records within ten (10) calendar days after receipt of a written request.
  - 4. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by LOCAL AGENCY shall be marked or obliterated in such a manner as to prevent disclosure of each individual's name, address, and social security number. The name and address of the CONSULTANT or Subconsultant

- performing the work shall not be marked or obliterated.
5. The CONSULTANT shall inform LOCAL AGENCY of the location of the records enumerated under paragraph (1) above, including the street address, city and county, and shall, within five (5) working days, provide a notice of a change of location and address.
  6. The CONSULTANT or Subconsultant shall have ten (10) calendar days in which to comply subsequent to receipt of written notice requesting the records enumerated in paragraph (1) above. In the event the CONSULTANT or Subconsultant fails to comply within the ten (10) day period, he or she shall, as a penalty to LOCAL AGENCY, forfeit one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Such penalties shall be withheld by LOCAL AGENCY from payments then due. CONSULTANT is not subject to a penalty assessment pursuant to this section due to the failure of a Subconsultant to comply with this section.
- E. When prevailing wage rates apply, the CONSULTANT is responsible for verifying compliance with certified payroll requirements. Invoice payment will not be made until the invoice is approved by the LOCAL AGENCY.
- F. Penalty
1. The CONSULTANT and any of its Subconsultants shall comply with Labor Code §1774 and §1775. Pursuant to Labor Code §1775, the CONSULTANT and any Subconsultant shall forfeit to the LOCAL AGENCY a penalty of not more than two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of DIR for the work or craft in which the worker is employed for any public work done under the AGREEMENT by the CONSULTANT or by its Subconsultant in violation of the requirements of the Labor Code and in particular, Labor Code §§1770 to 1780, inclusive.
  2. The amount of this forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of mistake, inadvertence, or neglect of the CONSULTANT or Subconsultant in failing to pay the correct rate of prevailing wages, or the previous record of the CONSULTANT or Subconsultant in meeting their respective prevailing wage obligations, or the willful failure by the CONSULTANT or Subconsultant to pay the correct rates of prevailing wages. A mistake, inadvertence, or neglect in failing to pay the correct rates of prevailing wages is not excusable if the CONSULTANT or Subconsultant had knowledge of the obligations under the Labor Code. The CONSULTANT is responsible for paying the appropriate rate, including any escalations that take place during the term of the AGREEMENT.
  3. In addition to the penalty and pursuant to Labor Code §1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the CONSULTANT or Subconsultant.
  4. If a worker employed by a Subconsultant on a public works project is not paid the general prevailing per diem wages by the Subconsultant, the prime CONSULTANT of the project is not liable for the penalties described above unless the prime CONSULTANT had knowledge of that failure of the Subconsultant to pay the specified prevailing rate of wages to those workers or unless the prime CONSULTANT fails to comply with all of the following requirements:
    - a. The AGREEMENT executed between the CONSULTANT and the Subconsultant for the performance of work on public works projects shall include a copy of the requirements in Labor Code §§ 1771, 1775, 1776, 1777.5, 1813, and 1815.

- b. The CONSULTANT shall monitor the payment of the specified general prevailing rate of per diem wages by the Subconsultant to the employees by periodic review of the certified payroll records of the Subconsultant.
  - c. Upon becoming aware of the Subconsultant's failure to pay the specified prevailing rate of wages to the Subconsultant's workers, the CONSULTANT shall diligently take corrective action to halt or rectify the failure, including but not limited to, retaining sufficient funds due the Subconsultant for work performed on the public works project.
  - d. Prior to making final payment to the Subconsultant for work performed on the public works project, the CONSULTANT shall obtain an affidavit signed under penalty of perjury from the Subconsultant that the Subconsultant had paid the specified general prevailing rate of per diem wages to the Subconsultant's employees on the public works project and any amounts due pursuant to Labor Code §1813.
  - 5. Pursuant to Labor Code §1775, LOCAL AGENCY shall notify the CONSULTANT on a public works project within fifteen (15) calendar days of receipt of a complaint that a Subconsultant has failed to pay workers the general prevailing rate of per diem wages.
  - 6. If LOCAL AGENCY determines that employees of a Subconsultant were not paid the general prevailing rate of per diem wages and if LOCAL AGENCY did not retain sufficient money under the AGREEMENT to pay those employees the balance of wages owed under the general prevailing rate of per diem wages, the CONSULTANT shall withhold an amount of moneys due the Subconsultant sufficient to pay those employees the general prevailing rate of per diem wages if requested by LOCAL AGENCY.
- G. Hours of Labor
- Eight (8) hours labor constitutes a legal day's work. The CONSULTANT shall forfeit, as a penalty to the LOCAL AGENCY, twenty-five dollars (\$25) for each worker employed in the execution of the AGREEMENT by the CONSULTANT or any of its Subconsultants for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code, and in particular §§1810 to 1815 thereof, inclusive, except that work performed by employees in excess of eight (8) hours per day, and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day and forty (40) hours in any week, at not less than one and one-half (1.5) times the basic rate of pay, as provided in §1815.
- H. Employment of Apprentices
- 1. Where either the prime AGREEMENT or the sub agreement exceeds thirty thousand dollars (\$30,000), the CONSULTANT and any Subconsultants under him or her shall comply with all applicable requirements of Labor Code §§ 1777.5, 1777.6 and 1777.7 in the employment of apprentices.
  - 2. CONSULTANTS and Subconsultants are required to comply with all Labor Code requirements regarding the employment of apprentices, including mandatory ratios of journey level to apprentice workers. Prior to commencement of work, CONSULTANT and Subconsultants are advised to contact the DIR Division of Apprenticeship Standards website at <https://www.dir.ca.gov/das/>, for additional information regarding the employment of apprentices and for the specific journey-to- apprentice ratios for the AGREEMENT work. The CONSULTANT is responsible for all Subconsultants' compliance with these requirements. Penalties are specified in Labor Code §1777.7.

**XIII. CONFLICT OF INTEREST**

- A. During the term of this AGREEMENT, the CONSULTANT shall disclose any financial, business, or other relationship with LOCAL AGENCY that may have an impact upon the outcome of this AGREEMENT, or any ensuing LOCAL AGENCY construction project. CONSULTANT shall also list current clients who may have a financial interest in the outcome of this AGREEMENT, or any ensuing LOCAL AGENCY construction project, which will follow.
- B. CONSULTANT certifies that it has disclosed to LOCAL AGENCY any actual, apparent, or potential conflicts of interest that may exist relative to the services to be provided pursuant to this AGREEMENT. CONSULTANT agrees to advise LOCAL AGENCY of any actual, apparent or potential conflicts of interest that may develop subsequent to the date of execution of this AGREEMENT. CONSULTANT further agrees to complete any statements of economic interest if required by either LOCAL AGENCY ordinance or State law.
- C. CONSULTANT hereby certifies that it does not now have, nor shall it acquire any financial or business interest that would conflict with the performance of services under this AGREEMENT.
- D. The CONSULTANT hereby certifies that the CONSULTANT or Subconsultant and any firm affiliated with the CONSULTANT or Subconsultant that bids on any construction contract or on any AGREEMENT to provide construction inspection for any construction project resulting from this AGREEMENT, has established necessary controls to ensure a conflict of interest does not exist. An affiliated firm is one, which is subject to the control of the same persons, through joint ownership or otherwise.

**XIV. REBATES, KICKBACKS OR OTHER UNLAWFUL CONSIDERATION**

CONSULTANT warrants that this AGREEMENT was not obtained or secured through rebates, kickbacks or other unlawful consideration, either promised or paid to any LOCAL AGENCY employee. For breach or violation of this warranty, LOCAL AGENCY shall have the right in its discretion; to terminate this AGREEMENT without liability; to pay only for the value of the work actually performed; or to deduct from this AGREEMENT price; or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.

**XV. PROHIBITION OF EXPENDING LOCAL AGENCY STATE OR FEDERAL FUNDS FOR LOBBYING**

- A. CONSULTANT certifies to the best of his or her knowledge and belief that:
  - 1. No state, federal or LOCAL AGENCY appropriated funds have been paid, or will be paid by- or-on behalf of CONSULTANT to any person for influencing or attempting to influence an officer or employee of any local, State or Federal agency; a Member of the State Legislature or United States Congress; an officer or employee of the Legislature or Congress; or any employee of a Member of the Legislature or Congress, in connection with the awarding or making of this AGREEMENT, or with the extension, continuation, renewal, amendment, or modification of this AGREEMENT.

2. If any funds other than Federal appropriated funds have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency; a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress; in connection with this AGREEMENT, the CONSULTANT shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.
- B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than ten thousand dollars (\$10,000) and not more than one hundred thousand dollars (\$100,000) for each such failure.
- C. CONSULTANT also agrees by signing this document that he or she shall require that the language of this certification be included in all lower-tier subcontracts, which exceed one hundred thousand dollars (\$100,000) and that all such sub recipients shall certify and disclose accordingly.

#### **XVI. NON-DISCRIMINATION CLAUSE AND STATEMENT OF COMPLIANCE**

- A. CONSULTANT's signature affixed herein, and dated, shall constitute a certification under penalty of perjury under the laws of the State of California that CONSULTANT has, unless exempt, complied with, the nondiscrimination program requirements of Government Code § 12990 and Title 2 CCR § 8103.
- B. During the performance of this AGREEMENT, CONSULTANT and its Subconsultants shall not discriminate against any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status.
- C. CONSULTANT and Subconsultants shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. CONSULTANT and Subconsultants shall comply with the provisions of the Fair Employment and Housing Act (California Gov. Code §12990 et seq.), the applicable regulations promulgated there under (2 CCR §11000 et seq.), the provisions of California Gov. Code §§11135-11139.5, and the regulations or standards adopted by LOCAL AGENCY to implement such article. The applicable regulations of the Fair Employment and Housing Commission implementing California Gov. Code §12990 (a-f), set forth 2 CCR §§8100-8504, are incorporated into this AGREEMENT by reference and made a part hereof as if set forth in full.
- D. CONSULTANT, with regard to its work performed under this Agreement and to the extent the California Fair Employment and Housing Commission regulations are applicable to such work, shall permit access by representatives of the Department of

Fair Employment and Housing and the LOCAL AGENCY upon reasonable notice at any time during the normal business hours, but in no case less than twenty-four (24) hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or LOCAL AGENCY shall require to ascertain compliance with this clause.

- E. CONSULTANT and its Subconsultants shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement.
- F. CONSULTANT shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this AGREEMENT.
- G. The CONSULTANT, with regard to the work performed under this AGREEMENT, shall act in accordance with Title VI of the Civil Rights Act of 1964 (42 U.S.C. §2000d et seq.). Title VI provides that the recipients of federal assistance will implement and maintain a policy of nondiscrimination in which no person in the United States shall, on the basis of race, color, national origin, religion, sex, age, disability, be excluded from participation in, denied the benefits of or subject to discrimination under any program or activity by the recipients of federal assistance or their assignees and successors in interest.
- H. The CONSULTANT shall comply with regulations relative to non-discrimination in federally-assisted programs of the U.S. Department of Transportation (49 CFR Part 21- Effectuation of Title VI of the Civil Rights Act of 1964). Specifically, the CONSULTANT shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR §21.5, including employment practices and the selection and retention of Subconsultants.

**XVII. DEBARMENT AND SUSPENSION CERTIFICATION**

- A. CONSULTANT's signature affixed herein, shall constitute a certification under penalty of perjury under the laws of the State of California, that CONSULTANT or any person associated therewith in the capacity of owner, partner, director, officer or manager:
  - 1. Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
  - 2. Has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years;
  - 3. Does not have a proposed debarment pending; and
  - 4. Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.
- B. Any exceptions to this certification must be disclosed to LOCAL AGENCY. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining responsibility. Disclosures must indicate to whom exceptions apply, initiating agency, and dates of agency action.
- C. Exceptions to the Federal Government Excluded Parties List System maintained by the General Services Administration are to be determined by the FHWA.

**XVIII. DISADVANTAGED BUSINESS ENTERPRISES (DBE) PARTICIPATION**

- A. This AGREEMENT is subject to 49 CFR, Part 26 entitled "Participation by

Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs". Consultants who enter into a federally-funded agreement will assist the LOCAL AGENCY in a good faith effort to achieve California's statewide overall DBE goal.

- B. The goal for DBE participation for this AGREEMENT is 15%. Participation by DBE Consultant or Subconsultants shall be in accordance with information contained in the Consultant Proposal DBE Commitment (Exhibit 10-01), or in the Consultant Contract DBE Information (Exhibit 10-02) attached hereto and incorporated as part of the AGREEMENT. If a DBE Subconsultant is unable to perform, CONSULTANT must make a good faith effort to replace him/her with another DBE Subconsultant, if the goal is not otherwise met.
- C. CONSULTANT can meet the DBE participation goal by either documenting commitments to DBEs to meet the AGREEMENT goal, or by documenting adequate good faith efforts to meet the AGREEMENT goal. An adequate good faith effort means that the CONSULTANT must show that it took all necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the DBE goal. If CONSULTANT has not met the DBE goal, complete and submit Exhibit 15-H: DBE Information - Good Faith Efforts to document efforts to meet the goal. Refer to 49 CFR Part 26 for guidance regarding evaluation of good faith efforts to meet the DBE goal.
- D. DBEs and other small businesses, as defined in 49 CFR, Part 26 are encouraged to participate in the performance of contracts financed in whole or in part with federal funds. The LOCAL AGENCY, CONSULTANT or Subconsultants shall not discriminate on the basis of race, color, national origin, or sex in the performance of this AGREEMENT. CONSULTANT shall carry out applicable requirements of 49 CFR, Part 26 in the award and administration of US DOT-assisted contracts. Failure by CONSULTANT to carry out these requirements is a material breach of this AGREEMENT, which may result in the termination of this AGREEMENT or such other remedy as LOCAL AGENCY deems appropriate which may include:
  - 1) Withholding monthly progress payments;
  - 2) Disqualifying the CONSULTANT from future bidding as non-responsive.
- E. A DBE firm may be terminated only with prior written approval from LOCAL AGENCY and only for the reasons specified in 49 CFR 26.53(f). Prior to requesting LOCAL AGENCY consent for the termination, CONSULTANT must meet the procedural requirements specified in 49 CFR 26.53(f). If a DBE Subconsultant is unable to perform, CONSULTANT must make a good faith effort to replace him/her with another DBE Subconsultant, if the goal is not otherwise met.
- F. Consultant shall not be entitled to any payment for such work or material unless it is performed or supplied by the listed DBE or by other forces (including those of Consultant) pursuant to prior written authorization of the LOCAL AGENCY.
- G. A DBE is only eligible to be counted toward the AGREEMENT goal if it performs a commercially useful function (CUF) on the AGREEMENT. A DBE performs a Commercially Useful Function (CUF) when it is responsible for execution of the work of the AGREEMENT and is carrying out its responsibilities by actually

performing, managing, and supervising the work involved. To perform a CUF, the DBE must also be responsible with respect to materials and supplies used on the AGREEMENT, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a CUF, evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the AGREEMENT is commensurate with the work it is actually performing, and other relevant factors.

- H. A DBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, examine similar transactions, particularly those in which DBEs do not participate.
- I. If a DBE does not perform or exercise responsibility for at least thirty percent (30%) of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of the contract than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that it is not performing a CUF.
- J. CONSULTANT shall maintain records of materials purchased or supplied from all subcontracts entered into with certified DBEs. The records shall show the name and business address of each DBE or vendor and the total dollar amount actually paid each DBE or vendor, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all firms. DBE prime consultants shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.
- K. Upon completion of the AGREEMENT, a summary of these records shall be prepared and submitted on the form entitled, "Final Report-Utilization of Disadvantaged Business Enterprise (DBE), First-Tier Subconsultants" CEM-2402F [Exhibit 17-F, of the LAPM], certified correct by CONSULTANT or CONSULTANT's authorized representative and shall be furnished to the LOCAL AGENCY with the final invoice. Failure to provide the summary of DBE payments with the final invoice will result in twenty-five percent (25%) of the dollar value of the invoice being withheld from payment until the form is submitted. The amount will be returned to CONSULTANT when a satisfactory "Final Report-Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subconsultants" is submitted to the LOCAL AGENCY.
- L. If a DBE Subconsultant is decertified during the life of the AGREEMENT, the decertified Subconsultant shall notify CONSULTANT in writing with the date of decertification. If a Subconsultant becomes a certified DBE during the life of the AGREEMENT, the Subconsultant shall notify CONSULTANT in writing with the date of certification. Any changes should be reported to LOCAL AGENCY within 30 days.
- M. Any subcontract entered into as a result of this AGREEMENT shall contain all of the provisions of this section.

## **XIX. INSURANCE**



- A. Prior to commencement of the work described herein, CONSULTANT shall furnish LOCAL AGENCY a Certificate of Insurance in compliance with the following:  
Minimum Scope of Insurance:
- i. CONSULTANT agrees to have and maintain, for the duration of the AGREEMENT, General Liability insurance policies insuring it to an amount not less than: one million dollars (\$1,000,000) combined single limit per occurrence for bodily injury, personal injury and property damage.
  - ii. CONSULTANT agrees to have and maintain for the duration of the AGREEMENT, an Automobile Liability insurance policy ensuring it to an amount not less than one million dollars (\$1,000,000) combined single limit per accident for bodily injury and property damage.
  - iii. CONSULTANT shall provide to the LOCAL AGENCY all certificates of insurance, with original endorsements effecting coverage. Consultant agrees that all certificates and endorsements are to be received and approved by the LOCAL AGENCY before work commences.
  - iv. CONSULTANT agrees to have and maintain, for the duration of the AGREEMENT, professional liability insurance in amounts not less than \$1,000,000 which is sufficient to insure CONSULTANT for professional errors or omissions in the performance of the particular scope of work under this AGREEMENT.  
General Liability:
    - i. The LOCAL AGENCY, its officers, officials, employees and volunteers are to be covered as insured as respects: liability arising out of activities performed by or on behalf of the CONSULTANT; products and completed operations of Consultant, premises owned or used by the CONSULTANT. This requirement does not apply to the professional liability insurance required for professional errors and omissions.
    - ii. The CONSULTANT's insurance coverage shall be primary insurance as respects the LOCAL AGENCY, its officers, officials, employees and volunteers. Any insurance or self-insurances maintained by the LOCAL AGENCY, its officers, officials, employees or volunteers shall be excess of the CONSULTANT's insurance and shall not contribute with it.
    - iii. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the LOCAL AGENCY, its officers, officials, employees or volunteers.
    - iv. The CONSULTANT's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.  
All Coverages. Each insurance policy required in this item shall be endorsed to state that coverage shall not be suspended, voided, cancelled, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the LOCAL AGENCY. Current certification of such insurance shall be kept on file at all times during the term of this AGREEMENT with the Town Clerk.

Workers' Compensation. In addition to these policies, CONSULTANT shall have and maintain Workers' Compensation insurance as required by California law

and shall provide evidence of such policy to the LOCAL AGENCY before beginning services under this AGREEMENT. Further, CONSULTANT shall ensure that all subcontractors employed by CONSULTANT provide the required Workers' Compensation insurance for their respective employees.

Indemnification. CONSULTANT shall save, keep, hold harmless and indemnify and defend the LOCAL AGENCY its officers, agent, employees and volunteers from all damages, liabilities, penalties, costs, or expenses in law or equity that may at any time arise or be set up because of damages to property or personal injury received by reason of the negligent act or omissions of the CONSULTANT, or any of the CONSULTANT's officers, employees, or agents or any Subconsultant.

- B. CONSULTANT agrees that the insurance herein provided for, shall be in effect at all times during the term of this AGREEMENT. In the event said insurance coverage expires at any time or times during the term of this AGREEMENT, CONSULTANT agrees to provide at least thirty (30) days prior notice to said expiration date; and a new Certificate of Insurance evidencing insurance coverage as provided for herein, for not less than either the remainder of the term of the AGREEMENT, or for a period of not less than one (1) year. New Certificates of Insurance are subject to the approval of LOCAL AGENCY. In the event CONSULTANT fails to keep in effect at all times insurance coverage as herein provided, LOCAL AGENCY may, in addition to any other remedies it may have, terminate this AGREEMENT upon occurrence of such event.

**XX. CHANGE IN TERMS**

- A. No modification, waiver, mutual termination, or amendment of this AGREEMENT is effective unless made in writing and signed by the LOCAL AGENCY and the CONSULTANT.
- B. CONSULTANT shall only commence work covered by an amendment after the amendment is executed and notification to proceed has been provided by LOCAL AGENCY.
- C. There shall be no change in CONSULTANT's Project Manager or members of the project team, as listed in the approved Cost Proposal, which is a part of this AGREEMENT without prior written approval by LOCAL AGENCY.

**XXI. CONTINGENT FEE**

CONSULTANT warrants, by execution of this AGREEMENT that no person or selling agency has been employed, or retained, to solicit or secure this AGREEMENT upon an agreement or understanding, for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees, or bona fide established commercial or selling agencies maintained by CONSULTANT for the purpose of securing business. For breach or violation of this warranty, LOCAL AGENCY has the right to annul this AGREEMENT without liability; pay only for the value of the work

actually performed, or in its discretion to deduct from the AGREEMENT price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

## **XXII. DISPUTES**

Prior to either party commencing any legal action under this AGREEMENT, the parties agree to try in good faith, to settle any dispute amicably between them. If a dispute has not been settled after thirty (30) days of good-faith negotiations and as may be otherwise provided herein, then either party may commence legal action against the other.

- A. Any dispute, other than audit, concerning a question of fact arising under this AGREEMENT that is not disposed of by AGREEMENT shall be decided by a committee consisting of LOCAL AGENCY's Public Works Director or his/her designee, who may consider written or verbal information submitted by CONSULTANT.
- B. Not later than 30 days after completion of all deliverables necessary to complete the plans, specifications and estimate, CONSULTANT may request review by LOCAL AGENCY Governing Board of unresolved claims or disputes, other than audit. The request for review will be submitted in writing.
- C. Neither the pendency of a dispute, nor its consideration by the committee will excuse CONSULTANT from full and timely performance in accordance with the terms of this AGREEMENT.
- D. In any dispute over any aspect of the AGREEMENT, the prevailing party shall be entitled to reasonable attorney's fees, including costs of appeal.

## **XXIII. INSPECTION OF WORK**

CONSULTANT and any Subconsultant shall permit LOCAL AGENCY, the state, and the FHWA if federal participating funds are used in this AGREEMENT; to review and inspect the project activities and files at all reasonable times during the performance period of this AGREEMENT including review and inspection on a daily basis.

## **XXIV. SAFETY**

- A. CONSULTANT shall comply with OSHA regulations applicable to CONSULTANT regarding necessary safety equipment or procedures. CONSULTANT shall comply with safety instructions issued by LOCAL AGENCY Safety Officer and other LOCAL AGENCY representatives. CONSULTANT personnel shall wear hard hats and safety vests at all times while working on the construction project site.
- B. Pursuant to the authority contained in Division 1, Section 591 of the California Vehicle Code, LOCAL AGENCY has determined that such areas are within the limits of the project and are open to public traffic. CONSULTANT shall comply with all applicable requirements set forth in Divisions 11, 12, 13, 14, and 15 of the California Vehicle Code. CONSULTANT shall take all reasonably necessary precautions for safe operation of its vehicles and the protection of the traveling public from injury and damage from such vehicles.
- C. Any subcontract entered into as a result of this AGREEMENT, shall contain all of the provisions of this Article.

- D. CONSULTANT must have a Division of Occupational Safety and Health (CAL-OSHA) permit(s), as outlined in California Labor Code Sections 6500 and 6705, prior to the initiation of any practices, work, method, operation, or process related to the construction or excavation of trenches which are five feet or deeper.

**XXV. OWNERSHIP OF DATA**

- A. It is mutually agreed that subject to CONSULTANT's receipt of payment for its services under this AGREEMENT all materials prepared by CONSULTANT under this AGREEMENT shall become the property of LOCAL AGENCY, and CONSULTANT shall have no property right therein whatsoever. Immediately upon termination, LOCAL AGENCY shall be entitled to, and CONSULTANT shall deliver to LOCAL AGENCY, reports, investigations, appraisals, inventories, studies, analyses, drawings and data estimates performed to that date, whether completed or not, and other such materials as may have been prepared or accumulated to date by CONSULTANT in performing this AGREEMENT which is not CONSULTANT's privileged information, as defined by law, or CONSULTANT's personnel information, along with all other property belonging exclusively to LOCAL AGENCY which is in CONSULTANT's possession . Publication of the information derived from work performed or data obtained in connection with services rendered under this AGREEMENT must be approved in writing by LOCAL AGENCY.
- B. Additionally, it is agreed that the Parties intend this to be an AGREEMENT for services and each considers the products and results of the services to be rendered by CONSULTANT hereunder to be work made for hire. CONSULTANT acknowledges and agrees that the work (and all rights therein, including, without limitation, copyright) belongs to and shall be the sole and exclusive property of LOCAL AGENCY without restriction or limitation upon its use or dissemination by LOCAL AGENCY.
- C. Nothing herein shall constitute or be construed to be any representation by CONSULTANT that the work product is suitable in any way for any other project except the one detailed in this AGREEMENT. Any reuse by LOCAL AGENCY for another project or project location shall be at LOCAL AGENCY's sole risk.
- D. Applicable patent rights provisions regarding rights to inventions shall be included in the AGREEMENTs as appropriate (48 CFR 27, Subpart 27.3 - Patent Rights under Government Contracts for federal-aid contracts).
- E. LOCAL AGENCY may permit copyrighting reports or other AGREEMENT products. If copyrights are permitted; the AGREEMENT shall provide that the FHWA shall have the royalty-free nonexclusive and irrevocable right to reproduce, publish, or otherwise use; and to authorize others to use, the work for government purposes.

**XXVI. CLAIMS FILED BY LOCAL AGENCY'S CONSTRUCTION CONTRACTOR**

- A. If claims are filed by LOCAL AGENCY's construction contractor relating to work performed by CONSULTANT's personnel, and additional information or assistance from CONSULTANT's personnel is required in order to evaluate or defend against such claims; CONSULTANT agrees to reasonably cooperate with LOCAL AGENCY.
- B. CONSULTANT's consultation or testimony will be reimbursed at CONSULTANT's then current hourly rates of compensation plus any costs and expenses.

**XXVII. CONFIDENTIALITY OF DATA**

- A. All financial, statistical, personal, technical, or other data and information relative to LOCAL AGENCY's operations, which are designated confidential by LOCAL AGENCY and made available to CONSULTANT in order to carry out this AGREEMENT, shall be protected by CONSULTANT from unauthorized use and disclosure.
- B. Permission to disclose information on one occasion, or public hearing held by LOCAL AGENCY relating to the AGREEMENT, shall not authorize CONSULTANT to further disclose such information, or disseminate the same on any other occasion.
- C. CONSULTANT shall not comment publicly to the press or any other media regarding the AGREEMENT or LOCAL AGENCY's actions on the same, except to LOCAL AGENCY's staff, CONSULTANT's own personnel involved in the performance of this AGREEMENT, at public hearings or in response to questions from a Legislative committee.
- D. CONSULTANT shall not issue any news release or public relations item of any nature, whatsoever, regarding work performed or to be performed under this AGREEMENT without prior review of the contents thereof by LOCAL AGENCY, and receipt of LOCAL AGENCY'S written permission.
- E. All information related to the construction estimate is confidential, and shall not be disclosed by CONSULTANT to any entity other than LOCAL AGENCY, Caltrans, and/or FHWA. All of the materials prepared or assembled by CONSULTANT pursuant to performance of this AGREEMENT are confidential and CONSULTANT agrees that they shall not be made available to any individual or organization without the prior written approval of LOCAL AGENCY or except as may be required by any law, regulation or government or court order. If CONSULTANT or any of its officers, employees, or subcontractors does voluntarily provide information in violation of this AGREEMENT, LOCAL AGENCY has the right to reimbursement and indemnity from CONSULTANT for any damages caused by CONSULTANT releasing the information, including, but not limited to, LOCAL AGENCY's attorney's fees and disbursements, including without limitation experts' fees and disbursements.

**XXVIII. NATIONAL LABOR RELATIONS BOARD CERTIFICATION**

In accordance with Public Contract Code Section 10296, CONSULTANT hereby states under penalty of perjury that no more than one final unappealable finding of contempt of court by a federal court has been issued against CONSULTANT within the immediately preceding two-year period, because of CONSULTANT's failure to comply with an order of a federal court that orders CONSULTANT to comply with an order of the National Labor Relations Board.

**XXIX. RETENTION OF FUNDS**

- A. Any subcontract entered into as a result of this AGREEMENT shall contain all of the provisions of this section.
- B. No retainage will be held by the LOCAL AGENCY from progress payments due the CONSULTANT. Any retainage held by the CONSULTANT or subconsultants from progress payments due subconsultants shall be promptly paid in full to subconsultants within

thirty (30) calendar days after the subconsultant's work is satisfactorily completed. Federal law (49 CFR §26.29) requires that any delay or postponement of payment over thirty (30) calendar days may take place only for good cause and with the LOCAL AGENCY's prior written approval. Any violation of this provision shall subject the violating CONSULTANT or subconsultant to the penalties, sanctions and other remedies specified in Business and Professions Code §7108.5. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies, otherwise available to the CONSULTANT or subconsultant in the event of a dispute involving late payment or nonpayment by the CONSULTANT, deficient subconsultant performance, or noncompliance by a subconsultant. This provision applies to both DBE and non-DBE CONSULTANT and subconsultants.

**XXX. NOTIFICATION**

Any notice required to be given shall be deemed to be duly and properly given if mailed postage prepaid, and addressed to:

**Town of Los Gatos**  
Attn: Town Clerk  
110 E. Main Street  
Los Gatos, CA 95030

**CONSULTANT:**  
Econolite Systems, Inc.  
Legal Department  
1250 N. Tustin Ave.  
Anaheim, CA 92886

or personally delivered to Consultant to such address or such other address as Consultant designates in writing to Town.

**XXXI. SIGNATURES**

WHEREOF, THE LOCAL AGENCY AND CONSULTANT HAVE EXECUTED THIS AGREEMENT.

**TOWN OF LOS GATOS** by:

Town of Los Gatos by:

---

Laurel Prevetti, Town Manager

Recommended by:

---

Matt Morley, Director of Parks and Public Works

**Approved as to Form:**

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Robert Schultz, Town Attorney

**Attest:**

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Shelley Neis, CMC, Town Clerk



### 5. Scope of Services

#### 5.1 Proposed Solution

To meet the needs of the Town of Los Gatos, we are proposing a solution based on Econolite’s industry-leading Centracas ATMS being used in conjunction with Econolite Cobalt ATC controllers running Econolite’s leading-edge controller software, EOS. Given Econolite’s vast experience serving as the Town’s traffic signal management provider for many years, there could be no better partner to help the Town manage the challenges of a phased traffic management infrastructure improvement strategy. A detailed description of our ATMS, ATCS, and controller solutions, is presented in the following sections. In addition, product datasheets have been included in the **Appendix**.

##### 5.1.1 Centracas ATMS Overview

Centracas is a state-of-the-art ATMS platform that satisfies immediate project requirements, supports the objectives envisioned by the Town, and provides a hedge against early obsolescence by continuing to meet the Town’s needs well into the future.



Econolite is excited about the opportunity to work with the Town to deploy Centracas. Centracas is a powerful, groundbreaking system that is easy to deploy, easy to learn, and easy to use. Centracas is rife with innovative features and is distinguished from the field of ATMS solutions in five key areas: innovative software technology, smart client architecture, the ability to easily add enhancements and expand the system, an intuitive user interface, and an incredibly rich feature set.

##### 5.1.1.1 Innovative Software Technology

Centracas is built upon the latest software technologies, including the Microsoft .NET Framework, Windows® Presentation Foundation, and Windows® Communications Foundation. As a result, Centracas provides the Town with a barrier against obsolescence. In fact, since its introduction, there have been 15 major releases (Figure 3), each adding significant new features, including adaptive control, enhanced measures of effectiveness (MOE), enhanced Closed Circuit Television (CCTV) support, and Dynamic Message Sign (DMS) support.

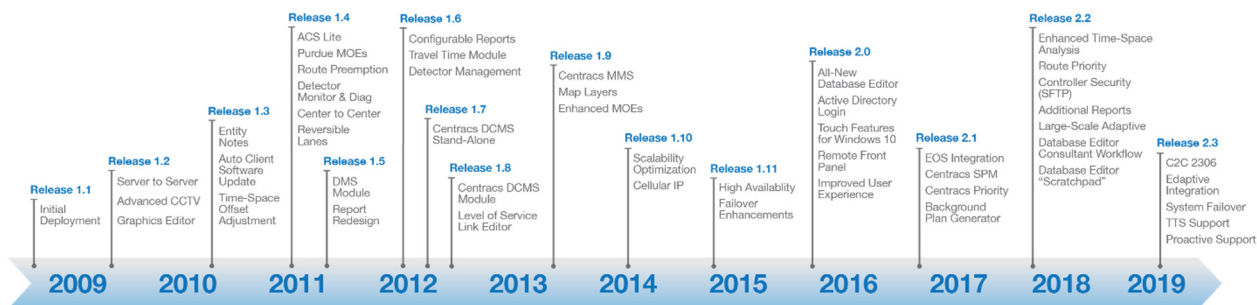


Figure 3 - Centracas Roadmap

##### 5.1.1.2 Smart Client Architecture

Centracas utilizes a client-server architecture. A client-server system architecture is not new, but the segmentation of the system components is what makes Centracas unique. By encapsulating the user interface at the workstation, the interface is responsive, even over lower-bandwidth connections. The “core” server provides all the central ATMS functionality, such as system administration, schedule functions, system alerts,





user settings, traffic responsive, and adaptive algorithms. A data abstraction layer on top of the Microsoft SQL Server database serves as a broker for all data requests throughout the system. Communications servers handle the real-time device messaging and network interface. This logical segmentation of the components provides tremendous scalability for the system, allowing the Town to easily expand into the future.

### 5.1.1.3 Expansion and Enhancement

Centracs is not only easy to use for day-to-day operations, it is also extremely easy to expand support for additional devices. All system data is entered through the user interface. There are no .ini configuration files to edit manually, no direct interaction with the database, and no system restarts for most configuration items.

Whether adding new devices, new users, or even additional communications servers, there is an intuitive graphical user interface (GUI) to assist the system user. With Centracs, we have included access to virtually every configurable element within the interface so that users can expand their own systems without requiring additional outside services.

As for enhancements, the latest version of Centracs software is provided annually (or more often if patch releases are needed) at no additional cost, as long as the software maintenance agreement is current. Centracs represents a great value, as it ensures you always have the most current technology. Additionally, Econolite continues to invest in Centracs to offer our customers the best in ATMS technology today and into the future. Of course, if custom software enhancements are required, Econolite offers software development services to meet unique customer needs as well.

Econolite maintains one version of Centracs among all our 300 deployments. This ensures quality of product and a consistent experience among our entire user base, such that users are not orphaned with a “one-off” system. Features that are developed for a singular agency are typically developed in a way that provides value to all users. In some rare cases, features have been developed for one agency that do not have this broad applicability. In those situations, the features are provided as a modular selection so that other users who do not need this support, do not experience the clutter of unneeded modules or interfaces (e.g. support for Houston’s HOT Lane reversible lane controller).

### 5.1.1.4 Intuitive User Interface

The Centracs user interface is unique to the transportation industry and capitalizes on the latest Microsoft Foundation Class technology. While the interface can best be appreciated in a live demonstration, the screenshot shown in Figure 4. gives an idea of how the interface uses “containers” to present a wide variety of data elements in an organized fashion. With full multi-monitor support, the system supports additional frames that can be assigned to each monitor. Additionally, each user can save one or more preferred configurations and restore their unique preferences when logged in.



Figure 4 - Centracs User Interface



Beyond the rich information content and flexible displays, the Centrac's interface allows both expert and new users to be efficient and effective through context-sensitive menus, on-line help, and map and entity selection allowing users to easily navigate and effectively use the capabilities of modern controller technology.

### 5.1.1.5 Rich Feature Set

Econolite has been in the transportation management business for over 85-years. Over this time, we have learned many lessons, but one critical lesson is that no two users are exactly alike. With this in mind, we have designed Centrac's to be standards-compliant while still offering users the ability to customize their user experience in a virtually unlimited number of ways. Since its introduction, we have released fifteen major updates adding additional capability and enhancing the existing feature set. Most of our new features are packaged with the core software and are provided at no additional cost to users under maintenance agreements.

### System Map Interface

The main map and intersection graphics display is an integrated part of the system and is not a stand-alone application. The system automatically updates the status of all devices on all map displays once-per-second as data is retrieved from the field devices.

Centrac's incorporates an interactive Statewide map as the foundation for the main graphics display. The map can be displayed in any or all the available Centrac's "containers" simultaneously or individually. Each instance of the map display is set up independently by panning and zooming such that each map region can be utilized as an individual sub-area for monitoring individual intersections or groups of intersections.

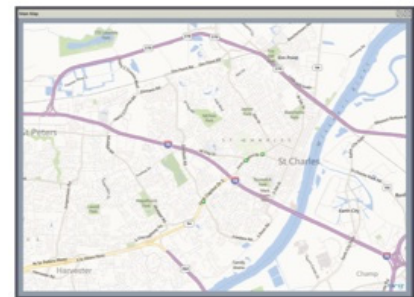
Centrac's maps are rendered dynamically using geo-coded Geographic Information Systems (GIS)-based map data. The Centrac's system comes preconfigured with rendered map "tiles" generated from geographically accurate HERE map data. HERE map data provides the most accurate street-level rendering capabilities for the Centrac's map interface. Street curves, corners, and other geographic entities are depicted accurately and without distortion. The display also supports bitmap (.BMP), JPG/JPEG, .PNG, and .GIF raster file formats, ESRI shape files, and SDE version 9.x.

Additionally, Centrac's supports Web Map Services (WMS) to display geo-referenced map images from any WMS source, including ESRI ArcInfo Enterprise, if available and properly configured.

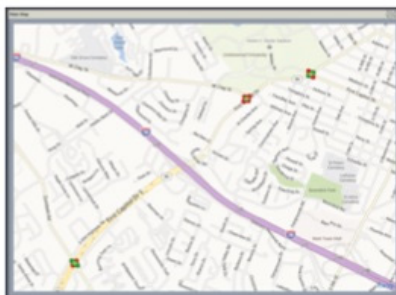
Zoom level ranges are configurable such that the display of dynamic and real-time status data appears or changes at various zoom levels. The screenshots shown in Figure 5 represent the four supported zoom levels of the map interface including regional, Statewide, corridor, and intersection level examples.



Regional



Citywide



Corridor



Intersection

Figure 5 - Centrac's Maps



### Alarms

Centracs can be configured to send alerts to users based on specific events from field devices or from components in the system. The existing events are displayed in the Alert Monitor dialog. Centracs receives “Events” from field devices and other points in the system. These “Events” can be logged, but also can generate “Alerts” or initiate other actions to occur.

An “Alert” is a notification sent to either an online, logged-in user, or an offline recipient via an email or SMS text message. A “Trigger” defines how an event generates an Alert or Action and is user definable.

All Centracs users, whether online or offline, can be assigned to receive alerts (Figure 6). Offline recipients are those individuals that are not currently using the ATMS and therefore require an email or SMS message notification. In order to send emails or SMS text messages, the email server must be configured and setup using the Centracs SMTP Servers main menu setup window.

If an alert is not acknowledged or closed within a certain period, the user may “escalate” the alert or send it to an additional recipient or group of recipients. Centracs allows for this via Alert Escalations.

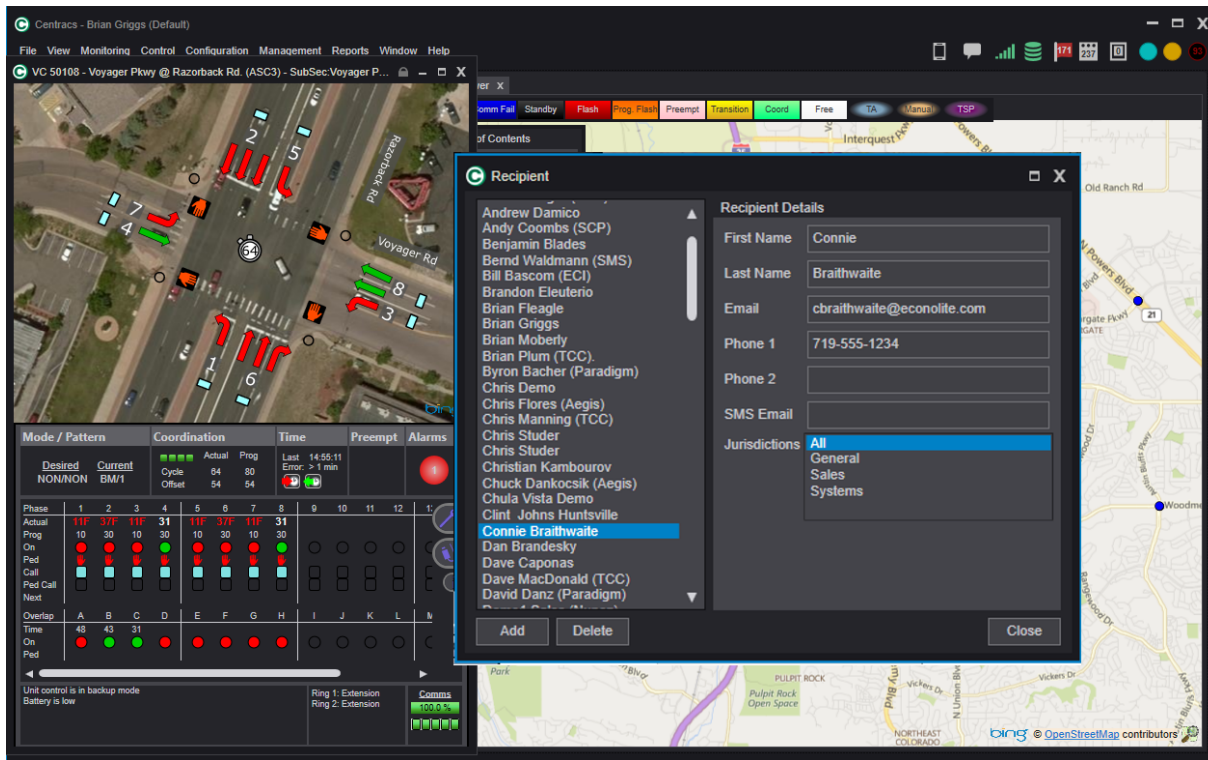


Figure 6 - Centracs Alarms

### Traffic Control

Centracs supports five central traffic control strategies that allow the traffic operations staff to ensure the system is either running its normally scheduled TOD patterns, or dynamically commanding alternate patterns to meet non-recurrent traffic patterns, special events, or other needs. The following strategies are offered in order of descending priority:



- Manually Commanded / Overridden
- Incident Response Triggered
- Adaptive (licensed per intersection)
- Traffic Responsive
- Time-of-Day (TOD)

These methods of traffic control can be applied in any combination to individual controllers, sections of controllers, and groups of controllers. Controllers can belong to a single section at any time but can be moved from one section to another manually or by Time-of-Day. Controllers can also belong to multiple groups at any one time, offering maximum flexibility in traffic control strategies.

### Reports

Centracs provides a full set of reports that provide insight to the roadway conditions as well as operational status and events within the infrastructure itself. These reports are generated using Microsoft SQL Reporting Services. Some reports allow for specifying, filtering, and sorting parameters to customize the reports. Centracs currently provides twenty-nine (29) reports that include information compiled from data retrieved from the system and any field device capable of logging data. The following is a list of the available Centracs reports:

- Alerts Log
- Communications Statistics
- Detector Fault Status
- Detector Fault History
- Device Configuration
- Entity Hierarchy
- Entity Notes
- Hourly Comm. Statistics
- Intersection Events
- Links
- Raw Detector Data
- Section Schedules
- Signal Changes
- Signal Detector Events
- Signal MMU Events
- Split Upload and Compare
- Split Monitor
- System Activity
- System Events
- Time Drift
- Time Drift History
- Traffic Responsive
- TSP Summary
- User Login
- Users and Recipients
- VOS Daily Report
- VOS Hourly Report
- VOS Multi-Date Hourly Report
- VOS Multi-Date Daily Report

Centracs also provides a means by which user-specific reports can be created and added to the Reports menu item without the requirement of additional third-party software or custom development work by the software provider. Microsoft SQL Reporting Services is provided as the custom report-generating tool.

### Adaptive Signal Control

Econolite has introduced a completely new cloud-based adaptive solution using high resolution Performance Measures datasets. Called Centracs Edaptive, these algorithms were first established within the FHWA research, but now have been applied on a real-time basis so that the system can adjust cycle length, offset, and splits to ensure the fastest response to unpredictable changes in traffic demand. We are proposing Centracs Edaptive as our ATCS solution and discuss this offering in **Section 5.1.3** of our proposal.

### Optional Centracs Modules

We believe some of the following optional Centracs modules may also be of interest to the Town.



### Dynamic Message Sign (DMS) Management

Centrac supports Dynamic Message Signs, which allows users to manage and control signs and messages from within the Centrac user interface. The DMS module has a user interface that supports operations for NTCIP compatible signs, which includes message formatting, true display on workstation, message libraries, and banned word lists.

### Signal Performance Measures Tools

The Centrac MOE module, combined with EOS ATC traffic controllers can collect and store individual detector information at a 100ms resolution (10 times per second). It also gathers and combines other key data associated with signal operations and coordination to provide a set of graphical tools that enable engineers to visually inspect and analyze the performance of traffic timing and coordination.

The Centrac SPM module offers Signal Performance Measures (SPM) analytics, reporting tools, and even control strategies based on research from the FHWA NCHRP 3-79a program. This research was funded by FHWA specifically to help transportation agencies become more agile in monitoring and tuning crucial parameters affecting traffic signal coordination and progression. These tools graphically combine and render detector and other data specific to traffic signal operation.

Econolite has also enhanced the latest academic research on signal performance measurement and optimization. We have incorporated the link-pivot optimization algorithms within this research and achieved the capability for signals to now be automatically re-optimized by the central system. This capability eliminates the need for DOTs to fund or perform signal re-timing. We discuss this offering in **Section 2.2** of our proposal.

### Transit Signal Priority (TSP)

Basic TSP is implemented by controllers running Econolite's ASC/3 and EOS software. TSP functions can be managed, monitored, and reported via Centrac. Centrac can also provide Route-based Transit and Emergency Vehicle Priority.

### Closed Circuit Television (CCTV)

Centrac is capable of supporting video streaming from RTSP sources directly into the Centrac client workstation or via integration into a 3<sup>rd</sup> party CCTV system. Econolite has partnered with Genetec to integrate their Security Service Video Management software into Centrac. This extended offering provides a robust set of video management capabilities and is offered as an optional module to Centrac.

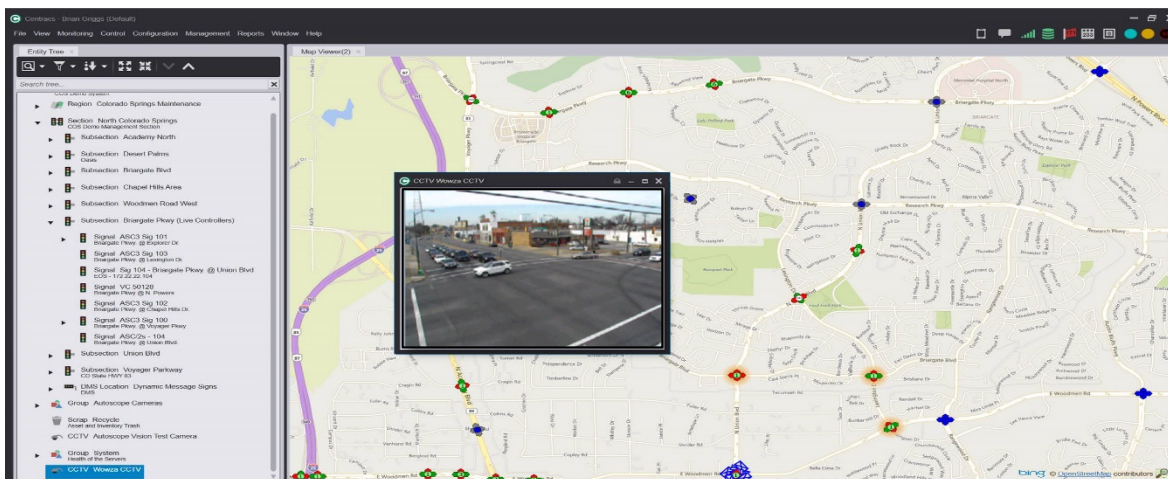


Figure 7 - CCTV Interface



### ***Centracs Travel-Time***

The Centracs system supports an interface to the data collected by Travel Time systems. This interface provides automated recognition of new BlueTOAD devices that can display data on the Centracs system maps by changing roadway colors. It also includes detailed current and historical travel-time reporting for before-after studies. We are eager to work with the Town to potentially extend the Centracs Travel Time module to support additional data sources from XML feeds, such as the HERE, INRIX, and Uber datasets.

### ***Centracs Local Edition***

Centracs Local Edition allows uploads and downloads from a laptop to locally connected controllers in the field. It also allows users to modify controller configurations offline from the central system and synchronize their changes with the main Centracs database when re-connected to the ATMS network.

### ***Server-to-Server***

The Centracs Server-to-Server (S2S) module provides a unique interface allowing agencies to achieve unparalleled benefits through cooperative operations and system management. Adjoining Centracs-managed agencies can seamlessly share data and manage arterial traffic across agency boundaries, finally realizing and exceeding the promises of Center-to-Center communications. Centracs Server-to-Server also allows agencies to participate in cross-jurisdictional management and monitoring of neighboring agency intersections.

### ***NTCIP Center-to-Center Interface***

Centracs supports NTCIP Center-to-Center Interfaces that exchange data objects with other central systems using published NTCIP objects including the Traffic Management Data Dictionary (TMDD). Data can be securely exchanged between centers and displayed on each system. This functionality could be used to exchange data and information between the Town and other regions systems for more efficient management of the State transportation system as a whole.

### ***Data Collection and Management System (DCMS)***

Centracs offers a Data Collection and Management System capability, providing users with real-time traffic monitoring and travel conditions at intersections, mid-blocks, or freeways via vehicle detection devices, as well as on-street video detection devices that can be turned into automated virtual count stations that gather traffic data. This expands support for detectors and other ITS devices that are not connected to a traffic controller. With DCMS, traffic engineers and planners can obtain up-to-date data they need to make informed decisions to optimize traffic signal timing and satisfy federal and state data reporting requirements.

### ***Maintenance Management System (MMS)***

MMS is a module that can fully integrate with Centracs to provide real-time data entry that tracks all field activities and assets. This is an industry-specific asset management system that provides document management, staffing management, inventory control, and more.

Other features include a mobile web interface that allows technicians to enter data in the field, increasing timeliness, accuracy, and providing real-time status of reported problems and response. In addition, because of its feature to fully integrate with an ATMS module, MMS can respond to system events by creating a service ticket (Figure 8) and even dispatching technicians assigned to the affected area or on-call.

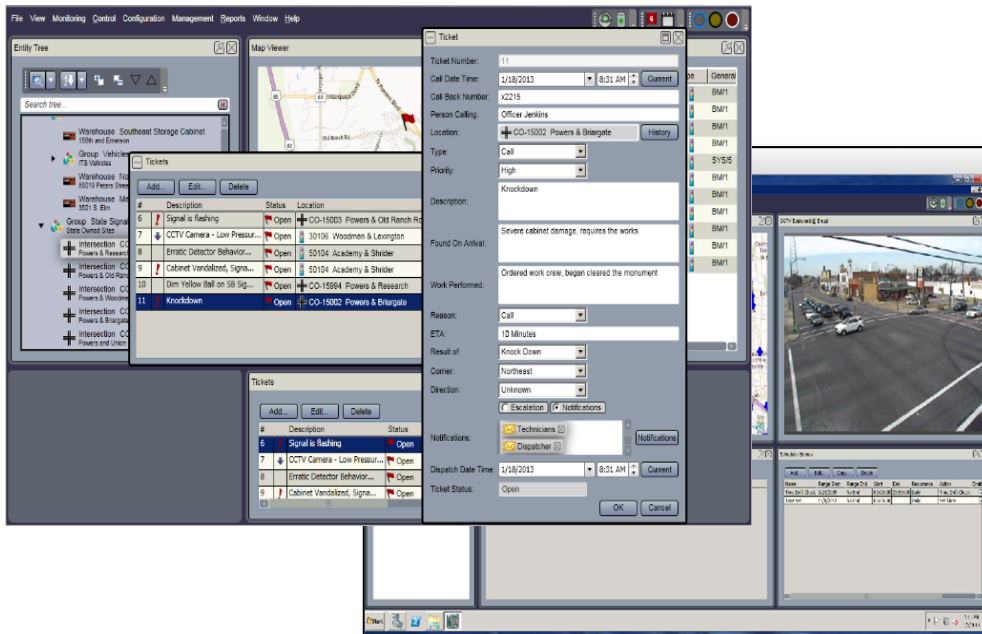


Figure 8 - Centracms MMS

### 5.1.2 Centracms SPM

Verifying and documenting effectiveness of signal timing can be a monumental and cost-prohibitive task, particularly with transportation agencies short of signal retiming resources. Moreover, traditional measuring tools for traffic studies fail to take advantage of the comprehensive data now being provided by modern traffic signal controllers. Signal performance measures, based on this data, allow for the creation of a new generation of sophisticated analytic tools that help engineers, planners, consultants, and other traffic stakeholders.



As further explained in the following section, our Centracms Adaptive ATCS solution provides adaptive control capabilities based on system performance measures derived from Centracms SPM. While we recognize that the Town intends to procure an Automated Traffic Signal Performance Measures (ATSPM) system through a subsequent RFP, later in 2020, as a value-added proposition, we are proposing to include SPM features as part of our proposed ATCS solution for this project at no additional cost to the Town.

Centracms SPM is a web-hosted solution that is integrated as an extension to the locally-hosted Centracms ATMS. For each of an agency's ATCs, Centracms SPM enables agencies to fully utilize ITS assets, helping transportation stakeholders visually analyze and identify the performance of traffic signal timing plans, diagnose problems, and quickly produce a full spectrum of traffic studies and reports.

Centracms SPM is a powerful, easy-to-use cloud-based solution that measures and assesses factors that impact traffic signal coordination. Centracms SPM provides state-of-the-art analysis tools, enabling transportation agencies, planning organizations, and other transportation stakeholders more efficient and effective use of resources in optimizing traffic signal timing, coordination, and operations. Centracms SPM provides powerful diagnostic dashboards, heat maps, and analytical tools that identify problem areas and enables users to understand what issues are affecting



traffic flow, the traffic signal changes that need to be made, and how well those coordination changes are working (Figure 9 **Error! Reference source not found.**). Centrac's SPM transforms qualitative and quantitative data into actionable information. Before and after charts and reports allow engineers to know how timing and other changes affect traffic flow.

Because Centrac's SPM is cloud-based, transportation agencies, consultants, and MPOs do not need to purchase and manage local server hardware or data



Figure 9 - Centrac's SPM

are maintained and updated by Econolite. The web user interface provides an intuitive and easy-to-use means to access Centrac's SPM from any place, on any platform, at any time. Data collection is continuous and unobtrusive to the rest of the transportation and traffic signal operations.

Centrac's SPM is the next generation Econolite analytics, reporting, and data management platform. This platform is designed based on FHWA ATSPM approach and Purdue University's defined performance measures using high resolution data to provide a platform for performance-based management for traffic signal operations and maintenance.

Centrac's SPM enables transportation agencies to make signal retiming strategy decisions based on high-resolution dynamic traffic performance data without the costs associated with manually collected low-resolution data and simulations. Centrac's SPM provides continuous traffic data collection and analytics, enabling transportation professionals to proactively optimize signal timing, enhancing mobility and safety. In addition, Centrac's SPM is an ideal fit for connected and autonomous vehicle and Smart Community applications.

Centrac's SPM provides the following features:

- **Optimization:** Optimizes all signals within a corridor to reduce the number of traffic stops and delays based on the amount of time assigned to a phase (split), when the cycle starts (offset), or the length of the cycle to serve all phases (cycle length). The optimization process uses Purdue University's Link Pivot and GOR/ROR (Green Occupancy Ratio/ Red Occupancy Ratio) to optimize arterial-level parameters, including lead-lag sequencing.
- **Web-Based User Interface:** Provides an intuitive and powerful user experience while providing the best and the latest features to all users.
- **Overview Dashboard:** Snapshot of the traffic system's health by corridor, region, or agency.
- **Heat Maps:** Powerful visuals that overlays key performance metrics such as Arrivals on Green, Vehicle Delays or Power Failures with a geographic context.
- **Hot Spots:** Identifies a list of intersections in a decreasing order of priority that requires remedial action.
- **Detector Concerns:** Separately identifies a list of specific intersections with detector problems.





- **Reports:** Enhanced suite of analytical reports using performance metrics developed by Purdue University.
- **Metrics:** MOEs categorized by Coordination, Transition and Preempt to drill down of key performance indicators.
- **Compare:** Analyze before and after results to learn the effectiveness of remedial action.

We believe that Centrac's SPM will provide the Town's traffic engineers and operators with new levels of capabilities for proactively optimizing traffic signal timing based on performance metrics.

Econolite has developed a new, ground-breaking approach to signal timing optimization based on recently published academic and industry research initiated from the NCHRP-379a program that is also included with Centrac's SPM. This approach, Centrac's SPM Optimization, has been validated by Transportation Research Board participants, and is at the forefront of signal timing practice.

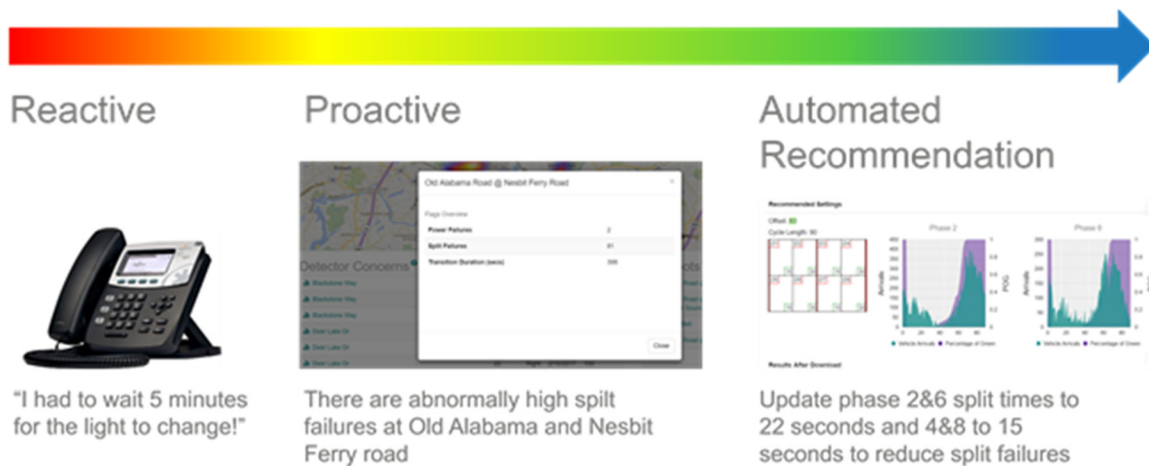


Figure 10 - SPM Optimization

Under the NCHRP 3-79a research program, Purdue researched and developed a method for performance measurement and signal optimization including a "Link-Pivot" optimization algorithm. Link Pivot is an algorithm that works by stepping through possible coordination timing values at each intersection, while trying to find the minimum delay or maximum arrivals on green. This effectively "pivots" across the possible configurations on the approaches on the next link, providing optimized signal timing across a network of signals. Those timing values achieving the optimal performance are retained.

Purdue has also developed a means for split optimization using the Green Occupancy Ratio (GOR) and Red Occupancy Ratio (ROR) as the basis for split balancing. The research reveals GOR/ROR to be an accurate measure for recurrent phase failure, and a basis for split rebalancing. GOR/ROR has become a better measure of volume to capacity (V/C), since it has been designed to use occupancy detector data and does not require counting detectors.

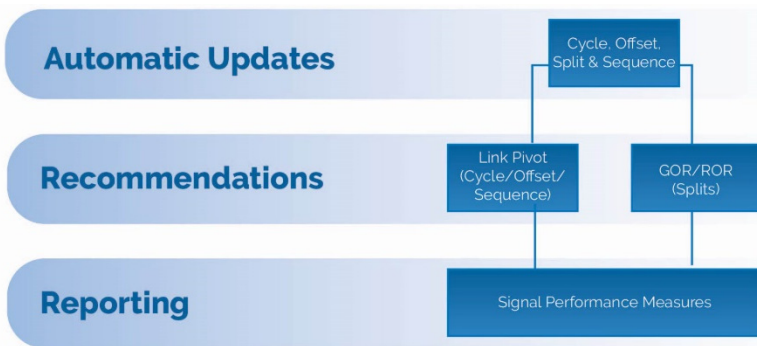
Econolite has implemented the results of this research, bringing to practice a means of GOR/ROR assessment and split timing rebalancing. The SPM Optimization leverages Link-Pivot algorithms and Split Optimization using GOR and ROR to run offline optimizations on Offsets, Cycle Lengths, Lead Lag Phase sequencing, and Splits to generate optimized signal timing plans.

In order for SPM Optimization to automatically generate signal timing plans, it must group traffic flows into time of day intervals and optimize the Cycle/Offset/Split (COS) values to meet the expected traffic flow for each time of day (TOD) and day of week (DOW) interval. SPM Optimization identifies appropriate TOD groupings for pattern optimization and allows user definition of the aggregation windows for these COS optimizations



(i.e. use data from the last X weeks to facilitate plan changes on a Y weekly basis). It also allows threshold windows to be set such that changes are only implemented when the measurable benefit exceeds a user-defined threshold.

The Centrac's SPM system also provides data analysis reports and other visual displays to facilitate user understanding of these proposed changes. SPM allows both automatic and “user-approval-in-the-loop”-based changes to the coordination plans stored within the system. This background plan update is a schedulable algorithm within Centrac's SPM that can be applied on a sectional basis. A historic log is generated that retains all changes made to these coordination patterns.



The same Link-Pivot and ROR/GOR methodologies that can be implemented as background TOD plans within the system can also be applied on a near-real time basis. The cycle and offset selection algorithms can be run in a recurrent fashion, where the user establishes the frequency of measurement, thresholds for change, and sets up the system to perform near-real-time optimization of the roadway network (Figure 11).

Figure 11 - Background Optimization

The nature of coordinated operation requires that cycle and offset changes are made infrequently within the system, so the penalty of recurrent coordinated transition does not outweigh the benefit of the new timing modifications. Near real time is likely to allow five to fifteen-minute updates to the offset and cycle length parameters, but can, in principle, be run as quickly as once per cycle length. This level of calculation is best handled at a central system level and issued to the signals within a section. This helps to ensure cases of detection failure and communications failure are handled with safe restoration to TOD operation.



Figure 12 - Optimization Recommendations

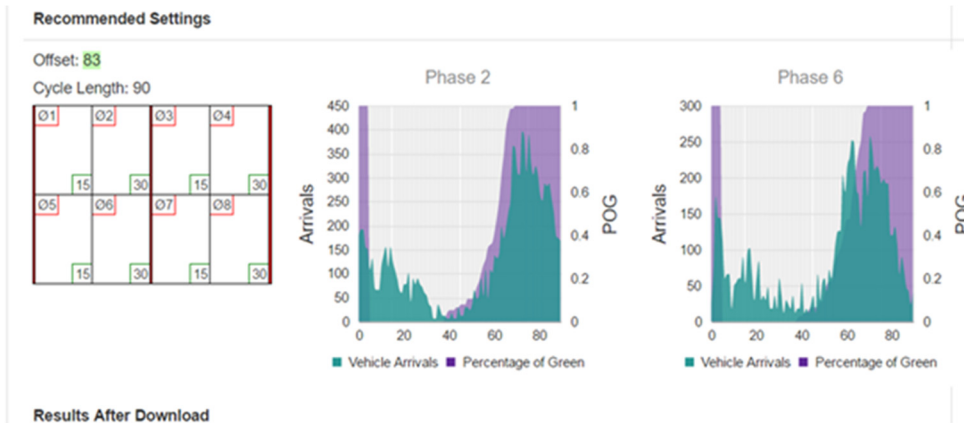


Figure 13 - Optimization Results

Split Optimization using the ROR/GOR approach can also be performed within the Cobalt controller, with no need for centralized monitoring. This can be performed as modification to the base TOD pattern in effect, on a cycle-by-cycle basis.

The combination of this real time cycle, offset and split optimization offers the Town a well-researched optimization strategy quite unlike other adaptive systems, one that maintains proper signal optimization even during periods of non-recurrent traffic demand.

### 5.1.3 Centrac's Edaptive

Centrac's Edaptive is the next-generation in adaptive signal control, optimizing cycle, offset, and splits by using high-fidelity 1/10th-second resolution data available from modern ATCs. Data is the name of the game. Better data yields better results, and with Econolite's Centrac's SPM at its foundation, Centrac's Edaptive is making timing changes based on the best possible data. Centrac's Edaptive is web-based and offers deep analytical capabilities through Centrac's SPM, allowing users to quickly and easily ensure maximum performance of their signal control system.



Centrac's Edaptive provides automated real-time signal adaptation and is a highly effective real-time adaptive signal control solution that balances sustainability and reliability with the latest in adaptive algorithms. Target applications include corridors with highly variable traffic patterns, changing weather conditions, special events, high-priority corridors requiring maximum performance, and many others. Agencies can also make the most out of existing detection. With advanced algorithms, stop bar detectors are used to drive split optimization. Additional options exist for cycle optimization.

The system works by having controllers start off collecting high resolution data. The data is evaluated, and several key calculations are run to determine the optimal values for adapting to changing traffic conditions. Two to three cycles' worth of data is needed for the algorithms to run. The new calculated values are then communicated to the controllers through a proprietary object that facilitates changes to the internal timings of the signal controller.

For optimizing offsets, a Link-Pivot algorithm is used. The algorithm works by stepping through possible offsets between a pair of linked intersections. The arrivals on green are projected based upon the relative offset times, allowing optimization of the impact that a change in offset at one intersection will have on the downstream link. This optimization is then performed for the next roadway segments, effectively "pivoting"



across the roadway network, optimizing each link between intersections. The offsets achieving the optimal values are retained.

For cycle length optimization, the algorithm calculates the best cycle length to use, balancing the tradeoff between capacity and delay.

The splits adjustments that are generated in Edaptive are the result of the system using Red Occupancy Ratio (ROR) and Green Occupancy Ratio (GOR) to calculate the best combination of coordinated and side street phase splits. The algorithm generates the best minimum splits to satisfy the non-coordinated phases and then takes the extra time and applies it to the coordinated phases.

### 5.1.4 Controller Firmware and Hardware

The intelligence behind the signalized intersection is the traffic signal controller. Combined with the traffic cabinet, the controller manages traffic flow and ensures safety for all roadway users. In the following section, we describe both the proposed controller hardware and firmware, Econolite's Cobalt Graphic ATC combined with our EOS firmware.

#### 5.1.4.1 Cobalt ATC



The Cobalt controller is the most advanced and innovative ATC on the market today. It not only fully meets the ATC standards, but features a breakthrough hardened 7-inch Android-type touchscreen matched with a Linux-based operating system. The Cobalt Touch application software package allows the touchscreen display to be used for intuitive, graphical programming, making programming and access to functions the easiest in the industry.

Cobalt ATC controllers may be configured with Econolite's EOS controller software package or other pre-qualified ATC/Linux software application software meeting current ATC standards. OS and software upgrades can be made easily by USB memory stick, SD card, or Ethernet via Econolite's Windows software installation application. Cobalt includes a high-power, Linux-based Engine Board that is compliant with the ATC 5.2b and proposed 6.10 standard for a NEMA standard TS2 Type-1 or Type-2.

In addition, all Cobalt controllers are designed to support Connected Vehicle (CV) applications including Signal Phase & Timing (SPaT) messages. Combined with the Econolite Connected Vehicle Co-Processor, Cobalt supports dedicated short-range communications (DSRC) protocol, providing the essential Vehicle-to-Infrastructure (V2I) interface between the controller and DSRC-based roadside equipment (RSE). Cobalt can facilitate the continuous collection, aggregation, and use of real-time traffic data that is requisite for the CV and Smart Cities environment. Cobalt opens the door to new levels of smart intersection and traffic control and positions a transportation agency or metropolitan planning organization with the fundamental V2I capabilities in support of the Connected Vehicle future. Cobalt ATC controllers are also capable of collecting



and storing the high-resolution data needed in support of the Purdue Coordination Diagrams (i.e., individual detector information at a 100ms resolution (10 times per second)).

### 5.1.4.2 EOS

We are proposing to use Econolite's EOS, the next-generation traffic controller firmware/software developed for the Cobalt and other properly configured ATC controllers. EOS features improved usability with a redesigned user interface and traffic control algorithms. EOS was founded upon the rich set of NTCIP 1202 and Econolite proprietary traffic control features, and provides an expansion of traffic control capabilities, while focusing upon simplicity and ease-of-use. This software provides a timely preparation for the forthcoming demands of Connected Vehicle traffic control systems.



Econolite EOS' user interface has been designed to maximize usability of traditional displays, as well as incorporating a new web user interface that includes a virtual suitcase tester. EOS can be accessed via a network interface, which can be local or remote, wired or wireless, and allows monitoring or programming of the controller through any web-enabled device, including smart phone, tablet, laptop, or desktop computer.

EOS' new leading-edge features and enhancements also include:

- User Security login for field access management
- Android phone and mobile device support
- Key navigation across the UI for touch-less management
- Key shortcut (SpFn + Main) to switch to classic UI
- Quicker navigation and faster loading of content
- Robust architecture
- Support for all cabinet types

EOS has improved real-time decision-making, allowing dynamic changes to nearly all features and timing 'on-the-fly.' EOS supports the configuration of phase and overlap timing in predefined tables that can be swapped to meet immediate needs. Dynamic-sequencing is achieved by updating prior phase-next selections at the end of a red clearance and even allows phase-sequence swaps in the middle of active phase timing.

EOS features a brand-new coordinator design, enabling immediate coordination decisions rather than awaiting a cycle endpoint. This coordinator includes adaptive split balancing using the Purdue GOR/ROR5 metric for phase failure. This coordinator goes a step further by supporting localized adaptive splits. Adaptive splits perform a split re-allocation, balancing splits per the newly published GOR/ROR5 metric. This feature brings many of the operational benefits of adaptive control, without the need for a separate adaptive control system.

EOS' improvements to the core traffic controller operation, enhanced features, and improved usability, helps prepare transportation agencies, cities, MPOs, and others for support of Connected and Autonomous Vehicles (CAV) and Smart Town applications. EOS currently supports SPaT, MAP, SRM, and BSM messages per the latest SAE J2735 standards.

## 5.2 Detailed Scope of Services

The ESI Team is proposing the following Work Plan to deploy an ATMS and ATCS for the Town of Los Gatos.



### 5.2.1 Task 1 - Project Management

Project management is a critical part of the deployment of any technology project. To emphasize its importance, we propose a dedicated project management task to ensure that the ESI Team and the Town share common goals and expectations of the project, manage changes needed through the course of the project, and execute the project to meet those goals and expectations. The ESI Team will perform proactive project management throughout the course of the project and provide periodic invoices and progress reports to summarize the project status.

We are proposing a highly experienced Project Manager for this project, Mr. Marc Miranda. Mr. Miranda's qualifications are detailed in **Section 4.3** of our proposal.

A key to The ESI Team's Project Management approach is to develop a Project Plan as detailed below.

#### Project Plan

The Project Plan will document the following elements:

- **Project Scope** – This document and any modifications that may be required over the term of the contract.
- **Major Deliverables** – This document and any modifications that may be required over the term of the contract.
- **Risk Assessment** – Identifies major risk elements and mitigation actions.
- **Resource Requirements** – Includes team organization and responsibilities of stakeholders.
- **Project Schedule** – Gantt chart periodically updated to reflect project progress.

#### Bi-Weekly Progress Meetings

The ESI Team will establish bi-weekly project meetings via teleconference to keep the Town informed of project progress and upcoming activities. These meetings are structured as "status only" and are intended to last not more than 30-minutes. This time frame ensures regular stakeholder attendance and insists that more in-depth discussion to be taken offline. The agenda for these meetings will form two purposes: to guide the discussion and function as a Status Report. These meetings will be limited to the following discussion points:

- Estimates of progress
- Work performed during the prior period
- Work anticipated for the current/following period
- Any deviations from the project plan along with their current issues, status, and how they are to be remedied.

For each bi-weekly progress meeting, the ESI Team will provide the meeting agenda and notes. The notes will include a "rolling" Action Item list that identifies and summarizes the Action Item (what needs to be done), Responsible Parties (who needs to do it), Resolution Dates (when will it get done), and End Result (how was it accomplished).

Weekly scheduled discussions between the Econolite and Town project managers will be held to work through any schedule or task needs and to keep each informed of any changes or modifications that may be needed.

#### Invoices

Invoices will be submitted in accordance with the contracted milestone payments.

#### Assumptions:

- The ESI Team will participate in the bi-weekly progress meetings either in person or via teleconference.



### 5.2.2 Task 2 – Advise on ATMS and ATCS System Controller and Detection Requirements

The two factors with the largest impact of the effectiveness of an ATCS (and ATMS) are adequate detection and reliable communications. As part of Task 2, the ESI Team will provide a thorough review of all existing detection, controllers and communications. We recognize that the Town does not necessarily have as-builts for all intersections. We intend to overcome this challenge by conducting a full field review to document and evaluate the extent of video detection coverage, and adequacy of this coverage relative to ATCS operation at all ATCS intersections. The field review, in conjunction with a review of existing as-builts will also look at needs and requirements for controller and communications upgrades.

The performance of the ATCS relies upon the accurate mapping of field detector channels to the correct detector assignments within the system. One deployment risk resides with the potential inaccurate mapping of existing detection channels. As understood from the RFP, the Town will be closing any detection shortfalls and installing any necessary additional detection system elements under separate contracts. The ESI Team will coordinate with the Town on detection requirements to that ensure accurate locations and channel mapping have been appropriately addressed.

For those intersections with existing, adequate detection, verification of the detector layout will be required as part of the field review.

Because Centrac's Edaptive works with high-resolution controller data, it is compatible with all detection systems used in signal actuation, utilizing data from controllers. Ideal detectorization for adaptive operation and performance metrics should include:

- Stop bar, lane-by-lane on each phase
- Main street advance or midblock (arrival profiles)
- Side street advance for cycle adjustment on busy side streets

We understand that the Town will be responsible for design plans and procurement relative to any detection upgrades. The ESI Team will work closely with the Town during this activity to ensure design elements are consistent with the needs and requirements of our proposed ATMS/ATCS solution.

#### Assumptions:

- Town to supply all available as-builts.
- Town to provide access to all controllers for field inventory by ESI Team.

### 5.2.3 Task 3 - Furnish ATMS and ATCS Software and Hardware

As part of this task, the ESI Team will provide Centrac's ATMS and Edaptive software, ATMS hardware, controllers and communications equipment for the project.

#### ATMS Software and Hardware

Econolite will supply a database/core server as specified in Table 2 to host the Town's ATMS. In addition, we will provide the Town with licensing for the Centrac's ATMS and Edaptive.

# Proposal

## Adaptive Signal Control and Advanced Traffic Management Systems for the Town-Wide Traffic Signal Upgrade Program



Table 2 – Database/Core Server Specifications

Item	Description	Quantity
Processor:	Intel Xeon Gold 5118 2.3G, 12C/24T, 10.4GT/s, 16.5M Cache	2
Memory:	64GB Memory	1
Hard Drive:	480GB SSD	6
Hard Drive Controller:	PERC H730P Raid Controller for RAID 5	1
Operating System:	Microsoft Windows Server 2016 Standard	1
Database Software:	Microsoft SQL Server 2016 Standard	1

In addition, we will supply two (2) workstations and one (1) laptop as detailed in the following tables.

Table 3 - Workstation Specifications

Item	Description	Quantity
Processor:	Intel Xeon E-2124G, 4 Core, 8MB Cache, 3.4GHz, 4.5Ghz Turbo w/ UHD Graphics 630	1
Memory:	16GB 2x8GB DDR4 2666MHz UDIMM Non-ECC	1
Hard Drive:	3.5-inch 500GB 7200rpm SATA Hard Disk Drive	1
Monitor:	Dell UltraSharp 32 4K USB-C Monitor: U3219Q	1
Shared Monitor:	Samsung - 70" Class - LED - 6 Series - 2160p - Smart - 4K UHD TV with HDR, Model:UN70NU6070FXZA	1*
Operating System:	Microsoft Windows 10 Professional for Workstations	1

\*A single 70" monitor will be supplied and configured to allow for either workstation to connect to the monitor.

Table 4 - Laptop Specifications

Item	Description	Quantity
Processor:	Intel Core i7-7820HQ (Quad Core 2.90GHz, 3.90GHz Turbo, 8MB 45W, w/Intel HD Graphics 630)	1
Memory:	16GB, 2x8GB, 2400MHz DDR4 Non-ECC SDRAM	1
Hard Drive:	500GB 2.5" 7mm SATA (7200 RPM) Hard Drive	1
Monitor:	15.6" UltraSharp™ FHD IPS(1920x1080)AG LED-backlit, w/Mic, Non-touch	1
Operating System:	Microsoft Windows 10 Professional for Workstations	1

Server and workstation component availability and specification may change as technologies advance; the ESI Project Manager will provide submittals and review all the hardware/Commercial- off-the-Shelf (COTS) specifications with the Town prior to procuring any items. All server components will be delivered to Econolite's office for testing, software installation, and configuration.

### Field Hardware

As requested, Econolite has provided pricing in our separate price proposal to furnish the Town with Ethernet communications equipment and ATC controller units. We are proposing the following equipment (Table 5).





Table 5 - Proposed ATC and Communications Equipment

Item	Description	Quantity ATCS	Quantity ATMS	Total Quantity
Controller Unit	Econolite Cobalt ATC Graphic with EOS Firmware	14	18	32
Ethernet Switches, Fiber Optic	Moxa Managed full Gigabit Ethernet switch with 8 10/100/1000BaseT(X) ports, and 4 100/1000Base SFP slots, -40°C to 75°C operating temperature (EDS-G512E-4GSFP-T), Small Form Factor pluggable transceiver with 1000BaseLX, LC connector, 10 km, -40 to 85°C (Qty. 2) (SFP-1GLXLC-T), Power Supply Kit	7	2	9
Ethernet Switches, FO+1-leg Copper	Moxa Managed full Gigabit Ethernet switch with 8 10/100/1000BaseT(X) ports, and 4 100/1000Base SFP slots, -40°C to 75°C operating temperature (EDS-G512E-4GSFP-T), Managed VDSL2 Ethernet Extender with 1 10/100BaseT(X) port, and 1 DSL port, -40 to 75°C operating temperature (IEX-402-VDSL2-T), Small Form Factor pluggable transceiver with 1000BaseLX, LC connector, 10 km, -40 to 85°C (Qty. 2) (SFP-1GLXLC-T), Power Supply Kit	2	2	4
Ethernet Switches, FO+2-legs Copper	Moxa Managed full Gigabit Ethernet switch with 8 10/100/1000BaseT(X) ports, and 4 100/1000Base SFP slots, -40°C to 75°C operating temperature (EDS-G512E-4GSFP-T), Managed VDSL2 Ethernet Extender with 1 10/100BaseT(X) port, and 1 DSL port, -40 to 75°C operating temperature (Qty. 2) (IEX-402-VDSL2-T), Small Form Factor pluggable transceiver with 1000BaseLX, LC connector, 10 km, -40 to 85°C (Qty. 2) (SFP-1GLXLC-T), Power Supply Kit	2	0	2
Ethernet Switches, Ethernet-over-copper	Moxa Managed VDSL2 Ethernet switch , 6 FE ports, 2 VDSL2 ports, 12/24/48 VDC, -40 to 75°C operating temperature (IEX-408E-2VDSL2-LV-T)	5	8	13
Ethernet Switches, Cellular	MicroHard LTE3-CAT4NA2 Cellular Ethernet Gateway with mounting bracket, power supply and antenna	0	5	5

### Assumptions:

- Town will provide an equipment rack and rack ancillaries, power, and network connections for the server described in Table 2.
- Town will provide all TMC networking/communications equipment and VPN software.
- Town will provide the ESI Team with remote access to the server.

### 5.2.4 Task 4 - Installation, Integration, and Deployment

The ESI Team will work closely with Town staff to define a methodology for deploying the Town’s ATMS in a cooperative manner. This will include procedures for setup of the server and configuration of central and mobile workstations. The ESI Team will first baseline the existing system and work with Town staff to further refine our understanding of project requirements as well as relevant Town IT Department constraints.



### ATMS Setup

#### Central System – Setup

The ESI Team will provide a Centrac's license for 50 intersections. Centrac's will be installed on the server supplied by Econolite in Task 3. Prior to installation on the production server environment, the ESI Team will setup and configure the Centrac's ATMS with all system parameters on a staging server maintained in Econolite's Anaheim office.

#### Intersection Graphics

We will develop a typical graphic representation of an intersection and submit a template to the Town for review and approval. The template will include icons for:

- Intersection status (1st level)
- Intersection status with plan (2nd level)
- Intersection status with main street green (3rd level)
- Intersection phase movement display with status (4th level)

Upon agreement as to exactly how the Town wants an intersection to look and what graphical elements are important to you, we will use this template to reproduce graphics for thirty-one (31) intersections and provide the Town with training so they are able to develop graphics for, and integrate any future intersections.

#### Intersection Properties

Each intersection will be geo-located and intersection properties, including intersection name, main street, cross street, IP address or serial communications parameters (as applicable), will be configured.

#### Central System – Installation

The ESI Team will install, configure, and integrate the Centrac's ATMS on the server supplied by Econolite. We are assuming the Town IT Department will assist the ESI Team with establishing a connection to the Town network switch for access to the field network, the Internet, and any workstations (local or remote) that require access to the Centrac's system. In addition, the ESI Team will work with Town IT staff to identify network routes to the field network and create provisions for remote access for maintenance and software updates.

#### Client Software

Econolite will install and configure the Centrac's client software application on three (3) Econolite-supplied workstations and/or laptops. There is no limit on the number of workstations and no cost or licensing required to add additional workstations to the system.

### ATCS Setup

The ESI Team will set up the Los Gatos Boulevard corridor's cloud-based Centrac's Edaptive site and configure and integrate all thirteen (13) intersections to provide high-resolution data to Centrac's Edaptive. The following steps will be required for the successful deployment and operation of the system.

- Acquire as-built detector layouts from the Town (Task 2).
- Review existing intersection and detector layouts, taking notes on what detector is assigned to what input in the controller, the location of the detector on the street, and what function the detector is serving (e.g., stop bar, advance, departure, left turn).
- Site setup & configuration.
- Configure Intersection Data Maps (IDMs) for each intersection based on detection and controller configuration information.
  - Phase assignments and detector assignments are mandatory.



- Speed limits are required. It is also useful to have volume estimates to better establish a saturation flow rate value that is more accurate and localized than the standard 1800-1900 vehicles per hour per lane (vphpl).
- Perform Quality Assurance/Quality Control on all IDMs.
- Setup corridors in SPM, including grouping and defining corridors and operational parameters in consultation with the Los Gatos Project Manager.
- Run SPM for two weeks to ensure SPM graph data is valid. Review data and modify settings as necessary.
- Run SPM Optimization for two or three 2-3-week intervals. Push the “best” Optimization result to the field to update base signal timings.
- Once SPM has gathered sufficient historical operations data, the system is ready to begin Edaptive testing:
  - This should be accomplished in steps for both the system to “learn” the corridor as well as for agency staff to understand how Edaptive will begin modifying signal timing to improve overall operations. Step 1 will be to operate Edaptive for 1-3 days for 1-hour at a time, Step 2 will then increase operations for 1-3 days of 4 hours at a time, Step 3 will then move to operating Edaptive for one week of 8 hours per day. Once the initial three steps are complete, the system will be ready to move to full control per Town desires.
  - We recommend that Town and Econolite field technicians be on-site in the field to verify street conditions are acceptable (no out-of-control congestion, or other non-regular conditions) during initial Edaptive testing.
  - Continue to monitor Edaptive remotely from our Colorado Springs office.
- Once the initial testing is complete, Econolite proposes to also conduct a simple before/after study. This include the gathering of SPM data in weeks prior to SPM Optimization change versus weeks running full Edaptive to verify operations have improved and to quantify the overall improvement and operations benefit to the Los Gatos Boulevard corridor.

### Controller Migration

The ESI Team will apply a thoughtful and consistent process in performing the controller database conversions and bench testing necessary to migrate to the Cobalt ATCs. The following steps outline the process we will employ:

1. **Data Collection:** The ESI Team will obtain the most current and up to date timing sheets and phase diagrams for each intersection from the Town. Where possible, we will upload controller databases directly from the Town’s Aries system.
2. **Database Conversion:** To facilitate the conversion process, the ESI Team will provide specialized training to our team of engineers to make absolutely certain that even the most obscure database elements are properly managed in the conversion process. Minimum clearance intervals and safety parameters will also be assessed during the conversion process and recommendations will be made, as necessary, to make improvements. While paper records will be produced, timings will be electronically input into a virtual controller and uploaded to a Centrac’s staging server to facilitate loading the timings into the controller.
3. **Loading:** A controller will be connected to the Centrac’s staging server. The converted database will be downloaded onto the controller. The controller will then be labeled, removed, and staged for testing and eventual deployment.
4. **Testing and Quality Control:** The converted timing database will be downloaded to a test controller to verify proper conversion and acceptance in the controller environment. Engineers will validate that the databases have been properly converted prior to making a recommendation for field deployment. TJKM will provide oversight and quality control of this step to ensure controllers are field-ready before deployment.



5. **Field Installation:** After testing and quality control is complete, the ESI Team will take the controller to the field and install it into the cabinet. We will develop and document procedural steps to make certain the intersection is operating properly including detector programming and “walking-the-intersection,” to ensure the intersection phasing is per plan.

### Ethernet Device Configuration

We understand Ethernet devices supplied by the ESI Team under this project will be installed by the Town’s Electrical Contractor. This Contractor will be retained by the Town for installation services in support of the field design (Ethernet devices, fiber optic branch cables, controller cabinet change-outs) prepared by the Town’s Field Design Consultant. In support of these activities, the ESI Team will be responsible for programming all field Ethernet equipment based on IP addresses and VLAN information provided by the Field Design Consultant. The Town’s Electrical Contractor will then install this equipment and the ESI Team will coordinate with the contractor to confirm end-to-end communications from each field Ethernet device back to the Town’s TMC.

#### Assumptions:

- Town will provide current phase diagrams and timing/coordination sheets for thirty-one (31) intersections.
- Any required e-mail services will be provided through the Town’s SMTP relay server.
- All software installations will be coordinated through the Town’s IT Department.
- Remote access to the server can be arranged through the Town’s IT Department.
- Town will provide end-to-end Ethernet communications between the Centrac’s server software and the traffic signal controllers at each project intersection.
- Town will establish a connection to the Town network switch for access to the field network, the Internet, and any workstations (local or remote) that require access to the Centrac’s system.
- Town IT Department will provide the necessary power and time sources.
- The Town will contract with a separate contractor to install the Ethernet communications equipment in the field, as well as any additional intersection detection as advised by the ESI Team in **Task 2**.
- The Town/Town’s Field Design Consultant will provide IP addresses/VLAN information for all Ethernet devices.

### 5.2.5 Task 5 - System Testing and Acceptance

#### Acceptance Testing

Once all controllers are brought online, the System Acceptance Test will be conducted in accordance with the Acceptance Test Procedures (“Test Plan”). The Test Plan will be based on Econolite’s existing Standard Centrac’s Test Procedures modified to incorporate the Town’s requirements contained in the RFP (connectivity, data exchange, load, and functionality tests). The Test Plan will include details on test setup, test scripts, test oversight and witnessing, test reports, pass/fail criteria, and test dependencies.

The ESI Team will provide a Draft Test Plan to the Town for approval 30-days before the acceptance test is to begin. The Town shall review the Draft Test Plan and provide review comments within 14-days. The Test Plan will not be final until accepted by the Town.

This initial phase of testing includes a step-by-step walk-through of every procedure documented in the Test Plan. This phase of testing ensures that the Standard Centrac’s Test Procedures and the specific additional functional and performance requirements of the Town are observed and proven to successfully function.



If, during performance of the System Acceptance Test, an item is marked as “failed,” the ESI Team and Town staff will agree to a course of action.

This test is incredibly thorough and painstakingly detailed. The ESI Team will conduct, document, and record all test results. The Town’s Project Manager (or their designee) will witness all tests and sign-off on each procedure as it is completed. At the conclusion of the System Test, the ESI Team will prepare a test report summarizing the results of the test, documenting any areas of the test that need to be corrected. As necessary, the ESI Team will resolve any issues that were identified during the System Test, demonstrate the proper operation to Town personnel, and document the corrections.

### **Burn-in and Acceptance**

Upon successful completion of the System Acceptance Test, as well as 30-days of error free operation during the subsequent burn-in period, the Town will grant “System Acceptance” and the Warranty period will commence.

#### **Assumptions:**

- System Acceptance Test will be conducted after the system has been installed and all intersections brought online.
- Town will review the Draft Test Plan & provide review comments within 14-days.
- System Acceptance Test will be performed over a 1-day period and the Town’s designated representative will be available to witness/participate.

### **5.2.6 Task 6 - Training and Documentation**

#### **Training**

The ESI Team will provide all training necessary for the Town to successfully operate and manage the ATMS, ATCS, and traffic controllers. Our proposed system training will be detailed in a Training Plan that identifies the lesson plan for each course, along with the literature, standard operating procedures, manuals, and test materials that will be used. The training plan will describe the ESI Team’s role and responsibilities for each course and will include a training schedule listing each period of instruction and the time required for each period. The ESI Team will submit the Training Plan to the Town for review and approval 30-days prior to the scheduled start of any training.

The ESI Team will provide a minimum of 84-hours of training as detailed in the following table:

*Table 6 - Proposed Trainings*

Training Session	Expected Duration
1. System Operations	8-hours
2. System Administration	4-hours
3. System Maintenance	4-hours
4. Intersection Maintenance	4-hours
On-Call Training	40-hours
Field Technician Training	4-hours
Follow-up Training at end of Warranty Period	20-hours

All training, with the exception of the Follow-up Training, will be completed prior to final acceptance of the ATCS and ATMS systems.



The ESI Team will provide all training materials, and each training will be designed for up to ten (10) people. This training will include both classroom-style instruction on system functionality and use as well as “hands-on” training and will be suitable for both traffic systems engineers and traffic signal technician staff. We understand that some areas may require more in-depth training than others and will adjust the curriculum according to the Town’s needs. Training will be conducted at Town facilities with access to the system for optimal understanding of the system.

**System Operations Training** will address each of the following topics:

- System Overview
- System Set-Up, Configuration, & Calibration
- Graphics Set-Up
- Basic Operations
- Advanced Operations
- Reports & Alarms Generation
- System Maintenance
- Troubleshooting

**System Administration** and **System Maintenance Training** will be focused toward IT Staff that will administer the system and be provided as follows. This content can be adjusted to best meet the Town’s needs.

- **Introduction and Overview** - This session will review the System Hardware, System Software, Centracs capabilities and features, and a brief tour of the Traffic Management System Workspace. The discussion will also include how to log-on to Windows for both remote connections and local workstations, launching the Client application, logging on to Centracs, accessing system graphics, and an explanation of the workspace components.
- **Windows Security** - This session will provide a general overview of the Windows security system, as well as creating and removing user accounts. Each attendee will have the opportunity to add or remove a user account to/from the system.
- **Windows Event Logs** - This session will cover both the System and Application Event Logs within Windows. Specific items appearing within the logs will be discussed and their relationship to system performance will be reviewed.
- **Database Backups** - This session will review how the system backs-up the SQL Databases and the required operator actions.
- **Software Installation Procedures** - This session will review the procedures used to install the Centracs ATMS software on a target computer. Additionally, general setup requirements for each “type” of computer will be reviewed.
- **The Centracs Server Suite** - This session will review the function of each component comprising the server software suite and will cover the Administration menu items associated with the Client application. Adding and deleting users to/from the Centracs system and assigning user privileges will also be reviewed.

**Intersection Maintenance Training** will focus on controller programming, maintenance, and troubleshooting with an emphasis toward how the controller works in conjunction with the ATMS and ATCS.

In addition to formal, on-site training, we are also able to provide at no cost to the Town on-demand training via the Econolite Learning Center (<http://learn.econolite.com/>).

### Documentation

The ESI Team will provide the Town with a complete systems documentation package that includes the following:



- Software submittals
- System architecture diagram
- User/operator manuals
- Software programming manuals & procedures

The documentation package will address all software and hardware provided under this contract and will be subject to review and approval by the Town before final system acceptance. The ESI Team will submit all documentation for review and approval by the Town.

### Assumptions:

- Trainings will be conducted at a Town facility with real-time access to the installed system.
- Town personnel will be available to participate in the training(s).

## 5.2.7 Task 7 – System License, Warranty, and Support

### Licensing

The ESI Team is providing a perpetual 50-intersection Centrac ATMS license and the third-party software necessary to run the ATMS, as detailed under **Task 3** of our scope of work and subject to the terms and conditions of the Centrac Software License Agreement contained in the **Appendix**.

The Centrac Adaptive ATCS is being licensed for 13-intersections for a period of three (3) years from system acceptance and is subject to the Cloud Services Agreement contained in the **Appendix**.

### Centrac – Warranty & Support Terms

Econolite will provide a standard 1-year warranty following successful completion of the System Acceptance Test. The warranty covers all defects and bugs in the central system software and entitles the Town to free software updates. Third party hardware and software warranties will be transferred to the Town.

In addition, we provide unlimited remote technical support via phone and Internet and, of course, our local support team is nearby to answer any questions, solve virtually any problem, and provide assistance to help the Town get the most productivity out of its new Centrac system.

Regular support is available during normal business hours, from 8am to 5pm Mountain Time. For emergencies, Econolite also has a toll-free 24x7 maintenance hotline that can log trouble tickets and generate appropriate responses after hours.

For issues requiring a deeper level of technical support, Econolite has a dedicated staff of maintenance professionals and support group to supplement the local team. These professionals together make a team unmatched in the industry, dedicated exclusively to supporting deployed Centrac systems. Our Centrac system support engineers provide a managed process that responds quickly to any customer questions and problems as they arise.

To facilitate access by these individuals, we propose utilizing a VPN connection to remotely access the system and assist in diagnostics and troubleshooting. This is a very effective approach that enhances efficiency and reduces Town staff time for troubleshooting. In addition, software updates can also be loaded remotely through this connection. We will work with the Town's IT group to establish access which is compatible with the Town's IT policy.

In addition to the 1-year Warranty, our proposal includes two years of additional coverage under our Premier Software Maintenance Agreement (SMA). A sample of this agreement has been included in the **Appendix** of our proposal. During the warranty and subsequent support period, Econolite will provide the following support services:



- **Technical Support** – Assist Town staff with routine questions about the use, configuration, management, and troubleshooting of Centracs.
- **Software Upgrades** – Econolite will provide all released upgrades to the Town. Software upgrades include those to address errors, defects, security flaws, etc. and those that provide enhancements, new features, new functions, etc. Centracs will retain all system, user configuration, and preferences when applying software upgrades. If requested by the Town, Econolite will provide technical support to install software upgrades.

So long as the system is under warranty or SMA, all Centracs updates are available at no additional charge. New feature releases are also included in the support and we typically release one upgrade per year, further assuring the Town will remain on the leading edge of technology well into the future.

Throughout the Warranty and subsequent SMA periods, the ESI Team will provide bi-weekly review and reporting, confirming all system components are properly functioning, including verification of two-way communications, system software and hardware, local controller, and detection health. In the event of any system-related problems, we will prepare a list of action items to address any deficiencies or failures.

### Assumptions:

- Per the resultant contract, the Town does not perform any acts that void the Warranty.
- The Town will provide VPN access that allows Econolite to remote into Centracs so that we can provide support, warranty, and maintenance services from our Colorado Springs Technical Center.





### 5.3 Project Deliverables

Project deliverables resulting from the ESI Team’s Scope of Work are summarized in the following table.

Table 7 - Project Deliverables

Task	Deliverables
<b>1. Project Management</b>	<ul style="list-style-type: none"> <li>• Kick-Off Meeting</li> <li>• Project Plan</li> <li>• Bi-Weekly Progress Meetings</li> <li>• Periodic Invoices</li> </ul>
<b>2. Advise on ATMS and ATCS System Controller and Detection Requirements</b>	<ul style="list-style-type: none"> <li>• Review/Requirements Document – Detection, Communications, and Controllers</li> <li>• Design input to the Town on detection and communications.</li> </ul>
<b>3. Furnish ATMS and ATCS Software and Hardware</b>	<ul style="list-style-type: none"> <li>• Centrac's ATMS Software, licensed for up to 50 intersections, and an unlimited number of workstations.</li> <li>• Centrac's Edaptive Software licensed for 13 intersections.</li> <li>• Supply of Computer Equipment as detailed in Tables 2 - 4.</li> <li>• Supply of Ethernet Communications Equipment (Table 5)</li> <li>• Supply of ATC Controllers (Table 5)</li> </ul>
<b>4. Installation, Integration, and Deployment</b>	<ul style="list-style-type: none"> <li>• Centrac's installed, configured, and operational on the Econolite-provided servers.</li> <li>• Centrac's client software installed on Econolite-supplied workstations and laptop. Centrac's software installer for use by the Town in installing future/additional Centrac's clients.</li> <li>• Intersection graphics (31 intersections)</li> <li>• Los Gatos Boulevard corridor Centrac's Edaptive website</li> <li>• Edaptive ATCS operational with all thirteen (13) intersections</li> <li>• Simple Before and After Study using data from Centrac's SPM</li> <li>• Installation of 31 ATC controllers</li> <li>• Configuration of Ethernet devices identified in Table 5.</li> </ul>
<b>5. System Testing and Acceptance</b>	<ul style="list-style-type: none"> <li>• Test Plan based on Econolite’s existing Standard Centrac's Test Procedures.</li> <li>• Successful completion of System Acceptance Test.</li> <li>• System Acceptance Test Report</li> <li>• Successful completion of 30-day burn-in period.</li> </ul>
<b>6. Training and Documentation</b>	<ul style="list-style-type: none"> <li>• Training Plan</li> <li>• Minimum of 84-hours of training</li> <li>• Training Documentation &amp; Manuals (10 hard copies, electronic copy)</li> <li>• Electronic copy of all training materials</li> <li>• Systems documentation package (electronic copy)</li> </ul>
<b>7. System License, Warranty, and Support</b>	<ul style="list-style-type: none"> <li>• Centrac's ATMS – 50-intersection license.</li> <li>• Centrac's Edaptive – 13-intersections for three years from final system acceptance.</li> <li>• Centrac's ATMS – 1-Year Warranty, from final system acceptance.</li> <li>• Centrac's ATMS – Premier Software Maintenance Agreement coverage for 2-years following the Warranty.</li> <li>• Bi-weekly system status review and reporting.</li> </ul>



### 5.4 Cost Controls & Budgeting

Econolite's approach to cost control and budgeting for all of our projects involves the following four processes:

1. **Plan Cost Management**
2. **Estimate Costs**
3. **Determine Budget**
4. **Control Costs**

We describe each of these processes in the following sections.

#### 5.4.1 Plan Cost Management

Plan cost management is the initial process of project cost management where we define how the costs of the project are estimated, budgeted, managed, monitored, and controlled. We typically use WBS (Work Breakdown Structures) or historical data for similar projects to define the cost resource requirements, which include time, material, labor, equipment, etc. This process gives a rough outline of the number of resources involved and shows the optimum path to manage the project costs throughout the project lifecycle.

#### 5.4.2 Estimate Costs

The second step in our project cost management planning helps in estimating the cost of the resources required for project completion. Since cost is an important variable that ensures project success, we are very careful while producing the estimated amount of the total project cost. Throughout the project lifecycle, this process is performed at periodical intervals. Our Project Manager uses various methods to estimate costs depending on the amount of information available.

#### 5.4.3 Determine Budget

Determining the budget is the third step in our cost management process where the estimated cost of individual activities or tasks is summed up to draw the cost baseline. The cost baseline of the budget includes all the authorized funds that are essential for project execution. This budget includes various reserves of contingency while keeping the management reserves far at the bay. Cost baseline is an authorized time-phased budget that is used as the initial point for monitoring and calculating the project performance and progress. This process is executed at specific points in a project which are generally predefined.

#### 5.4.4 Control Costs

Controlling costs is the final step in our project cost management process, on that is primarily concerned with the measurement of variances of the actual costs from the proposed baseline. Various methods and procedures are implemented here to track the project performance and expenses against its progress rate. Meanwhile, all these variances are recorded and compared with the actual cost baseline. The control costs process is responsible for explaining the reason for a variance and further assists our Project Manager in taking corrective actions to incur minimal costs and control the entire project's expenses to close it within the agreed budget.



### 5.5 Additional Information

#### 5.5.1 Systems Engineering Issues

Econolite recognizes the importance of the Systems Engineering approach (Figure 14) to the development and deployment of complex traffic management systems, and the deployment of an ATCS and ATMS for Los Gatos is no exception to this process. Upon commencing the project via kickoff meeting, as part of **Task 2**, we will conduct a thorough review of the Town’s final Concept of Operations, working closely with all project stakeholders to ensure all critical system engineering issues are identified and addressed prior to system deployment. Based upon the results of this review, system requirements will be, as necessary, refined to ensure the final deployed system is consistent with the initial concept for the Town.

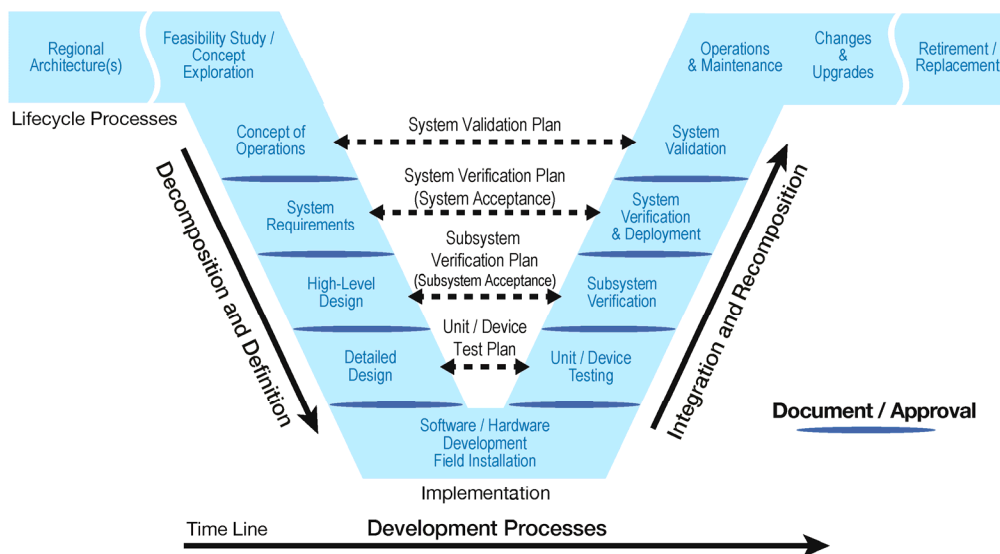


Figure 14 - The Systems Engineering Approach

#### 5.5.2 Minimizing Cost & Schedule

As previously mentioned, our Centrac's Adaptive ATCS solution provides adaptive control capabilities based on system performance measures derived from Centrac's SPM. While we recognize that the Town intends to procure an Automated Traffic Signal Performance Measures (ATSPM) system through a subsequent RFP later in 2020, as a value-added proposition, we are proposing to include SPM features as part of our proposed ATCS solution for this project at no additional cost to the Town. This will enable the Town to begin realizing the operational efficiencies of ATSPM at a much earlier date than it would otherwise be able to achieve.

An additional cost and schedule saving measure involves the Town’s ability to continue using compatible Econolite controllers with the new ATMS and ATCS. Econolite ASC/3 controllers are Ethernet and NTICP capable, and fully functional under the ATMS and ATCS solution we are proposing. Intersections equipped with these controllers (11 of the 31 controllers identified in the traffic signal system inventory) will not require an immediate controller upgrade. Similarly, the Town has recently purchased several Cobalt ATC controllers that will not need to be replaced under the proposed system.



### 5.5.3 User Groups and On-Going Support

#### User Groups

Historically, Econolite has been a strong supporter of hosting User Groups for our Centracs (and other product) customers, as we recognize the value of these groups both to our customers, and also to Econolite as we continue to improve, grow, and evolve our product offerings. Our customers benefit from gaining insight from other Centracs users, as well as Econolite's technical experts. Similarly, the feedback we receive from our users is invaluable in aligning our product's capabilities with our customer's needs.

Typically, our User Groups bring together product users and product experts who meet on an as-needed basis to discuss user experiences, share tips and techniques, and provide product recommendations for future product development. These User Groups are comprised of member agencies that change based on the Econolite product of topic (systems, specific system modules, sensors, controllers, cabinets, etc.) and consist of anywhere between 2 – 10 identified agencies.

Econolite's User Groups have taken a number of different forms, from webinar-based, product-expert-lead discussions, to virtual trainings, user-voice online forums, fact-to-face meetings at our Anaheim headquarters, product showcase events, Client Advisory Councils, and at user-premises scheduled meetings. The frequency of these Groups is really based on the agency's needs, project status, and user/facilitator availability. A typical agenda might include:

1. Introductions
2. Product Overview
3. Demonstrations
4. Lightning Talks (4-5-minute talks from each user on their current experience)
5. Tips & Techniques

Econolite has never charged participation fees for our User Groups and has no plans to do so in the future.

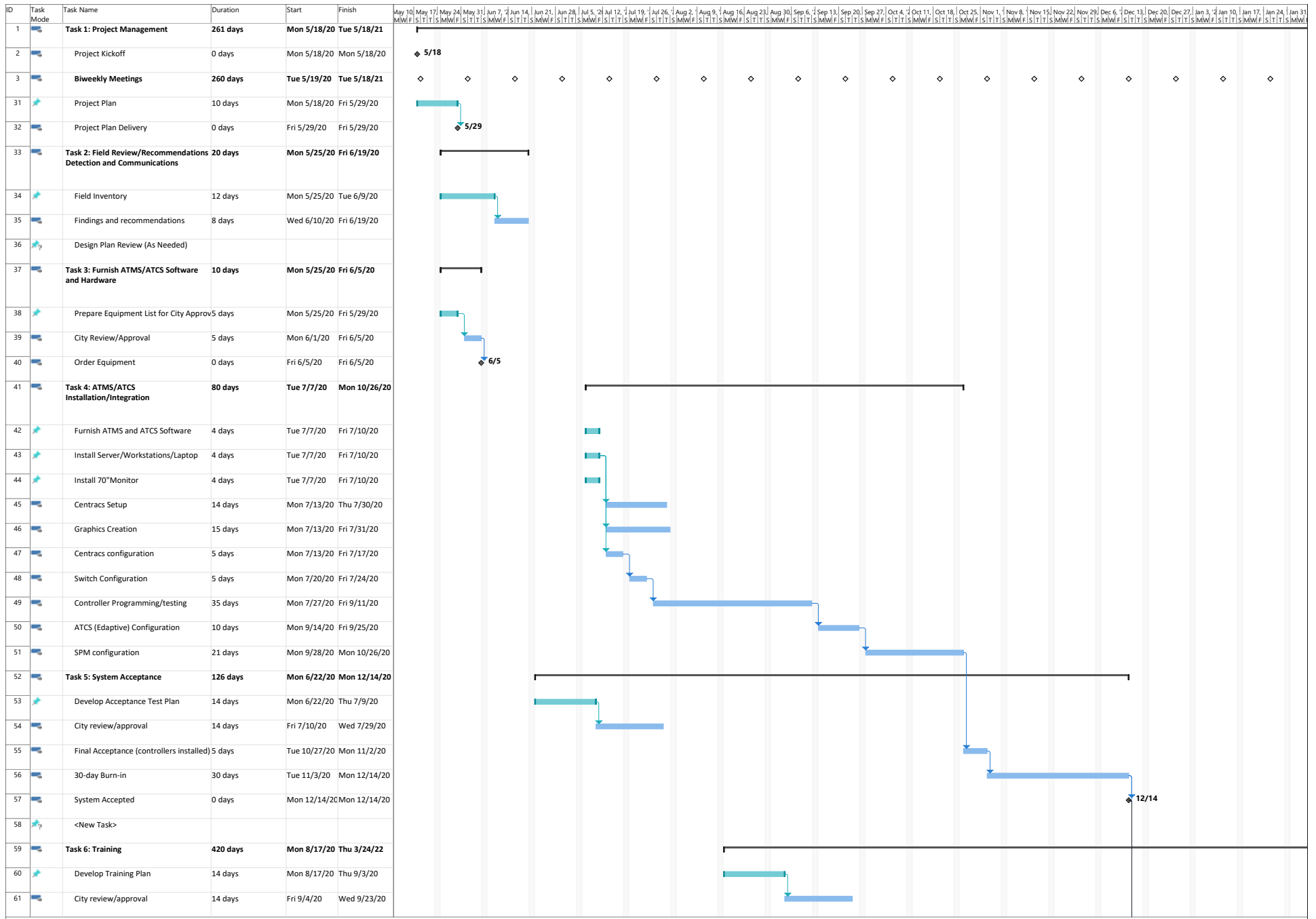
#### On-Going Support

Please refer to **Task 7** of our Scope of Work for a detailed description of the on-going support we are proposing following final system acceptance.



### 6. Schedule of Work

The ESI Team's project schedule is contained on the following pages. Development of the communications/detection design and implementation timeline is not considered in the schedule as we do not know the City's timing to complete these tasks.



Project: Los Gatos Schedule  
Date: Thu 1/23/20

Summary	Inactive Milestone	Milestone	Duration-only	Start-only	External Milestone	Manual Progress
Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	Progress	
Inactive Task	Manual Task	Manual Summary	External Tasks			

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Town of Los Gatos				Date: May 22, 2020	
Adaptive Signal Control and Advanced Traffic Management Systems					
Federal Number: STPLN1 6084(227)					
PRICE PROPOSAL FORM					
Item	Description	Quantity	Unit <sup>3</sup>	Unit Price	Row Price
<b>1. Adaptive Signal Control System</b>					
1.1	F&I Controllers Units and Software <sup>1</sup>	14	EA	\$ 4,171	\$ 58,394
1.2	Furnish Ethernet Switches, Fiber Optic <sup>1</sup>	7	EA	\$ 2,029	\$ 14,203
1.3	Furnish Ethernet Switches, FO+1-leg Copper <sup>1</sup>	2	EA	\$ 2,674	\$ 5,348
1.3	Furnish Ethernet Switches, FO+2-legs Copper <sup>1</sup>	2	EA	\$ 3,319	\$ 6,638
1.4	Furnish Ethernet Switches, Ethernet-over-copper <sup>1</sup>	5	EA	\$ 1,567	\$ 7,835
1.7	F&I ASCS Software and Hardware <sup>2</sup>	1	LS	\$ 93,436	\$ 93,436
1.8	System Testing and Acceptance	1	LS	\$ 7,844	\$ 7,844
1.9	Training and Documentation	1	LS	\$ 14,206	\$ 14,206
1.10A	System License, Warranty, and Support (Monthly) <sup>4</sup>	36	EA	\$ -	\$ -
1.10B	System License, Warranty, and Support (Annual) <sup>4</sup>	3	EA	\$ 13,522	\$ 40,566
ADAPTIVE SUBTOTAL					\$ 248,470
Contingency (8%)					\$ 19,878
<b>2. Advanced Traffic Management System</b>					
2.1	F&I Controllers Units and Software	18	EA	\$ 4,171	\$ 75,078
2.2	Furnish Ethernet Switches, Fiber Optic	2	EA	\$ 2,029	\$ 4,058
2.3	Furnish Ethernet Switches, FO+1-leg Copper	2	EA	\$ 2,674	\$ 5,348
2.4	Furnish Ethernet Switches, Ethernet-over-copper	8	EA	\$ 1,567	\$ 12,536
2.5	Furnish Ethernet Switches, Cellular <sup>1</sup>	5	EA	\$ 423	\$ 2,115
2.7	F&I ATMS Software and Hardware	1	LS	\$ 117,466	\$ 117,466
2.8	System Testing and Acceptance	1	LS	\$ 10,860	\$ 10,860
2.9	Training and Documentation	1	LS	\$ 19,670	\$ 19,670
2.10A	System License, Warranty, and Support (Monthly) <sup>4</sup>	36	EA	\$ -	\$ -
2.20B	System License, Warranty, and Support (Annual) <sup>4</sup>	3	EA	\$ 14,321	\$ 42,963
ATMS SUBTOTAL					\$ 290,094
Contingency (8%)					\$ 23,208
<b>GRAND TOTAL</b>					<b>\$ 581,649</b>
Notes: 1. Quantity includes one spare					
2. If ASCS requires ATMS to function, include a proportional share of the ATCS cost in this item.					
3. EA = Each, LS = Lump Sum					
4. Fill out Item 1.10A OR 1.10B. Do not include pricing on both lines.					

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Contact Name: Marc A. Porter

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Contact Phone: 310-418-1663